LONGHORN ARMY AMMUNITION PLANT KARNACK, TEXAS

ADMINISTRATIVE RECORD

Volume 20

2023

Bate Stamp Numbers
01170147 – 01172147

Prepared for

Department of the Army
Longhorn Army Ammunition Plant

1976–2023

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

VOLUME 20

2023

A. Title: (Cont'd) Report—**cont'd** Appendix D, **File 3**—Level IV DoD, Draft Final Second Annual Remedial Action Operation Report, LHAAP-16 Landfill, Longhorn Army Ammunition Plant (LHAAP), Karnack, Texas, March 2023
Author(s): Department of the Army
Recipient: Environmental Protection Agency and Texas Commission on Environmental Quality
Date: March 17, 2023
Bate Stamp: 01170147 – 01171881

The above Level IV DoD labs were omitted in the previous Admin Record, so that is why they are out of date sequence and added to this April thru June 2023 Admin Record.

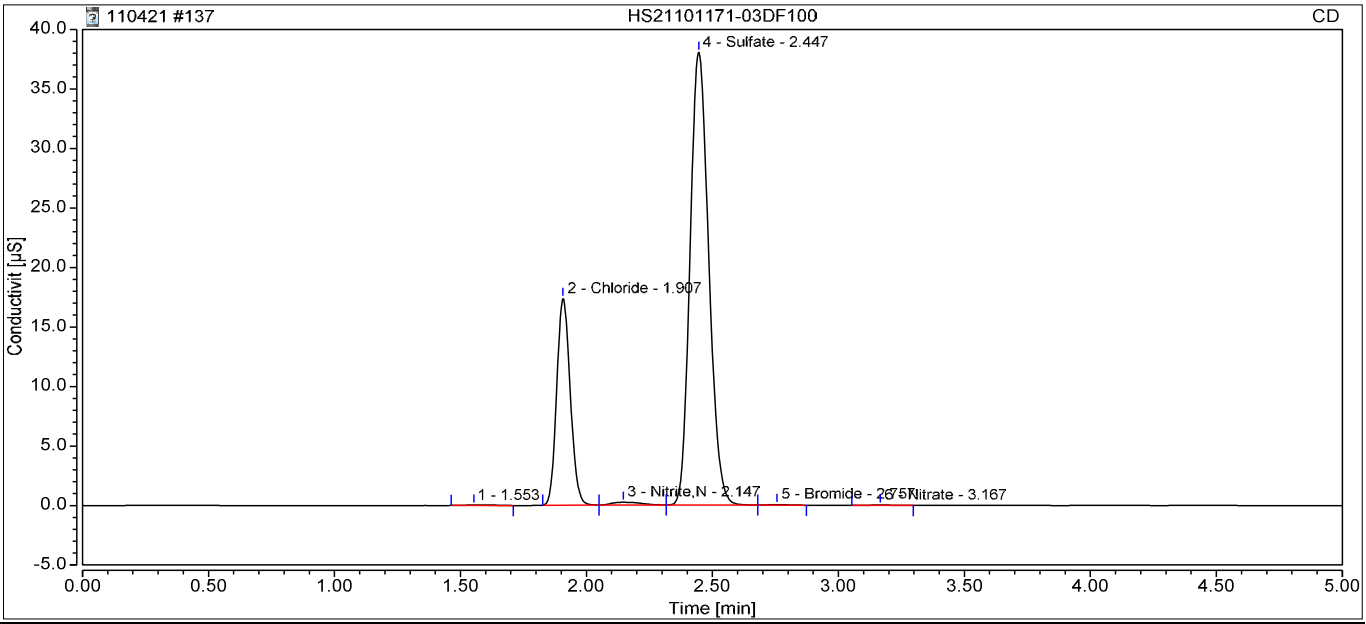
B. Title: (Cont'd) Report—Appendix D, **File 4**—Level IV DoD, Draft Final Second Annual Remedial Action Operation Report, LHAAP-16 Landfill, Longhorn Army Ammunition Plant (LHAAP), Karnack, Texas, March 2023
Author(s): Department of the Army
Recipient: Environmental Protection Agency and Texas Commission on Environmental Quality
Date: March 17, 2023
Bate Stamp: 01171882 – 01172147

The above Level IV DoD labs were omitted in the previous Admin Record, so that is why they are out of date sequence and added to this April thru June 2023 Admin Record.

137 HS21101171-03DF100

Sample Name:	**HS21101171-03DF100**	*Injection Volume:*	**5.00**
Vial Number:	**BB4**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program ISO37mM 150mm short 0.4**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**100.0000**
Recording Time:	**11/05/2021 02:30**	*Sample Weight:*	**1.0000**

Run Time:



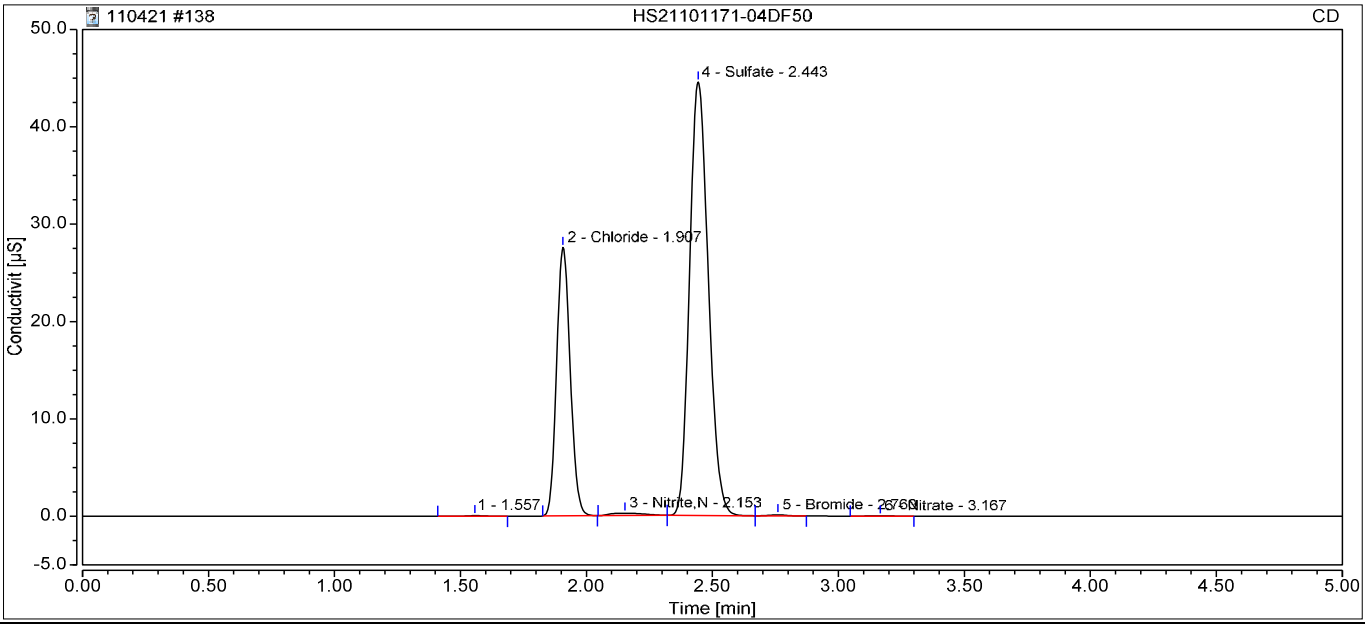
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	100.0000
2	1.91	Chloride	BMB	1.081	7.7763	777.6331	100.0000
3	2.15	Nitrite,N	BMB	0.030	0.0963	9.6277	100.0000
4	2.45	Sulfate	BMB	3.263	31.5343	3153.4335	100.0000
5	2.76	Bromide	BMB	0.003	0.1013	10.1289	100.0000
6	3.17	Nitrate	BMB	0.002	0.0554	5.5356	100.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	100.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	100.0000
Total:			**0.000**	**4.380**		**3956.36**	

138 HS21101171-04DF50

Sample Name:	**HS21101171-04DF50**	*Injection Volume:*	**5.00**
Vial Number:	**BB5**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program ISO37mM 150mm short 0.4**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**50.0000**
Recording Time:	**11/05/2021 02:37**	*Sample Weight:*	**1.0000**

Run Time:



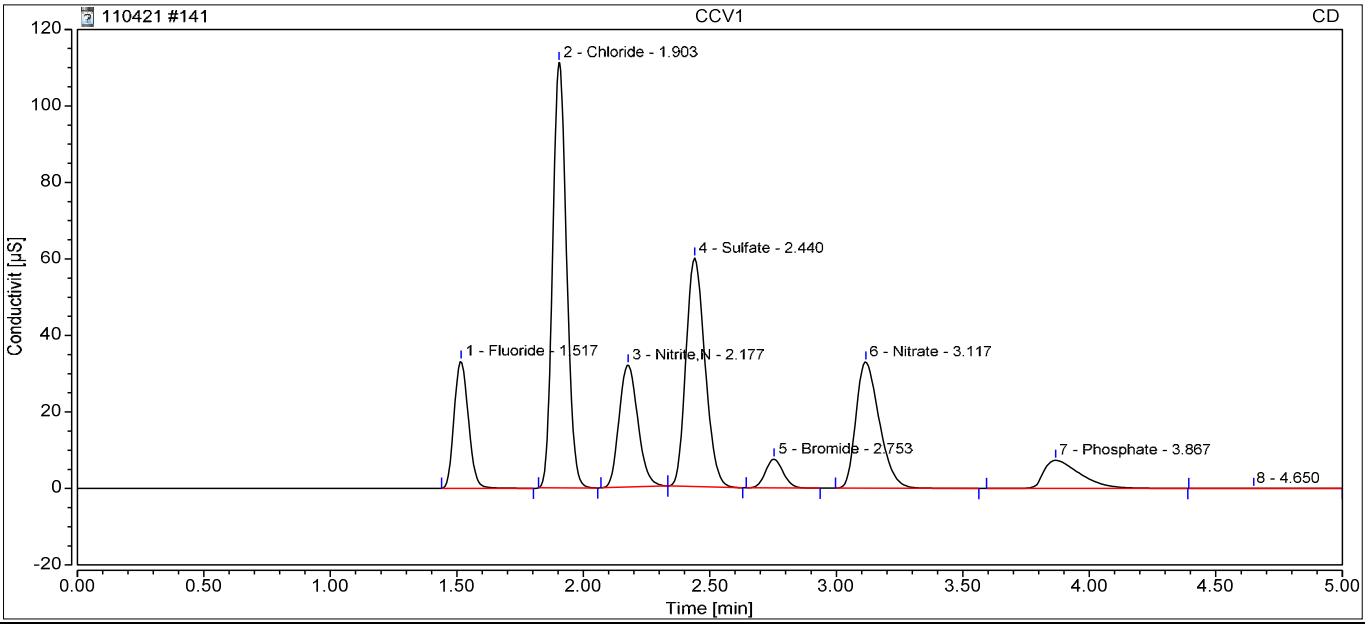
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	50.0000
2	1.91	Chloride	BMB	1.727	12.3429	617.1467	50.0000
3	2.15	Nitrite,N	BMB	0.038	0.1223	6.1169	50.0000
4	2.44	Sulfate	BMB	3.844	37.1295	1856.4754	50.0000
5	2.76	Bromide	BMB	0.008	0.1803	9.0142	50.0000
6	3.17	Nitrate	BMB	0.003	0.0563	2.8126	50.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	50.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	50.0000
Total:			**0.000**	**5.620**		**2491.57**	

141 CCV1

Sample Name:	**CCV1**	*Injection Volume:*	**5.00**
Vial Number:	**R3**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program ISO37mM 150mm short 0.4**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/05/2021 03:07**	*Sample Weight:*	**1.0000**

Run Time:



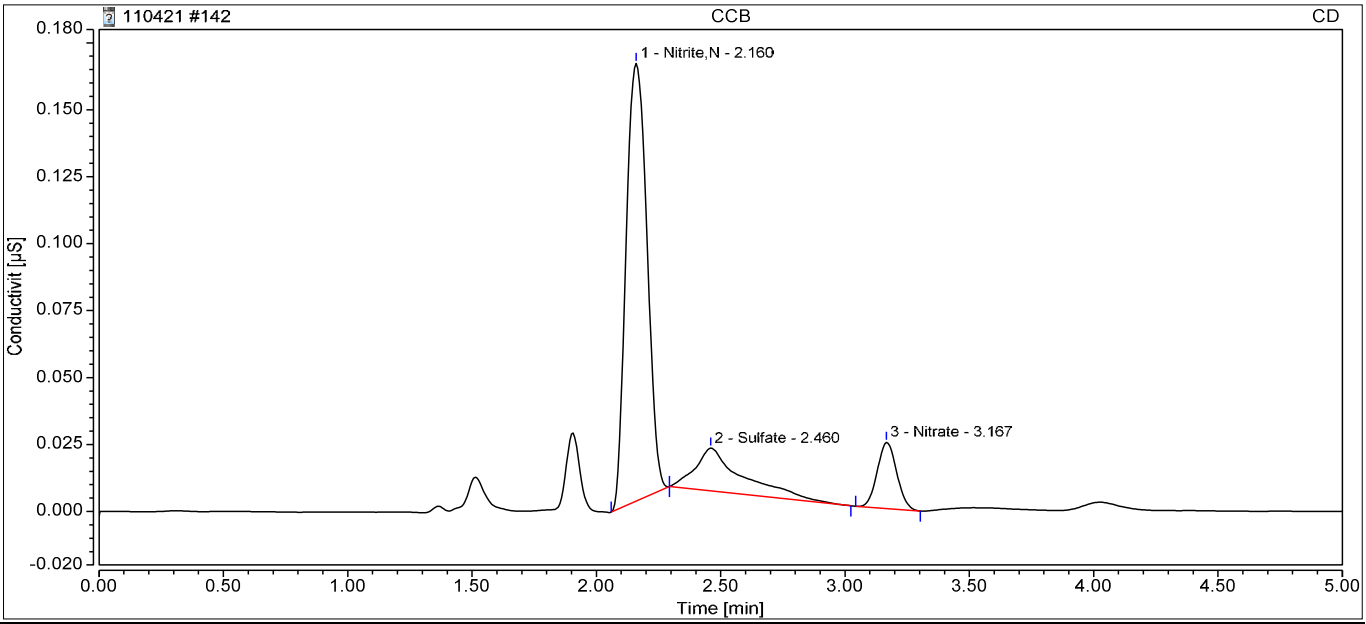
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	1.52	Fluoride	BMB	2.176	10.3649	10.3649	1.0000
2	1.90	Chloride	BMB	7.077	50.1789	50.1789	1.0000
3	2.18	Nitrite,N	BMB	2.743	9.8416	9.8416	1.0000
4	2.44	Sulfate	BMB	5.215	50.3228	50.3228	1.0000
5	2.75	Bromide	BMB	0.612	10.1071	10.1071	1.0000
6	3.12	Nitrate	BMB	3.542	10.0170	10.0170	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
7	3.87	Phosphate	BMB	1.232	9.8218	9.8218	1.0000
Total:			**0.000**	**22.597**		**150.65**	

142 CCB

Sample Name:	**CCB**	*Injection Volume:*	**5.00**
Vial Number:	**R8**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program ISO37mM 150mm short 0.4**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/05/2021 03:14**	*Sample Weight:*	**1.0000**

Run Time:



Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Chloride	n.a.	n.a.	n.a.	n.a.	1.0000
1	2.16	Nitrite,N	BMB	0.016	0.0510	0.0510	1.0000
2	2.46	Sulfate	BMB	0.004	0.1557	0.1557	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
3	3.17	Nitrate	BMB	0.002	0.0547	0.0547	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**0.022**		**0.26**	

HS21101171 Wet Chemistry Raw Data

ALS WO# HS21101171

Report Date: 10/28/2021 : 6:14

PC-TitratION PLUS
Calibration Report

Calibration Record # 2420

Calibration Settings

Calibration ID	PH CAL 4-7-10	Date	10/28/2021
Channel	1	Time	6:14 PM
Probe Type	pH	Temperature	296.53 K 23.38 C
Probe ID	PH ELECTRODE	Analysis Type	Single Line Fit

Calibration Results

Slope	-58.572	CorrCoeff	0.9999
Intercept	-2.030	Equation:	Y = (-58.572) X + (-2.030)

Calibration Validity True Operator

	Result	Minimum	Maximum
Slope	-58.572	-65.00	-53.00
Intercept	-2.030	-100.00	100.00
Correlation Coefficient	0.9999	0.99	1.00

Note: "True" means the calibration was within the specified ranges
"False" means the calibration was NOT within the specified ranges

Calibration Data	Standard	Reading
	4.00	175.17
	7.00	-5.00
	10.00	-176.26

#394476 (A)

#394478 (B)

Copyright Hinterland Software Ltd.

Report Date: 10/28/2021 : 11:42 PM

PC-TitratION PLUS
Water Analysis Report

Run Number 4211 **Order Number** 20211028-2

SampleID	RunDate	RunTime	Temp	cond (uS)	pH	palk-ppm	talk-ppm	bcarb-ppm	carb-ppm	hydr-ppm	mLs @ 8.3	mLs @ 4.5	mLs @ 4.2
ICV-PH	10/28/2021	6:42 PM	23.06	-1.00	6.06	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00
TAP WATER	10/28/2021	6:46 PM	22.86	-1.00	6.18	.00	59.03	59.03	.00	.00	.00	.56	.56
WBLKW1-211028	10/28/2021	6:52 PM	22.83	-1.00	7.30	.00	227.70	227.70	.00	.00	.00	2.17	2.17
LCS1-211028	10/28/2021	7:01 PM	22.67	-1.00	10.74	523.46	1,028.03	.00	1,009.14	18.89	4.99	9.79	9.79
LCSD1-211028	10/28/2021	7:09 PM	22.35	-1.00	10.74	528.28	1,036.73	.00	1,016.91	19.82	5.03	9.87	9.87
HS21101620-02	10/28/2021	7:16 PM	22.39	-1.00	8.04	.00	151.81	151.81	.00	.00	.00	1.45	1.45
HS21101620-02DUP	10/28/2021	7:23 PM	22.61	-1.00	8.05	.00	168.00	168.00	.00	.00	.00	1.60	1.60
HS21101620-03	10/28/2021	7:29 PM	22.90	-1.00	7.91	.00	148.06	148.06	.00	.00	.00	1.41	1.41
HS21101504-01	10/28/2021	7:34 PM	23.12	-1.00	6.95	.00	304.52	304.52	.00	.00	.00	2.90	2.90
HS21101504-02	10/28/2021	7:40 PM	23.25	-1.00	7.03	.00	300.30	300.30	.00	.00	.00	2.86	2.86
HS21101504-03	10/28/2021	7:46 PM	23.51	-1.00	6.89	.00	292.95	292.95	.00	.00	.00	2.79	2.79
CCV-PH	10/28/2021	7:49 PM	23.88	-1.00	7.08	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00
CCV-ALK	10/28/2021	7:58 PM	23.81	-1.00	10.60	481.21	1,088.62	126.21	962.41	.00	4.58	10.37	10.37
DI RINSE	10/28/2021	8:03 PM	24.05	-1.00	5.92	.00	1.71	1.71	.00	.00	.00	.05	.05
HS21101504-04	10/28/2021	8:09 PM	23.89	-1.00	7.22	.00	222.87	222.87	.00	.00	.00	2.12	2.12
HS21101504-05	10/28/2021	8:16 PM	23.41	-1.00	7.05	.00	324.49	324.49	.00	.00	.00	3.09	3.09
HS21101504-06	10/28/2021	8:22 PM	23.01	-1.00	6.87	.00	244.51	244.51	.00	.00	.00	2.33	2.33
HS21101504-07	10/28/2021	8:29 PM	22.60	-1.00	7.38	.00	246.76	246.76	.00	.00	.00	2.35	2.35
HS21101578-01	10/28/2021	8:35 PM	22.37	-1.00	7.16	.00	264.69	264.69	.00	.00	.00	2.52	2.52
HS21101584-01	10/28/2021	8:41 PM	21.99	-1.00	7.92	.00	226.40	226.40	.00	.00	.00	2.16	2.16
WLCS2-211028	10/28/2021	8:49 PM	21.69	-1.00	10.74	525.39	1,036.04	.00	1,021.30	14.74	5.00	9.87	9.87
WLCSD2-211028	10/28/2021	8:59 PM	22.32	-1.00	10.73	534.75	1,046.41	.00	1,023.32	23.09	5.09	9.97	9.97
CCV-PH	10/28/2021	9:02 PM	22.70	-1.00	7.07	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00
CCV-ALK	10/28/2021	9:11 PM	22.66	-1.00	10.58	479.40	1,101.47	142.66	958.80	.00	4.57	10.49	10.49
DI RINSE	10/28/2021	9:17 PM	22.92	-1.00	5.91	.00	1.63	1.63	.00	.00	.00	.05	.05
WBLKW2-211028	10/28/2021	9:22 PM	22.93	-1.00	5.46	.00	1.19	1.19	.00	.00	.00	.04	.04
TH HS21101144-10 WBLKW1-211028	10/28/2021	9:28 PM	23.04	-1.00	5.43	.00	.99	.99	.00	.00	.00	.04	.04

PC-TitratION PLUS by Man-Tech Associates, Inc.

GENERAL RESULTS REPORT.SRW

Copyright Hinterland Software Ltd.

GENERAL RESULTS REPORT.SRW
Copyright Hinterland Software Ltd.

Run Number 4211 **Order Number** 20211028-2

SampleID	RunDate	RunTime	Temp	cond (uS)	pH	palk-ppm	talk-ppm	bcarb-ppm	carb-ppm	hydr-ppm	mLs @ 8.3	mLs @ 4.5	mLs @ 4.2
HS21101144-10DUP	10/28/2021	9:33 PM	23.14	-1.00	5.50	.00	172.77	172.77	.00	.00	.00	1.65	1.65
HS21101144-11	10/28/2021	9:38 PM	23.27	-1.00	5.68	.00	205.27	205.27	.00	.00	.00	1.95	1.95
HS21101144-12	10/28/2021	9:47 PM	23.28	-1.00	6.10	.00	849.92	849.92	.00	.00	.00	8.09	8.09
HS21101144-14	10/28/2021	9:53 PM	23.39	-1.00	6.18	.00	408.77	408.77	.00	.00	.00	3.89	3.89
HS21101171-01	10/28/2021	10:01 PM	23.36	-1.00	6.58	.00	773.97	773.97	.00	.00	.00	7.37	7.37
HS21101171-02	10/28/2021	10:10 PM	23.39	-1.00	6.38	.00	1,111.17	1,111.17	.00	.00	.00	10.58	10.58
HS21101171-02DUP	10/28/2021	10:19 PM	23.43	-1.00	6.39	.00	1,089.46	1,089.46	.00	.00	.00	10.38	10.38
CCV-PH	10/28/2021	10:22 PM	23.47	-1.00	7.08	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00
CCVALK	10/28/2021	10:31 PM	23.28	-1.00	10.54	475.62	1,096.55	145.31	951.24	.00	4.53	10.44	10.44
DI RINSE	10/28/2021	10:37 PM	23.56	-1.00	5.74	.00	1.55	1.55	.00	.00	.00	.05	.05
HS21101171-03	10/28/2021	10:44 PM	23.54	-1.00	6.12	.00	610.19	610.19	.00	.00	.00	5.81	5.81
HS21101171-04	10/28/2021	10:53 PM	23.54	-1.00	6.43	.00	1,050.86	1,050.86	.00	.00	.00	10.01	10.01
HS21101272-03	10/28/2021	10:59 PM	23.57	-1.00	6.07	.00	547.19	547.19	.00	.00	.00	5.21	5.21
HS21101272-07	10/28/2021	11:05 PM	25.46	-1.00	4.90	.00	324.20	324.20	.00	.00	.00	3.09	3.09
HS21101272-08	10/28/2021	11:11 PM	25.64	-1.00	4.88	.00	297.64	297.64	.00	.00	.00	2.83	2.83
HS21101272-10	10/28/2021	11:23 PM	23.67	-1.00	5.19	.00	1,506.57	1,506.57	.00	.00	.00	14.35	14.35
CCV-PH	10/28/2021	11:26 PM	23.64	-1.00	7.08	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00
CCV-ALK	10/28/2021	11:35 PM	23.41	-1.00	10.51	464.04	1,098.86	170.78	928.08	.00	4.42	10.47	10.47
DI RINSE	10/28/2021	11:40 PM	23.65	-1.00	5.73	.00	2.09	2.09	.00	.00	.00	.05	.05

Copyright Hinterland Software Ltd.

C:\TOC-L\Data\2021_10_25_002.tlx

	Type	Analysis	Sample Name	Sample ID	Origin	Manual Dilut	Result
1	Unknown	NPOC	RINSE		10_18_2021_CAL.cal	1.000	NPOC:0.06454
2	Unknown	NPOC	RINSE		10_18_2021_CAL.cal	1.000	NPOC:0.06455
3	Unknown	NPOC	RINSE		10_18_2021_CAL.cal	1.000	NPOC:0.07074
4	Standard	NPOC	CAL	3100604915	10_25_2021_CAL.202	1.000	
5	Unknown	NPOC	ICB		10_25_2021_CAL.cal	1.000	NPOC:0.09179
6	Unknown	NPOC	ICV	3100604423	10_25_2021_CAL.cal	1.000	NPOC:10.60mg/
7	Unknown	NPOC	ICB		10_25_2021_CAL.cal	1.000	NPOC:0.05172
8	Unknown	NPOC	CCB		10_25_2021_CAL.cal	1.000	NPOC:0.01239
9	Unknown	NPOC	CCV	317195504	10_25_2021_CAL.cal	1.000	NPOC:25.73mg/
10	Unknown	NPOC	CCB		10_25_2021_CAL.cal	1.000	NPOC:0.06181
11	Unknown	NPOC	MBLK-10252021		10_25_2021_CAL.cal	1.000	NPOC:0.05600
12	Unknown	NPOC	LCS-10252021	3100604423	10_25_2021_CAL.cal	1.000	NPOC:9.287mg/
13	Unknown	NPOC	LCSD-10252021	3100604423	10_25_2021_CAL.cal	1.000	NPOC:10.83mg/
14	Unknown	NPOC	HS21101075-01DF10		10_25_2021_CAL.cal	1.000	NPOC:0.2805m
15	Unknown	NPOC	HS21101075-01MSDF1		10_25_2021_CAL.cal	1.000	NPOC:12.37mg/
16	Unknown	NPOC	HS21101075-02DF10		10_25_2021_CAL.cal	1.000	NPOC:0.3788m
17	Unknown	NPOC	HS21101075-03DF10		10_25_2021_CAL.cal	1.000	NPOC:0.2410m
18	Unknown	NPOC	HS21101075-04DF10		10_25_2021_CAL.cal	1.000	NPOC:0.3913m
19	Unknown	NPOC	HS21101075-05DF10		10_25_2021_CAL.cal	1.000	NPOC:0.2171m
20	Unknown	NPOC	HS21101075-06DF10		10_25_2021_CAL.cal	1.000	NPOC:0.1665m
21	Unknown	NPOC	CCV	317195504	10_25_2021_CAL.cal	1.000	NPOC:25.66mg/
22	Unknown	NPOC	CCB		10_25_2021_CAL.cal	1.000	NPOC:0.05208
23	Unknown	NPOC	HS21101075-07DF10		10_25_2021_CAL.cal	1.000	NPOC:0.1747m
24	Unknown	NPOC	HS21101075-08DF10		10_25_2021_CAL.cal	1.000	NPOC:0.1648m
25	Unknown	NPOC	HS21101075-09DF10		10_25_2021_CAL.cal	1.000	NPOC:0.1167m
26	Unknown	NPOC	HS21101075-10DF10		10_25_2021_CAL.cal	1.000	NPOC:0.1071m
27	Unknown	NPOC	CCV	317195504	10_25_2021_CAL.cal	1.000	NPOC:25.76mg/
28	Unknown	NPOC	CCB		10_25_2021_CAL.cal	1.000	NPOC:0.05571
29	Unknown	NPOC	MBLK-10252021		10_25_2021_CAL.cal	1.000	NPOC:0.06486
30	Unknown	NPOC	LCS-10252021	3100604423	10_25_2021_CAL.cal	1.000	NPOC:9.320mg/
31	Unknown	NPOC	LCSD-10252021	3100604423	10_25_2021_CAL.cal	1.000	NPOC:10.96mg/
32	Unknown	NPOC	HS21101075-11DF10		10_25_2021_CAL.cal	1.000	NPOC:0.1323m
33	Unknown	NPOC	HS21101075-11MSDF1		10_25_2021_CAL.cal	1.000	NPOC:11.21mg/
34	Unknown	NPOC	HS21101075-12DF10		10_25_2021_CAL.cal	1.000	NPOC:0.2792m
35	Unknown	NPOC	HS21101080-01DF10		10_25_2021_CAL.cal	1.000	NPOC:0.1261m
36	Unknown	NPOC	HS21101080-02DF10		10_25_2021_CAL.cal	1.000	NPOC:0.1407m
37	Unknown	NPOC	HS21101080-03DF10		10_25_2021_CAL.cal	1.000	NPOC:0.1267m
38	Unknown	NPOC	HS21101080-04DF10		10_25_2021_CAL.cal	1.000	NPOC:0.1381m
39	Unknown	NPOC	CCV	317195504	10_25_2021_CAL.cal	1.000	NPOC:25.74mg/
40	Unknown	NPOC	CCB		10_25_2021_CAL.cal	1.000	NPOC:0.09212
41	Unknown	NPOC	HS21101080-05DF10		10_25_2021_CAL.cal	1.000	NPOC:0.1654m
42	Unknown	NPOC	HS21101080-06DF10		10_25_2021_CAL.cal	1.000	NPOC:0.1460m
43	Unknown	NPOC	HS21101080-07DF10		10_25_2021_CAL.cal	1.000	NPOC:0.1360m
44	Unknown	NPOC	HS21101080-08DF10		10_25_2021_CAL.cal	1.000	NPOC:0.1453m
45	Unknown	NPOC	CCV	317195504	10_25_2021_CAL.cal	1.000	NPOC:25.54mg/
46	Unknown	NPOC	CCB		10_25_2021_CAL.cal	1.000	NPOC:0.1296m
47	Unknown	NPOC	MBLK-10252021		10_25_2021_CAL.cal	1.000	NPOC:0.05576
48	Unknown	NPOC	LCS-10252021	3100604423	10_25_2021_CAL.cal	1.000	NPOC:9.292mg/
49	Unknown	NPOC	LCSD-10252021	3100604423	10_25_2021_CAL.cal	1.000	NPOC:10.94mg/
50	Unknown	NPOC	HS21101080-09DF10		10_25_2021_CAL.cal	1.000	NPOC:0.2259m
51	Unknown	NPOC	HS21101080-09MSDF1		10_25_2021_CAL.cal	1.000	NPOC:11.03mg/

C:\TOC-L\Data\2021_10_25_002.tlx

	Type	Analysis	Sample Name	Sample ID	Origin	Manual Dilut	Result
52	Unknown	NPOC	HS21101080-10DF10		10_25_2021_CAL.cal	1.000	NPOC:0.1935m
53	Unknown	NPOC	HS21101080-11DF10		10_25_2021_CAL.cal	1.000	NPOC:0.1278m
54	Unknown	NPOC	HS21101080-12DF10		10_25_2021_CAL.cal	1.000	NPOC:0.1284m
55	Unknown	NPOC	HS21101080-13DF10		10_25_2021_CAL.cal	1.000	NPOC:0.1196m
56	Unknown	NPOC	HS21101080-14DF10		10_25_2021_CAL.cal	1.000	NPOC:0.2314m
57	Unknown	NPOC	CCV	317195504	10_25_2021_CAL.cal	1.000	NPOC:25.69mg/
58	Unknown	NPOC	CCB		10_25_2021_CAL.cal	1.000	NPOC:0.02809
59	Unknown	NPOC	HS21101083-01DF10		10_25_2021_CAL.cal	1.000	NPOC:0.2332m
60	Unknown	NPOC	HS21101083-02DF10		10_25_2021_CAL.cal	1.000	NPOC:0.2108m
61	Unknown	NPOC	HS21101083-03DF10		10_25_2021_CAL.cal	1.000	NPOC:0.2038m
62	Unknown	NPOC	HS21101083-04DF10		10_25_2021_CAL.cal	1.000	NPOC:0.3380m
63	Unknown	NPOC	CCV	317195504	10_25_2021_CAL.cal	1.000	NPOC:25.53mg/
64	Unknown	NPOC	CCB		10_25_2021_CAL.cal	1.000	NPOC:0.1115m
65	Unknown	NPOC	MBLK-10252021		10_25_2021_CAL.cal	1.000	NPOC:0.06795
66	Unknown	NPOC	LCS-10252021	3100604423	10_25_2021_CAL.cal	1.000	NPOC:9.230mg/
67	Unknown	NPOC	LCSD-10252021	3100604423	10_25_2021_CAL.cal	1.000	NPOC:10.89mg/
68	Unknown	NPOC	HS21101083-05DF10		10_25_2021_CAL.cal	1.000	NPOC:0.4956m
69	Unknown	NPOC	HS21101083-05MSDF1		10_25_2021_CAL.cal	1.000	NPOC:11.17mg/
70	Unknown	NPOC	HS21101083-06DF10		10_25_2021_CAL.cal	1.000	NPOC:0.2640m
71	Unknown	NPOC	HS21101083-07DF10		10_25_2021_CAL.cal	1.000	NPOC:0.2414m
72	Unknown	NPOC	HS21101083-08DF10		10_25_2021_CAL.cal	1.000	NPOC:0.2102m
73	Unknown	NPOC	HS21101083-09DF10		10_25_2021_CAL.cal	1.000	NPOC:0.1629m
74	Unknown	NPOC	HS21101083-10DF10		10_25_2021_CAL.cal	1.000	NPOC:0.1838m
75	Unknown	NPOC	CCV	317195504	10_25_2021_CAL.cal	1.000	NPOC:25.60mg/
76	Unknown	NPOC	CCB		10_25_2021_CAL.cal	1.000	NPOC:0.1118m
77	Unknown	NPOC	HS21101083-11DF10		10_25_2021_CAL.cal	1.000	NPOC:0.1718m
78	Unknown	NPOC	HS21101083-12DF10		10_25_2021_CAL.cal	1.000	NPOC:0.1978m
79	Unknown	NPOC	HS21101083-13DF10		10_25_2021_CAL.cal	1.000	NPOC:0.2415m
80	Unknown	NPOC	HS21101083-14DF10		10_25_2021_CAL.cal	1.000	NPOC:0.2981m
81	Unknown	NPOC	CCV	317195504	10_25_2021_CAL.cal	1.000	NPOC:25.57mg/
82	Unknown	NPOC	CCB		10_25_2021_CAL.cal	1.000	NPOC:0.1184m

C:\TOC-L\Data\2021_10_25_002.tlx

	Notes	Status	Date / Time	Vial
1		Completed	10/25/2021 6:02:30	64
2		Completed	10/25/2021 6:13:46	65
3		Completed	10/25/2021 6:24:47	66
4		Completed	10/25/2021 8:13:11	1, 2, 3, 4, 5,
5		Completed	10/25/2021 8:29:06	1
6		Completed	10/25/2021 8:45:09	8
7		Completed	10/25/2021 9:01:04	1
8		Completed	10/25/2021 9:48:50	64
9		Completed	10/25/2021 10:05:19	9
10		Completed	10/25/2021 10:21:02	10
11		Completed	10/25/2021 10:36:45	11
12		Completed	10/25/2021 10:52:59	12
13		Completed	10/25/2021 11:09:01	13
14		Completed	10/25/2021 11:24:44	14
15		Completed	10/25/2021 11:40:52	15
16		Completed	10/25/2021 11:56:35	16
17		Completed	10/26/2021 12:12:18	17
18		Completed	10/26/2021 12:28:01	18
19		Completed	10/26/2021 12:43:44	19
20		Completed	10/26/2021 12:59:27	20
21		Completed	10/26/2021 1:15:58	9
22		Completed	10/26/2021 1:31:41	10
23		Completed	10/26/2021 1:47:30	21
24		Completed	10/26/2021 2:03:13	22
25		Completed	10/26/2021 2:18:56	23
26		Completed	10/26/2021 2:34:39	24
27		Completed	10/26/2021 2:50:56	9
28		Completed	10/26/2021 3:06:39	10
29		Completed	10/26/2021 3:22:22	11
30		Completed	10/26/2021 3:38:27	12
31		Completed	10/26/2021 3:54:35	13
32		Completed	10/26/2021 4:10:25	25
33		Completed	10/26/2021 4:26:25	26
34		Completed	10/26/2021 4:42:08	27
35		Completed	10/26/2021 4:57:52	28
36		Completed	10/26/2021 5:13:36	29
37		Completed	10/26/2021 5:29:20	30
38		Completed	10/26/2021 5:45:04	31
39		Completed	10/26/2021 6:01:22	32
40		Completed	10/26/2021 6:17:06	33
41		Completed	10/26/2021 6:32:50	34
42		Completed	10/26/2021 6:48:35	35
43		Completed	10/26/2021 7:04:19	36
44		Completed	10/26/2021 7:20:02	37
45		Completed	10/26/2021 7:36:27	32
46		Completed	10/26/2021 7:52:11	33
47		Completed	10/26/2021 8:07:55	11
48		Completed	10/26/2021 8:23:52	12
49		Completed	10/26/2021 8:39:51	13
50		Completed	10/26/2021 8:55:33	38
51		Completed	10/26/2021 9:11:37	39

C:\TOC-L\Data\2021_10_25_002.tlx

	Notes	Status	Date / Time	Vial
52		Completed	10/26/2021 9:27:20	40
53		Completed	10/26/2021 9:43:06	41
54		Completed	10/26/2021 9:58:51	42
55		Completed	10/26/2021 10:14:35	43
56		Completed	10/26/2021 10:30:21	44
57		Completed	10/26/2021 10:46:46	32
58		Completed	10/26/2021 11:02:30	33
59		Completed	10/26/2021 11:18:23	45
60		Completed	10/26/2021 11:34:07	46
61		Completed	10/26/2021 11:49:51	47
62		Completed	10/26/2021 12:05:36	48
63		Completed	10/26/2021 12:21:57	49
64		Completed	10/26/2021 12:37:42	50
65		Completed	10/26/2021 12:53:28	11
66		Completed	10/26/2021 1:09:27	12
67		Completed	10/26/2021 1:25:38	13
68		Completed	10/26/2021 1:41:34	51
69		Completed	10/26/2021 1:57:34	52
70		Completed	10/26/2021 2:13:19	53
71		Completed	10/26/2021 2:29:04	54
72		Completed	10/26/2021 2:44:49	55
73		Completed	10/26/2021 3:00:34	56
74		Completed	10/26/2021 3:16:19	57
75		Completed	10/26/2021 3:32:39	49
76		Completed	10/26/2021 3:48:24	50
77		Completed	10/26/2021 4:04:17	58
78		Completed	10/26/2021 4:20:02	59
79		Completed	10/26/2021 4:35:47	60
80		Completed	10/26/2021 4:51:32	61
81		Completed	10/26/2021 5:07:56	49
82		Completed	10/26/2021 5:23:41	50

TOC-Control L Report

2021_10_25_002.tlx

Instr.Information

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

Cal. Curve

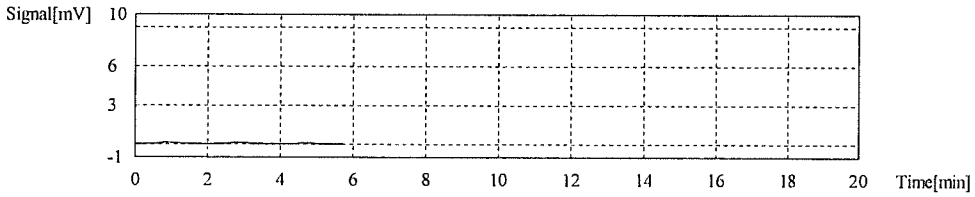
Sample Name:	CAL
Sample ID:	3100604915
Cal. Curve:	10_25_2021_CAL.2021_10_25_18_24_47.cal
Status	Completed

Type	Anal.
Standard	NPOC

Conc: 0.000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	0.1779	50uL	1.000	*******		10/25/2021 6:33:22 PM
2	0.000	50uL	1.000	*******		10/25/2021 6:36:36 PM
3	0.000	50uL	1.000	*******		10/25/2021 6:39:50 PM

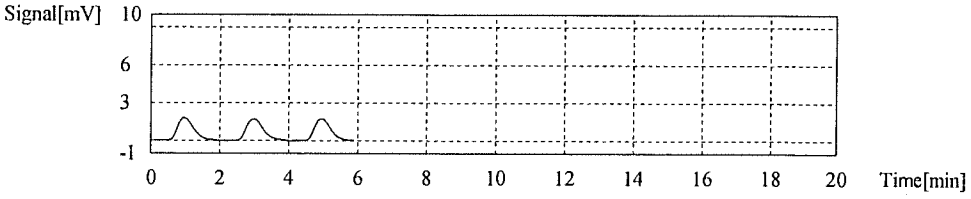
Acid Add.	1.500%
Sparge Gas Flow	80mL/min
Sp. Time	120.0sec
Mean Area	0.05930



Conc: 1.000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	5.679	50uL	1.000	*******		10/25/2021 6:48:38 PM
2	5.762	50uL	1.000	*******		10/25/2021 6:51:52 PM
3	5.629	50uL	1.000	*******		10/25/2021 6:55:02 PM

Acid Add.	1.500%
Sparge Gas Flow	80mL/min
Sp. Time	120.0sec
Mean Area	5.690



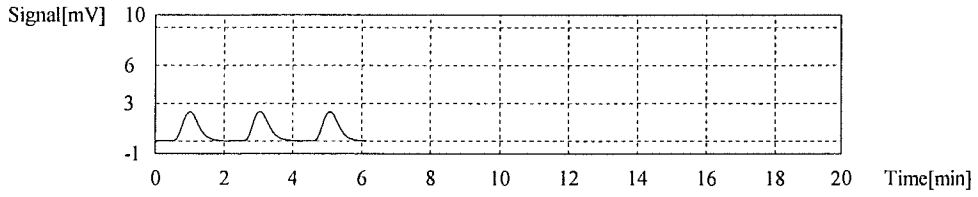
Conc: 2.000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	7.704	50uL	1.000	*******		10/25/2021 7:03:55 PM
2	7.453	50uL	1.000	*******		10/25/2021 7:07:06 PM
3	7.508	50uL	1.000	*******		10/25/2021 7:10:22 PM

TOC-Control L Report

2021_10_25_002.tlx

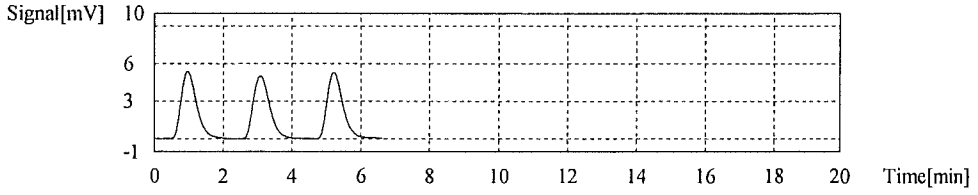
Acid Add.	1.500%
Sparge Gas Flow	80mL/min
Sp. Time	120.0sec
Mean Area	7.555



Conc: 5.000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	16.62	50uL	1.000	*******		10/25/2021 7:19:15 PM
2	16.58	50uL	1.000	*******		10/25/2021 7:22:33 PM
3	16.79	50uL	1.000	*******		10/25/2021 7:26:01 PM

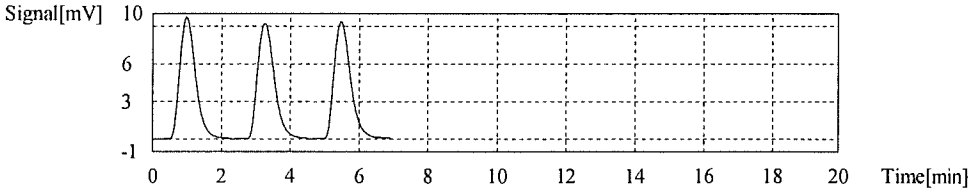
Acid Add.	1.500%
Sparge Gas Flow	80mL/min
Sp. Time	120.0sec
Mean Area	16.66



Conc: 10.00mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	30.96	50uL	1.000	*******		10/25/2021 7:35:05 PM
2	31.10	50uL	1.000	*******		10/25/2021 7:38:17 PM
3	31.16	50uL	1.000	*******		10/25/2021 7:41:41 PM

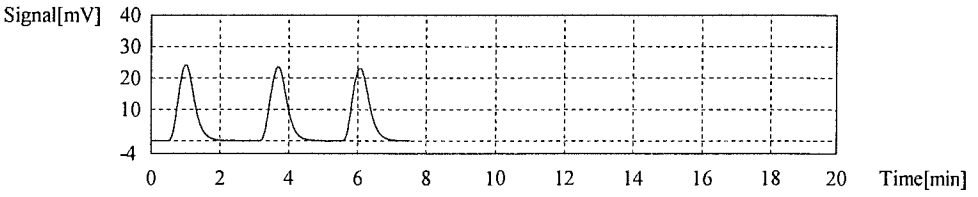
Acid Add.	1.500%
Sparge Gas Flow	80mL/min
Sp. Time	120.0sec
Mean Area	31.07



Conc: 25.00mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	79.40	50uL	1.000	*******		10/25/2021 7:51:09 PM
2	79.56	50uL	1.000	*******		10/25/2021 7:54:09 PM
3	79.35	50uL	1.000	*******		10/25/2021 7:57:24 PM

Acid Add.	1.500%
Sparge Gas Flow	80mL/min
Sp. Time	120.0sec
Mean Area	79.44



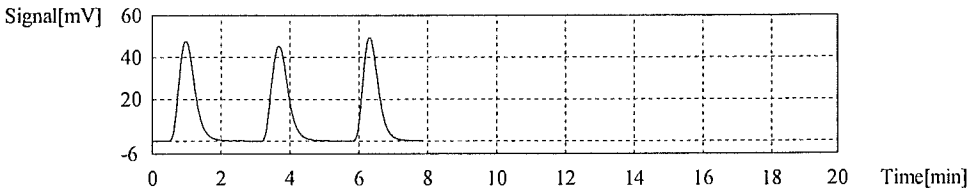
Conc: 50.00mg/L

TOC-Control L Report

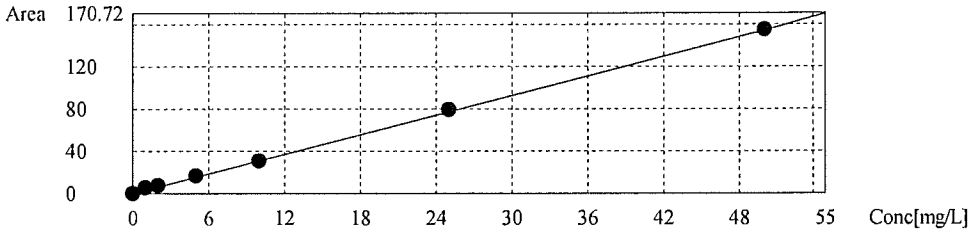
2021_10_25_002.tlx

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	156.1	50uL	1.000	*******		10/25/2021 8:06:53 PM
2	154.0	50uL	1.000	*******		10/25/2021 8:10:05 PM
3	155.5	50uL	1.000	*******		10/25/2021 8:13:11 PM

Acid Add. 1.500%
Sparge Gas Flow 80mL/min
Sp. Time 120.0sec
Mean Area 155.2



Slope: 3.086
Intercept 0.000
r^2 0.9997
r 0.9999
RSE(%) N/A
Zero Shift Yes



Sample

Sample Name: ICV
Sample ID: 3100604423
Origin: 10_25_2021_CAL.cal
Status Completed
Chk. Result

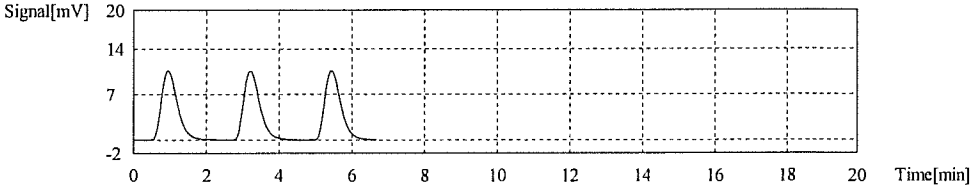
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:10.60mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	32.74	10.61mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	10/25/2021 8:38:14 PM
2	32.74	10.61mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	10/25/2021 8:41:41 PM
3	32.67	10.59mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	10/25/2021 8:45:09 PM

Mean Area 32.72
Mean Conc. 10.60mg/L



Sample

TOC-Control L Report

2021_10_25_002.tlx

Sample Name: ICB
Sample ID:
Origin: 10_25_2021_CAL.cal
Status Completed
Chk. Result

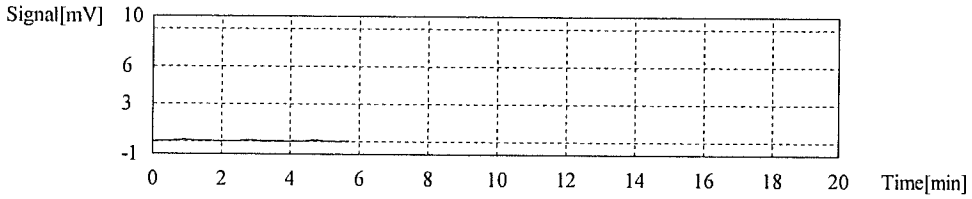
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.05172mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	0.1343	0.04352mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	10/25/2021 8:54:04 PM
2	0.1944	0.06299mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	10/25/2021 8:57:34 PM
3	0.1502	0.04867mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	10/25/2021 9:01:04 PM

Mean Area 0.1596
Mean Conc. 0.05172mg/L



C:\TOC-L\Data\2021_11_02_001.tlx

	Type	Analysis	Sample Name	Sample ID	Origin	Manual Dilut	Result
1	Unknown	NPOC	CCV	317195504	10_25_2021_CAL.cal	1.000	NPOC:26.48mg/
2	Unknown	NPOC	CCB		10_25_2021_CAL.cal	1.000	NPOC:0.08713
3	Unknown	NPOC	MBLK-11022021		10_25_2021_CAL.cal	1.000	NPOC:0.04376
4	Unknown	NPOC	LCS-11022021	3100604423	10_25_2021_CAL.cal	1.000	NPOC:10.73mg/
5	Unknown	NPOC	LCSD-11022021	3100604423	10_25_2021_CAL.cal	1.000	NPOC:10.65mg/
6	Unknown	NPOC	HS21101575-05DF10		10_25_2021_CAL.cal	1.000	NPOC:0.4614m
7	Unknown	NPOC	HS21101575-06DF10		10_25_2021_CAL.cal	1.000	NPOC:1.702mg/
8	Unknown	NPOC	HS21101663-01DF10		10_25_2021_CAL.cal	1.000	NPOC:0.4357m
9	Unknown	NPOC	HS21101663-01MSDF1		10_25_2021_CAL.cal	1.000	NPOC:12.60mg/
10	Unknown	NPOC	HS21101663-02DF10		10_25_2021_CAL.cal	1.000	NPOC:1.230mg/
11	Unknown	NPOC	HS21101663-03DF10		10_25_2021_CAL.cal	1.000	NPOC:0.2907m
12	Unknown	NPOC	HS21101575-01DF10		10_25_2021_CAL.cal	1.000	NPOC:0.2168m
13	Unknown	NPOC	CCV	317195504	10_25_2021_CAL.cal	1.000	NPOC:25.63mg/
14	Unknown	NPOC	CCB		10_25_2021_CAL.cal	1.000	NPOC:0.09372
15	Unknown	NPOC	HS21101575-02DF10		10_25_2021_CAL.cal	1.000	NPOC:0.2987m
16	Unknown	NPOC	HS21101575-03DF10		10_25_2021_CAL.cal	1.000	NPOC:0.2224m
17	Unknown	NPOC	HS21101575-04DF10		10_25_2021_CAL.cal	1.000	NPOC:0.1748m
18	Unknown	NPOC	HS21101575-07DF10		10_25_2021_CAL.cal	1.000	NPOC:0.1840m
19	Unknown	NPOC	CCV	317195504	10_25_2021_CAL.cal	1.000	NPOC:25.74mg/
20	Unknown	NPOC	CCB		10_25_2021_CAL.cal	1.000	NPOC:0.07664
21	Unknown	NPOC	MBLK-11022021		10_25_2021_CAL.cal	1.000	NPOC:0.06666
22	Unknown	NPOC	LCS-11022021	3100604423	10_25_2021_CAL.cal	1.000	NPOC:10.59mg/
23	Unknown	NPOC	LCSD-11022021	3100604423	10_25_2021_CAL.cal	1.000	NPOC:10.44mg/
24	Unknown	NPOC	HS21101575-08DF10		10_25_2021_CAL.cal	1.000	NPOC:0.3589m
25	Unknown	NPOC	HS21101575-09DF10		10_25_2021_CAL.cal	1.000	NPOC:0.1371m
26	Unknown	NPOC	HS21101575-10DF10		10_25_2021_CAL.cal	1.000	NPOC:0.1450m
27	Unknown	NPOC	HS21101575-11DF10		10_25_2021_CAL.cal	1.000	NPOC:0.2043m
28	Unknown	NPOC	HS21101575-12DF11		10_25_2021_CAL.cal	1.000	NPOC:0.4842m
29	Unknown	NPOC	HS21101575-13DF10		10_25_2021_CAL.cal	1.000	NPOC:0.3785m
30	Unknown	NPOC	HS21101575-14DF10		10_25_2021_CAL.cal	1.000	NPOC:0.3857m
31	Unknown	NPOC	CCV	317195504	10_25_2021_CAL.cal	1.000	NPOC:25.66mg/
32	Unknown	NPOC	CCB		10_25_2021_CAL.cal	1.000	NPOC:0.1192m
33	Unknown	NPOC	HS21101575-15DF10		10_25_2021_CAL.cal	1.000	NPOC:0.3362m
34	Unknown	NPOC	HS21101666-01DF10		10_25_2021_CAL.cal	1.000	NPOC:1.642mg/
35	Unknown	NPOC	HS21101666-02DF10		10_25_2021_CAL.cal	1.000	NPOC:7.281mg/
36	Unknown	NPOC	HS21101666-02MSDF1		10_25_2021_CAL.cal	1.000	NPOC:18.13mg/
37	Unknown	NPOC	CCV	317195504	10_25_2021_CAL.cal	1.000	NPOC:26.13mg/
38	Unknown	NPOC	CCB		10_25_2021_CAL.cal	1.000	NPOC:0.09305
39	Unknown	NPOC	MBLK-11022021		10_25_2021_CAL.cal	1.000	NPOC:0.03107
40	Unknown	NPOC	LCS-11022021	3100604423	10_25_2021_CAL.cal	1.000	NPOC:10.64mg/
41	Unknown	NPOC	LCSD-11022021	3100604423	10_25_2021_CAL.cal	1.000	NPOC:10.66mg/
42	Unknown	NPOC	HS21101144-10		10_25_2021_CAL.cal	1.000	NPOC:1.342mg/
43	Unknown	NPOC	HS21101144-10MS		10_25_2021_CAL.cal	1.000	NPOC:15.03mg/
44	Unknown	NPOC	HS21101144-11		10_25_2021_CAL.cal	1.000	NPOC:3.045mg/
45	Unknown	NPOC	HS21101144-12		10_25_2021_CAL.cal	1.000	NPOC:37.88mg/
46	Unknown	NPOC	HS21101144-14		10_25_2021_CAL.cal	1.000	NPOC:15.74mg/
47	Unknown	NPOC	HS21101528-01		10_25_2021_CAL.cal	1.000	NPOC:8.531mg/
48	Unknown	NPOC	HS21101531-01		10_25_2021_CAL.cal	1.000	NPOC:11.27mg/
49	Unknown	NPOC	CCV	317195504	10_25_2021_CAL.cal	1.000	NPOC:26.46mg/
50	Unknown	NPOC	CCB		10_25_2021_CAL.cal	1.000	NPOC:0.3280m
51	Unknown	NPOC	HS21101534-01		10_25_2021_CAL.cal	1.000	NPOC:4.808mg/

C:\TOC-L\Data\2021_11_02_001.tlx

	Type	Analysis	Sample Name	Sample ID	Origin	Manual Dilut	Result
52	Unknown	NPOC	HS21101538-01		10_25_2021_CAL.cal	1.000	NPOC:5.249mg/
53	Unknown	NPOC	HS21101663-01DF10		10_25_2021_CAL.cal	1.000	NPOC:0.5860m
54	Unknown	NPOC	HS21101663-02DF10		10_25_2021_CAL.cal	1.000	NPOC:1.689mg/
55	Unknown	NPOC	CCV	317195504	10_25_2021_CAL.cal	1.000	NPOC:25.95mg/
56	Unknown	NPOC	CCB		10_25_2021_CAL.cal	1.000	NPOC:0.2002m
57	Unknown	NPOC	MBLK-11022021		10_25_2021_CAL.cal	1.000	NPOC:0.1213m
58	Unknown	NPOC	LCS-11022021	3100604423	10_25_2021_CAL.cal	1.000	NPOC:10.69mg/
59	Unknown	NPOC	LCSD-11022021	3100604423	10_25_2021_CAL.cal	1.000	NPOC:10.71mg/
60	Unknown	NPOC	HS21101663-03DF10		10_25_2021_CAL.cal	1.000	NPOC:0.3343m
61	Unknown	NPOC	HS21101171-01		10_25_2021_CAL.cal	1.000	NPOC:158.8mg/
62	Unknown	NPOC	HS21101171-02		10_25_2021_CAL.cal	1.000	NPOC:241.4mg/
63	Unknown	NPOC	HS21101171-02MS		10_25_2021_CAL.cal	1.000	NPOC:267.3mg/
64	Unknown	NPOC	HS21101171-03		10_25_2021_CAL.cal	1.000	NPOC:19.48mg/
65	Unknown	NPOC	HS21101171-04		10_25_2021_CAL.cal	1.000	NPOC:69.42mg/
66	Unknown	NPOC	HS21101620-04		10_25_2021_CAL.cal	1.000	NPOC:10.15mg/
67	Unknown	NPOC	CCV	317195504	10_25_2021_CAL.cal	1.000	NPOC:26.04mg/
68	Unknown	NPOC	CCB		10_25_2021_CAL.cal	1.000	NPOC:0.1605m
69	Unknown	NPOC	HS21101620-05		10_25_2021_CAL.cal	1.000	NPOC:5.046mg/
70	Unknown	NPOC	HS21101621-01		10_25_2021_CAL.cal	1.000	NPOC:3.064mg/
71	Unknown	NPOC	HS21101272-03		10_25_2021_CAL.cal	1.000	NPOC:8.461mg/
72	Unknown	NPOC	HS21101272-04		10_25_2021_CAL.cal	1.000	NPOC:11.29mg/
73	Unknown	NPOC	CCV	317195504	10_25_2021_CAL.cal	1.000	NPOC:26.10mg/
74	Unknown	NPOC	CCB		10_25_2021_CAL.cal	1.000	NPOC:0.1947m

C:\TOC-L\Data\2021_11_02_001.tlx

	Notes	Status	Date / Time	Vial
1		Completed	11/2/2021 6:35:45 P	1
2		Completed	11/2/2021 6:51:28 P	2
3		Completed	11/2/2021 7:07:11 P	3
4		Completed	11/2/2021 7:23:37 P	4
5		Completed	11/2/2021 7:39:35 P	5
6		Completed	11/2/2021 7:55:18 P	6
7		Completed	11/2/2021 8:11:01 P	7
8		Completed	11/2/2021 8:26:44 P	8
9		Completed	11/2/2021 8:42:58 P	9
10		Completed	11/2/2021 8:58:42 P	10
11		Completed	11/2/2021 9:14:25 P	11
12		Completed	11/2/2021 9:30:08 P	12
13		Completed	11/2/2021 9:46:56 P	1
14		Completed	11/2/2021 10:02:39	2
15		Completed	11/2/2021 10:18:28	13
16		Completed	11/2/2021 10:34:11	14
17		Completed	11/2/2021 10:49:54	15
18		Completed	11/2/2021 11:05:37	16
19		Completed	11/2/2021 11:21:59	1
20		Completed	11/2/2021 11:37:42	2
21		Completed	11/2/2021 11:53:25	3
22		Completed	11/3/2021 12:09:25	4
23		Completed	11/3/2021 12:25:19	5
24		Completed	11/3/2021 12:41:08	17
25		Completed	11/3/2021 12:56:51	18
26		Completed	11/3/2021 1:12:34 A	19
27		Completed	11/3/2021 1:28:17 A	20
28		Completed	11/3/2021 1:44:00 A	21
29		Completed	11/3/2021 1:59:43 A	22
30		Completed	11/3/2021 2:15:26 A	23
31		Completed	11/3/2021 2:31:36 A	24
32		Completed	11/3/2021 2:47:19 A	25
33		Completed	11/3/2021 3:03:02 A	26
34		Completed	11/3/2021 3:18:46 A	27
35		Completed	11/3/2021 3:34:43 A	28
36		Completed	11/3/2021 3:50:48 A	29
37		Completed	11/3/2021 4:07:11 A	24
38		Completed	11/3/2021 4:22:54 A	25
39		Completed	11/3/2021 4:38:39 A	3
40		Completed	11/3/2021 4:54:41 A	4
41		Completed	11/3/2021 5:10:35 A	5
42		Completed	11/3/2021 5:26:34 A	30
43		Completed	11/3/2021 5:42:36 A	31
44		Completed	11/3/2021 5:58:20 A	32
45		Completed	11/3/2021 6:14:44 A	33
46		Completed	11/3/2021 6:30:48 A	34
47		Completed	11/3/2021 6:46:44 A	35
48		Completed	11/3/2021 7:02:42 A	36
49		Completed	11/3/2021 7:19:04 A	24
50		Completed	11/3/2021 7:34:47 A	25
51		Completed	11/3/2021 7:50:57 A	37

C:\TOC-L\Data\2021_11_02_001.tlx

	Notes	Status	Date / Time	Vial
52		Completed	11/3/2021 8:06:56 A	38
53		Completed	11/3/2021 8:22:40 A	39
54		Completed	11/3/2021 8:38:24 A	40
55		Completed	11/3/2021 8:54:30 A	41
56		Completed	11/3/2021 9:10:14 A	42
57		Completed	11/3/2021 9:26:03 A	3
58		Completed	11/3/2021 9:42:06 A	4
59		Completed	11/3/2021 9:58:04 A	5
60		Completed	11/3/2021 10:13:57	43
61		Completed	11/3/2021 10:30:18	44
62		Completed	11/3/2021 10:46:45	45
63		Completed	11/3/2021 11:03:11	46
64		Completed	11/3/2021 11:19:18	47
65		Completed	11/3/2021 11:38:25	48
66		Completed	11/3/2021 11:54:29	49
67		Completed	11/3/2021 12:26:31	41
68		Completed	11/3/2021 12:42:15	42
69		Completed	11/3/2021 12:58:14	50
70		Completed	11/3/2021 1:13:59 P	51
71		Completed	11/3/2021 1:30:01 P	52
72		Completed	11/3/2021 1:46:08 P	53
73		Completed	11/3/2021 2:18:00 P	41
74		Completed	11/3/2021 2:33:45 P	42

TOC-Control L Report

2021_11_02_001.tix

Instr.Information

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

Sample

Sample Name: CCV
Sample ID: 317195504
Origin: 10_25_2021_CAL.cal
Status: Completed
Chk. Result:

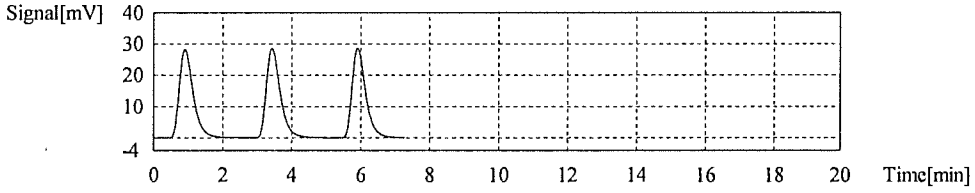
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:25.95mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	79.96	25.91mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/3/2021 8:47:45 AM
2	80.62	26.12mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/3/2021 8:51:13 AM
3	79.73	25.83mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/3/2021 8:54:30 AM

Mean Area: 80.10
Mean Conc.: 25.95mg/L



Sample

Sample Name: CCB
Sample ID:
Origin: 10_25_2021_CAL.cal
Status: Completed
Chk. Result:

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.2002mg/L

1. Det

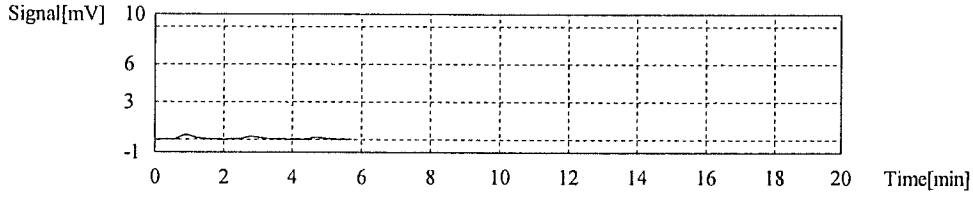
Anal.: NPOC

No.	Area	Conc.	Inj. Vol	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	0.9533	0.3089mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/3/2021 9:03:14 AM
2	0.5055	0.1638mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/3/2021 9:06:44 AM
3	0.3951	0.1280mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/3/2021 9:10:14 AM

TOC-Control L Report

2021_11_02_001.tlx

Mean Area 0.6180
Mean Conc. 0.2002mg/L



Sample

Sample Name: MBLK-11022021
Sample ID:
Origin: 10_25_2021_CAL.cal
Status Completed
Chk. Result

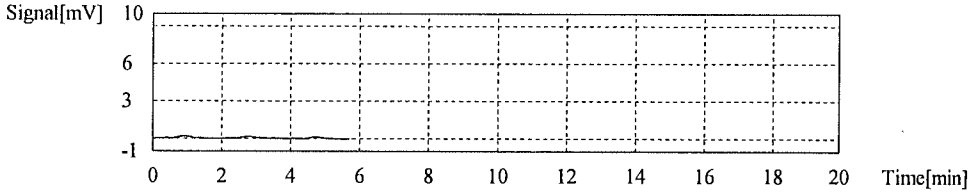
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.1213mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	0.4409	0.1429mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/3/2021 9:19:02 AM
2	0.3589	0.1163mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/3/2021 9:22:32 AM
3	0.3235	0.1048mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/3/2021 9:26:03 AM

Mean Area 0.3744
Mean Conc. 0.1213mg/L



Sample

Sample Name: LCS-11022021
Sample ID: 3100604423
Origin: 10_25_2021_CAL.cal
Status Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:10.69mg/L

1. Det

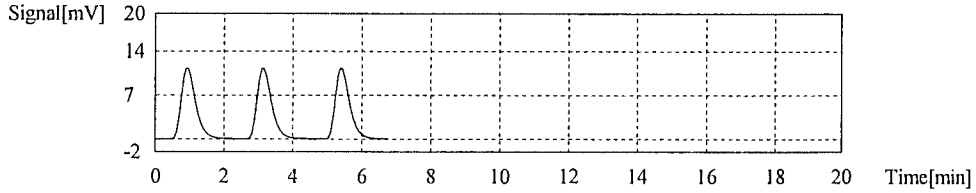
Anal.: NPOC

TOC-Control L Report

2021_11_02_001.tlx

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	33.27	10.78mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/3/2021 9:35:05 AM
2	32.90	10.66mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/3/2021 9:38:37 AM
3	32.82	10.63mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/3/2021 9:42:06 AM

Mean Area 33.00
Mean Conc. 10.69mg/L



Sample

Sample Name: LCSD-11022021
Sample ID: 3100604423
Origin: 10_25_2021_CAL.cal
Status Completed
Chk. Result

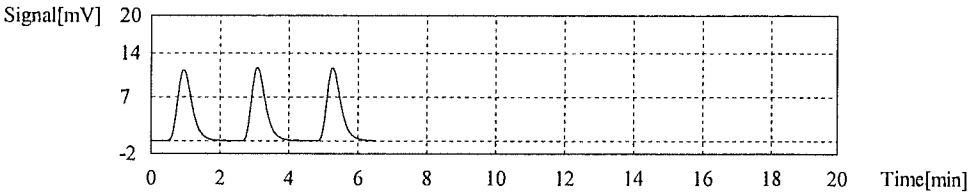
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:10.71mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	33.16	10.74mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/3/2021 9:51:05 AM
2	33.12	10.73mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/3/2021 9:54:36 AM
3	32.90	10.66mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/3/2021 9:58:04 AM

Mean Area 33.06
Mean Conc. 10.71mg/L



Sample

Sample Name: HS21101171-01
Sample ID:
Origin: 10_25_2021_CAL.cal
Status Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:158.8mg/L

1. Det

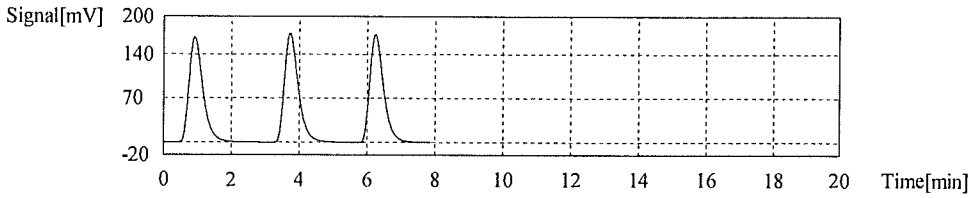
TOC-Control L Report

2021_11_02_001.tlx

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	485.9	157.4mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/3/2021 10:23:37 AM
2	496.2	160.8mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/3/2021 10:26:48 AM
3	488.6	158.3mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/3/2021 10:30:18 AM

Mean Area 490.2
Mean Conc. 158.8mg/L



Sample

Sample Name: HS21101171-02
Sample ID:
Origin: 10_25_2021_CAL.cal
Status Completed
Chk. Result

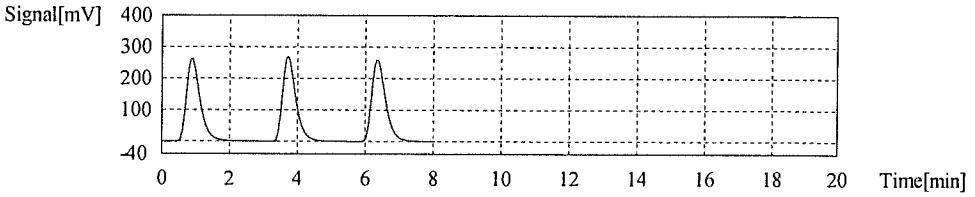
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:241.4mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	746.8	242.0mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/3/2021 10:39:58 AM
2	743.6	240.9mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/3/2021 10:43:15 AM
3	744.8	241.3mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/3/2021 10:46:45 AM

Mean Area 745.1
Mean Conc. 241.4mg/L



Sample

Sample Name: HS21101171-02MS
Sample ID:
Origin: 10_25_2021_CAL.cal
Status Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:267.3mg/L

TOC-Control L Report

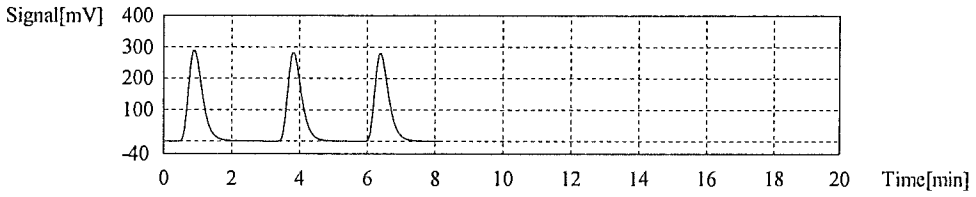
2021_11_02_001.tlx

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	840.0	272.2mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/3/2021 10:56:30 AM
2	822.0	266.3mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/3/2021 10:59:40 AM
3	813.0	263.4mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/3/2021 11:03:11 AM

Mean Area 825.0
Mean Conc. 267.3mg/L



Sample

Sample Name: HS21101171-03
Sample ID:
Origin: 10_25_2021_CAL.cal
Status Completed
Chk. Result

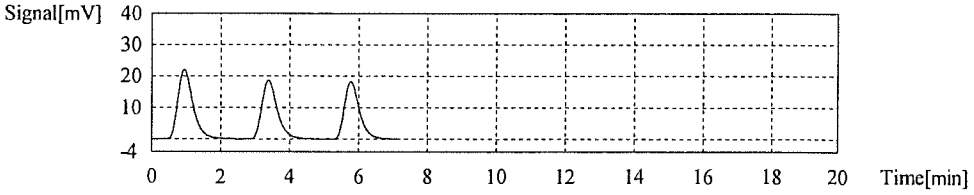
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:19.48mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	67.10	21.74mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/3/2021 11:12:26 AM
2	58.29	18.89mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/3/2021 11:15:56 AM
3	54.93	17.80mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/3/2021 11:19:18 AM

Mean Area 60.11
Mean Conc. 19.48mg/L



Sample

Sample Name: HS21101171-04
Sample ID:
Origin: 10_25_2021_CAL.cal
Status Completed
Chk. Result

TOC-Control L Report

2021_11_02_001.tlx

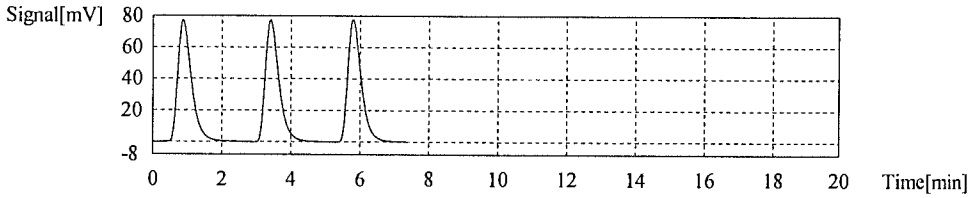
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:69.42mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	216.4	70.12mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/3/2021 11:31:35 AM
2	213.0	69.02mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/3/2021 11:34:56 AM
3	213.3	69.11mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/3/2021 11:38:25 AM

Mean Area 214.2
Mean Conc. 69.42mg/L



Sample

Sample Name: CCV
Sample ID: 317195504
Origin: 10_25_2021_CAL.cal
Status Completed
Chk. Result

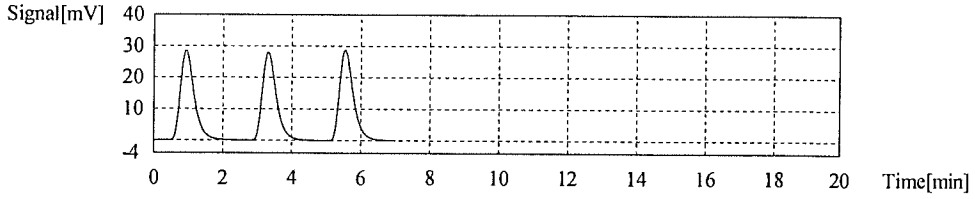
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:26.04mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	80.49	26.08mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/3/2021 12:19:33 PM
2	79.88	25.88mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/3/2021 12:22:55 PM
3	80.75	26.16mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/3/2021 12:26:31 PM

Mean Area 80.37
Mean Conc. 26.04mg/L



Sample

TOC-Control L Report

2021_11_02_001.tlx

Sample Name: CCB
Sample ID:
Origin: 10_25_2021_CAL.cal
Status Completed
Chk. Result

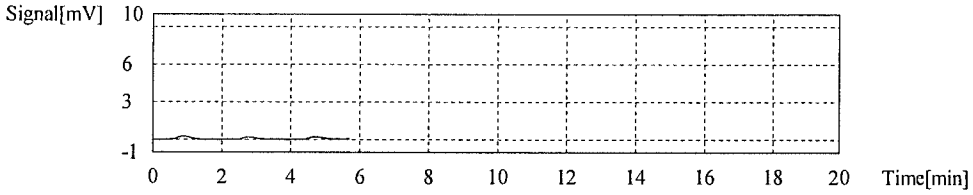
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.1605mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	0.6447	0.2089mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/3/2021 12:35:15 PM
2	0.3705	0.1200mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/3/2021 12:38:45 PM
3	0.4707	0.1525mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/3/2021 12:42:15 PM

Mean Area 0.4953
Mean Conc. 0.1605mg/L



C:\TOC-L\Data\2021_11_04_002.tlx

	Type	Analysis	Sample Name	Sample ID	Origin	Manual Dilut	Result
1	Unknown	NPOC	CCV	317195504	10_25_2021_CAL.cal	1.000	NPOC:26.70mg/
2	Unknown	NPOC	CCB		10_25_2021_CAL.cal	1.000	NPOC:0.2143m
3	Unknown	NPOC	MBLK-11042021		10_25_2021_CAL.cal	1.000	NPOC:0.1843m
4	Unknown	NPOC	LCS-11042021	3100604423	10_25_2021_CAL.cal	1.000	NPOC:11.04mg/
5	Unknown	NPOC	LCSD-11042021	3100604423	10_25_2021_CAL.cal	1.000	NPOC:10.96mg/
6	Unknown	NPOC	HS21110107-01DF10		10_25_2021_CAL.cal	1.000	NPOC:11.31mg/
7	Unknown	NPOC	HS21110107-02D10		10_25_2021_CAL.cal	1.000	NPOC:6.038mg/
8	Unknown	NPOC	HS21110107-03DF10		10_25_2021_CAL.cal	1.000	NPOC:2.341mg/
9	Unknown	NPOC	HS21110107-04DF10		10_25_2021_CAL.cal	1.000	NPOC:0.1923m
10	Unknown	NPOC	HS21110107-04MSDF1		10_25_2021_CAL.cal	1.000	NPOC:11.86mg/
11	Unknown	NPOC	HS21110107-05DF10		10_25_2021_CAL.cal	1.000	NPOC:0.2430m
12	Unknown	NPOC	HS21110107-06DF10		10_25_2021_CAL.cal	1.000	NPOC:0.1672m
13	Unknown	NPOC	CCV	317195504	10_25_2021_CAL.cal	1.000	NPOC:25.99mg/
14	Unknown	NPOC	CCB		10_25_2021_CAL.cal	1.000	NPOC:0.1183m
15	Unknown	NPOC	HS21110107-07DF10		10_25_2021_CAL.cal	1.000	NPOC:0.3506m
16	Unknown	NPOC	HS21110107-08DF10		10_25_2021_CAL.cal	1.000	NPOC:0.5128m
17	Unknown	NPOC	HS21110107-09DF10		10_25_2021_CAL.cal	1.000	NPOC:0.3968m
18	Unknown	NPOC	HS21110107-10DF10		10_25_2021_CAL.cal	1.000	NPOC:0.2544m
19	Unknown	NPOC	CCV	317195504	10_25_2021_CAL.cal	1.000	NPOC:26.25mg/
20	Unknown	NPOC	CCB		10_25_2021_CAL.cal	1.000	NPOC:0.1040m
21	Unknown	NPOC	MBLK-11042021		10_25_2021_CAL.cal	1.000	NPOC:0.07925
22	Unknown	NPOC	LCS-11042021	3100604423	10_25_2021_CAL.cal	1.000	NPOC:10.66mg/
23	Unknown	NPOC	LCSD-11042021	3100604423	10_25_2021_CAL.cal	1.000	NPOC:10.78mg/
24	Unknown	NPOC	HS21101171-01DF10		10_25_2021_CAL.cal	1.000	NPOC:13.98mg/
25	Unknown	NPOC	HS21101171-02DF10		10_25_2021_CAL.cal	1.000	NPOC:20.32mg/
26	Unknown	NPOC	HS21101171-02MSDF1		10_25_2021_CAL.cal	1.000	NPOC:22.03mg/
27	Unknown	NPOC	HS21101171-04DF2		10_25_2021_CAL.cal	1.000	NPOC:33.51mg/
28	Unknown	NPOC	HS21110090-01		10_25_2021_CAL.cal	1.000	NPOC:0.7075m
29	Unknown	NPOC	HS21101272-07DF100		10_25_2021_CAL.cal	1.000	NPOC:1504mg/
30	Unknown	NPOC	HS21101272-08DF100		10_25_2021_CAL.cal	1.000	NPOC:1458mg/
31	Unknown	NPOC	CCV	317195504	10_25_2021_CAL.cal	1.000	NPOC:26.28mg/
32	Unknown	NPOC	CCB		10_25_2021_CAL.cal	1.000	NPOC:0.1989m
33	Unknown	NPOC	HS21101272-10DF100		10_25_2021_CAL.cal	1.000	NPOC:26.11mg/
34	Unknown	NPOC	HS21101382-01		10_25_2021_CAL.cal	1.000	NPOC:0.7655m
35	Unknown	NPOC	HS21101692-01		10_25_2021_CAL.cal	1.000	NPOC:8.793mg/
36	Unknown	NPOC	HS21101694-01		10_25_2021_CAL.cal	1.000	NPOC:6.640mg/
37	Unknown	NPOC	CCV	317195504	10_25_2021_CAL.cal	1.000	NPOC:25.96mg/
38	Unknown	NPOC	CCB		10_25_2021_CAL.cal	1.000	NPOC:0.1034m
39	Unknown	NPOC	MBLK-11042021		10_25_2021_CAL.cal	1.000	NPOC:0.1129m
40	Unknown	NPOC	LCS-11042021	3100604423	10_25_2021_CAL.cal	1.000	NPOC:10.80mg/
41	Unknown	NPOC	LCSD-11042021	3100604423	10_25_2021_CAL.cal	1.000	NPOC:10.69mg/
42	Unknown	NPOC	HS21101422-01		10_25_2021_CAL.cal	1.000	NPOC:31.91mg/
43	Unknown	NPOC	HS21101421-01		10_25_2021_CAL.cal	1.000	NPOC:8.657mg/
44	Unknown	NPOC	HS21101421-02		10_25_2021_CAL.cal	1.000	NPOC:8.585mg/
45	Unknown	NPOC	HS21101421-03		10_25_2021_CAL.cal	1.000	NPOC:8.032mg/
46	Unknown	NPOC	HS21101421-04		10_25_2021_CAL.cal	1.000	NPOC:11.41mg/
47	Unknown	NPOC	HS21101421-05		10_25_2021_CAL.cal	1.000	NPOC:18.30mg/
48	Unknown	NPOC	HS21101421-06		10_25_2021_CAL.cal	1.000	NPOC:4.032mg/
49	Unknown	NPOC	CCV	317195504	10_25_2021_CAL.cal	1.000	NPOC:25.92mg/
50	Unknown	NPOC	CCB		10_25_2021_CAL.cal	1.000	NPOC:0.1484m
51	Unknown	NPOC	HS21101714-01		10_25_2021_CAL.cal	1.000	NPOC:4.483mg/

C:\TOC-L\Data\2021_11_04_002.tlx

	Type	Analysis	Sample Name	Sample ID	Origin	Manual Dilut	Result
52	Unknown	NPOC	HS21101714-01MS		10_25_2021_CAL.cal	1.000	NPOC:15.66mg/
53	Unknown	NPOC	HS21101714-02		10_25_2021_CAL.cal	1.000	NPOC:4.718mg/
54	Unknown	NPOC	HS21101729-01		10_25_2021_CAL.cal	1.000	NPOC:3.291mg/
55	Unknown	NPOC	CCV	317195504	10_25_2021_CAL.cal	1.000	NPOC:25.77mg/
56	Unknown	NPOC	CCB		10_25_2021_CAL.cal	1.000	NPOC:0.1084m
57	Unknown	NPOC	MBLK-11042021		10_25_2021_CAL.cal	1.000	NPOC:0.09793
58	Unknown	NPOC	LCS-11042021	3100604423	10_25_2021_CAL.cal	1.000	NPOC:10.72mg/
59	Unknown	NPOC	LCSD-11042021	3100604423	10_25_2021_CAL.cal	1.000	NPOC:10.81mg/
60	Unknown	NPOC	HS21101738-01		10_25_2021_CAL.cal	1.000	NPOC:10.99mg/
61	Unknown	NPOC	HS21101738-01MS		10_25_2021_CAL.cal	1.000	NPOC:22.91mg/
62	Unknown	NPOC	HS21110085-01		10_25_2021_CAL.cal	1.000	NPOC:0.2338m
63	Unknown	NPOC	HS21101272-07DF100		10_25_2021_CAL.cal	1.000	NPOC:178.3mg/
64	Unknown	NPOC	HS21101272-08DF100		10_25_2021_CAL.cal	1.000	NPOC:172.3mg/
65	Unknown	NPOC	HS21101272-07DF200		10_25_2021_CAL.cal	1.000	NPOC:2.187mg/
66	Unknown	NPOC	HS21101272-08DF200		10_25_2021_CAL.cal	1.000	NPOC:2.079mg/
67	Unknown	NPOC	CCV	317195504	10_25_2021_CAL.cal	1.000	NPOC:25.98mg/
68	Unknown	NPOC	CCB		10_25_2021_CAL.cal	1.000	NPOC:0.1469m

C:\TOC-L\Data\2021_11_04_002.tlx

	Notes	Status	Date / Time	Vial
1		Completed	11/4/2021 7:32:40 P	1
2		Completed	11/4/2021 7:48:23 P	2
3		Completed	11/4/2021 8:04:06 P	3
4		Completed	11/4/2021 8:20:08 P	4
5		Completed	11/4/2021 8:36:14 P	5
6		Completed	11/4/2021 8:52:11 P	6
7		Completed	11/4/2021 9:08:05 P	7
8		Completed	11/4/2021 9:23:50 P	8
9		Completed	11/4/2021 9:39:33 P	9
10		Completed	11/4/2021 9:55:38 P	10
11		Completed	11/4/2021 10:11:21	11
12		Completed	11/4/2021 10:27:04	12
13		Completed	11/4/2021 10:59:06	1
14		Completed	11/4/2021 11:14:49	2
15		Completed	11/4/2021 11:30:38	13
16		Completed	11/4/2021 11:46:21	14
17		Completed	11/5/2021 12:02:04	15
18		Completed	11/5/2021 12:17:47	16
19		Completed	11/5/2021 12:49:46	1
20		Completed	11/5/2021 1:05:29 A	2
21		Completed	11/5/2021 1:21:12 A	3
22		Completed	11/5/2021 1:37:15 A	4
23		Completed	11/5/2021 1:53:28 A	5
24		Completed	11/5/2021 2:09:43 A	17
25		Completed	11/5/2021 2:25:49 A	18
26		Completed	11/5/2021 2:41:32 A	19
27		Completed	11/5/2021 2:57:45 A	20
28		Completed	11/5/2021 3:13:28 A	21
29		Completed	11/5/2021 3:33:36 A	22
30		Completed	11/5/2021 3:53:41 A	23
31		Completed	11/5/2021 4:26:12 A	24
32		Completed	11/5/2021 4:41:55 A	25
33		Completed	11/5/2021 4:57:58 A	26
34		Completed	11/5/2021 5:13:41 A	27
35		Completed	11/5/2021 5:29:40 A	28
36		Completed	11/5/2021 5:45:38 A	29
37		Completed	11/5/2021 6:18:04 A	24
38		Completed	11/5/2021 6:33:47 A	25
39		Completed	11/5/2021 6:49:32 A	3
40		Completed	11/5/2021 7:05:41 A	4
41		Completed	11/5/2021 7:21:41 A	5
42		Completed	11/5/2021 7:38:07 A	30
43		Completed	11/5/2021 7:54:06 A	31
44		Completed	11/5/2021 8:10:05 A	32
45		Completed	11/5/2021 8:26:04 A	33
46		Completed	11/5/2021 8:42:24 A	34
47		Completed	11/5/2021 8:58:47 A	35
48		Completed	11/5/2021 9:14:33 A	36
49		Completed	11/5/2021 9:47:02 A	24
50		Completed	11/5/2021 10:02:45	25
51		Completed	11/5/2021 10:18:48	37

C:\TOC-L\Data\2021_11_04_002.tlx

	Notes	Status	Date / Time	Vial
52		Completed	11/5/2021 10:34:54	38
53		Completed	11/5/2021 10:50:53	39
54		Completed	11/5/2021 11:06:39	40
55		Completed	11/5/2021 11:38:58	41
56		Completed	11/5/2021 11:54:42	42
57		Completed	11/5/2021 12:10:30	3
58		Completed	11/5/2021 12:26:33	4
59		Completed	11/5/2021 12:42:45	5
60		Completed	11/5/2021 12:58:59	43
61		Completed	11/5/2021 1:15:14 P	44
62		Completed	11/5/2021 1:30:58 P	45
63		Completed	11/5/2021 2:06:43 P	49
64		Completed	11/5/2021 2:23:08 P	50
65		Completed	11/5/2021 4:00:09 P	54
66		Completed	11/5/2021 4:15:54 P	55
67		Completed	11/5/2021 4:48:18 P	41
68		Completed	11/5/2021 5:04:02 P	42

TOC-Control L Report

2021_11_04_002.tlx

Instr.Information

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

Sample

Sample Name: CCV
Sample ID: 317195504
Origin: 10_25_2021_CAL.cal
Status: Completed
Chk. Result:

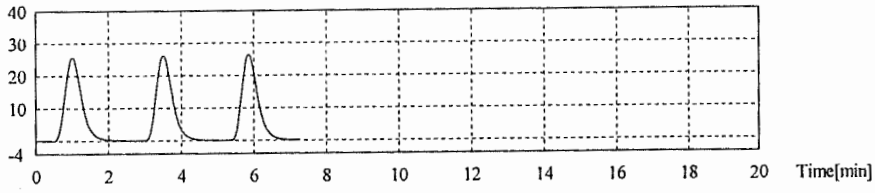
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:26.25mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	81.65	26.46mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/5/2021 12:42:55 AM
2	80.68	26.14mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/5/2021 12:46:16 AM
3	80.75	26.16mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/5/2021 12:49:46 AM

Mean Area: 81.03
Mean Conc.: 26.25mg/L



Sample

Sample Name: CCB
Sample ID:
Origin: 10_25_2021_CAL.cal
Status: Completed
Chk. Result:

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.1040mg/L

1. Det

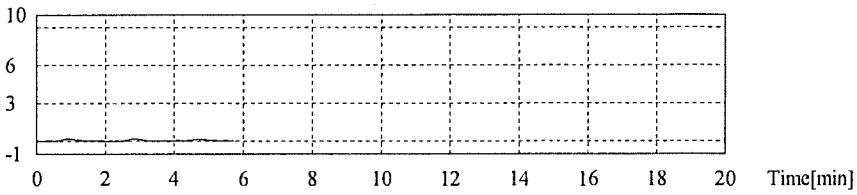
Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	0.3637	0.1178mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/5/2021 12:58:29 AM
2	0.3966	0.1285mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/5/2021 1:01:59 AM
3	0.2029	0.06574mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/5/2021 1:05:29 AM

TOC-Control L Report

2021_11_04_002.tlx

Mean Area 0.3211
Mean Conc. 0.1040mg/L



Sample

Sample Name: MBLK-11042021
Sample ID:
Origin: 10_25_2021_CAL.cal
Status Completed
Chk. Result

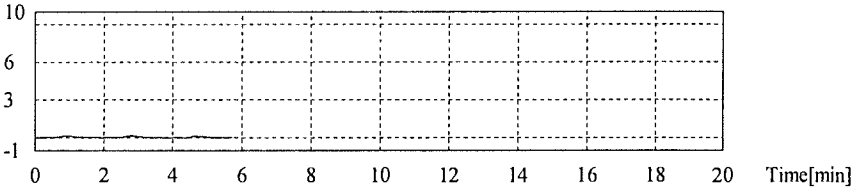
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.07925mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	0.2524	0.08178mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/5/2021 1:14:12 AM
2	0.2312	0.07491mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/5/2021 1:17:42 AM
3	0.2502	0.08107mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/5/2021 1:21:12 AM

Mean Area 0.2446
Mean Conc. 0.07925mg/L



Sample

Sample Name: LCS-11042021
Sample ID: 3100604423
Origin: 10_25_2021_CAL.cal
Status Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:10.66mg/L

1. Det

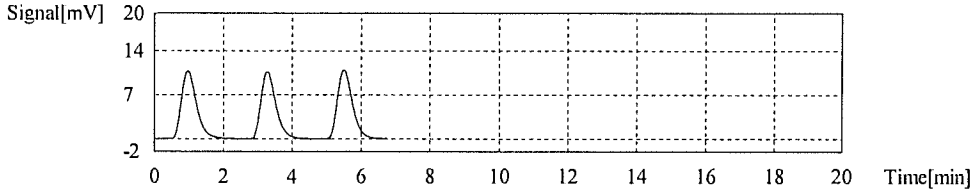
Anal.: NPOC

TOC-Control L Report

2021_11_04_002.tlx

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	32.75	10.61mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/5/2021 1:30:19 AM
2	32.62	10.57mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/5/2021 1:33:44 AM
3	33.37	10.81mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/5/2021 1:37:15 AM

Mean Area 32.91
Mean Conc. 10.66mg/L



Sample

Sample Name: LCSD-11042021
Sample ID: 3100604423
Origin: 10_25_2021_CAL.cal
Status Completed
Chk. Result

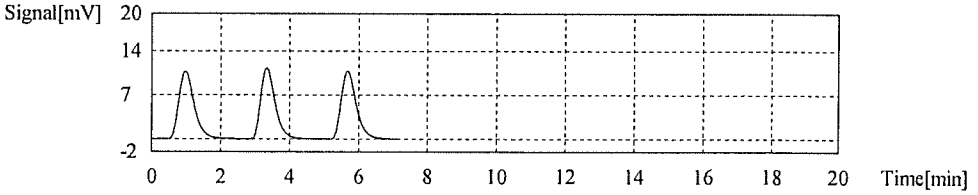
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:10.78mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	33.21	10.76mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/5/2021 1:46:27 AM
2	33.37	10.81mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/5/2021 1:49:54 AM
3	33.26	10.78mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/5/2021 1:53:28 AM

Mean Area 33.28
Mean Conc. 10.78mg/L



Sample

Sample Name: HS21101171-01DF10
Sample ID:
Origin: 10_25_2021_CAL.cal
Status Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:13.98mg/L

1. Det

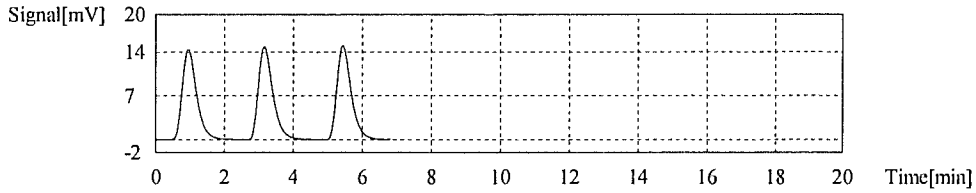
TOC-Control L Report

2021_11_04_002.tlx

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	41.86	13.56mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/5/2021 2:02:38 AM
2	43.48	14.09mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/5/2021 2:06:09 AM
3	44.06	14.28mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/5/2021 2:09:43 AM

Mean Area 43.13
Mean Conc. 13.98mg/L



Sample

Sample Name: HS21101171-02DF10
Sample ID:
Origin: 10_25_2021_CAL.cal
Status Completed
Chk. Result

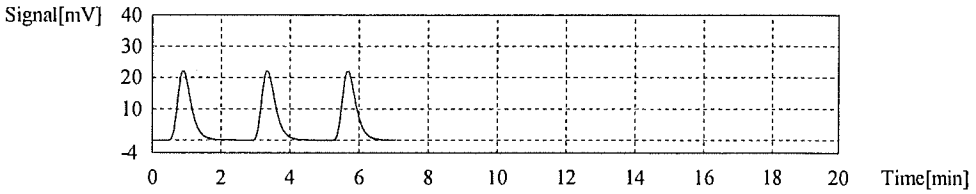
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:20.32mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	62.21	20.16mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/5/2021 2:18:58 AM
2	62.96	20.40mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/5/2021 2:22:22 AM
3	63.00	20.41mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/5/2021 2:25:49 AM

Mean Area 62.72
Mean Conc. 20.32mg/L



Sample

Sample Name: HS21101171-02MSDF10
Sample ID:
Origin: 10_25_2021_CAL.cal
Status Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:22.03mg/L

TOC-Control L Report

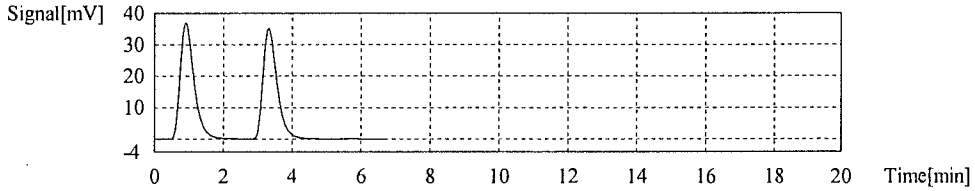
2021_11_04_002.tlx

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	103.9	33.67mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/5/2021 2:35:02 AM
2	99.73	32.31mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/5/2021 2:38:30 AM
3	0.3239	0.1049mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/5/2021 2:41:32 AM

Mean Area 67.98
Mean Conc. 22.03mg/L



Sample

Sample Name: HS21101171-04DF2
Sample ID:
Origin: 10_25_2021_CAL.cal
Status Completed
Chk. Result

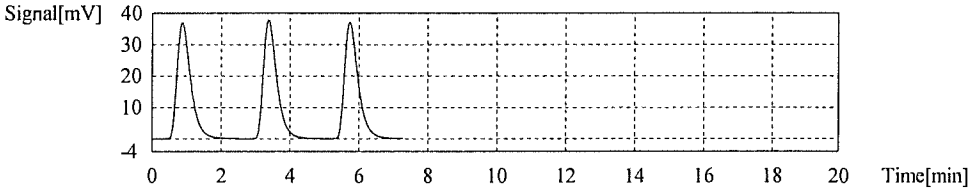
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:33.51mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	103.3	33.47mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/5/2021 2:50:51 AM
2	103.4	33.50mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/5/2021 2:54:13 AM
3	103.6	33.57mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/5/2021 2:57:45 AM

Mean Area 103.4
Mean Conc. 33.51mg/L



Sample

Sample Name: CCV
Sample ID: 317195504
Origin: 10_25_2021_CAL.cal
Status Completed
Chk. Result

TOC-Control L Report

2021_11_04_002.tlx

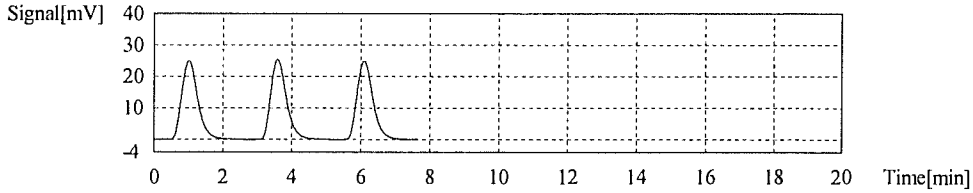
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:26.28mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	81.64	26.45mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/5/2021 4:19:16 AM
2	80.84	26.19mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/5/2021 4:22:39 AM
3	80.82	26.19mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/5/2021 4:26:12 AM

Mean Area 81.10
Mean Conc. 26.28mg/L



Sample

Sample Name: CCB
Sample ID:
Origin: 10_25_2021_CAL.cal
Status Completed
Chk. Result

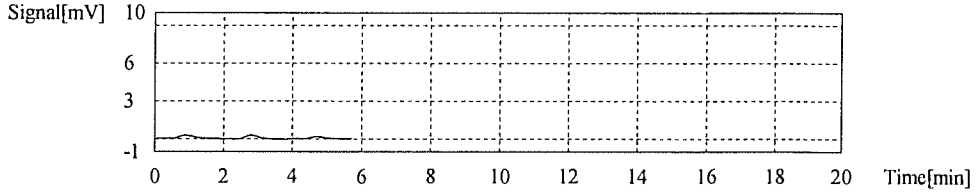
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.1989mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	0.6624	0.2146mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/5/2021 4:34:55 AM
2	0.7910	0.2563mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/5/2021 4:38:25 AM
3	0.3882	0.1258mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/5/2021 4:41:55 AM

Mean Area 0.6139
Mean Conc. 0.1989mg/L



HS21101272 LHAAP 16 October 2021 Cover Page

ALS WO# HS21101272

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

HS21101272 LHAAP 16 October 2021 Cover Page
- CoverPage
- HS21101272 LHAAP 16 October 2021 Final
  - CoverLetter
  - Sample Summary
  - CaseNarrative
  - 16RW11-211021
  - 16RW11-211021-FD
  - 16IW20-211021
  - 16WW40-211021
  - 16WW12-211021
  - 16EW07-211021
  - 16EW05-211021
  - 16EW05-211021-FD
  - 16EW06-211021
  - 16IW03-211021
  - Trip Blank-211021
  - Weight/Volume Log
  - Dates Report
  - QC
  - Acronyms
  - Certifications

Table of Contents (continued)

SampleReceiptCheckList
COC
HS21101272 8260 Raw Data
HS21101272 9056_S IC
HS21101272 RSK 175 Raw Data
HS21101272 9056_W IC
HS21101272 Wet Chemitry Raw Data

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

WorkOrder: HS21101272

LHAAP 16 October 2021

Aptim Environmental & Infrastucture, Inc.

Vicki Graves
10333 Richmond Ave Ste 1030
Houston TX 77042

23-Nov-2021

HS21101272 LHAAP 16 October 2021 Final

ALS WO# HS21101272

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

November 08, 2021

Vicki Graves
Aptim Environmental & Infrastucture, Inc.
10333 Richmond Ave
Ste 1030
Houston, TX 77042

Work Order: **HS21101272**

Laboratory Results for: **LHAAP 16 October 2021**

Dear Vicki Graves ,

ALS Environmental received 11 sample(s) on Oct 22, 2021 for the analysis presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

Generated By: JUMOKE.LAWAL
Ragen Giga
Project Manager

ALS Houston, US Date: 08-Nov-21

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 16 October 2021
Work Order: HS21101272

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS21101272-01	16RW11-211021	Groundwater		21-Oct-2021 07:45	22-Oct-2021 10:00	☐
HS21101272-02	16RW11-211021-FD	Groundwater		21-Oct-2021 07:45	22-Oct-2021 10:00	☐
HS21101272-03	16IW20-211021	Groundwater		21-Oct-2021 08:25	22-Oct-2021 10:00	☐
HS21101272-04	16WW40-211021	Groundwater		21-Oct-2021 09:10	22-Oct-2021 10:00	☐
HS21101272-05	16WW12-211021	Groundwater		21-Oct-2021 10:00	22-Oct-2021 10:00	☐
HS21101272-06	16EW07-211021	Groundwater		21-Oct-2021 10:45	22-Oct-2021 10:00	☐
HS21101272-07	16EW05-211021	Groundwater		21-Oct-2021 11:30	22-Oct-2021 10:00	☐
HS21101272-08	16EW05-211021-FD	Groundwater		21-Oct-2021 11:30	22-Oct-2021 10:00	☐
HS21101272-09	16EW06-211021	Product		21-Oct-2021 12:25	22-Oct-2021 10:00	☐
HS21101272-10	16IW03-211021	Groundwater		21-Oct-2021 13:15	22-Oct-2021 10:00	☐
HS21101272-11	Trip Blank-211021	Water		21-Oct-2021 00:00	22-Oct-2021 10:00	☐

ALS Houston, US Date: 08-Nov-21

Client: Aptim Environmental & Infrastucture, Inc. **CASE NARRATIVE**
Project: LHAAP 16 October 2021
Work Order: HS21101272

Work Order Comments

- All vials with Head space greater than 6mm -16EW07-211021, 16EW05-211021, 16EW05-211021-FD & 16EW06-211021. Sample ID 16EW06-211021 matrix is a product. sample analyses may require solid test codes, TOC for this sample cannot be analyzed.

GC Semivolatiles by Method RSK-175

Batch ID: R394683

Sample ID: HS21101171-02MS

- MS and MSD are for an unrelated sample

GCMS Volatiles by Method SW8260

Batch ID: R394797

Sample ID: 16EW05-211021 (HS21101272-07)

- Lowest practical dilution for sample hs21101272-07 due to high concentration of non-target compound.

Sample ID: 16EW05-211021-FD (HS21101272-08)

- Lowest practical dilution for sample hs21101272-08 due to high concentration of non-target compound.

Sample ID: 16EW06-211021 (HS21101272-09)

- Lowest practical dilution for sample hs21101272-09 due to high concentration of non-target compound.

Sample ID: 16EW07-211021 (HS21101272-06)

- Lowest practical dilution for sample hs21101272-06 due to high concentration of non-target compound.

Sample ID: 16WW12-211021 (HS21101272-05)

- Lowest practical dilution for sample hs21101272-05 due to matrix.

Sample ID: 16WW40-211021 (HS21101272-04)

- Lowest practical dilution for sample hs21101272-04 due to matrix.

Sample ID: HS21101171-05MS

- MS and MSD are for an unrelated sample

Batch ID: R394702

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

ALS Houston, US Date: 08-Nov-21

Client: Aptim Environmental & Infrastucture, Inc. **CASE NARRATIVE**
Project: LHAAP 16 October 2021
Work Order: HS21101272

WetChemistry by Method SM5310B

Batch ID: R394840

Sample ID: HS21101171-02MS

• MS is for an unrelated sample

Batch ID: R395030

Sample ID: HS21101171-02MS

• MS is for an unrelated sample

Batch ID: R395032

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

WetChemistry by Method SM2320B

Batch ID: 172105,R394478

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

WetChemistry by Method SW9056

Batch ID: R394127

Sample ID: 16EW05-211021 (HS21101272-07)

• Sample ran at 5X due to matrix

Sample ID: 16EW05-211021-FD (HS21101272-08)

• Sample ran at 5X due to matrix

Sample ID: 16IW03-211021 (HS21101272-10)

• Sample ran at 5X due to matrix

Sample ID: 16IW20-211021 (HS21101272-03)

• Sample ran at 5X due to matrix

Sample ID: HS21101256-02MS

• MS and MSD are for an unrelated sample (Sulfate)

Batch ID: 172014

Sample ID: HS21110057-02MS

• MS and MSD are for an unrelated sample

Batch ID: R395111

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

ALS Houston, US Date: 08-Nov-21

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 16 October 2021
Sample ID: 16RW11-211021
Collection Date: 21-Oct-2021 07:45

ANALYTICAL REPORT
WorkOrder:HS21101272
Lab ID:HS21101272-01
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	01-Nov-2021 17:22
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	01-Nov-2021 17:22
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	01-Nov-2021 17:22
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	01-Nov-2021 17:22
Methylene chloride	1.0	U	0.40	1.0	2.0	ug/L	1	01-Nov-2021 17:22
Trichloroethene	**1.3**		**0.20**	**0.50**	**1.0**	**ug/L**	1	01-Nov-2021 17:22
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	01-Nov-2021 17:22
Surr: 1,2-Dichloroethane-d4	*87.4*			**0**	*81-118*	*%REC*	*1*	*01-Nov-2021 17:22*
Surr: 4-Bromofluorobenzene	*98.5*			**0**	*85-114*	*%REC*	*1*	*01-Nov-2021 17:22*
Surr: Dibromofluoromethane	*92.1*			**0**	*80-119*	*%REC*	*1*	*01-Nov-2021 17:22*
Surr: Toluene-d8	*95.6*			**0**	*89-112*	*%REC*	*1*	*01-Nov-2021 17:22*

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

ALS Houston, US Date: 08-Nov-21

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 16 October 2021
Sample ID: 16RW11-211021-FD
Collection Date: 21-Oct-2021 07:45

ANALYTICAL REPORT
WorkOrder:HS21101272
Lab ID:HS21101272-02
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	01-Nov-2021 17:43
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	01-Nov-2021 17:43
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	01-Nov-2021 17:43
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	01-Nov-2021 17:43
Methylene chloride	1.0	U	0.40	1.0	2.0	ug/L	1	01-Nov-2021 17:43
Trichloroethene	**1.2**		**0.20**	**0.50**	**1.0**	**ug/L**	1	01-Nov-2021 17:43
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	01-Nov-2021 17:43
Surr: 1,2-Dichloroethane-d4	*89.0*			**0**	*81-118*	*%REC*	*1*	*01-Nov-2021 17:43*
Surr: 4-Bromofluorobenzene	*96.9*			**0**	*85-114*	*%REC*	*1*	*01-Nov-2021 17:43*
Surr: Dibromofluoromethane	*95.2*			**0**	*80-119*	*%REC*	*1*	*01-Nov-2021 17:43*
Surr: Toluene-d8	*96.6*			**0**	*89-112*	*%REC*	*1*	*01-Nov-2021 17:43*

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

ALS Houston, US Date: 08-Nov-21

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: LHAAP 16 October 2021 WorkOrder:HS21101272
Sample ID: 16IW20-211021 Lab ID:HS21101272-03
Collection Date: 21-Oct-2021 08:25 Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	01-Nov-2021 18:04
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	01-Nov-2021 18:04
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	01-Nov-2021 18:04
cis-1,2-Dichloroethene	**1.9**		**0.20**	**0.50**	**1.0**	**ug/L**	1	01-Nov-2021 18:04
Methylene chloride	1.0	U	0.40	1.0	2.0	ug/L	1	01-Nov-2021 18:04
Trichloroethene	**1.2**		**0.20**	**0.50**	**1.0**	**ug/L**	1	01-Nov-2021 18:04
Vinyl chloride	**3.2**		**0.20**	**0.50**	**1.0**	**ug/L**	1	01-Nov-2021 18:04
Surr: 1,2-Dichloroethane-d4	*87.8*			**0**	*81-118*	*%REC*	*1*	*01-Nov-2021 18:04*
Surr: 4-Bromofluorobenzene	*95.2*			**0**	*85-114*	*%REC*	*1*	*01-Nov-2021 18:04*
Surr: Dibromofluoromethane	*91.9*			**0**	*80-119*	*%REC*	*1*	*01-Nov-2021 18:04*
Surr: Toluene-d8	*97.3*			**0**	*89-112*	*%REC*	*1*	*01-Nov-2021 18:04*
DISSOLVED GASES BY RSK-175		**Method:RSK-175**						Analyst: PPM
Ethane	0.000500	U	0.000144	0.000500	0.00100	mg/L	1	01-Nov-2021 12:34
Ethene	**0.00677**		**0.000234**	**0.000500**	**0.00100**	**mg/L**	1	01-Nov-2021 12:34
Methane	**1.37**		**0.0107**	**0.0250**	**0.0500**	**mg/L**	100	01-Nov-2021 13:10
ALKALINITY BY SM 2320B-2011		**Method:SM2320B**						Analyst: TH
Alkalinity, Total (As CaCO3)	**547**		**5.00**	**5.00**	**5.00**	**mg/L**	1	28-Oct-2021 22:59
TOTAL ORGANIC CARBON - SM5310B-2011		**Method:SM5310B**						Analyst: JAC
Organic Carbon, Total	**8.46**		**0.500**	**1.00**	**1.00**	**mg/L**	1	03-Nov-2021 13:30
ANIONS BY SW9056A		**Method:SW9056**						Analyst: YP
Bromide	**13.3**		**0.150**	**0.500**	**0.500**	**mg/L**	5	22-Oct-2021 23:04
Nitrogen, Nitrate (As N)	0.500	U	0.150	0.500	0.500	mg/L	5	22-Oct-2021 23:04
Sulfate	**254**		**4.00**	**10.0**	**10.0**	**mg/L**	20	07-Nov-2021 14:52

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

ALS Houston, US Date: 08-Nov-21

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 16 October 2021
Sample ID: 16WW40-211021
Collection Date: 21-Oct-2021 09:10

ANALYTICAL REPORT
WorkOrder:HS21101272
Lab ID:HS21101272-04
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
1,1,2-Trichloroethane	10	U	3.0	10	10	ug/L	10	02-Nov-2021 14:41
1,1-Dichloroethene	5.0	U	2.0	5.0	10	ug/L	10	02-Nov-2021 14:41
1,2-Dichloroethane	**5.2**	J	**2.0**	**5.0**	**10**	**ug/L**	10	02-Nov-2021 14:41
cis-1,2-Dichloroethene	**170**		**2.0**	**5.0**	**10**	**ug/L**	10	02-Nov-2021 14:41
Methylene chloride	10	U	4.0	10	20	ug/L	10	02-Nov-2021 14:41
Trichloroethene	**1,000**		**2.0**	**5.0**	**10**	**ug/L**	10	02-Nov-2021 14:41
Vinyl chloride	5.0	U	2.0	5.0	10	ug/L	10	02-Nov-2021 14:41
Surr: 1,2-Dichloroethane-d4	*89.8*			**0**	*81-118*	*%REC*	*10*	*02-Nov-2021 14:41*
Surr: 4-Bromofluorobenzene	*97.0*			**0**	*85-114*	*%REC*	*10*	*02-Nov-2021 14:41*
Surr: Dibromofluoromethane	*92.3*			**0**	*80-119*	*%REC*	*10*	*02-Nov-2021 14:41*
Surr: Toluene-d8	*97.9*			**0**	*89-112*	*%REC*	*10*	*02-Nov-2021 14:41*
DISSOLVED GASES BY RSK-175		**Method:RSK-175**						Analyst: PPM
Ethane	**0.00167**		**0.000144**	**0.000500**	**0.00100**	**mg/L**	1	01-Nov-2021 12:48
Ethene	**0.00288**		**0.000234**	**0.000500**	**0.00100**	**mg/L**	1	01-Nov-2021 12:48
Methane	**0.616**		**0.00535**	**0.0125**	**0.0250**	**mg/L**	50	01-Nov-2021 13:18
TOTAL ORGANIC CARBON - SM5310B-2011		**Method:SM5310B**						Analyst: JAC
Organic Carbon, Total	**11.3**		**0.500**	**1.00**	**1.00**	**mg/L**	1	03-Nov-2021 13:46

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

ALS Houston, US Date: 08-Nov-21

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 16 October 2021
Sample ID: 16WW12-211021
Collection Date: 21-Oct-2021 10:00

ANALYTICAL REPORT
WorkOrder:HS21101272
Lab ID:HS21101272-05
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
1,1,2-Trichloroethane	10	U	3.0	10	10	ug/L	10	02-Nov-2021 16:05
1,1-Dichloroethene	5.0	U	2.0	5.0	10	ug/L	10	02-Nov-2021 16:05
1,2-Dichloroethane	**5.1**	J	**2.0**	**5.0**	**10**	**ug/L**	10	02-Nov-2021 16:05
cis-1,2-Dichloroethene	**69**		**2.0**	**5.0**	**10**	**ug/L**	10	02-Nov-2021 16:05
Methylene chloride	10	U	4.0	10	20	ug/L	10	02-Nov-2021 16:05
Trichloroethene	**1,000**		**2.0**	**5.0**	**10**	**ug/L**	10	02-Nov-2021 16:05
Vinyl chloride	**4.6**	J	**2.0**	**5.0**	**10**	**ug/L**	10	02-Nov-2021 16:05
Surr: 1,2-Dichloroethane-d4	*87.5*			**0**	*81-118*	*%REC*	*10*	*02-Nov-2021 16:05*
Surr: 4-Bromofluorobenzene	*98.7*			**0**	*85-114*	*%REC*	*10*	*02-Nov-2021 16:05*
Surr: Dibromofluoromethane	*92.2*			**0**	*80-119*	*%REC*	*10*	*02-Nov-2021 16:05*
Surr: Toluene-d8	*97.4*			**0**	*89-112*	*%REC*	*10*	*02-Nov-2021 16:05*

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

ALS Houston, US Date: 08-Nov-21

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: LHAAP 16 October 2021 WorkOrder:HS21101272
Sample ID: 16EW07-211021 Lab ID:HS21101272-06
Collection Date: 21-Oct-2021 10:45 Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
1,1,2-Trichloroethane	10,000	U	3000	10000	10000	ug/L	10000	02-Nov-2021 17:51
1,1-Dichloroethene	5,000	U	2000	5000	10000	ug/L	10000	02-Nov-2021 17:51
1,2-Dichloroethane	5,000	U	2000	5000	10000	ug/L	10000	02-Nov-2021 17:51
cis-1,2-Dichloroethene	5,000	U	2000	5000	10000	ug/L	10000	02-Nov-2021 17:51
Methylene chloride	10,000	U	4000	10000	20000	ug/L	10000	02-Nov-2021 17:51
Trichloroethene	5,000	U	2000	5000	10000	ug/L	10000	02-Nov-2021 17:51
Vinyl chloride	5,000	U	2000	5000	10000	ug/L	10000	02-Nov-2021 17:51
Surr: 1,2-Dichloroethane-d4	*90.0*			**0**	*81-118*	*%REC*	*10000*	*02-Nov-2021 17:51*
Surr: 4-Bromofluorobenzene	*96.8*			**0**	*85-114*	*%REC*	*10000*	*02-Nov-2021 17:51*
Surr: Dibromofluoromethane	*92.4*			**0**	*80-119*	*%REC*	*10000*	*02-Nov-2021 17:51*
Surr: Toluene-d8	*97.3*			**0**	*89-112*	*%REC*	*10000*	*02-Nov-2021 17:51*

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

ALS Houston, US Date: 08-Nov-21

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 16 October 2021
Sample ID: 16EW05-211021
Collection Date: 21-Oct-2021 11:30

ANALYTICAL REPORT
WorkOrder:HS21101272
Lab ID:HS21101272-07
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
1,1,2-Trichloroethane	10,000	U	3000	10000	10000	ug/L	10000	02-Nov-2021 18:12
1,1-Dichloroethene	5,000	U	2000	5000	10000	ug/L	10000	02-Nov-2021 18:12
1,2-Dichloroethane	5,000	U	2000	5000	10000	ug/L	10000	02-Nov-2021 18:12
cis-1,2-Dichloroethene	5,000	U	2000	5000	10000	ug/L	10000	02-Nov-2021 18:12
Methylene chloride	10,000	U	4000	10000	20000	ug/L	10000	02-Nov-2021 18:12
Trichloroethene	5,000	U	2000	5000	10000	ug/L	10000	02-Nov-2021 18:12
Vinyl chloride	5,000	U	2000	5000	10000	ug/L	10000	02-Nov-2021 18:12
Surr: 1,2-Dichloroethane-d4	*89.6*			**0**	*81-118*	*%REC*	*10000*	*02-Nov-2021 18:12*
Surr: 4-Bromofluorobenzene	*97.1*			**0**	*85-114*	*%REC*	*10000*	*02-Nov-2021 18:12*
Surr: Dibromofluoromethane	*92.5*			**0**	*80-119*	*%REC*	*10000*	*02-Nov-2021 18:12*
Surr: Toluene-d8	*98.4*			**0**	*89-112*	*%REC*	*10000*	*02-Nov-2021 18:12*
ALKALINITY BY SM 2320B-2011		**Method:SM2320B**						Analyst: TH
Alkalinity, Total (As CaCO3)	**324**		**5.00**	**5.00**	**5.00**	**mg/L**	1	28-Oct-2021 23:05
TOTAL ORGANIC CARBON - SM5310B-2011		**Method:SM5310B**						Analyst: JAC
Organic Carbon, Total	**21,900**		**5000**	**10000**	**10000**	**mg/L**	10000	05-Nov-2021 16:00
ANIONS BY SW9056A		**Method:SW9056**						Analyst: YP
Bromide	**74.0**		**0.150**	**0.500**	**0.500**	**mg/L**	5	22-Oct-2021 23:12
Nitrogen, Nitrate (As N)	0.500	U	0.150	0.500	0.500	mg/L	5	22-Oct-2021 23:12
Sulfate	**3.95**		**1.00**	**2.50**	**2.50**	**mg/L**	5	22-Oct-2021 23:12

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

ALS Houston, US Date: 08-Nov-21

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 16 October 2021
Sample ID: 16EW05-211021-FD
Collection Date: 21-Oct-2021 11:30

ANALYTICAL REPORT
WorkOrder:HS21101272
Lab ID:HS21101272-08
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
1,1,2-Trichloroethane	10,000	U	3000	10000	10000	ug/L	10000	02-Nov-2021 18:33
1,1-Dichloroethene	5,000	U	2000	5000	10000	ug/L	10000	02-Nov-2021 18:33
1,2-Dichloroethane	5,000	U	2000	5000	10000	ug/L	10000	02-Nov-2021 18:33
cis-1,2-Dichloroethene	5,000	U	2000	5000	10000	ug/L	10000	02-Nov-2021 18:33
Methylene chloride	10,000	U	4000	10000	20000	ug/L	10000	02-Nov-2021 18:33
Trichloroethene	5,000	U	2000	5000	10000	ug/L	10000	02-Nov-2021 18:33
Vinyl chloride	5,000	U	2000	5000	10000	ug/L	10000	02-Nov-2021 18:33
Surr: 1,2-Dichloroethane-d4	*88.7*			**0**	*81-118*	*%REC*	*10000*	*02-Nov-2021 18:33*
Surr: 4-Bromofluorobenzene	*94.2*			**0**	*85-114*	*%REC*	*10000*	*02-Nov-2021 18:33*
Surr: Dibromofluoromethane	*93.1*			**0**	*80-119*	*%REC*	*10000*	*02-Nov-2021 18:33*
Surr: Toluene-d8	*96.0*			**0**	*89-112*	*%REC*	*10000*	*02-Nov-2021 18:33*
ALKALINITY BY SM 2320B-2011		**Method:SM2320B**						Analyst: TH
Alkalinity, Total (As CaCO3)	**298**		**5.00**	**5.00**	**5.00**	**mg/L**	1	28-Oct-2021 23:11
TOTAL ORGANIC CARBON - SM5310B-2011		**Method:SM5310B**						Analyst: JAC
Organic Carbon, Total	**20,800**		**5000**	**10000**	**10000**	**mg/L**	10000	05-Nov-2021 16:15
ANIONS BY SW9056A		**Method:SW9056**						Analyst: YP
Bromide	**72.3**		**0.150**	**0.500**	**0.500**	**mg/L**	5	22-Oct-2021 23:19
Nitrogen, Nitrate (As N)	0.500	U	0.150	0.500	0.500	mg/L	5	22-Oct-2021 23:19
Sulfate	**1.80**	J	**1.00**	**2.50**	**2.50**	**mg/L**	5	22-Oct-2021 23:19

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

ALS Houston, US Date: 08-Nov-21

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: LHAAP 16 October 2021 WorkOrder:HS21101272
Sample ID: 16EW06-211021 Lab ID:HS21101272-09
Collection Date: 21-Oct-2021 12:25 Matrix:Product

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
1,1,2-Trichloroethane	5,000	U	1500	5000	5000	ug/L	5000	02-Nov-2021 17:29
1,1-Dichloroethene	2,500	U	1000	2500	5000	ug/L	5000	02-Nov-2021 17:29
1,2-Dichloroethane	2,500	U	1000	2500	5000	ug/L	5000	02-Nov-2021 17:29
cis-1,2-Dichloroethene	**6,800**		**1000**	**2500**	**5000**	**ug/L**	5000	02-Nov-2021 17:29
Methylene chloride	5,000	U	2000	5000	10000	ug/L	5000	02-Nov-2021 17:29
Trichloroethene	**3,000**	J	**1000**	**2500**	**5000**	**ug/L**	5000	02-Nov-2021 17:29
Vinyl chloride	2,500	U	1000	2500	5000	ug/L	5000	02-Nov-2021 17:29
Surr: 1,2-Dichloroethane-d4	*90.1*			**0**	*81-118*	*%REC*	*5000*	*02-Nov-2021 17:29*
Surr: 4-Bromofluorobenzene	*97.0*			**0**	*85-114*	*%REC*	*5000*	*02-Nov-2021 17:29*
Surr: Dibromofluoromethane	*91.8*			**0**	*80-119*	*%REC*	*5000*	*02-Nov-2021 17:29*
Surr: Toluene-d8	*98.9*			**0**	*89-112*	*%REC*	*5000*	*02-Nov-2021 17:29*
ALKALINITY BY SM2320B MOD.		**Method:SM2320B**				Prep:ASTM Leachate / 04-Nov-2021		Analyst: TH
Alkalinity, Total (As CaCO3)	10.0	aU	10.0	10.0	10.0	mg/Kg	1	05-Nov-2021 03:19
ANIONS BY SW9056A		**Method:SW9056**				Prep:SW9056 / 02-Nov-2021		Analyst: TH
Bromide	0.990	U	0.297	0.990	0.990	mg/Kg	1	04-Nov-2021 22:25
Nitrogen, Nitrate (As N)	**0.537**	J	**0.297**	**0.990**	**0.990**	**mg/Kg**	1	04-Nov-2021 22:25
Sulfate	4.95	U	1.98	4.95	4.95	mg/Kg	1	04-Nov-2021 22:25

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

ALS Houston, US Date: 08-Nov-21

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 16 October 2021
Sample ID: 16IW03-211021
Collection Date: 21-Oct-2021 13:15

ANALYTICAL REPORT
WorkOrder:HS21101272
Lab ID:HS21101272-10
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
1,1,2-Trichloroethane	20	U	6.0	20	20	ug/L	20	02-Nov-2021 16:47
1,1-Dichloroethene	**38**		**4.0**	**10**	**20**	**ug/L**	20	02-Nov-2021 16:47
1,2-Dichloroethane	10	U	4.0	10	20	ug/L	20	02-Nov-2021 16:47
cis-1,2-Dichloroethene	**14,000**		**20**	**50**	**100**	**ug/L**	100	02-Nov-2021 17:08
Methylene chloride	20	U	8.0	20	40	ug/L	20	02-Nov-2021 16:47
Trichloroethene	**9,000**		**20**	**50**	**100**	**ug/L**	100	02-Nov-2021 17:08
Vinyl chloride	**2,500**		**4.0**	**10**	**20**	**ug/L**	20	02-Nov-2021 16:47
Surr: 1,2-Dichloroethane-d4	*88.8*			**0**	*81-118*	*%REC*	*20*	*02-Nov-2021 16:47*
Surr: 1,2-Dichloroethane-d4	*91.4*			**0**	*81-118*	*%REC*	*100*	*02-Nov-2021 17:08*
Surr: 4-Bromofluorobenzene	*94.9*			**0**	*85-114*	*%REC*	*20*	*02-Nov-2021 16:47*
Surr: 4-Bromofluorobenzene	*98.5*			**0**	*85-114*	*%REC*	*100*	*02-Nov-2021 17:08*
Surr: Dibromofluoromethane	*92.5*			**0**	*80-119*	*%REC*	*20*	*02-Nov-2021 16:47*
Surr: Dibromofluoromethane	*92.9*			**0**	*80-119*	*%REC*	*100*	*02-Nov-2021 17:08*
Surr: Toluene-d8	*96.7*			**0**	*89-112*	*%REC*	*20*	*02-Nov-2021 16:47*
Surr: Toluene-d8	*98.2*			**0**	*89-112*	*%REC*	*100*	*02-Nov-2021 17:08*
DISSOLVED GASES BY RSK-175		**Method:RSK-175**						Analyst: PPM
Ethane	0.000500	U	0.000144	0.000500	0.00100	mg/L	1	01-Nov-2021 12:58
Ethene	**0.714**		**0.0234**	**0.0500**	**0.100**	**mg/L**	100	01-Nov-2021 13:26
Methane	**1.74**		**0.0107**	**0.0250**	**0.0500**	**mg/L**	100	01-Nov-2021 13:26
ALKALINITY BY SM 2320B-2011		**Method:SM2320B**						Analyst: TH
Alkalinity, Total (As CaCO3)	**1,510**		**5.00**	**5.00**	**5.00**	**mg/L**	1	28-Oct-2021 23:23
TOTAL ORGANIC CARBON - SM5310B-2011		**Method:SM5310B**						Analyst: JAC
Organic Carbon, Total	**2,610**		**50.0**	**100**	**100**	**mg/L**	100	05-Nov-2021 04:57
ANIONS BY SW9056A		**Method:SW9056**						Analyst: YP
Bromide	**3.10**		**0.150**	**0.500**	**0.500**	**mg/L**	5	22-Oct-2021 23:27
Nitrogen, Nitrate (As N)	0.500	U	0.150	0.500	0.500	mg/L	5	22-Oct-2021 23:27
Sulfate	2.50	U	1.00	2.50	2.50	mg/L	5	22-Oct-2021 23:27

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

ALS Houston, US Date: 08-Nov-21

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 16 October 2021
Sample ID: Trip Blank-211021
Collection Date: 21-Oct-2021 00:00

ANALYTICAL REPORT
WorkOrder:HS21101272
Lab ID:HS21101272-11
Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	01-Nov-2021 17:01
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	01-Nov-2021 17:01
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	01-Nov-2021 17:01
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	01-Nov-2021 17:01
Methylene chloride	1.0	U	0.40	1.0	2.0	ug/L	1	01-Nov-2021 17:01
Trichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	01-Nov-2021 17:01
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	01-Nov-2021 17:01
Surr: 1,2-Dichloroethane-d4	*86.2*			**0**	*81-118*	*%REC*	*1*	*01-Nov-2021 17:01*
Surr: 4-Bromofluorobenzene	*96.9*			**0**	*85-114*	*%REC*	*1*	*01-Nov-2021 17:01*
Surr: Dibromofluoromethane	*92.7*			**0**	*80-119*	*%REC*	*1*	*01-Nov-2021 17:01*
Surr: Toluene-d8	*96.7*			**0**	*89-112*	*%REC*	*1*	*01-Nov-2021 17:01*

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

Weight / Prep Log

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 16 October 2021
WorkOrder: HS21101272

Batch ID: 4628 **Start Date:** 29 Oct 2021 11:42 **End Date:** 29 Oct 2021 11:42
Method: VOLATILES ORGANICS BY METHOD 8260C

Sample ID	Container	Sample Wt/Vol	Final Volume	Weight Factor	Container Type
HS21101272-06	1	5.659 (g)	5 (mL)	0.88	Bulk (5030B)
HS21101272-07	1	4.574 (g)	5 (mL)	1.09	Bulk (5030B)
HS21101272-08	1	4.789 (g)	5 (mL)	1.04	Bulk (5030B)
HS21101272-09	1	4.611 (g)	5 (mL)	1.08	Bulk (5030B)

Batch ID: 172014 **Start Date:** 02 Nov 2021 15:01 **End Date:** 02 Nov 2021 17:00
Method: 9056 ANIONS SOIL PREP **Prep Code:** 9056_S_PR

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor	
HS21101272-09		5.0505 (g)	50 (mL)	9.9	120 mL Plastic Neat

Batch ID: 172105 **Start Date:** 04 Nov 2021 09:00 **End Date:** 04 Nov 2021 17:00
Method: ALK LEACH **Prep Code:** ALK LEACH PREP

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor	
HS21101272-09		5 (grams)	50 (mL)	10	120 mL Plastic Neat

ALS Houston, US Date: 08-Nov-21

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 16 October 2021
WorkOrder: HS21101272

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: 172014 (0)	**Test Name :** ANIONS BY SW9056A				**Matrix:** Product	
HS21101272-09	16EW06-211021	21 Oct 2021 12:25		02 Nov 2021 15:01	04 Nov 2021 22:25	1
Batch ID: 172105 (0)	**Test Name :** ALKALINITY BY SM2320B MOD.				**Matrix:** Product	
HS21101272-09	16EW06-211021	21 Oct 2021 12:25		04 Nov 2021 09:00	05 Nov 2021 03:19	1
Batch ID: R394127 (0)	**Test Name :** ANIONS BY SW9056A				**Matrix:** Groundwater	
HS21101272-03	16IW20-211021	21 Oct 2021 08:25			22 Oct 2021 23:04	5
HS21101272-07	16EW05-211021	21 Oct 2021 11:30			22 Oct 2021 23:12	5
HS21101272-08	16EW05-211021-FD	21 Oct 2021 11:30			22 Oct 2021 23:19	5
HS21101272-10	16IW03-211021	21 Oct 2021 13:15			22 Oct 2021 23:27	5
Batch ID: R394478 (0)	**Test Name :** ALKALINITY BY SM 2320B-2011				**Matrix:** Groundwater	
HS21101272-03	16IW20-211021	21 Oct 2021 08:25			28 Oct 2021 22:59	1
HS21101272-07	16EW05-211021	21 Oct 2021 11:30			28 Oct 2021 23:05	1
HS21101272-08	16EW05-211021-FD	21 Oct 2021 11:30			28 Oct 2021 23:11	1
HS21101272-10	16IW03-211021	21 Oct 2021 13:15			28 Oct 2021 23:23	1
Batch ID: R394683 (0)	**Test Name :** DISSOLVED GASES BY RSK-175				**Matrix:** Groundwater	
HS21101272-03	16IW20-211021	21 Oct 2021 08:25			01 Nov 2021 13:10	100
HS21101272-03	16IW20-211021	21 Oct 2021 08:25			01 Nov 2021 12:34	1
HS21101272-04	16WW40-211021	21 Oct 2021 09:10			01 Nov 2021 13:18	50
HS21101272-04	16WW40-211021	21 Oct 2021 09:10			01 Nov 2021 12:48	1
HS21101272-10	16IW03-211021	21 Oct 2021 13:15			01 Nov 2021 13:26	100
HS21101272-10	16IW03-211021	21 Oct 2021 13:15			01 Nov 2021 12:58	1
Batch ID: R394702 (0)	**Test Name :** VOLATILES ORGANICS BY METHOD 8260C				**Matrix:** Water	
HS21101272-11	Trip Blank-211021	21 Oct 2021 00:00			01 Nov 2021 17:01	1
Batch ID: R394702 (0)	**Test Name :** VOLATILES ORGANICS BY METHOD 8260C				**Matrix:** Groundwater	
HS21101272-01	16RW11-211021	21 Oct 2021 07:45			01 Nov 2021 17:22	1
HS21101272-02	16RW11-211021-FD	21 Oct 2021 07:45			01 Nov 2021 17:43	1
HS21101272-03	16IW20-211021	21 Oct 2021 08:25			01 Nov 2021 18:04	1
Batch ID: R394797 (0)	**Test Name :** VOLATILES ORGANICS BY METHOD 8260C				**Matrix:** Product	
HS21101272-09	16EW06-211021	21 Oct 2021 12:25			02 Nov 2021 17:29	5000

ALS Houston, US Date: 08-Nov-21

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 16 October 2021
WorkOrder: HS21101272

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: R394797 (0)	**Test Name :** VOLATILES ORGANICS BY METHOD 8260C				**Matrix:** Groundwater	
HS21101272-04	16WW40-211021	21 Oct 2021 09:10			02 Nov 2021 14:41	10
HS21101272-05	16WW12-211021	21 Oct 2021 10:00			02 Nov 2021 16:05	10
HS21101272-06	16EW07-211021	21 Oct 2021 10:45			02 Nov 2021 17:51	10000
HS21101272-07	16EW05-211021	21 Oct 2021 11:30			02 Nov 2021 18:12	10000
HS21101272-08	16EW05-211021-FD	21 Oct 2021 11:30			02 Nov 2021 18:33	10000
HS21101272-10	16IW03-211021	21 Oct 2021 13:15			02 Nov 2021 17:08	100
HS21101272-10	16IW03-211021	21 Oct 2021 13:15			02 Nov 2021 16:47	20
Batch ID: R394840 (0)	**Test Name :** TOTAL ORGANIC CARBON - SM5310B-2011				**Matrix:** Groundwater	
HS21101272-03	16IW20-211021	21 Oct 2021 08:25			03 Nov 2021 13:30	1
HS21101272-04	16WW40-211021	21 Oct 2021 09:10			03 Nov 2021 13:46	1
Batch ID: R395030 (0)	**Test Name :** TOTAL ORGANIC CARBON - SM5310B-2011				**Matrix:** Groundwater	
HS21101272-10	16IW03-211021	21 Oct 2021 13:15			05 Nov 2021 04:57	100
Batch ID: R395032 (0)	**Test Name :** TOTAL ORGANIC CARBON - SM5310B-2011				**Matrix:** Groundwater	
HS21101272-07	16EW05-211021	21 Oct 2021 11:30			05 Nov 2021 16:00	10000
HS21101272-08	16EW05-211021-FD	21 Oct 2021 11:30			05 Nov 2021 16:15	10000
Batch ID: R395111 (0)	**Test Name :** ANIONS BY SW9056A				**Matrix:** Groundwater	
HS21101272-03	16IW20-211021	21 Oct 2021 08:25			07 Nov 2021 14:52	20

ALS Houston, US Date: 08-Nov-21

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 16 October 2021
WorkOrder: HS21101272

QC BATCH REPORT

Batch ID: R394683 (0) **Instrument:** FID-4 **Method:** DISSOLVED GASES BY RSK-175

MBLK Sample ID: **MBLK-211101** Units: **mg/L** Analysis Date: **01-Nov-2021 09:25**
Client ID: Run ID: **FID-4_394683** SeqNo: **6351816** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethane	0.000500	0.00100								U
Ethene	0.000500	0.00100								U
Methane	0.000250	0.000500								U

LCS Sample ID: **LCS-211101** Units: **mg/L** Analysis Date: **01-Nov-2021 09:50**
Client ID: Run ID: **FID-4_394683** SeqNo: **6351856** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethane	0.0179	0.00100	0.01804	0	99.4	75 - 125				
Ethene	0.0192	0.00100	0.0168	0	114	75 - 125				
Methane	0.00985	0.000500	0.009647	0	102	75 - 125				

MS Sample ID: **HS21101171-02MS** Units: **mg/L** Analysis Date: **01-Nov-2021 10:45**
Client ID: Run ID: **FID-4_394683** SeqNo: **6351820** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethane	0.0142	0.00100	0.01804	0	78.8	75 - 125				
Ethene	0.0245	0.00100	0.0168	0.01321	67.0	75 - 125				S
Methane	1.89	0.000500	0.009647	2.319	-4480	75 - 125				SEO

MSD Sample ID: **HS21101171-02MSD** Units: **mg/L** Analysis Date: **01-Nov-2021 10:56**
Client ID: Run ID: **FID-4_394683** SeqNo: **6351821** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethane	0.0160	0.00100	0.01804	0	88.8	75 - 125	0.01421	12	30	
Ethene	0.0230	0.00100	0.0168	0.01321	58.2	75 - 125	0.02447	6.25	30	S
Methane	1.97	0.000500	0.009647	2.319	-3660	75 - 125	1.887	4.09	30	SEO

The following samples were analyzed in this batch: HS21101272-03 HS21101272-04 HS21101272-10

ALS Houston, US Date: 08-Nov-21

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 16 October 2021
WorkOrder: HS21101272

QC BATCH REPORT

Batch ID: R394702 (0) **Instrument: VOA6** **Method: VOLATILES ORGANICS BY METHOD 8260C**

MBLK Sample ID: **VBLKW-211101** Units: **ug/L** Analysis Date: **01-Nov-2021 14:08**
Client ID: Run ID: **VOA6_394702** SeqNo: **6349755** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,2-Trichloroethane	1.0	1.0								U
1,1-Dichloroethene	0.50	1.0								U
1,2-Dichloroethane	0.50	1.0								U
cis-1,2-Dichloroethene	0.50	1.0								U
Methylene chloride	1.0	2.0								U
Trichloroethene	0.50	1.0								U
Vinyl chloride	0.50	1.0								U
Surr: 1,2-Dichloroethane-d4	*41.74*	*1.0*	*50*	*0*	*83.5*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*47.11*	*1.0*	*50*	*0*	*94.2*	*85 - 114*				
Surr: Dibromofluoromethane	*46.84*	*1.0*	*50*	*0*	*93.7*	*80 - 119*				
Surr: Toluene-d8	*47.8*	*1.0*	*50*	*0*	*95.6*	*89 - 112*				

LCS Sample ID: **VLCSW-211101** Units: **ug/L** Analysis Date: **01-Nov-2021 13:27**
Client ID: Run ID: **VOA6_394702** SeqNo: **6349754** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,2-Trichloroethane	19.5	1.0	20	0	97.5	80 - 119				
1,1-Dichloroethene	18.83	1.0	20	0	94.2	71 - 131				
1,2-Dichloroethane	19.46	1.0	20	0	97.3	73 - 128				
cis-1,2-Dichloroethene	20.75	1.0	20	0	104	78 - 123				
Methylene chloride	20.98	2.0	20	0	105	74 - 124				
Trichloroethene	20.65	1.0	20	0	103	79 - 123				
Vinyl chloride	18	1.0	20	0	90.0	58 - 137				
Surr: 1,2-Dichloroethane-d4	*46.81*	*1.0*	*50*	*0*	*93.6*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*49.9*	*1.0*	*50*	*0*	*99.8*	*85 - 114*				
Surr: Dibromofluoromethane	*50.43*	*1.0*	*50*	*0*	*101*	*80 - 119*				
Surr: Toluene-d8	*45.48*	*1.0*	*50*	*0*	*91.0*	*89 - 112*				

ALS Houston, US Date: 08-Nov-21

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 16 October 2021
WorkOrder: HS21101272

QC BATCH REPORT

Batch ID: R394702 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MS Sample ID: **HS21101171-02MS** Units: **ug/L** Analysis Date: **01-Nov-2021 15:36**
Client ID: Run ID: **VOA6_394702** SeqNo: **6349759** PrepDate: DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,2-Trichloroethane	195.6	10	200	0	97.8	80 - 119				
1,1-Dichloroethene	173.6	10	200	0	86.8	71 - 131				
1,2-Dichloroethane	180.1	10	200	0	90.0	73 - 128				
cis-1,2-Dichloroethene	188.6	10	200	11.3	88.7	78 - 123				
Methylene chloride	174.5	20	200	0	87.3	74 - 124				
Trichloroethene	206	10	200	0	103	79 - 123				
Vinyl chloride	177.4	10	200	0	88.7	58 - 137				
Surr: 1,2-Dichloroethane-d4	*422.9*	*10*	*500*	*0*	*84.6*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*491.8*	*10*	*500*	*0*	*98.4*	*85 - 114*				
Surr: Dibromofluoromethane	*462*	*10*	*500*	*0*	*92.4*	*80 - 119*				
Surr: Toluene-d8	*481.3*	*10*	*500*	*0*	*96.3*	*89 - 112*				

MSD Sample ID: **HS21101171-02MSD** Units: **ug/L** Analysis Date: **01-Nov-2021 15:57**
Client ID: Run ID: **VOA6_394702** SeqNo: **6349760** PrepDate: DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,2-Trichloroethane	184.1	10	200	0	92.1	80 - 119	195.6	6.07	20	
1,1-Dichloroethene	164.9	10	200	0	82.4	71 - 131	173.6	5.19	20	
1,2-Dichloroethane	176.9	10	200	0	88.5	73 - 128	180.1	1.75	20	
cis-1,2-Dichloroethene	178.3	10	200	11.3	83.5	78 - 123	188.6	5.66	20	
Methylene chloride	170.4	20	200	0	85.2	74 - 124	174.5	2.4	20	
Trichloroethene	191.1	10	200	0	95.5	79 - 123	206	7.53	20	
Vinyl chloride	164	10	200	0	82.0	58 - 137	177.4	7.84	20	
Surr: 1,2-Dichloroethane-d4	*418.4*	*10*	*500*	*0*	*83.7*	*81 - 118*	*422.9*	*1.07*	*20*	
Surr: 4-Bromofluorobenzene	*490.6*	*10*	*500*	*0*	*98.1*	*85 - 114*	*491.8*	*0.254*	*20*	
Surr: Dibromofluoromethane	*458*	*10*	*500*	*0*	*91.6*	*80 - 119*	*462*	*0.874*	*20*	
Surr: Toluene-d8	*483.5*	*10*	*500*	*0*	*96.7*	*89 - 112*	*481.3*	*0.447*	*20*	

The following samples were analyzed in this batch: HS21101272-01 HS21101272-02 HS21101272-03 HS21101272-11

ALS Houston, US Date: 08-Nov-21

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 16 October 2021
WorkOrder: HS21101272

QC BATCH REPORT

Batch ID: R394797 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MBLK Sample ID: **VBLKW-211102** Units: **ug/L** Analysis Date: **02-Nov-2021 12:56**
Client ID: Run ID: **VOA6_394797** SeqNo: **6351627** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,2-Trichloroethane	1.0	1.0								U
1,1-Dichloroethene	0.50	1.0								U
1,2-Dichloroethane	0.50	1.0								U
cis-1,2-Dichloroethene	0.50	1.0								U
Methylene chloride	1.0	2.0								U
Trichloroethene	0.50	1.0								U
Vinyl chloride	0.50	1.0								U
Surr: 1,2-Dichloroethane-d4	*43.99*	*1.0*	*50*	*0*	*88.0*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*49.05*	*1.0*	*50*	*0*	*98.1*	*85 - 114*				
Surr: Dibromofluoromethane	*45.71*	*1.0*	*50*	*0*	*91.4*	*80 - 119*				
Surr: Toluene-d8	*48.24*	*1.0*	*50*	*0*	*96.5*	*89 - 112*				

LCS Sample ID: **VLCSW-211102** Units: **ug/L** Analysis Date: **02-Nov-2021 12:14**
Client ID: Run ID: **VOA6_394797** SeqNo: **6351626** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,2-Trichloroethane	19.07	1.0	20	0	95.3	80 - 119				
1,1-Dichloroethene	18.31	1.0	20	0	91.5	71 - 131				
1,2-Dichloroethane	18.68	1.0	20	0	93.4	73 - 128				
cis-1,2-Dichloroethene	20	1.0	20	0	100.0	78 - 123				
Methylene chloride	20.37	2.0	20	0	102	74 - 124				
Trichloroethene	20	1.0	20	0	100	79 - 123				
Vinyl chloride	17.03	1.0	20	0	85.1	58 - 137				
Surr: 1,2-Dichloroethane-d4	*46.67*	*1.0*	*50*	*0*	*93.3*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*50.32*	*1.0*	*50*	*0*	*101*	*85 - 114*				
Surr: Dibromofluoromethane	*50.02*	*1.0*	*50*	*0*	*100*	*80 - 119*				
Surr: Toluene-d8	*46.12*	*1.0*	*50*	*0*	*92.2*	*89 - 112*				

ALS Houston, US Date: 08-Nov-21

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 16 October 2021
WorkOrder: HS21101272

QC BATCH REPORT

Batch ID: R394797 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MS Sample ID: **HS21101171-05MS** Units: **ug/L** Analysis Date: **02-Nov-2021 15:02**
Client ID: Run ID: **VOA6_394797** SeqNo: **6351630** PrepDate: DF: **250**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,2-Trichloroethane	4123	250	5000	0	82.5	80 - 119				
1,1-Dichloroethene	3778	250	5000	0	75.6	71 - 131				
1,2-Dichloroethane	3872	250	5000	0	77.4	73 - 128				
cis-1,2-Dichloroethene	25180	250	5000	22240	58.8	78 - 123				SO
Methylene chloride	3690	500	5000	0	73.8	74 - 124				S
Trichloroethene	25950	250	5000	22890	61.3	79 - 123				SO
Vinyl chloride	4223	250	5000	678.6	70.9	58 - 137				
Surr: 1,2-Dichloroethane-d4	*11010*	*250*	*12500*	*0*	*88.1*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*12430*	*250*	*12500*	*0*	*99.4*	*85 - 114*				
Surr: Dibromofluoromethane	*11580*	*250*	*12500*	*0*	*92.6*	*80 - 119*				
Surr: Toluene-d8	*11960*	*250*	*12500*	*0*	*95.6*	*89 - 112*				

MSD Sample ID: **HS21101171-05MSD** Units: **ug/L** Analysis Date: **02-Nov-2021 15:23**
Client ID: Run ID: **VOA6_394797** SeqNo: **6351631** PrepDate: DF: **250**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,2-Trichloroethane	4211	250	5000	0	84.2	80 - 119	4123	2.13	20	
1,1-Dichloroethene	3841	250	5000	0	76.8	71 - 131	3778	1.64	20	
1,2-Dichloroethane	3959	250	5000	0	79.2	73 - 128	3872	2.24	20	
cis-1,2-Dichloroethene	25310	250	5000	22240	61.5	78 - 123	25180	0.531	20	SO
Methylene chloride	3763	500	5000	0	75.3	74 - 124	3690	1.98	20	
Trichloroethene	26210	250	5000	22890	66.4	79 - 123	25950	0.985	20	SO
Vinyl chloride	4106	250	5000	678.6	68.5	58 - 137	4223	2.81	20	
Surr: 1,2-Dichloroethane-d4	*10650*	*250*	*12500*	*0*	*85.2*	*81 - 118*	*11010*	*3.26*	*20*	
Surr: 4-Bromofluorobenzene	*12040*	*250*	*12500*	*0*	*96.3*	*85 - 114*	*12430*	*3.16*	*20*	
Surr: Dibromofluoromethane	*11220*	*250*	*12500*	*0*	*89.7*	*80 - 119*	*11580*	*3.16*	*20*	
Surr: Toluene-d8	*12010*	*250*	*12500*	*0*	*96.1*	*89 - 112*	*11960*	*0.47*	*20*	

The following samples were analyzed in this batch:

HS21101272-04	HS21101272-05	HS21101272-06	HS21101272-07
HS21101272-08	HS21101272-09	HS21101272-10	

ALS Houston, US Date: 08-Nov-21

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 16 October 2021
WorkOrder: HS21101272

QC BATCH REPORT

Batch ID: 172014 (0) **Instrument: ICS-Integrion** **Method: ANIONS BY SW9056A**

MBLK Sample ID: **MBLK-172014** Units: **mg/Kg** Analysis Date: **04-Nov-2021 10:01**
Client ID: Run ID: **ICS-Integrion_394909** SeqNo: **6354301** PrepDate: **02-Nov-2021** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Nitrogen, Nitrate (As N)	1.00	1.00								U
Sulfate	5.00	5.00								U

LCS Sample ID: **LCS-172014** Units: **mg/Kg** Analysis Date: **04-Nov-2021 10:08**
Client ID: Run ID: **ICS-Integrion_394909** SeqNo: **6354302** PrepDate: **02-Nov-2021** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Nitrogen, Nitrate (As N)	39.69	1.00	40	0	99.2	80 - 120				
Sulfate	201.3	5.00	200	0	101	80 - 120				

MS Sample ID: **HS21110057-02MS** Units: **mg/Kg** Analysis Date: **04-Nov-2021 10:31**
Client ID: Run ID: **ICS-Integrion_394909** SeqNo: **6354305** PrepDate: **02-Nov-2021** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Nitrogen, Nitrate (As N)	20.11	0.997	19.94	0.6033	97.8	80 - 120				
Sulfate	296.7	4.98	99.69	171.9	125	80 - 120				S

MSD Sample ID: **HS21110057-02MSD** Units: **mg/Kg** Analysis Date: **04-Nov-2021 10:38**
Client ID: Run ID: **ICS-Integrion_394909** SeqNo: **6354306** PrepDate: **02-Nov-2021** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Nitrogen, Nitrate (As N)	19.87	0.988	19.75	0.6033	97.5	80 - 120	20.11	1.22	20	
Sulfate	292.4	4.94	98.77	171.9	122	80 - 120	296.7	1.47	20	S

The following samples were analyzed in this batch: HS21101272-09

ALS Houston, US Date: 08-Nov-21

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 16 October 2021
WorkOrder: HS21101272

QC BATCH REPORT

Batch ID: 172105 (0) **Instrument: ManTech01** **Method: ALKALINITY BY SM2320B MOD.**

MBLK Sample ID: **MBLK-172105** Units: **mg/Kg** Analysis Date: **05-Nov-2021 02:58**
Client ID: Run ID: **ManTech01_394943** SeqNo: **6355542** PrepDate: **04-Nov-2021** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Alkalinity, Total (As CaCO3)	10.0	10.0								U

LCS Sample ID: **LCS-172105** Units: **mg/Kg** Analysis Date: **05-Nov-2021 03:07**
Client ID: Run ID: **ManTech01_394943** SeqNo: **6355543** PrepDate: **04-Nov-2021** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Alkalinity, Total (As CaCO3)	10560	10.0	10000	0	106	80 - 120				

LCSD Sample ID: **LCSD-172105** Units: **mg/Kg** Analysis Date: **05-Nov-2021 03:16**
Client ID: Run ID: **ManTech01_394943** SeqNo: **6355544** PrepDate: **04-Nov-2021** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Alkalinity, Total (As CaCO3)	10330	10.0	10000	0	103	80 - 120	10560	2.19	20	

DUP Sample ID: **HS21101272-09DUP** Units: **mg/Kg** Analysis Date: **05-Nov-2021 03:23**
Client ID: **16EW06-211021** Run ID: **ManTech01_394943** SeqNo: **6355546** PrepDate: **04-Nov-2021** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Alkalinity, Total (As CaCO3)	10.0	10.0					-59.2	0	20	U

The following samples were analyzed in this batch: HS21101272-09

ALS Houston, US Date: 08-Nov-21

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 16 October 2021
WorkOrder: HS21101272

QC BATCH REPORT

Batch ID: R394127 (0) **Instrument: ICS-Integrion** **Method: ANIONS BY SW9056A**

MBLK Sample ID: **MBLK** Units: **mg/L** Analysis Date: **22-Oct-2021 19:59**
Client ID: Run ID: **ICS-Integrion_394127** SeqNo: **6336506** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromide	0.100	0.100								U
Nitrogen, Nitrate (As N)	0.100	0.100								U
Sulfate	0.500	0.500								U

LCS Sample ID: **LCS** Units: **mg/L** Analysis Date: **22-Oct-2021 20:07**
Client ID: Run ID: **ICS-Integrion_394127** SeqNo: **6336507** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromide	4.179	0.100	4	0	104	80 - 120				
Nitrogen, Nitrate (As N)	3.838	0.100	4	0	95.9	80 - 120				
Sulfate	19.57	0.500	20	0	97.9	80 - 120				

LCSD Sample ID: **LCSD** Units: **mg/L** Analysis Date: **22-Oct-2021 20:14**
Client ID: Run ID: **ICS-Integrion_394127** SeqNo: **6336508** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromide	4.154	0.100	4	0	104	80 - 120	4.179	0.605	20	
Nitrogen, Nitrate (As N)	3.931	0.100	4	0	98.3	80 - 120	3.838	2.39	20	
Sulfate	20.19	0.500	20	0	101	80 - 120	19.57	3.1	20	

MS Sample ID: **HS21101256-02MS** Units: **mg/L** Analysis Date: **22-Oct-2021 20:36**
Client ID: Run ID: **ICS-Integrion_394127** SeqNo: **6336511** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromide	2.2	0.100	2	0	110	80 - 120				
Nitrogen, Nitrate (As N)	3.115	0.100	2	1.091	101	80 - 120				
Sulfate	169.2	0.500	10	167.5	17.2	80 - 120				SEO

ALS Houston, US Date: 08-Nov-21

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 16 October 2021
WorkOrder: HS21101272

QC BATCH REPORT

Batch ID: R394127 (0) **Instrument:** ICS-Integrion **Method:** ANIONS BY SW9056A

MSD Sample ID: **HS21101256-02MSD** Units: **mg/L** Analysis Date: **22-Oct-2021 20:44**
Client ID: Run ID: **ICS-Integrion_394127** SeqNo: **6336512** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromide	2.106	0.100	2	0	105	80 - 120	2.2	4.37	20	
Nitrogen, Nitrate (As N)	3.203	0.100	2	1.091	106	80 - 120	3.115	2.77	20	
Sulfate	172.3	0.500	10	167.5	48.2	80 - 120	169.2	1.81	20	SEO

The following samples were analyzed in this batch: HS21101272-03 HS21101272-07 HS21101272-08 HS21101272-10

ALS Houston, US Date: 08-Nov-21

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 16 October 2021
WorkOrder: HS21101272

QC BATCH REPORT

Batch ID: R394478 (0) **Instrument: ManTech01** **Method: ALKALINITY BY SM 2320B-2011**

MBLK Sample ID: **WBLKW2-211028** Units: **mg/L** Analysis Date: **28-Oct-2021 21:22**
Client ID: Run ID: **ManTech01_394478** SeqNo: **6344815** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Alkalinity, Total (As CaCO3)	5.00	5.00								U

LCS Sample ID: **WLCS2-211028** Units: **mg/L** Analysis Date: **28-Oct-2021 20:49**
Client ID: Run ID: **ManTech01_394478** SeqNo: **6344811** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Alkalinity, Total (As CaCO3)	1036	5.00	1000	0	104	85 - 115				

LCSD Sample ID: **WLCSD2-211028** Units: **mg/L** Analysis Date: **28-Oct-2021 20:59**
Client ID: Run ID: **ManTech01_394478** SeqNo: **6344812** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Alkalinity, Total (As CaCO3)	1046	5.00	1000	0	105	85 - 115	1036	0.996	20	

DUP Sample ID: **HS21101171-02DUP** Units: **mg/L** Analysis Date: **28-Oct-2021 22:19**
Client ID: Run ID: **ManTech01_394478** SeqNo: **6344821** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Alkalinity, Total (As CaCO3)	1089	5.00					1111	1.97	20	

The following samples were analyzed in this batch: HS21101272-03 HS21101272-07 HS21101272-08 HS21101272-10

ALS Houston, US Date: 08-Nov-21

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 16 October 2021
WorkOrder: HS21101272

QC BATCH REPORT

Batch ID: R394840 (0) **Instrument:** TOC_04 **Method:** TOTAL ORGANIC CARBON - SM5310B-2011

MBLK Sample ID: **MBLK-11022021** Units: **mg/L** Analysis Date: **03-Nov-2021 09:26**
Client ID: Run ID: **TOC_04_394840** SeqNo: **6352465** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Organic Carbon, Total	1.00	1.00								U

LCS Sample ID: **LCS-11022021** Units: **mg/L** Analysis Date: **03-Nov-2021 09:42**
Client ID: Run ID: **TOC_04_394840** SeqNo: **6352466** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Organic Carbon, Total	10.69	1.00	10	0	107	85 - 115				

LCSD Sample ID: **LCSD-11022021** Units: **mg/L** Analysis Date: **03-Nov-2021 09:58**
Client ID: Run ID: **TOC_04_394840** SeqNo: **6352467** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Organic Carbon, Total	10.71	1.00	10	0	107	85 - 115	10.69	0.187	20	

MS Sample ID: **HS21101171-02MS** Units: **mg/L** Analysis Date: **03-Nov-2021 11:03**
Client ID: Run ID: **TOC_04_394840** SeqNo: **6352471** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Organic Carbon, Total	267.3	1.00	10	241.4	259	80 - 120				SEO

The following samples were analyzed in this batch: HS21101272-03 HS21101272-04

ALS Houston, US Date: 08-Nov-21

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 16 October 2021
WorkOrder: HS21101272

QC BATCH REPORT

Batch ID: R395030 (0) **Instrument:** TOC_04 **Method:** TOTAL ORGANIC CARBON - SM5310B-2011

MBLK Sample ID: **MBLK-11042021** Units: **mg/L** Analysis Date: **05-Nov-2021 01:21**
Client ID: Run ID: **TOC_04_395030** SeqNo: **6357165** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Organic Carbon, Total	1.00	1.00								U

LCS Sample ID: **LCS-11042021** Units: **mg/L** Analysis Date: **05-Nov-2021 01:37**
Client ID: Run ID: **TOC_04_395030** SeqNo: **6357166** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Organic Carbon, Total	10.66	1.00	10	0	107	85 - 115				

LCSD Sample ID: **LCSD-11042021** Units: **mg/L** Analysis Date: **05-Nov-2021 01:53**
Client ID: Run ID: **TOC_04_395030** SeqNo: **6357167** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Organic Carbon, Total	10.78	1.00	10	0	108	85 - 115	10.66	1.12	20	

MS Sample ID: **HS21101171-02MS** Units: **mg/L** Analysis Date: **05-Nov-2021 02:41**
Client ID: Run ID: **TOC_04_395030** SeqNo: **6357170** PrepDate: DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Organic Carbon, Total	220.3	10.0	100	203.2	17.1	80 - 120				S

The following samples were analyzed in this batch: HS21101272-10

ALS Houston, US Date: 08-Nov-21

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 16 October 2021
WorkOrder: HS21101272

QC BATCH REPORT

Batch ID: R395032 (0) **Instrument:** TOC_04 **Method:** TOTAL ORGANIC CARBON - SM5310B-2011

MBLK Sample ID: **MBLK-11042021** Units: **mg/L** Analysis Date: **05-Nov-2021 12:10**
Client ID: Run ID: **TOC_04_395032** SeqNo: **6357215** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Organic Carbon, Total	1.00	1.00								U

LCS Sample ID: **LCS-11042021** Units: **mg/L** Analysis Date: **05-Nov-2021 12:26**
Client ID: Run ID: **TOC_04_395032** SeqNo: **6357216** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Organic Carbon, Total	10.72	1.00	10	0	107	85 - 115				

LCSD Sample ID: **LCSD-11042021** Units: **mg/L** Analysis Date: **05-Nov-2021 12:42**
Client ID: Run ID: **TOC_04_395032** SeqNo: **6357217** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Organic Carbon, Total	10.81	1.00	10	0	108	85 - 115	10.72	0.836	20	

MS Sample ID: **HS21101738-01MS** Units: **mg/L** Analysis Date: **05-Nov-2021 13:15**
Client ID: Run ID: **TOC_04_395032** SeqNo: **6357219** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Organic Carbon, Total	22.91	1.00	10	10.99	119	80 - 120				

The following samples were analyzed in this batch: HS21101272-07 HS21101272-08

ALS Houston, US Date: 08-Nov-21

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 16 October 2021
WorkOrder: HS21101272

QC BATCH REPORT

Batch ID: R395111 (0) **Instrument: ICS-Integrion** **Method: ANIONS BY SW9056A**

MBLK Sample ID: **MBLK** Units: **mg/L** Analysis Date: **07-Nov-2021 15:59**
Client ID: Run ID: **ICS-Integrion_395111** SeqNo: **6359102** PrepDate: DF: **1**

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

LCS Sample ID: **LCS** Units: **mg/L** Analysis Date: **07-Nov-2021 16:06**
Client ID: Run ID: **ICS-Integrion_395111** SeqNo: **6359103** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfate	19.8	0.500	20	0	99.0	80 - 120				

MS Sample ID: **HS21101670-14MS** Units: **mg/L** Analysis Date: **07-Nov-2021 16:51**
Client ID: Run ID: **ICS-Integrion_395111** SeqNo: **6359109** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfate	183.7	0.500	10	173.6	102	80 - 120				EO

MSD Sample ID: **HS21101670-14MSD** Units: **mg/L** Analysis Date: **07-Nov-2021 16:58**
Client ID: Run ID: **ICS-Integrion_395111** SeqNo: **6359110** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfate	183.5	0.500	10	173.6	99.0	80 - 120	183.7	0.152	20	EO

The following samples were analyzed in this batch: HS21101272-03

ALS Houston, US Date: 08-Nov-21

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 16 October 2021
WorkOrder: **HS21101272**

QUALIFIERS, ACRONYMS, UNITS

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

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

Unit Reported	Description
Date	
mg/Kg-dry	Milligrams per Kilogram- Dry weight corrected
mg/L	Milligrams per Liter

CERTIFICATIONS,ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
Arkansas	21-022-0	26-Mar-2022
Dept of Defense	PJLA L20-507-R2	22-Dec-2021
Florida	E87611-33	30-Jun-2022
Illinois	2000322021-7	09-May-2022
Kansas	E-10352 2021-2022	31-Jul-2022
Kentucky	123043, 2021-2022	30-Apr-2022
Louisiana	03087, 2021-2022	30-Jun-2022
North Carolina	624-2021	31-Dec-2021
Texas	T104704231-21-28	30-Apr-2022

ALS Houston, US Date: 08-Nov-21

Sample Receipt Checklist

Work Order ID: HS21101272 **Date/Time Received:** 22-Oct-2021 10:00

Client Name: CBI-Houston **Received by:** Pablo Marinez

Completed By: /S/ Nilesh D. Ranchod (eSignature) 22-Oct-2021 14:02 (Date/Time) **Reviewed by:** /S/ Ragen Giga (eSignature) 26-Oct-2021 16:05 (Date/Time)

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

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
VOA/TX1005/TX1006 Solids in hermetically sealed vials?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	2 Page(s)
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Samplers name present on COC?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	
Temperature(s)/Thermometer(s):	1.2C UC/C		IR #31
Cooler(s)/Kit(s):	44161		
Date/Time sample(s) sent to storage:	10/22/2021 13:50		
Water - VOA vials have zero headspace?	Yes ☐	No ☑	No VOA vials submitted ☐
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑
pH adjusted?	Yes ☐	No ☐	N/A ☑
pH adjusted by:			

Login Notes: All vials with Head space greater than 6mm -16EW07-211021, 16EW05-211021, 16EW05-211021-FD & 16EW06-211021

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

Corrective Action:

CHAIN OF CUSTODY

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

Page 1 of 1

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

Project No. 501032

Job: **LHAAP 16 October 2021**

Prepared By: Scott Beesinger

P.O. Number

Field Sample I.D.	Sample Matrix	Date / Time	MS / MSD	No. OF CONTAINERS	VOC by SW 8260B	TOC by SM5310C	MEE by RSK 175	Anions (bromide, sulfate, nitrate) by SW9056 and Alkalinity by SM2320	Bromide by SW9056	Perchlorate by SW6850	Metals (arsenic, chromium, manganese, nickel, thallium) by SW6020				Remarks (Preservatives, etc.)
16RW11-211021	WG	10/21/21/0745		3	X										
16RW11-211021-FD	WG	10/21/21/0745		3	X										
N6IW20-211021	WG	10/21/21/0825		9	X	X	X	X	X						
16WW40-211021	WG	10/21/21/0910		8	X	X	X								
16WW12-211021	WG	10/21/21/1000		3	X										
16EW07-211021	WG	10/21/21/1045		3	X										
16EW05-211021	WG	10/21/21/1130		9	X	X	X	X	X						
16EW05-211021-FD	WG	10/21/21/1130		9	X	X	X	X	X						

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

Relinquished By:	Date	Time	Received By:	Date	Time	Relinquished By:	Date	Time	Received By:	Date	Time
Scott Beesinger	10/21/21	1430		10/22/21	10:00						

For Lab Use Only

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

Remarks:

44161 1.2C 1231 CPO

Aptim Environmental & Infrastructure, Inc.
LHAAP 16 October 2021

HS21101272

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

CHAIN OF CUSTODY

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

Page 1 of 1

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

Project No.: 501032

Job: **LHAAP 16 October 2021**

Prepared By: Scott Beesinger

P.O. Number:

Field Sample I.D. / Time	Sample Matrix	Date / Time	MS / MSD	No. OF CONTAINERS	VOC by SW 8260B	TOC by SM5310C	MEE by RSK 175	Anions (bromide, sulfate, nitrate) by SW9056 and Alkalinity by SM2320	Bromide by SW9056	Perchlorate by SW6850	Metals (arsenic, chromium, manganese, nickel, thallium) by SW6020				Remarks (Preservatives, etc.)
16EW06-211021	W6	10/21/21/1225		9	X	X	X	X	X						
16IW03-211021	W6	10/21/21/1315		9	X	X	X	X	X						
TRIP BLANK-211021	W	10/21/21		2	X										

Analyses

Aptim Environmental & Infrastructure, Inc.
LHAAP 16 October 2021

HS21101272

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

Relinquished By:	Date	Time	Received By:	Date	Time	Relinquished By:	Date	Time	Received By:	Date	Time
Scott Beesinger	10/21/21	1430									

For Lab Use Only

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

Remarks:

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

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

44161

CUSTODY SEAL

Date: 10/21/21 Time: 1450
Name: Scott Beesinger
Company: BHMTS

Seal Broken By: SM
Date: 10/22/21

44161 OCT 22 2021



44161

ORIGIN ID:SGRA (903) 930-8193
SCOTT BEESINGER
APTIM ENVIRONMENTAL & INFASTRUCTURE
1203-B EAST GRAND AVE
PMB 202
MARSHALL, TX 75670
UNITED STATES US

SHIP DATE: 27SEP21
ACTWGT: 1.00 LB MAN
CAD: 0221247/CAFE3504
DIMS: 26x14x14 IN

TO SHIPPING DEPT
ALS LABORATORY GROUP
10450 STANCLIFF RD
SUITE 210
HOUSTON TX 77099
(281) 530-5656
REF: LHAAP 04 - RG

RMA:

FedEx Express

FedEx 6221 5300 5222 6054

PRIORITY OVERNIGHT

AB SGRA

77099
TX-US
IAH

4738674 210ct2021 CGGA 5400/1400/1003

HS21101272 8260 Raw Data

ALS WO# HS21101272

MSVOA06 -Logbook

Batch: 46738
Date: 10-08-2021
Method: 8260
Comments:

Analyst: Presenta Cabascango
Reviewer:
Laboratory: Houston

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	
1	BFB	TUNE	10-08-2021 12:47 pm	1.00	50 mL	50 mL	X100801.D	Liquid	Y	I
2	VSTD000.25	ICAL1	10-08-2021 01:08 pm	1.00	50 mL	50 mL	X100802.D	Liquid	Y	I
3	VSTD000.5	ICAL2	10-08-2021 01:50 pm	1.00	50 mL	50 mL	X100803.D	Liquid	Y	I
4	VSTD001	ICAL3	10-08-2021 02:11 pm	1.00	50 mL	50 mL	X100804.D	Liquid	Y	I
5	VSTD002	ICAL4	10-08-2021 02:32 pm	1.00	50 mL	50 mL	X100805.D	Liquid	Y	I
6	VSTD005	ICAL5	10-08-2021 02:53 pm	1.00	50 mL	50 mL	X100806.D	Liquid	Y	I
7	VSTD020	ICAL6	10-08-2021 03:14 pm	1.00	50 mL	50 mL	X100807.D	Liquid	Y	I
8	VSTD050	ICAL7	10-08-2021 03:34 pm	1.00	50 mL	50 mL	X100808.D	Liquid	Y	I
9	VSTD100	ICAL8	10-08-2021 03:55 pm	1.00	50 mL	50 mL	X100809.D	Liquid	Y	I
10	VSTD150	ICAL9	10-08-2021 04:16 pm	1.00	50 mL	50 mL	X100810.D	Liquid	Y	I
11	VSTD200	ICAL	10-08-2021 04:37 pm	1.00	50 mL	50 mL	X100811.D	Liquid	Y	I
12	BLANK	SAMP	10-08-2021 04:58 pm	1.00	50 mL	50 mL	X100812.D	Liquid	Y	I
13	BLANK	SAMP	10-08-2021 05:19 pm	1.00	50 mL	50 mL	X100813.D	Liquid	Y	I
14	CCV	CCV	10-08-2021 05:40 pm	1.00	50 mL	50 mL	X100814.D	Liquid	Y	I
15	BFB	TUNE	10-08-2021 06:01 pm	1.00	50 mL	50 mL	Y100801.D	Liquid	Y	I
16	CCV	CCV	10-08-2021 06:22 pm	1.00	50 mL	50 mL	Y100802a.D	Liquid	Y	I
17	CCV	CCV	10-08-2021 06:43 pm	1.00	50 mL	50 mL	Y100803.D	Liquid	Y	I
18	CCB	SAMP	10-08-2021 07:04 pm	1.00	50 mL	50 mL	Y100804.D	Liquid	Y	I
19	VLCSW-211008	LCS	10-08-2021 07:25 pm	1.00	50 mL	50 mL	Y100805.D	Liquid	Y	I
20	BLANK	SAMP	10-08-2021 07:46 pm	1.00	50 mL	50 mL	Y100806.D	Liquid	Y	I
21	BLANK	SAMP	10-08-2021 08:07 pm	1.00	50 mL	50 mL	Y100807.D	Liquid	Y	I
22	VBLKW-211008	MBLK	10-08-2021 08:28 pm	1.00	50 mL	50 mL	Y100808.D	Liquid	Y	I
23	HS21100202-01	SAMP	10-08-2021 08:49 pm	1.00	50 mL	50 mL	Y100809.D	Liquid	Y	I
24	HS21100202-03	SAMP	10-08-2021 09:10 pm	1.00	50 mL	50 mL	Y100810.D	Liquid	Y	I
25	HS21100202-04	SAMP	10-08-2021 09:31 pm	1.00	50 mL	50 mL	Y100811.D	Liquid	Y	I
26	HS21100461-01	SAMP	10-08-2021 09:52 pm	1.00	50 mL	50 mL	Y100812.D	Liquid	Y	I
27	HS21100461-02	SAMP	10-08-2021 10:14 pm	1.00	50 mL	50 mL	Y100813.D	Liquid	Y	I
28	HS21100461-03	SAMP	10-08-2021 10:35 pm	1.00	50 mL	50 mL	Y100814.D	Liquid	Y	I
29	HS21100300-01	SAMP	10-08-2021 10:56 pm	1.00	50 mL	50 mL	Y100815.D	Liquid	Y	I
30	HS21100300-03	SAMP	10-08-2021 11:17 pm	1.00	50 mL	50 mL	Y100816.D	Liquid	Y	I
31	HS21100300-04	SAMP	10-08-2021 11:38 pm	1.00	50 mL	50 mL	Y100817.D	Liquid	Y	I
32	HS21100300-05	SAMP	10-08-2021 11:59 pm	1.00	50 mL	50 mL	Y100818.D	Liquid	Y	I
33	HS21100300-06	SAMP	10-09-2021 12:20 am	1.00	50 mL	50 mL	Y100819.D	Liquid	Y	I
34	HS21100300-07	SAMP	10-09-2021 12:41 am	1.00	50 mL	50 mL	Y100820.D	Liquid	Y	I
35	HS21100308-01	SAMP	10-09-2021 01:02 am	1.00	50 mL	50 mL	Y100821.D	Liquid	Y	I
36	HS21100246-05	SAMP	10-09-2021 01:23 am	1.00	50 mL	50 mL	Y100822.D	Liquid	Y	I
37	HS21100300-06MS	MS	10-09-2021 01:44 am	1.00	50 mL	50 mL	Y100823.D	Liquid	Y	I
38	HS21100300-06MSD	MSD	10-09-2021 02:05 am	1.00	50 mL	50 mL	Y100824.D	Liquid	Y	I
39	CCV-END	CCV	10-09-2021 02:26 am	1.00	50 mL	50 mL	Y100825.D	Liquid	Y	I
40	HS21100312-08	SAMP	10-09-2021 02:47 am	1.00	50 mL	50 mL	Y100826.D	Liquid	Y	I
41	HS21100316-11	SAMP	10-09-2021 03:08 am	1.00	50 mL	50 mL	Y100827.D	Liquid	Y	I

MSVOA06 -Logbook

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status
42	HS21100320-11	SAMP	10-09-2021 03:29 am	1.00	50 mL	50 mL	Y100828.D	Liquid	Y
43	HS21100323-19	SAMP	10-09-2021 03:50 am	1.00	50 mL	50 mL	Y100829.D	Liquid	Y
44	HS21100399-11	SAMP	10-09-2021 04:11 am	1.00	50 mL	50 mL	Y100830.D	Liquid	Y
45	HS21100457-07	SAMP	10-09-2021 04:32 am	1.00	50 mL	50 mL	Y100831.D	Liquid	Y
46	BLANK	SAMP	10-09-2021 04:53 am	1.00	50 mL	50 mL	Y100832.D	Liquid	Y

FORM 3
WATER VOLATILE METHOD SPIKE RECOVERY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS21101272

Matrix Spike - Sample No.: ICV

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE AMOUNT ()	% REC #	QC. LIMITS REC.
cis-1,2-Dichloroethene	50.00	50.82	102	80-120
Vinyl Chloride	50.00	47.21	94	80-120
Methylene Chloride	50.00	52.41	105	80-120
1,1-Dichloroethene	50.00	48.47	97	80-120
1,2-Dichloroethane	50.00	47.98	96	80-120
Trichloroethene	50.00	46.25	92	80-120
1,1,2-Trichloroethane	50.00	47.89	96	80-120

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

* Values outside of QC limits

COMMENTS: _____

_____

FORM III VOA

FORM 5
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS21101272

Lab File ID: X100801 BFB Injection Date: 10/08/21

Instrument ID: VOA6 BFB Injection Time: 1247

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

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	17.7
75	30.0 - 60.0% of mass 95	47.7
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	7.3
173	Less than 2.0% of mass 174	1.2 (1.2)1
174	Greater than 50.0% of mass 95	97.4
175	5.0 - 9.0% of mass 174	7.0 (7.2)1
176	95.0 - 101.0% of mass 174	92.6 (95.0)1
177	5.0 - 9.0% of mass 176	5.8 (6.3)2

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

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD000.25	VSTD000.25	X100802	10/08/21	1308
02	VSTD000.5	VSTD000.5	X100803	10/08/21	1350
03	VSTD001	VSTD001	X100804	10/08/21	1411
04	VSTD002	VSTD002	X100805	10/08/21	1432
05	VSTD005	VSTD005	X100806	10/08/21	1453
06	VSTD020	VSTD020	X100807	10/08/21	1514
07	VSTD050	VSTD050	X100808	10/08/21	1534
08	VSTD100	VSTD100	X100809	10/08/21	1555
09	VSTD150	VSTD150	X100810	10/08/21	1616
10	VSTD200	VSTD200	X100811	10/08/21	1637
11	ICV	ICV	X100814	10/08/21	1740
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS21101272

Instrument ID: VOA6 Calibration Date(s): 10/08/21 10/08/21

Column: DB624 ID: 0.18 (mm) Calibration Time(s): 1308 1637

LAB FILE ID: RF0.25: X100802 RF0.5: X100803 RF1: X100804
RF2: X100805 RF5: X100806 RF20: X100807

COMPOUND	RF0.25	RF0.5	RF1	RF2	RF5	RF20
Methylene Chloride		2444	4333	7762	19276	70665
1,1,2-Trichloroethane		0.263	0.266	0.315	0.301	0.258
Trichloroethene		0.432	0.477	0.393	0.391	0.354
Vinyl Chloride		0.582	0.594	0.586	0.600	0.514
1,1-Dichloroethene		0.463	0.490	0.473	0.500	0.440
1,2-Dichloroethane		0.420	0.472	0.432	0.456	0.429
cis-1,2-Dichloroethene		0.474	0.544	0.558	0.584	0.540
1,2-Dichloroethane-d4		3361	5961	9717	22194	84053
Dibromofluoromethane		2999	4837	8290	20676	78657
4-Bromofluorobenzene		4606	8328	13893	24945	96265
Toluene-d8		1.599	1.426	1.352	1.356	1.189

FORM VI VOA

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS2110127

Instrument ID: VOA6 Calibration Date(s): 10/08/21 10/08/21

Column: DB624 ID: 0.18 (mm) Calibration Time(s): 1308 1637

LAB FILE ID: RF50: X100808 RF100: X100809 RF150: X100810
RF200: X100811

COMPOUND	RF50	RF100	RF150	RF200
Methylene Chloride	173952	361756	542343	743741
1,1,2-Trichloroethane	0.248	0.252	0.247	0.251
Trichloroethene	0.334	0.343	0.335	0.344
Vinyl Chloride	0.466	0.457	0.449	0.471
1,1-Dichloroethene	0.407	0.411	0.402	0.428
1,2-Dichloroethane	0.402	0.391	0.386	0.386
cis-1,2-Dichloroethene	0.501	0.494	0.479	0.503
1,2-Dichloroethane-d4	202478	416593	610768	835313
Dibromofluoromethane	192579	417318	604609	839119
4-Bromofluorobenzene	246655	511094	745510	1012260
Toluene-d8	1.125	1.164	1.092	1.116

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS2110127

Instrument ID: VOA6 Calibration Date(s): 10/08/21 10/08/21

Column: DB624 ID: 0.18 (mm) Calibration Time(s): 1308 1637

COMPOUND	CURVE	COEFFICENTS A0	COEFFICENTS A1	%RSD OR R^2	MAX %RSD OR R^2
Methylene Chloride	LINR	-2.53e-002	2.35098937	0.9995671	0.9900000
1,1,2-Trichloroethane	AVRG		0.26680323	9.145	15.000
Trichloroethene	AVRG		0.37820923	13.102	15.000
Vinyl Chloride	AVRG		0.52422244	12.478	15.000
1,1-Dichloroethene	AVRG		0.44601099	8.294	15.000
1,2-Dichloroethane	AVRG		0.41941937	7.419	15.000
cis-1,2-Dichloroethene	AVRG		0.51982554	7.323	15.000
1,2-Dichloroethane-d4	LINR	-4.07e-002	2.09187623	0.9992556	0.9900000
Dibromofluoromethane	LINR	-2.28e-002	2.08394752	0.9991289	0.9900000
4-Bromofluorobenzene	LINR	-2.74e-002	2.35257164	0.9998215	0.9900000
Toluene-d8	AVRG		1.26890009	13.667	15.000

FORM VI VOA

Data File: \\NAHSTWS005\Target\chem\voa6.i\X211008.b\X100801.D

Date : 08-OCT-2021 12:47

Client ID: BFB

Instrument: voa6.i

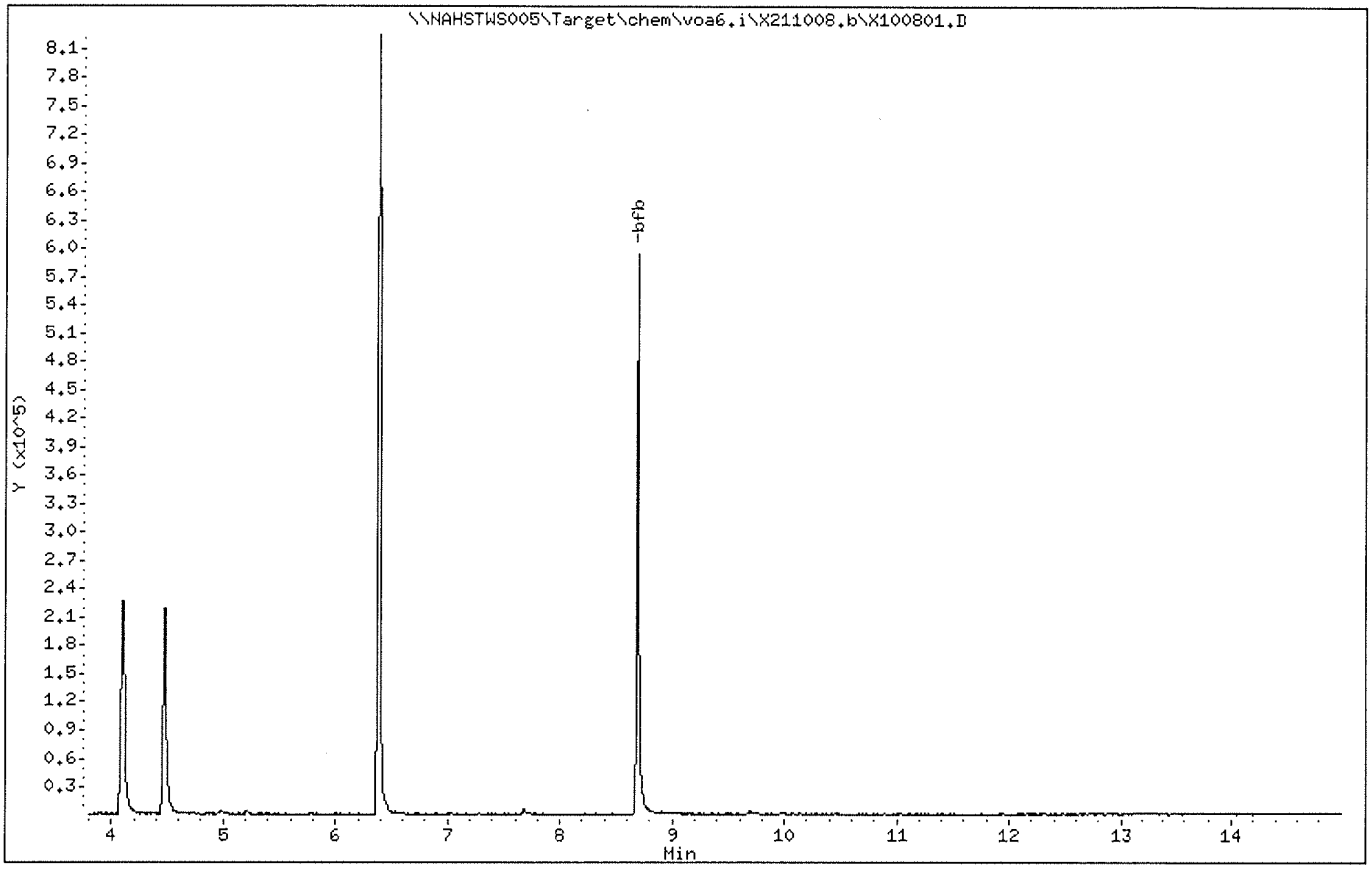
Sample Info: BFB;BFB;3;;BFB

Volume Injected (uL): 2.0

Operator: PC

Column phase: DB624

Column diameter: 0.25



Data File: \\NAHSTWS005\Target\chem\voa6.i\X211008.b\X100801.D

Date : 08-OCT-2021 12:47

Client ID: BFB

Instrument: voa6.i

Sample Info: BFB;BFB;3;;BFB

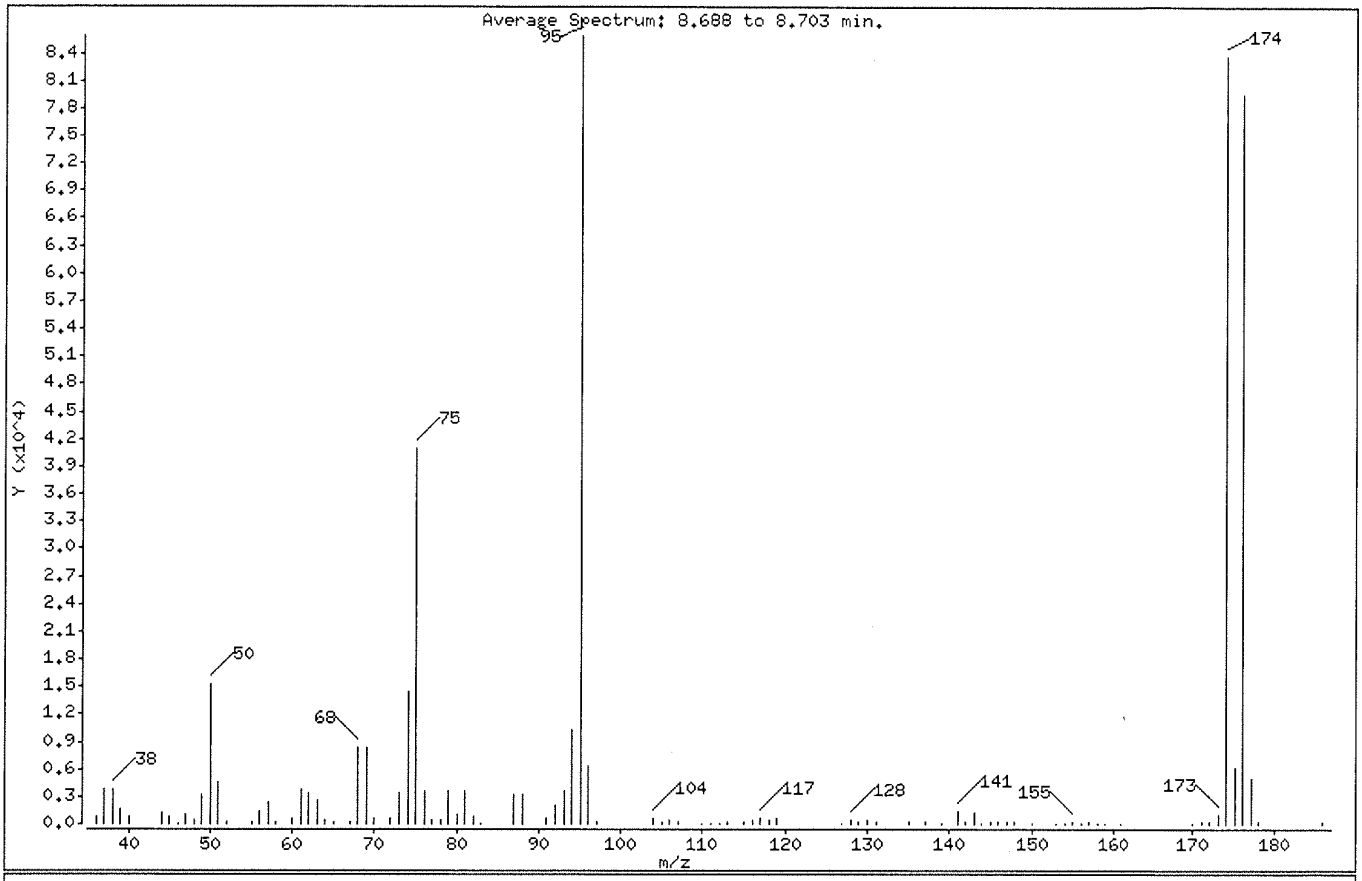
Volume Injected (uL): 2.0

Operator: PC

Column phase: DB624

Column diameter: 0.25

1 bfb



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	17.71
75	30.00 - 60.00% of mass 95	47.69
96	5.00 - 9.00% of mass 95	7.32
173	Less than 2.00% of mass 174	1.20 (1.23)
174	Greater than 50.00% of mass 95	97.43
175	5.00 - 9.00% of mass 174	7.05 (7.23)
176	95.00 - 101.00% of mass 174	92.59 (95.04)
177	5.00 - 9.00% of mass 176	5.83 (6.29)

Data File: \\NAHSTWS005\Target\chem\voa6.i\X211008.b\X100801.D Page 3

Date : 08-OCT-2021 12:47

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: X100801.D
Spectrum: Average Spectrum: 8.688 to 8.703 min.
Location of Maximum: 95.00
Number of points: 97

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	721	68.00	8366	105.00	192	146.00	142
37.00	3717	69.00	8247	106.00	438	147.00	134
38.00	3771	70.00	615	107.00	141	148.00	289
39.00	1498	72.00	610	110.00	76	150.00	47
40.00	771	73.00	3268	111.00	49	153.00	46
44.00	1225	74.00	14376	112.00	54	154.00	53
45.00	737	75.00	40960	113.00	150	155.00	276
46.00	93	76.00	3492	115.00	122	156.00	53
47.00	941	77.00	424	116.00	377	157.00	170
48.00	494	78.00	347	117.00	538	158.00	19
49.00	3152	79.00	3638	118.00	436	159.00	95
50.00	15214	80.00	1045	119.00	531	161.00	42
51.00	4568	81.00	3579	127.00	20	170.00	84
52.00	226	82.00	724	128.00	342	171.00	114
55.00	222	83.00	48	129.00	164	172.00	273
56.00	1360	87.00	3265	130.00	318	173.00	1029
57.00	2449	88.00	3096	131.00	136	174.00	83672
58.00	103	91.00	525	135.00	216	175.00	6051
60.00	630	92.00	2021	137.00	140	176.00	79520
61.00	3789	93.00	3470	139.00	44	177.00	5006
62.00	3324	94.00	10275	141.00	1339	178.00	134
63.00	2658	95.00	85880	142.00	123	186.00	131
64.00	410	96.00	6283	143.00	1219		
65.00	116	97.00	107	144.00	57		
67.00	212	104.00	516	145.00	106		

Data File: \\NAHSTWS005\Target\chem\voa6.i\X211008.b\X100802.D Page 1
Report Date: 16-Nov-2021 15:58

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X211008.b\X100802.D
Lab Smp Id: VSTD000.25 Client Smp ID: VSTD000.25
Inj Date : 08-OCT-2021 13:08
Operator : PC Inst ID: voa6.i
Smp Info : VSTD000.25;VSTD000.25;1;1;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X211008.b\8260W.m
Meth Date : 16-Nov-2021 15:58 voa6.i Quant Type: ISTD
Cal Date : 08-OCT-2021 13:50 Cal File: X100803.D
Als bottle: 2 Calibration Sample, Level: 1
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 08260_dryclean.su
Target Version: 4.14
Processing Host: NAHSTW7017

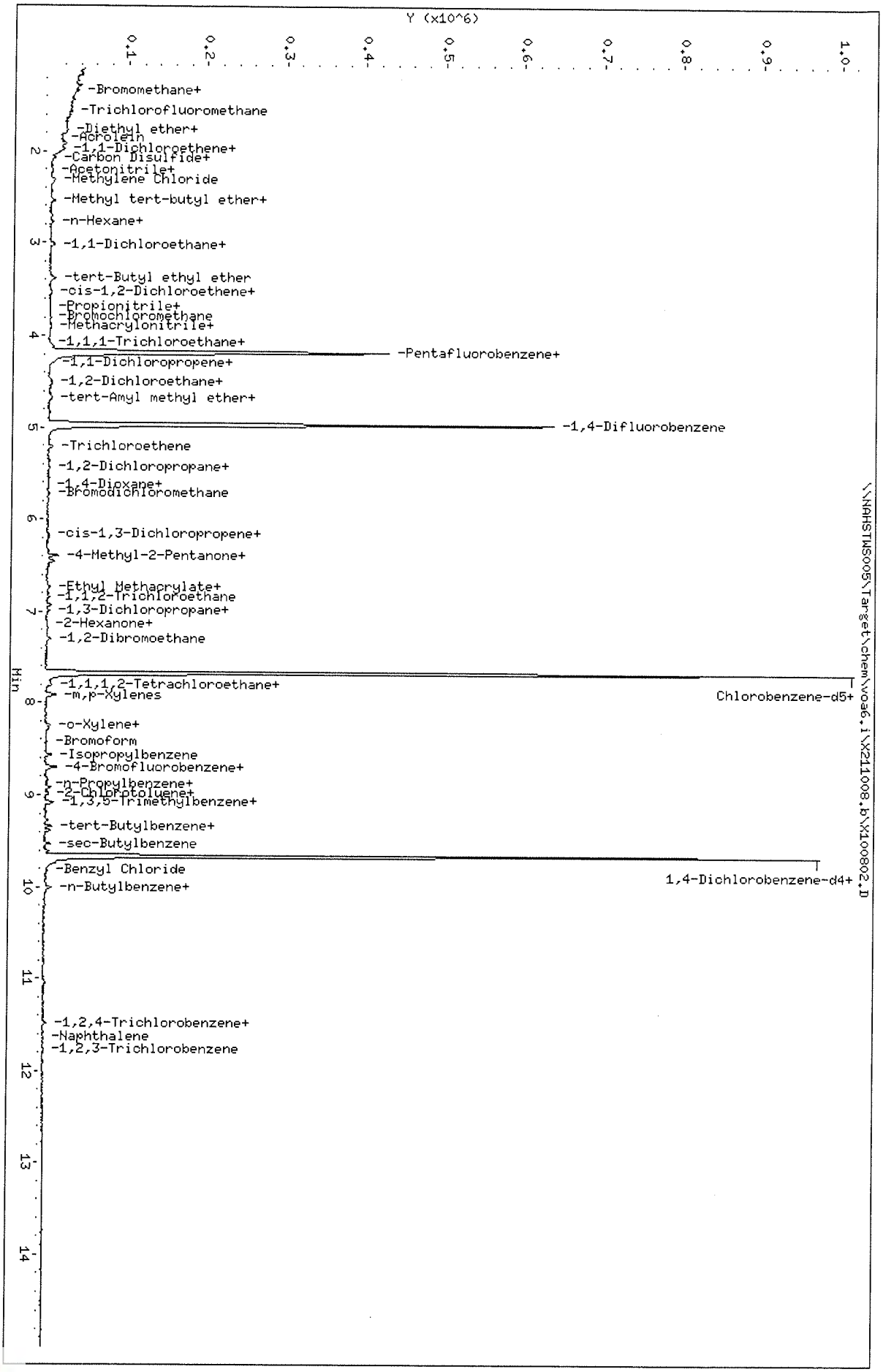
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

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

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	361573	50.0000	
* 36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	549183	50.0000	
* 47 Chlorobenzene-d5	117	7.670	7.670	(1.000)	504808	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	236339	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	2269	0.25000	(a)
$ 35 1,2-Dichloroethane-d4	65	4.490	4.490	(1.074)	3143	0.25000	(Ta)
$ 48 Toluene-d8	98	6.395	6.395	(0.834)	8062	0.25000	0.62(aM)
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	6096	0.25000	0.05(a)
11 1,1-Dichloroethene	96	1.918	1.918	(0.459)	1039	0.25000	0.32(a)
33 1,2-Dichloroethane	62	4.569	4.569	(0.921)	1501	0.25000	0.32(a)
27 cis-1,2-Dichloroethene	96	3.544	3.544	(0.848)	1215	0.25000	0.32(a)
17 Methylene Chloride	84	2.312	2.312	(0.553)	2242	0.25000	(a)
53 1,1,2-Trichloroethane	83	6.847	6.847	(0.893)	1010	0.25000	0.37(a)
38 Trichloroethene	130	5.213	5.213	(1.051)	1791	0.25000	0.43(aM)
5 Vinyl Chloride	62	1.145	1.145	(0.274)	1292	0.25000	0.34(aM)

QC Flag Legend

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

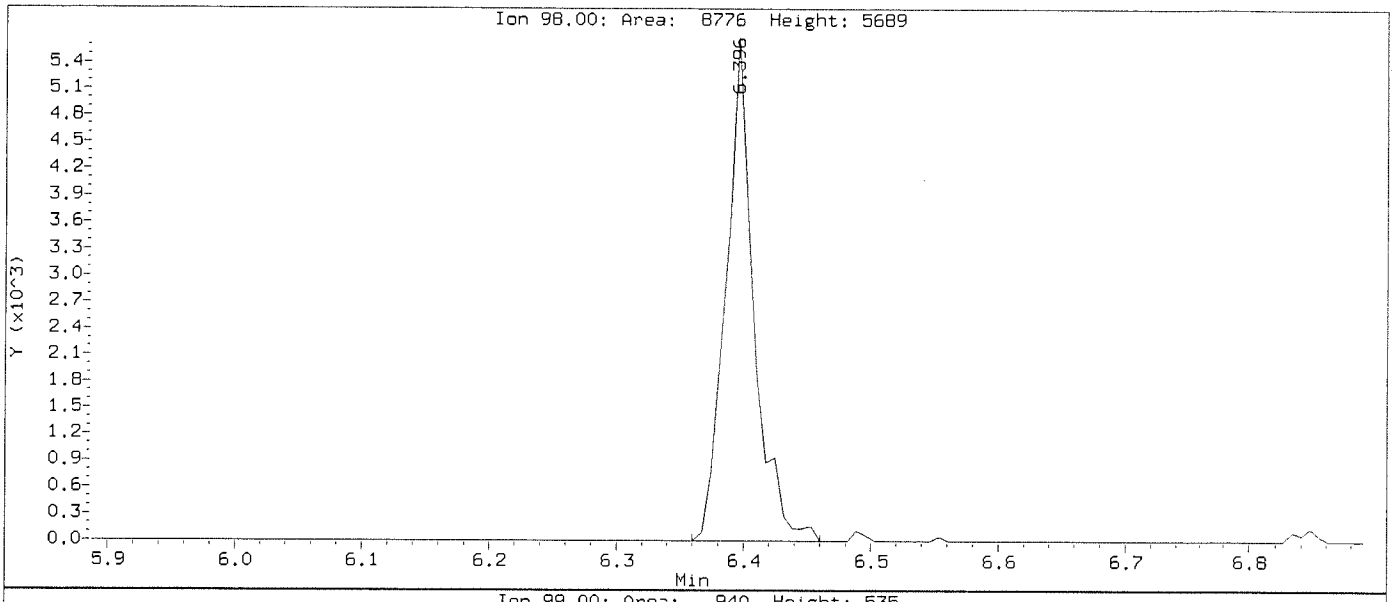


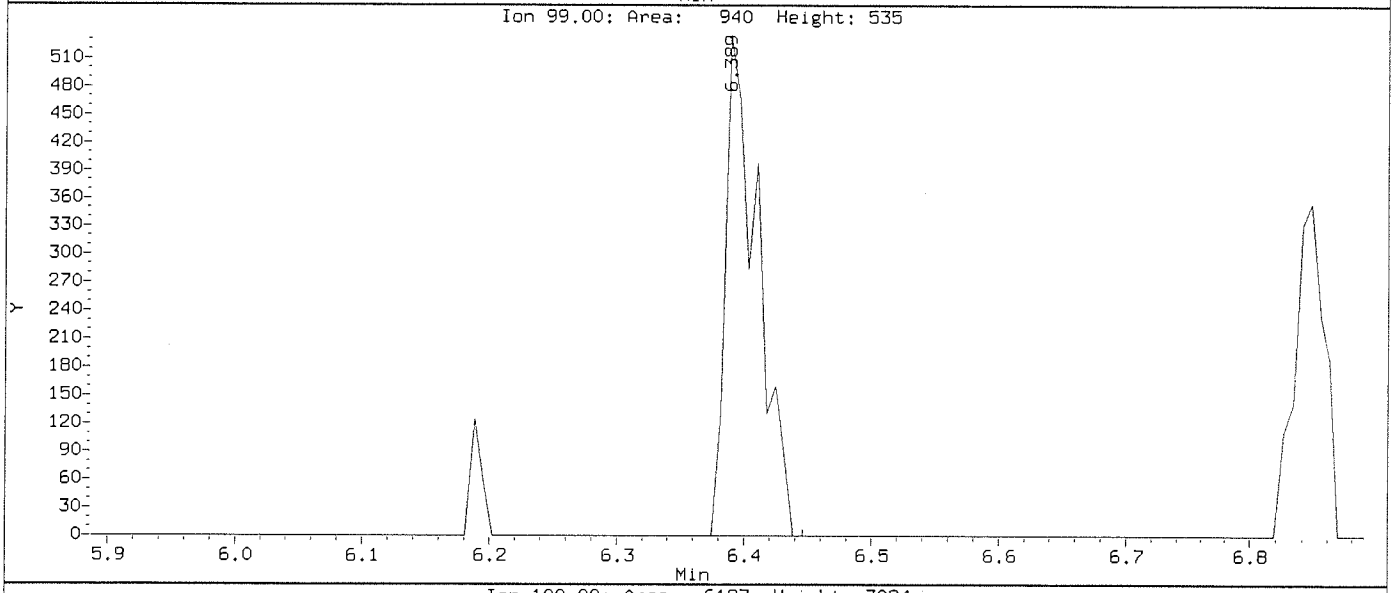
Data File: \\NAHSTWS005\Target\chem\voa6.i\X211008.b\X100802.D
Date : 08-OCT-2021 13:08
Client ID: VSTD000.25
Sample Info: VSTD000.25;VSTD000.25;1;1;;
Purge Volume: 5.0
Column phase: DB624

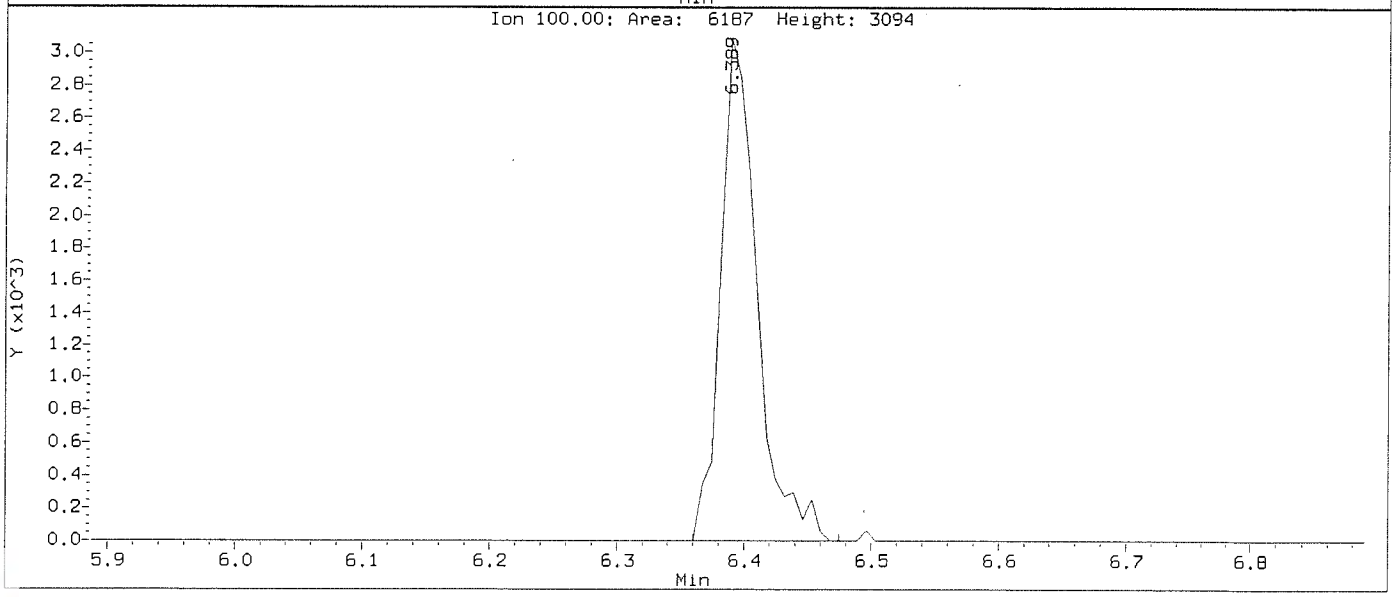
Instrument: voa6.i
Operator: PC
Column diameter: 0.18

Data File: \\NAHSTWS005\Target\chem\voa6.i\X211008.b\Before\X100802.D
Injection Date: 08-OCT-2021 13:08
Instrument: voa6.i
Client Sample ID: VSTD000.25

Compound: Toluene-d8
CAS Number: 2037-26-5

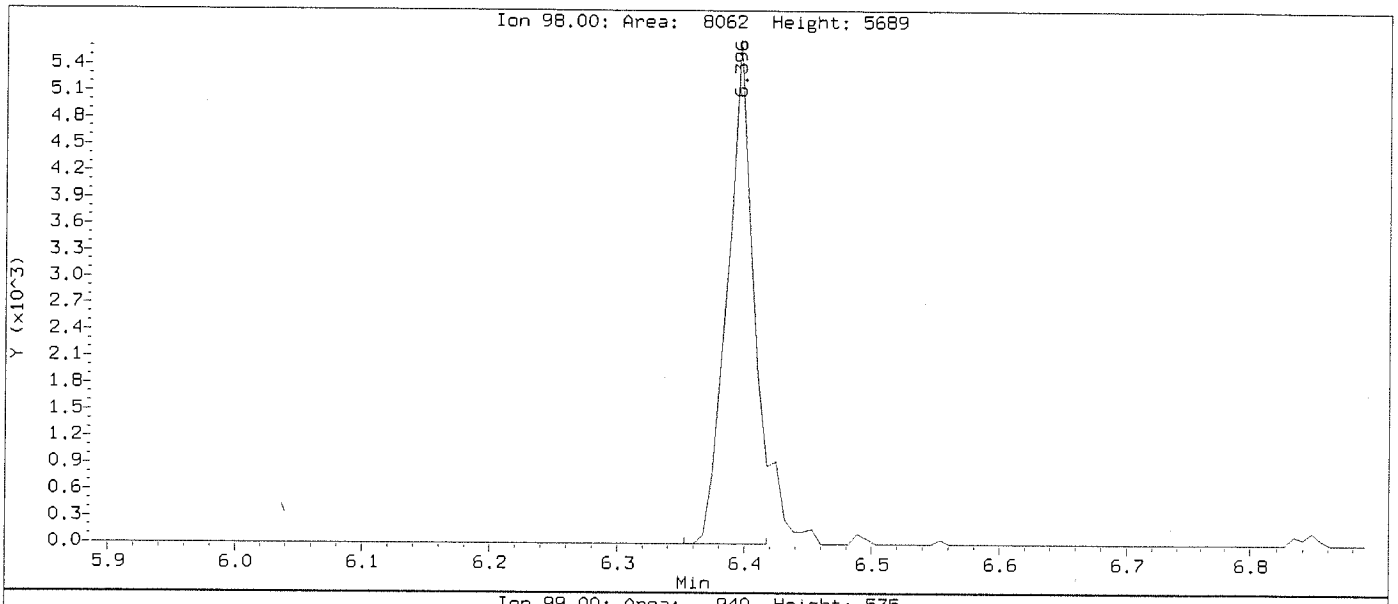


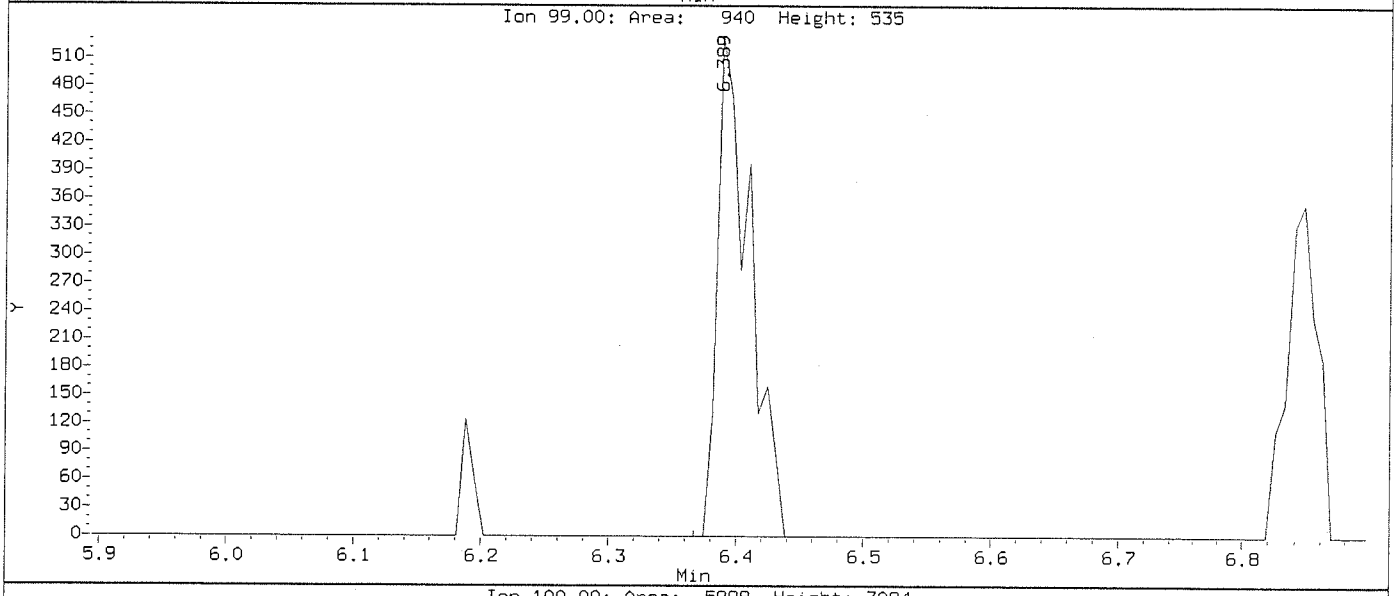


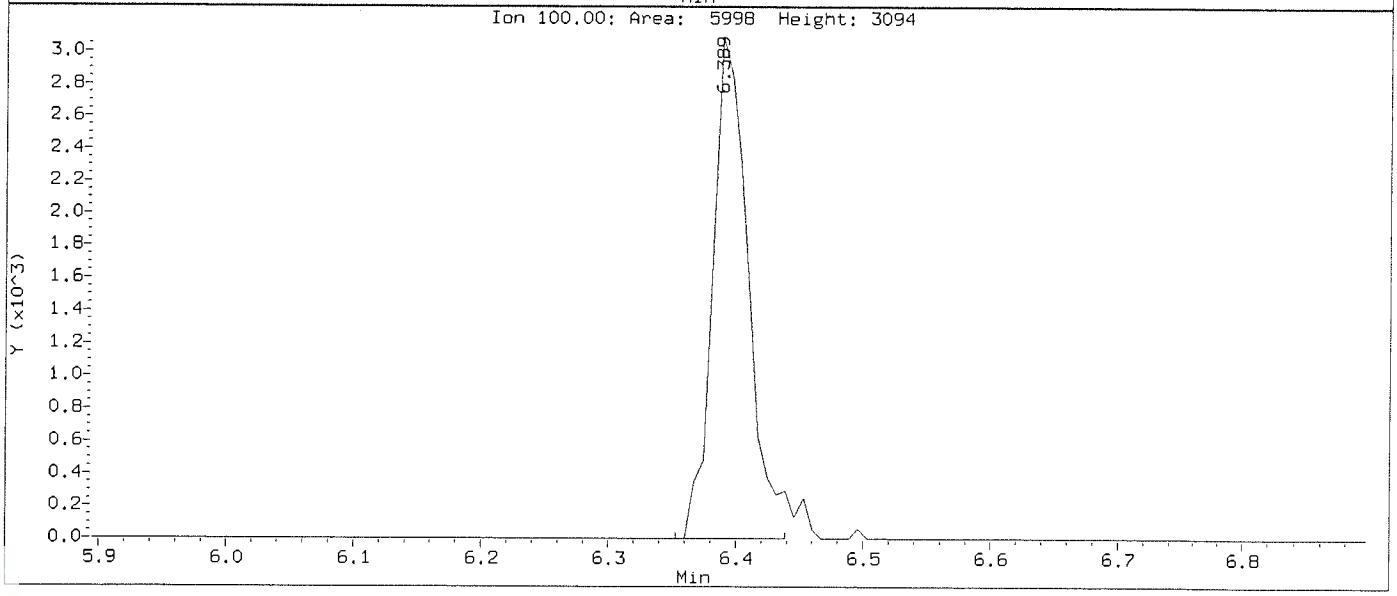


Data File: \\NAHSTWS005\Target\chem\voa6.i\X211008.b\X100802.D
Injection Date: 08-OCT-2021 13:08
Instrument: voa6.i
Client Sample ID: VSTD000.25

Compound: Toluene-d8
CAS Number: 2037-26-5

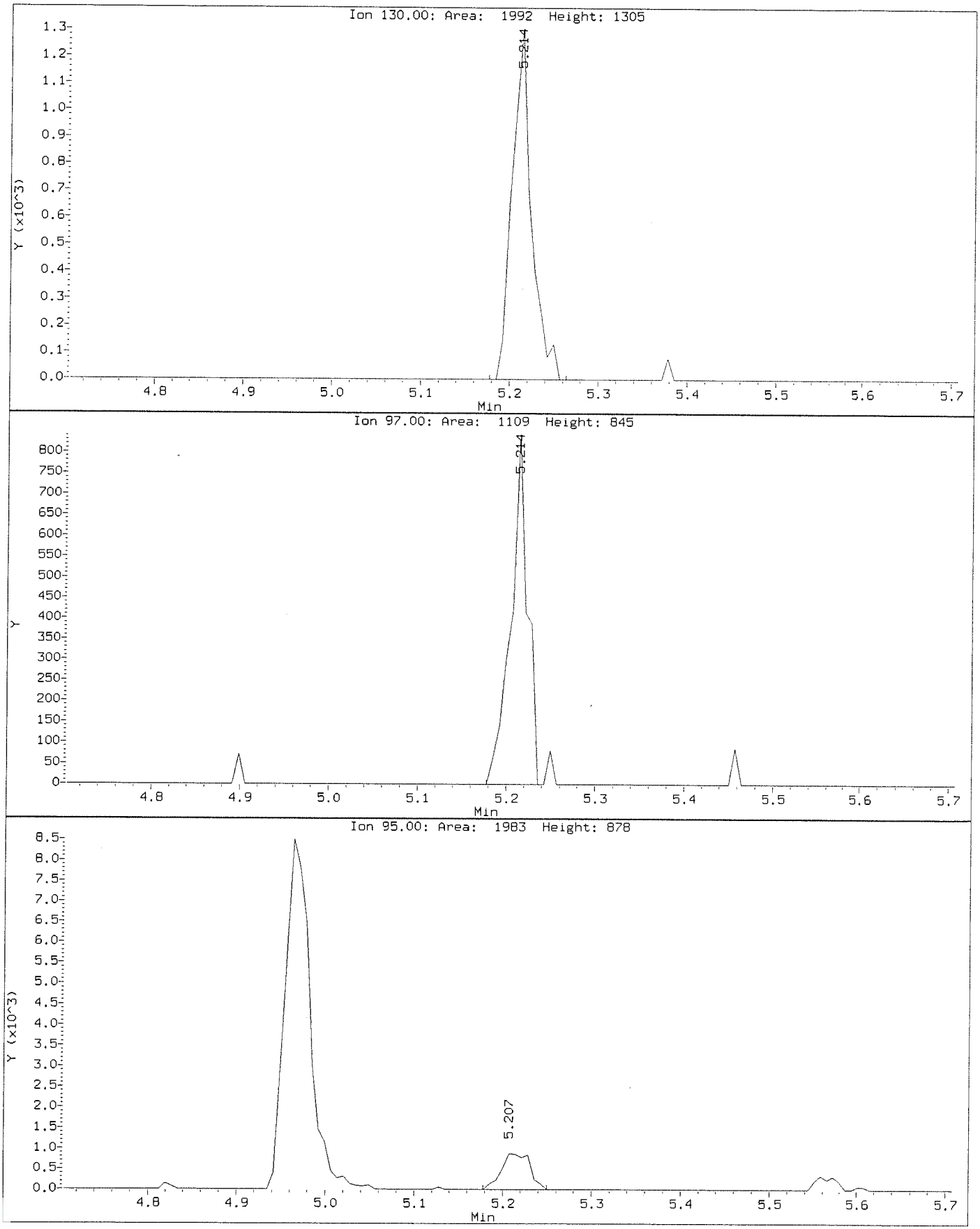






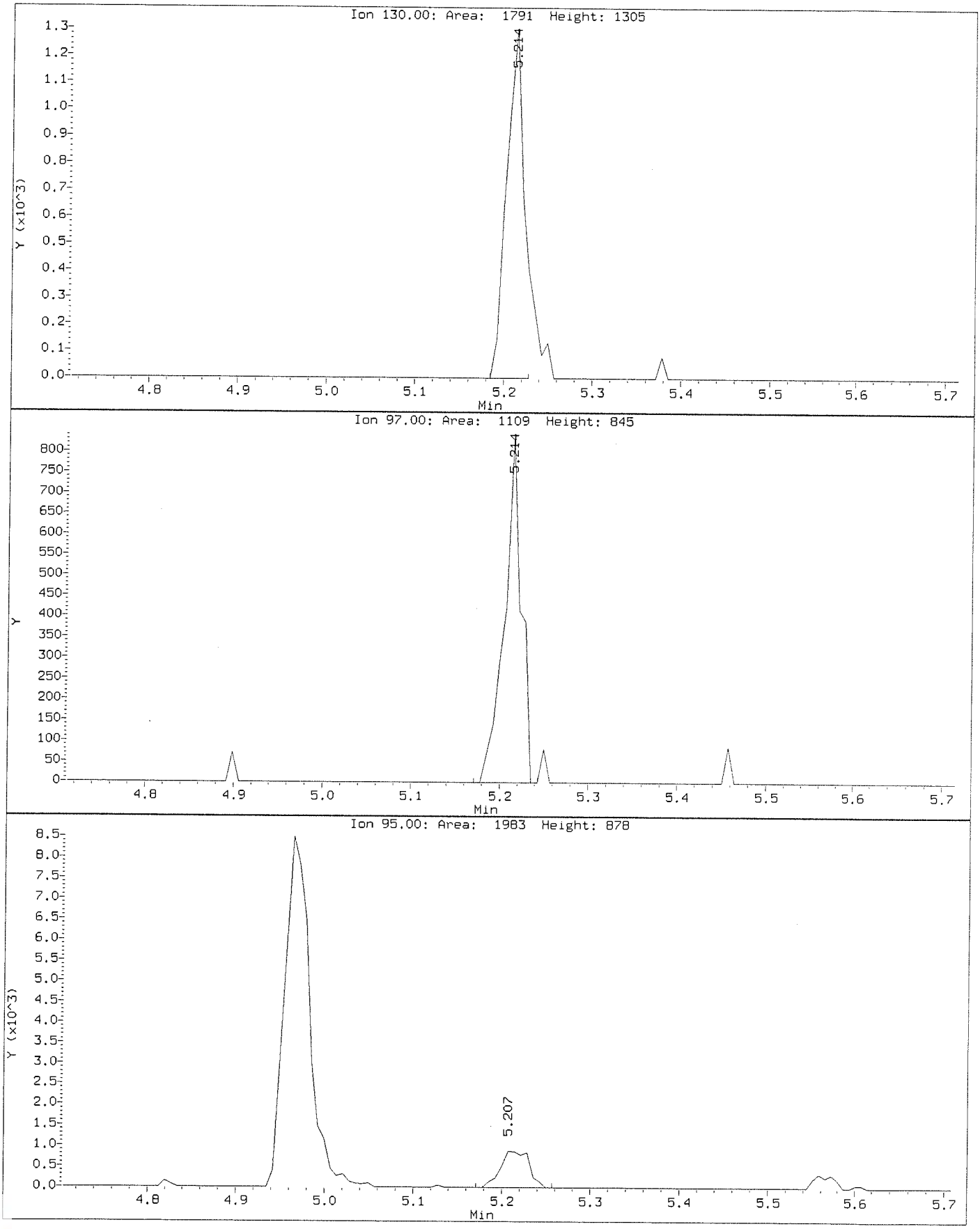
Data File: \\NAHSTWS005\Target\chem\voa6.i\X211008.b\Before\X100802.D
Injection Date: 08-OCT-2021 13:08
Instrument: voa6.i
Client Sample ID: VSTD000.25

Compound: Trichloroethene
CAS Number: 79-01-6



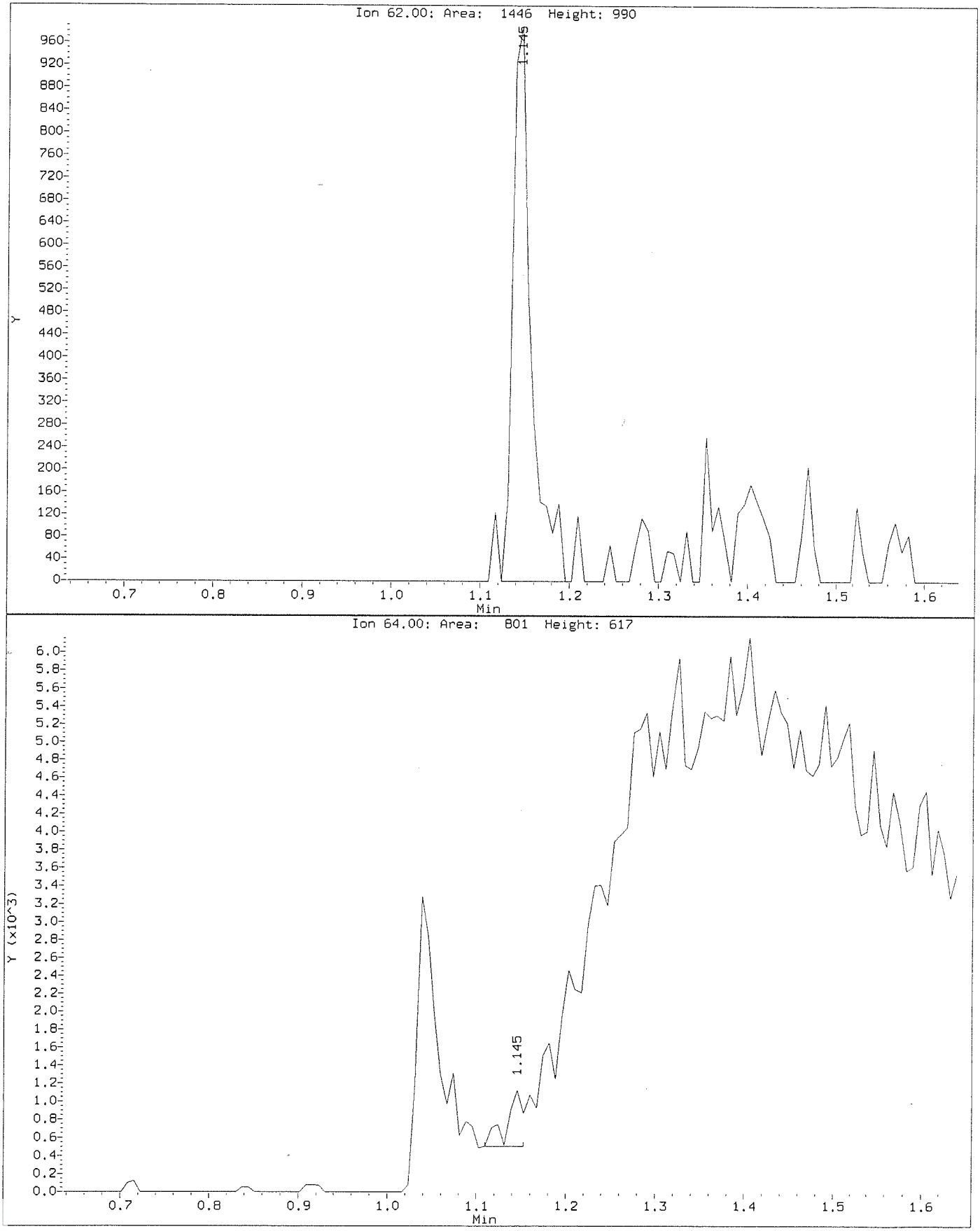
Data File: \\NAHSTWS005\Target\chem\voa6.i\X211008.b\X100802.D
Injection Date: 08-OCT-2021 13:08
Instrument: voa6.i
Client Sample ID: VSTD000.25

Compound: Trichloroethene
CAS Number: 79-01-6



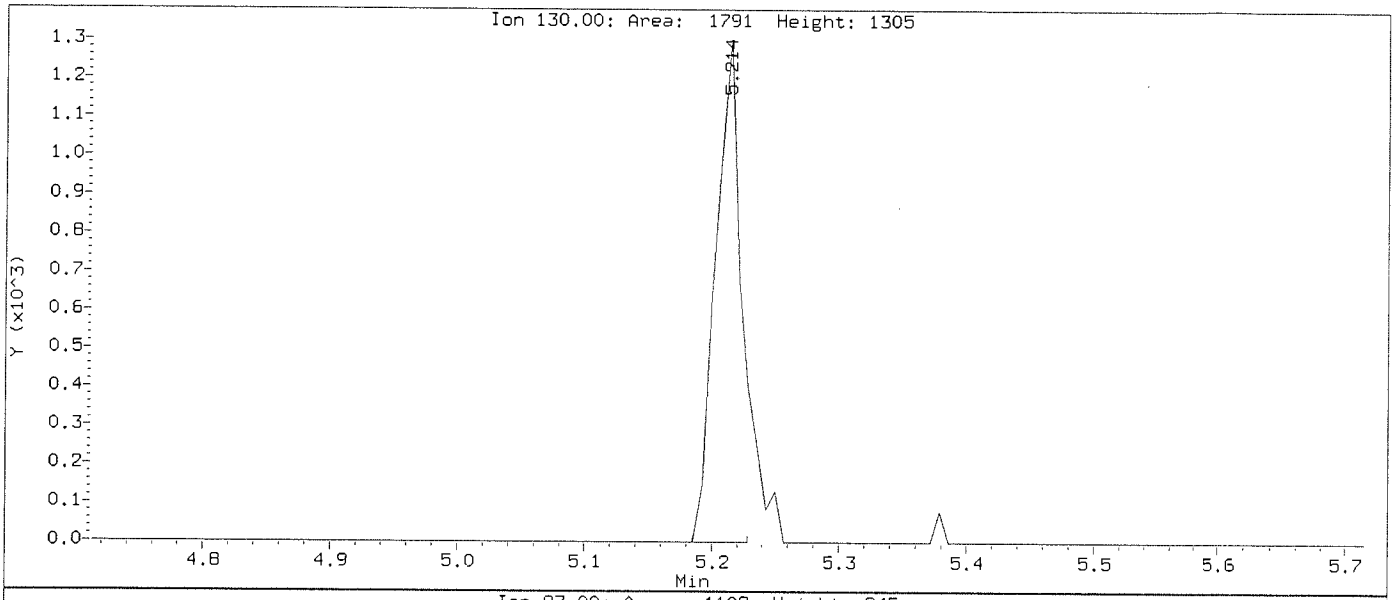
Data File: \\NAHSTWS005\Target\chem\voa6.i\X211008.b\Before\X100802.D
Injection Date: 08-OCT-2021 13:08
Instrument: voa6.i
Client Sample ID: VSTD000.25

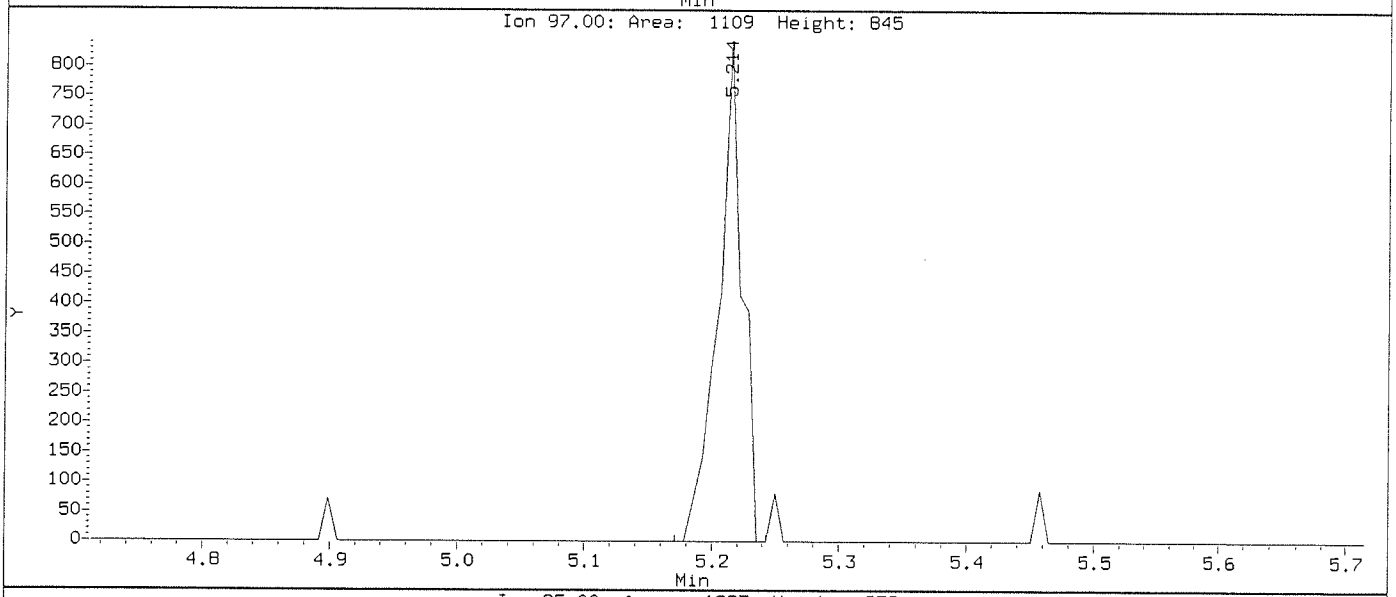
Compound: Vinyl Chloride
CAS Number: 75-01-4

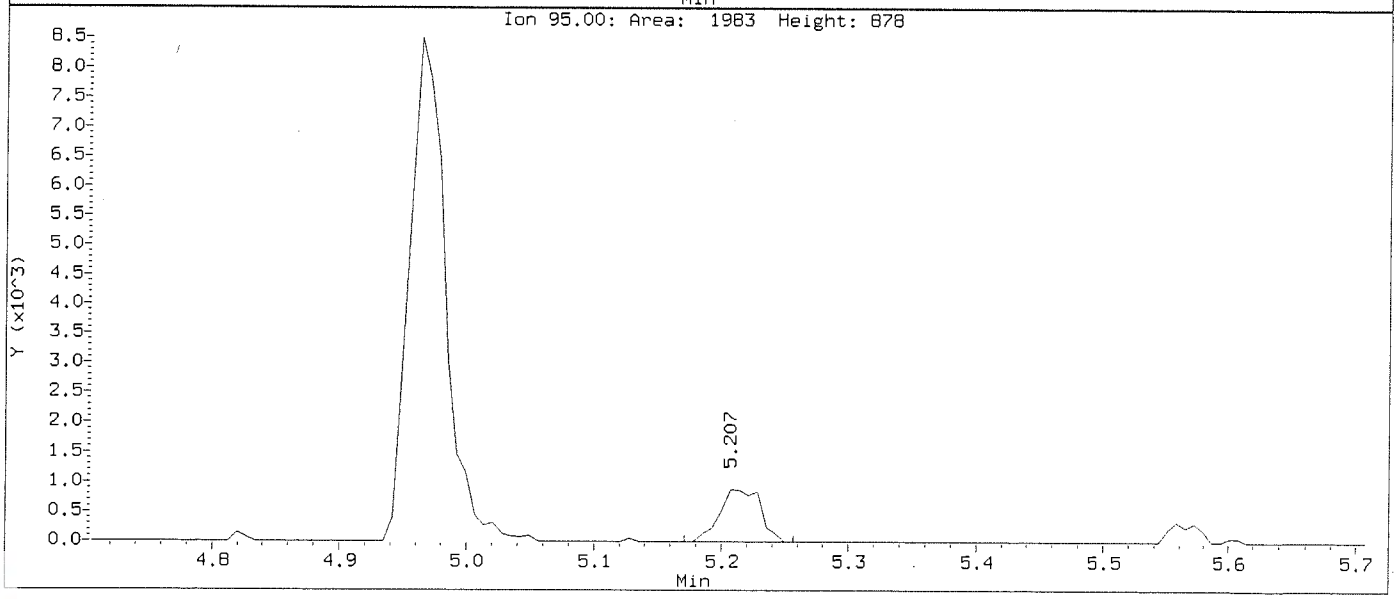


Data File: \\NAHSTWS005\Target\chem\voa6.i\X211008.b\X100802.D
Injection Date: 08-OCT-2021 13:08
Instrument: voa6.i
Client Sample ID: VSTD000.25

Compound: Trichloroethene
CAS Number: 79-01-6







Data File: \\NAHSTWS005\Target\chem\voa6.i\X211008.b\X100803.D Page 1
Report Date: 16-Nov-2021 15:58

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X211008.b\X100803.D
Lab Smp Id: VSTD000.5 Client Smp ID: VSTD000.5
Inj Date : 08-OCT-2021 13:50
Operator : PC Inst ID: voa6.i
Smp Info : VSTD000.5;VSTD000.5;1;2;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X211008.b\8260W.m
Meth Date : 16-Nov-2021 15:58 voa6.i Quant Type: ISTD
Cal Date : 08-OCT-2021 13:08 Cal File: X100802.D
Als bottle: 4 Calibration Sample, Level: 2
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 08260_dryclean.su
Target Version: 4.14
Processing Host: NAHSTW7017

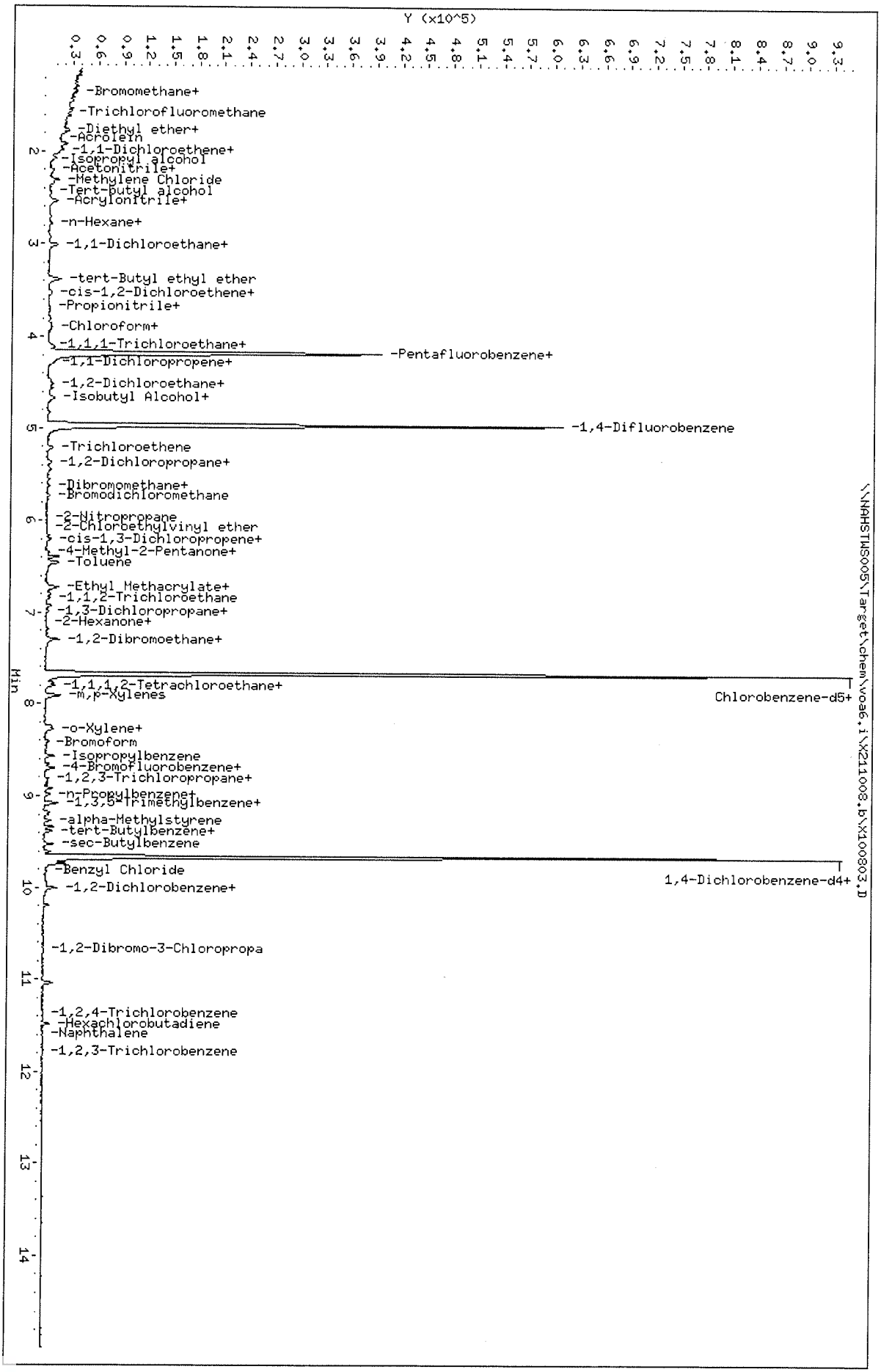
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

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

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
*	1 Pentafluorobenzene	168	4.182	4.182	(1.000)	331902	50.0000	
*	36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	519409	50.0000	
*	47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	485516	50.0000	
*	70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	222200	50.0000	
$	30 Dibromofluoromethane	113	4.111	4.111	(0.983)	2999	0.50000	(a)
$	35 1,2-Dichloroethane-d4	65	4.490	4.490	(1.074)	3361	0.50000	(Ta)
$	48 Toluene-d8	98	6.388	6.388	(0.833)	7763	0.50000	0.63(aM)
$	69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	4606	0.50000	(a)
	11 1,1-Dichloroethene	96	1.926	1.926	(0.461)	1538	0.50000	0.51(a)
	33 1,2-Dichloroethane	62	4.562	4.562	(0.919)	2184	0.50000	0.50(a)
	27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	1575	0.50000	0.45(a)
	17 Methylene Chloride	84	2.305	2.305	(0.551)	2444	0.50000	(aM)
	53 1,1,2-Trichloroethane	83	6.847	6.847	(0.893)	1277	0.50000	0.49(a)
	38 Trichloroethene	130	5.214	5.214	(1.051)	2243	0.50000	0.57(aM)
	5 Vinyl Chloride	62	1.145	1.145	(0.274)	1932	0.50000	0.55(aM)

QC Flag Legend

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

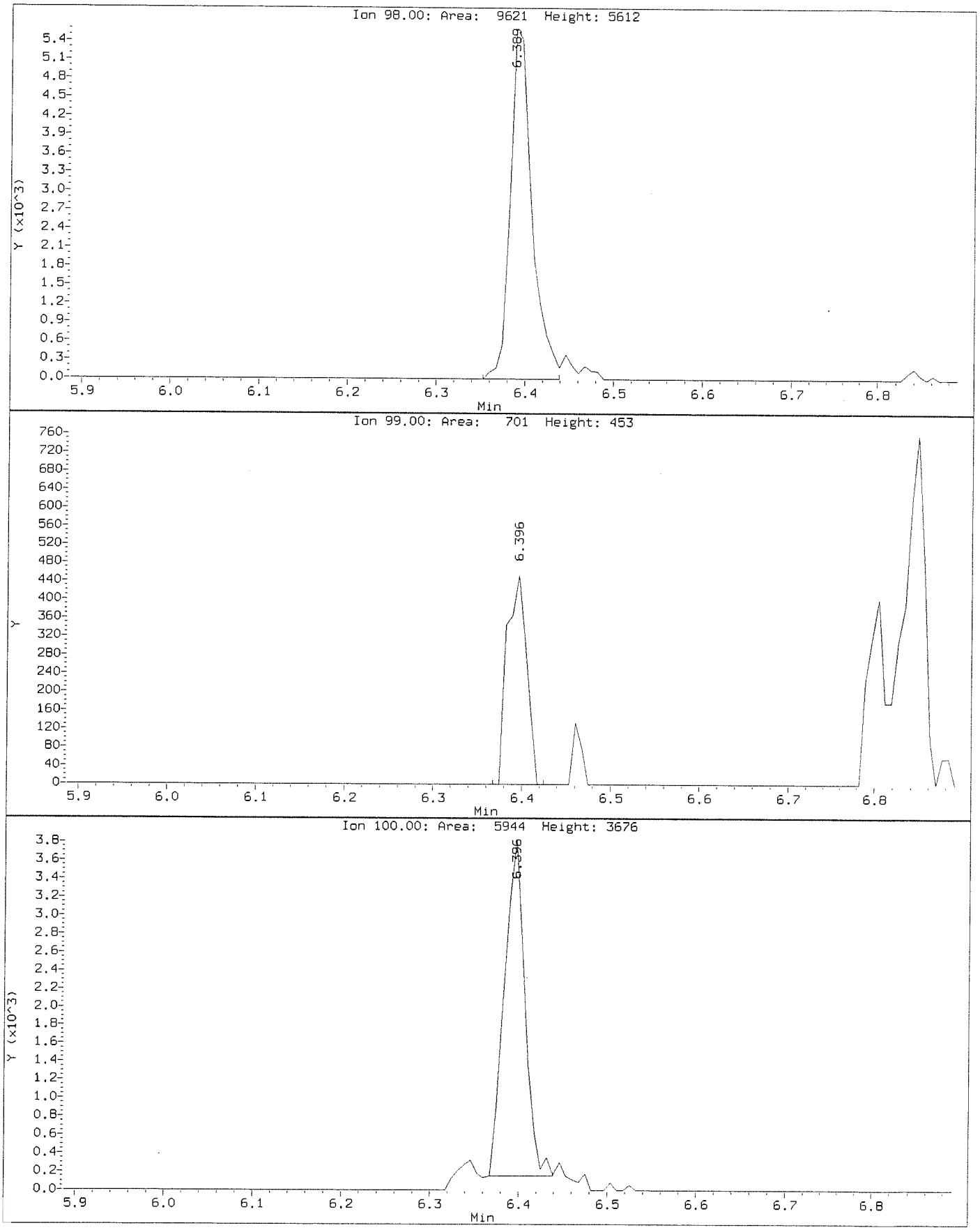


Data File: \\NAHSTWS005\Target\chem\voa6.i\%211008.b\%100803.D
Date : 08-OCT-2021 13:50
Client ID: VSTD000.5
Sample Info: VSTD000.5;VSTD000.5;1;2;;
Purge Volume: 5.0
Column phase: DB624

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

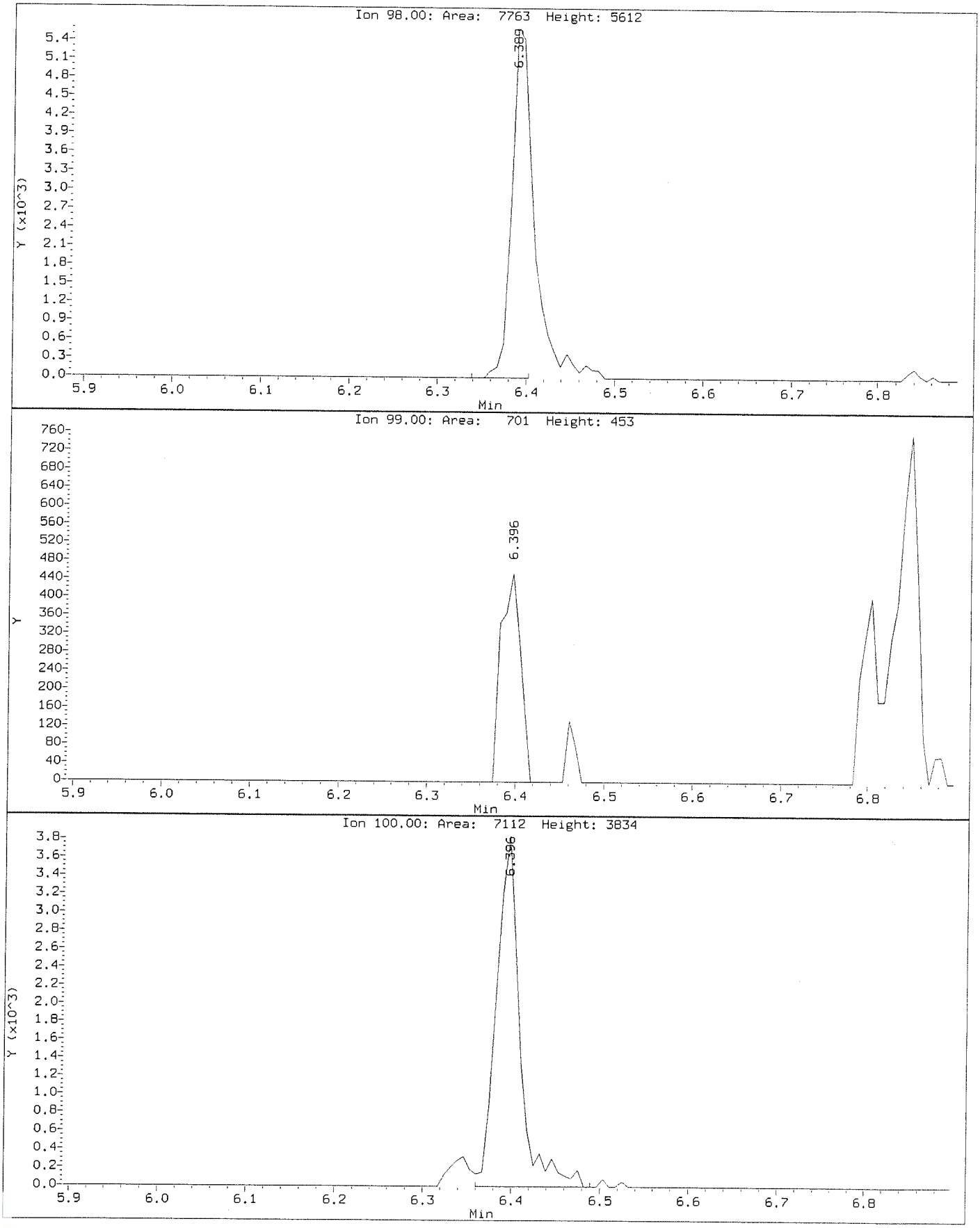
Data File: \\NAHSTWS005\Target\chem\voa6.i\X211008.b\Before\X100803.D
Injection Date: 08-OCT-2021 13:50
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: Toluene-d8
CAS Number: 2037-26-5



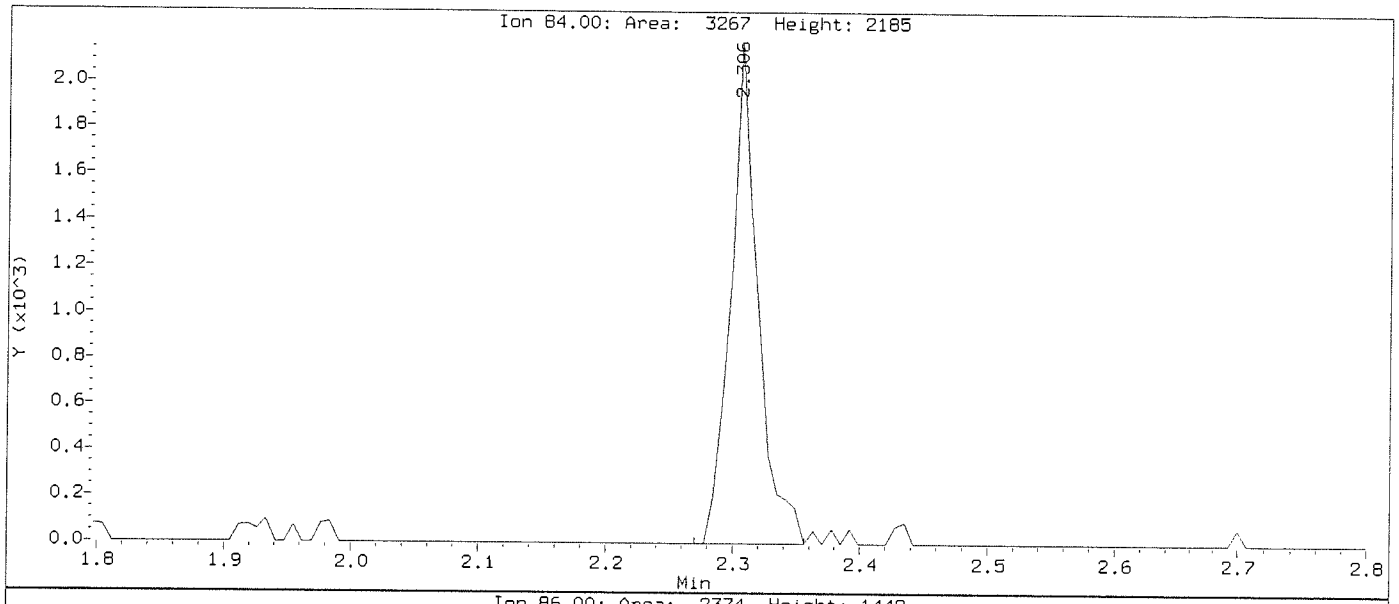
Data File: \\NAHSTWS005\Target\chem\voa6.i\X211008.b\X100803.D
Injection Date: 08-OCT-2021 13:50
Instrument: voa6.i
Client Sample ID: VSTD000.5

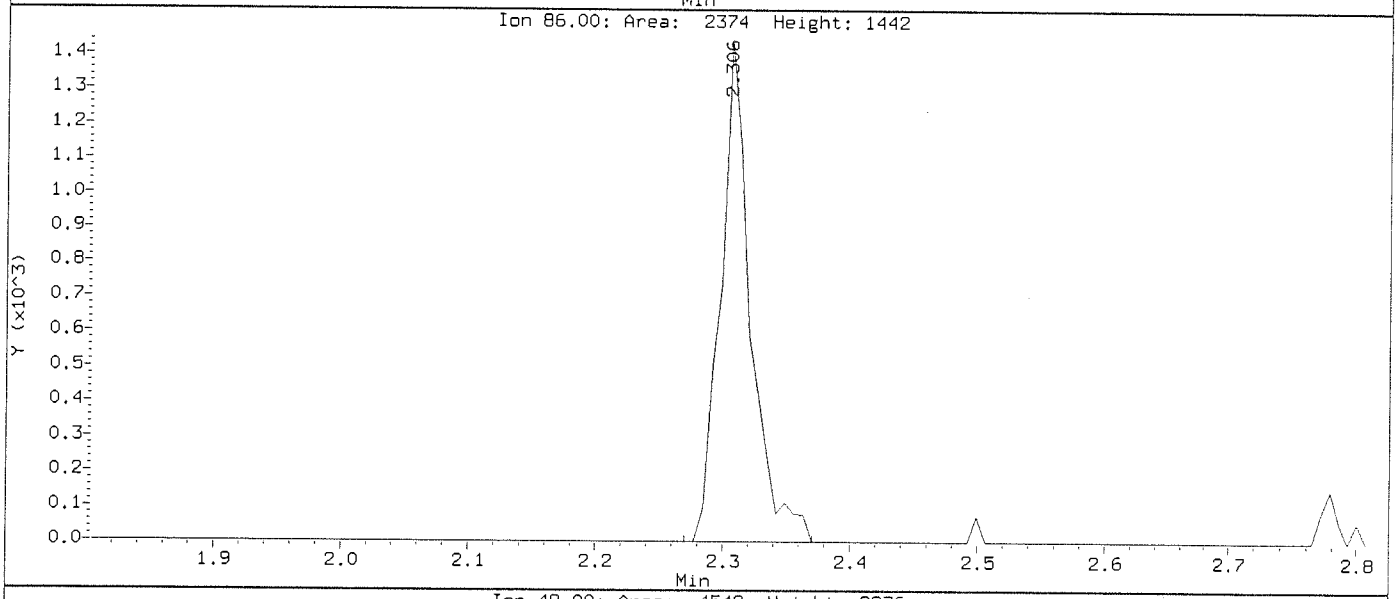
Compound: Toluene-d8
CAS Number: 2037-26-5

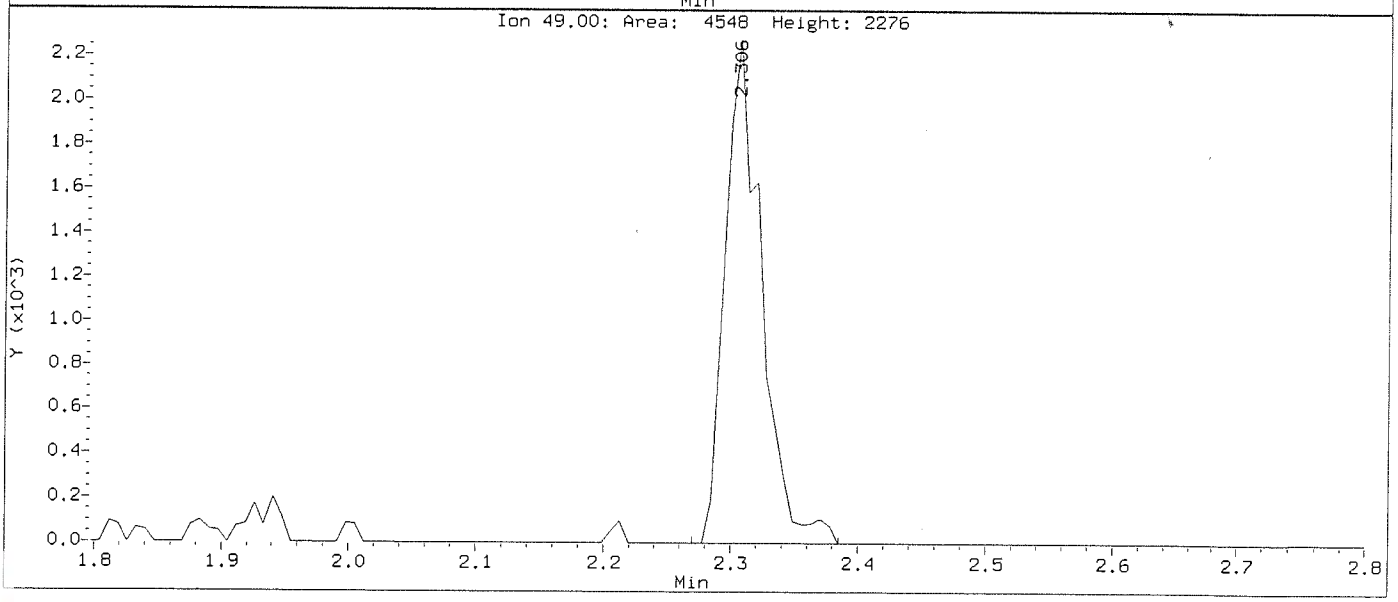


Data File: \\NAHSTWS005\Target\chem\voa6.i\X211008.b\Before\X100803.D
Injection Date: 08-OCT-2021 13:50
Instrument: voa6.i
Client Sample ID: VSTD000.5

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

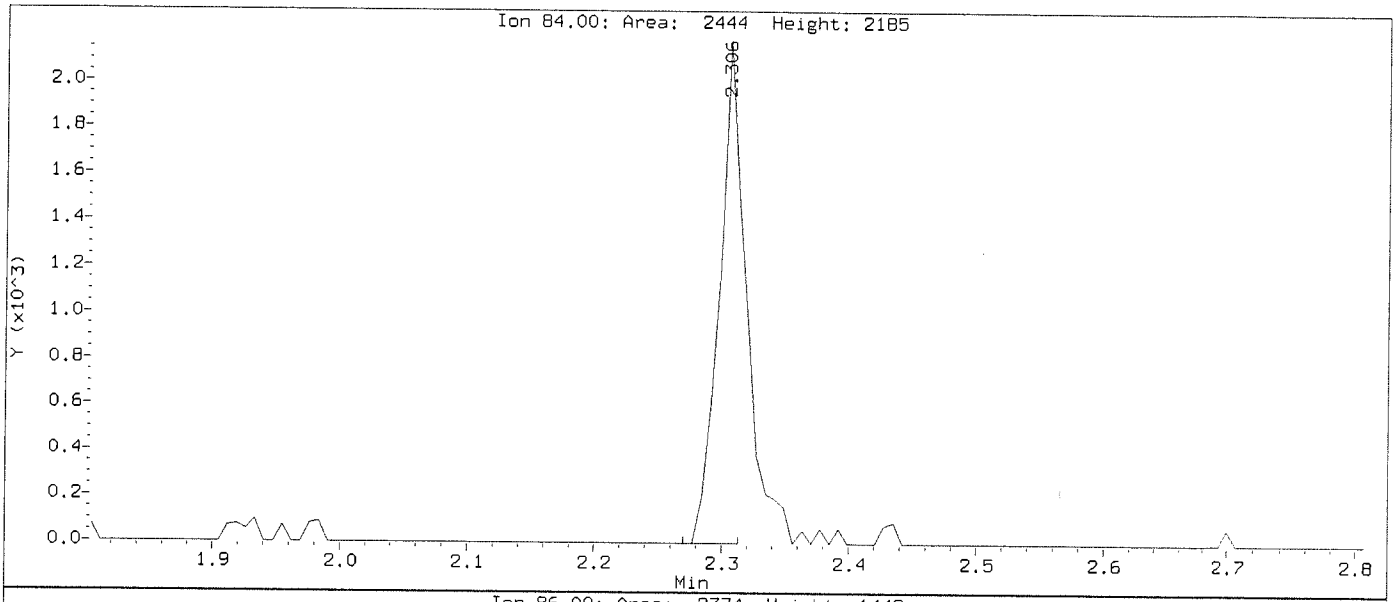


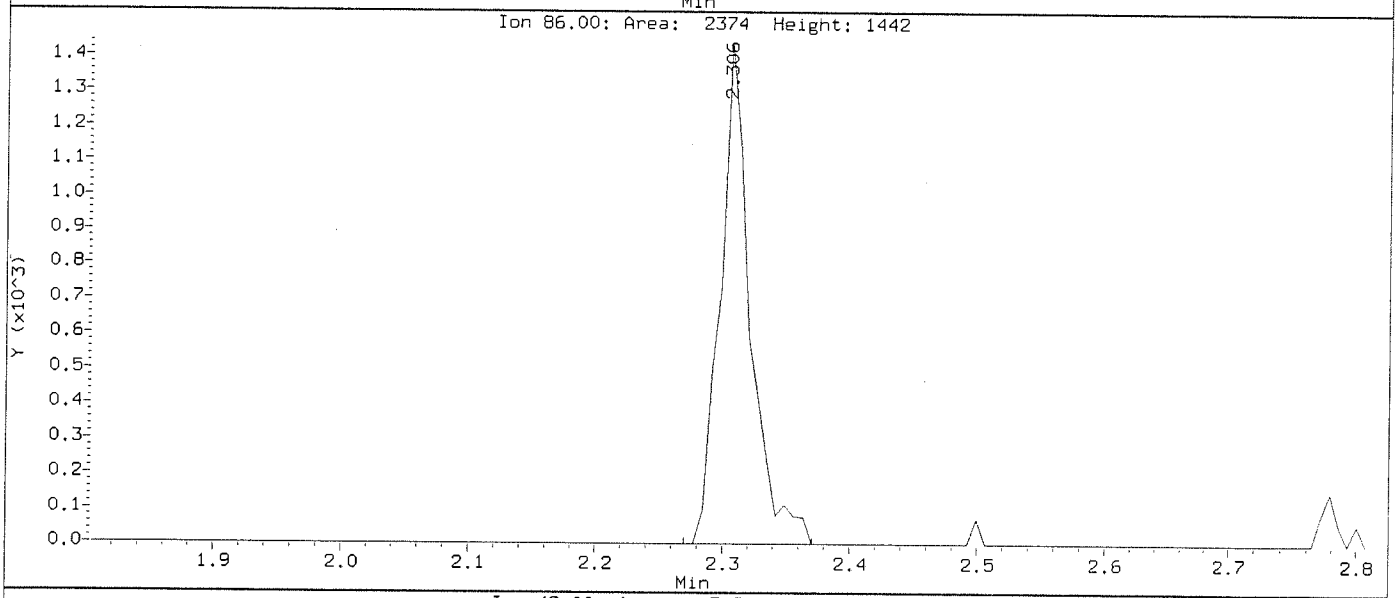


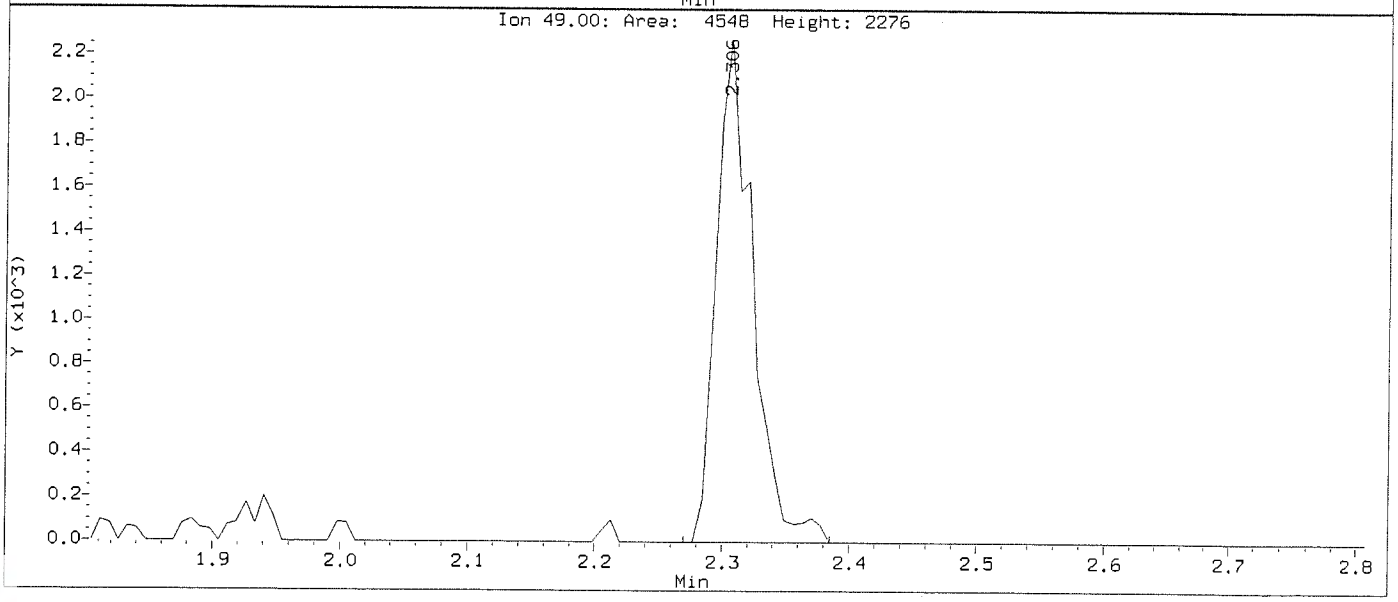


Data File: \\NAHSTWS005\Target\chem\voa6.i\X211008.b\X100803.D
Injection Date: 08-OCT-2021 13:50
Instrument: voa6.i
Client Sample ID: VSTD000.5

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

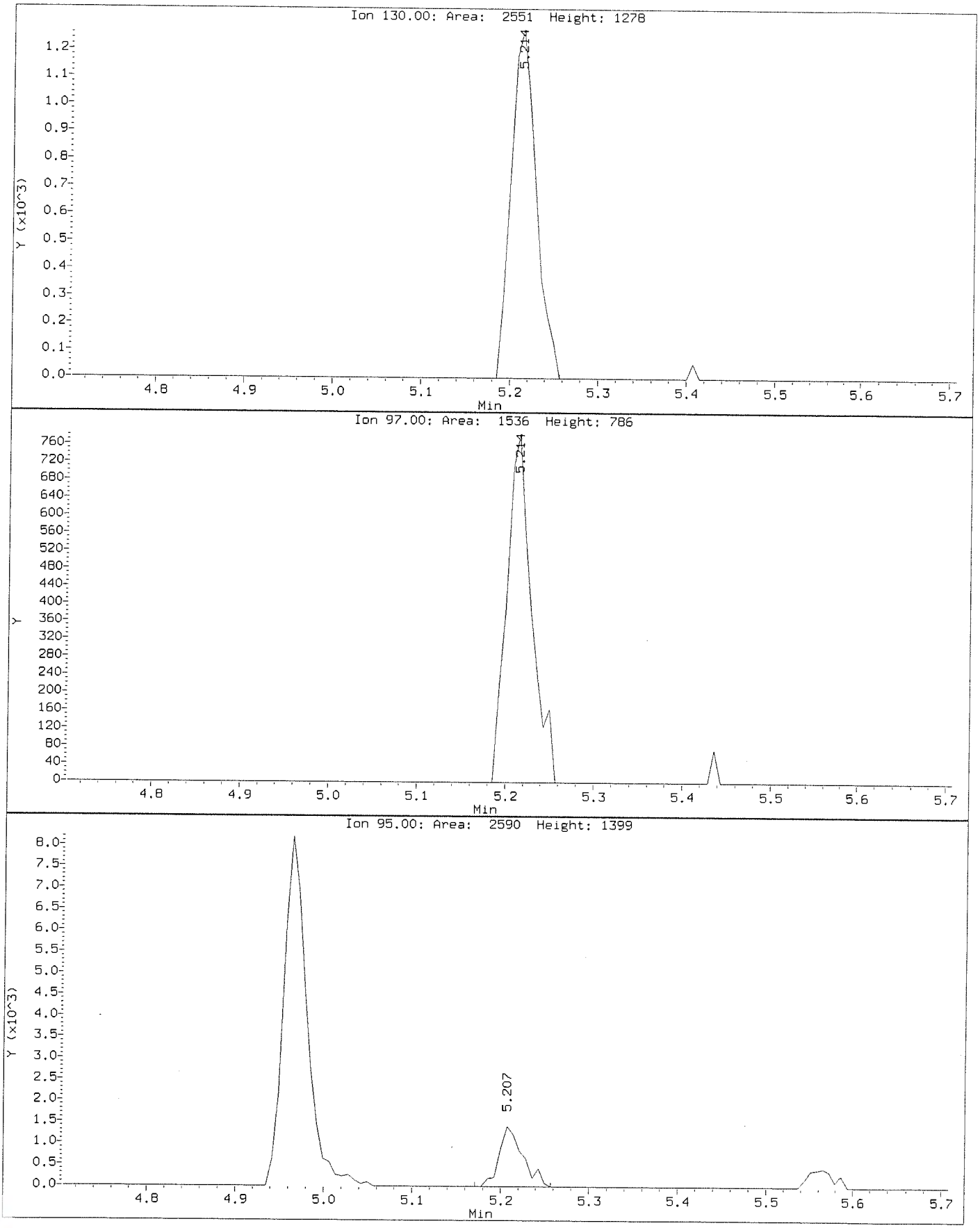






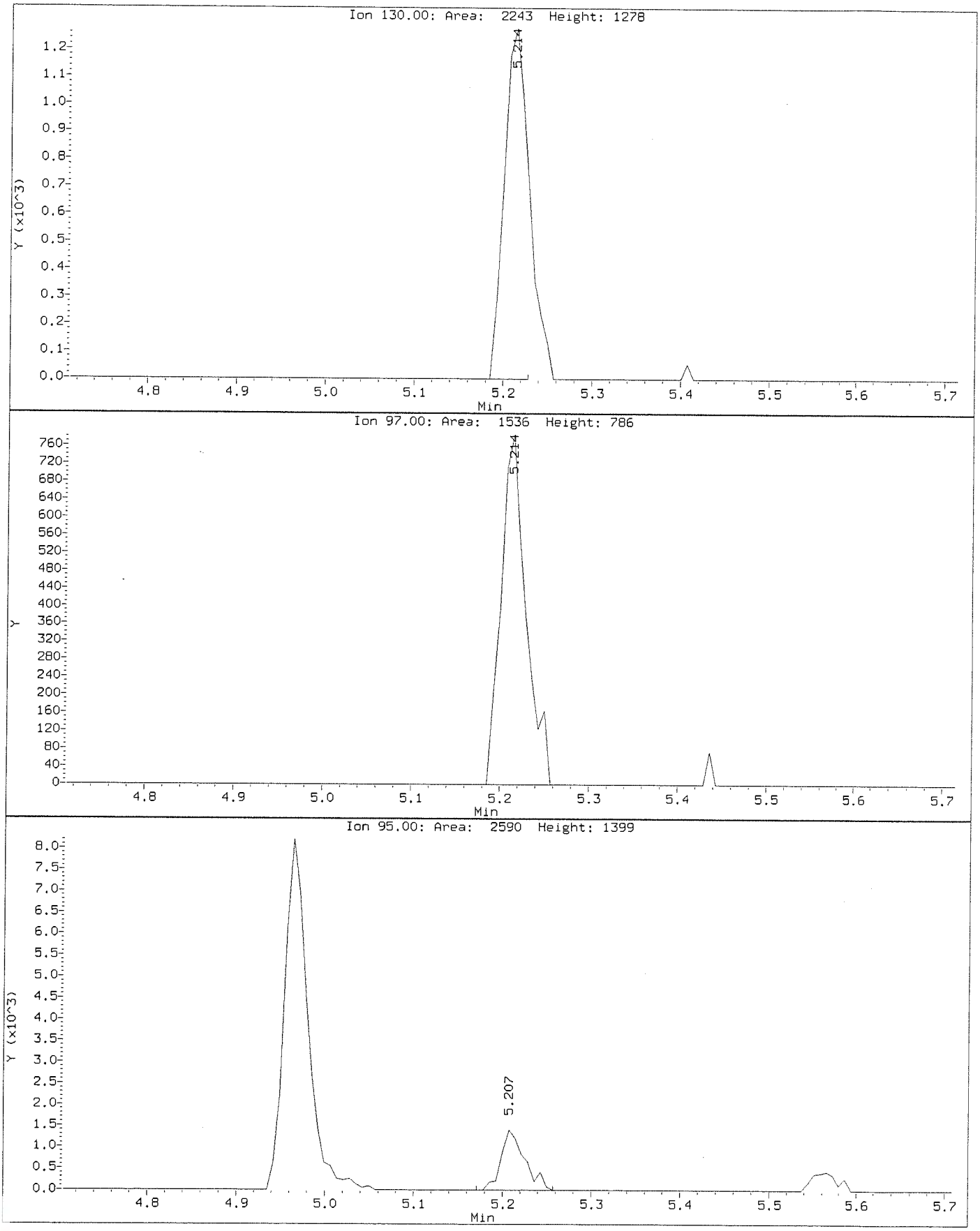
Data File: \\NAHSTWS005\Target\chem\voa6.i\X211008.b\Before\X100803.D
Injection Date: 08-OCT-2021 13:50
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: Trichloroethene
CAS Number: 79-01-6



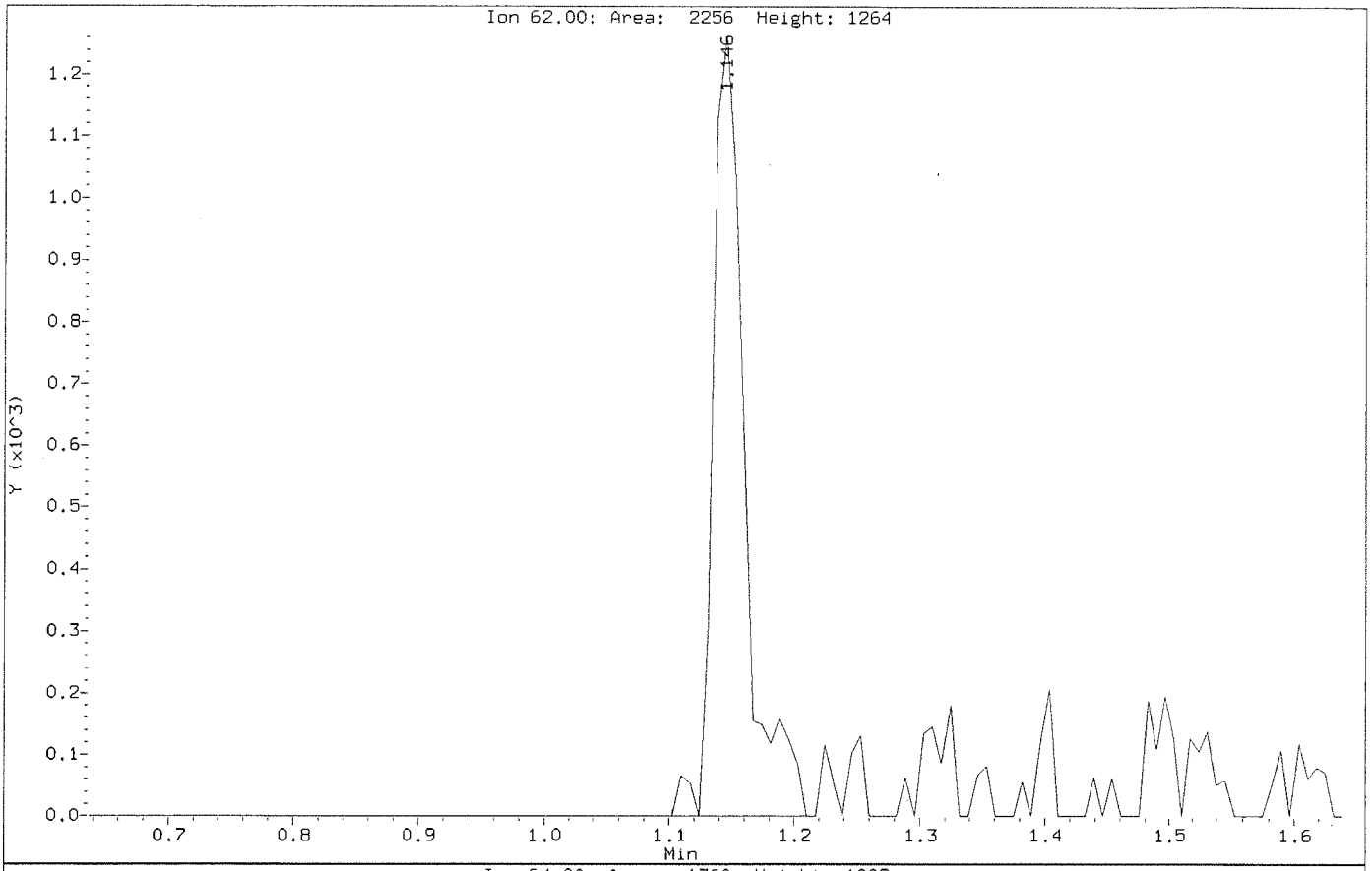
Data File: \\NAHSTWS005\Target\chem\voa6.i\X211008.b\X100803.D
Injection Date: 08-OCT-2021 13:50
Instrument: voa6.i
Client Sample ID: VSTD000.5

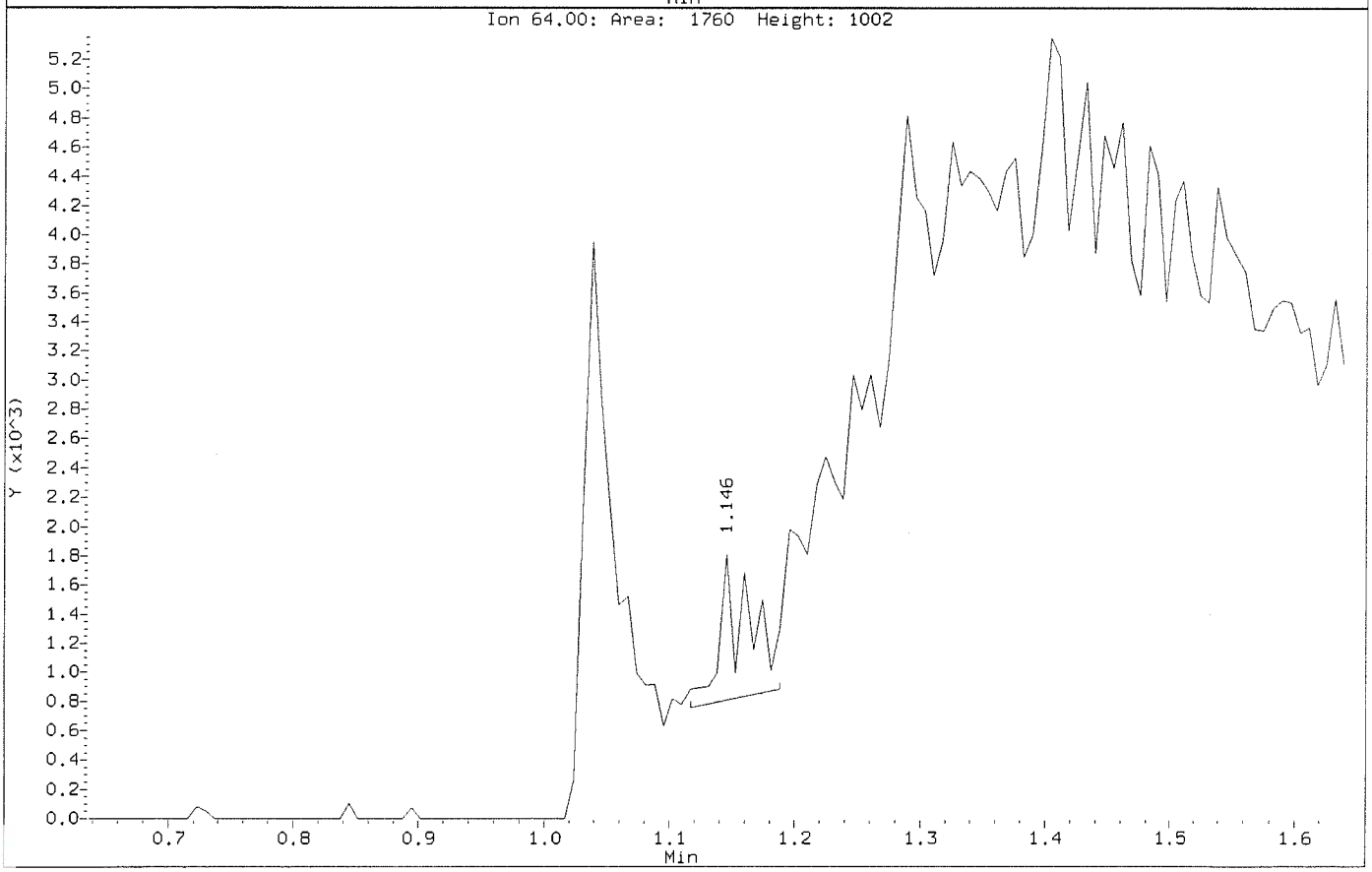
Compound: Trichloroethene
CAS Number: 79-01-6



Data File: \\NAHSTWS005\Target\chem\voa6.i\X211008.b\Before\X100B03.D
Injection Date: 08-OCT-2021 13:50
Instrument: voa6.i
Client Sample ID: VSTD000.5

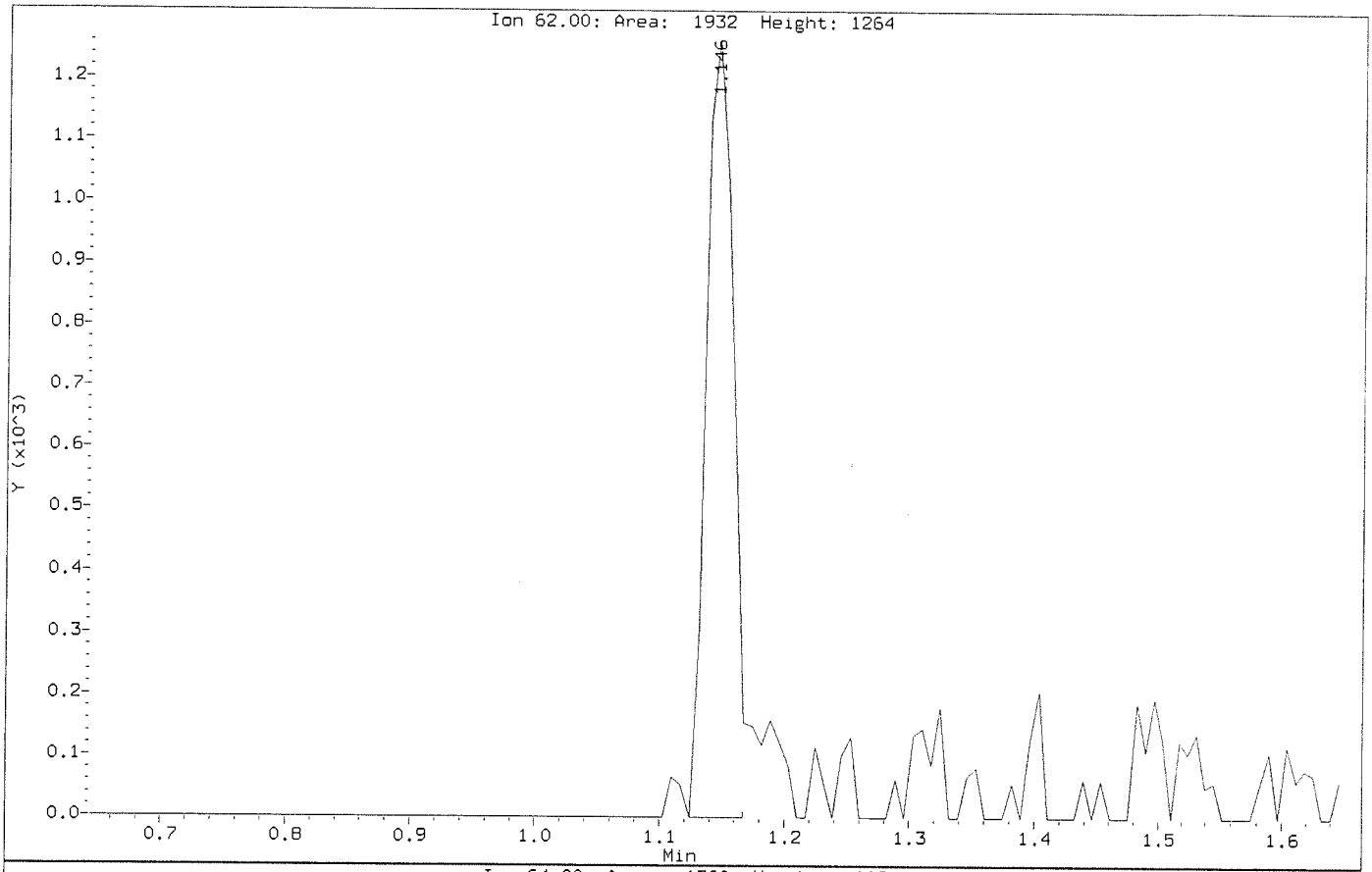
Compound: Vinyl Chloride
CAS Number: 75-01-4

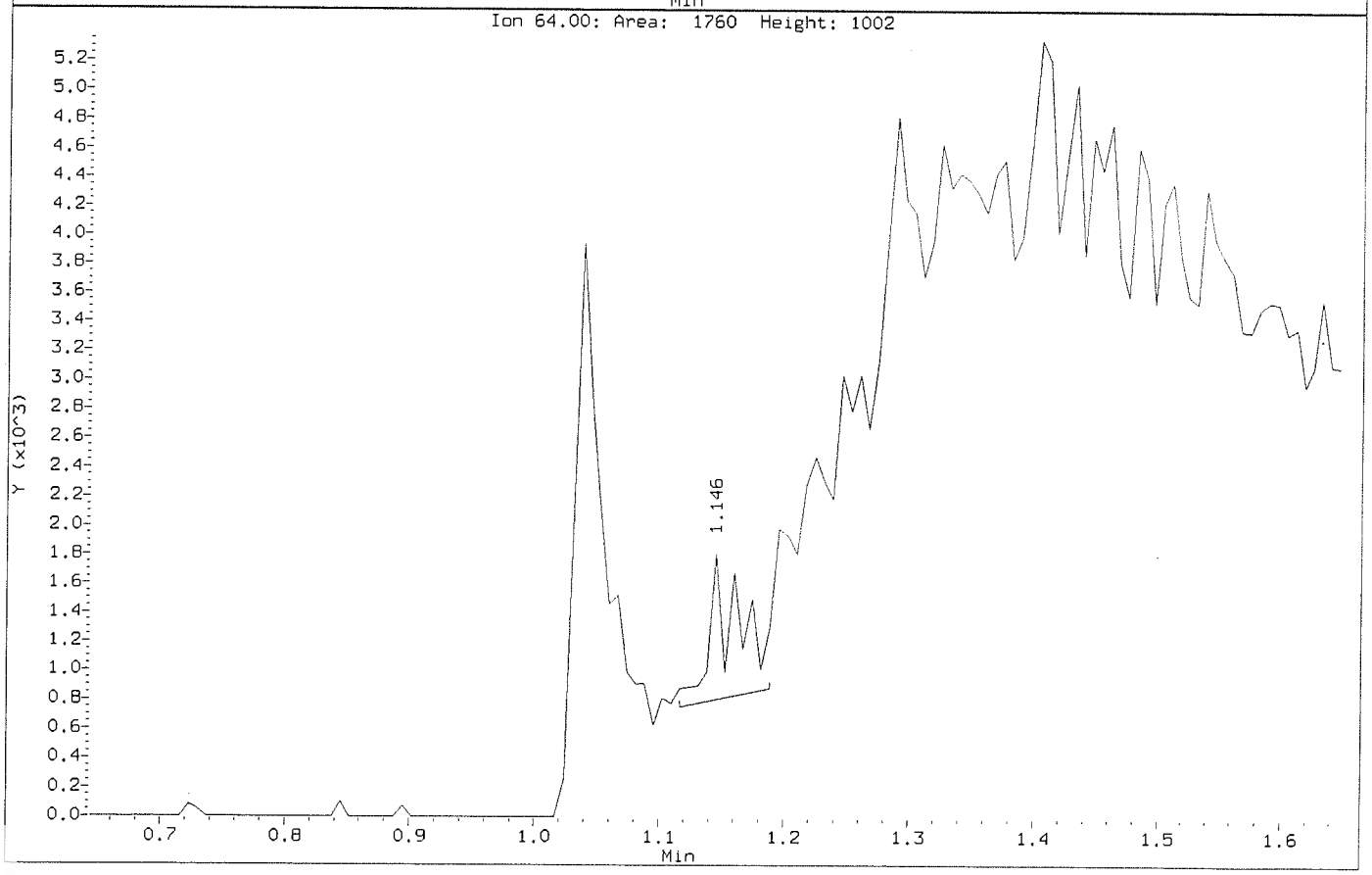




Data File: \\NAHSTWS005\Target\chem\voa6.i\X211008.b\X100803.D
Injection Date: 08-OCT-2021 13:50
Instrument: voa6.i
Client Sample ID: VSTD000.5

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





ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X211008.b\X100804.D
Lab Smp Id: VSTD001 Client Smp ID: VSTD001
Inj Date : 08-OCT-2021 14:11
Operator : PC Inst ID: voa6.i
Smp Info : VSTD001;VSTD001;1;3;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X211008.b\8260W.m
Meth Date : 16-Nov-2021 16:30 voa6.i Quant Type: ISTD
Cal Date : 08-OCT-2021 14:11 Cal File: X100804.D
Als bottle: 5 Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 01474-dod.sub
Target Version: 4.14
Processing Host: NAHSTW7017

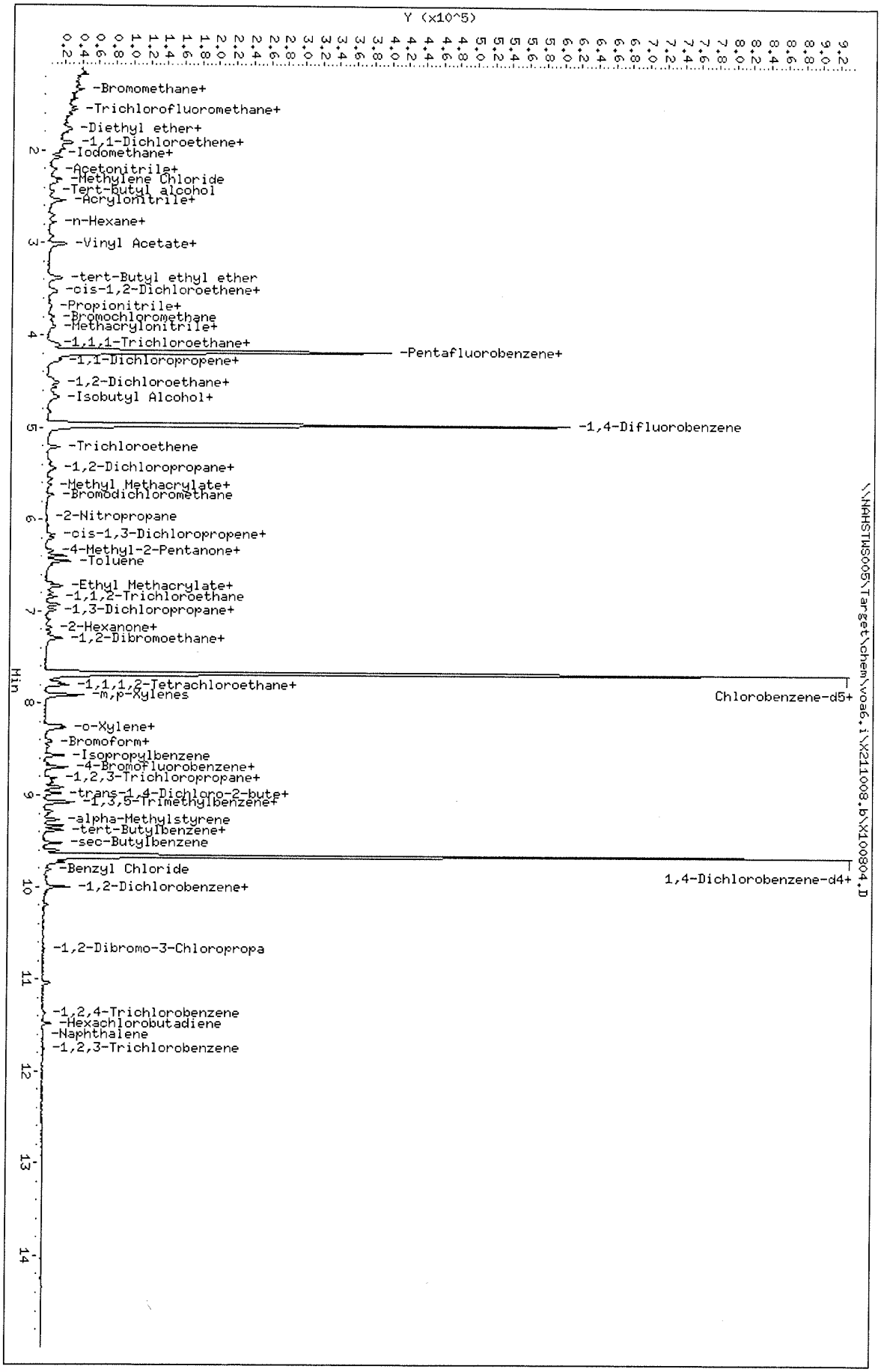
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

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

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	330851	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	4837	1.00000	0.38(a)
$ 35 1,2-Dichloroethane-d4	65	4.483	4.483	(1.072)	5961	1.00000	(a)
* 36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	510278	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	471635	50.0000	
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	13455	1.00000	1.12(aM)
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	8328	1.00000	0.70(a)
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	225436	50.0000	
5 Vinyl Chloride	62	1.145	1.145	(0.274)	3928	1.00000	1.13(aM)
11 1,1-Dichloroethene	96	1.912	1.912	(0.457)	3245	1.00000	1.09(a)
17 Methylene Chloride	84	2.313	2.313	(0.553)	4333	1.00000	0.27(aM)
27 cis-1,2-Dichloroethene	96	3.538	3.538	(0.846)	3601	1.00000	1.04(a)
33 1,2-Dichloroethane	62	4.562	4.562	(0.919)	4814	1.00000	1.12(a)
38 Trichloroethene	130	5.214	5.214	(1.051)	4864	1.00000	1.26(a)
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	2510	1.00000	0.99(a)

QC Flag Legend

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

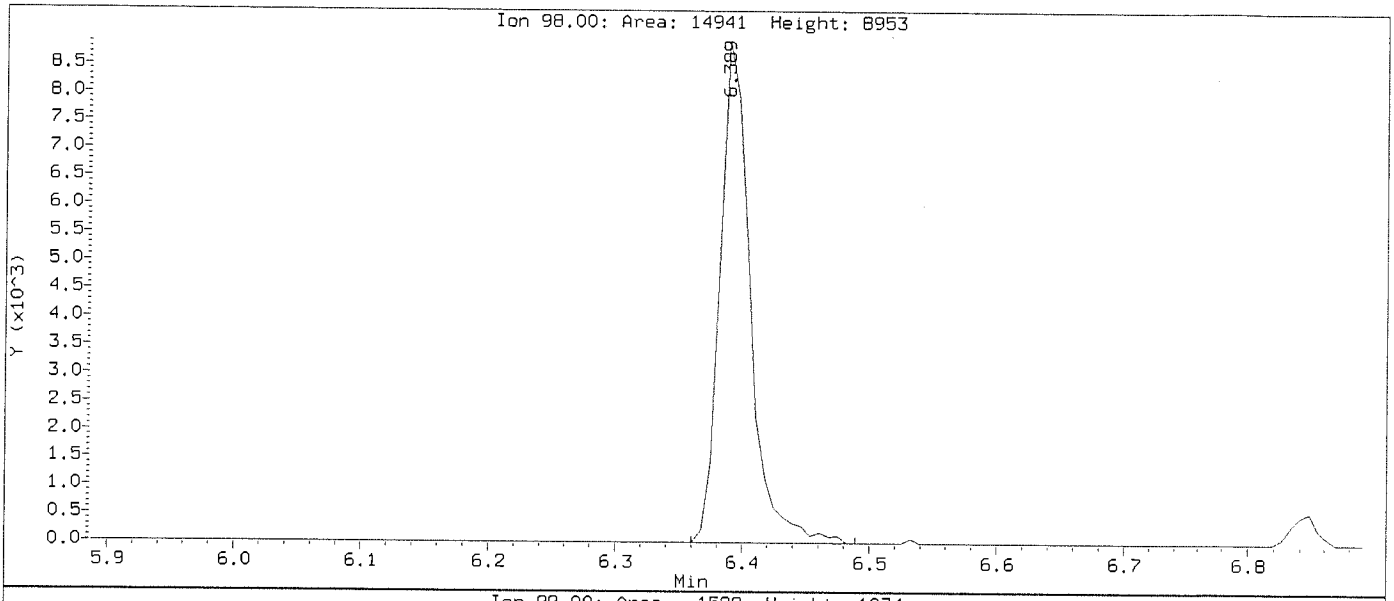


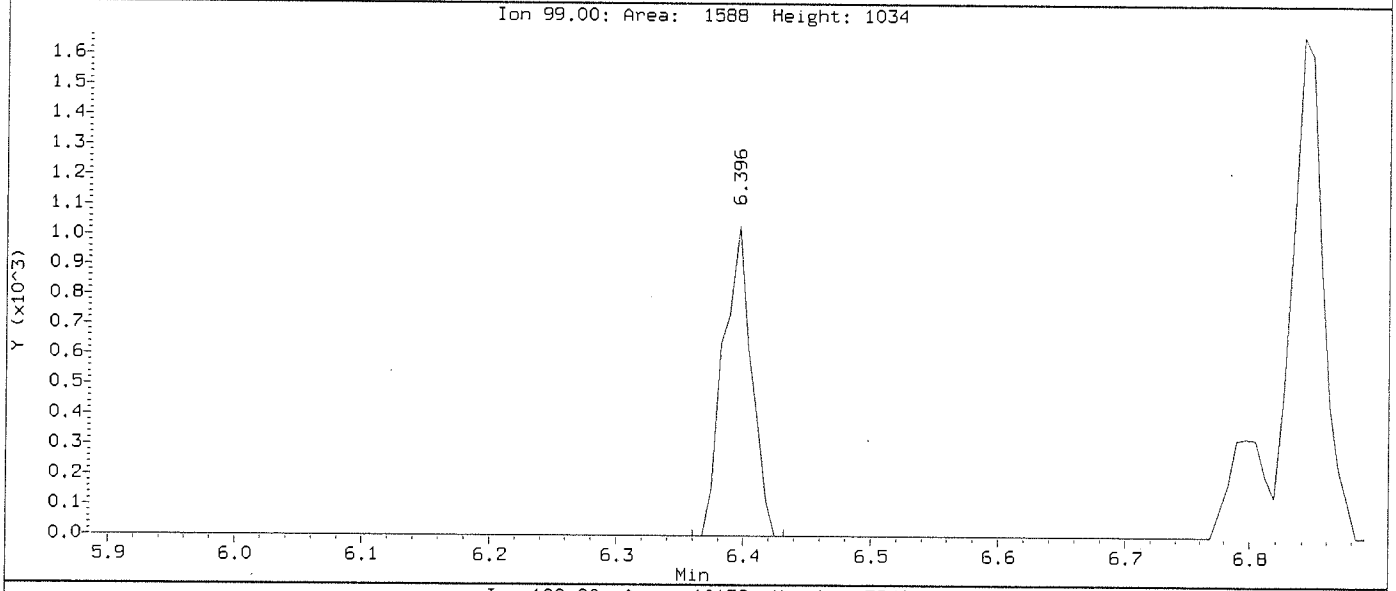
Data File: \\NAHSTWS005\Target\chem\voa6.i\X211008.b\X100804.D
Date : 08-OCT-2021 14:11
Client ID: VSTD001
Sample Info: VSTD001;VSTD001;1;3;;
Purge Volume: 5.0
Column phase: DB624

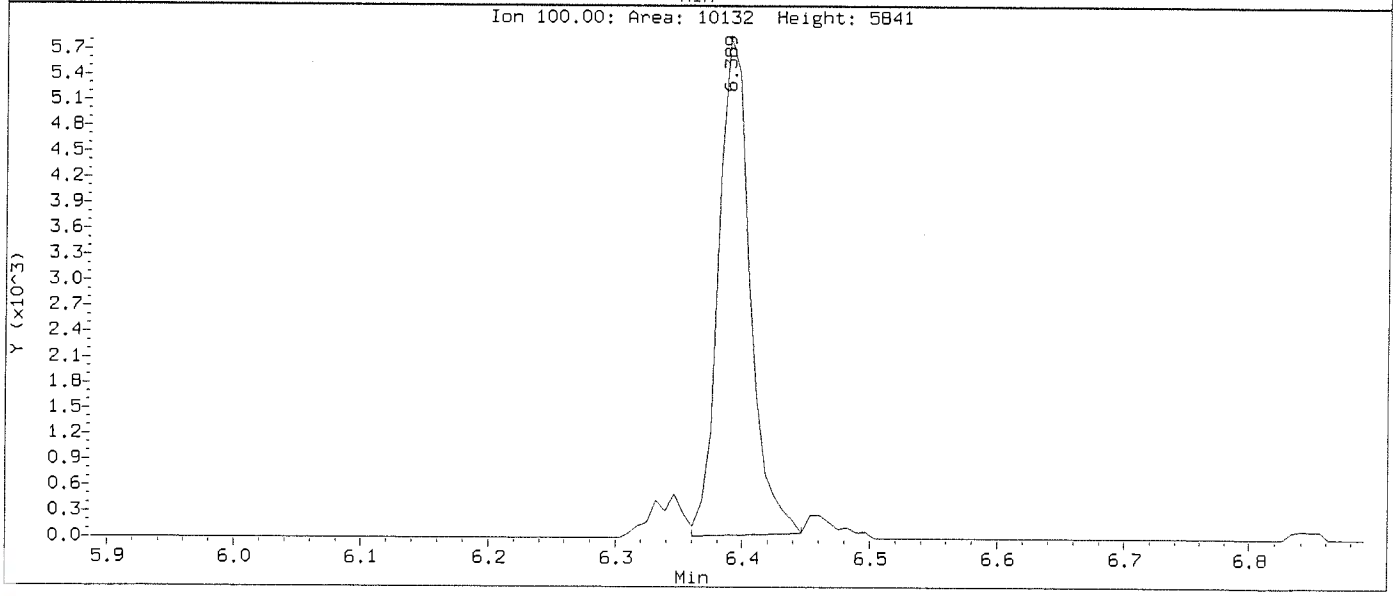
Instrument: voa6.i
Operator: PC
Column diameter: 0.18

Data File: \\NAHSTWS005\Target\chem\voa6.i\X211008.b\Before\X100804.D
Injection Date: 08-OCT-2021 14:11
Instrument: voa6.i
Client Sample ID: VSTD001

Compound: Toluene-d8
CAS Number: 2037-26-5

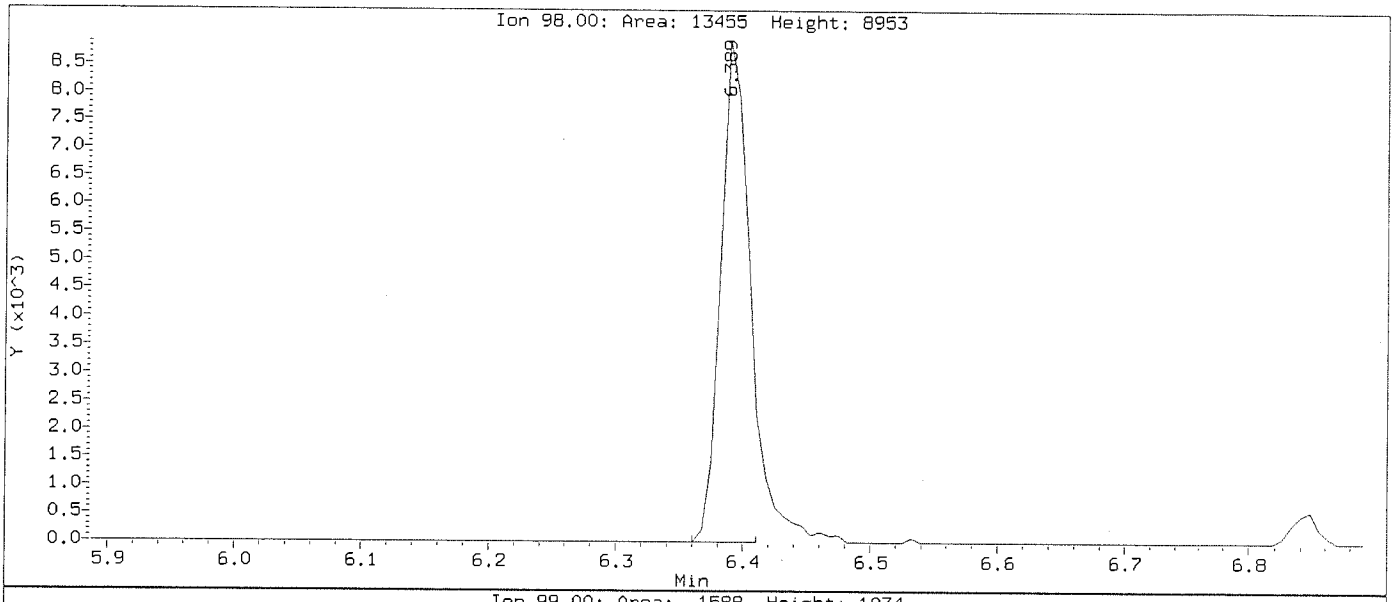


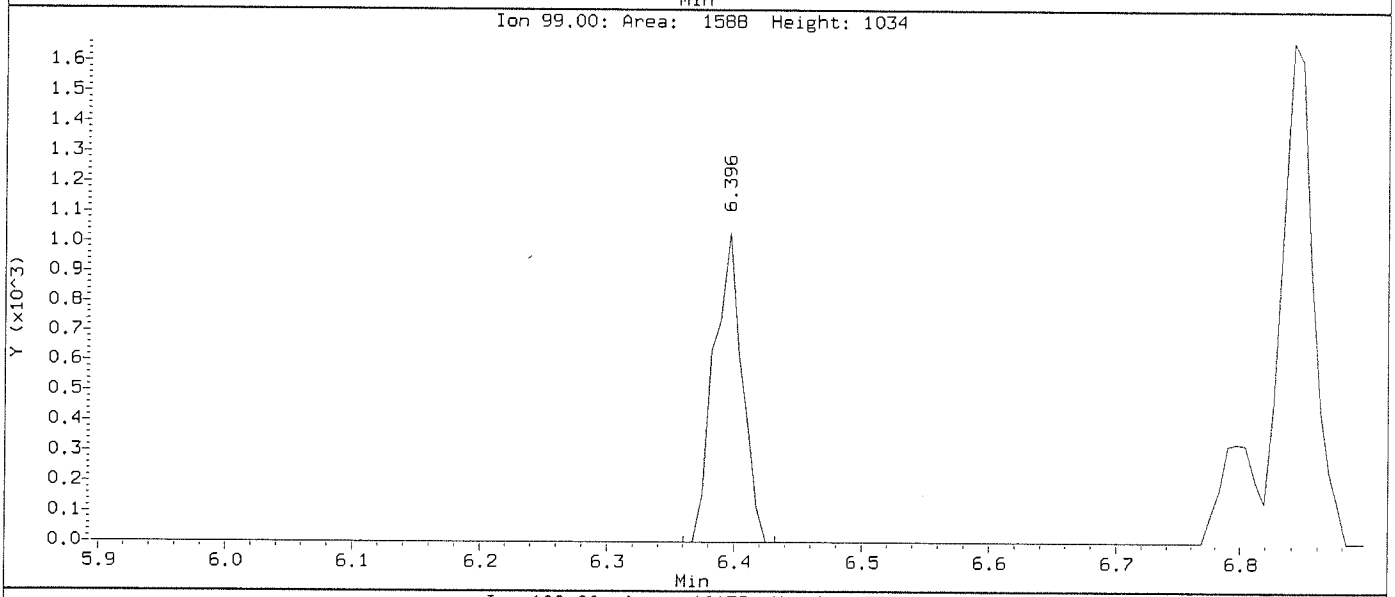


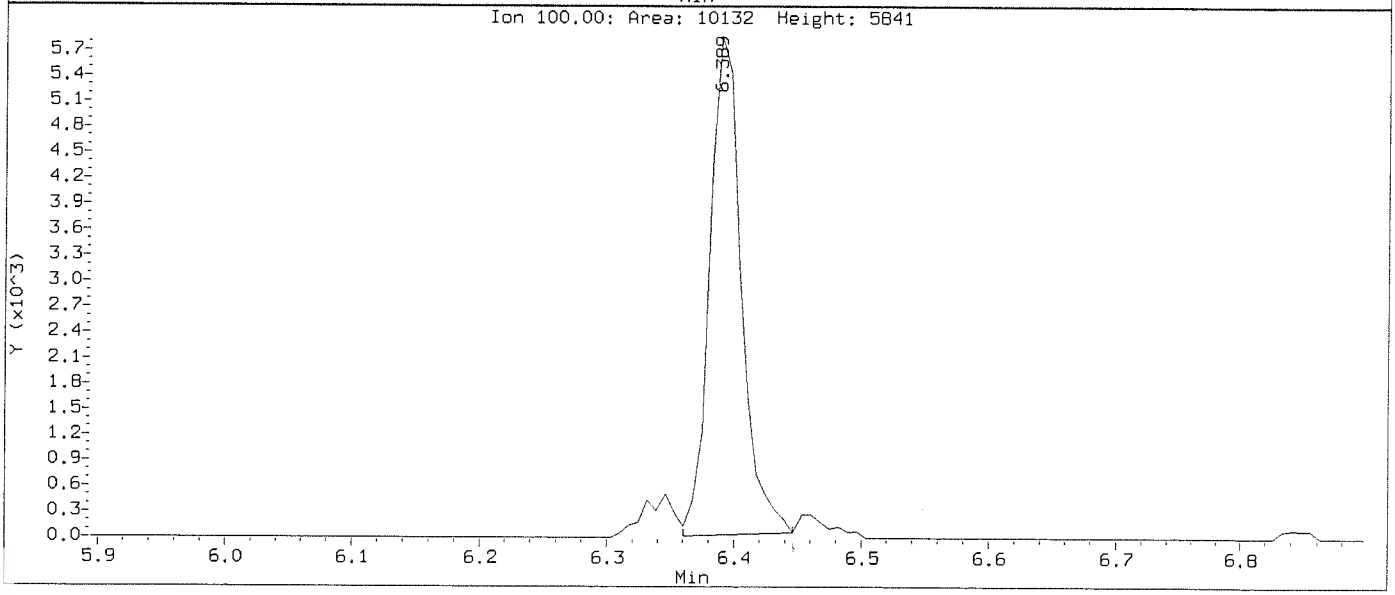


Data File: \\NAHSTWS005\Target\chem\voa6.i\X211008.b\X100804.D
Injection Date: 08-OCT-2021 14:11
Instrument: voa6.i
Client Sample ID: VSTD001

Compound: Toluene-d8
CAS Number: 2037-26-5

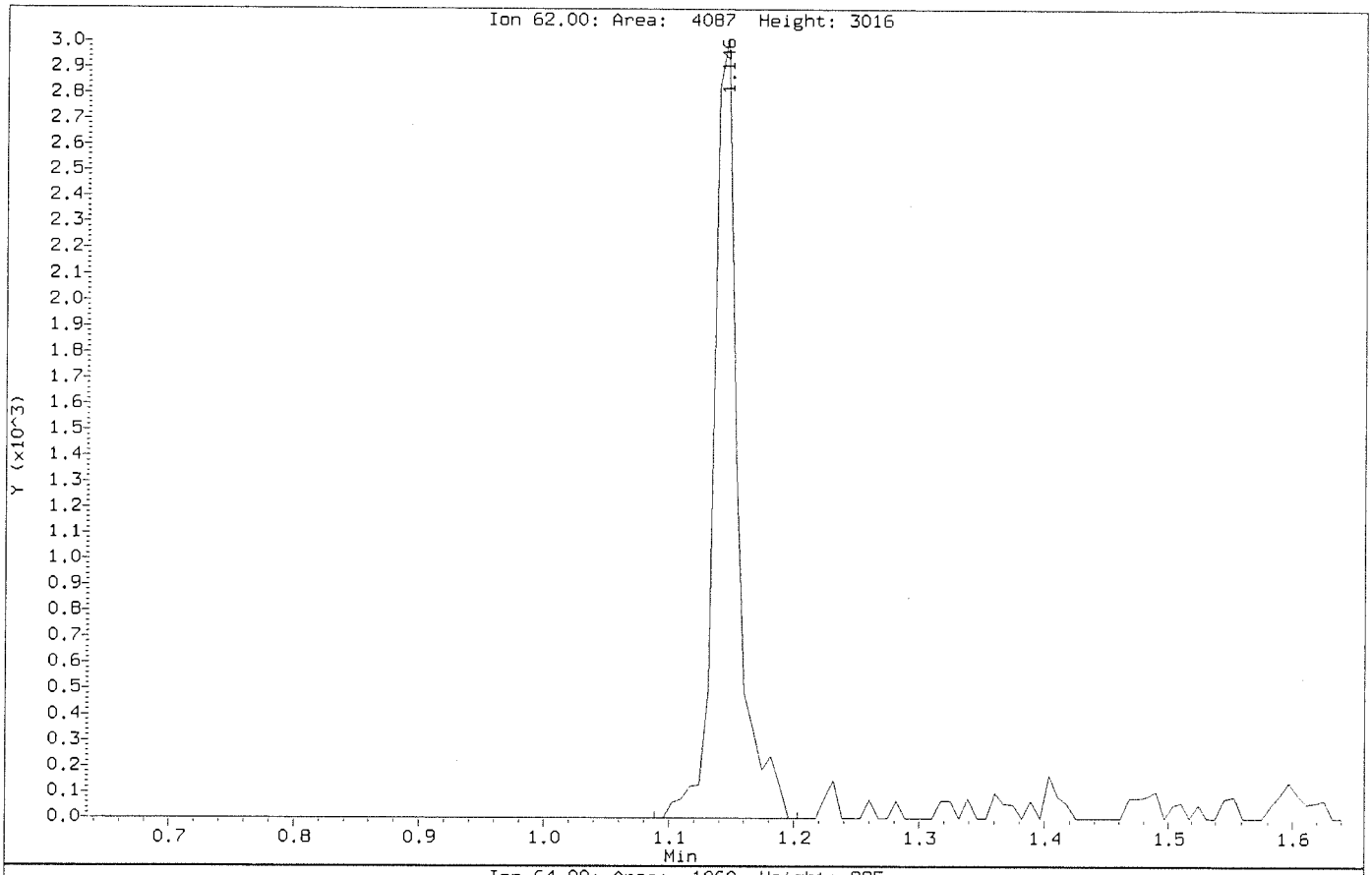


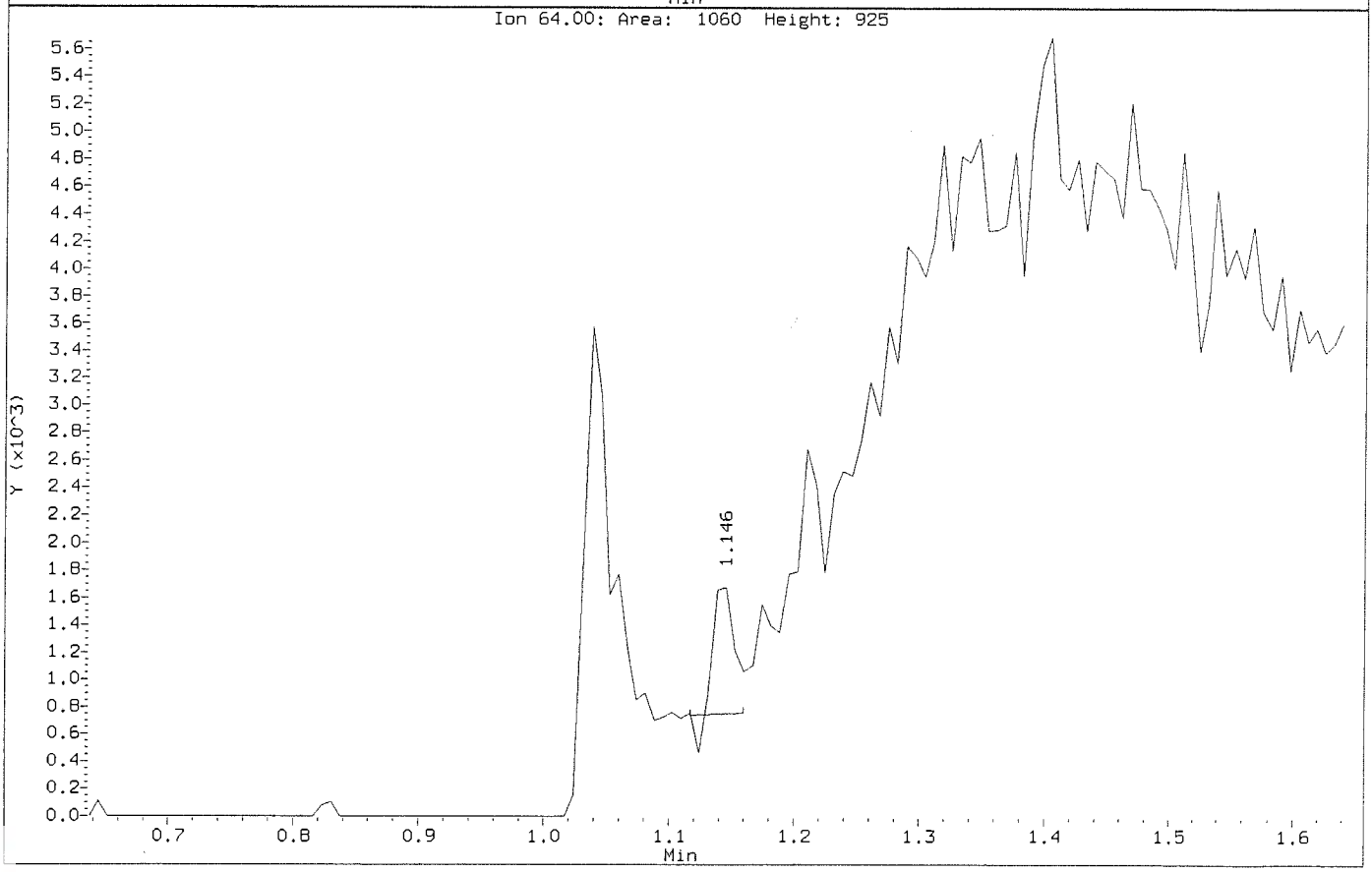




Data File: \\NAHSTWS005\Target\chem\voa6.i\X211008.b\Before\X100804.D
Injection Date: 08-OCT-2021 14:11
Instrument: voa6.i
Client Sample ID: VSTD001

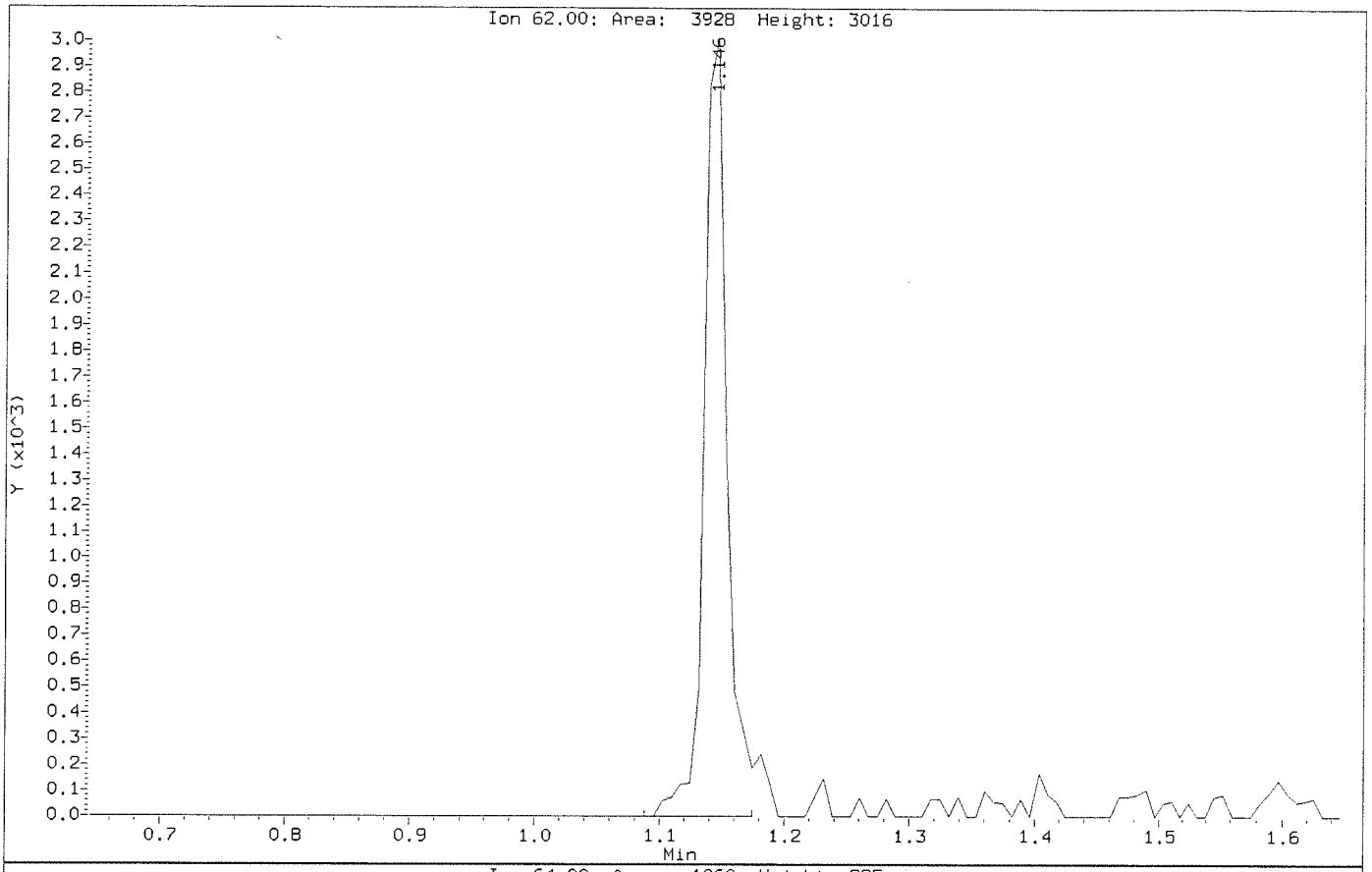
Compound: Vinyl Chloride
CAS Number: 75-01-4

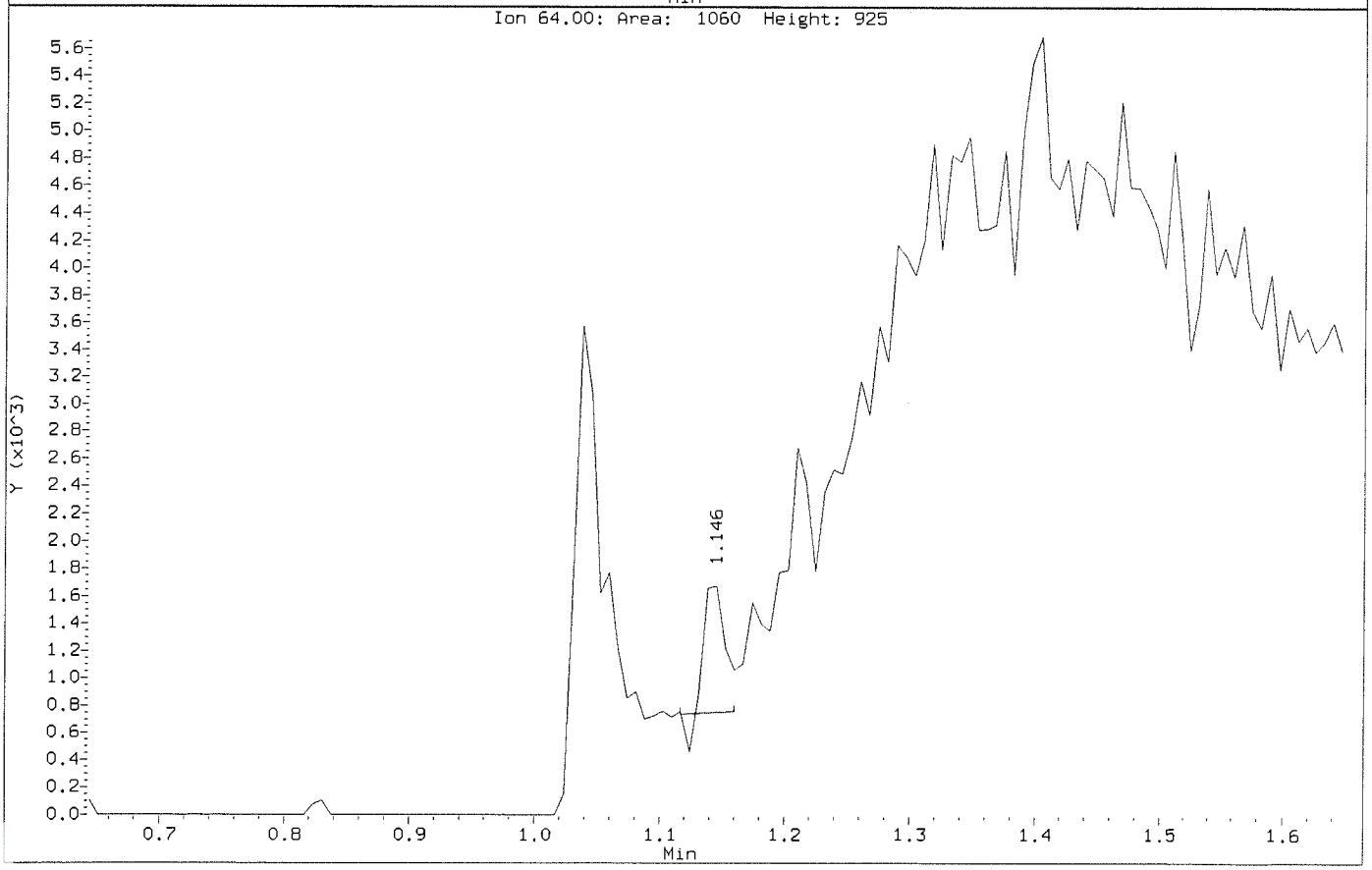




Data File: \\NAHSTWS005\Target\chem\voa6.i\X211008.b\X100804.D
Injection Date: 08-OCT-2021 14:11
Instrument: voa6.i
Client Sample ID: VSTD001

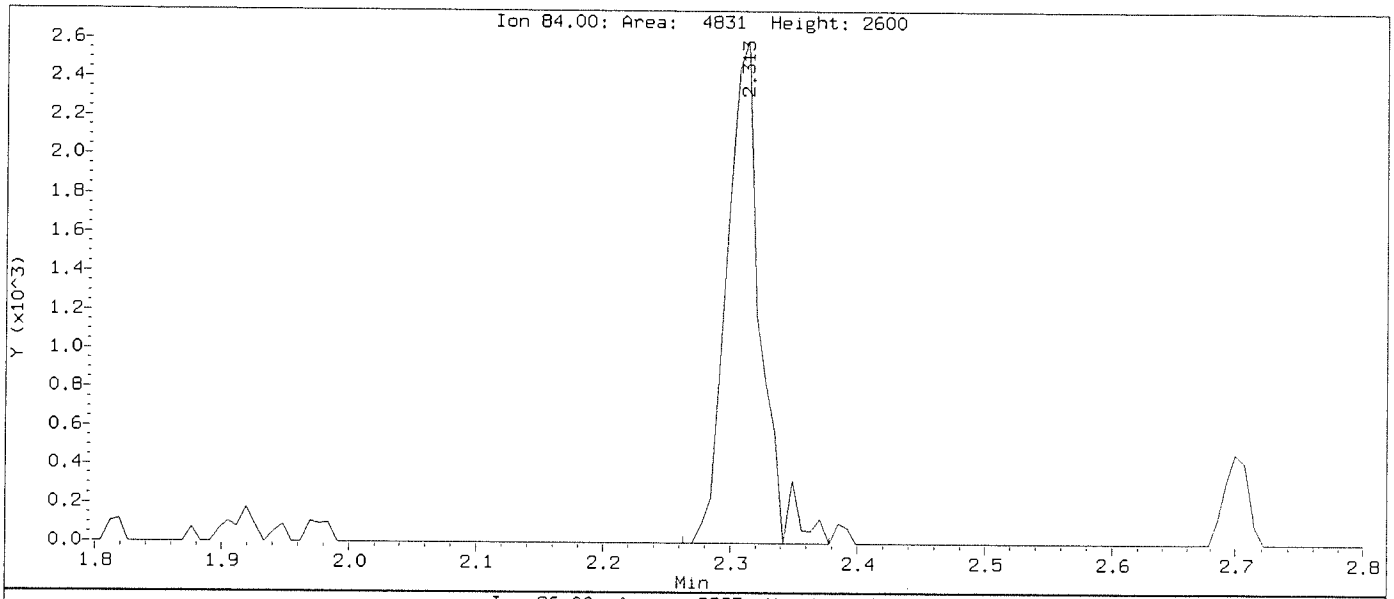
Compound: Vinyl Chloride
CAS Number: 75-01-4

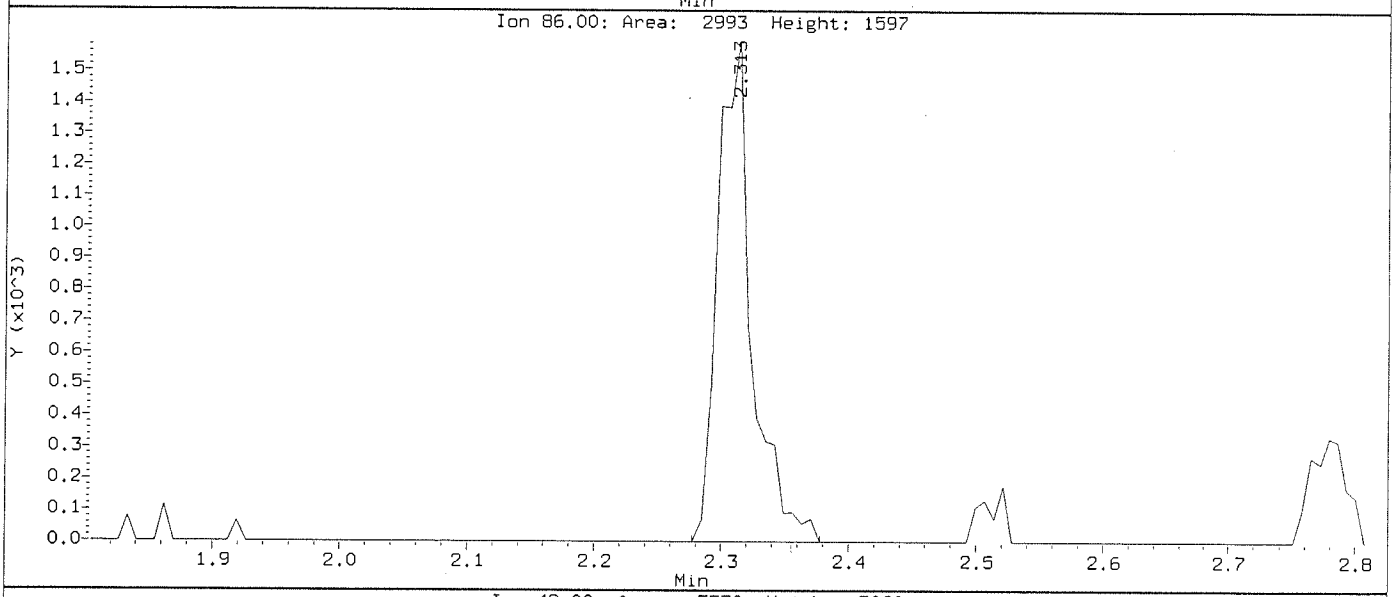


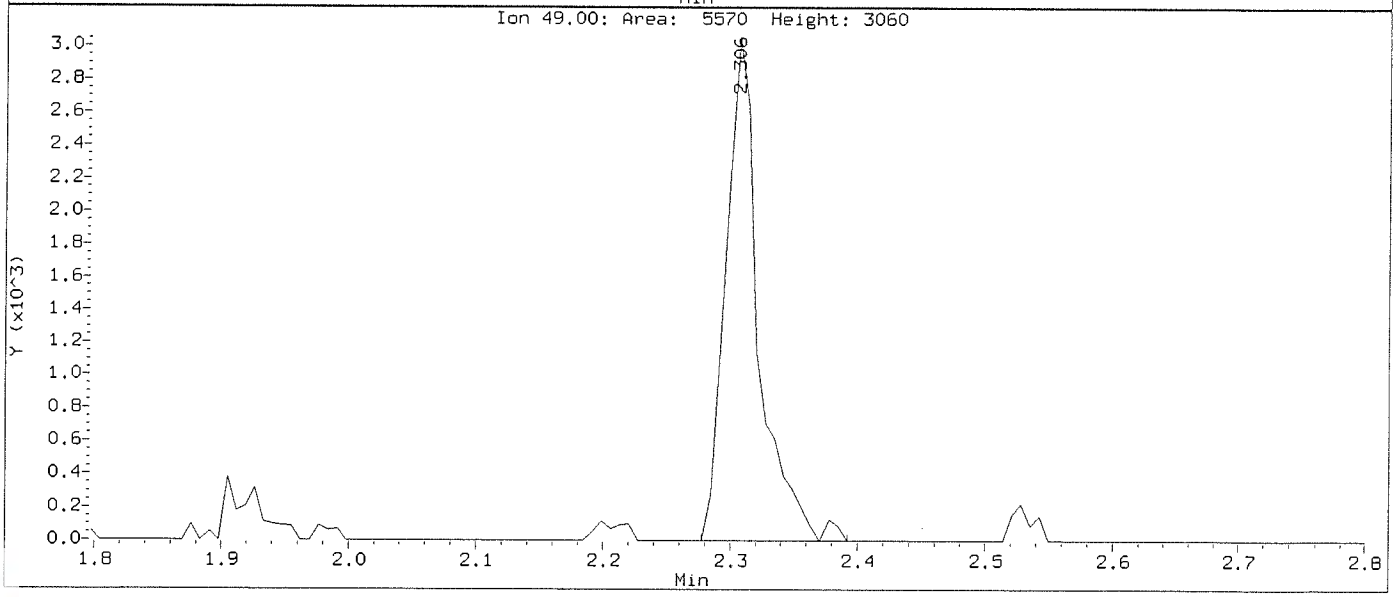


Data File: \\NAHSTWS005\Target\chem\voa6.i\X211008.b\Before\X100804.D
Injection Date: 08-OCT-2021 14:11
Instrument: voa6.i
Client Sample ID: VSTD001

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

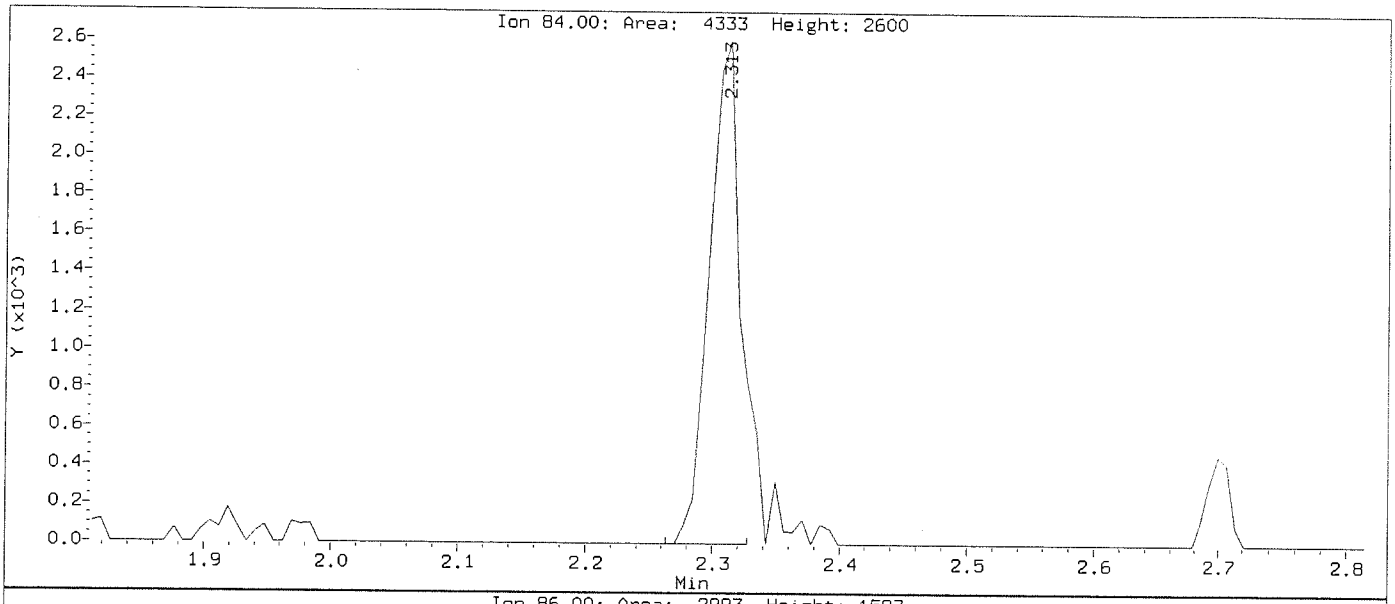


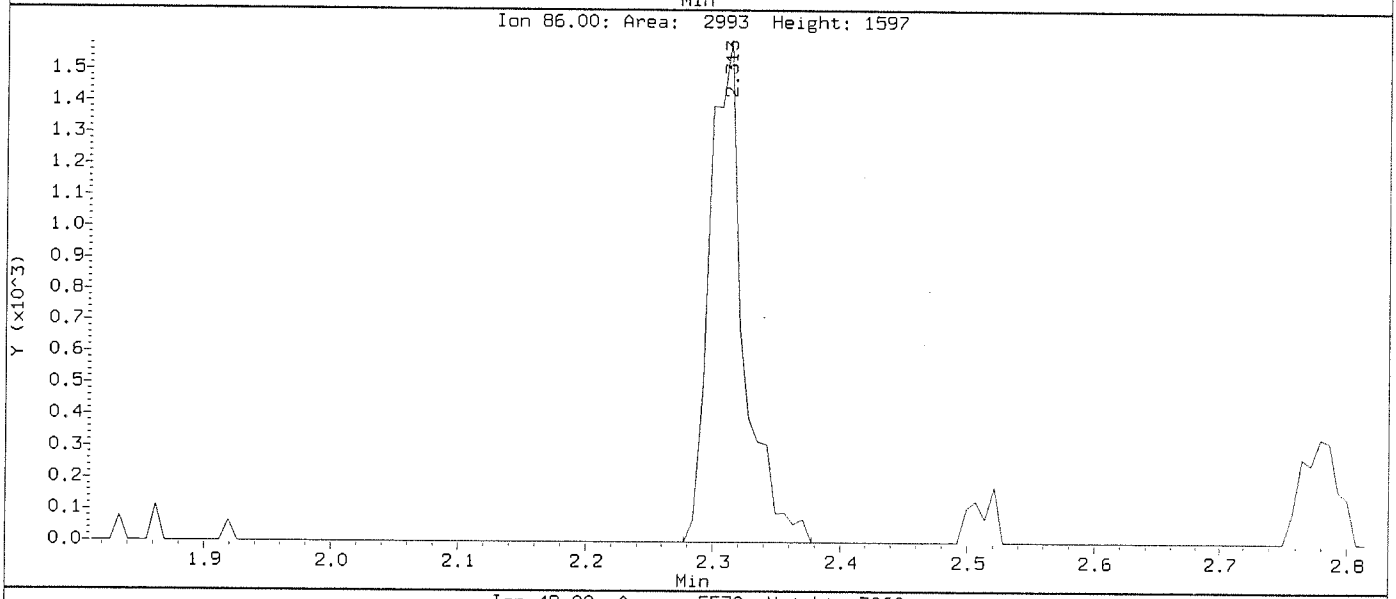


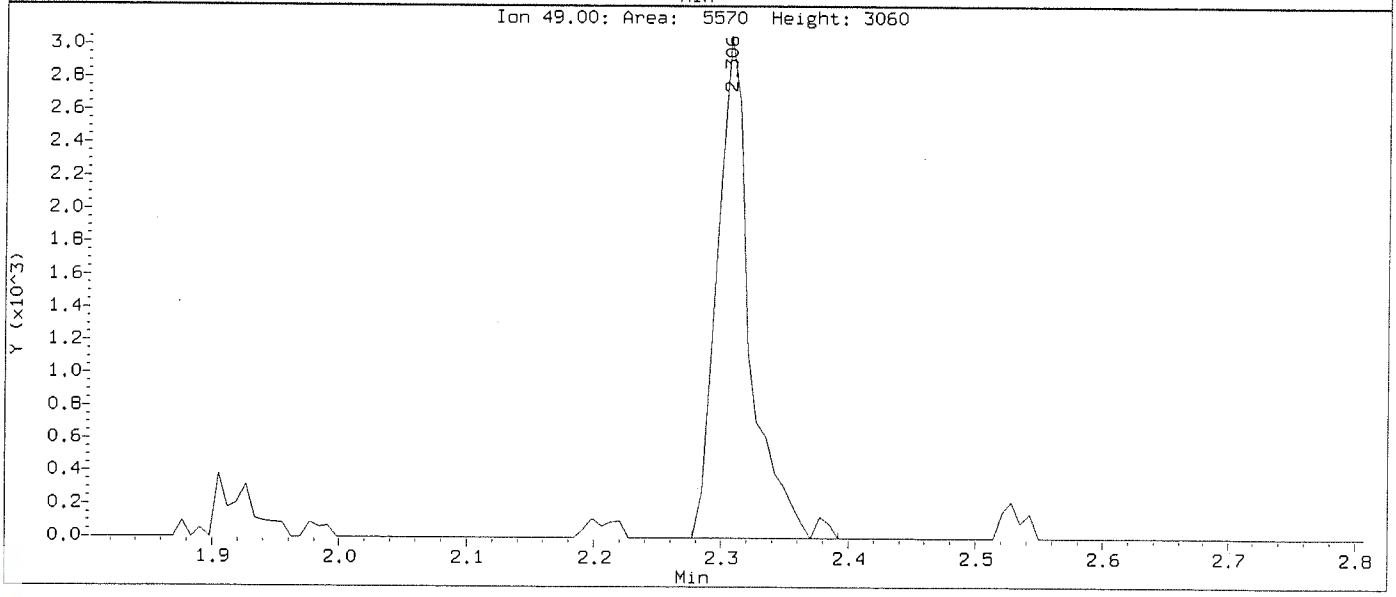


Data File: \\NAHSTWS005\Target\chem\voa6.i\X211008.b\X100804.D
Injection Date: 08-OCT-2021 14:11
Instrument: voa6.i
Client Sample ID: VSTD001

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







Data File: \\NAHSTWS005\Target\chem\voa6.i\X211008.b\X100805.D Page 1
Report Date: 16-Nov-2021 15:51

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X211008.b\X100805.D
Lab Smp Id: VSTD002 Client Smp ID: VSTD002
Inj Date : 08-OCT-2021 14:32
Operator : PC Inst ID: voa6.i
Smp Info : VSTD002;VSTD002;1;4;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X211008.b\8260W.m
Meth Date : 16-Nov-2021 15:51 voa6.i Quant Type: ISTD
Cal Date : 08-OCT-2021 14:11 Cal File: X100804.D
Als bottle: 6 Calibration Sample, Level: 4
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 01474-dod.sub
Target Version: 4.14
Processing Host: NAHSTW7017

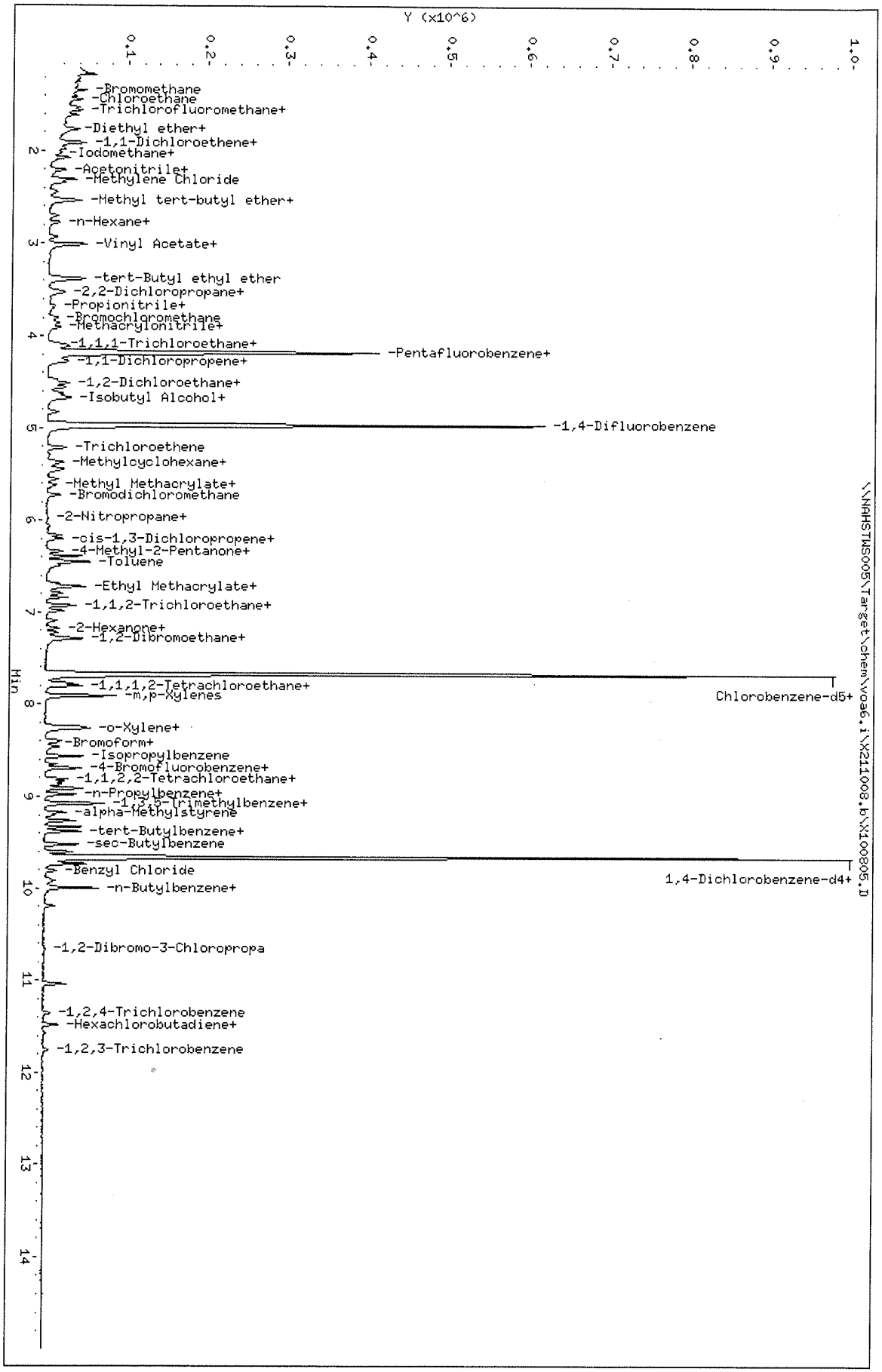
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

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

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	337388	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	8290	2.00000	1.41(a)
$ 35 1,2-Dichloroethane-d4	65	4.483	4.483	(1.072)	9717	2.00000	0.97(a)
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	523249	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	483928	50.0000	
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	26169	2.00000	2.13(aM)
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	13893	2.00000	2.00(a)
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	230329	50.0000	
5 Vinyl Chloride	62	1.145	1.145	(0.274)	7904	2.00000	2.23(a)
11 1,1-Dichloroethene	96	1.919	1.919	(0.459)	6379	2.00000	2.11(a)
17 Methylene Chloride	84	2.305	2.305	(0.551)	7762	2.00000	1.43(a)
27 cis-1,2-Dichloroethene	96	3.537	3.537	(0.846)	7524	2.00000	2.14(a)
33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	9049	2.00000	2.06(a)
38 Trichloroethene	130	5.214	5.214	(1.049)	8221	2.00000	2.07(a)
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	6097	2.00000	2.36(a)

QC Flag Legend

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

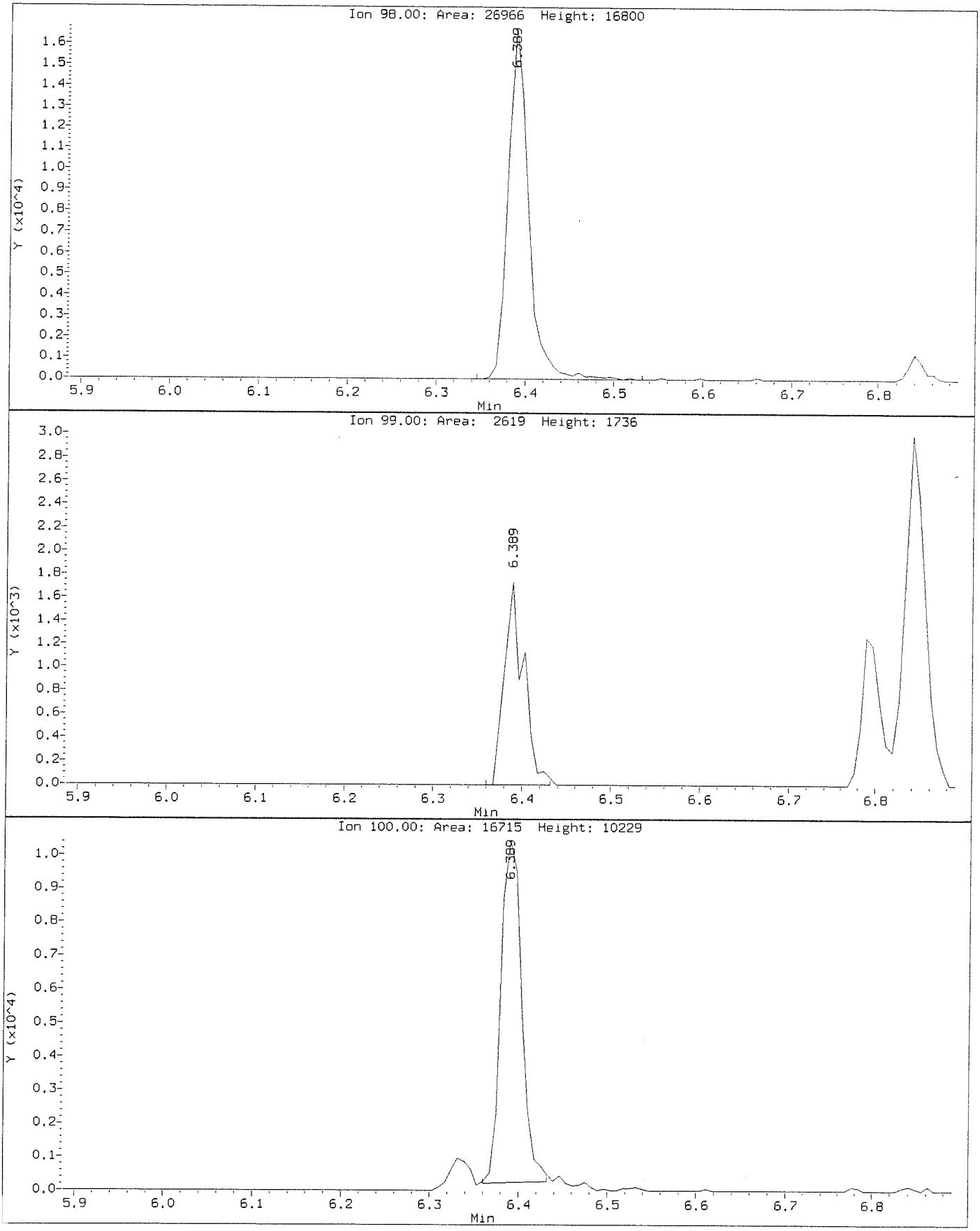


Data File: \\NAHSTWS005\Target\chem\voa6.i\X211008.b\X100805.D
Date : 08-OCT-2021 14:32
Client ID: VSTD002
Sample Info: VSTD002;VSTD002;1;4;;
Purge Volume: 5.0
Column phase: DB624

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

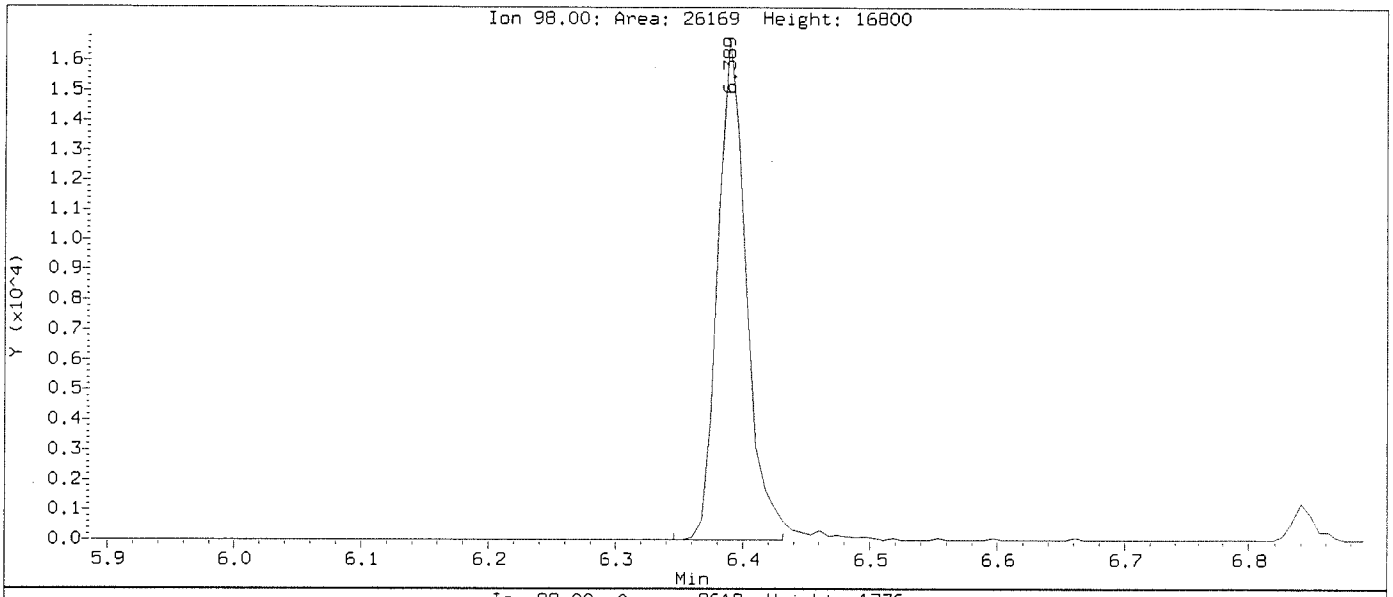
Data File: \\NAHSTWS005\Target\chem\voa6.i\X211008.b\Before\X100805.D
Injection Date: 08-OCT-2021 14:32
Instrument: voa6.i
Client Sample ID: VSTD002

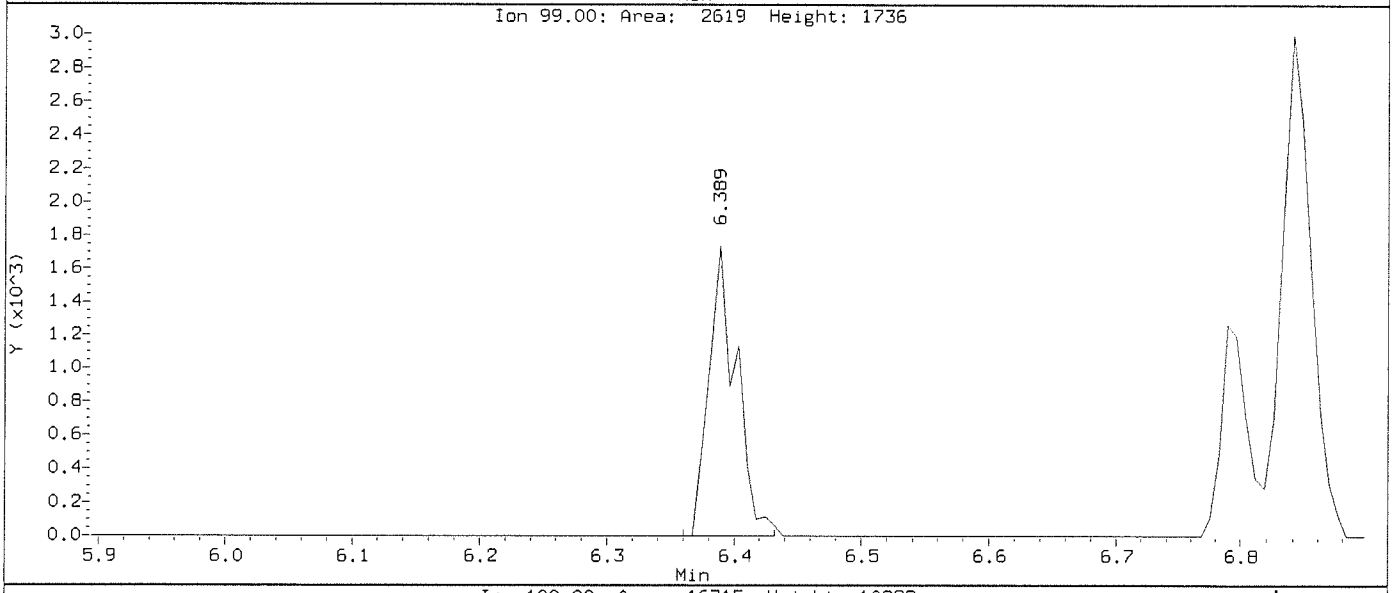
Compound: Toluene-d8
CAS Number: 2037-26-5

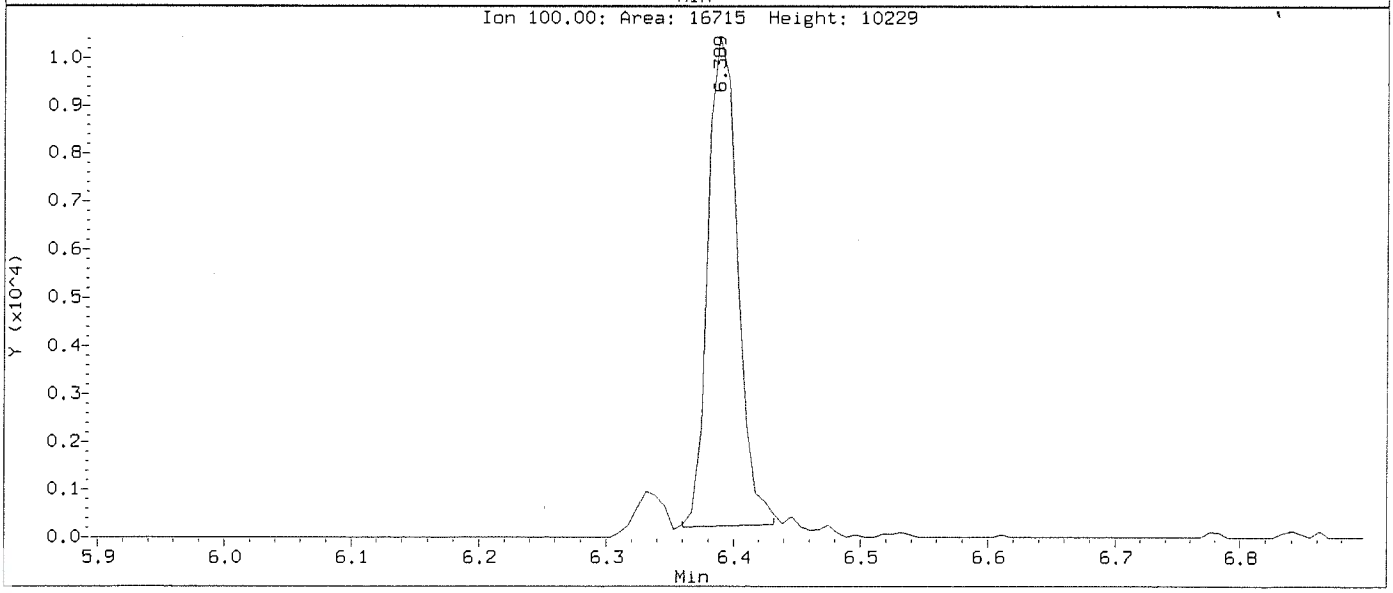


Data File: \\NAHSTWS005\Target\chem\voa6.i\X211008.b\X100805.D
Injection Date: 08-OCT-2021 14:32
Instrument: voa6.i
Client Sample ID: VSTD002

Compound: Toluene-d8
CAS Number: 2037-26-5







ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X211008.b\X100806.D
Lab Smp Id: VSTD005 Client Smp ID: VSTD005
Inj Date : 08-OCT-2021 14:53
Operator : PC Inst ID: voa6.i
Smp Info : VSTD005;VSTD005;1;5;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X211008.b\8260W.m
Meth Date : 16-Nov-2021 15:51 voa6.i Quant Type: ISTD
Cal Date : 08-OCT-2021 14:32 Cal File: X100805.D
Als bottle: 7 Calibration Sample, Level: 5
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 01474-dod.sub
Target Version: 4.14
Processing Host: NAHSTW7017

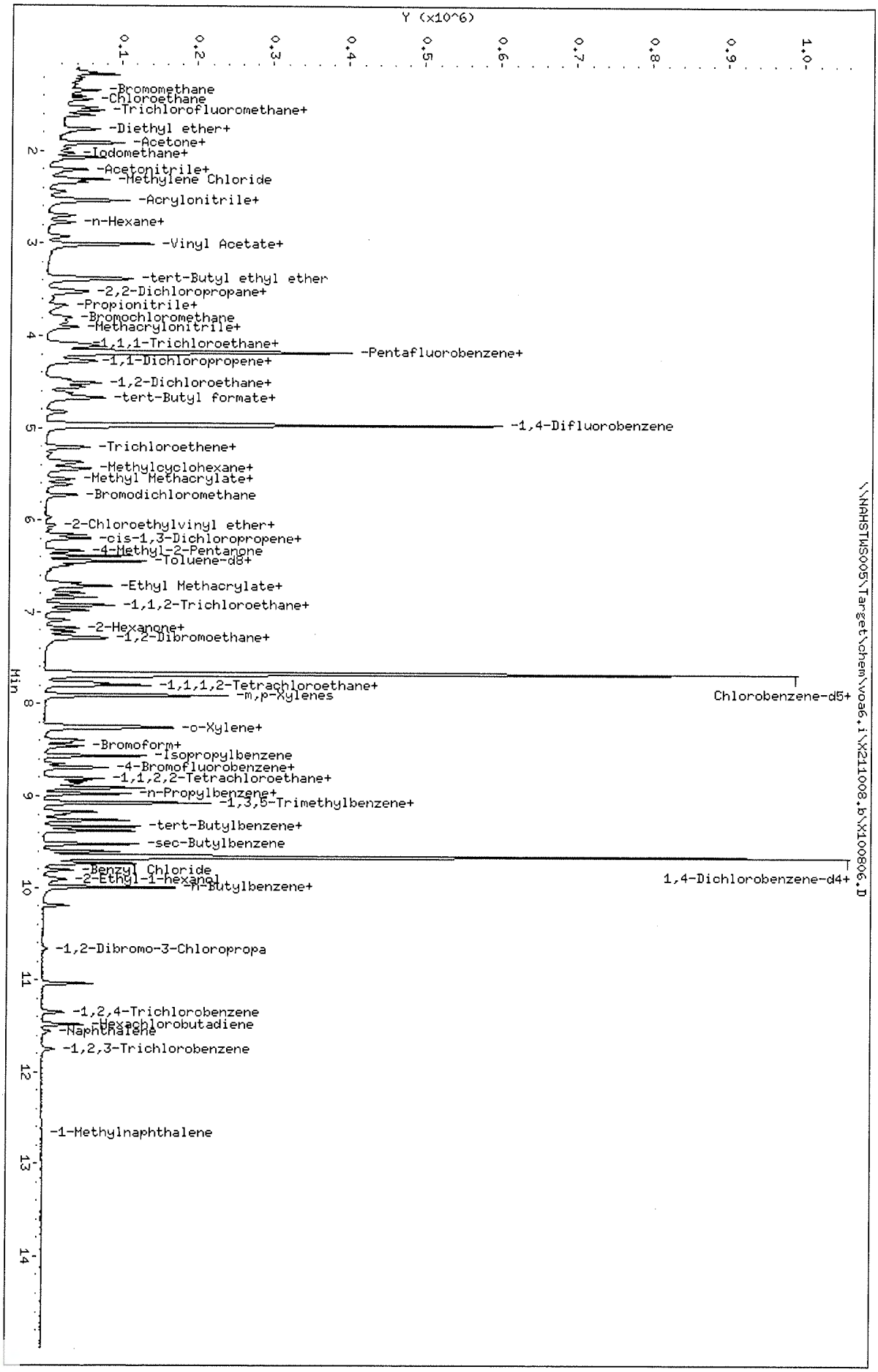
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

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

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
*	1 Pentafluorobenzene	168	4.182	4.182	(1.000)	333400	50.0000	
$	30 Dibromofluoromethane	113	4.103	4.103	(0.981)	20676	5.00000	5.32
$	35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	22194	5.00000	4.92(a)
*	36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	515627	50.0000	
*	47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	479811	50.0000	
$	48 Toluene-d8	98	6.388	6.388	(0.833)	65046	5.00000	5.34
$	69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	24945	5.00000	4.74(a)
*	70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	229555	50.0000	
	5 Vinyl Chloride	62	1.145	1.145	(0.274)	20005	5.00000	5.72
	11 1,1-Dichloroethene	96	1.911	1.911	(0.457)	16670	5.00000	5.60
	17 Methylene Chloride	84	2.305	2.305	(0.551)	19276	5.00000	5.52
	27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	19489	5.00000	5.62
	33 1,2-Dichloroethane	62	4.562	4.562	(0.919)	23534	5.00000	5.44
	38 Trichloroethene	130	5.206	5.206	(1.049)	20177	5.00000	5.17
	53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	14434	5.00000	5.63

QC Flag Legend

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



Data File: \\NAHSTWS005\Target\chem\voa6.i\X211008.b\X100806.D
Date : 08-OCT-2021 14:53
Client ID: VSTD005
Sample Info: VSTD005;VSTD005i1;5;;
Purge Volume: 5.0
Column phase: DB624

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

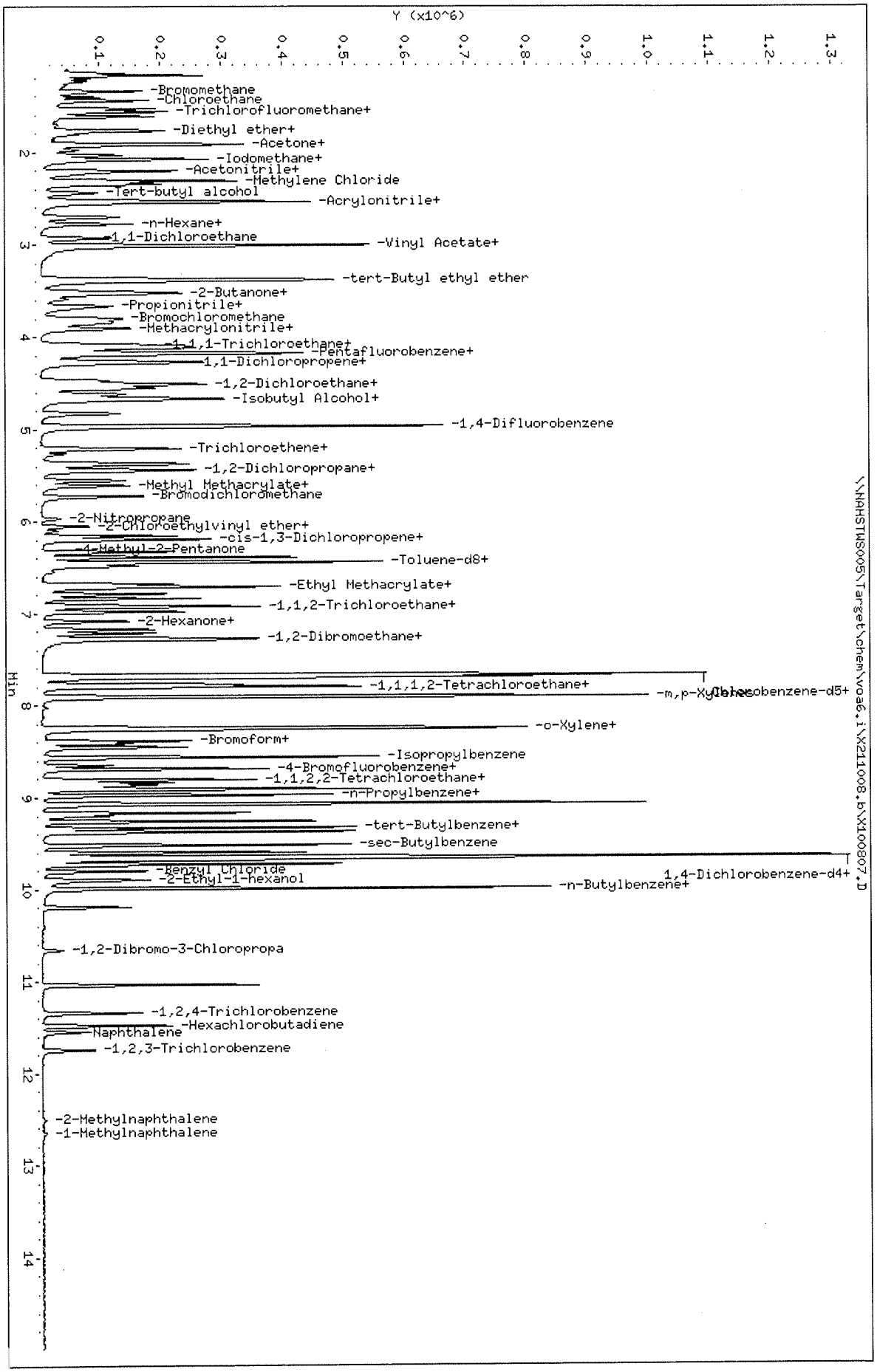
ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X211008.b\X100807.D
Lab Smp Id: VSTD020 Client Smp ID: VSTD020
Inj Date : 08-OCT-2021 15:14
Operator : PC Inst ID: voa6.i
Smp Info : VSTD020;VSTD020;1;6;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X211008.b\8260W.m
Meth Date : 16-Nov-2021 15:51 voa6.i Quant Type: ISTD
Cal Date : 08-OCT-2021 14:53 Cal File: X100806.D
Als bottle: 8 Calibration Sample, Level: 6
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 01474-dod.sub
Target Version: 4.14
Processing Host: NAHSTW7017

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

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

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	359250	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	78657	20.0000	21.67
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	84053	20.0000	22.43
* 36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	552025	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	521772	50.0000	
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	248228	20.0000	18.74
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	96265	20.0000	20.33
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	270684	50.0000	
5 Vinyl Chloride	62	1.145	1.145	(0.274)	73837	20.0000	19.60
11 1,1-Dichloroethene	96	1.912	1.912	(0.457)	63174	20.0000	19.71
17 Methylene Chloride	84	2.306	2.306	(0.551)	70665	20.0000	21.85
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	77585	20.0000	20.77
33 1,2-Dichloroethane	62	4.555	4.555	(0.918)	94822	20.0000	20.47
38 Trichloroethene	130	5.207	5.207	(1.049)	78065	20.0000	18.69
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	53753	20.0000	19.30



Data File: \\NAHSTWS005\Target\chem\voa6.i\X211008.b\X100807.D
Date : 08-OCT-2021 15:14
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\X211008.b\X100808.D Page 1
Report Date: 16-Nov-2021 15:51

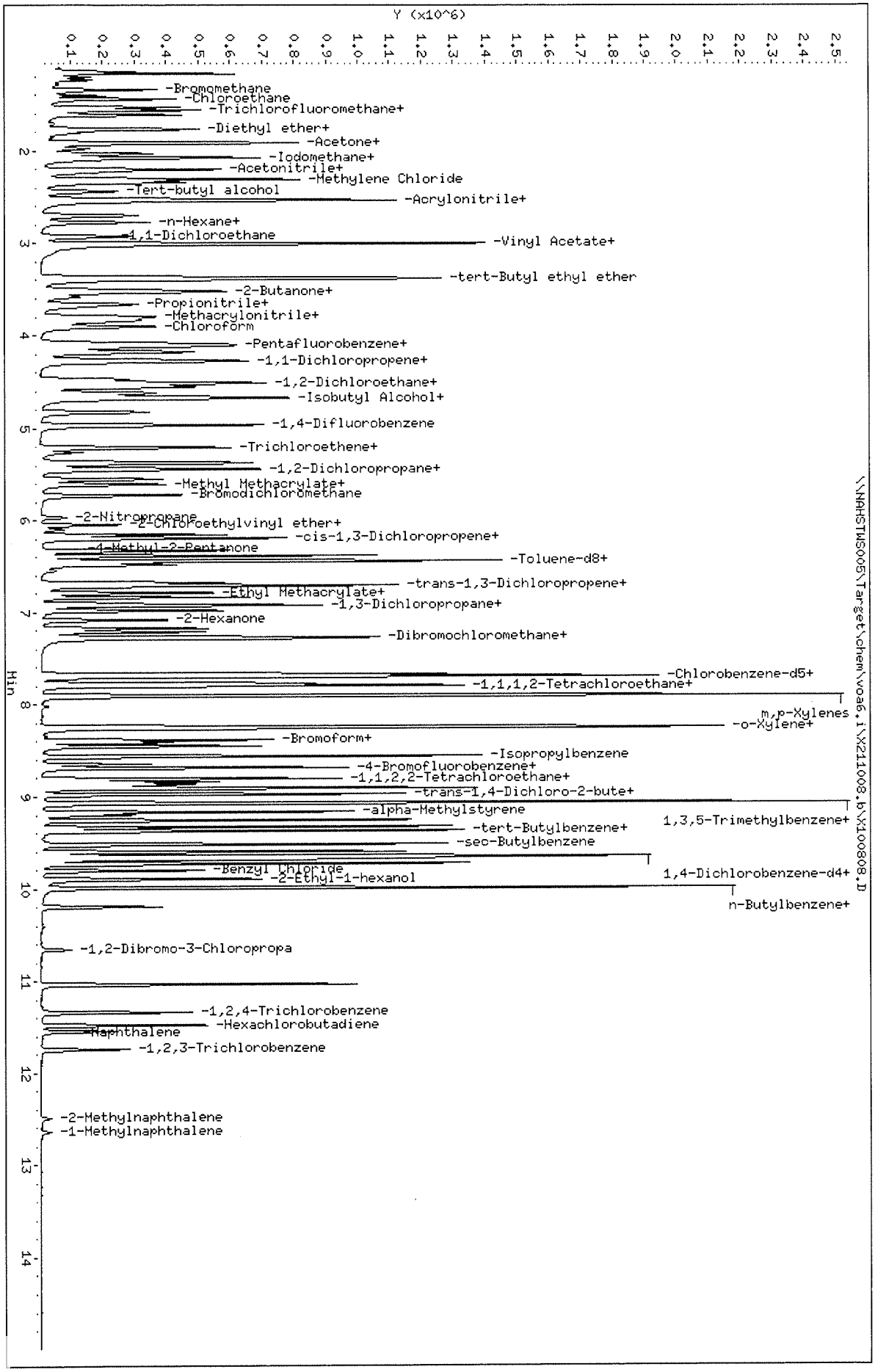
ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X211008.b\X100808.D
Lab Smp Id: VSTD050 Client Smp ID: VSTD050
Inj Date : 08-OCT-2021 15:34
Operator : PC Inst ID: voa6.i
Smp Info : VSTD050;VSTD050;1;7;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X211008.b\8260W.m
Meth Date : 16-Nov-2021 15:51 voa6.i Quant Type: ISTD
Cal Date : 08-OCT-2021 15:14 Cal File: X100807.D
Als bottle: 9 Calibration Sample, Level: 7
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 01474-dod.sub
Target Version: 4.14
Processing Host: NAHSTW7017

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

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

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	392113	50.0000	
$ 30 Dibromofluoromethane	113	4.096	4.096	(0.979)	192579	50.0000	50.03
$ 35 1,2-Dichloroethane-d4	65	4.469	4.469	(1.069)	202478	50.0000	51.97
* 36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	589876	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	564124	50.0000	
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	634808	50.0000	44.34
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	246655	50.0000	50.06
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	290705	50.0000	
5 Vinyl Chloride	62	1.145	1.145	(0.274)	182737	50.0000	44.44
11 1,1-Dichloroethene	96	1.911	1.911	(0.457)	159624	50.0000	45.63
17 Methylene Chloride	84	2.305	2.305	(0.551)	173952	50.0000	50.88
27 cis-1,2-Dichloroethene	96	3.523	3.523	(0.842)	196461	50.0000	48.19
33 1,2-Dichloroethane	62	4.555	4.555	(0.918)	236990	50.0000	47.89
38 Trichloroethene	130	5.206	5.206	(1.049)	197218	50.0000	44.20
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	140168	50.0000	46.56



Data File: \\NAHSTWS005\Target\chem\voa6.i\X211008.b\X100808.D
Date : 08-OCT-2021 15:34
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\X211008.b\X100809.D Page 1
Report Date: 16-Nov-2021 15:51

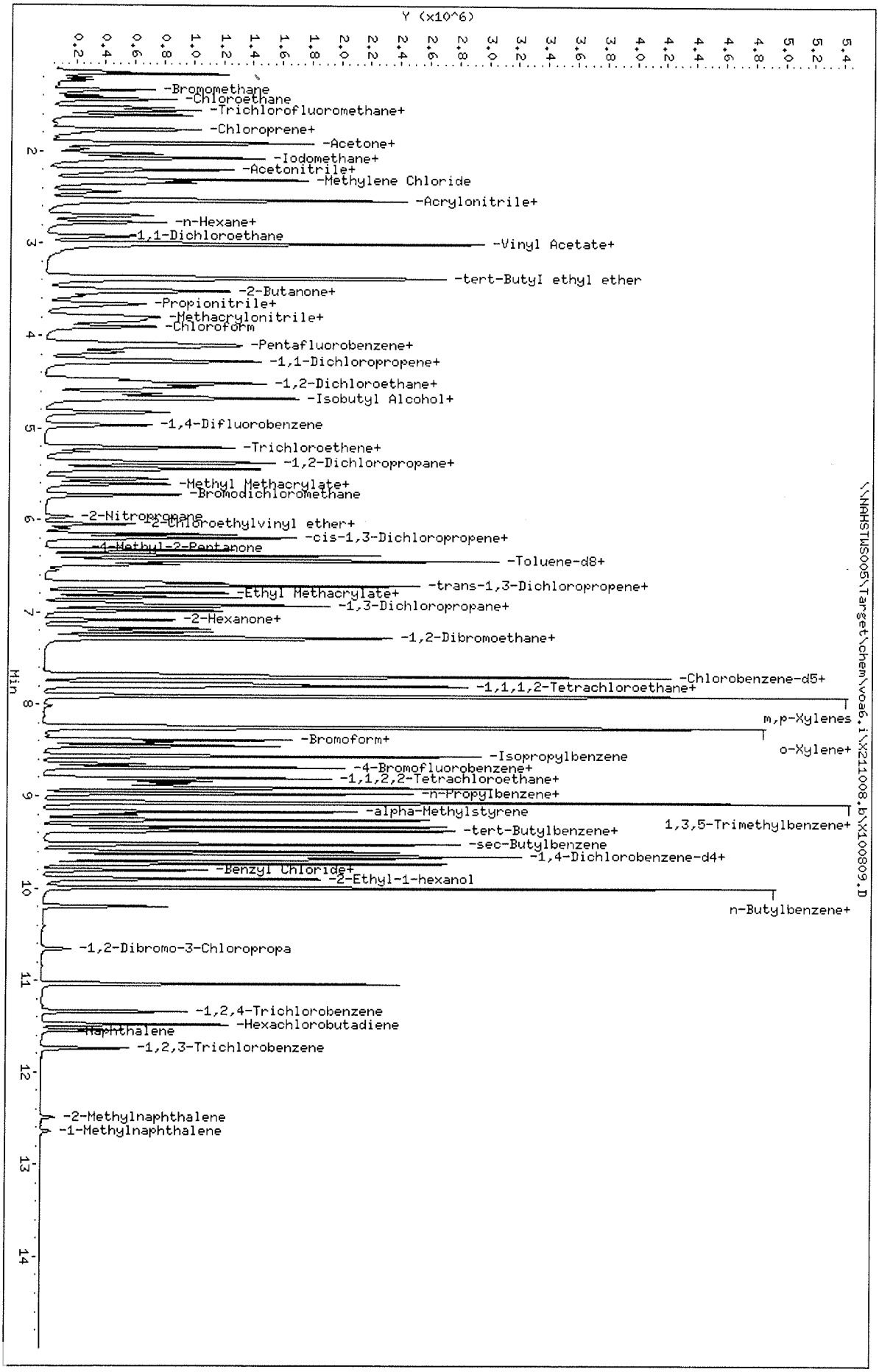
ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X211008.b\X100809.D
Lab Smp Id: VSTD100 Client Smp ID: VSTD100
Inj Date : 08-OCT-2021 15:55
Operator : PC Inst ID: voa6.i
Smp Info : VSTD100;VSTD100;1;8;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X211008.b\8260W.m
Meth Date : 16-Nov-2021 15:51 voa6.i Quant Type: ISTD
Cal Date : 08-OCT-2021 15:34 Cal File: X100808.D
Als bottle: 10 Calibration Sample, Level: 8
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 01474-dod.sub
Target Version: 4.14
Processing Host: NAHSTW7017

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

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

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	418066	50.0000	
$ 30 Dibromofluoromethane	113	4.096	4.096	(0.979)	417318	100.000	102.87
$ 35 1,2-Dichloroethane-d4	65	4.469	4.469	(1.069)	416593	100.000	102.19
* 36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	613866	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	579251	50.0000	
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	1348785	100.000	91.75
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	511094	100.000	102.41
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	297050	50.0000	
5 Vinyl Chloride	62	1.145	1.145	(0.274)	381795	100.000	87.10
11 1,1-Dichloroethene	96	1.912	1.912	(0.457)	343969	100.000	92.23
17 Methylene Chloride	84	2.305	2.305	(0.551)	361756	100.000	100.44
27 cis-1,2-Dichloroethene	96	3.523	3.523	(0.842)	413298	100.000	95.08
33 1,2-Dichloroethane	62	4.555	4.555	(0.918)	479766	100.000	93.17
38 Trichloroethene	130	5.206	5.206	(1.049)	421689	100.000	90.81
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	291528	100.000	94.31



Data File: \\NAHSTWS005\Target\chem\voa6.i\X211008.b\X100809.D
Date : 08-OCT-2021 15:55
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\X211008.b\X100810.D Page 1
Report Date: 16-Nov-2021 15:51

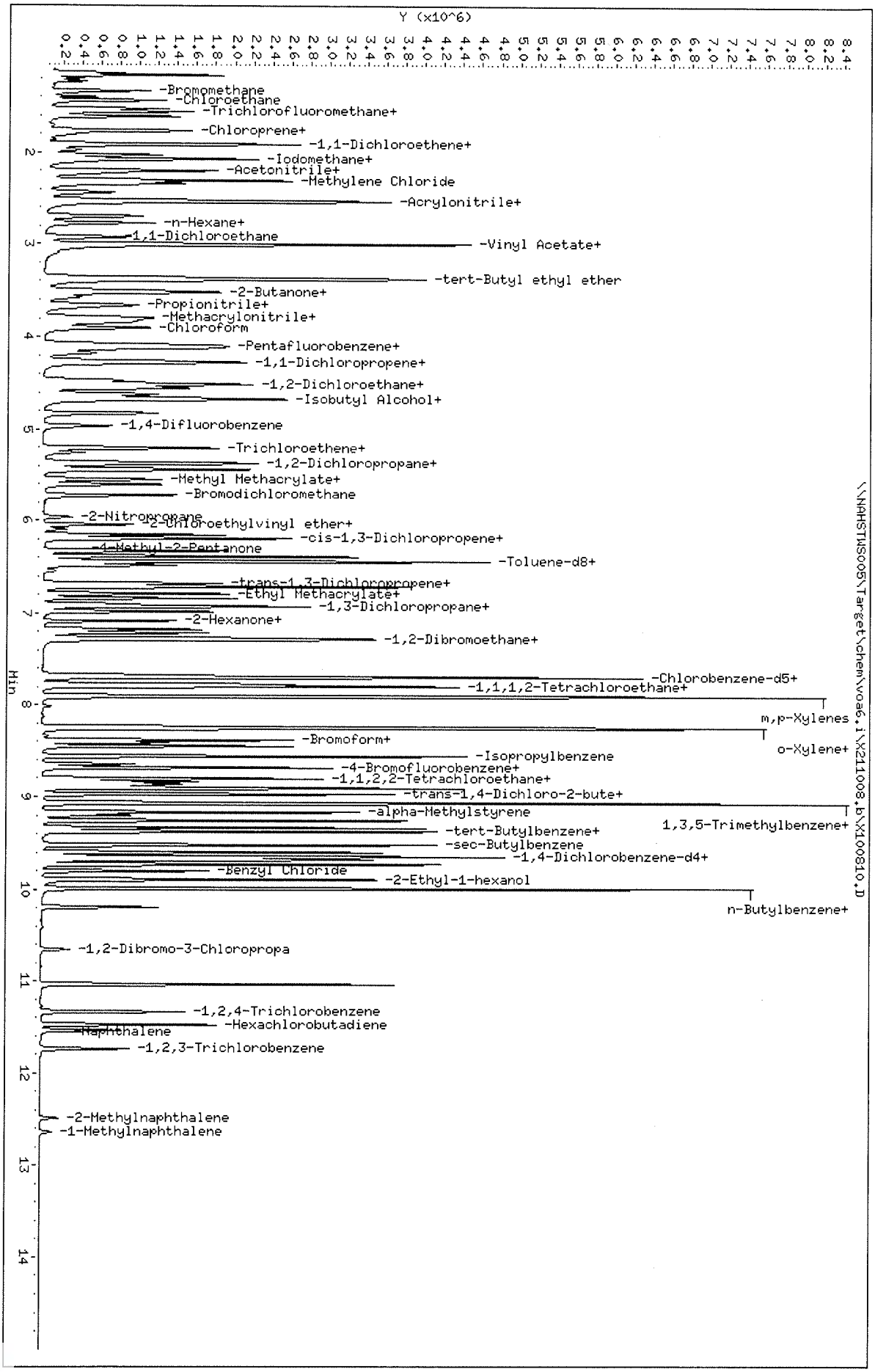
ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X211008.b\X100810.D
Lab Smp Id: VSTD150 Client Smp ID: VSTD150
Inj Date : 08-OCT-2021 16:16
Operator : PC Inst ID: voa6.i
Smp Info : VSTD150;VSTD150;1;9;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X211008.b\8260W.m
Meth Date : 16-Nov-2021 15:51 voa6.i Quant Type: ISTD
Cal Date : 08-OCT-2021 15:55 Cal File: X100809.D
Als bottle: 11 Calibration Sample, Level: 9
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 01474-dod.sub
Target Version: 4.14
Processing Host: NAHSTW7017

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

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

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	430506	50.0000	
$ 30 Dibromofluoromethane	113	4.096	4.096	(0.979)	604609	150.000	145.19
$ 35 1,2-Dichloroethane-d4	65	4.469	4.469	(1.068)	610768	150.000	146.35
* 36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	614424	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	583017	50.0000	
$ 48 Toluene-d8	98	6.389	6.389	(0.833)	1910689	150.000	129.13
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	745510	150.000	149.04
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	301016	50.0000	
5 Vinyl Chloride	62	1.145	1.145	(0.274)	580048	150.000	128.51
11 1,1-Dichloroethene	96	1.912	1.912	(0.457)	518774	150.000	135.09
17 Methylene Chloride	84	2.306	2.306	(0.551)	542343	150.000	146.81
27 cis-1,2-Dichloroethene	96	3.523	3.523	(0.842)	618894	150.000	138.27
33 1,2-Dichloroethane	62	4.555	4.555	(0.918)	711577	150.000	138.06
38 Trichloroethene	130	5.207	5.207	(1.049)	618285	150.000	133.03
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	432811	150.000	139.12



Data File: \\NAHSTWS005\Target\chem\voa6.i\X211008.b\X100810.D
Date : 08-OCT-2021 16:16
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\X211008.b\X100811.D Page 1
Report Date: 16-Nov-2021 15:51

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X211008.b\X100811.D
Lab Smp Id: VSTD200 Client Smp ID: VSTD200
Inj Date : 08-OCT-2021 16:37
Operator : PC Inst ID: voa6.i
Smp Info : VSTD200;VSTD200;1;10;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X211008.b\8260W.m
Meth Date : 16-Nov-2021 15:51 voa6.i Quant Type: ISTD
Cal Date : 08-OCT-2021 16:16 Cal File: X100810.D
Als bottle: 12 Calibration Sample, Level: 10
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 01474-dod.sub
Target Version: 4.14
Processing Host: NAHSTW7017

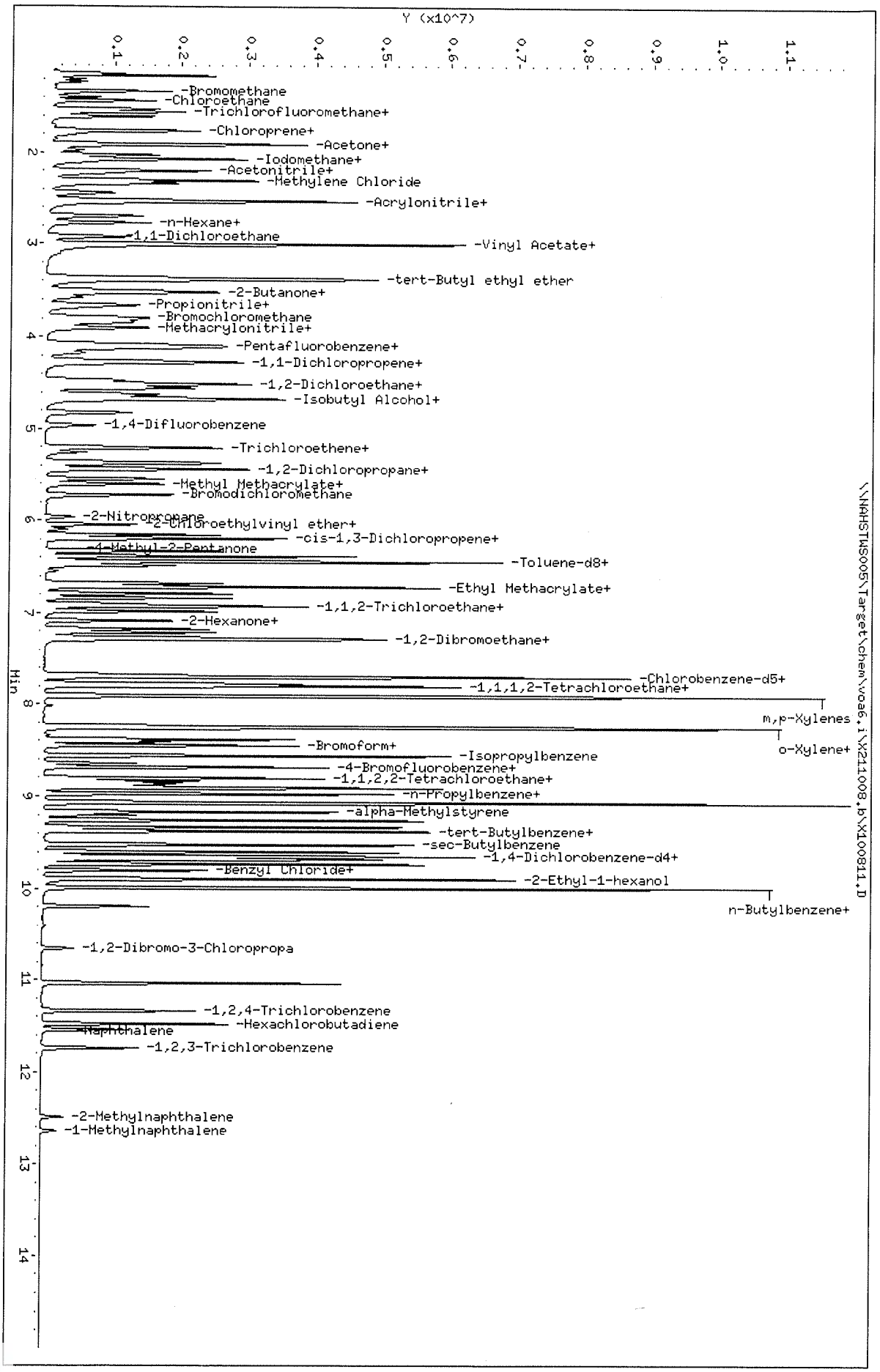
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

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

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	430833	50.0000	
$ 30 Dibromofluoromethane	113	4.096	4.096	(0.979)	839119	200.000	201.80(A)
$ 35 1,2-Dichloroethane-d4	65	4.469	4.469	(1.069)	835313	200.000	200.75(A)
* 36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	629406	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	592993	50.0000	
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	2646847	200.000	175.88
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	1012260	200.000	199.42
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	308327	50.0000	
5 Vinyl Chloride	62	1.138	1.138	(0.272)	811647	200.000	179.68
11 1,1-Dichloroethene	96	1.911	1.911	(0.457)	737348	200.000	191.86
17 Methylene Chloride	84	2.298	2.298	(0.550)	743741	200.000	201.65(A)
27 cis-1,2-Dichloroethene	96	3.523	3.523	(0.842)	867147	200.000	193.59
33 1,2-Dichloroethane	62	4.555	4.555	(0.918)	971365	200.000	183.98
38 Trichloroethene	130	5.206	5.206	(1.049)	867502	200.000	182.21
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	595829	200.000	188.30

QC Flag Legend

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



Data File: \\NAHSTWS005\Target\chem\voa6.i\X211008.b\X100811.D
Date : 08-OCT-2021 16:37
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\X211008.b\X100814.D Page 1
Report Date: 16-Nov-2021 15:51

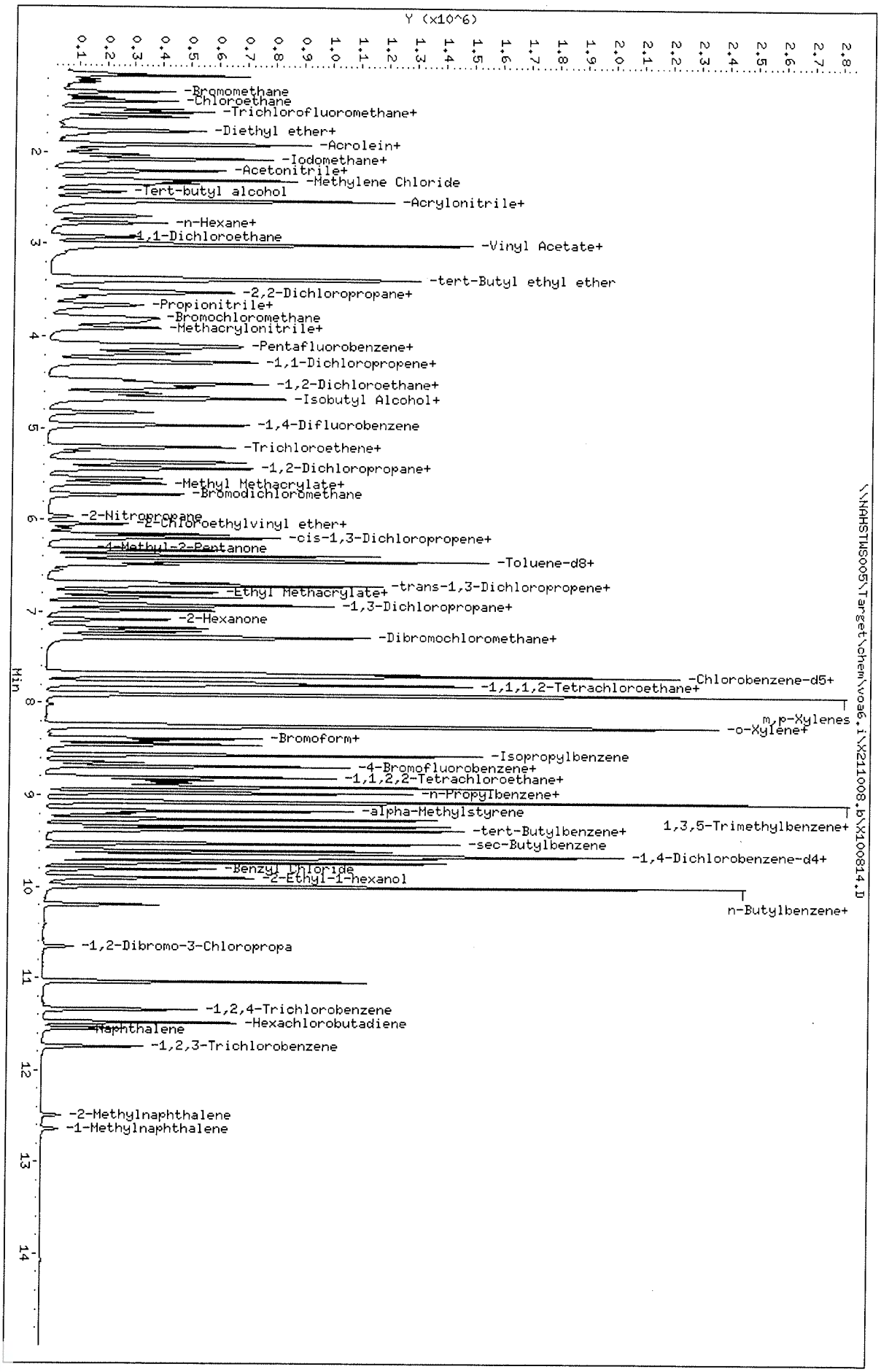
ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X211008.b\X100814.D
Lab Smp Id: ICV Client Smp ID: ICV
Inj Date : 08-OCT-2021 17:40
Operator : PC Inst ID: voa6.i
Smp Info : CCV;CCV;2;;;ICV
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X211008.b\8260W.m
Meth Date : 16-Nov-2021 15:51 voa6.i Quant Type: ISTD
Cal Date : 08-OCT-2021 16:37 Cal File: X100811.D
Als bottle: 15 QC Sample: METHSPIKE
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 01474-dod.sub
Target Version: 4.14
Processing Host: NAHSTW7017

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

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

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	411437	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.096	(0.981)	220373	54.6695	54.66
$ 35 1,2-Dichloroethane-d4	65	4.476	4.469	(1.070)	220262	53.9602	53.96
* 36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	626955	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	584793	50.0000	
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	702141	47.3113	47.31
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	271877	53.3185	53.31
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	301385	50.0000	
5 Vinyl Chloride	62	1.145	1.138	(0.274)	203682	47.2176	47.21
11 1,1-Dichloroethene	96	1.911	1.911	(0.457)	177902	48.4732	48.47
17 Methylene Chloride	84	2.305	2.298	(0.551)	187907	52.4189	52.41
27 cis-1,2-Dichloroethene	96	3.523	3.523	(0.842)	217393	50.8223	50.82
33 1,2-Dichloroethane	62	4.555	4.555	(0.918)	252375	47.9879	47.98
38 Trichloroethene	130	5.206	5.206	(1.049)	219352	46.2533	46.25
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	149441	47.8902	47.89



Data File: \\NAHSTWS005\Target\chem\voa6.i\X211008.b\X100814.D
Date : 08-OCT-2021 17:40
Client ID: ICV
Sample Info: CCV;CCV;2;;;ICV
Purge Volume: 5.0
Column phase: DB624

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

MSVOA06 -Logbook

Batch: 47031
Date: 11-01-2021
Method: 8260
Comments:

Analyst: Presenta Cabascango
Reviewer:
Laboratory: Houston

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	pl
1	BFB	TUNE	11-01-2021 12:03 pm	1.00	50 mL	50 mL	X110101.D	Liquid	Y	N
2	CCV	CCV	11-01-2021 12:24 pm	1.00	50 mL	50 mL	X110102a.D	Liquid	Y	N
3	CCV	CCV	11-01-2021 12:45 pm	1.00	50 mL	50 mL	X110103.D	Liquid	Y	N
4	CCB	SAMP	11-01-2021 01:06 pm	1.00	50 mL	50 mL	X110104.D	Liquid	Y	N
5	VLCSW-211101	LCS	11-01-2021 01:27 pm	1.00	50 mL	50 mL	X110105.D	Liquid	Y	N
6	BLANK	SAMP	11-01-2021 01:48 pm	1.00	50 mL	50 mL	X110106.D	Liquid	Y	N
7	VBLKW-211101	MBLK	11-01-2021 02:08 pm	1.00	50 mL	50 mL	X110107.D	Liquid	Y	N
8	HS21101171-09	SAMP	11-01-2021 02:33 pm	1.00	50 mL	50 mL	X110108.D	Liquid	Y	N
9	HS21101171-01	SAMP	11-01-2021 02:54 pm	1.00	50 mL	50 mL	X110109.D	Liquid	Y	N
10	HS21101171-02	SAMP	11-01-2021 03:15 pm	10.00	5 mL	50 mL	X110110.D	Liquid	Y	N
11	HS21101171-02MS	MS	11-01-2021 03:36 pm	10.00	5 mL	50 mL	X110111.D	Liquid	Y	N
12	HS21101171-02MSD	MSD	11-01-2021 03:57 pm	10.00	5 mL	50 mL	X110112.D	Liquid	Y	N
13	HS21101670-09	SAMP	11-01-2021 04:19 pm	250.0(	200 µL	50 mL	X110113.D	Liquid	Y	N
14	HS21101670-10	SAMP	11-01-2021 04:40 pm	25.00	2 mL	50 mL	X110114.D	Liquid	Y	N
15	HS21101272-11	SAMP	11-01-2021 05:01 pm	1.00	50 mL	50 mL	X110115.D	Liquid	Y	N
16	HS21101272-01	SAMP	11-01-2021 05:22 pm	1.00	50 mL	50 mL	X110116.D	Liquid	Y	N
17	HS21101272-02	SAMP	11-01-2021 05:43 pm	1.00	50 mL	50 mL	X110117.D	Liquid	Y	N
18	HS21101272-03	SAMP	11-01-2021 06:04 pm	1.00	50 mL	50 mL	X110118.D	Liquid	Y	N
19	HS21101171-07	SAMP	11-01-2021 06:25 pm	5.00	10 mL	50 mL	X110119.D	Liquid	Y	N
20	HS21101171-08	SAMP	11-01-2021 06:46 pm	10.00	5 mL	50 mL	X110120.D	Liquid	Y	N
21	HS21101171-08n/r	SAMP	11-01-2021 07:07 pm	50.00	1 mL	50 mL	X110121.D	Liquid	Y	N
22	HS21101171-03	SAMP	11-01-2021 07:28 pm	10.00	5 mL	50 mL	X110122.D	Liquid	Y	N
23	HS21101171-03	SAMP	11-01-2021 07:49 pm	100.0(	500 µL	50 mL	X110123.D	Liquid	Y	N
24	HS21101171-04	SAMP	11-01-2021 08:10 pm	10.00	5 mL	50 mL	X110124.D	Liquid	Y	N
25	HS21101171-04n/r	SAMP	11-01-2021 08:31 pm	100.0(	500 µL	50 mL	X110125.D	Liquid	Y	N
26	HS21101171-05	SAMP	11-01-2021 08:52 pm	10.00	5 mL	50 mL	X110126.D	Liquid	Y	N
27	HS21101171-05o/c	SAMP	11-01-2021 09:13 pm	100.0(	500 µL	50 mL	X110127.D	Liquid	Y	N
28	HS21101171-06	SAMP	11-01-2021 09:34 pm	10.00	5 mL	50 mL	X110128.D	Liquid	Y	N
29	HS21101171-06	SAMP	11-01-2021 09:55 pm	100.0(	500 µL	50 mL	X110129.D	Liquid	Y	N
30	CCV	CCV	11-01-2021 10:58 pm	1.00	50 mL	50 mL	X110130.D	Liquid	Y	N

FORM 2
WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS21101272

	CLIENT SAMPLE NO.	SMC1 #	SMC2 (DCE)#	SMC3 (TOL)#	OTHER #	TOT OUT
01	VLCSW-211101	101	94	91	100	0
02	VBLKW-211101	94	83	96	94	0
03	HS21101171-02MS	92	84	96	98	0
04	HS21101171-02MSD	92	84	97	98	0
05	HS21101272-11	93	86	97	97	0
06	HS21101272-01	92	87	96	98	0
07	HS21101272-02	95	89	96	97	0
08	HS21101272-03	92	88	97	95	0
09						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						

		QC LIMITS
SMC1	= Dibromofluoromethane	(71-125)
SMC2 (DCE)	= 1,2-Dichloroethane-d4	(70-125)
SMC3 (TOL)	= Toluene-d8	(75-125)
OTHER	= 4-Bromofluorobenzene	(72-125)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D System Monitoring Compound diluted out

FORM 4
VOLATILE METHOD BLANK SUMMARY

CLIENT SAMPLE NO.

VBLKW-211101

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS21101272

Lab File ID: X110107 Lab Sample ID: VBLKW-211101

Date Analyzed: 11/01/21 Time Analyzed: 1408

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

Instrument ID: VOA6

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	VLCSW-211101	VLCSW-211101	X110105	1327
02	HS21101171-02MS	HS21101171-02MS	X110111	1536
03	HS21101171-02MSD	HS21101171-02MSD	X110112	1557
04	HS21101272-11	HS21101272-11	X110115	1701
05	HS21101272-01	HS21101272-01	X110116	1722
06	HS21101272-02	HS21101272-02	X110117	1743
07	HS21101272-03	HS21101272-03	X110118	1804
08				
09				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				

COMMENTS:

FORM 5
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS21101272

Lab File ID: X110101 BFB Injection Date: 11/01/21

Instrument ID: VOA6 BFB Injection Time: 1203

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

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	15.1
75	30.0 - 60.0% of mass 95	43.7
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.8
173	Less than 2.0% of mass 174	1.2 (1.1)1
174	Greater than 50.0% of mass 95	110.2
175	5.0 - 9.0% of mass 174	8.0 (7.3)1
176	95.0 - 101.0% of mass 174	107.3 (97.4)1
177	5.0 - 9.0% of mass 176	6.5 (6.0)2

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

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	CCV	CCV	X110103	11/01/21	1245
02	VLCSW-211101	VLCSW-211101	X110105	11/01/21	1327
03	VBLKW-211101	VBLKW-211101	X110107	11/01/21	1408
04	HS21101171-02MS	HS21101171-02MS	X110111	11/01/21	1536
05	HS21101171-02MSD	HS21101171-02MSD	X110112	11/01/21	1557
06	HS21101272-11	HS21101272-11	X110115	11/01/21	1701
07	HS21101272-01	HS21101272-01	X110116	11/01/21	1722
08	HS21101272-02	HS21101272-02	X110117	11/01/21	1743
09	HS21101272-03	HS21101272-03	X110118	11/01/21	1804
10	CCV	CCV	X110130	11/01/21	2258
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

FORM 7B
VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS21101272

Instrument ID: VOA6 Calibration Date: 11/01/21 Time: 1245

Lab File ID: X110103 Init. Calib. Date(s): 10/08/21 10/08/21

Init. Calib. Times: 1308 1637

GC Column: DB624 ID: 0.18 (mm)

COMPOUND	RRF or AMOUNT	RRF50.000 or AMOUNT	CCAL RRF50.000	MIN RRF	%D or %DRIFT	MAX %D or %DRIFT	CURV TYPE
Methylene Chloride	51.912728	50.000000	0.4524030	0.1	-3.82	20.00	LINR
1,1,2-Trichloroethane	0.2670000	0.2580803	0.2580803	0.1	3.34	20.00	AVRG
Trichloroethene	0.3780000	0.3879375	0.3879375	0.2	-2.63	20.00	AVRG
Vinyl Chloride	0.5240000	0.4527255	0.4527255	0.1	13.60	20.00	AVRG
1,1-Dichloroethene	0.4460000	0.4134664	0.4134664	0.1	7.29	20.00	AVRG
1,2-Dichloroethane	0.4190000	0.3907652	0.3907652	0.1	6.74	20.00	AVRG
cis-1,2-Dichloroethene	0.5200000	0.5204410	0.5204410	0.1	-0.08	20.00	AVRG
1,2-Dichloroethane-d4	46.524345	50.000000	0.4642550	0.1	6.95	20.00	LINR
Dibromofluoromethane	50.582127	50.000000	0.4963907	0.1	-1.16	20.00	LINR
4-Bromofluorobenzene	50.069774	50.000000	0.4372933	0.1	-0.14	20.00	LINR
Toluene-d8	1.2690000	1.1530504	1.1530504	0.1	9.14	20.00	AVRG

FORM VII VOA

FORM 7B
VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS21101272

Instrument ID: VOA6 Calibration Date: 11/01/21 Time: 2258

Lab File ID: X110130 Init. Calib. Date(s): 10/08/21 10/08/21

Init. Calib. Times: 1308 1637

GC Column: DB624 ID: 0.18 (mm)

COMPOUND	RRF or AMOUNT	RRF50.000 or AMOUNT	CCAL RRF50.000	MIN RRF	%D or %DRIFT	MAX %D or %DRIFT	CURV TYPE
Methylene Chloride	46.498714	50.000000	0.4063457	0.1	7.00	50.00	LINR
1,1,2-Trichloroethane	0.2670000	0.2334720	0.2334720	0.1	12.56	50.00	AVRG
Trichloroethene	0.3780000	0.3447311	0.3447311	0.2	8.80	50.00	AVRG
Vinyl Chloride	0.5240000	0.4034181	0.4034181	0.1	23.01	50.00	AVRG
1,1-Dichloroethene	0.4460000	0.3689895	0.3689895	0.1	17.27	50.00	AVRG
1,2-Dichloroethane	0.4190000	0.3563921	0.3563921	0.1	14.94	50.00	AVRG
cis-1,2-Dichloroethene	0.5200000	0.4656333	0.4656333	0.1	10.46	50.00	AVRG
1,2-Dichloroethane-d4	44.113617	50.000000	0.4412066	0.1	11.77	50.00	LINR
Dibromofluoromethane	45.732224	50.000000	0.4498454	0.1	8.54	50.00	LINR
4-Bromofluorobenzene	48.335446	50.000000	0.4225492	0.1	3.33	50.00	LINR
Toluene-d8	1.2690000	1.0936106	1.0936106	0.1	13.82	50.00	AVRG

FORM VII VOA

FORM 8
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS21101272

Lab File ID (Standard): X110103 Date Analyzed: 11/01/21

Instrument ID: VOA6 Time Analyzed: 1245

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

		IS1(DCB) AREA #	RT #	IS2(CBZ) AREA #	RT #	IS3(DFB) AREA #	RT #
	12 HOUR STD	263500	9.66	514092	7.67	546387	4.96
	UPPER LIMIT	527000	10.16	1028184	8.17	1092774	5.46
	LOWER LIMIT	131750	9.16	257046	7.17	273194	4.46
	CLIENT SAMPLE NO.						
01	VLCSW-211101	261767	9.66	501975	7.67	525759	4.96
02	VBLKW-211101	242233	9.66	517366	7.67	572635	4.97
03	HS21101171-02MS	248757	9.66	515482	7.67	577015	4.96
04	HS21101171-02MSD	273279	9.66	532224	7.67	599368	4.96
05	HS21101272-11	254444	9.66	520987	7.67	588404	4.96
06	HS21101272-01	257204	9.66	521463	7.67	585607	4.96
07	HS21101272-02	259858	9.66	547052	7.67	621076	4.96
08	HS21101272-03	251659	9.66	541454	7.67	609507	4.96
09							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							

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

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

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

FORM VIII VOA

FORM 8
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS21101272

Lab File ID (Standard): X110103 Date Analyzed: 11/01/21

Instrument ID: VOA6 Time Analyzed: 1245

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

		IS4 AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	378333	4.18				
	UPPER LIMIT	756666	4.68				
	LOWER LIMIT	189167	3.68				
	CLIENT SAMPLE NO.						
01	VLCSW-211101	367436	4.18				
02	VBLKW-211101	417417	4.18				
03	HS21101171-02MS	435400	4.18				
04	HS21101171-02MSD	444095	4.18				
05	HS21101272-11	433833	4.18				
06	HS21101272-01	427454	4.18				
07	HS21101272-02	453220	4.18				
08	HS21101272-03	451828	4.18				
09							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							

IS4 = Pentafluorobenzene

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

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

FORM VIII VOA

Data File: \\NAHSTWS005\Target\chem\voa6.i\X211101.b\X110101.D

Date : 01-NOV-2021 12:03

Client ID: BFB

Instrument: voa6.i

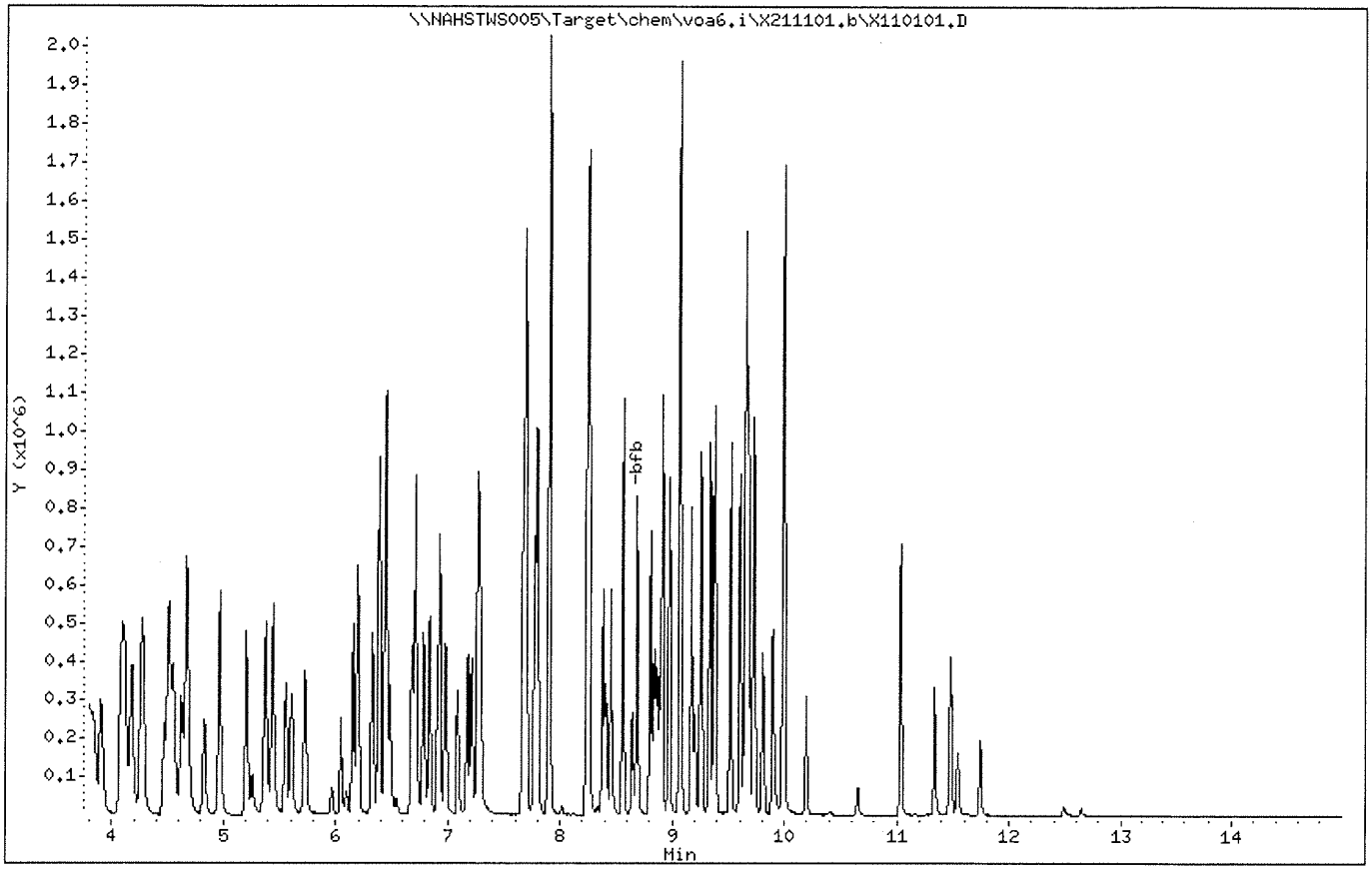
Sample Info: BFB;BFB;3;;BFB

Volume Injected (uL): 2.0

Operator: PC

Column phase: DB624

Column diameter: 0.25



Data File: \\NAHSTWS005\Target\chem\voa6.i\X211101.b\X110101.D

Date : 01-NOV-2021 12:03

Client ID: BFB

Instrument: voa6.i

Sample Info: BFB;BFB;3;;BFB

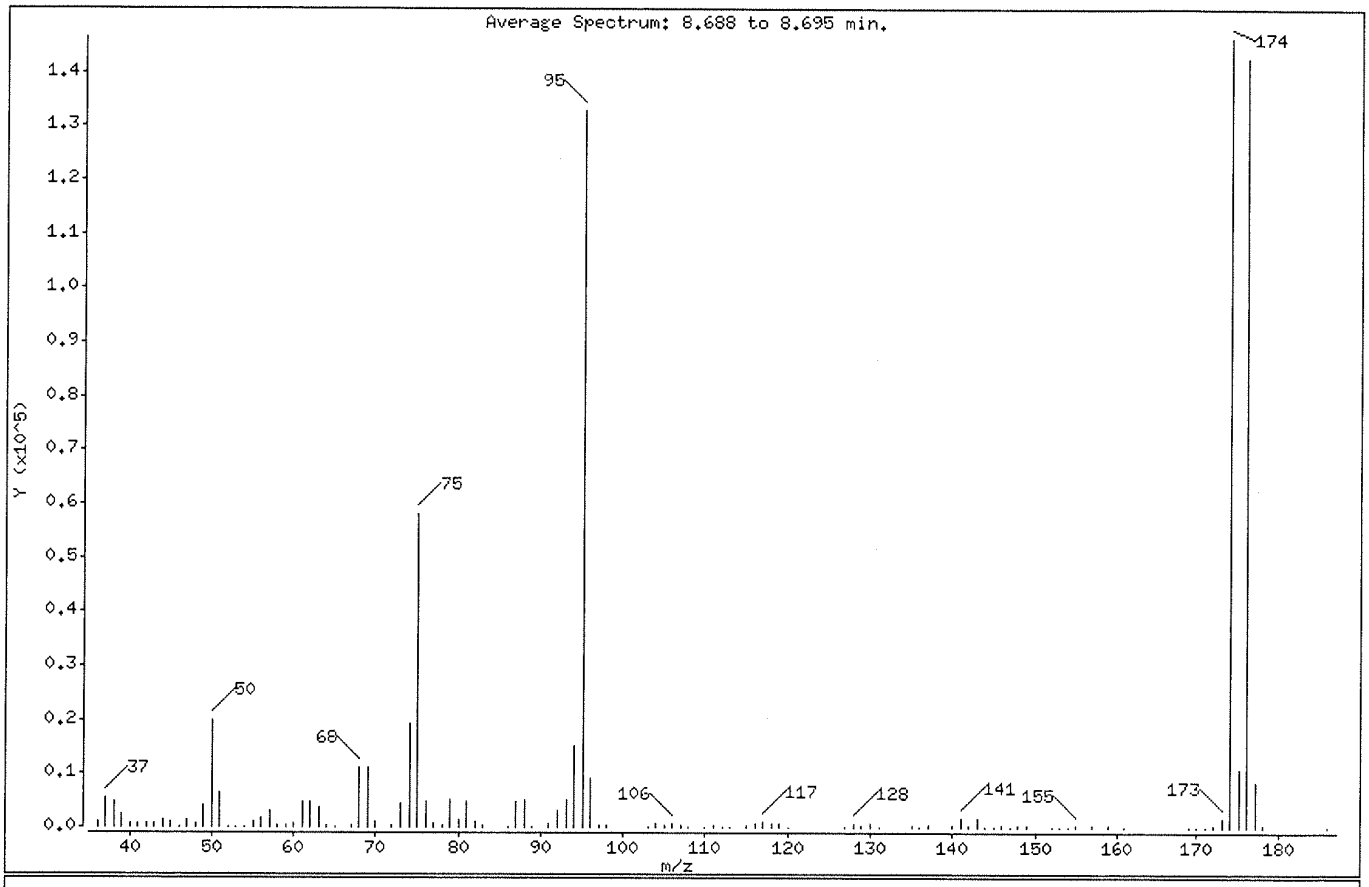
Volume Injected (uL): 2.0

Operator: PC

Column phase: DB624

Column diameter: 0.25

1 bfb



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	15.10
75	30.00 - 60.00% of mass 95	43.70
96	5.00 - 9.00% of mass 95	6.83
173	Less than 2.00% of mass 174	1.21 (1.10)
174	Greater than 50.00% of mass 95	110.22
175	5.00 - 9.00% of mass 174	8.03 (7.29)
176	95.00 - 101.00% of mass 174	107.34 (97.38)
177	5.00 - 9.00% of mass 176	6.46 (6.02)

Data File: \\NAHSTWS005\Target\chem\voa6.i\X211101.b\X110101.D

Date : 01-NOV-2021 12:03

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: X110101.D

Spectrum: Average Spectrum: 8.688 to 8.695 min.

Location of Maximum: 174.00

Number of points: 110

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	1009	64.00	435	97.00	256	142.00	275
37.00	5234	65.00	110	98.00	356	143.00	1661
38.00	4573	67.00	327	103.00	121	144.00	54
39.00	2307	68.00	11254	104.00	677	145.00	104
40.00	773	69.00	11079	105.00	368	146.00	256
41.00	541	70.00	1062	106.00	762	147.00	126
42.00	534	72.00	421	107.00	199	148.00	351
43.00	579	73.00	4471	108.00	46	149.00	216
44.00	1429	74.00	19216	110.00	147	152.00	44
45.00	1010	75.00	57992	111.00	286	153.00	129
46.00	29	76.00	4814	112.00	69	154.00	126
47.00	1449	77.00	762	113.00	136	155.00	460
48.00	681	78.00	474	115.00	267	157.00	340
49.00	4148	79.00	4921	116.00	589	159.00	230
50.00	20032	80.00	1443	117.00	923	161.00	69
51.00	6358	81.00	4742	118.00	711	169.00	60
52.00	139	82.00	1005	119.00	734	170.00	143
53.00	102	83.00	197	120.00	76	171.00	164
54.00	71	86.00	110	127.00	145	172.00	308
55.00	1089	87.00	4837	128.00	684	173.00	1610
56.00	1783	88.00	4962	129.00	287	174.00	146240
57.00	2959	89.00	43	130.00	591	175.00	10657
58.00	295	91.00	665	131.00	156	176.00	142400
59.00	244	92.00	3178	135.00	365	177.00	8570
60.00	812	93.00	5140	136.00	94	178.00	311
61.00	4650	94.00	15210	137.00	235	186.00	135
62.00	4669	95.00	132672	140.00	256		
63.00	3681	96.00	9063	141.00	1760		

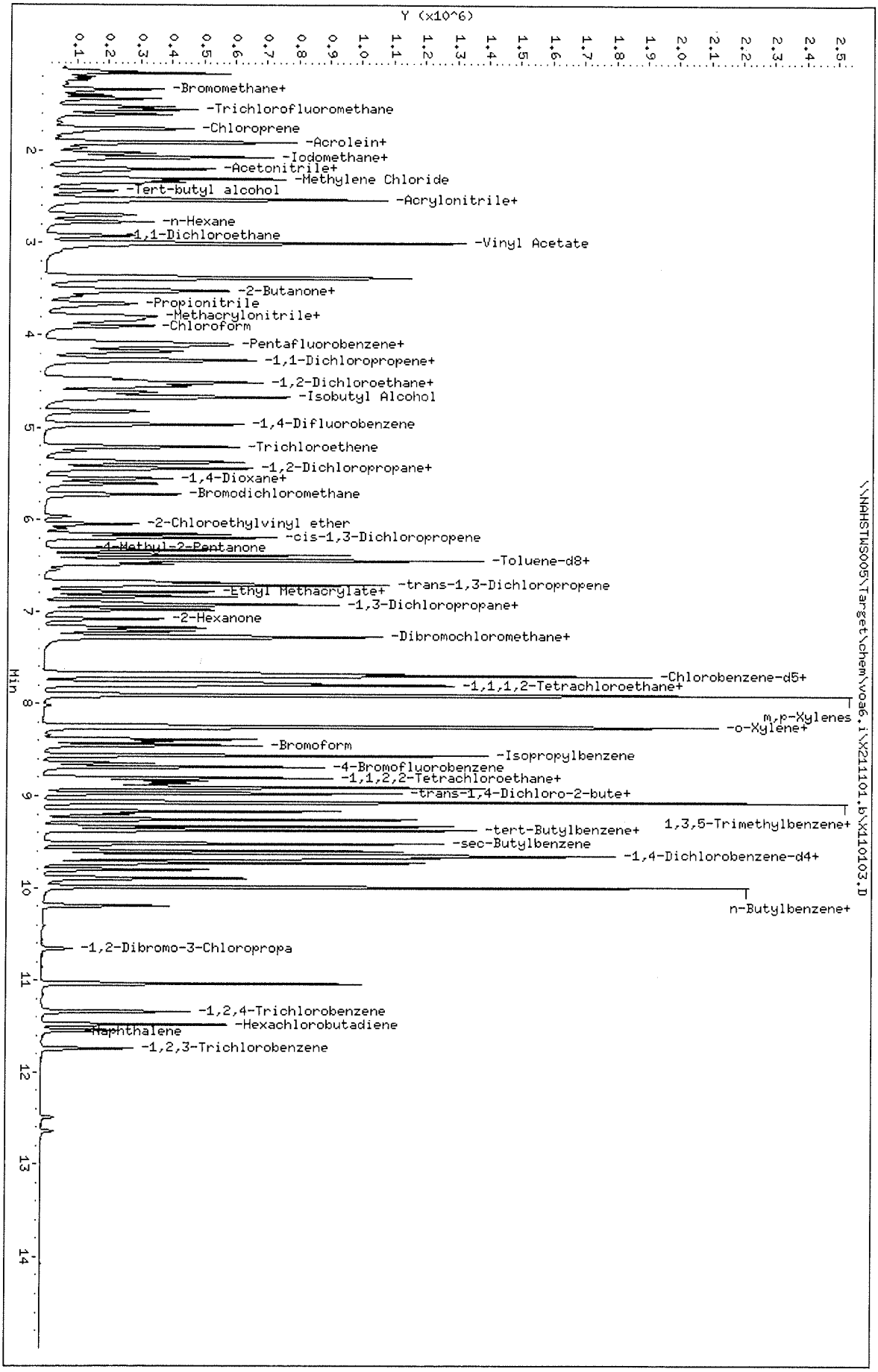
ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X211101.b\X110103.D
Lab Smp Id: CCV Client Smp ID: CCV
Inj Date : 01-NOV-2021 12:45
Operator : PC Inst ID: voa6.i
Smp Info : CCV;CCV;2;;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X211101.b\8260W.m
Meth Date : 16-Nov-2021 14:27 voa6.i Quant Type: ISTD
Cal Date : 08-OCT-2021 15:34 Cal File: X100808.D
Als bottle: 3 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 01474-dod.sub
Target Version: 4.14
Processing Host: NAHSTW7017

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

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

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	378333	50.0000	
$ 30 Dibromofluoromethane	113	4.096	4.096	(0.979)	187801	50.0000	50.58
$ 35 1,2-Dichloroethane-d4	65	4.469	4.469	(1.069)	175643	50.0000	46.52
* 36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	546387	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	514092	50.0000	
$ 48 Toluene-d8	98	6.381	6.381	(0.832)	592774	50.0000	45.43
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	224809	50.0000	50.06
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	263500	50.0000	
5 Vinyl Chloride	62	1.145	1.145	(0.274)	171281	50.0000	43.18
11 1,1-Dichloroethene	96	1.919	1.919	(0.459)	156428	50.0000	46.35
17 Methylene Chloride	84	2.305	2.305	(0.551)	171159	50.0000	51.91
27 cis-1,2-Dichloroethene	96	3.523	3.523	(0.842)	196900	50.0000	50.05
33 1,2-Dichloroethane	62	4.555	4.555	(0.918)	213509	50.0000	46.58
38 Trichloroethene	130	5.206	5.206	(1.049)	211964	50.0000	51.28
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	132677	50.0000	48.36



Data File: \\NAHSTWS005\Target\chem\voa6.i\X211101.b\X110103.D
Date : 01-NOV-2021 12:45
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\X211101.b\X110105.D Page 1
Report Date: 16-Nov-2021 14:27

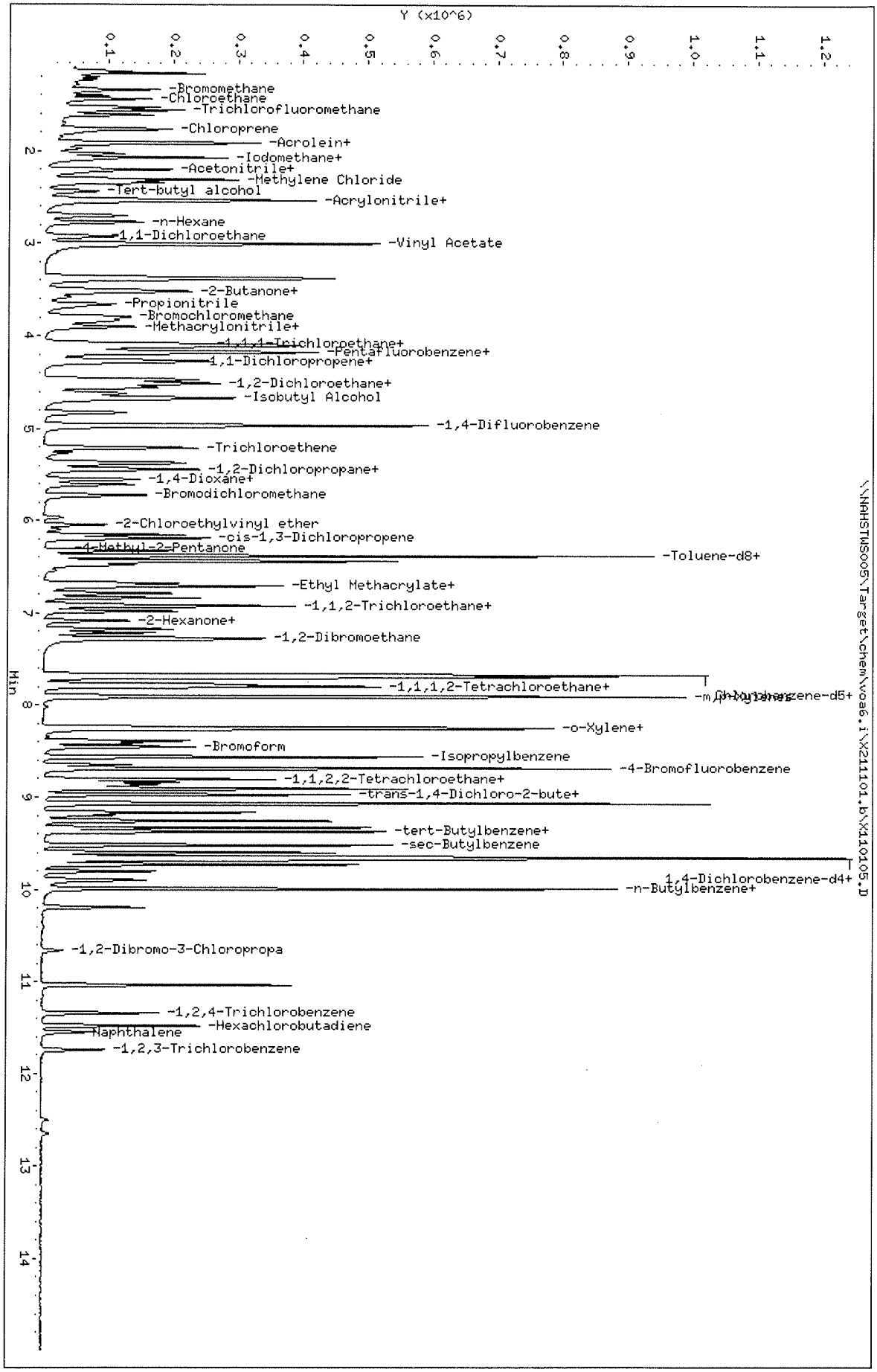
ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X211101.b\X110105.D
Lab Smp Id: VLCSW-211101 Client Smp ID: VLCSW-211101
Inj Date : 01-NOV-2021 13:27
Operator : PC Inst ID: voa6.i
Smp Info : VLCSW-211101;VLCSW-211101;3;;LCS
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X211101.b\8260W.m
Meth Date : 16-Nov-2021 14:27 voa6.i Quant Type: ISTD
Cal Date : 08-OCT-2021 15:34 Cal File: X100808.D
Als bottle: 5 QC Sample: LCS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 01474-dod.sub
Target Version: 4.14
Processing Host: NAHSTW7017

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

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

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	367436	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.096	(0.981)	181856	50.4302	50.43
$ 35 1,2-Dichloroethane-d4	65	4.476	4.469	(1.070)	171589	46.8104	46.81
* 36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	525759	50.0000	
* 47 Chlorobenzene-d5	117	7.670	7.671	(1.000)	501975	50.0000	
$ 48 Toluene-d8	98	6.388	6.381	(0.833)	579378	45.4802	45.48
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	218792	49.9014	49.90
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	261767	50.0000	
5 Vinyl Chloride	62	1.145	1.145	(0.274)	69356	18.0035	18.00
11 1,1-Dichloroethene	96	1.919	1.919	(0.459)	61728	18.8332	18.83
17 Methylene Chloride	84	2.305	2.305	(0.551)	69535	20.9785	20.97
27 cis-1,2-Dichloroethene	96	3.530	3.523	(0.844)	79284	20.7547	20.75
33 1,2-Dichloroethane	62	4.555	4.555	(0.918)	85820	19.4591	19.45
38 Trichloroethene	130	5.206	5.206	(1.049)	82143	20.6548	20.65
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	52244	19.5044	19.50



Data File: \\NAHSTWS005\Target\chem\voa6.i\X211101.b\X110105.D
Date : 01-NOV-2021 13:27
Client ID: VLCSW-211101
Sample Info: VLCSW-211101;VLCSW-211101;3;;LCS
Purge Volume: 5.0
Column phase: DB624

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

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X211101.b\X110107.D
Lab Smp Id: VBLKW-211101 Client Smp ID: VBLKW-211101
Inj Date : 01-NOV-2021 14:08
Operator : PC Inst ID: voa6.i
Smp Info : VBLKW-211101;VBLKW-211101;3;;BLANK
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X211101.b\8260W.m
Meth Date : 16-Nov-2021 14:27 voa6.i Quant Type: ISTD
Cal Date : 08-OCT-2021 15:34 Cal File: X100808.D
Als bottle: 7 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 01474-dod.sub
Target Version: 4.14
Processing Host: NAHSTW7017

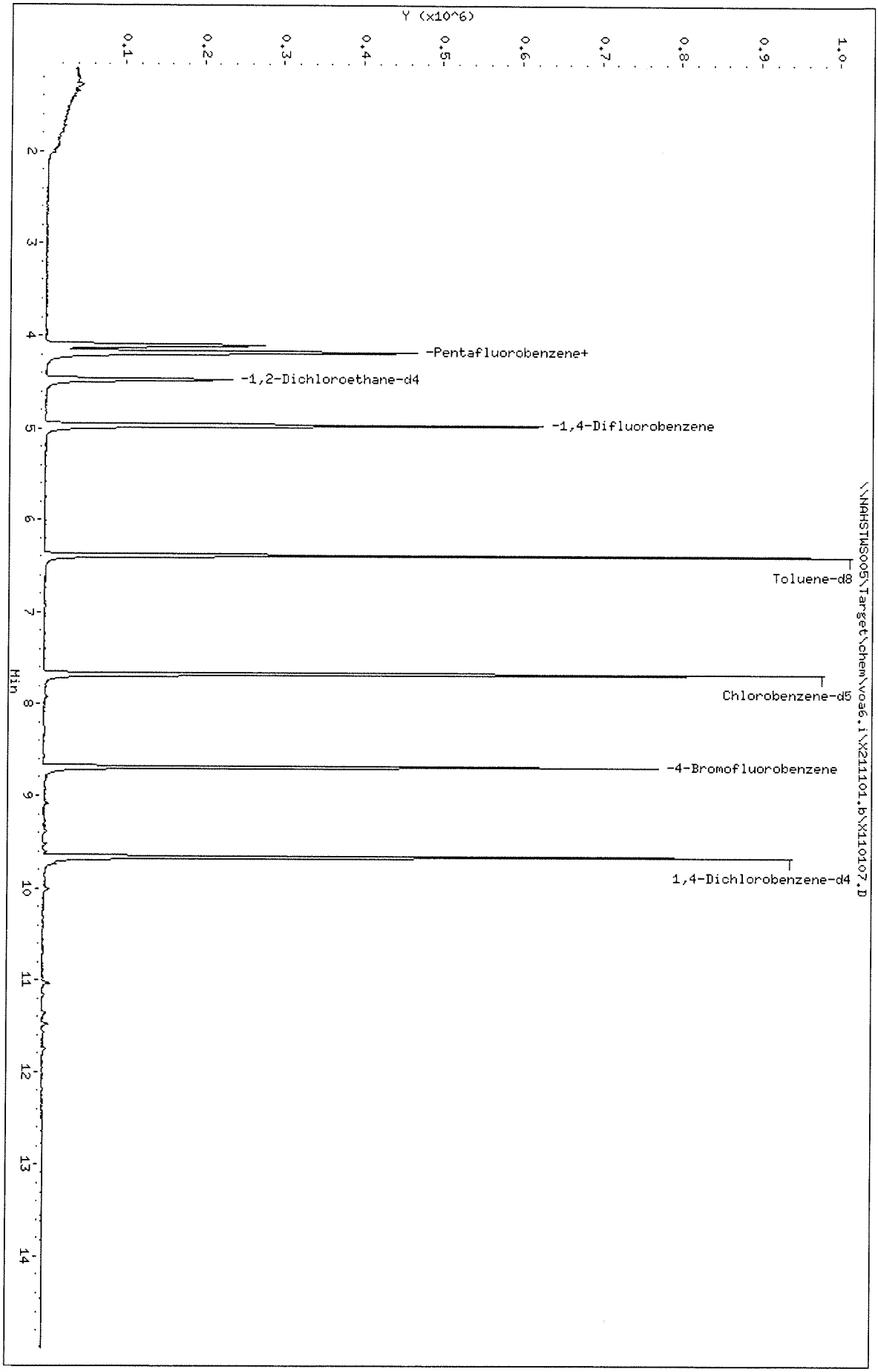
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

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

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	417417	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.096	(0.981)	192200	46.8373	46.83
$ 35 1,2-Dichloroethane-d4	65	4.476	4.469	(1.070)	174690	41.7389	41.73
* 36 1,4-Difluorobenzene	114	4.970	4.963	(1.000)	572635	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	517366	50.0000	
$ 48 Toluene-d8	98	6.388	6.381	(0.833)	627553	47.7964	47.79
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	213204	47.1057	47.10
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	242233	50.0000	

Data File: \\NAHSTWS005\Target\chem\voa6.i\X211101.b\X110107.D
Date : 01-NOV-2021 14:08
Client ID: VBLKW-211101
Sample Info: VBLKW-211101;VBLKW-211101;3;;BLANK
Purge Volume: 5.0
Column phase: DB624

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



Data File: \\NAHSTWS005\Target\chem\voa6.i\X211101.b\X110111.D Page 1
Report Date: 16-Nov-2021 14:27

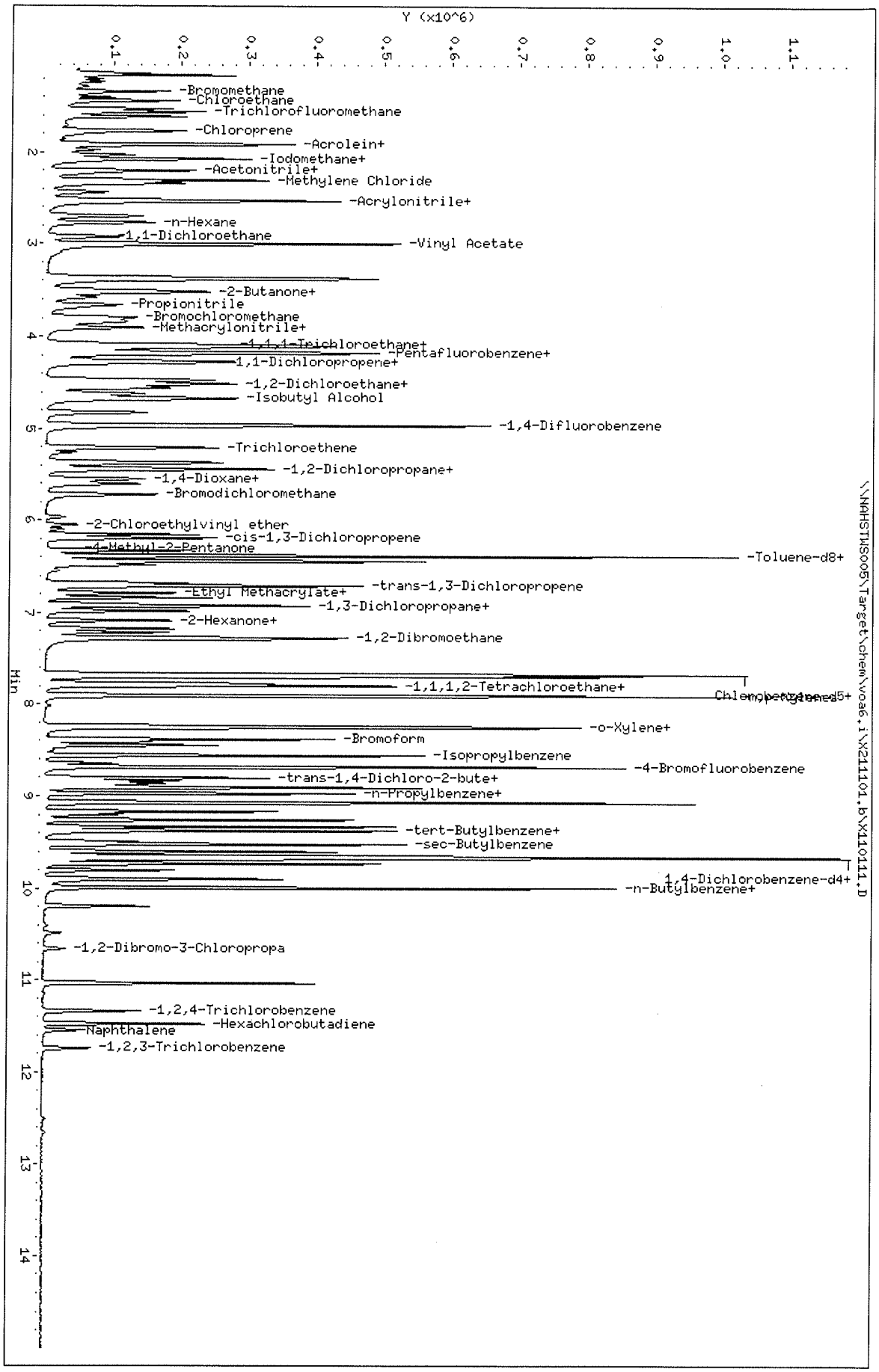
ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X211101.b\X110111.D
Lab Smp Id: HS21101171-02MS Client Smp ID: HS21101171-02MS
Inj Date : 01-NOV-2021 15:36
Operator : PC Inst ID: voa6.i
Smp Info : HS21101171-02MS;HS21101171-02MS;3;;MS
Misc Info : HS18090001;WATER;0;10;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X211101.b\8260W.m
Meth Date : 16-Nov-2021 14:27 voa6.i Quant Type: ISTD
Cal Date : 08-OCT-2021 15:34 Cal File: X100808.D
Als bottle: 11 QC Sample: MS
Dil Factor: 10.00000
Integrator: HP RTE Compound Sublist: 01474-dod.sub
Target Version: 4.14
Processing Host: NAHSTW7017

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

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

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	435400	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.096	(0.981)	197834	46.2040	46.20
$ 35 1,2-Dichloroethane-d4	65	4.469	4.469	(1.069)	184499	42.2873	42.28
* 36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	577015	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	515482	50.0000	
$ 48 Toluene-d8	98	6.388	6.381	(0.833)	629686	48.1341	48.13
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	221535	49.1840	49.18
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	248757	50.0000	
5 Vinyl Chloride	62	1.145	1.145	(0.274)	80990	17.7418	177.41
11 1,1-Dichloroethene	96	1.911	1.919	(0.457)	67440	17.3642	173.64
17 Methylene Chloride	84	2.305	2.305	(0.551)	69329	17.4505	174.50
27 cis-1,2-Dichloroethene	96	3.530	3.523	(0.844)	85389	18.8637	188.63
33 1,2-Dichloroethane	62	4.555	4.555	(0.918)	87150	18.0054	180.05
38 Trichloroethene	130	5.206	5.206	(1.049)	89925	20.6030	206.03
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	53814	19.5641	195.64



Data File: \\NAHSTWS005\Target\chem\voa6.i\X211101.b\X110111.D
Date : 01-NOV-2021 15:36
Client ID: HS2110171-02MS
Sample Info: HS2110171-02MS;HS2110171-02MS;3;;HMS
Purge Volume: 5.0
Column phase: DB624

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

Data File: \\NAHSTWS005\Target\chem\voa6.i\X211101.b\X110112.D Page 1
Report Date: 16-Nov-2021 15:45

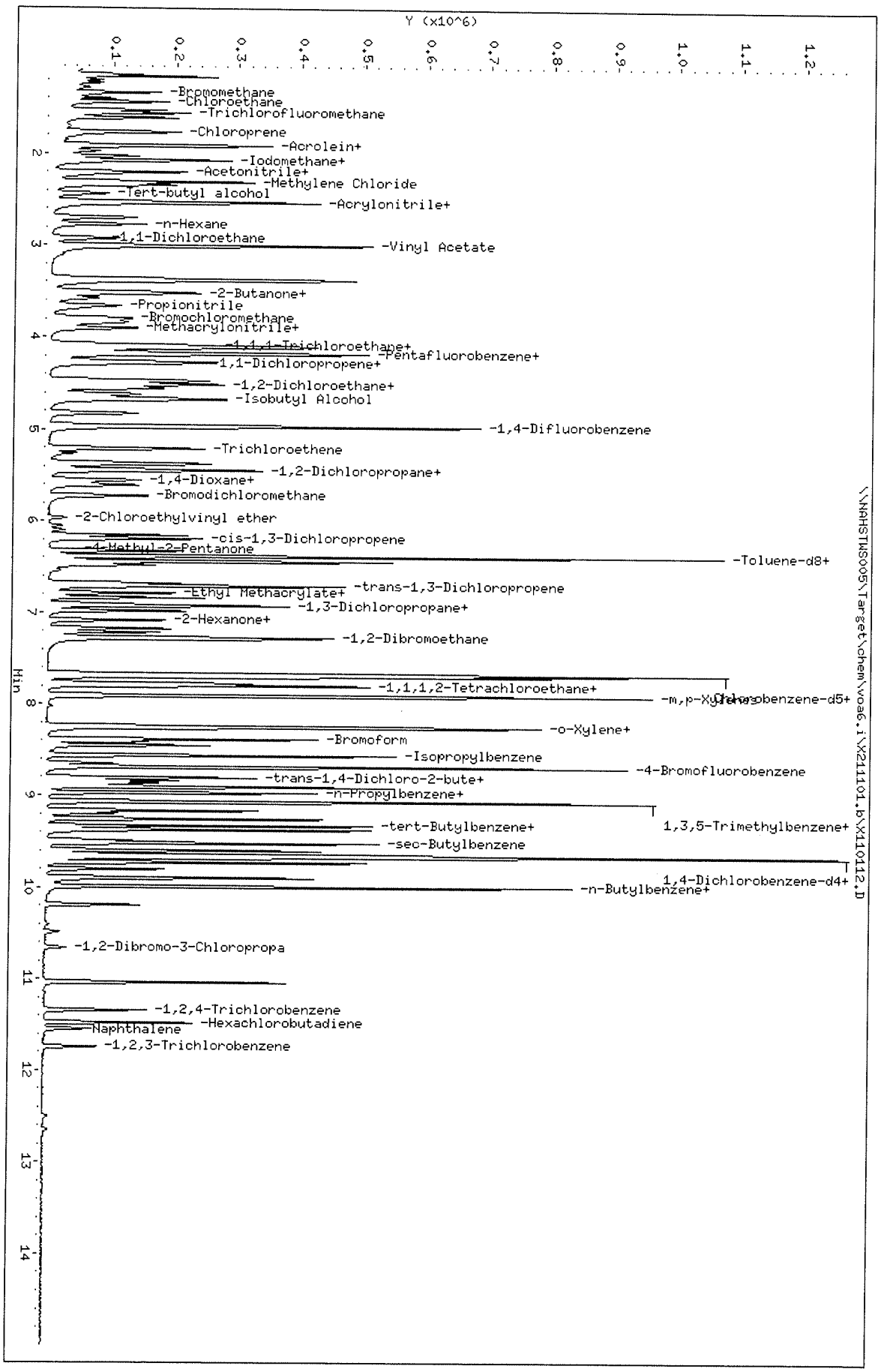
ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X211101.b\X110112.D
Lab Smp Id: HS21101171-02MSD Client Smp ID: HS21101171-02MSD
Inj Date : 01-NOV-2021 15:57
Operator : PC Inst ID: voa6.i
Smp Info : HS21101171-02MSD;HS21101171-02MSD;3;;MSD
Misc Info : HS18090001;WATER;0;10;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X211101.b\8260W.m
Meth Date : 16-Nov-2021 15:06 kori.bagsb Quant Type: ISTD
Cal Date : 08-OCT-2021 15:34 Cal File: X100808.D
Als bottle: 11 QC Sample: MSD
Dil Factor: 10.00000
Integrator: HP RTE Compound Sublist: 01474-dod.sub
Target Version: 4.14
Processing Host: NAHSTW7017

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

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

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	444095	50.0000	
$ 30 Dibromofluoromethane	113	4.096	4.096	(0.979)	200072	45.8021	45.80
$ 35 1,2-Dichloroethane-d4	65	4.469	4.469	(1.069)	186276	41.8381	41.83
* 36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	599368	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	532224	50.0000	
$ 48 Toluene-d8	98	6.381	6.388	(0.832)	653053	48.3500	48.35
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	228165	49.0591	49.05
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	273279	50.0000	
5 Vinyl Chloride	62	1.145	1.145	(0.274)	76377	16.4037	164.03
11 1,1-Dichloroethene	96	1.911	1.912	(0.457)	65307	16.4857	164.85
17 Methylene Chloride	84	2.305	2.306	(0.551)	69147	17.0358	170.35
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	82301	17.8255	178.25
33 1,2-Dichloroethane	62	4.555	4.555	(0.918)	88954	17.6927	176.92
38 Trichloroethene	130	5.206	5.207	(1.049)	86627	19.1072	191.07
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	52288	18.4114	184.11



Data File: \\NAHSTWS005\Target\chem\voa6.i\X211101.b\X110112.D
Date : 01-NOV-2021 15:57
Client ID: HS2110171-02MSD
Sample Info: HS2110171-02MSD;HS2110171-02MSD;3;;MSD
Purge Volume: 5.0
Column phase: DB624

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

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X211101.b\X110115.D
Lab Smp Id: HS21101272-11 Client Smp ID: HS21101272-11
Inj Date : 01-NOV-2021 17:01
Operator : PC Inst ID: voa6.i
Smp Info : HS21101272-11;HS21101272-11;;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X211101.b\8260W.m
Meth Date : 16-Nov-2021 14:24 kori.bagsb Quant Type: ISTD
Cal Date : 08-OCT-2021 15:34 Cal File: X100808.D
Als bottle: 14
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 01474-dod.sub
Target Version: 4.14
Processing Host: NAHSTW7017

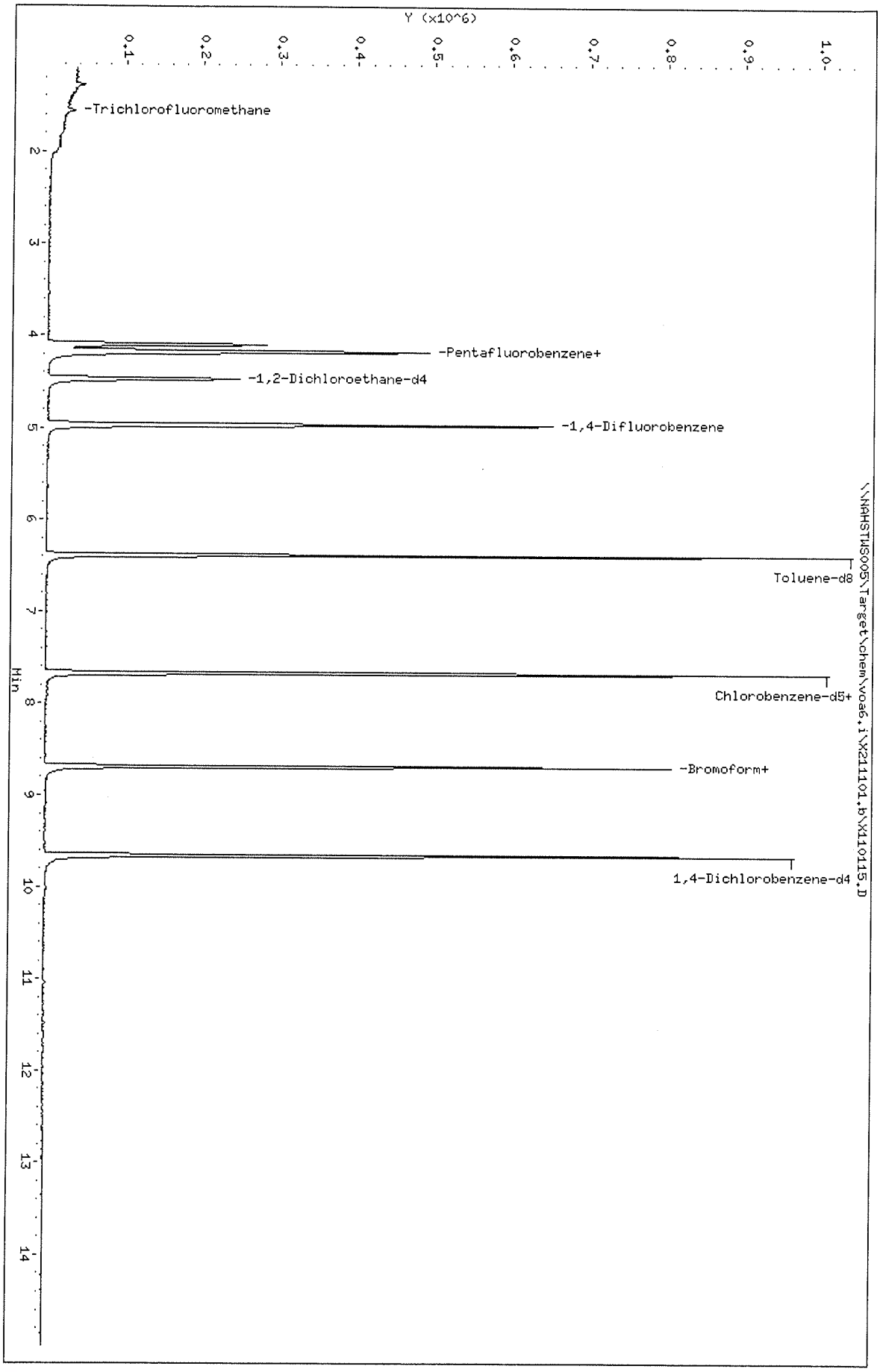
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

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

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	433833	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.096	(0.981)	197708	46.3447	46.34
$ 35 1,2-Dichloroethane-d4	65	4.469	4.469	(1.069)	187282	43.1184	43.11
* 36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	588404	50.0000	
* 47 Chlorobenzene-d5	117	7.670	7.671	(1.000)	520987	50.0000	
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	639526	48.3698	48.36
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	220676	48.4559	48.45
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	254444	50.0000	

Data File: \\NAHSTWS005\Target\chem\voa6,i\X211101,b\X110115.D
Date : 01-NOV-2021 17:01
Client ID: HS211012?2-11
Sample Info: HS211012?2-11;HS211012?2-11;;;
Purge Volume: 5.0
Column phase: DB624

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



Data File: \\NAHSTWS005\Target\chem\voa6.i\X211101.b\X110116.D Page 1
Report Date: 16-Nov-2021 14:25

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X211101.b\X110116.D
Lab Smp Id: HS21101272-01 Client Smp ID: HS21101272-01
Inj Date : 01-NOV-2021 17:22
Operator : PC Inst ID: voa6.i
Smp Info : HS21101272-01;HS21101272-01;;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X211101.b\8260W.m
Meth Date : 16-Nov-2021 14:24 kori.bagsb Quant Type: ISTD
Cal Date : 08-OCT-2021 15:34 Cal File: X100808.D
Als bottle: 15
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 01474-dod.sub
Target Version: 4.14
Processing Host: NAHSTW7017

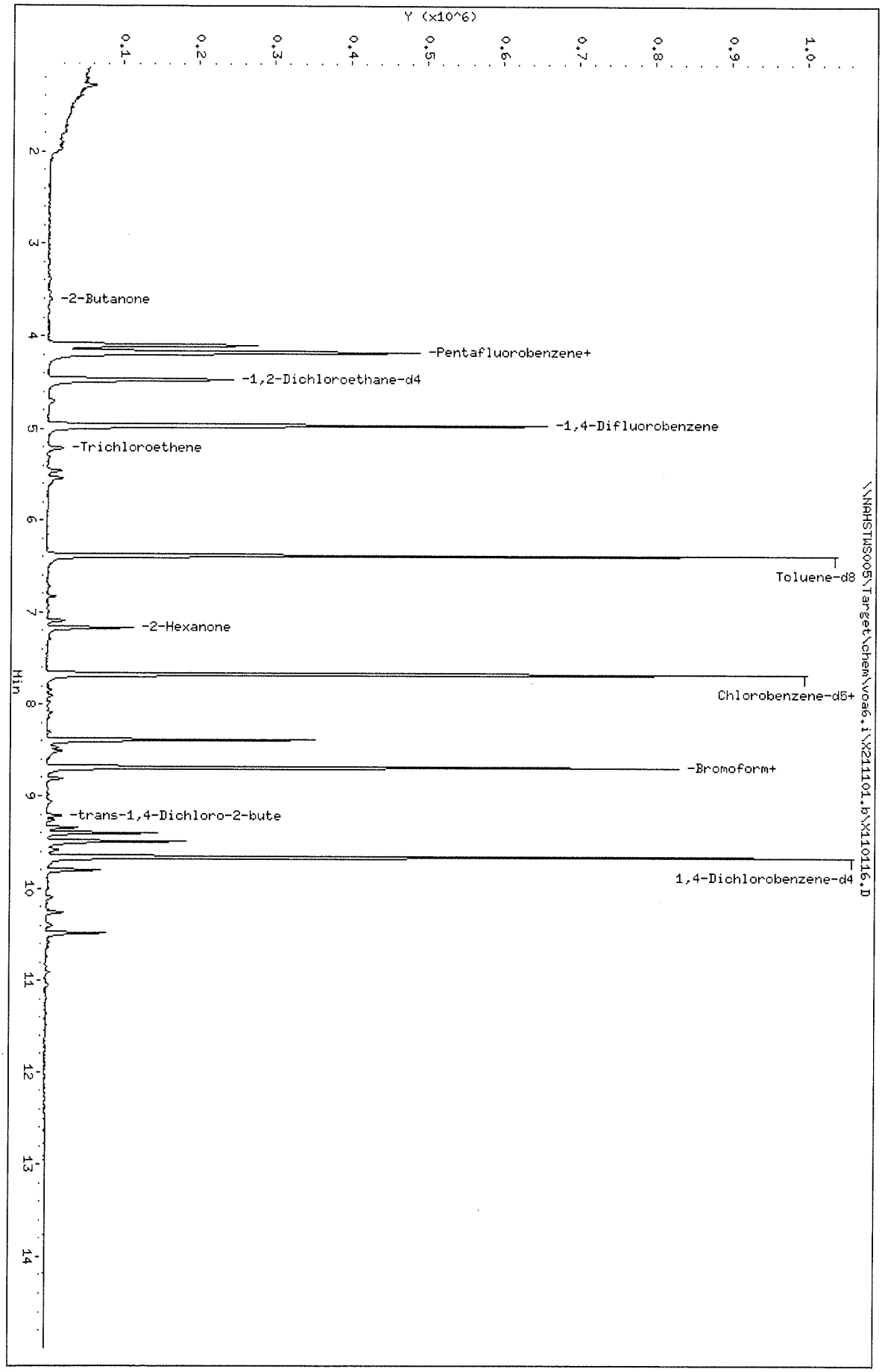
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

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

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	427454	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.096	(0.981)	193574	46.0457	46.04
$ 35 1,2-Dichloroethane-d4	65	4.469	4.469	(1.069)	186917	43.7029	43.70
* 36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	585607	50.0000	
* 47 Chlorobenzene-d5	117	7.670	7.671	(1.000)	521463	50.0000	
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	632660	47.8068	47.80
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	224349	49.2389	49.23
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	257204	50.0000	
38 Trichloroethene	130	5.206	5.207	(1.049)	5751	1.29830	1.29(a)

QC Flag Legend

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



Data File: \\NAHSTWS005\Target\chem\voa6.i\X211101.b\X110116.D
Date : 01-NOV-2021 17:22
Client ID: HS21101272-01
Sample Info: HS21101272-01;HS21101272-01;;;
Purge Volume: 5.0
Column phase: DB624

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

Data File: \\NAHSTWS005\Target\chem\voa6.i\X211101.b\X110116.D

Date : 01-NOV-2021 17:22

Client ID: HS21101272-01

Instrument: voa6.i

Sample Info: HS21101272-01;HS21101272-01;;;

Purge Volume: 5.0

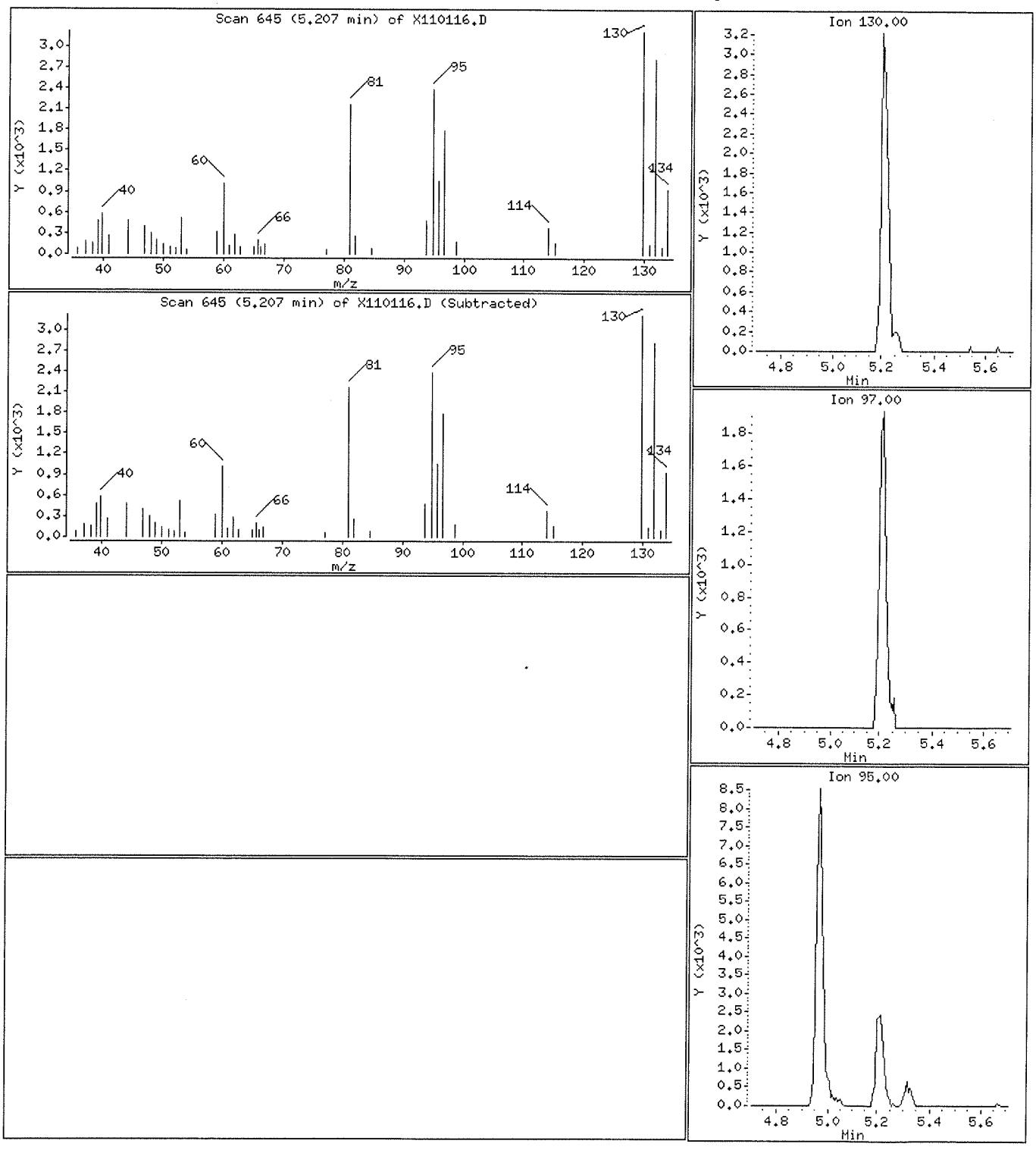
Operator: PC

Column phase: DB624

Column diameter: 0.18

38 Trichloroethene

Concentration: 1.29 ug/l



Data File: \\NAHSTWS005\Target\chem\voa6.i\X211101.b\X110117.D Page 1
Report Date: 16-Nov-2021 14:25

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X211101.b\X110117.D
Lab Smp Id: HS21101272-02 Client Smp ID: HS21101272-02
Inj Date : 01-NOV-2021 17:43
Operator : PC Inst ID: voa6.i
Smp Info : HS21101272-02;HS21101272-02;;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X211101.b\8260W.m
Meth Date : 16-Nov-2021 14:24 kori.bagsb Quant Type: ISTD
Cal Date : 08-OCT-2021 15:34 Cal File: X100808.D
Als bottle: 16
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 01474-dod.sub
Target Version: 4.14
Processing Host: NAHSTW7017

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

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

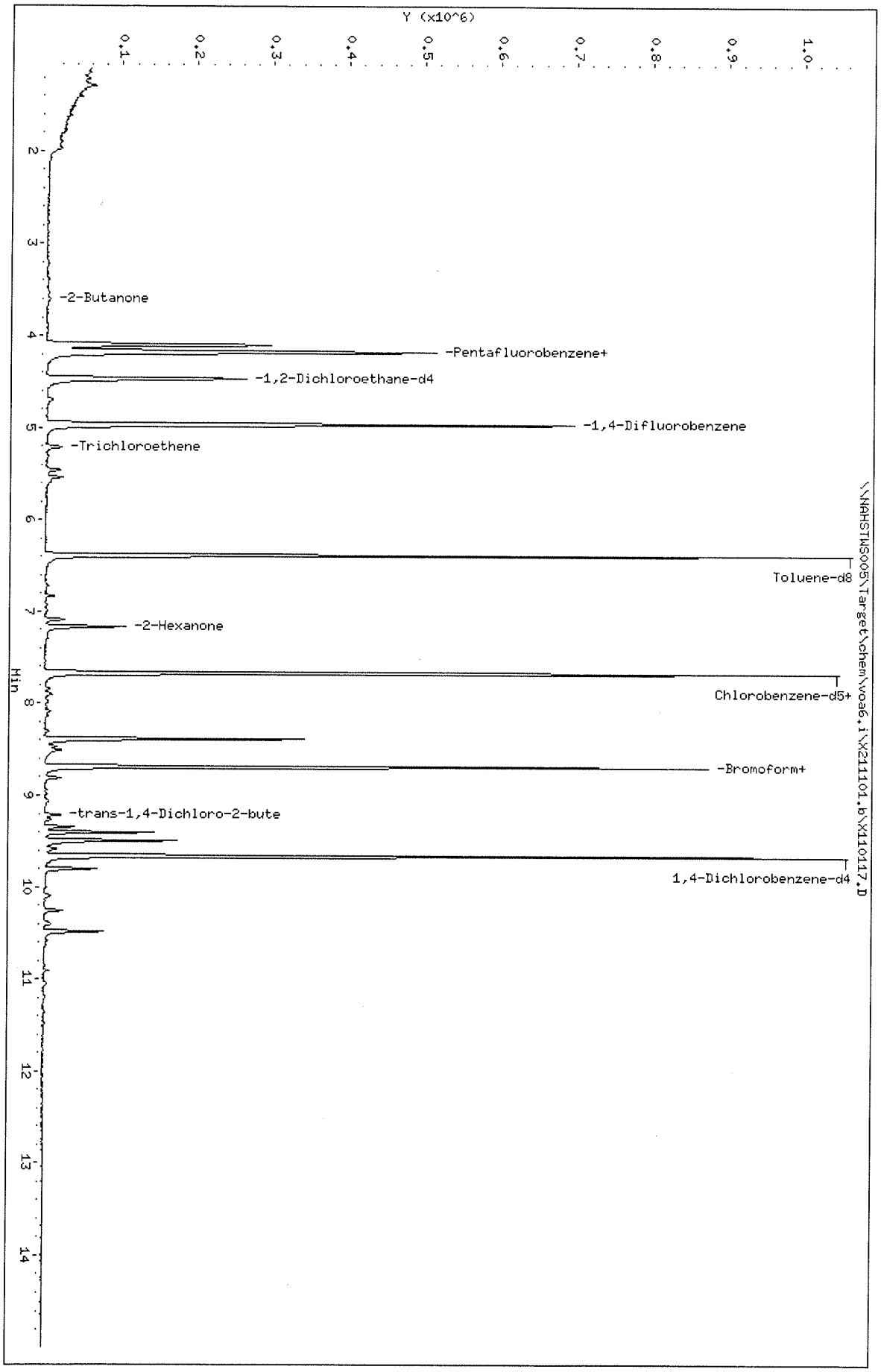
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	453220	50.0000	
$ 30 Dibromofluoromethane	113	4.096	4.096	(0.979)	211969	47.5922	47.59
$ 35 1,2-Dichloroethane-d4	65	4.469	4.469	(1.069)	201710	44.5166	44.51
* 36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	621076	50.0000	
* 47 Chlorobenzene-d5	117	7.670	7.671	(1.000)	547052	50.0000	
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	670455	48.2929	48.29
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	231662	48.4442	48.44
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	259858	50.0000	
38 Trichloroethene	130	5.214	5.207	(1.051)	5553	1.18201	1.18(a)

QC Flag Legend

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

Data File: \\NAHSTWS005\Target\chem\voa6.i\X211101.b\X110117.D
Date : 01-NOV-2021 17:43
Client ID: HS21101272-02
Sample Info: HS21101272-02;HS21101272-02;;;
Purge Volume: 5.0
Column phase: DB624

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



Data File: \\NAHSTWS005\Target\chem\voa6.i\X211101.b\X110117.D

Date : 01-NOV-2021 17:43

Client ID: HS21101272-02

Instrument: voa6.i

Sample Info: HS21101272-02;HS21101272-02;;;

Purge Volume: 5.0

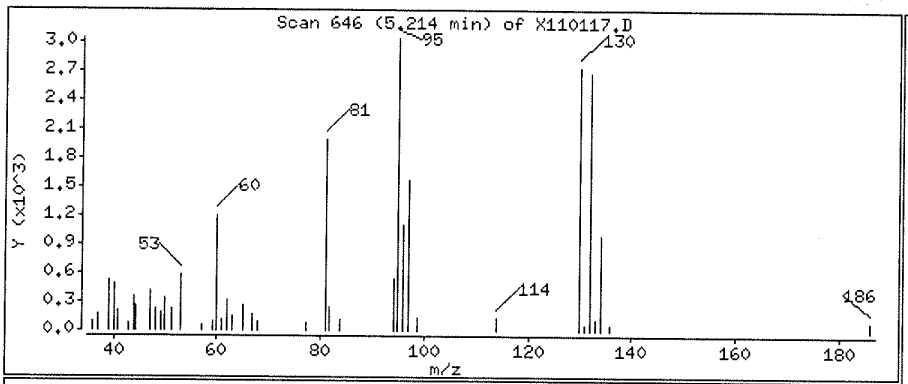
Operator: PC

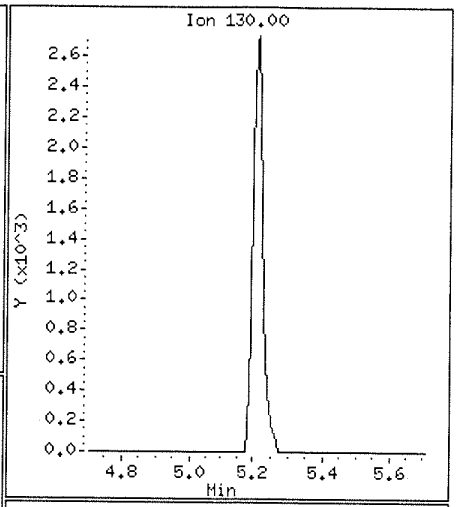
Column phase: DB624

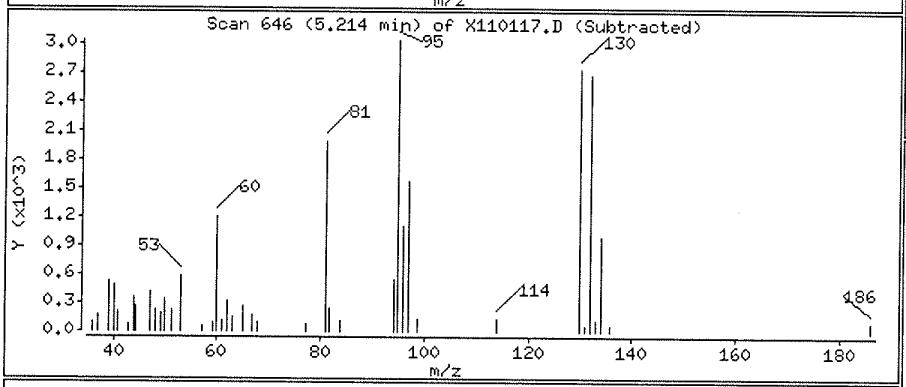
Column diameter: 0.18

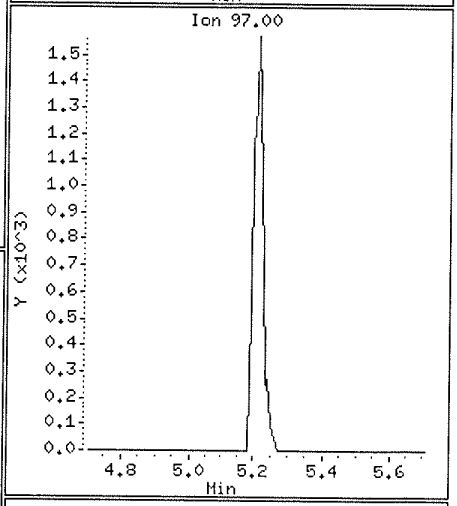
38 Trichloroethene

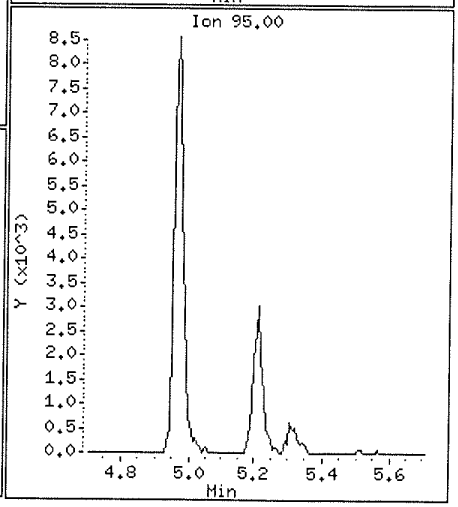
Concentration: 1.18 ug/l











Data File: \\NAHSTWS005\Target\chem\voa6.i\X211101.b\X110118.D Page 1
Report Date: 16-Nov-2021 14:25

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X211101.b\X110118.D
Lab Smp Id: HS21101272-03 Client Smp ID: HS21101272-03
Inj Date : 01-NOV-2021 18:04
Operator : PC Inst ID: voa6.i
Smp Info : HS21101272-03;HS21101272-03;;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X211101.b\8260W.m
Meth Date : 16-Nov-2021 14:24 kori.bagsb Quant Type: ISTD
Cal Date : 08-OCT-2021 15:34 Cal File: X100808.D
Als bottle: 17
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 01474-dod.sub
Target Version: 4.14
Processing Host: NAHSTW7017

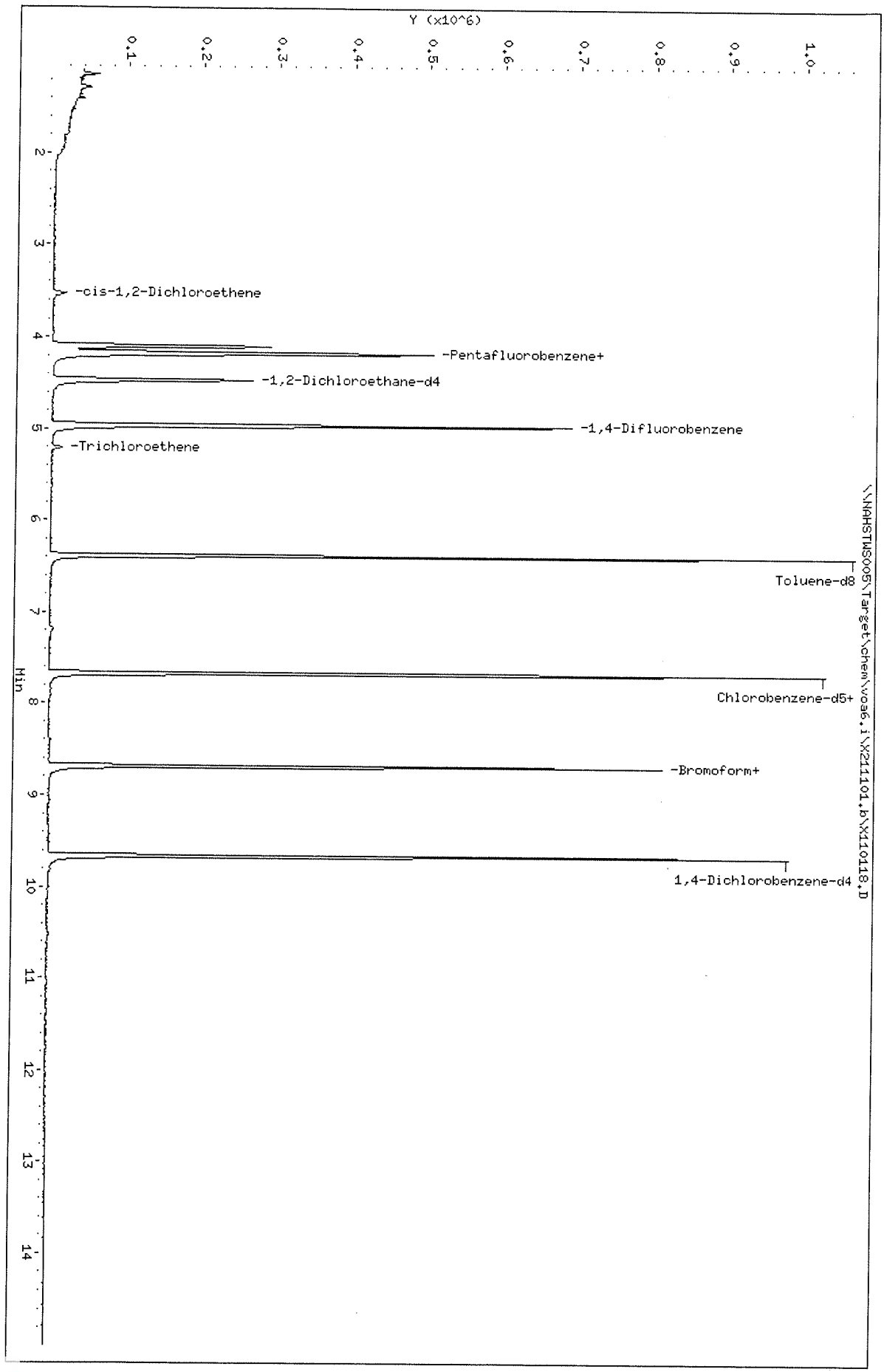
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

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

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	451828	50.0000	
$ 30 Dibromofluoromethane	113	4.096	4.096	(0.979)	204190	45.9484	45.94
$ 35 1,2-Dichloroethane-d4	65	4.469	4.469	(1.069)	198472	43.9105	43.91
* 36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	609507	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	541454	50.0000	
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	668684	48.6633	48.66
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	225485	47.6172	47.61
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	251659	50.0000	
5 Vinyl Chloride	62	1.145	1.145	(0.274)	15349	3.24012	3.24(a)
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	8936	1.90231	1.90(a)
38 Trichloroethene	130	5.214	5.207	(1.051)	5325	1.15499	1.15(a)

QC Flag Legend

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



Data File: \\NAHSTWS005\Target\chem\voa6.i\X211101.b\X110118.D
Date : 01-NOV-2021 18:04
Client ID: HS21101272-03
Sample Info: HS21101272-03;HS21101272-03;;;
Purge Volume: 5.0
Column phase: DB624

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

Data File: \\NAHSTWS005\Target\chem\voa6.i\X211101.b\X110118.D

Date : 01-NOV-2021 18:04

Client ID: HS21101272-03

Instrument: voa6.i

Sample Info: HS21101272-03;HS21101272-03;;;

Purge Volume: 5.0

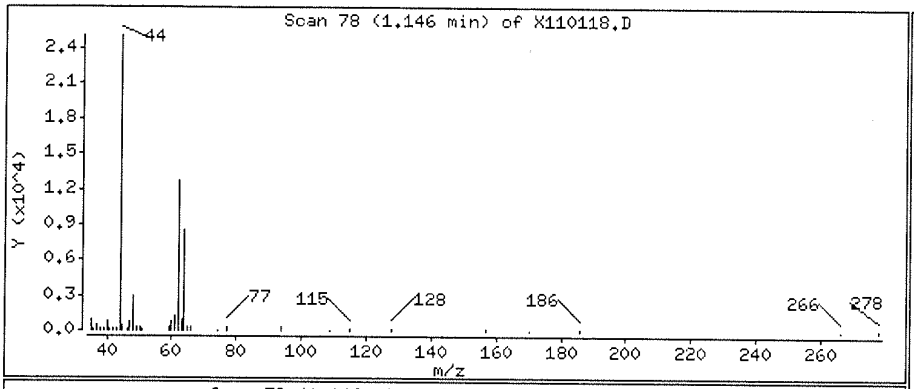
Operator: PC

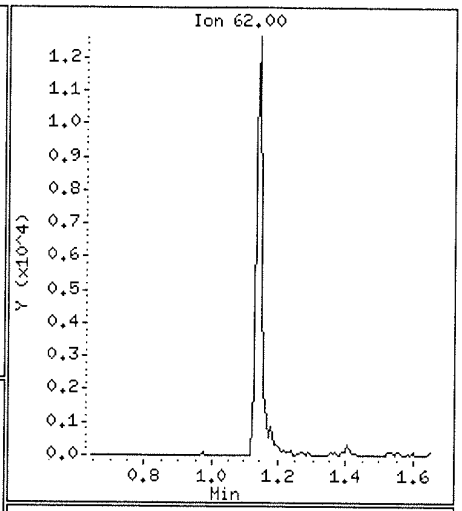
Column phase: DB624

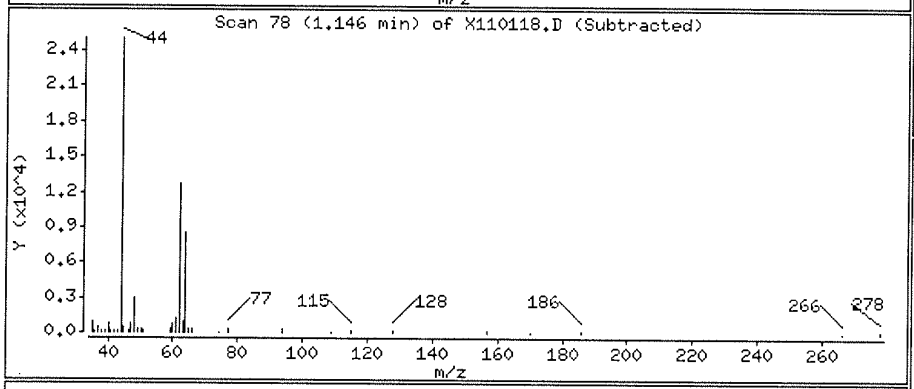
Column diameter: 0.18

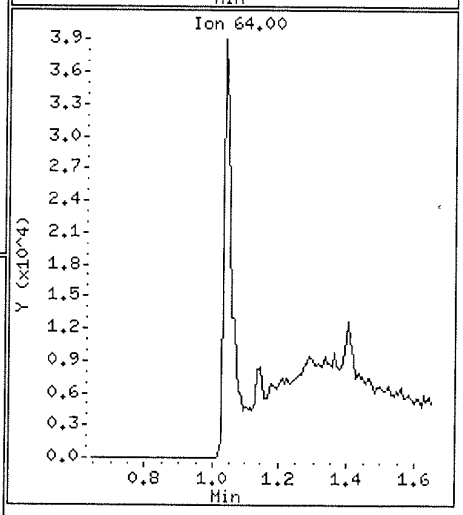
5 Vinyl Chloride

Concentration: 3.24 ug/l









Data File: \\NAHSTWS005\Target\chem\voa6.i\X211101.b\X110118.D

Date : 01-NOV-2021 18:04

Client ID: HS21101272-03

Instrument: voa6.i

Sample Info: HS21101272-03;HS21101272-03;;;

Purge Volume: 5.0

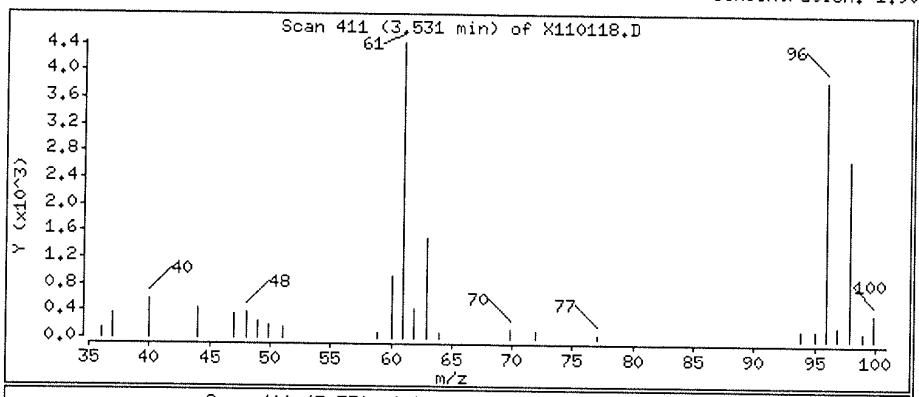
Operator: PC

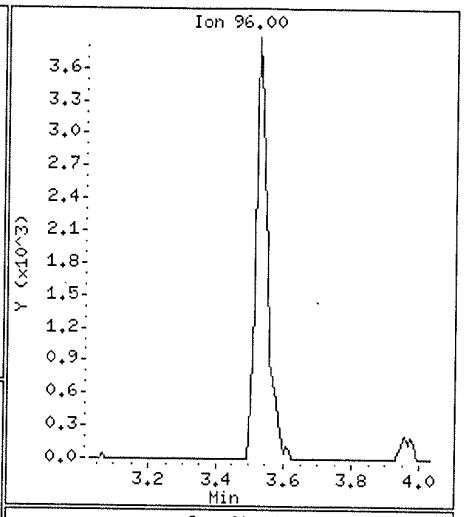
Column phase: DB624

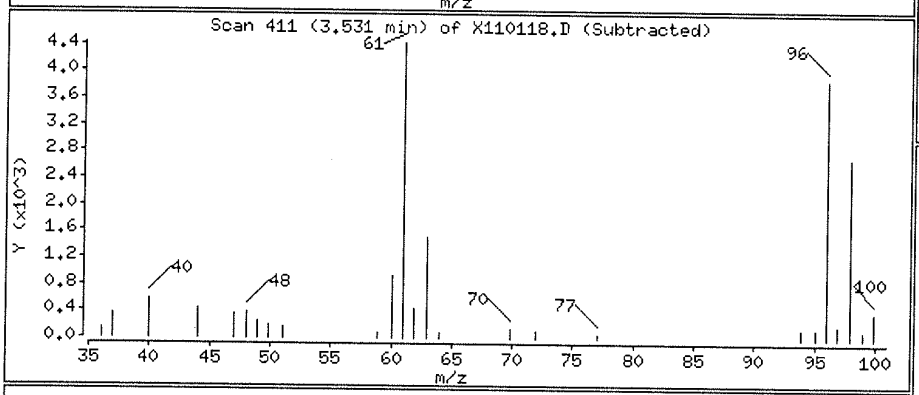
Column diameter: 0.18

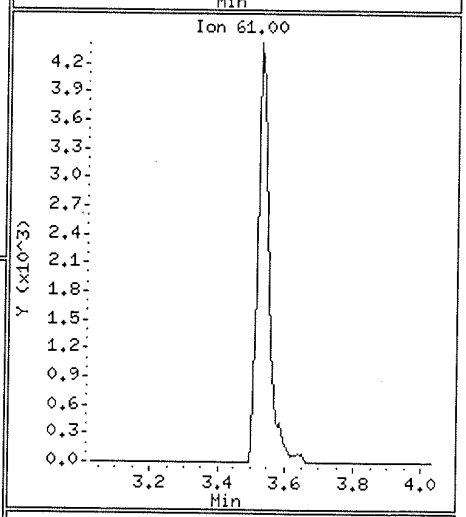
27 cis-1,2-Dichloroethene

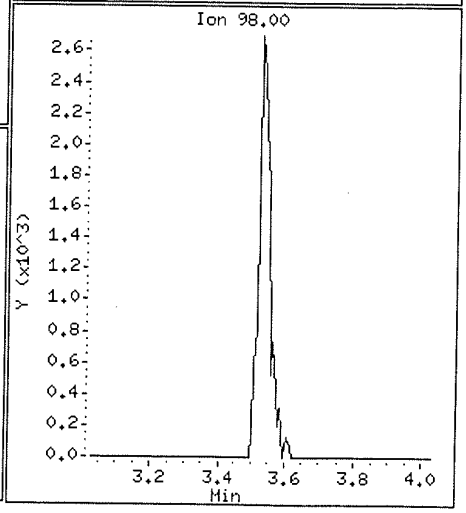
Concentration: 1.90 ug/l











Data File: \\NAHSTWS005\Target\chem\voa6.i\X211101.b\X110118.D

Date : 01-NOV-2021 18:04

Client ID: HS21101272-03

Instrument: voa6.i

Sample Info: HS21101272-03;HS21101272-03;;;

Purge Volume: 5.0

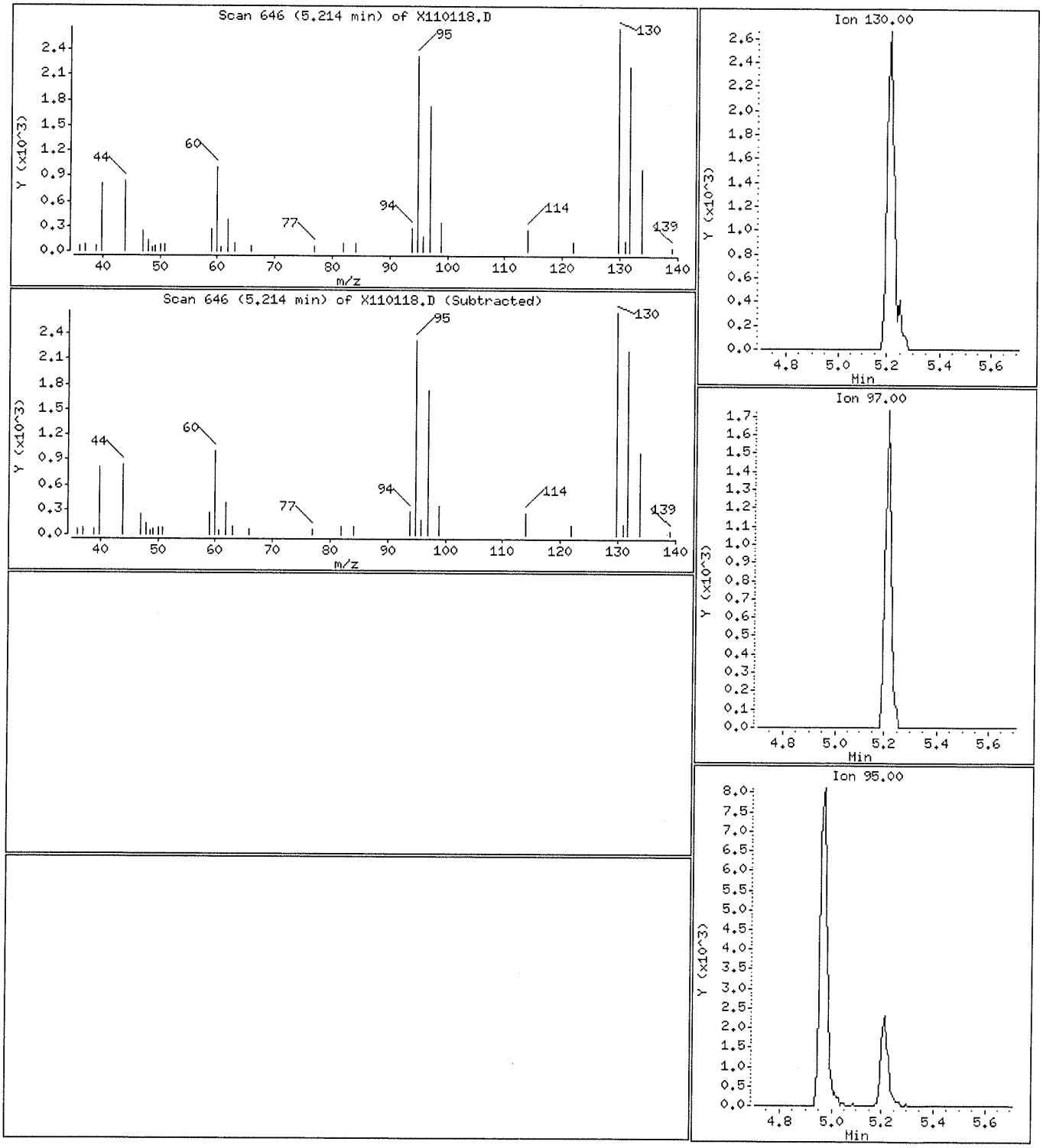
Operator: PC

Column phase: DB624

Column diameter: 0.18

38 Trichloroethene

Concentration: 1.15 ug/l



Data File: \\NAHSTWS005\Target\chem\voa6.i\X211101.b\X110130.D Page 1
Report Date: 16-Nov-2021 14:27

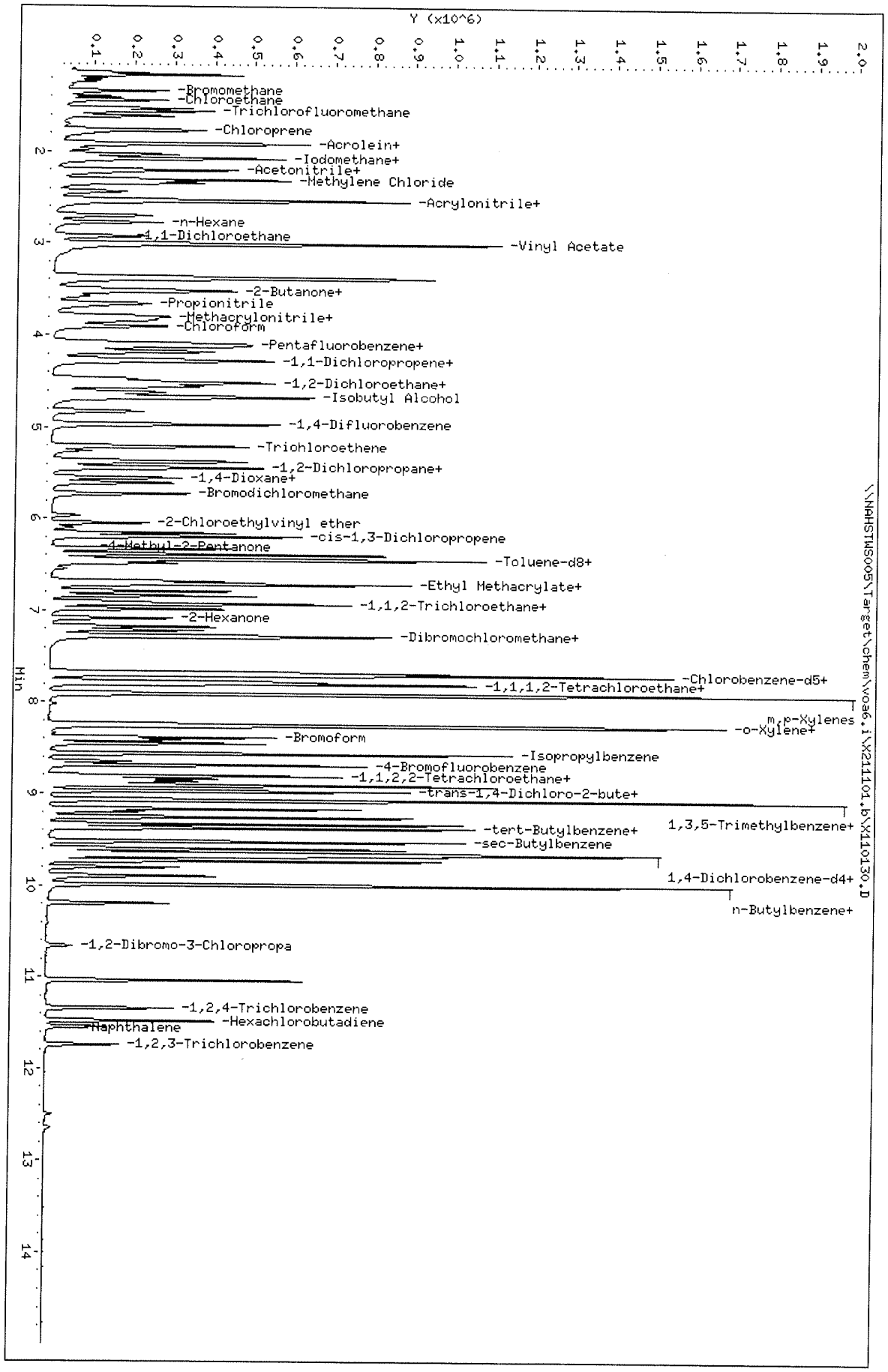
ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X211101.b\X110130.D
Lab Smp Id: CCV Client Smp ID: CCV
Inj Date : 01-NOV-2021 22:58
Operator : PC Inst ID: voa6.i
Smp Info : CCV;CCV;2;;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X211101.b\8260W.m
Meth Date : 16-Nov-2021 14:27 voa6.i Quant Type: ISTD
Cal Date : 08-OCT-2021 15:34 Cal File: X100808.D
Als bottle: 31 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 01474-dod.sub
Target Version: 4.14
Processing Host: NAHSTW7017

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

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

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	347037	50.0000	
$ 30 Dibromofluoromethane	113	4.096	4.096	(0.979)	156113	50.0000	45.73
$ 35 1,2-Dichloroethane-d4	65	4.469	4.469	(1.068)	153115	50.0000	44.11
* 36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	494043	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	464424	50.0000	
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	507899	50.0000	43.09
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	196242	50.0000	48.33
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	244468	50.0000	
5 Vinyl Chloride	62	1.145	1.145	(0.274)	140001	50.0000	38.47
11 1,1-Dichloroethene	96	1.912	1.912	(0.457)	128053	50.0000	41.36
17 Methylene Chloride	84	2.306	2.306	(0.551)	141017	50.0000	46.49
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	161592	50.0000	44.78
33 1,2-Dichloroethane	62	4.555	4.555	(0.918)	176073	50.0000	42.48
38 Trichloroethene	130	5.207	5.207	(1.049)	170312	50.0000	45.57
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	108430	50.0000	43.75



Data File: \\NAHSTWS005\Target\chem\voa6.i\X211101.b\X110130.D
Date : 01-NOV-2021 22:58
Client ID: CCV
Sample Info: CCV;CCV;2;;;
Purge Volume: 5.0
Column phase: DB624

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

MSVOA06 -Logbook

Batch: 47032
Date: 11-02-2021
Method: 8260
Comments:

Analyst: Presenta Cabascango
Reviewer:
Laboratory: Houston

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	pl
1	BFB	TUNE	11-02-2021 10:50 am	1.00	50 mL	50 mL	X110201.D	Liquid	Y	N/
2	CCV	CCV	11-02-2021 11:11 am	1.00	50 mL	50 mL	X110202a.D	Liquid	Y	N/
3	CCV	CCV	11-02-2021 11:32 am	1.00	50 mL	50 mL	X110203.D	Liquid	Y	N/
4	CCB	SAMP	11-02-2021 11:53 am	1.00	50 mL	50 mL	X110204.D	Liquid	Y	N/
5	VLCSW-211102	LCS	11-02-2021 12:14 pm	1.00	50 mL	50 mL	X110205.D	Liquid	Y	N/
6	BLANK	SAMP	11-02-2021 12:35 pm	1.00	50 mL	50 mL	X110206.D	Liquid	Y	N/
7	VBLKW-211102	MBLK	11-02-2021 12:56 pm	1.00	50 mL	50 mL	X110207.D	Liquid	Y	N/
8	HS21101275-02	SAMP	11-02-2021 01:17 pm	1.00	50 mL	50 mL	X110208.D	Liquid	Y	N/
9	HS21101275-10	SAMP	11-02-2021 01:38 pm	1.00	50 mL	50 mL	X110209.D	Liquid	Y	N/
10	HS21101275-11	SAMP	11-02-2021 01:59 pm	1.00	50 mL	50 mL	X110210.D	Liquid	Y	N/
11	HS21101171-05	SAMP	11-02-2021 02:20 pm	250.0(	200 µL	50 mL	X110211.D	Liquid	Y	N/
12	HS21101272-04	SAMP	11-02-2021 02:41 pm	10.00	5 mL	50 mL	X110212.D	Liquid	Y	N/
13	HS21101171-05MS	MS	11-02-2021 03:02 pm	250.0(	200 µL	50 mL	X110213.D	Liquid	Y	N/
14	HS21101171-05MSD	MSD	11-02-2021 03:23 pm	250.0(	200 µL	50 mL	X110214.D	Liquid	Y	N/
15	HS21101563-02	SAMP	11-02-2021 03:44 pm	1.00	50 mL	50 mL	X110215.D	Liquid	Y	N/
16	HS21101272-05	SAMP	11-02-2021 04:05 pm	10.00	5 mL	50 mL	X110216.D	Liquid	Y	N/
17	HS21101272-05n/r	SAMP	11-02-2021 04:26 pm	50.00	1 mL	50 mL	X110217.D	Liquid	Y	N/
18	HS21101272-10	SAMP	11-02-2021 04:47 pm	20.00	2.5 mL	50 mL	X110218.D	Liquid	Y	N/
19	HS21101272-10	SAMP	11-02-2021 05:08 pm	100.0(	500 µL	50 mL	X110219.D	Liquid	Y	N/
20	HS21101272-09	SAMP	11-02-2021 05:29 pm	5000.0	10 µL	50 mL	X110220.D	Liquid	Y	N/
21	HS21101272-06	SAMP	11-02-2021 05:51 pm	10000.(	5 µL	50 mL	X110221.D	Liquid	Y	N/
22	HS21101272-07	SAMP	11-02-2021 06:12 pm	10000.(	5 µL	50 mL	X110222.D	Liquid	Y	N/
23	HS21101272-08	SAMP	11-02-2021 06:33 pm	10000.(	5 µL	50 mL	X110223.D	Liquid	Y	N/
24	CCV-END	CCV	11-02-2021 06:54 pm	1.00	50 mL	50 mL	X110224.D	Liquid	Y	N/
25	HS21101542-25	SAMP	11-02-2021 07:15 pm	1.00	50 mL	50 mL	X110225.D	Liquid	Y	N/
26	HS21101762-02	SAMP	11-02-2021 07:36 pm	1.00	50 mL	50 mL	X110226.D	Liquid	Y	N/
27	HS21101308-01	SAMP	11-02-2021 07:57 pm	1.00	50 mL	50 mL	X110227.D	Liquid	Y	N/
28	HS21101308-02	SAMP	11-02-2021 08:18 pm	1.00	50 mL	50 mL	X110228.D	Liquid	Y	N/
29	HS21101308-03	SAMP	11-02-2021 08:39 pm	1.00	50 mL	50 mL	X110229.D	Liquid	Y	N/
30	HS21101308-04	SAMP	11-02-2021 09:00 pm	1.00	50 mL	50 mL	X110230.D	Liquid	Y	N/
31	BFB	TUNE	11-02-2021 09:21 pm	1.00	50 mL	50 mL	Y110201.D	Liquid	Y	N/
32	CCV	CCV	11-02-2021 09:42 pm	1.00	50 mL	50 mL	Y110202.D	Liquid	Y	N/
33	CCV	CCV	11-02-2021 10:03 pm	1.00	50 mL	50 mL	Y110203.D	Liquid	Y	N/
34	CCB	SAMP	11-02-2021 10:24 pm	1.00	50 mL	50 mL	Y110204.D	Liquid	Y	N/
35	VLCSW-211102	LCS	11-02-2021 10:45 pm	1.00	50 mL	50 mL	Y110205.D	Liquid	Y	N/
36	BLANK	SAMP	11-02-2021 11:06 pm	1.00	50 mL	50 mL	Y110206.D	Liquid	Y	N/
37	VBLKW-211102	MBLK	11-02-2021 11:27 pm	1.00	50 mL	50 mL	Y110207.D	Liquid	Y	N/
38	HS21101315-13	SAMP	11-02-2021 11:48 pm	1.00	50 mL	50 mL	Y110208.D	Liquid	Y	N/
39	HS21101178-02	SAMP	11-03-2021 12:09 am	1.00	50 mL	50 mL	Y110209.D	Liquid	Y	N/
40	HS21101178-01	SAMP	11-03-2021 12:30 am	10.00	5 mL	50 mL	Y110210.D	Liquid	Y	N/
41	HS21101315-10	SAMP	11-03-2021 12:51 am	10.00	5 mL	50 mL	Y110211.D	Liquid	Y	N/

MSVOA06 -Logbook

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	g
42	HS21101315-10	SAMP	11-03-2021 01:12 am	1.00	50 mL	50 mL	Y110212.D	Liquid	Y	N
43	HS21101315-10MS	MS	11-03-2021 01:33 am	10.00	5 mL	50 mL	Y110213.D	Liquid	Y	N
44	HS21101315-10MSD	MSD	11-03-2021 01:54 am	10.00	5 mL	50 mL	Y110214.D	Liquid	Y	N
45	BLANK	SAMP	11-03-2021 02:15 am	1.00	50 mL	50 mL	Y110215.D	Liquid	Y	N
46	HS21101723-01	SAMP	11-03-2021 02:36 am	1.00	50 mL	50 mL	Y110216.D	Liquid	Y	N
47	HS21101723-01	SAMP	11-03-2021 02:58 am	10.00	5 mL	50 mL	Y110217.D	Liquid	Y	N
48	HS21101723-02	SAMP	11-03-2021 03:19 am	1.00	50 mL	50 mL	Y110218.D	Liquid	Y	N
49	HS21101723-03	SAMP	11-03-2021 03:40 am	1.00	50 mL	50 mL	Y110219.D	Liquid	Y	N
50	HS21101723-04	SAMP	11-03-2021 04:01 am	1.00	50 mL	50 mL	Y110220.D	Liquid	Y	N
51	HS21101723-05	SAMP	11-03-2021 04:22 am	1.00	50 mL	50 mL	Y110221.D	Liquid	Y	N
52	HS21101723-06	SAMP	11-03-2021 04:43 am	1.00	50 mL	50 mL	Y110222.D	Liquid	Y	N
53	HS21101723-07	SAMP	11-03-2021 05:04 am	1.00	50 mL	50 mL	Y110223.D	Liquid	Y	N
54	HS21101723-08	SAMP	11-03-2021 05:25 am	1.00	50 mL	50 mL	Y110224.D	Liquid	Y	N
55	HS21101723-09	SAMP	11-03-2021 05:46 am	1.00	50 mL	50 mL	Y110225.D	Liquid	Y	N
56	HS21101723-10	SAMP	11-03-2021 06:07 am	1.00	50 mL	50 mL	Y110226.D	Liquid	Y	N
57	HS21101723-11	SAMP	11-03-2021 06:28 am	1.00	50 mL	50 mL	Y110227.D	Liquid	Y	N
58	HS21101263-17	SAMP	11-03-2021 06:49 am	1.00	50 mL	50 mL	Y110228.D	Liquid	Y	N
59	HS21101263-19	SAMP	11-03-2021 07:10 am	1.00	50 mL	50 mL	Y110229.D	Liquid	Y	N
60	HS21101263-22	SAMP	11-03-2021 07:31 am	5.00	10 mL	50 mL	Y110230.D	Liquid	Y	N
61	HS21101263-21	SAMP	11-03-2021 07:52 am	10.00	5 mL	50 mL	Y110231.D	Liquid	Y	N
62	BLANK	SAMP	11-03-2021 08:14 am	1.00	50 mL	50 mL	Y110250.D	Liquid	Y	N
63	HS21101263-19	SAMP	11-03-2021 09:09 am	20.00	2.5 mL	50 mL	Y110232.D	Liquid	Y	N
64	BLANK	SAMP	11-03-2021 09:39 am	20.00	2.5 mL	50 mL	Y110251A.D	Liquid	Y	N

FORM 2
WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS21101272

	CLIENT SAMPLE NO.	SMC1 #	SMC2 (DCE)#	SMC3 (TOL)#	OTHER #	TOT OUT
01	VLCSW-211102	100	93	92	101	0
02	VBLKW-211102	91	88	96	98	0
03	HS21101272-04	92	90	98	97	0
04	HS21101171-05MS	93	88	96	99	0
05	HS21101171-05MSD	90	85	96	96	0
06	HS21101272-05	92	87	97	99	0
07	HS21101272-10	92	89	97	95	0
08	HS21101272-10	93	91	98	98	0
09	HS21101272-09	92	90	99	97	0
10	HS21101272-06	92	90	97	97	0
11	HS21101272-07	92	90	98	97	0
12	HS21101272-08	93	89	96	94	0
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						

		QC LIMITS
SMC1	= Dibromofluoromethane	(70-130)
SMC2 (DCE)	= 1,2-Dichloroethane-d4	(70-130)
SMC3 (TOL)	= Toluene-d8	(70-130)
OTHER	= 4-Bromofluorobenzene	(70-130)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D System Monitoring Compound diluted out

FORM 4
VOLATILE METHOD BLANK SUMMARY

CLIENT SAMPLE NO.

VBLKW-211102

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS21101272

Lab File ID: X110207 Lab Sample ID: VBLKW-211102

Date Analyzed: 11/02/21 Time Analyzed: 1256

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

Instrument ID: VOA6

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	VLCSW-211102	VLCSW-211102	X110205	1214
02	HS21101272-04	HS21101272-04	X110212	1441
03	HS21101171-05MS	HS21101171-05MS	X110213	1502
04	HS21101171-05MSD	HS21101171-05MSD	X110214	1523
05	HS21101272-05	HS21101272-05	X110216	1605
06	HS21101272-10	HS21101272-10	X110218	1647
07	HS21101272-10	HS21101272-10	X110219	1708
08	HS21101272-09	HS21101272-09	X110220	1729
09	HS21101272-06	HS21101272-06	X110221	1751
10	HS21101272-07	HS21101272-07	X110222	1812
11	HS21101272-08	HS21101272-08	X110223	1833
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				

COMMENTS:

FORM 5
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS21101272

Lab File ID: X110201 BFB Injection Date: 11/02/21

Instrument ID: VOA6 BFB Injection Time: 1050

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

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	18.2
75	30.0 - 60.0% of mass 95	48.1
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	7.8
173	Less than 2.0% of mass 174	0.8 (1.0)1
174	Greater than 50.0% of mass 95	77.5
175	5.0 - 9.0% of mass 174	6.0 (7.7)1
176	95.0 - 101.0% of mass 174	77.1 (99.6)1
177	5.0 - 9.0% of mass 176	6.5 (8.4)2

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

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	CCV	CCV	X110203	11/02/21	1132
02	VLCSW-211102	VLCSW-211102	X110205	11/02/21	1214
03	VBLKW-211102	VBLKW-211102	X110207	11/02/21	1256
04	HS21101272-04	HS21101272-04	X110212	11/02/21	1441
05	HS21101171-05MS	HS21101171-05MS	X110213	11/02/21	1502
06	HS21101171-05MSD	HS21101171-05MSD	X110214	11/02/21	1523
07	HS21101272-05	HS21101272-05	X110216	11/02/21	1605
08	HS21101272-10	HS21101272-10	X110218	11/02/21	1647
09	HS21101272-10	HS21101272-10	X110219	11/02/21	1708
10	HS21101272-09	HS21101272-09	X110220	11/02/21	1729
11	HS21101272-06	HS21101272-06	X110221	11/02/21	1751
12	HS21101272-07	HS21101272-07	X110222	11/02/21	1812
13	HS21101272-08	HS21101272-08	X110223	11/02/21	1833
14	CCV	CCV-END	X110224	11/02/21	1854
15					
16					
17					
18					
19					
20					
21					
22					

FORM 7B
VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS21101272

Instrument ID: VOA6 Calibration Date: 11/02/21 Time: 1132

Lab File ID: X110203 Init. Calib. Date(s): 10/08/21 10/08/21

Init. Calib. Times: 1308 1637

GC Column: DB624 ID: 0.18 (mm)

COMPOUND	RRF or AMOUNT	RRF50.000 or AMOUNT	CCAL RRF50.000	MIN RRF	%D or %DRIFT	MAX %D or %DRIFT	CURV TYPE
Methylene Chloride	49.309501	50.000000	0.4302572	0.1	1.38	20.00	LINR
1,1,2-Trichloroethane	0.2670000	0.2612799	0.2612799	0.1	2.14	20.00	AVRG
Trichloroethene	0.3780000	0.3932259	0.3932259	0.2	-4.03	20.00	AVRG
Vinyl Chloride	0.5240000	0.4390689	0.4390689	0.1	16.21	20.00	AVRG
1,1-Dichloroethene	0.4460000	0.4013468	0.4013468	0.1	10.01	20.00	AVRG
1,2-Dichloroethane	0.4190000	0.3953979	0.3953979	0.1	5.63	20.00	AVRG
cis-1,2-Dichloroethene	0.5200000	0.5086958	0.5086958	0.1	2.17	20.00	AVRG
1,2-Dichloroethane-d4	46.185606	50.000000	0.4610164	0.1	7.63	20.00	LINR
Dibromofluoromethane	48.681480	50.000000	0.4781499	0.1	2.64	20.00	LINR
4-Bromofluorobenzene	49.868048	50.000000	0.4355784	0.1	0.26	20.00	LINR
Toluene-d8	1.2690000	1.1458128	1.1458128	0.1	9.71	20.00	AVRG

FORM VII VOA

FORM 7B
VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS21101272

Instrument ID: VOA6 Calibration Date: 11/02/21 Time: 1854

Lab File ID: X110224 Init. Calib. Date(s): 10/08/21 10/08/21

Init. Calib. Times: 1308 1637

GC Column: DB624 ID: 0.18 (mm)

COMPOUND	RRF or AMOUNT	RRF50.000 or AMOUNT	CCAL RRF50.000	MIN RRF	%D or %DRIFT	MAX %D or %DRIFT	CURV TYPE
Methylene Chloride	47.436161	50.000000	0.4143206	0.1	5.13	50.00	LINR
1,1,2-Trichloroethane	0.2670000	0.2450041	0.2450041	0.1	8.24	50.00	AVRG
Trichloroethene	0.3780000	0.3533288	0.3533288	0.2	6.53	50.00	AVRG
Vinyl Chloride	0.5240000	0.4093926	0.4093926	0.1	21.87	50.00	AVRG
1,1-Dichloroethene	0.4460000	0.3699489	0.3699489	0.1	17.05	50.00	AVRG
1,2-Dichloroethane	0.4190000	0.3653519	0.3653519	0.1	12.80	50.00	AVRG
cis-1,2-Dichloroethene	0.5200000	0.4808852	0.4808852	0.1	7.52	50.00	AVRG
1,2-Dichloroethane-d4	46.899363	50.000000	0.4678405	0.1	6.20	50.00	LINR
Dibromofluoromethane	50.057434	50.000000	0.4913552	0.1	-0.11	50.00	LINR
4-Bromofluorobenzene	50.598380	50.000000	0.4417872	0.1	-1.20	50.00	LINR
Toluene-d8	1.2690000	1.1786514	1.1786514	0.1	7.12	50.00	AVRG

FORM VII VOA

FORM 8
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS21101272

Lab File ID (Standard): X110203 Date Analyzed: 11/02/21

Instrument ID: VOA6 Time Analyzed: 1132

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

		IS1(DCB) AREA #	RT #	IS2(CBZ) AREA #	RT #	IS3(DFB) AREA #	RT #
	12 HOUR STD	257902	9.66	497302	7.67	523933	4.96
	UPPER LIMIT	515804	10.16	994604	8.17	1047866	5.46
	LOWER LIMIT	128951	9.16	248651	7.17	261967	4.46
	CLIENT SAMPLE NO.						
01	VLCSW-211102	254430	9.66	487096	7.67	517828	4.96
02	VBLKW-211102	253954	9.66	519460	7.67	584410	4.96
03	HS21101272-04	233008	9.66	500142	7.67	573727	4.96
04	HS21101171-05MS	286743	9.66	562087	7.67	625094	4.96
05	HS21101171-05MSD	271586	9.66	531431	7.67	594443	4.96
06	HS21101272-05	256707	9.66	517775	7.67	580729	4.96
07	HS21101272-10	237526	9.66	496647	7.67	554720	4.96
08	HS21101272-10	241361	9.66	495917	7.67	566666	4.96
09	HS21101272-09	245311	9.66	493015	7.67	567007	4.96
10	HS21101272-06	243832	9.66	506425	7.67	569319	4.96
11	HS21101272-07	240977	9.66	497554	7.67	561379	4.96
12	HS21101272-08	225386	9.66	500387	7.67	555037	4.96
13							
14							
15							
16							
17							
18							
19							
20							

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

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

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

FORM VIII VOA

FORM 8
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS21101272

Lab File ID (Standard): X110203 Date Analyzed: 11/02/21

Instrument ID: VOA6 Time Analyzed: 1132

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

		IS4 AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	379724	4.18				
	UPPER LIMIT	759448	4.68				
	LOWER LIMIT	189862	3.68				
	CLIENT SAMPLE NO.						
01	VLCSW-211102	361174	4.18				
02	VBLKW-211102	430183	4.18				
03	HS21101272-04	416381	4.18				
04	HS21101171-05MS	459623	4.18				
05	HS21101171-05MSD	441577	4.18				
06	HS21101272-05	427449	4.18				
07	HS21101272-10	414696	4.18				
08	HS21101272-10	417057	4.18				
09	HS21101272-09	417091	4.18				
10	HS21101272-06	419305	4.18				
11	HS21101272-07	414148	4.18				
12	HS21101272-08	412754	4.18				
13							
14							
15							
16							
17							
18							
19							
20							

IS4 = Pentafluorobenzene

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

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

FORM VIII VOA

Data File: \\NAHSTWS005\Target\chem\voa6.i\X211102.b\X110201.D

Date : 02-NOV-2021 10:50

Client ID: BFB

Instrument: voa6.i

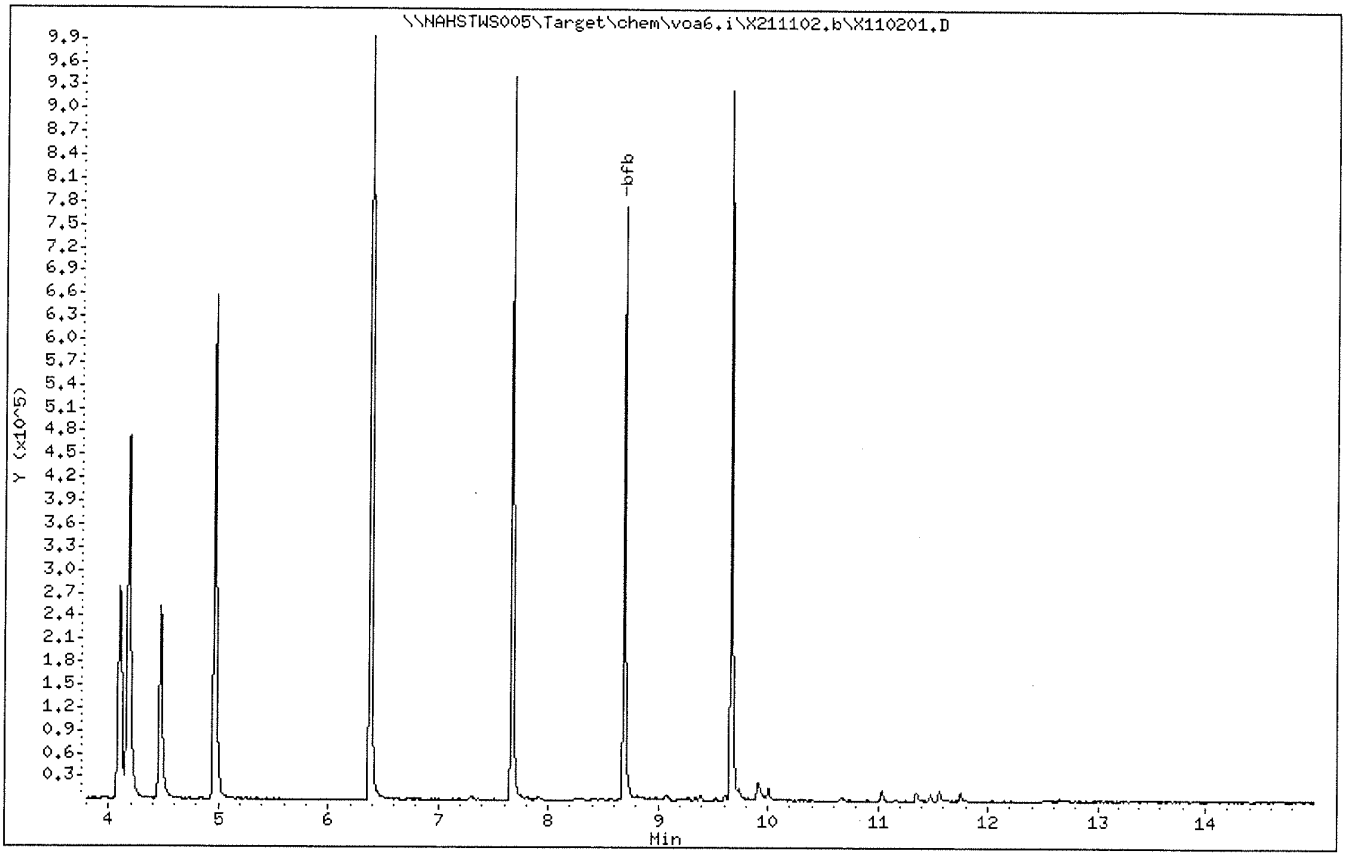
Sample Info: BFB;BFB;3;;BFB

Volume Injected (uL): 2.0

Operator: PC

Column phase: DB624

Column diameter: 0.25



Data File: \\NAHSTWS005\Target\chem\voa6.i\X211102.b\X110201.D

Date : 02-NOV-2021 10:50

Client ID: BFB

Instrument: voa6.i

Sample Info: BFB;BFB;3;;BFB

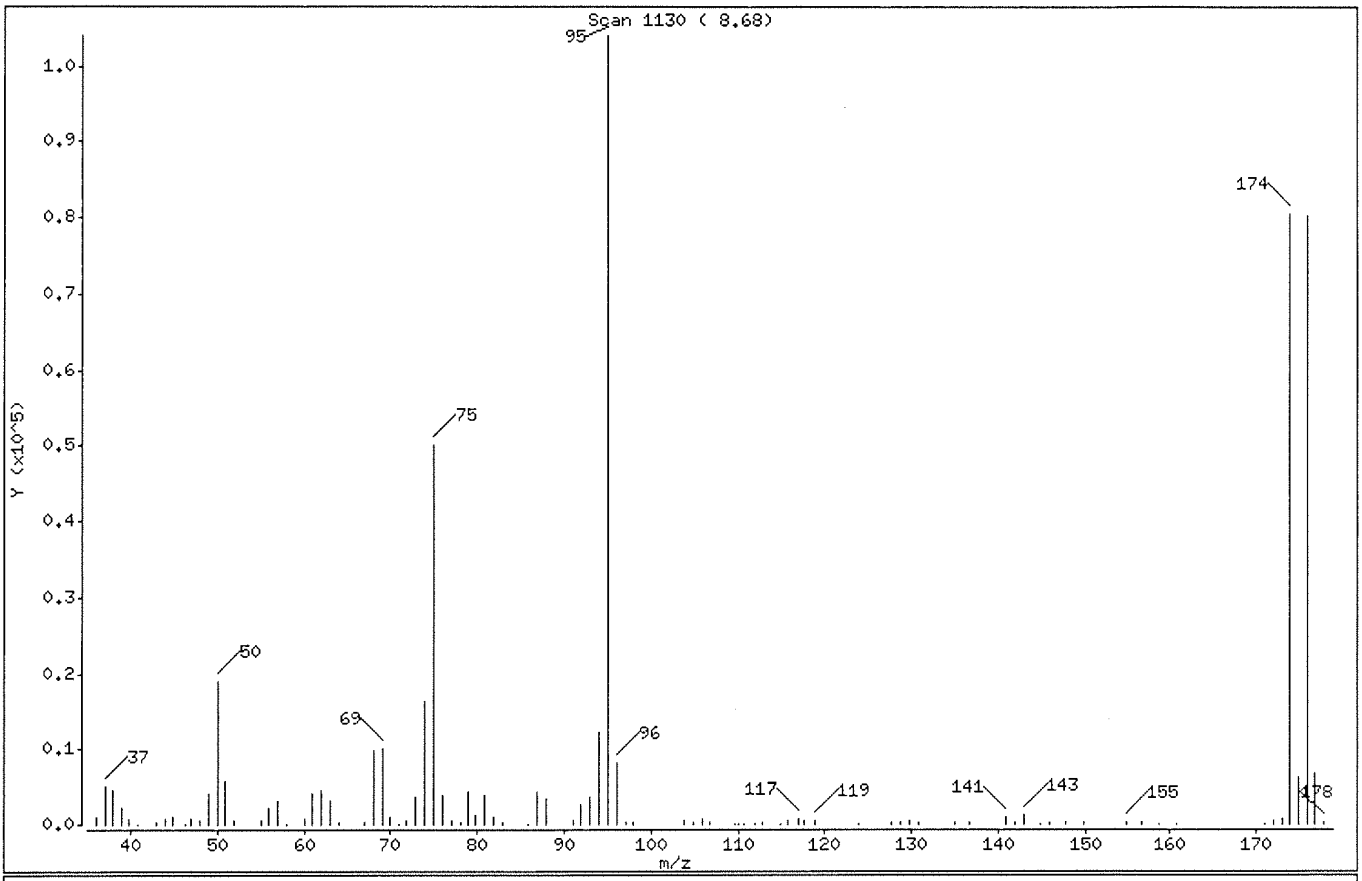
Volume Injected (uL): 2.0

Operator: PC

Column phase: DB624

Column diameter: 0.25

1 bfb



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	18.22
75	30.00 - 60.00% of mass 95	48.10
96	5.00 - 9.00% of mass 95	7.80
173	Less than 2.00% of mass 174	0.80 (1.04)
174	Greater than 50.00% of mass 95	77.46
175	5.00 - 9.00% of mass 174	5.98 (7.72)
176	95.00 - 101.00% of mass 174	77.11 (99.55)
177	5.00 - 9.00% of mass 176	6.48 (8.41)

Data File: \\NAHSTWS005\Target\chem\voa6.i\X211102.b\X110201.D

Date : 02-NOV-2021 10:50

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: X110201.D
Spectrum: Scan 1130 (8.68)
Location of Maximum: 95.00
Number of points: 93

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	921	64.10	181	94.00	12226	134.90	270
37.00	5143	67.00	246	95.00	103976	136.70	154
38.00	4476	68.00	9833	96.00	8109	140.80	1002
39.00	2220	69.00	10181	97.10	240	141.80	227
39.90	638	69.90	1066	98.00	131	142.90	1124
40.90	57	70.90	74	103.80	425	144.80	86
43.00	127	71.90	380	104.80	184	145.90	194
44.00	718	72.90	3622	105.80	608	147.70	300
44.90	940	74.00	16212	106.70	132	149.90	159
46.20	100	75.00	50008	109.70	51	154.90	179
47.00	821	76.00	3721	110.00	58	156.80	161
48.00	526	77.00	477	110.70	84	158.90	78
49.00	4031	78.00	353	111.90	59	160.90	112
50.00	18944	78.90	4380	112.80	130	171.00	114
51.00	5816	79.80	1215	114.90	80	171.90	465
51.90	446	80.90	3776	115.80	446	173.00	835
55.00	391	81.90	925	116.90	692	173.90	80536
56.00	2207	82.80	197	117.70	442	174.90	6217
57.00	3183	85.90	116	118.80	522	175.90	80176
58.00	72	86.90	4252	123.80	81	176.90	6742
60.00	776	88.00	3381	127.70	353	177.90	238
61.00	4123	91.00	385	128.70	224		
62.00	4466	91.90	2632	129.80	379		
63.00	3174	93.00	3610	130.80	296		

Data File: \\NAHSTWS005\Target\chem\voa6.i\X211102.b\X110203.D Page 1
Report Date: 15-Nov-2021 17:06

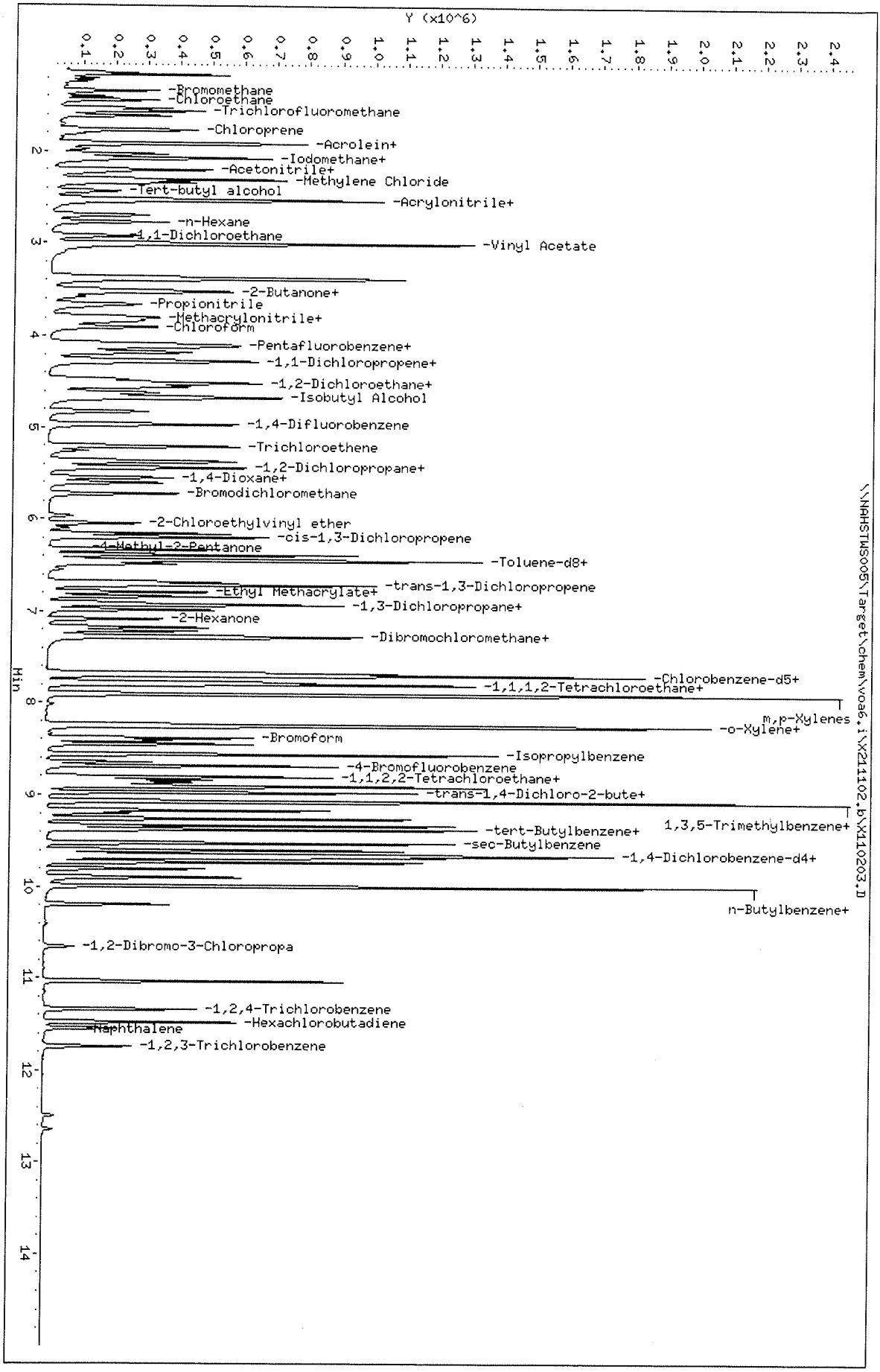
ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X211102.b\X110203.D
Lab Smp Id: CCV Client Smp ID: CCV
Inj Date : 02-NOV-2021 11:32
Operator : PC Inst ID: voa6.i
Smp Info : CCV;CCV;2;;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X211102.b\8260W.m
Meth Date : 15-Nov-2021 17:06 voa6.i Quant Type: ISTD
Cal Date : 08-OCT-2021 15:34 Cal File: X100808.D
Als bottle: 3 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 01474-dod.sub
Target Version: 4.14
Processing Host: NAHSTW7017

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

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

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	379724	50.0000	
$ 30 Dibromofluoromethane	113	4.096	4.096	(0.979)	181565	50.0000	48.68
$ 35 1,2-Dichloroethane-d4	65	4.469	4.469	(1.069)	175059	50.0000	46.18
* 36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	523933	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	497302	50.0000	
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	569815	50.0000	45.14
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	216614	50.0000	49.86
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	257902	50.0000	
5 Vinyl Chloride	62	1.145	1.145	(0.274)	166725	50.0000	41.87
11 1,1-Dichloroethene	96	1.911	1.911	(0.457)	152401	50.0000	44.99
17 Methylene Chloride	84	2.305	2.305	(0.551)	163379	50.0000	49.30
27 cis-1,2-Dichloroethene	96	3.523	3.523	(0.842)	193164	50.0000	48.92
33 1,2-Dichloroethane	62	4.555	4.555	(0.918)	207162	50.0000	47.13
38 Trichloroethene	130	5.206	5.206	(1.049)	206024	50.0000	51.98
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	129935	50.0000	48.96



Data File: \\NAHSTWS005\Target\chem\voa6,i\X211102,b\X110203.D
Date : 02-NOV-2021 11:32
Client ID: CCV
Sample Info: CCV;CCV;2;;;
Purge Volume: 5.0
Column phase: DB624

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

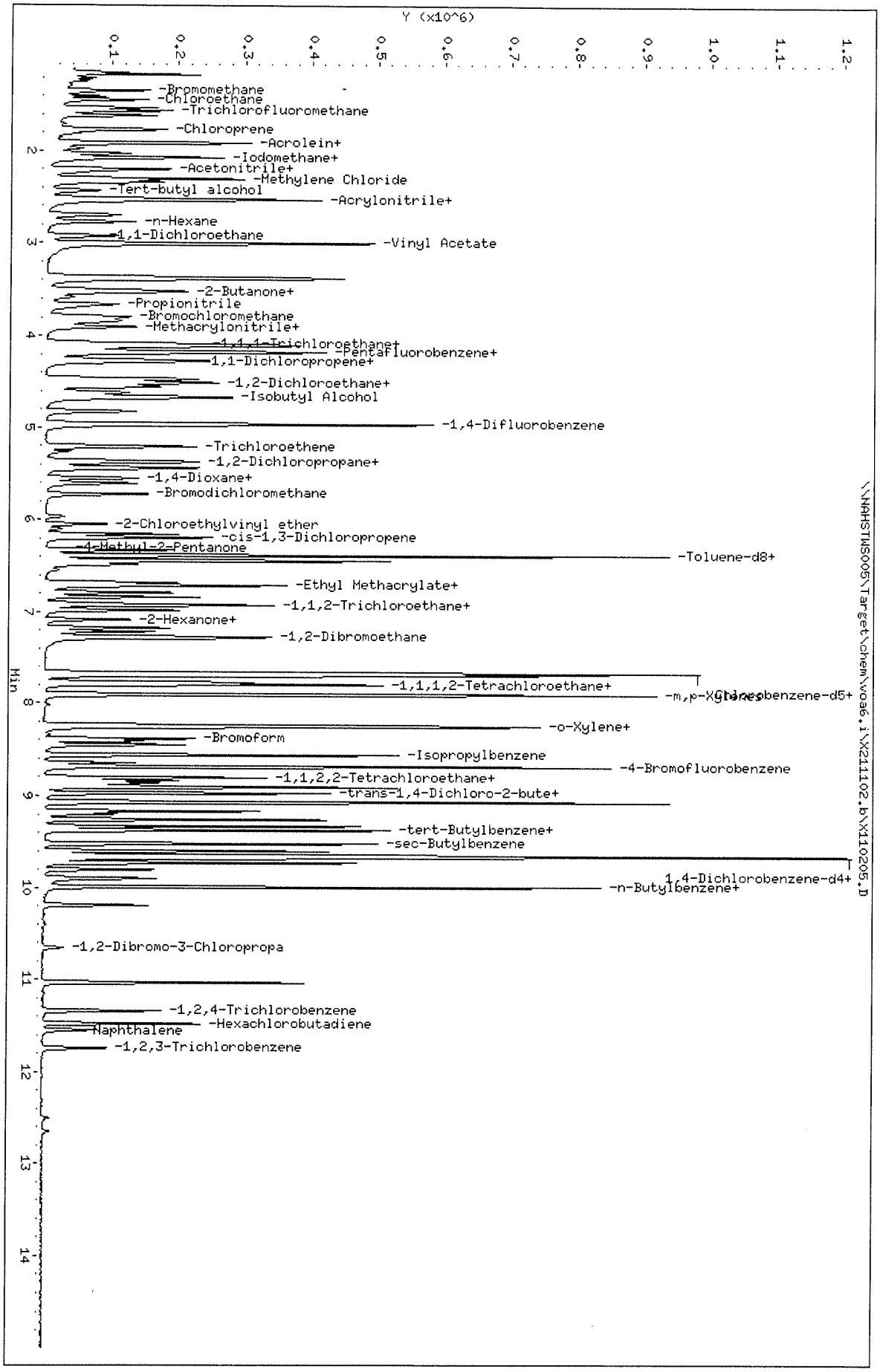
ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X211102.b\X110205.D
Lab Smp Id: VLCSW-211102 Client Smp ID: VLCSW-211102
Inj Date : 02-NOV-2021 12:14
Operator : PC Inst ID: voa6.i
Smp Info : VLCSW-211102;VLCSW-211102;3;;LCS
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X211102.b\8260W.m
Meth Date : 15-Nov-2021 17:06 voa6.i Quant Type: ISTD
Cal Date : 08-OCT-2021 15:34 Cal File: X100808.D
Als bottle: 5 QC Sample: LCS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 01474-dod.sub
Target Version: 4.14
Processing Host: NAHSTW7017

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

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

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
*	1 Pentafluorobenzene	168	4.182	4.182	(1.000)	361174	50.0000	
$	30 Dibromofluoromethane	113	4.103	4.096	(0.981)	177322	50.0163	50.01
$	35 1,2-Dichloroethane-d4	65	4.469	4.469	(1.069)	168178	46.6695	46.66
*	36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	517828	50.0000	
*	47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	487096	50.0000	
$	48 Toluene-d8	98	6.388	6.388	(0.833)	570097	46.1187	46.11
$	69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	214045	50.3212	50.32
*	70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	254430	50.0000	
	5 Vinyl Chloride	62	1.145	1.145	(0.274)	64472	17.0259	17.02
	11 1,1-Dichloroethene	96	1.919	1.911	(0.459)	58990	18.3099	18.30
	17 Methylene Chloride	84	2.305	2.305	(0.551)	66465	20.3650	20.36
	27 cis-1,2-Dichloroethene	96	3.530	3.523	(0.844)	75090	19.9976	19.99
	33 1,2-Dichloroethane	62	4.555	4.555	(0.918)	81146	18.6811	18.68
	38 Trichloroethene	130	5.206	5.206	(1.049)	78342	20.0008	20.00
	53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	49558	19.0668	19.06



Data File: \\NAHSTWS005\Target\chem\voa6.i\X211102.b\X110205.D
Date : 02-NOV-2021 12:14
Client ID: VLCSW-211102
Sample Info: VLCSW-211102;VLCSW-211102;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\X211102.b\X110207.D Page 1
Report Date: 15-Nov-2021 17:06

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X211102.b\X110207.D
Lab Smp Id: VBLKW-211102 Client Smp ID: VBLKW-211102
Inj Date : 02-NOV-2021 12:56
Operator : PC Inst ID: voa6.i
Smp Info : VBLKW-211102;VBLKW-211102;3;;BLANK
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X211102.b\8260W.m
Meth Date : 15-Nov-2021 17:06 voa6.i Quant Type: ISTD
Cal Date : 08-OCT-2021 15:34 Cal File: X100808.D
Als bottle: 7 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 01474-dod.sub
Target Version: 4.14
Processing Host: NAHSTW7017

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

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

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	430183	50.0000	
$ 30 Dibromofluoromethane	113	4.096	4.096	(0.979)	193410	45.7066	45.70
$ 35 1,2-Dichloroethane-d4	65	4.469	4.469	(1.069)	189304	43.9931	43.99
* 36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	584410	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	519460	50.0000	
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	635982	48.2431	48.24
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	222675	49.0550	49.05
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	253954	50.0000	

Data File: \\NAHSTWS005\Target\chem\voa6.i\X211102.b\X110207.D

Date : 02-NOV-2021 12:56

Client ID: VBLKW-211102

Instrument: voa6.i

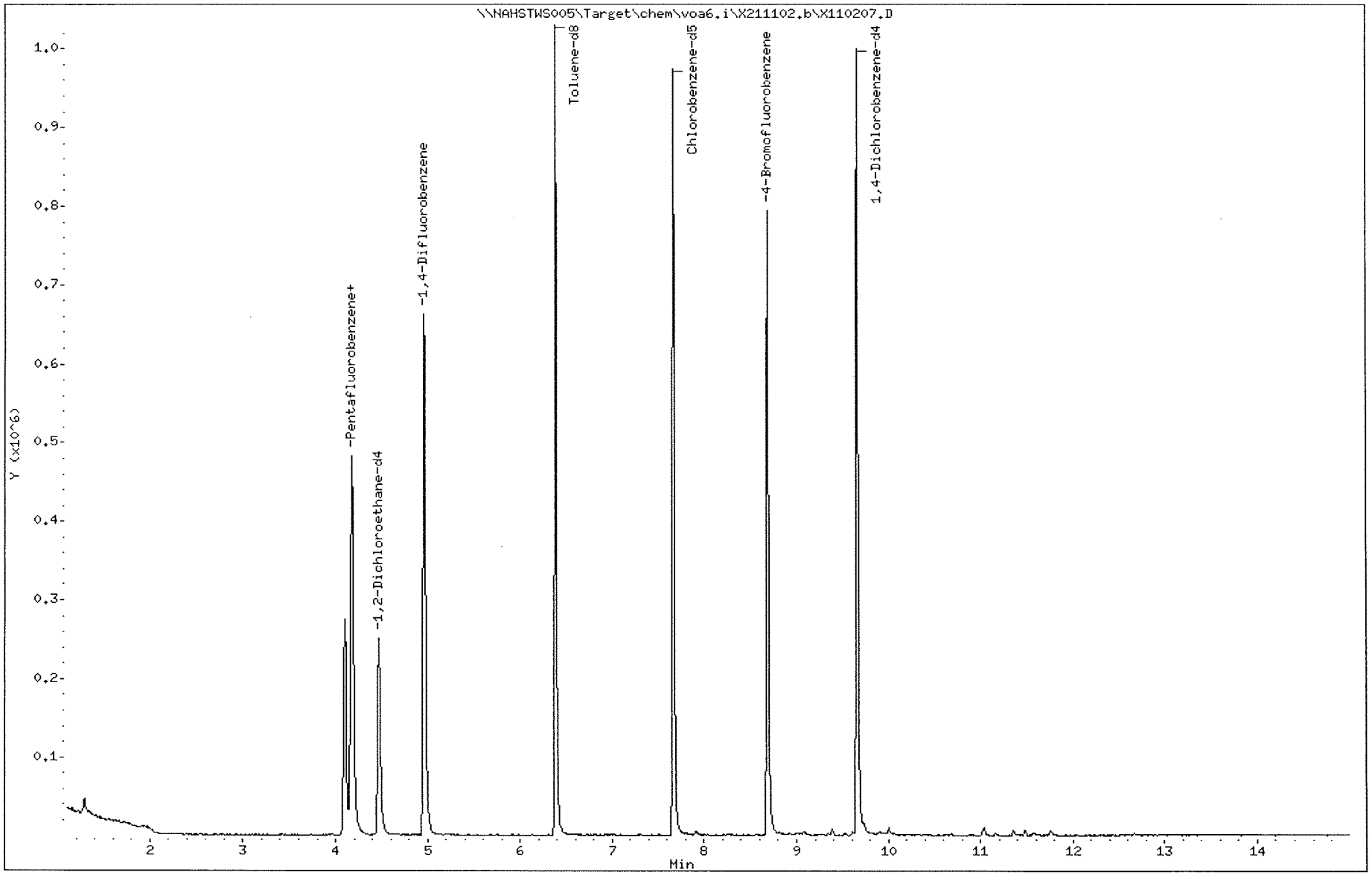
Sample Info: VBLKW-211102;VBLKW-211102;3;;BLANK

Purge Volume: 5.0

Operator: PC

Column phase: DB624

Column diameter: 0.18



Data File: \\NAHSTWS005\Target\chem\voa6.i\X211102.b\X110212.D Page 1
Report Date: 15-Nov-2021 16:52

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X211102.b\X110212.D
Lab Smp Id: HS21101272-04 Client Smp ID: HS21101272-04
Inj Date : 02-NOV-2021 14:41
Operator : PC Inst ID: voa6.i
Smp Info : HS21101272-04;HS21101272-04;;;
Misc Info : HS18090001;WATER;0;10;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X211102.b\8260W.m
Meth Date : 15-Nov-2021 16:49 kori.bagsb Quant Type: ISTD
Cal Date : 08-OCT-2021 15:34 Cal File: X100808.D
Als bottle: 12
Dil Factor: 10.00000
Integrator: HP RTE Compound Sublist: 01474-dod.sub
Target Version: 4.14
Processing Host: NAHSTW7017

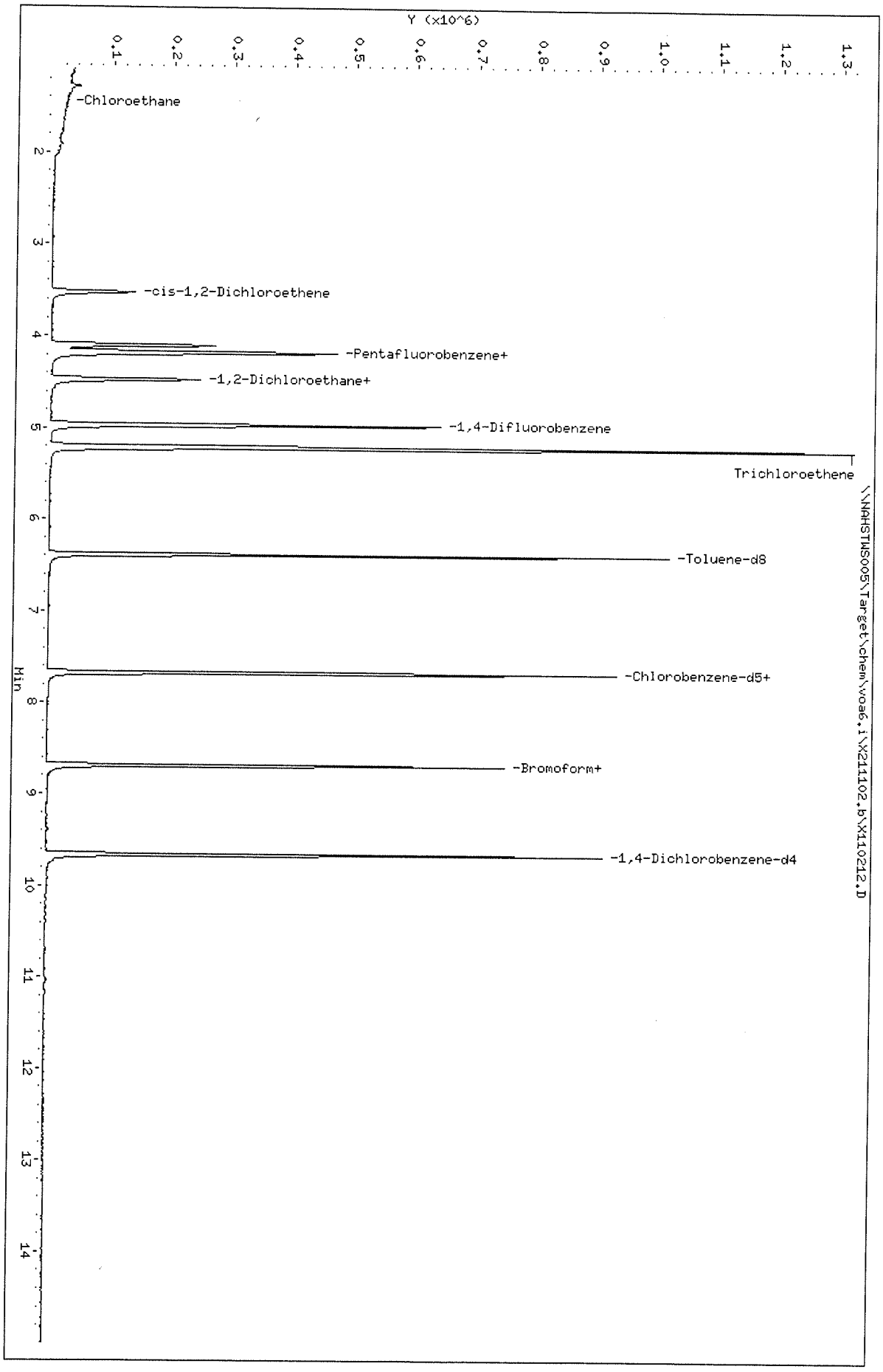
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

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

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	416381	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	189022	46.1614	46.16
$ 35 1,2-Dichloroethane-d4	65	4.469	4.469	(1.069)	186924	44.9210	44.92
* 36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	573727	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	500142	50.0000	
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	621141	48.9372	48.93
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	212008	48.4938	48.49
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	233008	50.0000	
27 cis-1,2-Dichloroethene	96	3.530	3.523	(0.844)	74299	17.1634	171.63
33 1,2-Dichloroethane	62	4.569	4.555	(0.921)	2499	0.51926	5.19(a)
38 Trichloroethene	130	5.206	5.206	(1.049)	454671	104.768	1047.68

QC Flag Legend

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



Data File: \\NAHSTWS005\Target\chem\voa6.i\X211102.b\X110212.D
Date : 02-NOV-2021 14:41
Client ID: HS21101272-04
Sample Info: HS21101272-04;HS21101272-04;;;
Purge Volume: 5.0
Column phase: DB624

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

Data File: \\NAHSTWS005\Target\chem\voa6.i\X211102.b\X110212.D

Date : 02-NOV-2021 14:41

Client ID: HS21101272-04

Instrument: voa6.i

Sample Info: HS21101272-04;HS21101272-04;;;

Purge Volume: 5.0

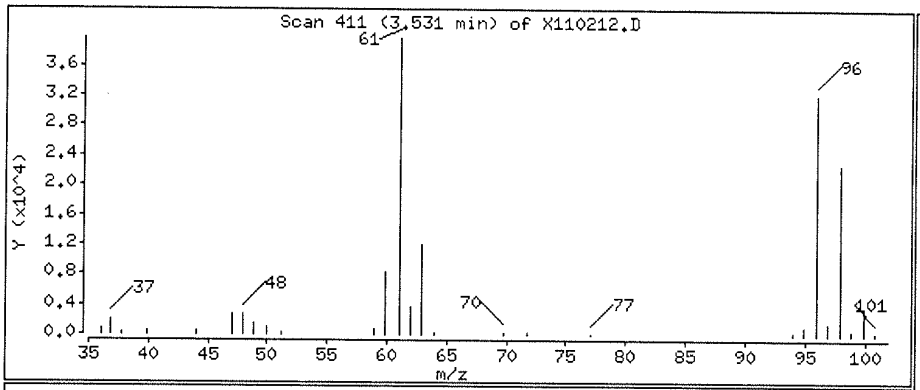
Operator: PC

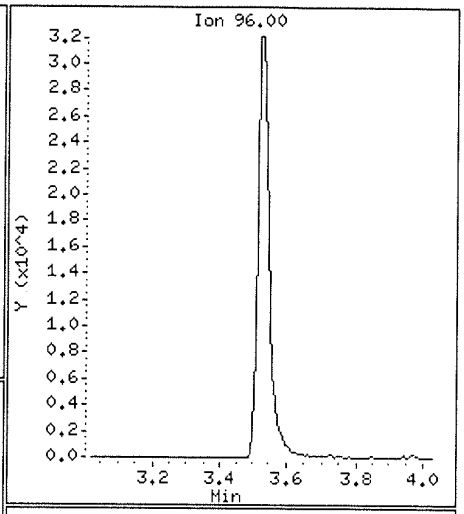
Column phase: DB624

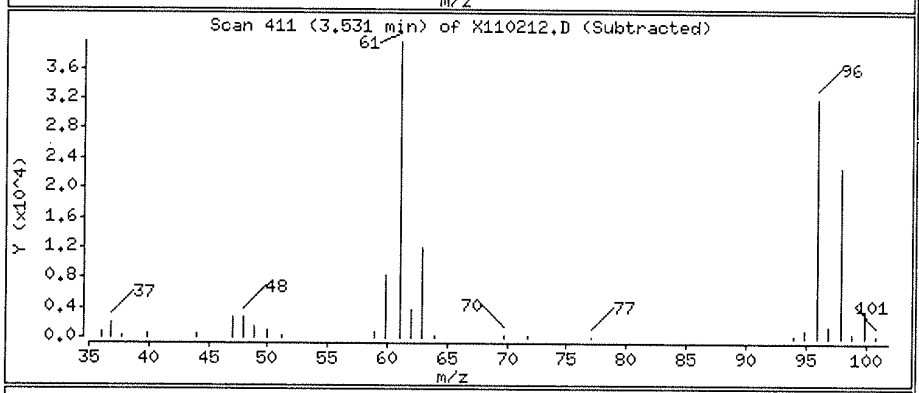
Column diameter: 0.18

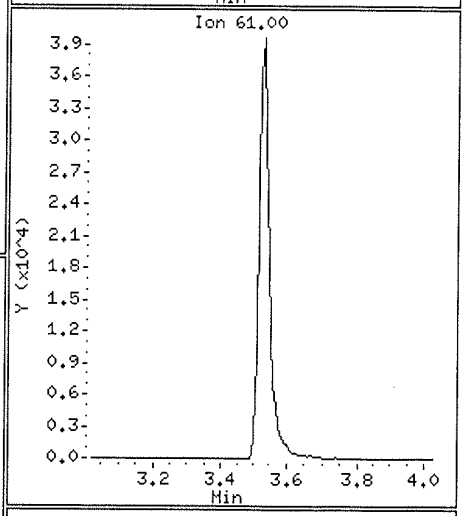
27 cis-1,2-Dichloroethene

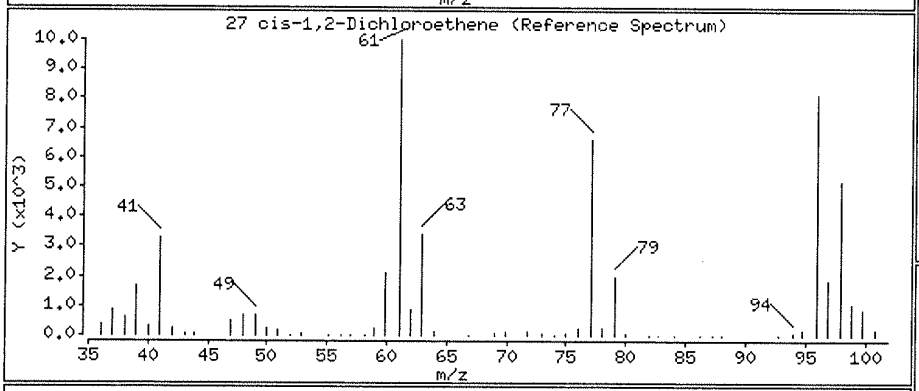
Concentration: 171.63 ug/l

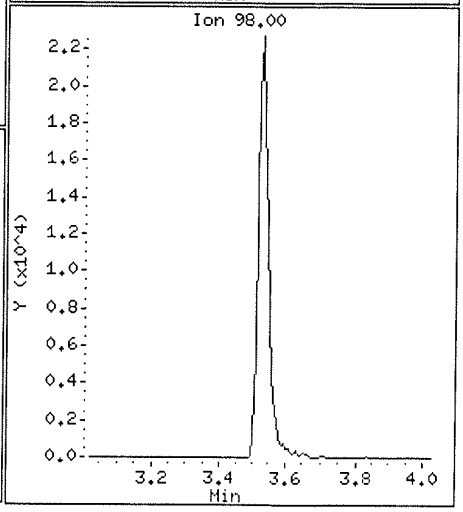


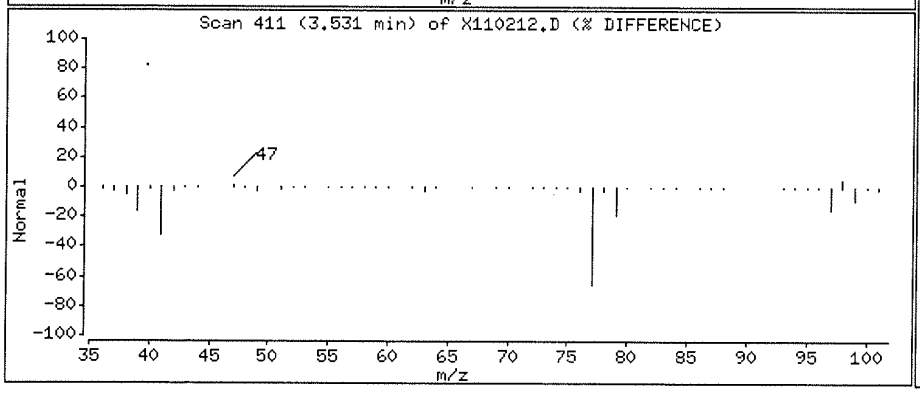












Data File: \\NAHSTWS005\Target\chem\voa6.i\X211102.b\X110212.D

Date : 02-NOV-2021 14:41

Client ID: HS21101272-04

Instrument: voa6.i

Sample Info: HS21101272-04;HS21101272-04;;;

Purge Volume: 5.0

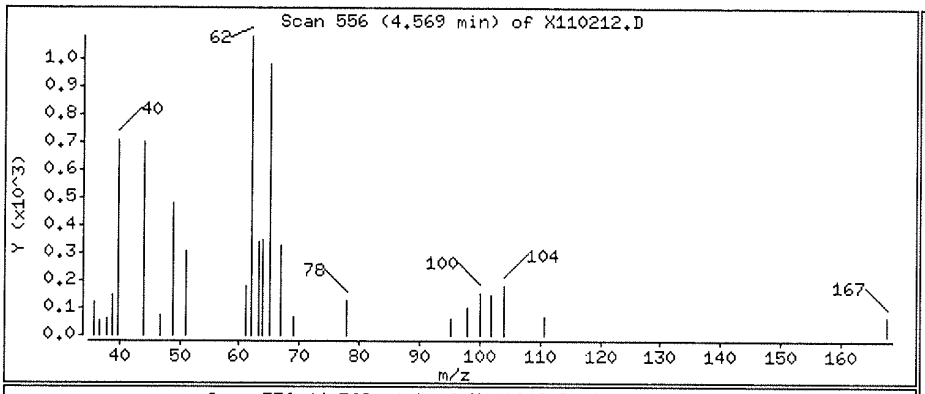
Operator: PC

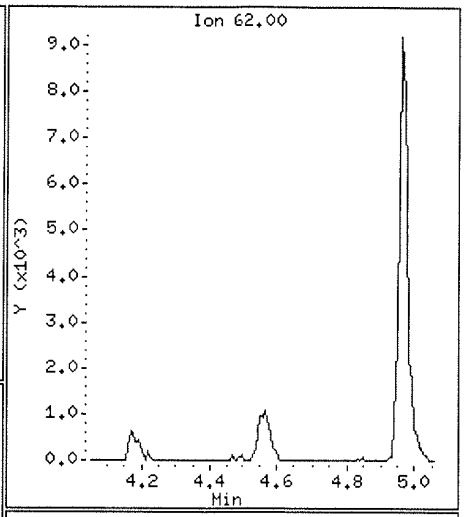
Column phase: DB624

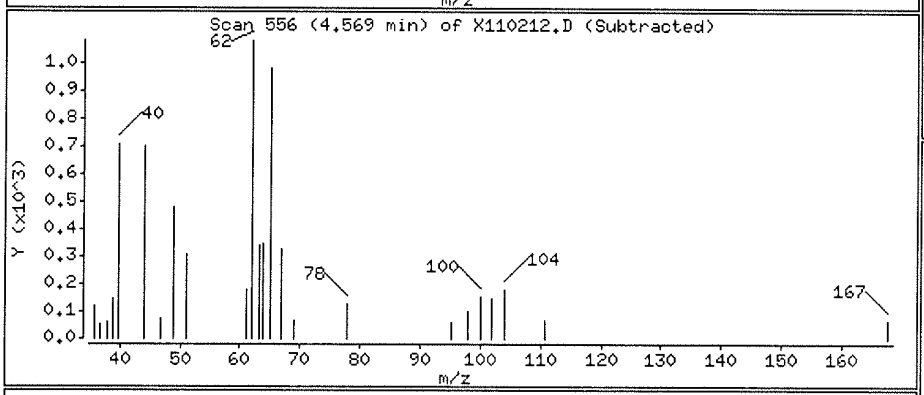
Column diameter: 0.18

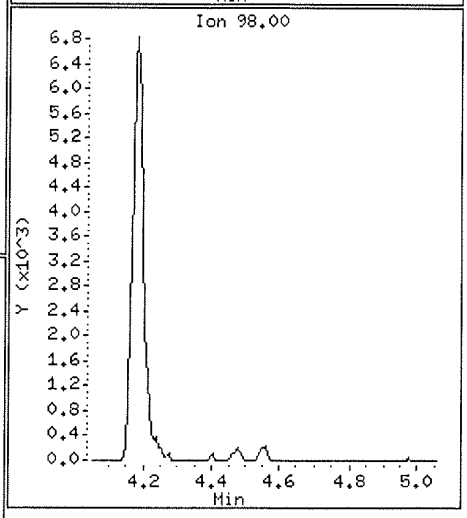
33 1,2-Dichloroethane

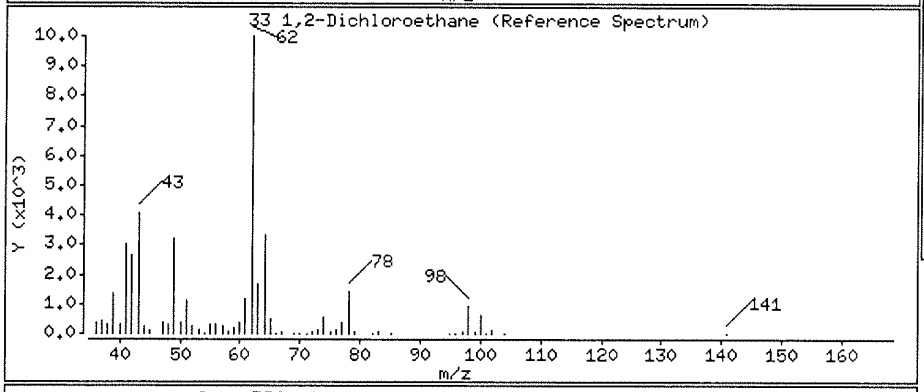
Concentration: 5.19 ug/l

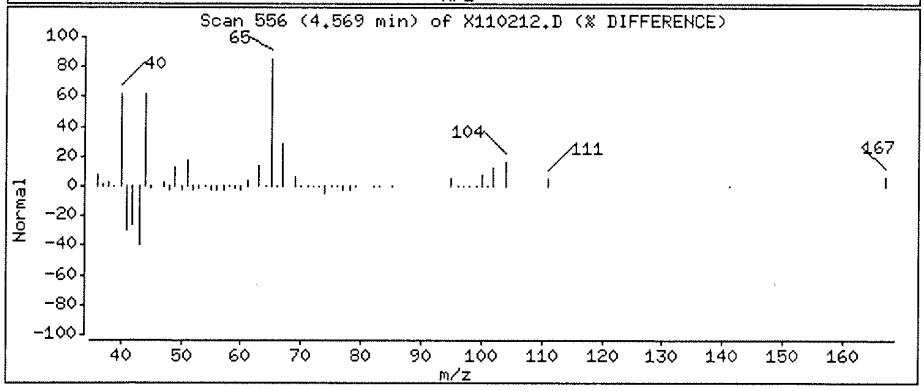












Data File: \\NAHSTWS005\Target\chem\voa6.i\X211102.b\X110212.D

Date : 02-NOV-2021 14:41

Client ID: HS21101272-04

Instrument: voa6.i

Sample Info: HS21101272-04;HS21101272-04;;;

Purge Volume: 5.0

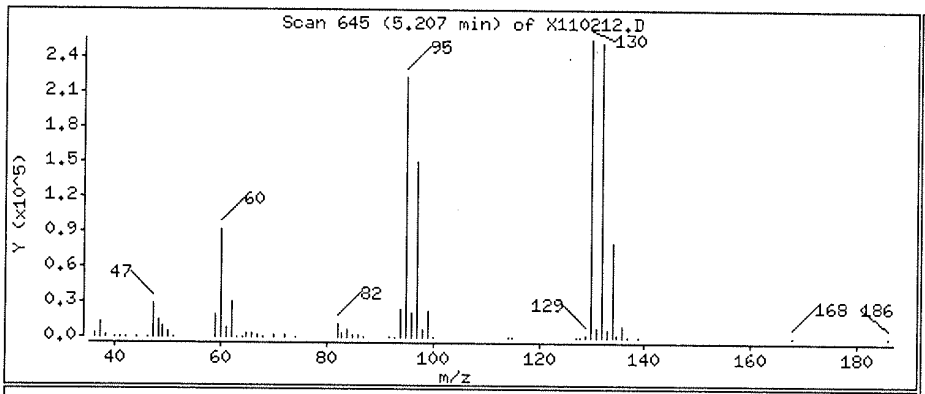
Operator: PC

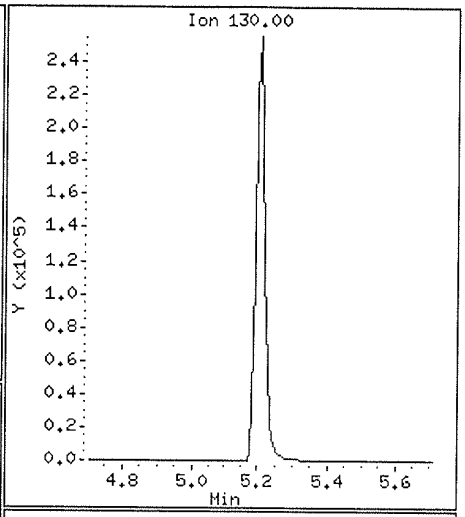
Column phase: DB624

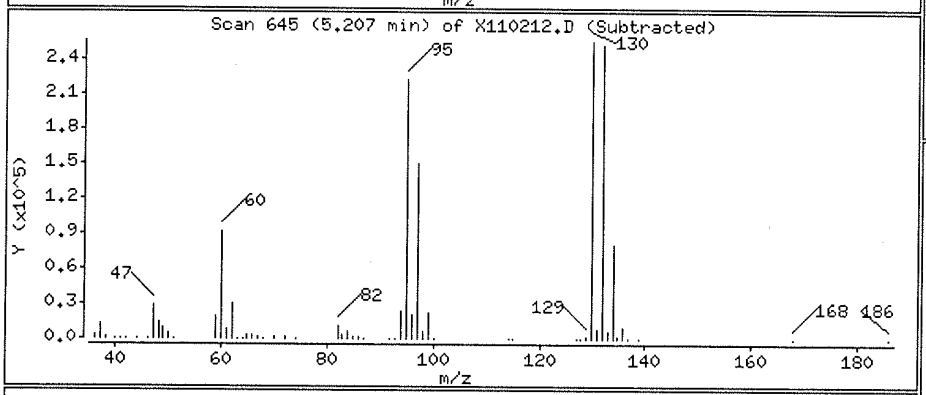
Column diameter: 0.18

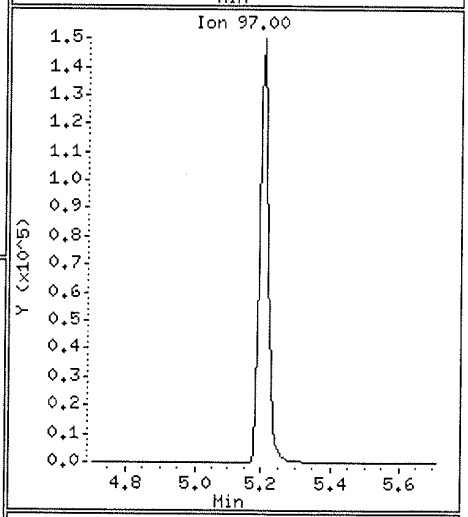
38 Trichloroethene

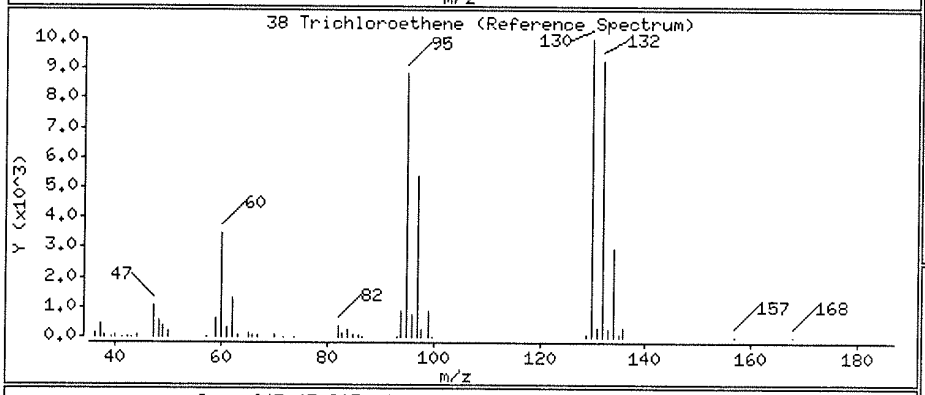
Concentration: 1047.68 ug/l

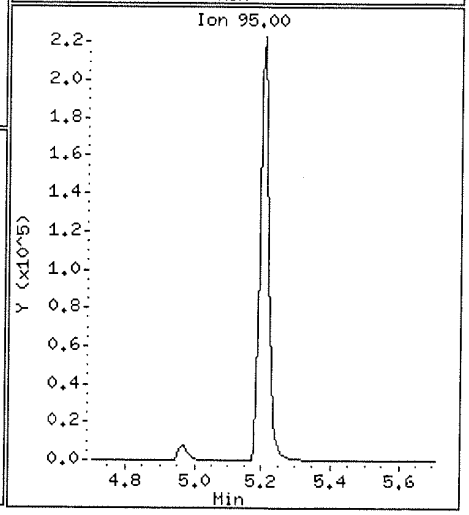


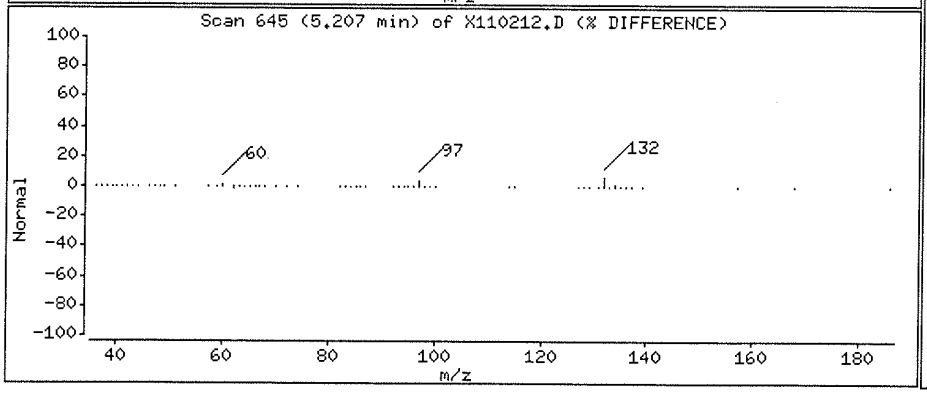












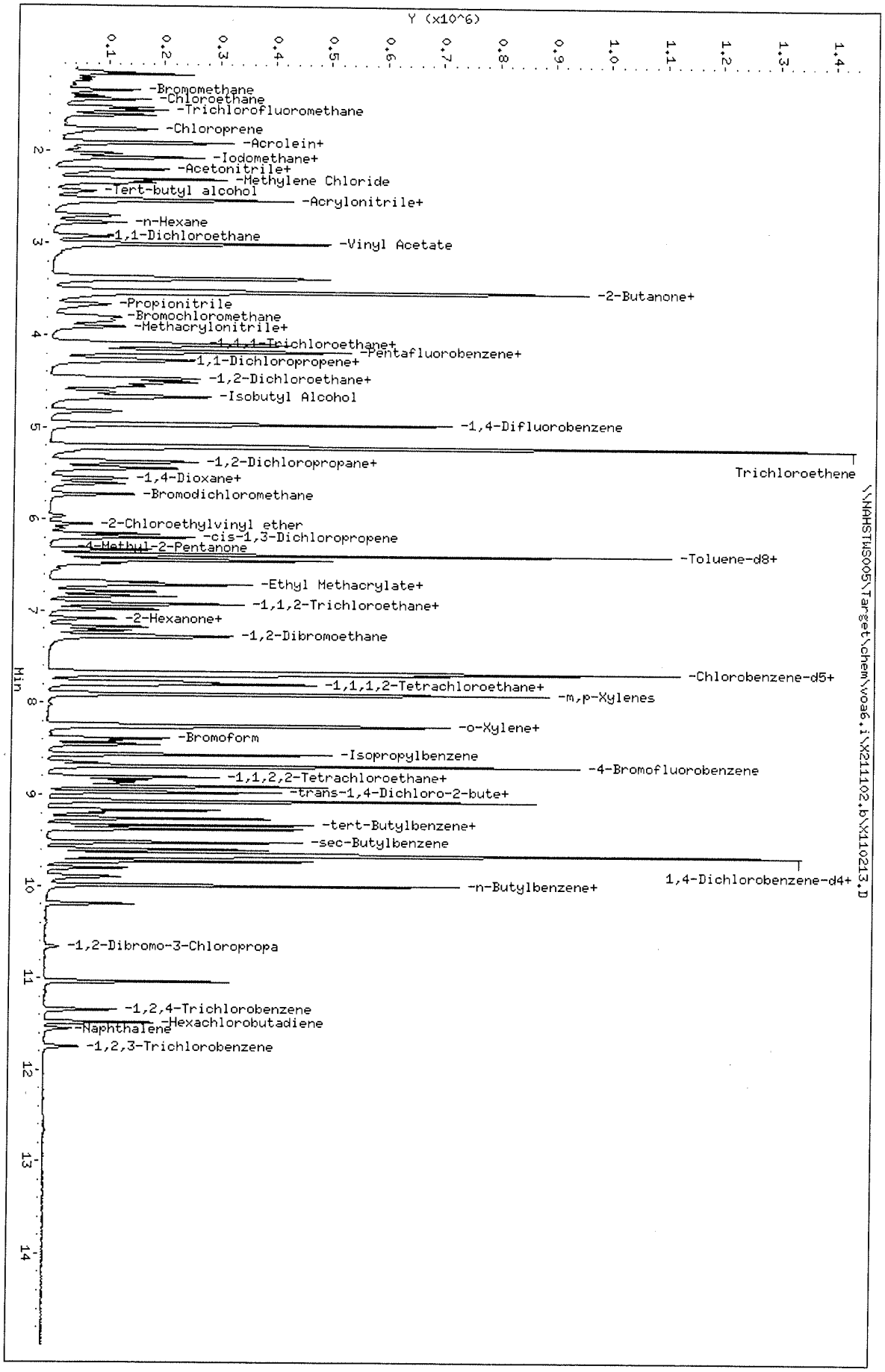
ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X211102.b\X110213.D
Lab Smp Id: HS21101171-05MS Client Smp ID: HS21101171-05MS
Inj Date : 02-NOV-2021 15:02
Operator : PC Inst ID: voa6.i
Smp Info : HS21101171-05MS;HS21101171-05MS;3;;MS
Misc Info : HS18090001;WATER;0;250;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X211102.b\8260W.m
Meth Date : 15-Nov-2021 17:06 voa6.i Quant Type: ISTD
Cal Date : 08-OCT-2021 15:34 Cal File: X100808.D
Als bottle: 13 QC Sample: MS
Dil Factor: 250.00000
Integrator: HP RTE Compound Sublist: 01474-dod.sub
Target Version: 4.14
Processing Host: NAHSTW7017

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

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

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	459623	50.0000	
$ 30 Dibromofluoromethane	113	4.096	4.096	(0.979)	209336	46.3164	46.31
$ 35 1,2-Dichloroethane-d4	65	4.469	4.469	(1.069)	202417	44.0290	44.02
* 36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	625094	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	562087	50.0000	
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	682154	47.8213	47.82
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	244080	49.7105	49.71
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	286743	50.0000	
5 Vinyl Chloride	62	1.145	1.145	(0.274)	81393	16.8904	4222.59
11 1,1-Dichloroethene	96	1.919	1.911	(0.459)	61963	15.1132	3778.28
17 Methylene Chloride	84	2.305	2.305	(0.551)	62660	14.7584	3689.60
27 cis-1,2-Dichloroethene	96	3.523	3.523	(0.842)	481256	100.713	25178.32
33 1,2-Dichloroethane	62	4.555	4.555	(0.918)	81203	15.4863	3871.58
38 Trichloroethene	130	5.206	5.206	(1.049)	490803	103.801	25950.14
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	49459	16.4900	4122.50



Data File: \\NAHSTAS005\Target\chem\voa6.i\X211102.b\X110213.D
Date : 02-NOV-2021 15:02
Client ID: HS21101171-05MS
Sample Info: HS21101171-05MS;HS21101171-05MS;3;;MS
Purge Volume: 5.0
Column phase: DB624

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

Data File: \\NAHSTWS005\Target\chem\voa6.i\X211102.b\X110214.D Page 1
Report Date: 15-Nov-2021 17:06

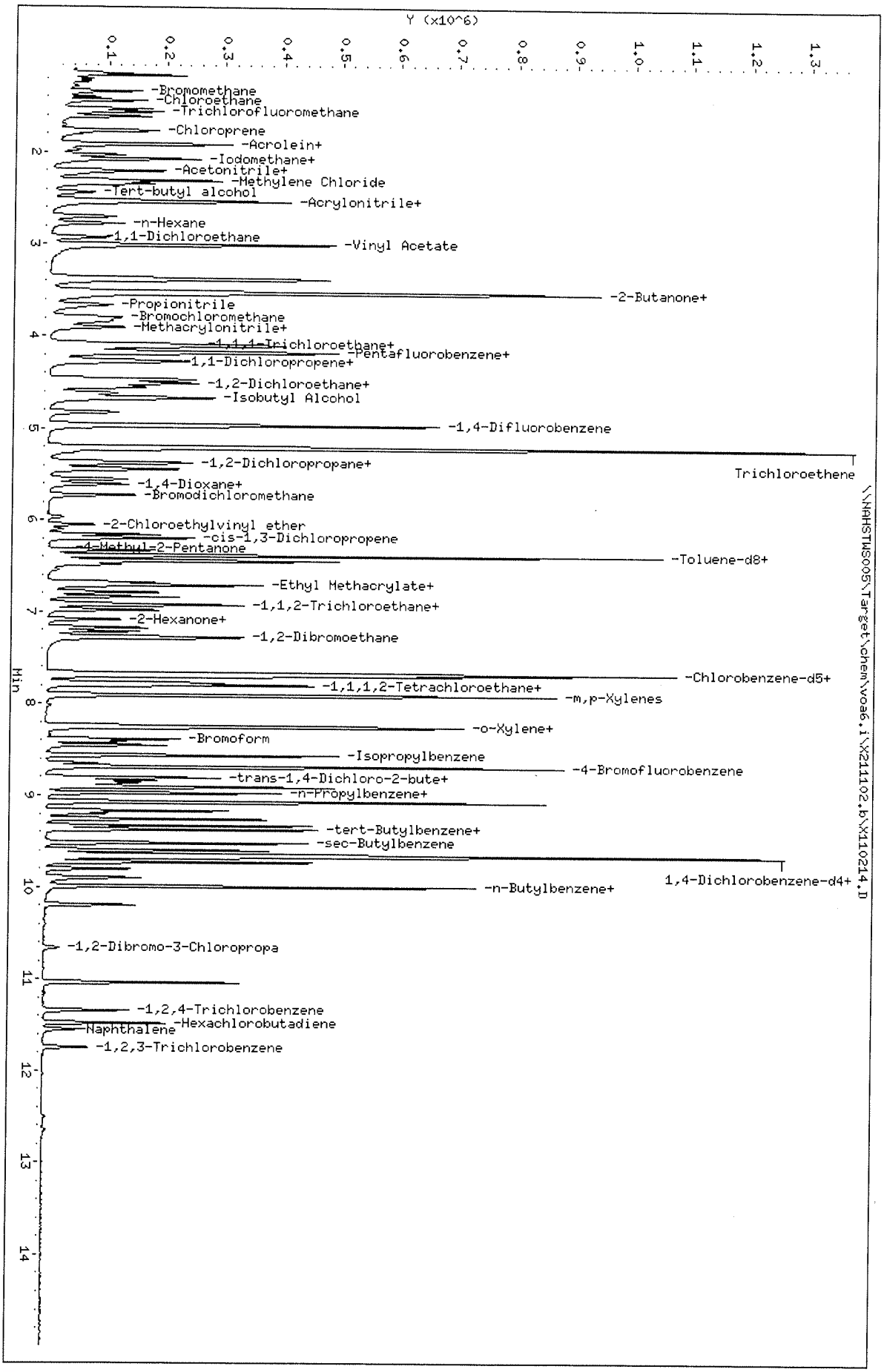
ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X211102.b\X110214.D
Lab Smp Id: HS21101171-05MSD Client Smp ID: HS21101171-05MSD
Inj Date : 02-NOV-2021 15:23
Operator : PC Inst ID: voa6.i
Smp Info : HS21101171-05MSD;HS21101171-05MSD;3;;MSD
Misc Info : HS18090001;WATER;0;250;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X211102.b\8260W.m
Meth Date : 15-Nov-2021 17:06 voa6.i Quant Type: ISTD
Cal Date : 08-OCT-2021 15:34 Cal File: X100808.D
Als bottle: 13 QC Sample: MSD
Dil Factor: 250.00000
Integrator: HP RTE Compound Sublist: 01474-dod.sub
Target Version: 4.14
Processing Host: NAHSTW7017

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

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

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
*	1 Pentafluorobenzene	168	4.182	4.182	(1.000)	441577	50.0000	
$	30 Dibromofluoromethane	113	4.103	4.096	(0.981)	195006	44.8744	44.87
$	35 1,2-Dichloroethane-d4	65	4.469	4.469	(1.069)	188513	42.6181	42.61
*	36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	594443	50.0000	
*	47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	531431	50.0000	
$	48 Toluene-d8	98	6.388	6.388	(0.833)	647986	48.0465	48.04
$	69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	223780	48.1637	48.16
*	70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	271586	50.0000	
	5 Vinyl Chloride	62	1.145	1.145	(0.274)	76029	16.4220	4105.51
	11 1,1-Dichloroethene	96	1.919	1.911	(0.459)	60513	15.3627	3840.66
	17 Methylene Chloride	84	2.305	2.305	(0.551)	61308	15.0534	3763.35
	27 cis-1,2-Dichloroethene	96	3.523	3.523	(0.842)	464822	101.249	25312.35
	33 1,2-Dichloroethane	62	4.555	4.555	(0.918)	78970	15.8370	3959.25
	38 Trichloroethene	130	5.206	5.206	(1.049)	471358	104.828	26207.07
	53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	47769	16.8453	4211.31



Data File: \\NAHSTWS005\Target\chem\voa6.i\X211102.b\X110214.D
Date : 02-NOV-2021 15:23
Client ID: HS2110117I-05HSD
Sample Info: HS2110117I-05HSD;HS2110117I-05HSD;3;;HSD
Purge Volume: 5.0
Column phase: DB624

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

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X211102.b\X110216.D
Lab Smp Id: HS21101272-05 Client Smp ID: HS21101272-05
Inj Date : 02-NOV-2021 16:05
Operator : PC Inst ID: voa6.i
Smp Info : HS21101272-05;HS21101272-05;;;
Misc Info : HS18090001;WATER;0;10;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X211102.b\8260W.m
Meth Date : 15-Nov-2021 16:49 kori.bagsb Quant Type: ISTD
Cal Date : 08-OCT-2021 15:34 Cal File: X100808.D
Als bottle: 15
Dil Factor: 10.00000
Integrator: HP RTE Compound Sublist: 01474-dod.sub
Target Version: 4.14
Processing Host: NAHSTW7017

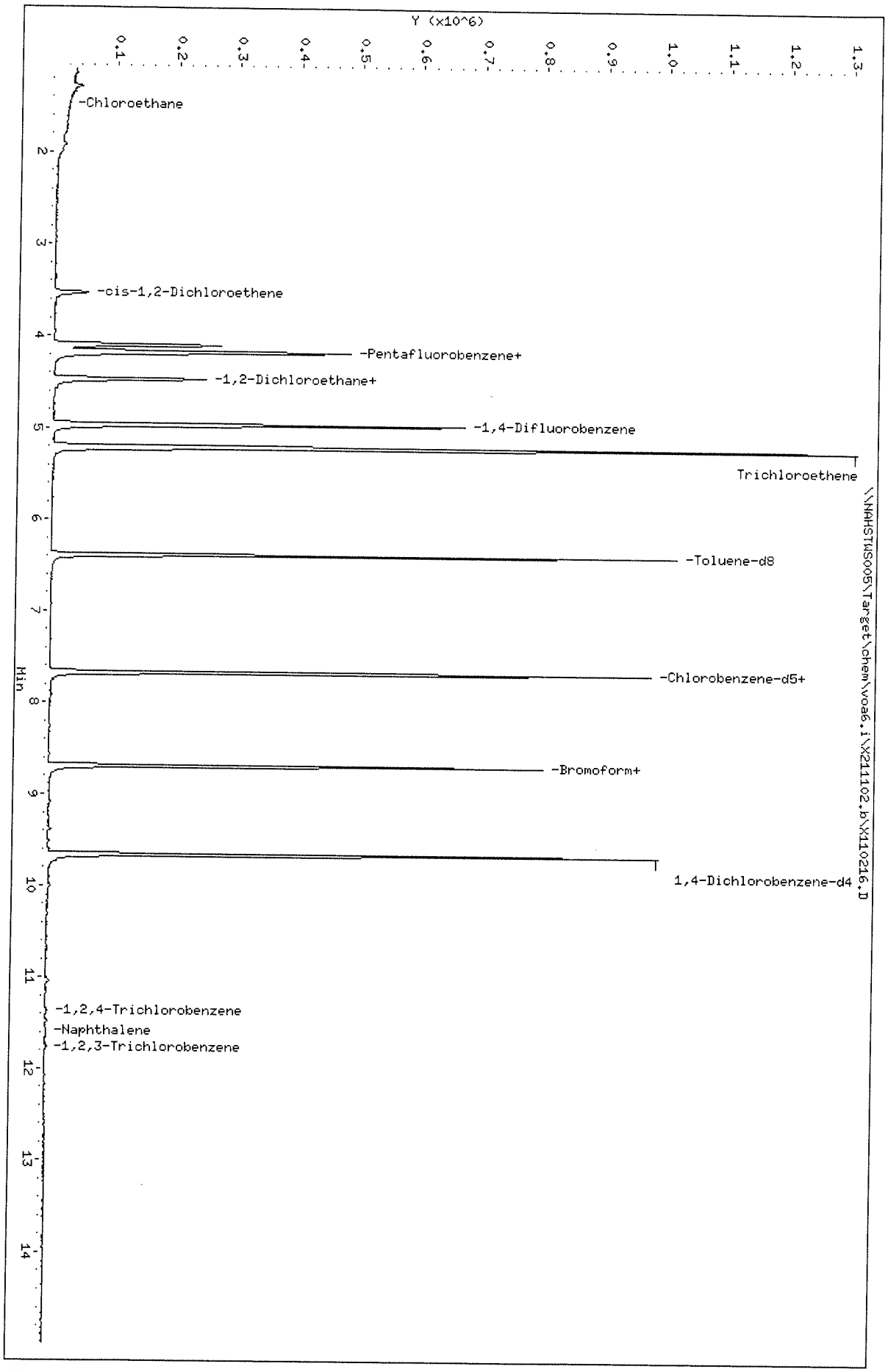
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

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

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	427449	50.0000	
$ 30 Dibromofluoromethane	113	4.096	4.103	(0.979)	193868	46.1179	46.11
$ 35 1,2-Dichloroethane-d4	65	4.469	4.469	(1.069)	187052	43.7365	43.73
* 36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	580729	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	517775	50.0000	
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	640009	48.7066	48.70
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	223252	49.3502	49.35
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	256707	50.0000	
5 Vinyl Chloride	62	1.145	1.145	(0.274)	2066	0.46100	4.60(a)
27 cis-1,2-Dichloroethene	96	3.530	3.523	(0.844)	30705	6.90935	69.09
33 1,2-Dichloroethane	62	4.562	4.555	(0.919)	2462	0.50540	5.05(a)
38 Trichloroethene	130	5.206	5.206	(1.049)	452979	103.120	1031.19

QC Flag Legend

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



Data File: \\NAHSTWS005\Target\chem\woa6.i\X211102.b\X110216.D
Date : 02-NOV-2021 16:05
Client ID: HS21101272-05
Sample Info: HS21101272-05;HS21101272-05;;;
Purge Volume: 5.0
Column phase: DB624

Instrument: woa6.i
Operator: PC
Column diameter: 0.18

Data File: \\NAHSTWS005\Target\chem\voa6.i\X211102.b\X110216.D

Date : 02-NOV-2021 16:05

Client ID: HS21101272-05

Instrument: voa6.i

Sample Info: HS21101272-05;HS21101272-05;;;

Purge Volume: 5.0

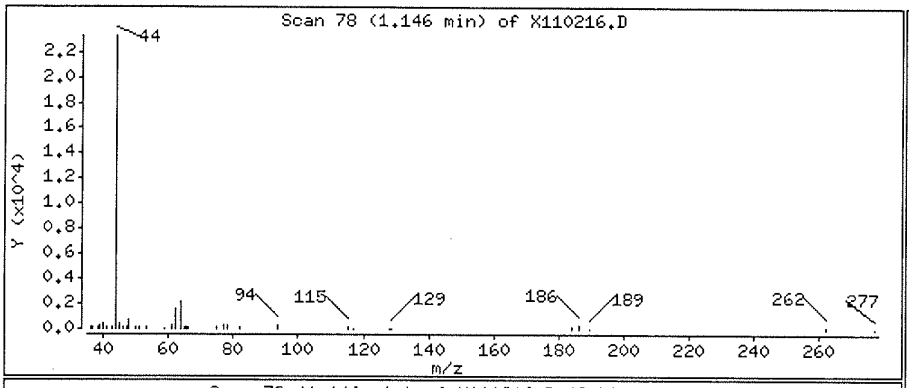
Operator: PC

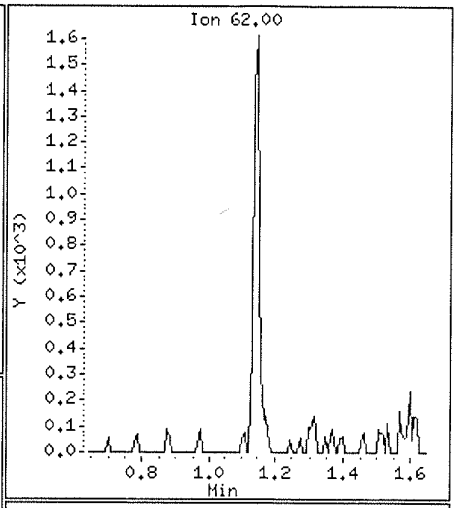
Column phase: DB624

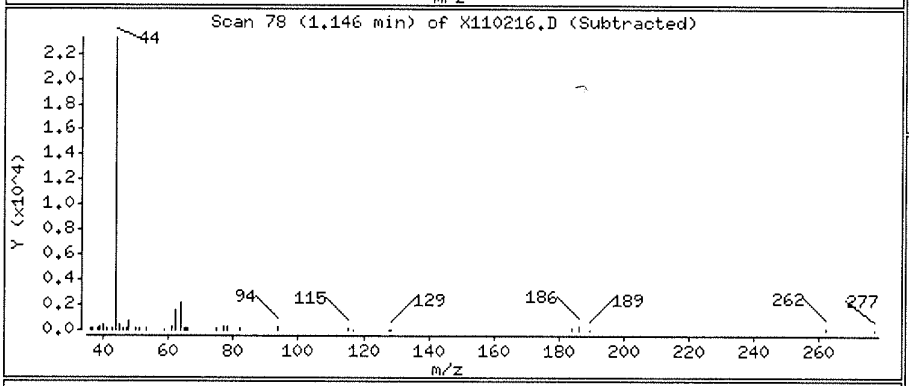
Column diameter: 0.18

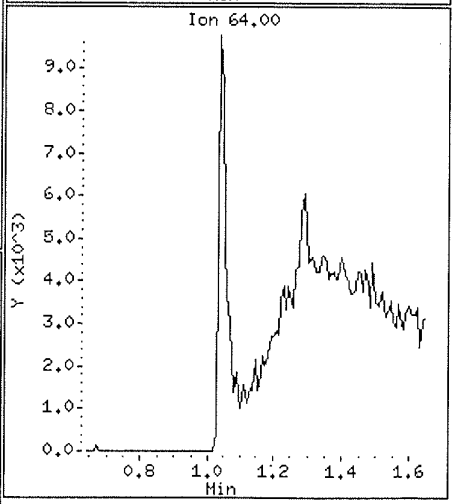
5 Vinyl Chloride

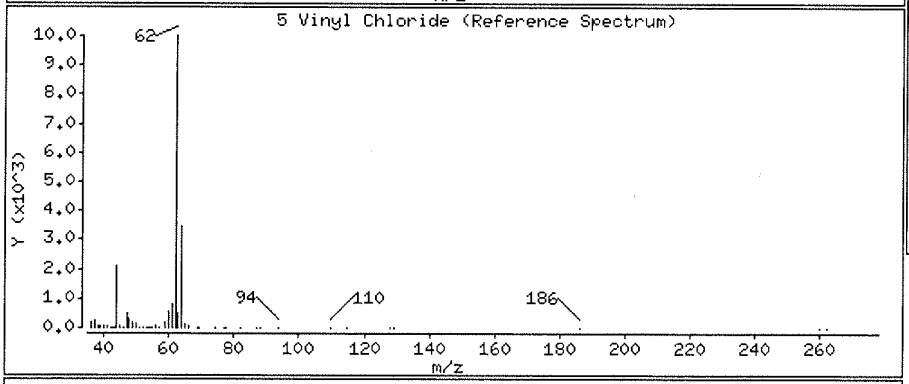
Concentration: 4.60 ug/l

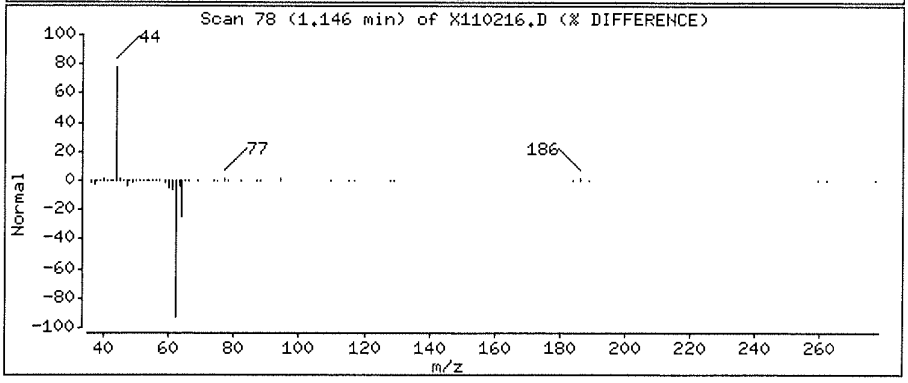












Data File: \\NAHSTWS005\Target\chem\voa6.i\X211102.b\X110216.D

Date : 02-NOV-2021 16:05

Client ID: HS21101272-05

Instrument: voa6.i

Sample Info: HS21101272-05;HS21101272-05;;;

Purge Volume: 5.0

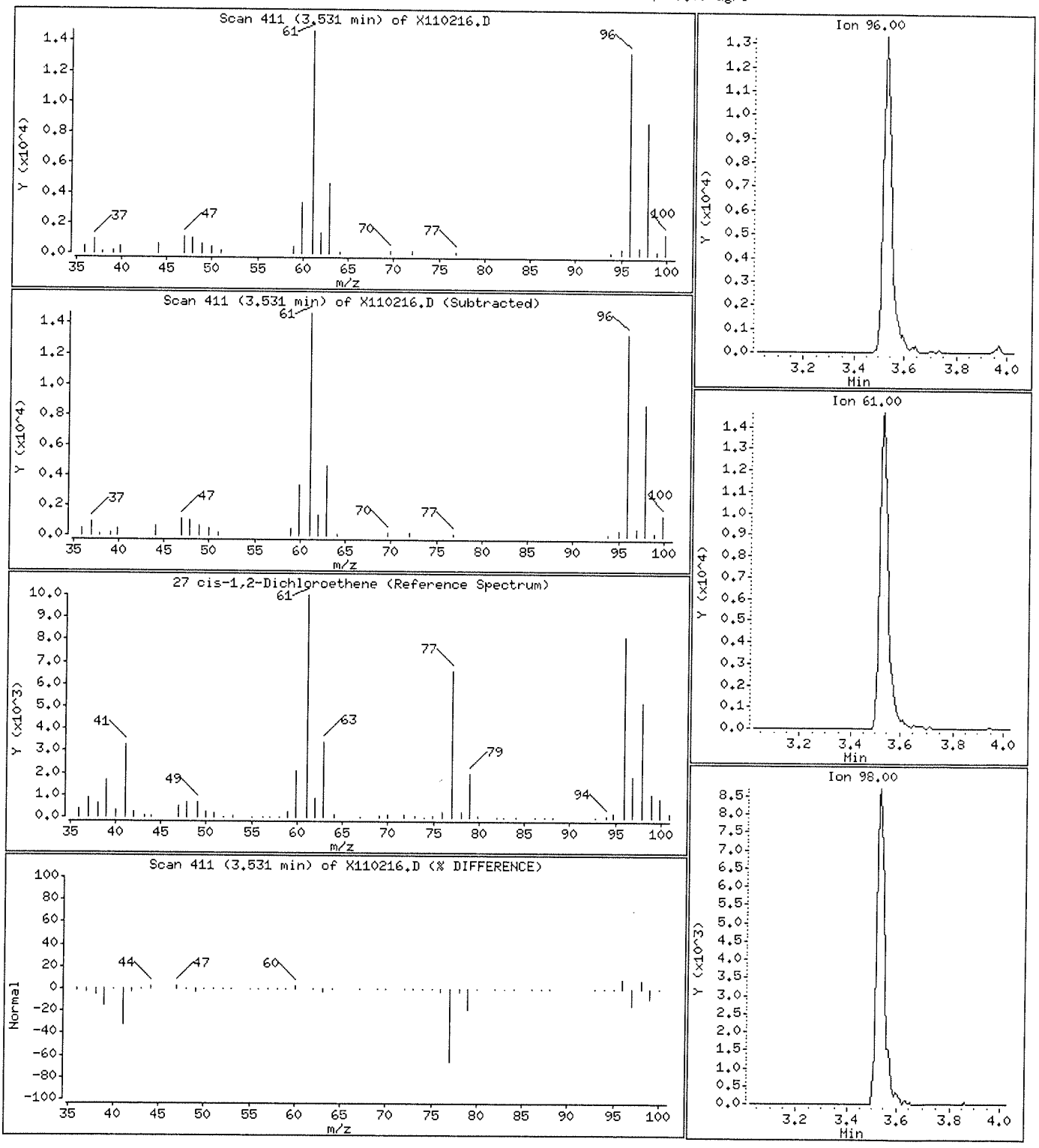
Operator: PC

Column phase: DB624

Column diameter: 0.18

27 cis-1,2-Dichloroethene

Concentration: 69.09 ug/l



Data File: \\NAHSTWS005\Target\chem\voa6.i\X211102.b\X110216.D

Date : 02-NOV-2021 16:05

Client ID: HS21101272-05

Instrument: voa6.i

Sample Info: HS21101272-05;HS21101272-05;;;

Purge Volume: 5.0

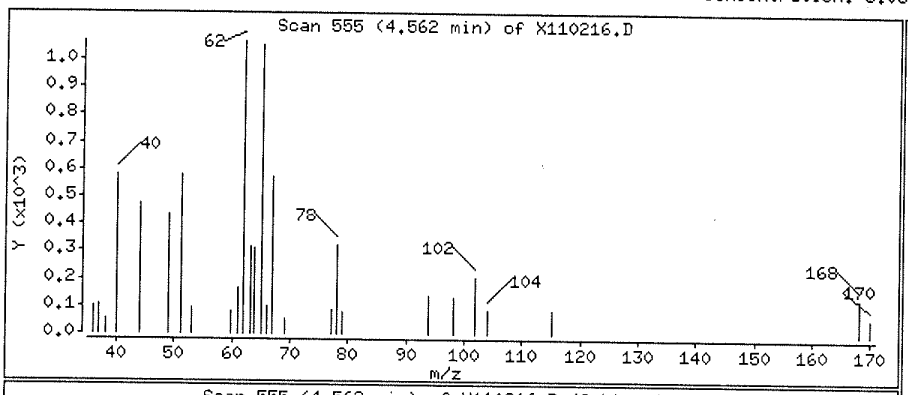
Operator: PC

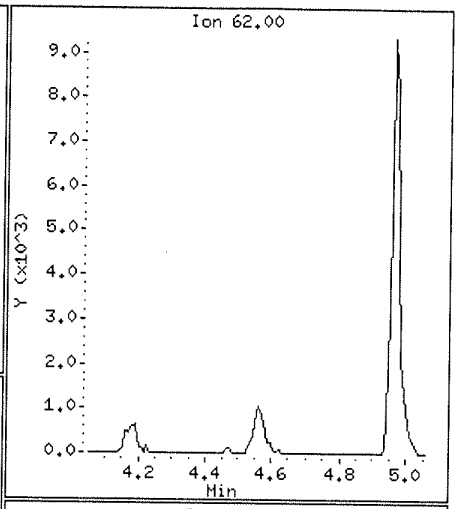
Column phase: DB624

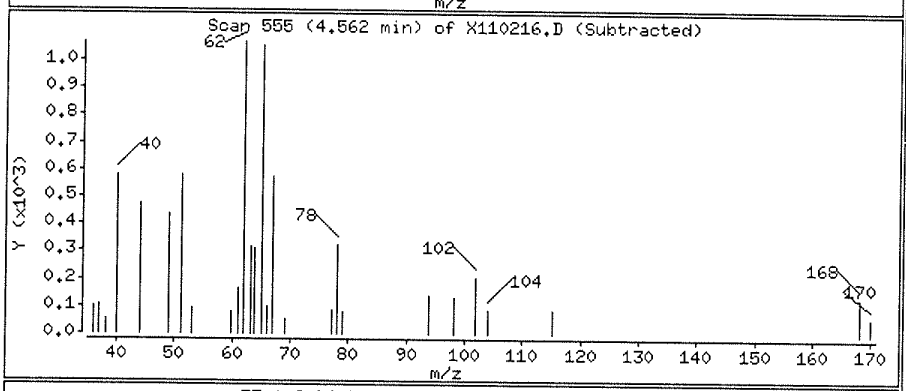
Column diameter: 0.18

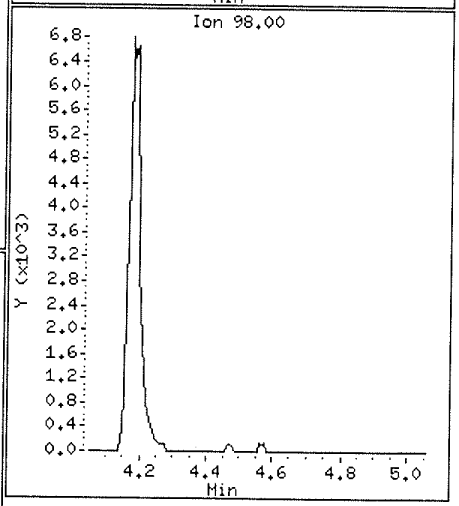
33 1,2-Dichloroethane

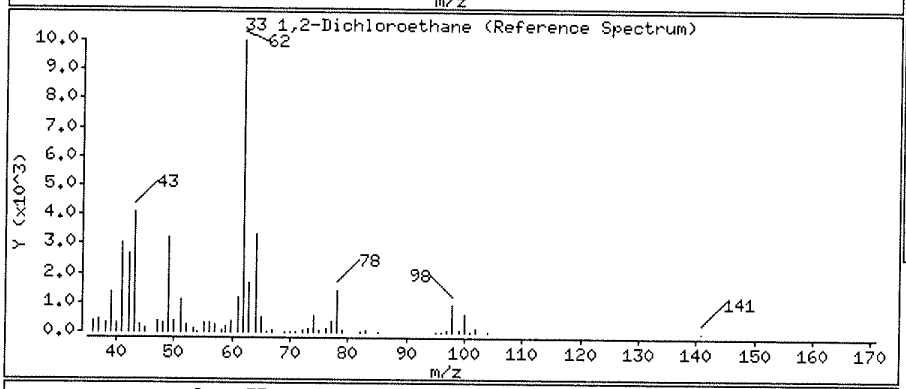
Concentration: 5.05 ug/l

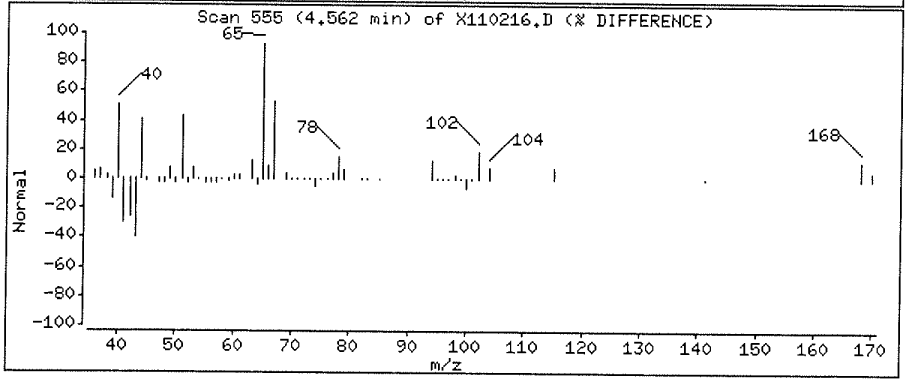












Data File: \\NAHSTWS005\Target\chem\voa6.i\X211102.b\X110216.D

Date : 02-NOV-2021 16:05

Client ID: HS21101272-05

Instrument: voa6.i

Sample Info: HS21101272-05;HS21101272-05;;;

Purge Volume: 5.0

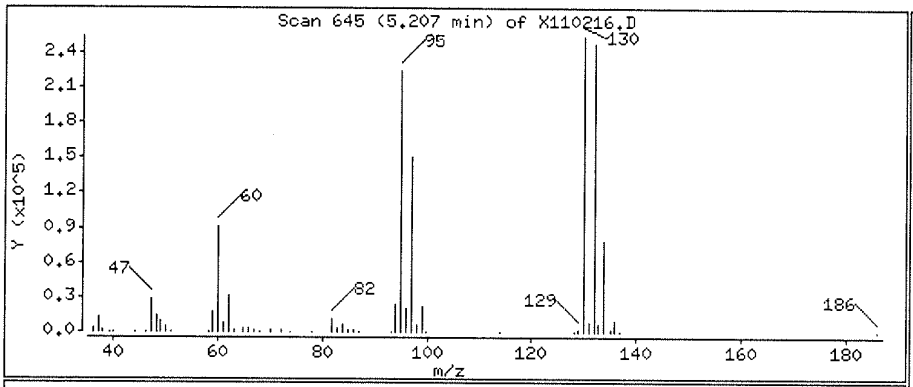
Operator: PC

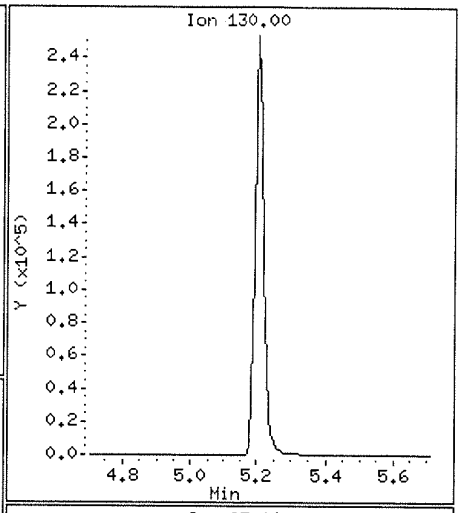
Column phase: DB624

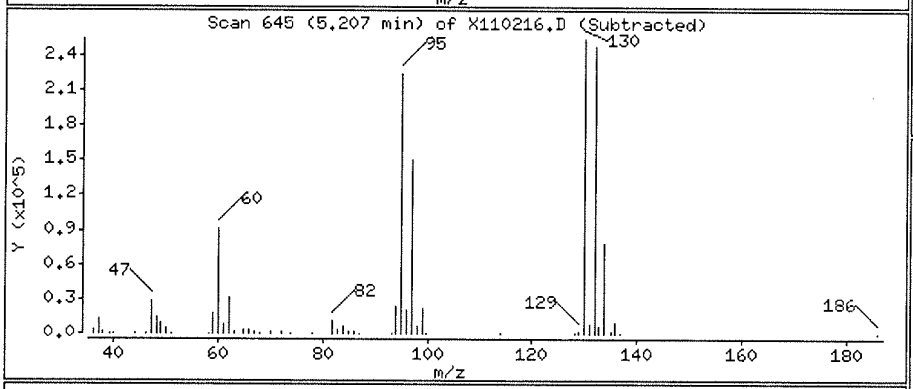
Column diameter: 0.18

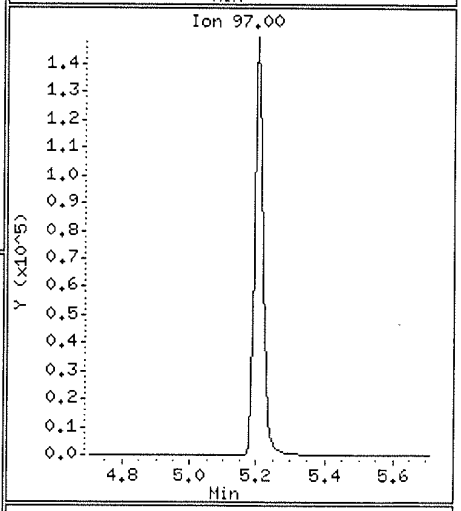
38 Trichloroethene

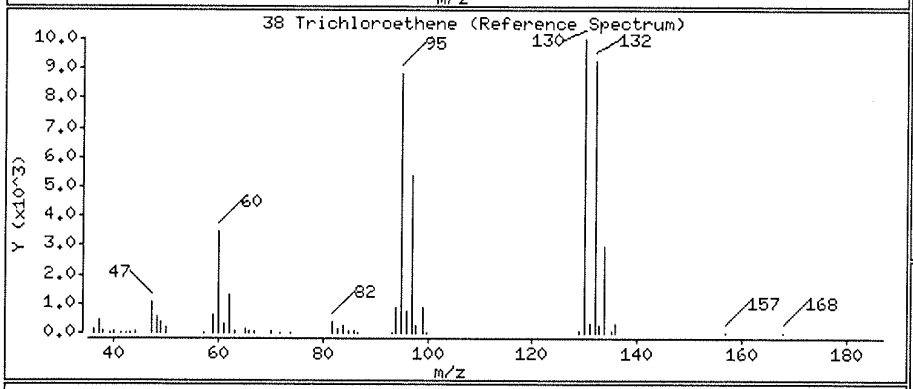
Concentration: 1031.19 ug/l

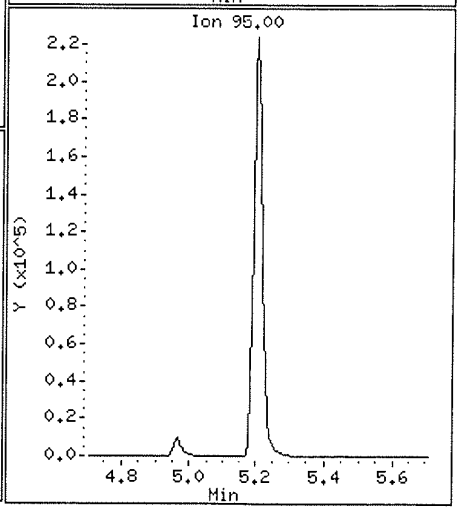


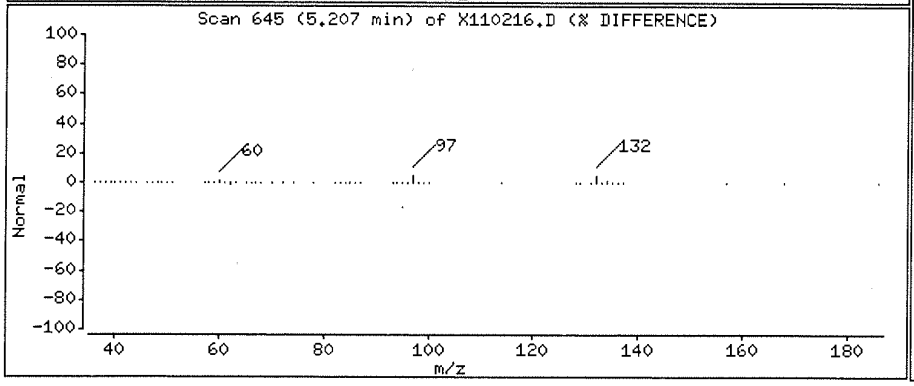












ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X211102.b\X110218.D
Lab Smp Id: HS21101272-10 Client Smp ID: HS21101272-10
Inj Date : 02-NOV-2021 16:47
Operator : PC Inst ID: voa6.i
Smp Info : HS21101272-10;HS21101272-10;;;
Misc Info : HS18090001;WATER;0;20;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X211102.b\8260W.m
Meth Date : 15-Nov-2021 16:49 kori.bagsb Quant Type: ISTD
Cal Date : 08-OCT-2021 15:34 Cal File: X100808.D
Als bottle: 17
Dil Factor: 20.00000
Integrator: HP RTE Compound Sublist: 01474-dod.sub
Target Version: 4.14
Processing Host: NAHSTW7017

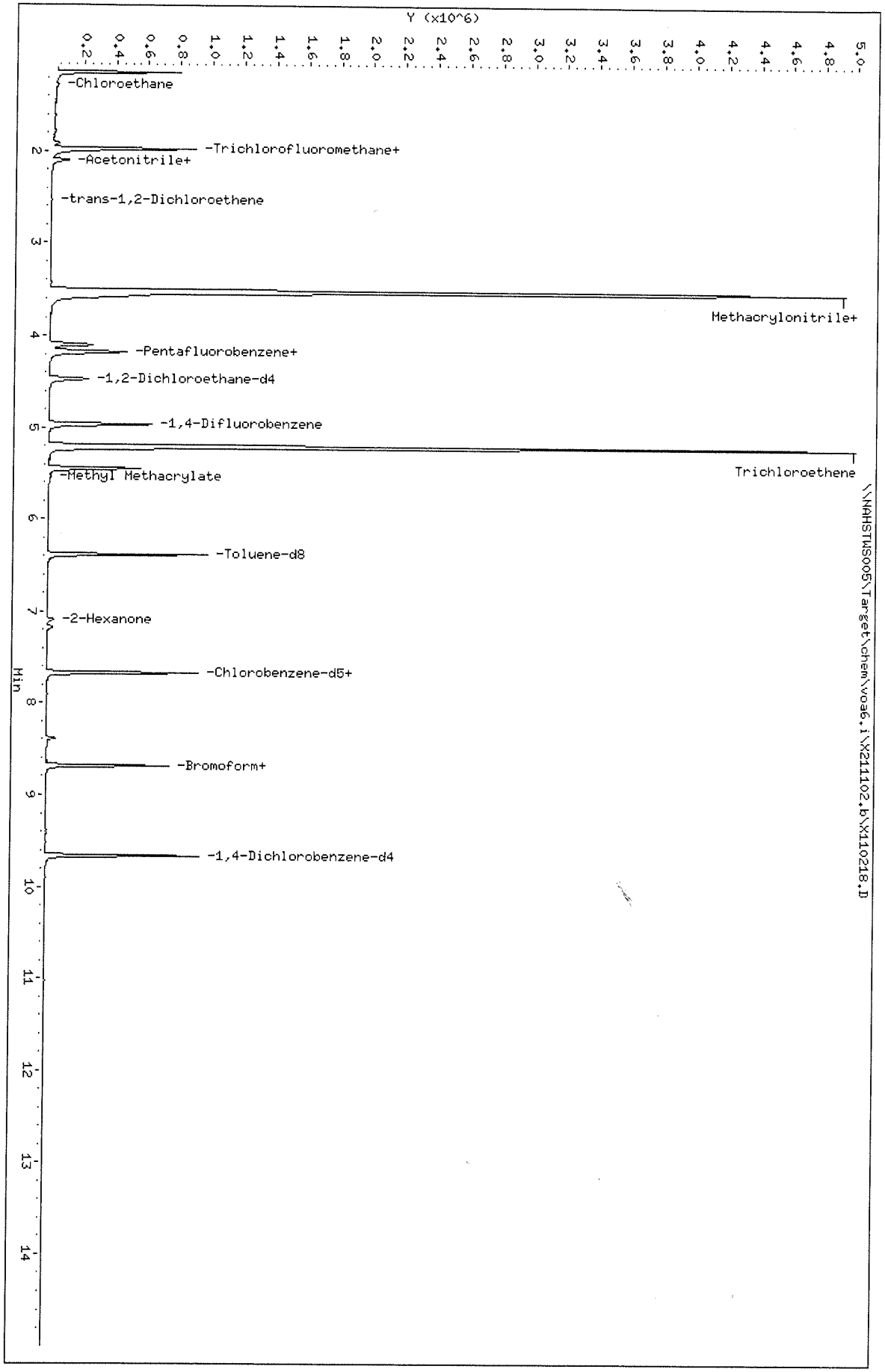
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	20.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	414696	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	188642	46.2581	46.25
$ 35 1,2-Dichloroethane-d4	65	4.476	4.469	(1.070)	184024	44.3803	44.38
* 36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	554720	50.0000	
* 47 Chlorobenzene-d5	117	7.670	7.671	(1.000)	496647	50.0000	
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	609237	48.3371	48.33
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	206147	47.4566	47.45
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	237526	50.0000	
5 Vinyl Chloride	62	1.145	1.145	(0.274)	552222	127.010	2540.20
11 1,1-Dichloroethene	96	1.911	1.911	(0.457)	6990	1.88961	37.79(a)
27 cis-1,2-Dichloroethene	96	3.523	3.523	(0.842)	2687262	623.293	12465.86(A)
38 Trichloroethene	130	5.206	5.206	(1.049)	1680032	400.389	8007.77(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.



Data File: \\NAHSTWS005\Target\chem\voa6.i\X211102.b\X110218.D
Date : 02-NOV-2021 16:47
Client ID: HS21101272-10
Sample Info: HS21101272-10;HS21101272-10;;;
Purge Volume: 5.0
Column phase: DB624

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

Data File: \\NAHSTWS005\Target\chem\voa6.i\X211102.b\X110218.D

Date : 02-NOV-2021 16:47

Client ID: HS21101272-10

Instrument: voa6.i

Sample Info: HS21101272-10;HS21101272-10;;;

Purge Volume: 5.0

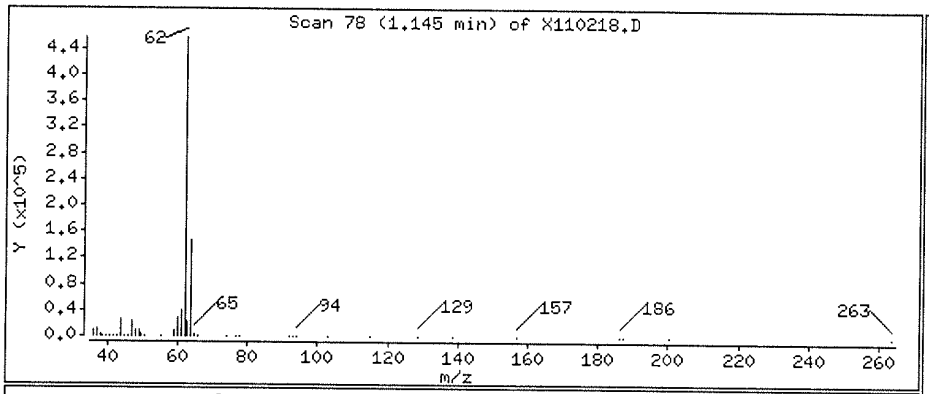
Operator: PC

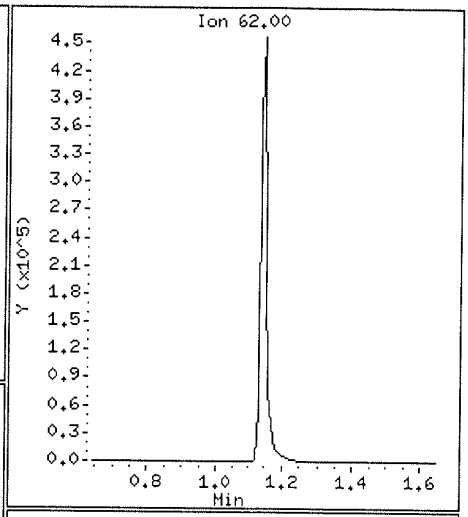
Column phase: DB624

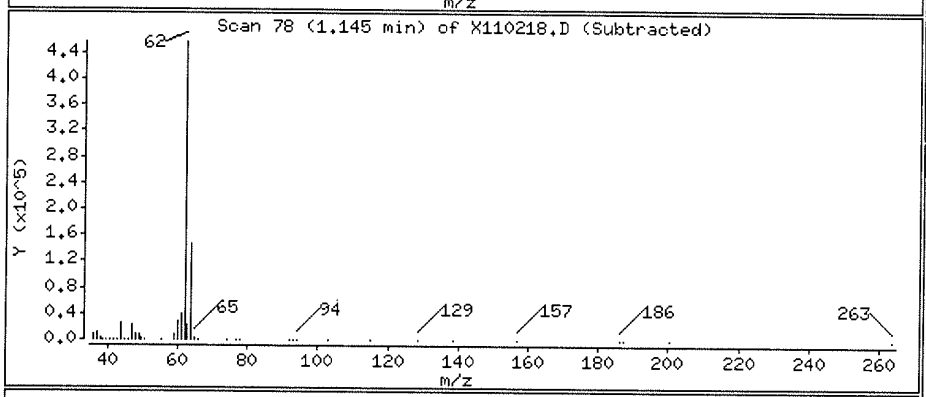
Column diameter: 0.18

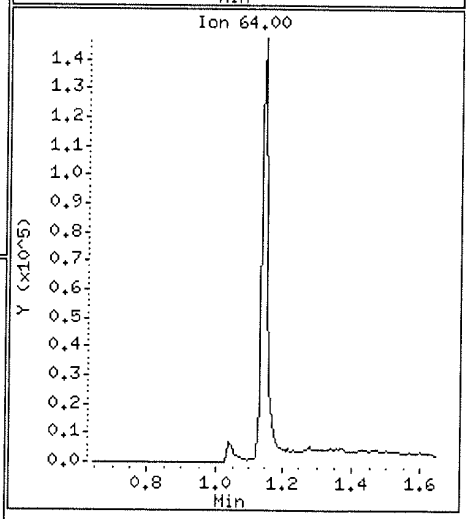
5 Vinyl Chloride

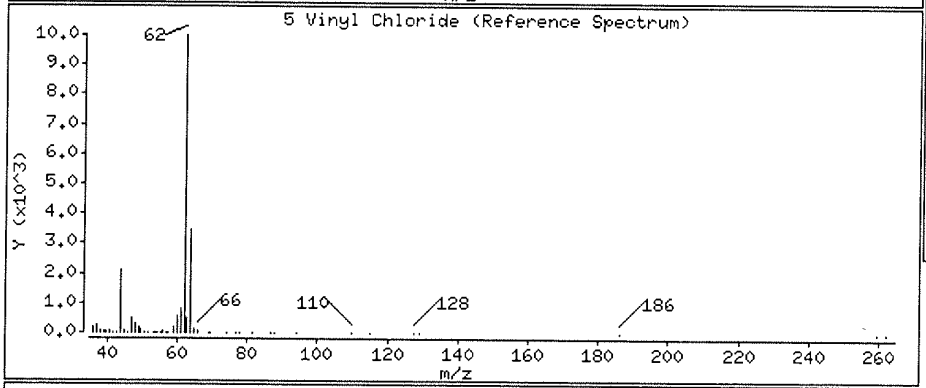
Concentration: 2540.20 ug/l

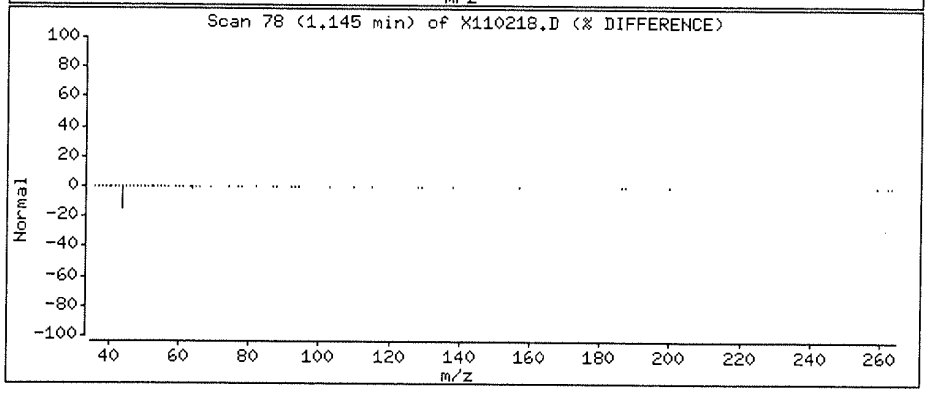












Data File: \\NAHSTWS005\Target\chem\voa6.i\X211102.b\X110218.D

Date : 02-NOV-2021 16:47

Client ID: HS21101272-10

Instrument: voa6.i

Sample Info: HS21101272-10;HS21101272-10;;;

Purge Volume: 5.0

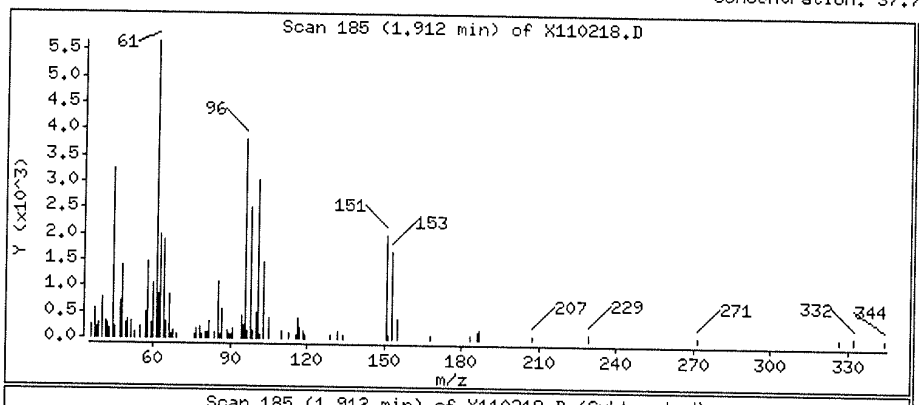
Operator: PC

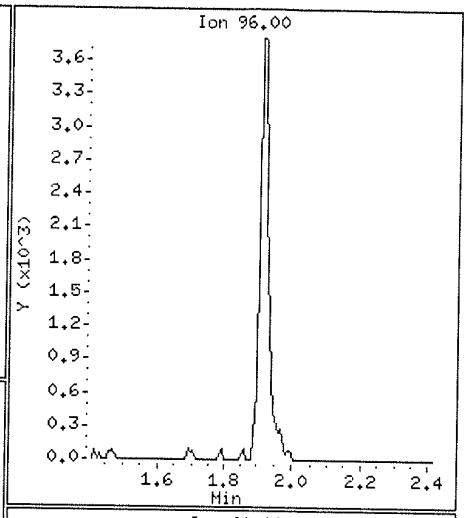
Column phase: DB624

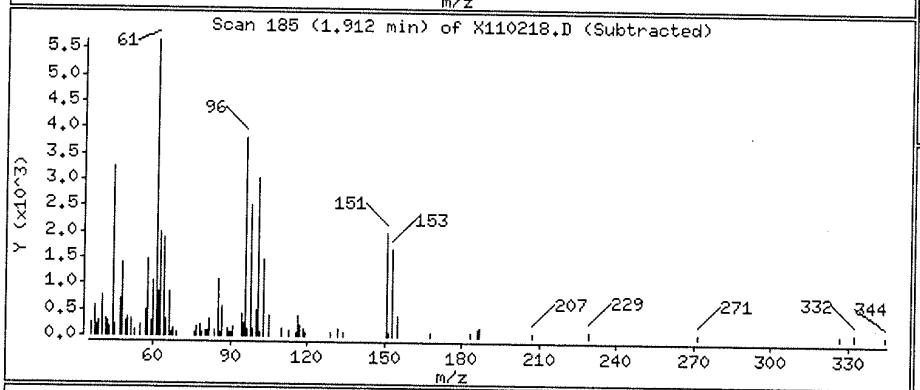
Column diameter: 0.18

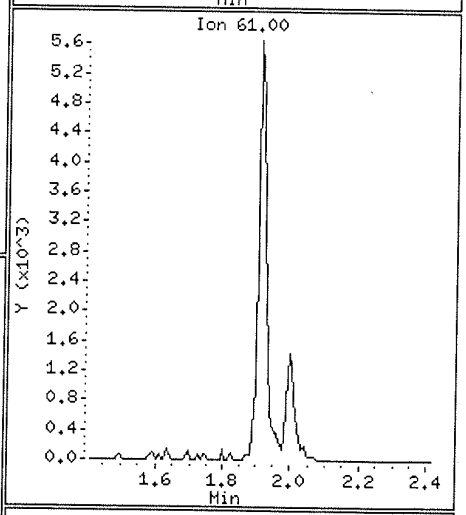
11 1,1-Dichloroethene

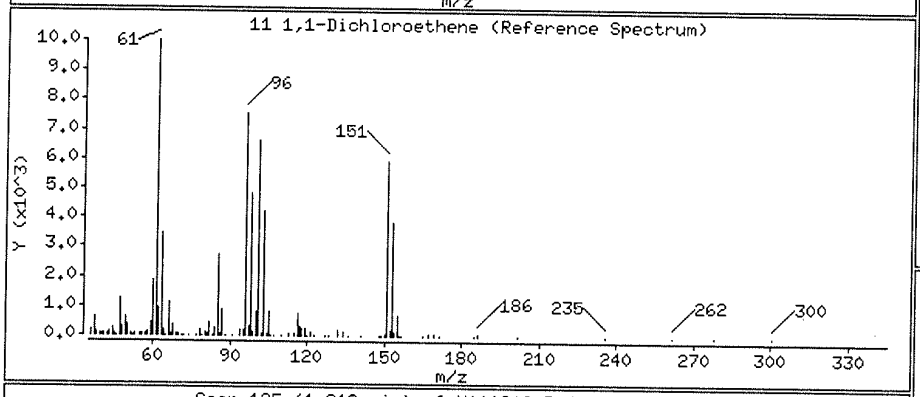
Concentration: 37.79 ug/l

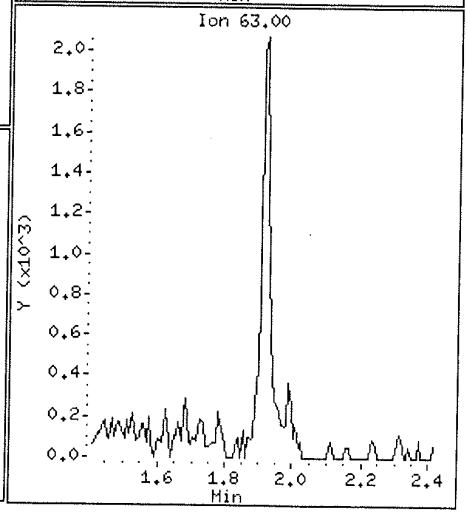


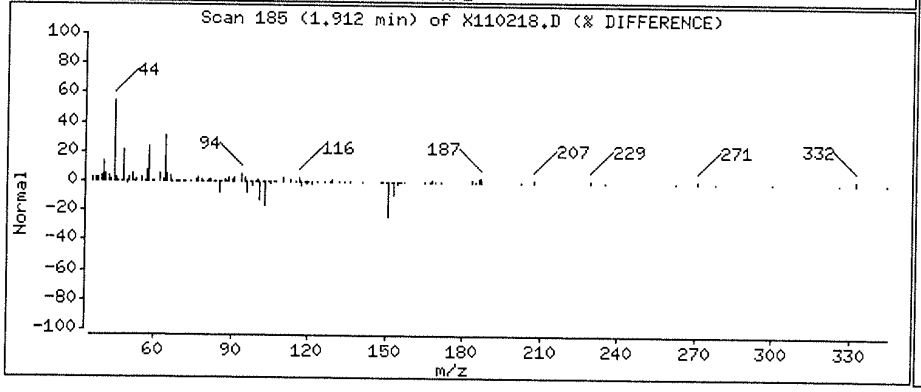












Data File: \\NAHSTWS005\Target\chem\voa6.i\X211102.b\X110218.D

Date : 02-NOV-2021 16:47

Client ID: HS21101272-10

Instrument: voa6.i

Sample Info: HS21101272-10;HS21101272-10;;;

Purge Volume: 5.0

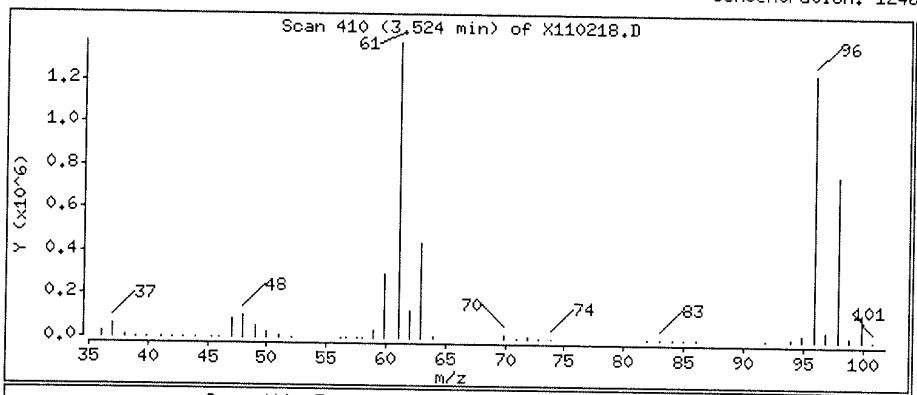
Operator: PC

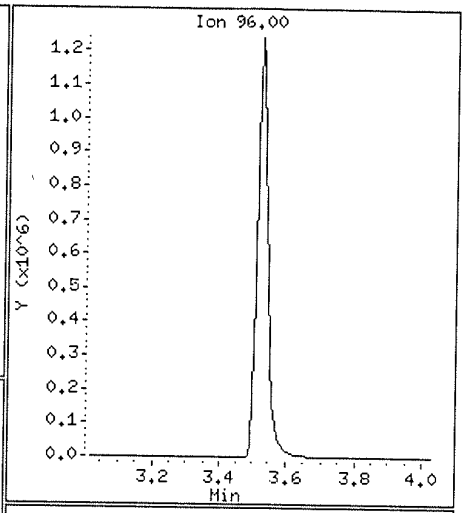
Column phase: DB624

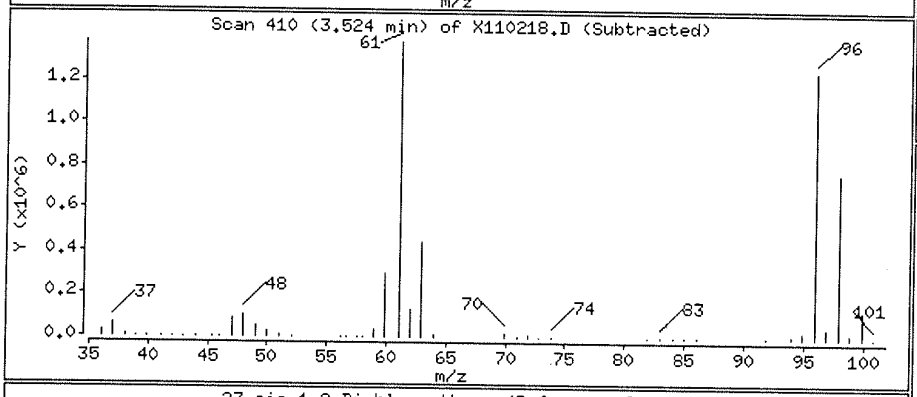
Column diameter: 0.18

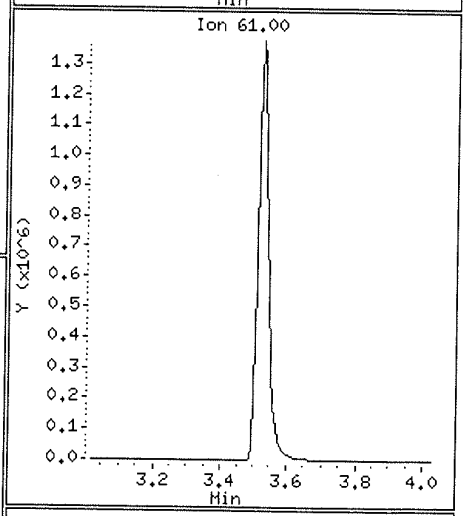
27 cis-1,2-Dichloroethene

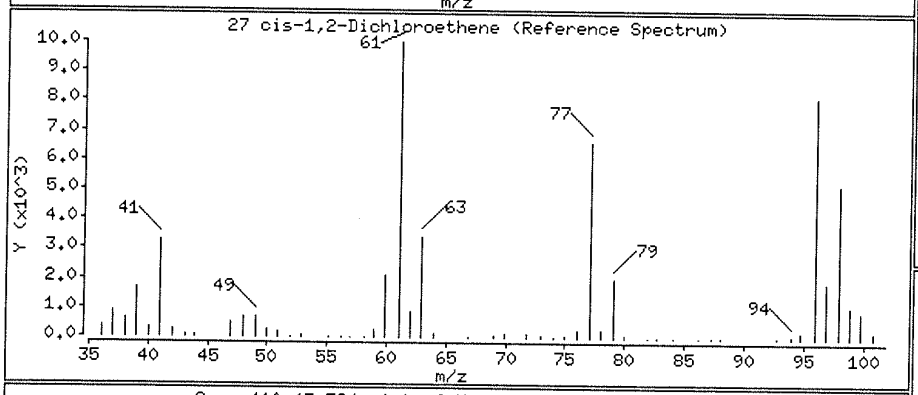
Concentration: 12465.86 ug/l

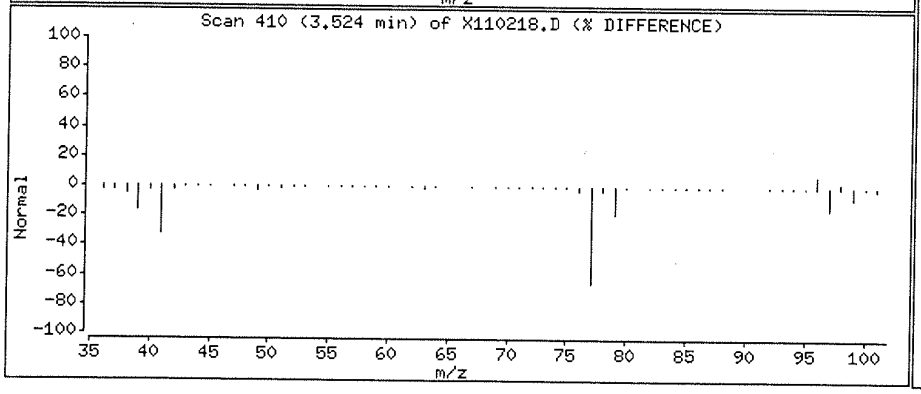


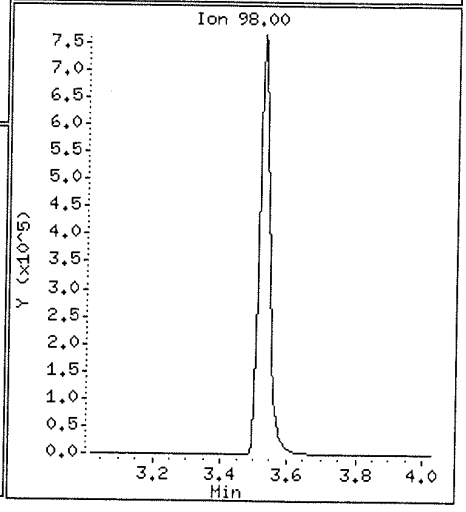












Data File: \\NAHSTWS005\Target\chem\voa6.i\X211102.b\X110218.D

Date : 02-NOV-2021 16:47

Client ID: HS21101272-10

Instrument: voa6.i

Sample Info: HS21101272-10;HS21101272-10;;;

Purge Volume: 5.0

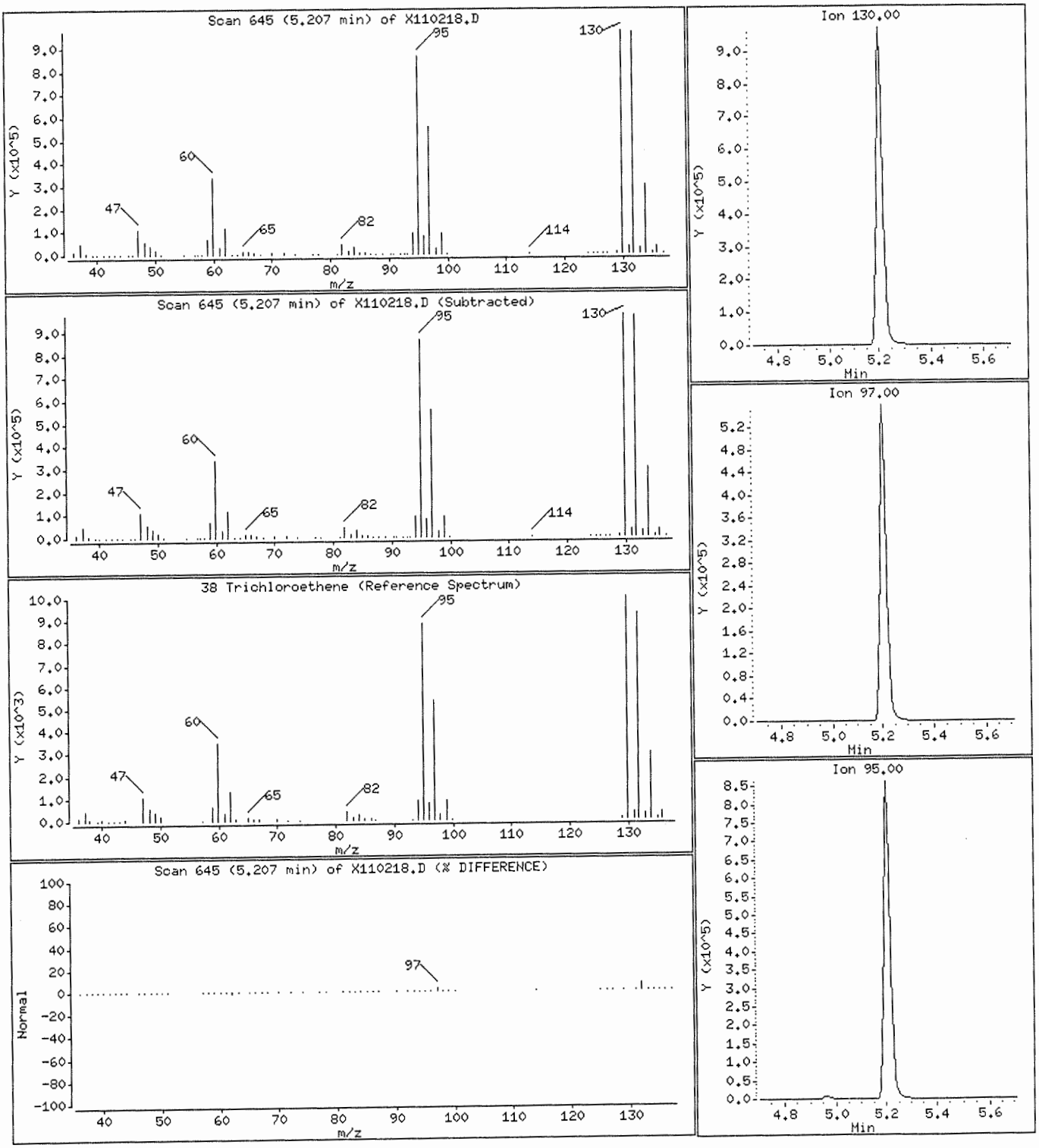
Operator: PC

Column phase: DB624

Column diameter: 0.18

38 Trichloroethene

Concentration: 8007.77 ug/l



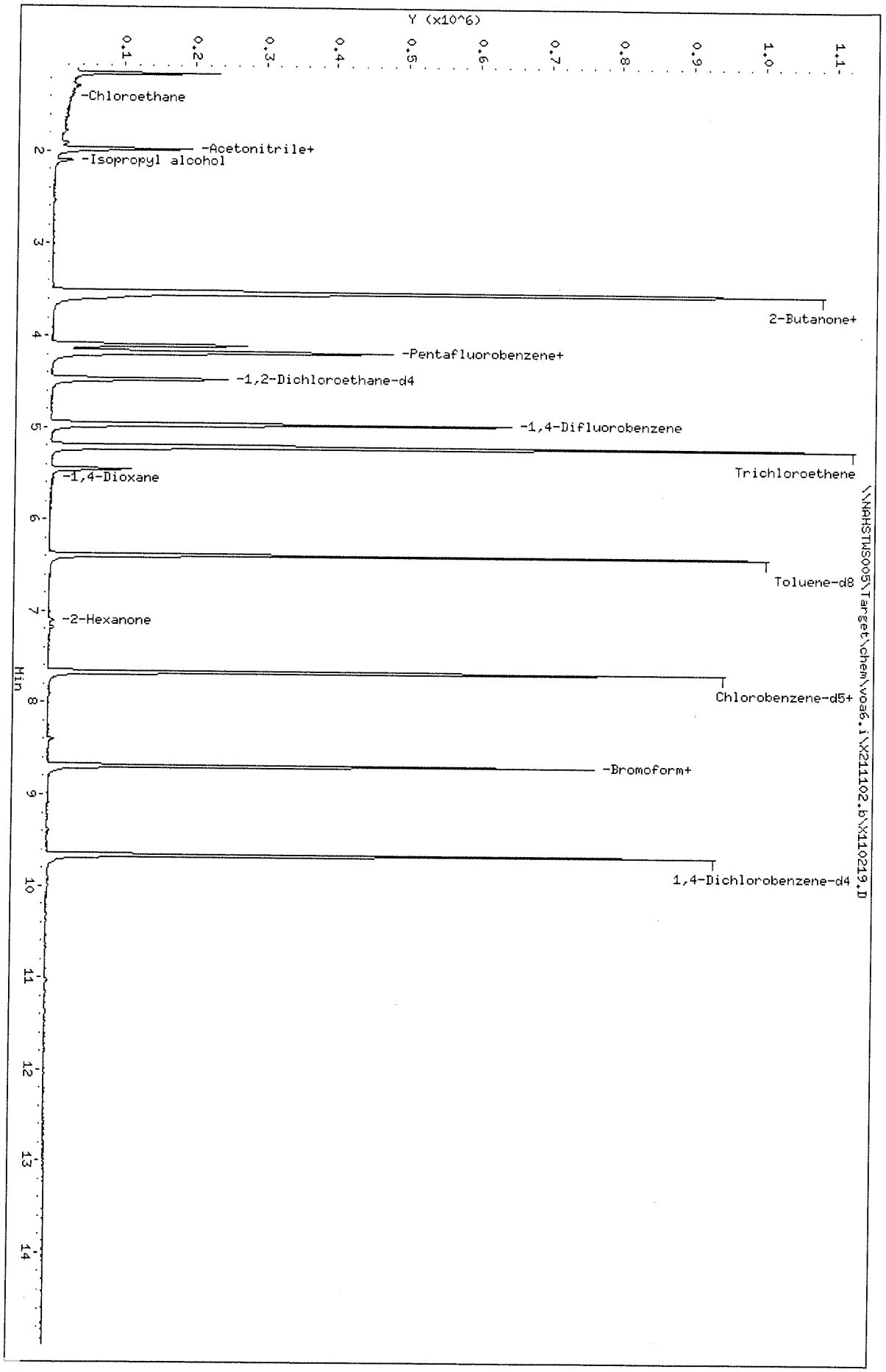
ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X211102.b\X110219.D
Lab Smp Id: HS21101272-10 Client Smp ID: HS21101272-10
Inj Date : 02-NOV-2021 17:08
Operator : PC Inst ID: voa6.i
Smp Info : HS21101272-10;HS21101272-10;;;
Misc Info : HS18090001;WATER;0;100;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X211102.b\8260W.m
Meth Date : 15-Nov-2021 16:49 kori.bagsb Quant Type: ISTD
Cal Date : 08-OCT-2021 15:34 Cal File: X100808.D
Als bottle: 18
Dil Factor: 100.00000
Integrator: HP RTE Compound Sublist: 01474-dod.sub
Target Version: 4.14
Processing Host: NAHSTW7017

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

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

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	417057	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	190542	46.4645	46.46
$ 35 1,2-Dichloroethane-d4	65	4.476	4.469	(1.070)	190385	45.7128	45.71
* 36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	566666	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	495917	50.0000	
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	617835	49.0915	49.09
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	213496	49.2716	49.27
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	241361	50.0000	
5 Vinyl Chloride	62	1.145	1.145	(0.274)	145465	33.2673	3326.72
27 cis-1,2-Dichloroethene	96	3.523	3.523	(0.842)	596669	137.610	13761.01
38 Trichloroethene	130	5.207	5.206	(1.049)	383708	89.5183	8951.82



Data File: \\NAHSTWS005\Target\chem\voa6.i\X211102.b\X110219.D
Date : 02-NOV-2021 17:08
Client ID: HS2101272-10
Sample Info: HS2101272-10;HS2101272-10;;;
Purge Volume: 5.0
Column phase: DB624

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

Data File: \\NAHSTWS005\Target\chem\voa6.i\X211102.b\X110219.D

Date : 02-NOV-2021 17:08

Client ID: HS21101272-10

Instrument: voa6.i

Sample Info: HS21101272-10;HS21101272-10;;;

Purge Volume: 5.0

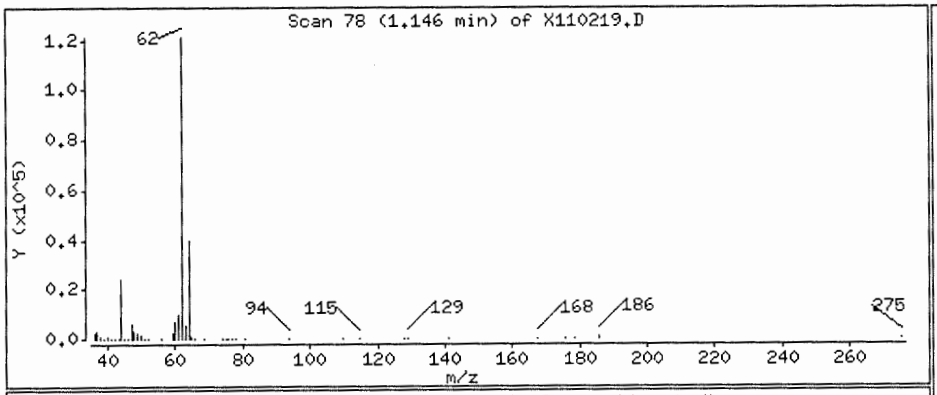
Operator: PC

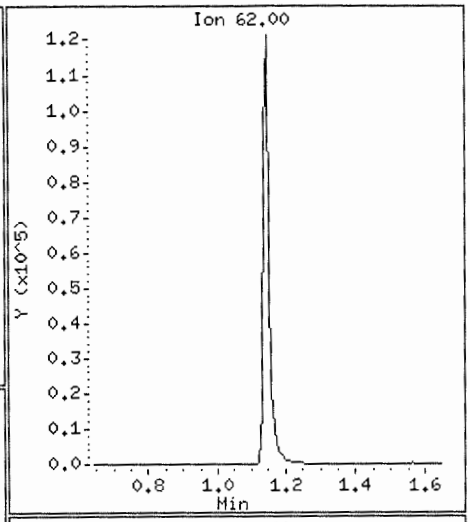
Column phase: DB624

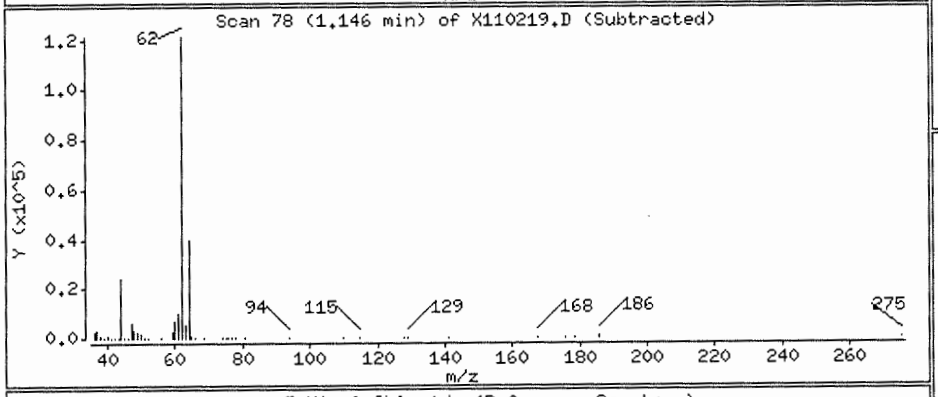
Column diameter: 0.18

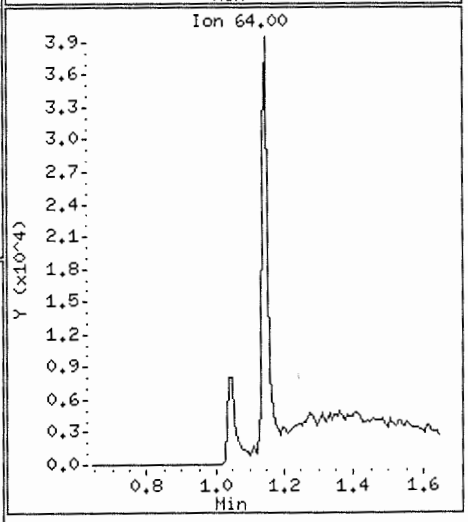
5 Vinyl Chloride

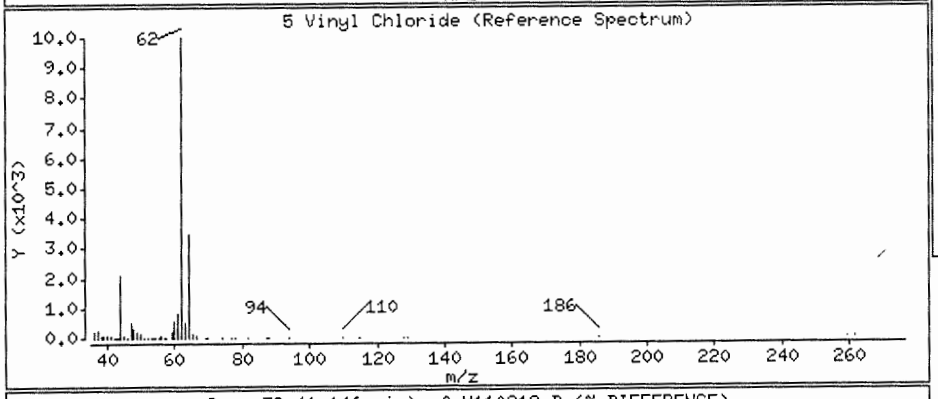
Concentration: 3326.72 ug/l

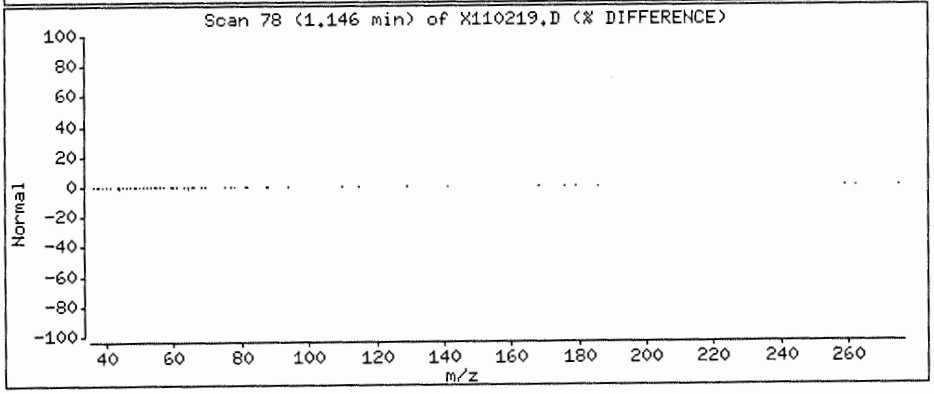












Data File: \\NAHSTWS005\Target\chem\voa6.i\X211102.b\X110219.D

Date : 02-NOV-2021 17:08

Client ID: HS21101272-10

Instrument: voa6.i

Sample Info: HS21101272-10;HS21101272-10;;;

Purge Volume: 5.0

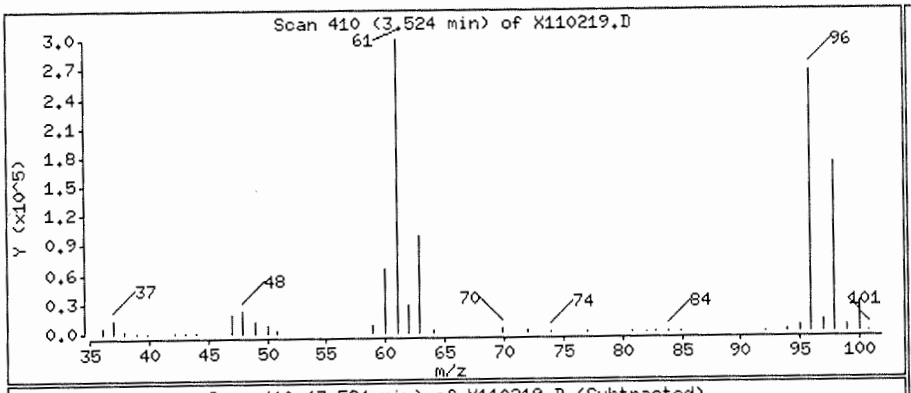
Operator: PC

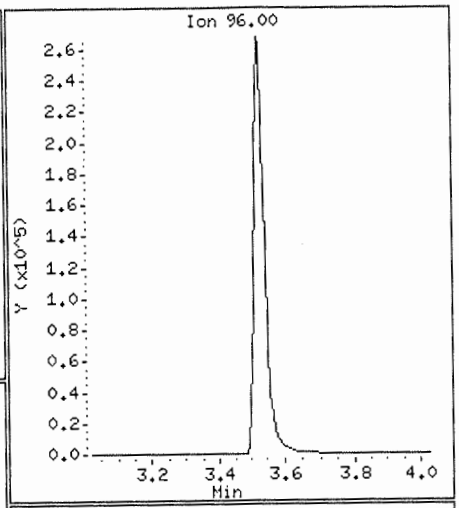
Column phase: DB624

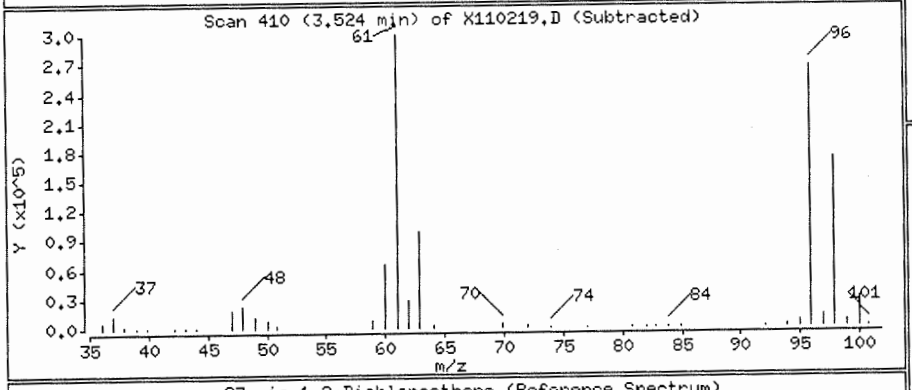
Column diameter: 0.18

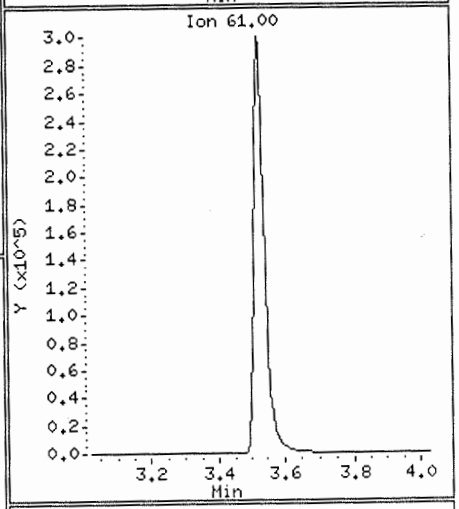
27 cis-1,2-Dichloroethene

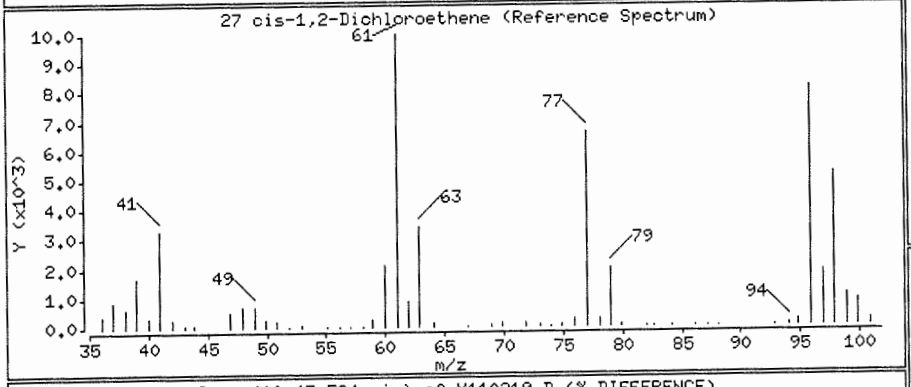
Concentration: 13761.01 ug/l

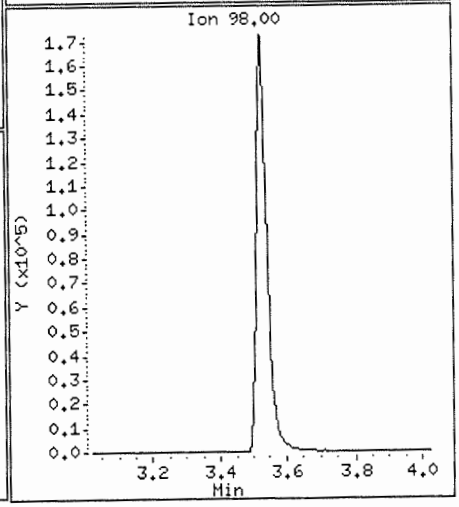


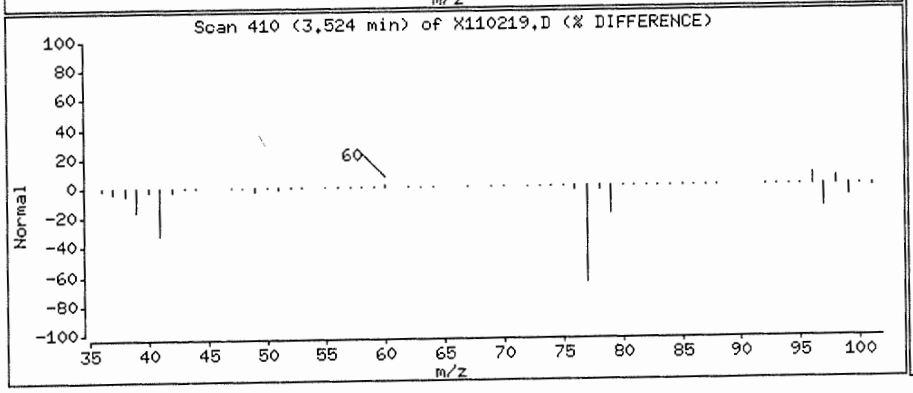












Data File: \\NAHSTWS005\Target\chem\voa6.i\X211102.b\X110219.D

Date : 02-NOV-2021 17:08

Client ID: HS21101272-10

Instrument: voa6.i

Sample Info: HS21101272-10;HS21101272-10;;;

Purge Volume: 5.0

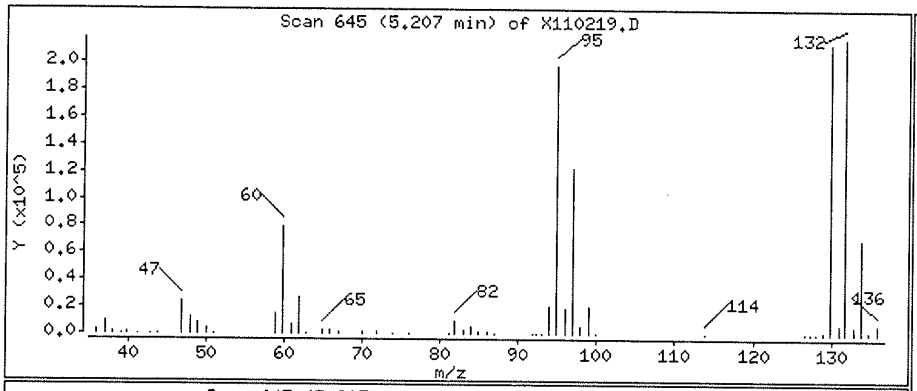
Operator: PC

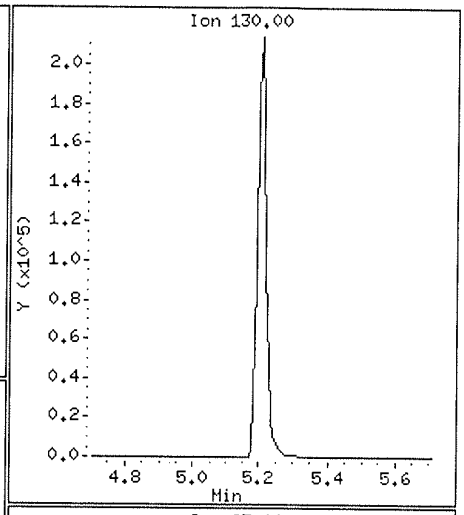
Column phase: DB624

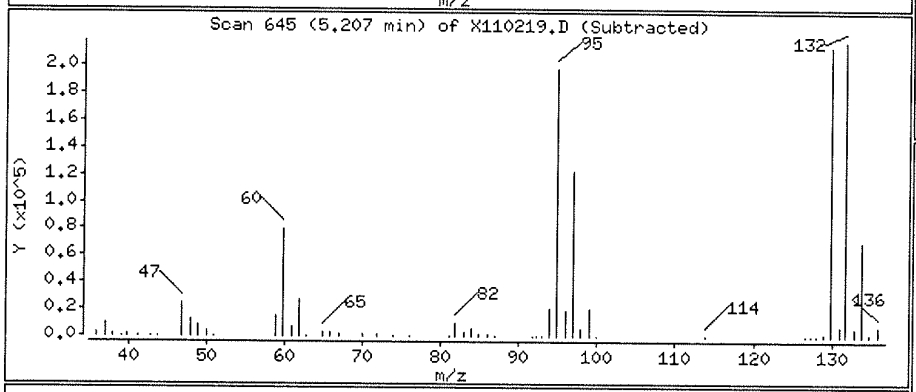
Column diameter: 0.18

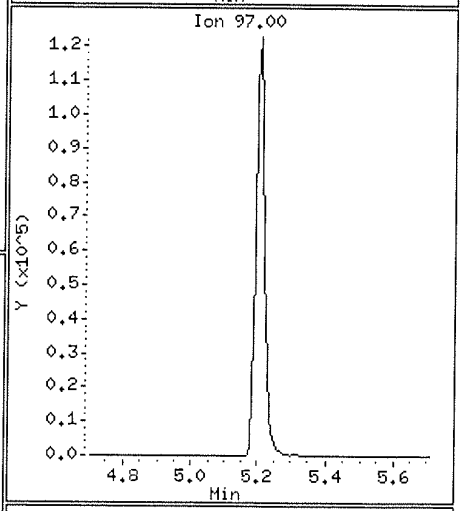
38 Trichloroethene

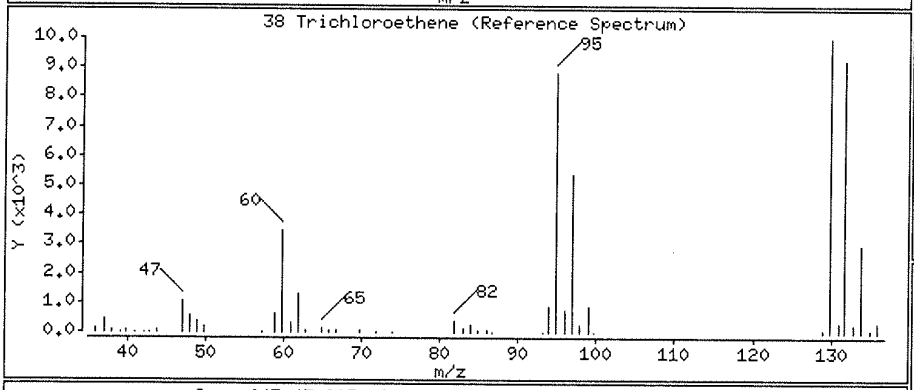
Concentration: 8951.82 ug/l

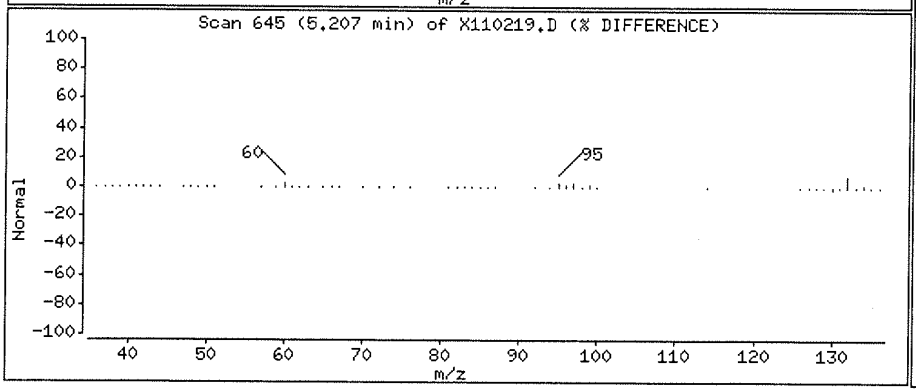


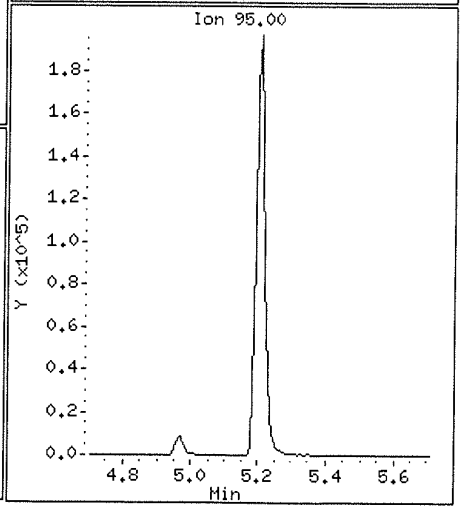












Data File: \\NAHSTWS005\Target\chem\voa6.i\X211102.b\X110220.D Page 1
Report Date: 15-Nov-2021 16:52

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X211102.b\X110220.D
Lab Smp Id: HS21101272-09 Client Smp ID: HS21101272-09
Inj Date : 02-NOV-2021 17:29
Operator : PC Inst ID: voa6.i
Smp Info : HS21101272-09;HS21101272-09;;;
Misc Info : HS18090001;WATER;0;5000;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X211102.b\8260W.m
Meth Date : 15-Nov-2021 16:49 kori.bagsb Quant Type: ISTD
Cal Date : 08-OCT-2021 15:34 Cal File: X100808.D
Als bottle: 19
Dil Factor: 5000.00000
Integrator: HP RTE Compound Sublist: 01474-dod.sub
Target Version: 4.14
Processing Host: NAHSTW7017

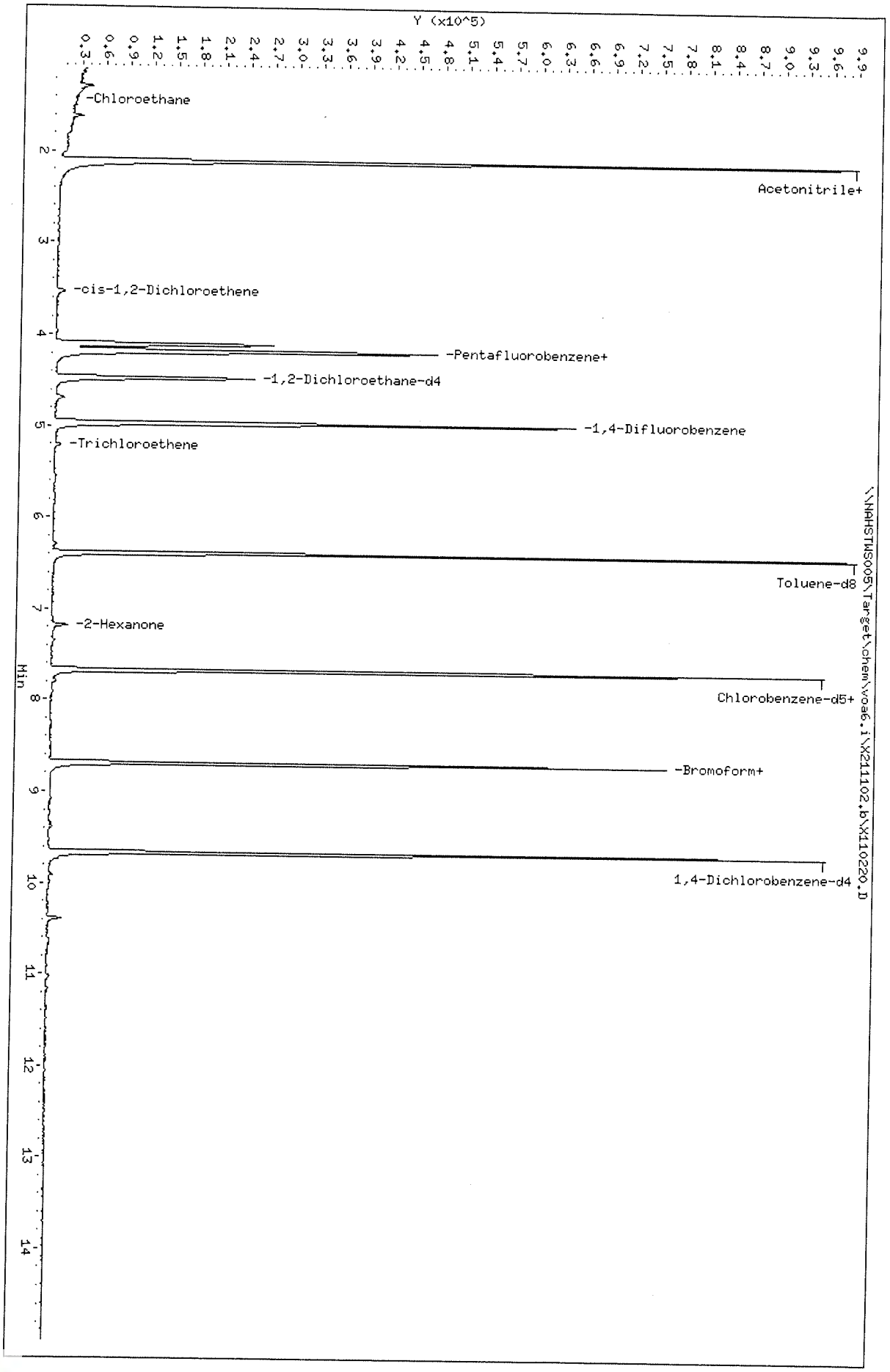
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	5000.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	417091	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	188315	45.9042	45.90
$ 35 1,2-Dichloroethane-d4	65	4.469	4.469	(1.068)	187796	45.0597	45.05
* 36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	567007	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	493015	50.0000	
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	618912	49.4665	49.46
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	209090	48.5184	48.51
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	245311	50.0000	
27 cis-1,2-Dichloroethene	96	3.538	3.523	(0.846)	5877	1.35531	6776.52(a)
38 Trichloroethene	130	5.214	5.206	(1.051)	2540	0.59222	2961.10(a)

QC Flag Legend

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



Data File: \\NAHSTWS005\Target\chem\voa6.i\X211102.b\X110220.D
Date : 02-NOV-2021 17:29
Client ID: HS21101272-09
Sample Info: HS21101272-09;HS21101272-09;;;
Purge Volume: 5.0
Column Phase: DB624

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

Data File: \\NAHSTWS005\Target\chem\voa6.i\X211102.b\X110220.D

Date : 02-NOV-2021 17:29

Client ID: HS21101272-09

Instrument: voa6.i

Sample Info: HS21101272-09;HS21101272-09;;;

Purge Volume: 5.0

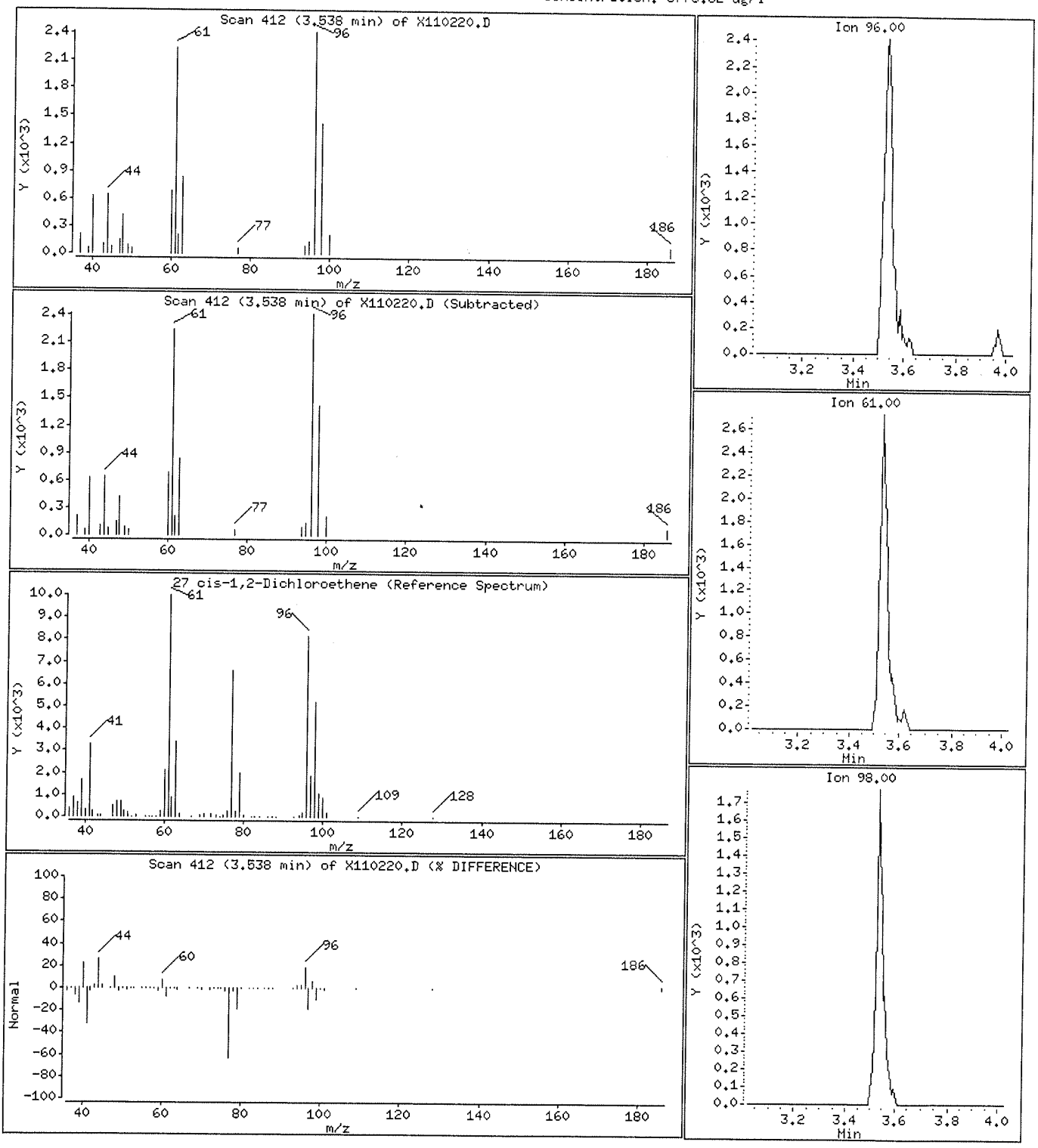
Operator: PC

Column phase: DB624

Column diameter: 0.18

27 cis-1,2-Dichloroethene

Concentration: 6776.52 ug/l



Data File: \\NAHSTWS005\Target\chem\voa6.i\X211102.b\X110220.D

Date : 02-NOV-2021 17:29

Client ID: HS21101272-09

Instrument: voa6.i

Sample Info: HS21101272-09;HS21101272-09;;;

Purge Volume: 5.0

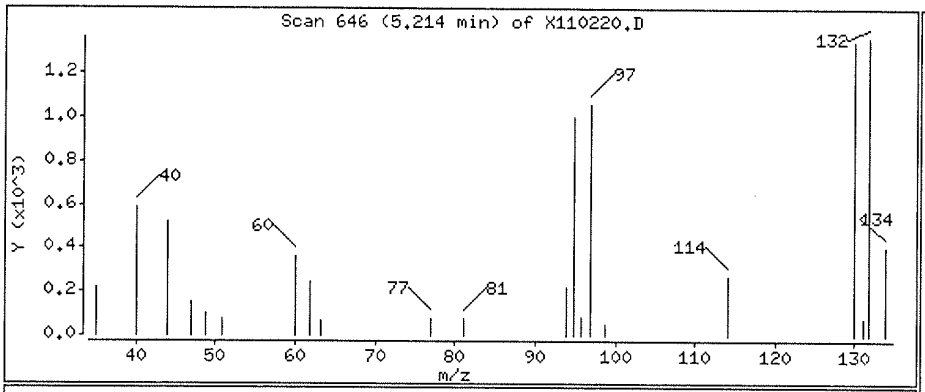
Operator: PC

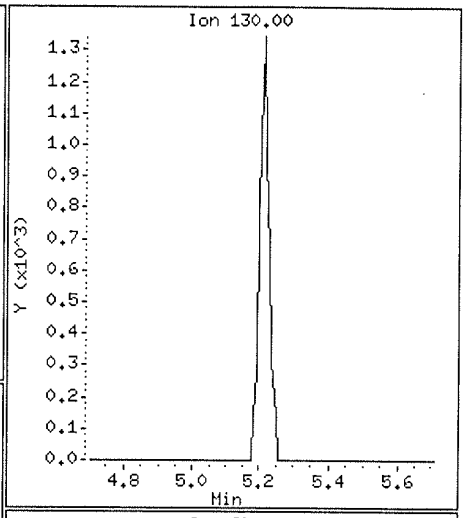
Column phase: DB624

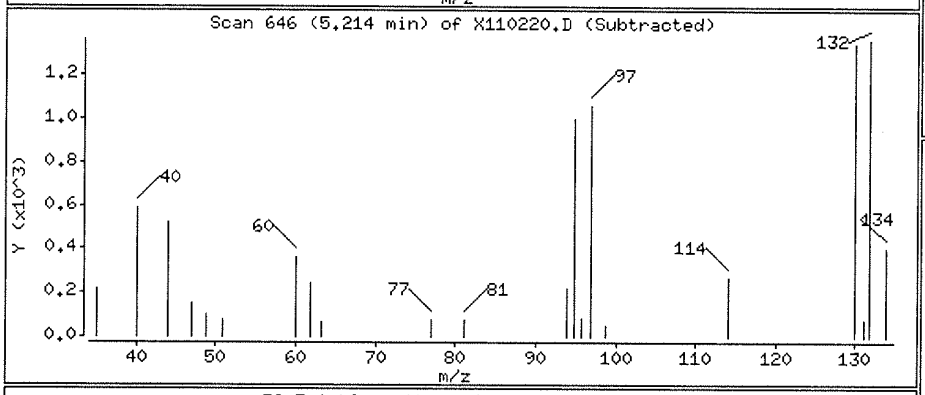
Column diameter: 0.18

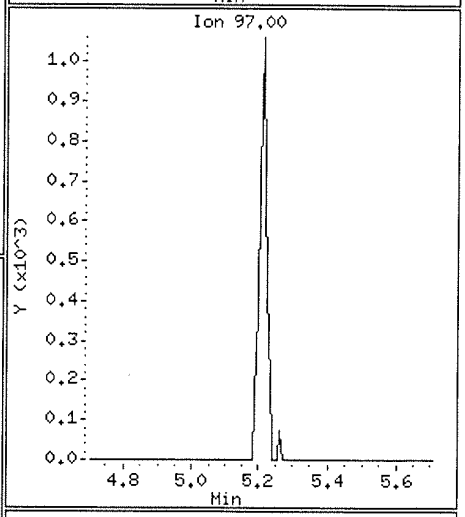
38 Trichloroethene

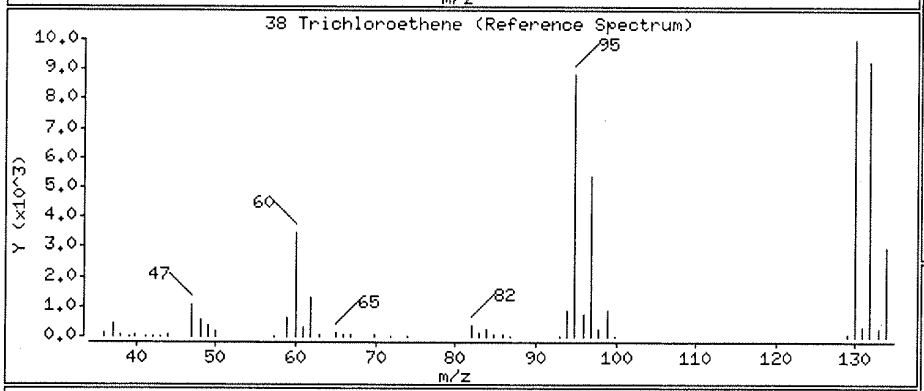
Concentration: 2961.10 ug/l

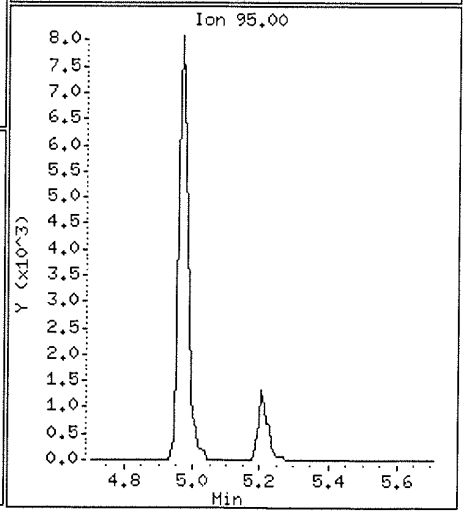


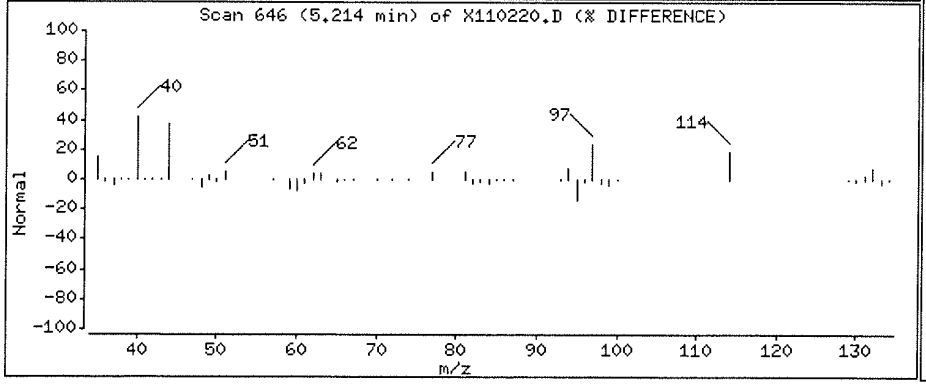












Data File: \\NAHSTWS005\Target\chem\voa6.i\X211102.b\X110221.D Page 1
Report Date: 16-Nov-2021 16:43

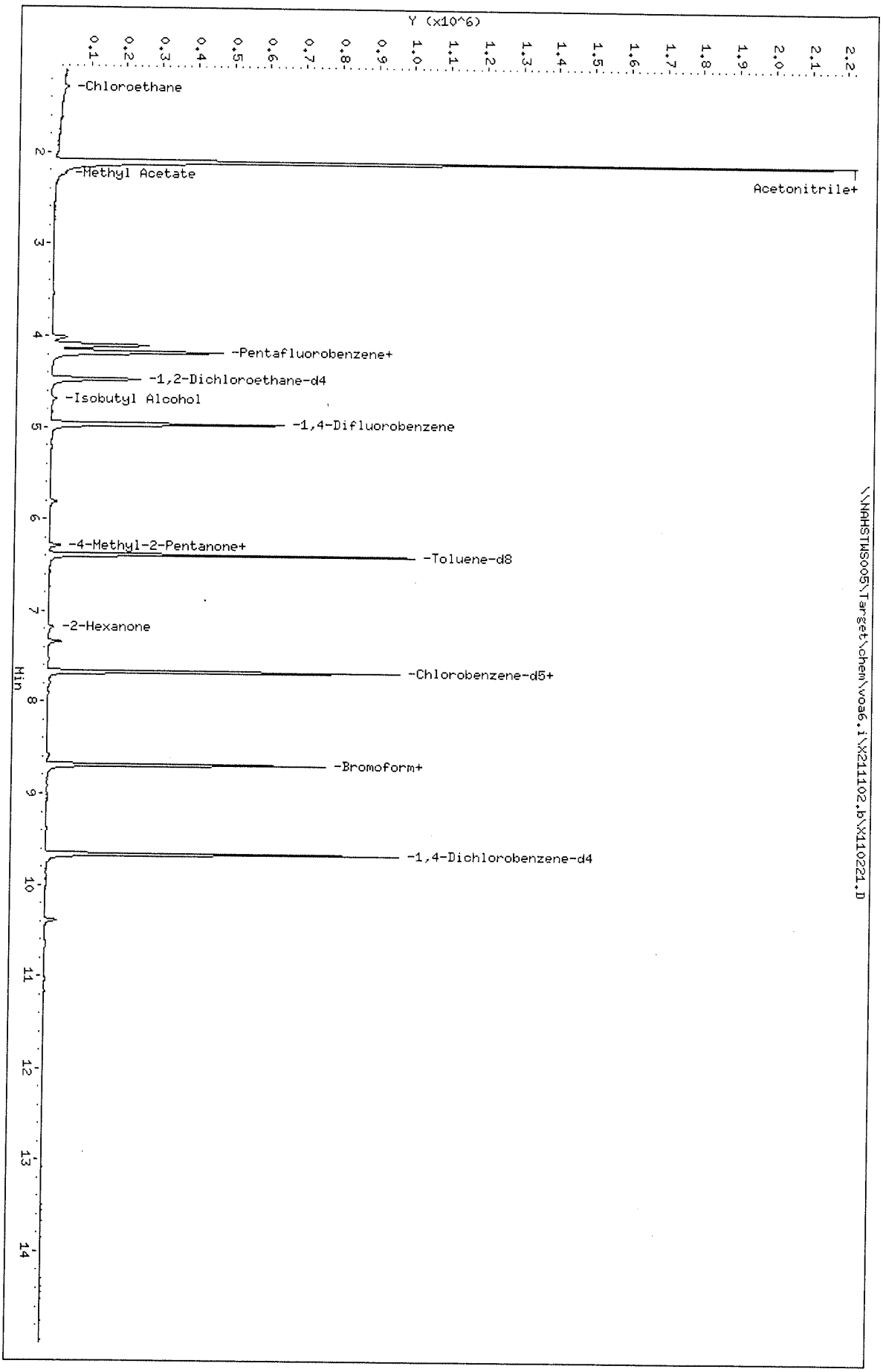
ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X211102.b\X110221.D
Lab Smp Id: HS21101272-06 Client Smp ID: HS21101272-06
Inj Date : 02-NOV-2021 17:51
Operator : PC Inst ID: voa6.i
Smp Info : HS21101272-06;HS21101272-06;;;
Misc Info : HS18090001;WATER;0;10000;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X211102.b\8260W.m
Meth Date : 16-Nov-2021 16:41 kori.bagsb Quant Type: ISTD
Cal Date : 08-OCT-2021 15:34 Cal File: X100808.D
Als bottle: 20
Dil Factor: 10000.00000
Integrator: HP RTE Compound Sublist: 01474-dod.sub
Target Version: 4.14
Processing Host: NAHSTW7017

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

Name	Value	Description
DF	10000.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	419305	50.0000	
$ 30 Dibromofluoromethane	113	4.096	4.096	(0.979)	190570	46.2162	46.21
$ 35 1,2-Dichloroethane-d4	65	4.469	4.469	(1.069)	188511	44.9894	44.98
* 36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	569319	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	506425	50.0000	
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	625003	48.6306	48.63
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	214370	48.4238	48.42
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	243832	50.0000	



Data File: \\NAHSTMS005\Target\chem\voa6.i\X211102.b\X110221.D
Date : 02-NOV-2021 17:51
Client ID: HS21101272-06
Sample Info: HS21101272-06;HS21101272-06;;;
Purge Volume: 5.0
Column phase: DB624

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

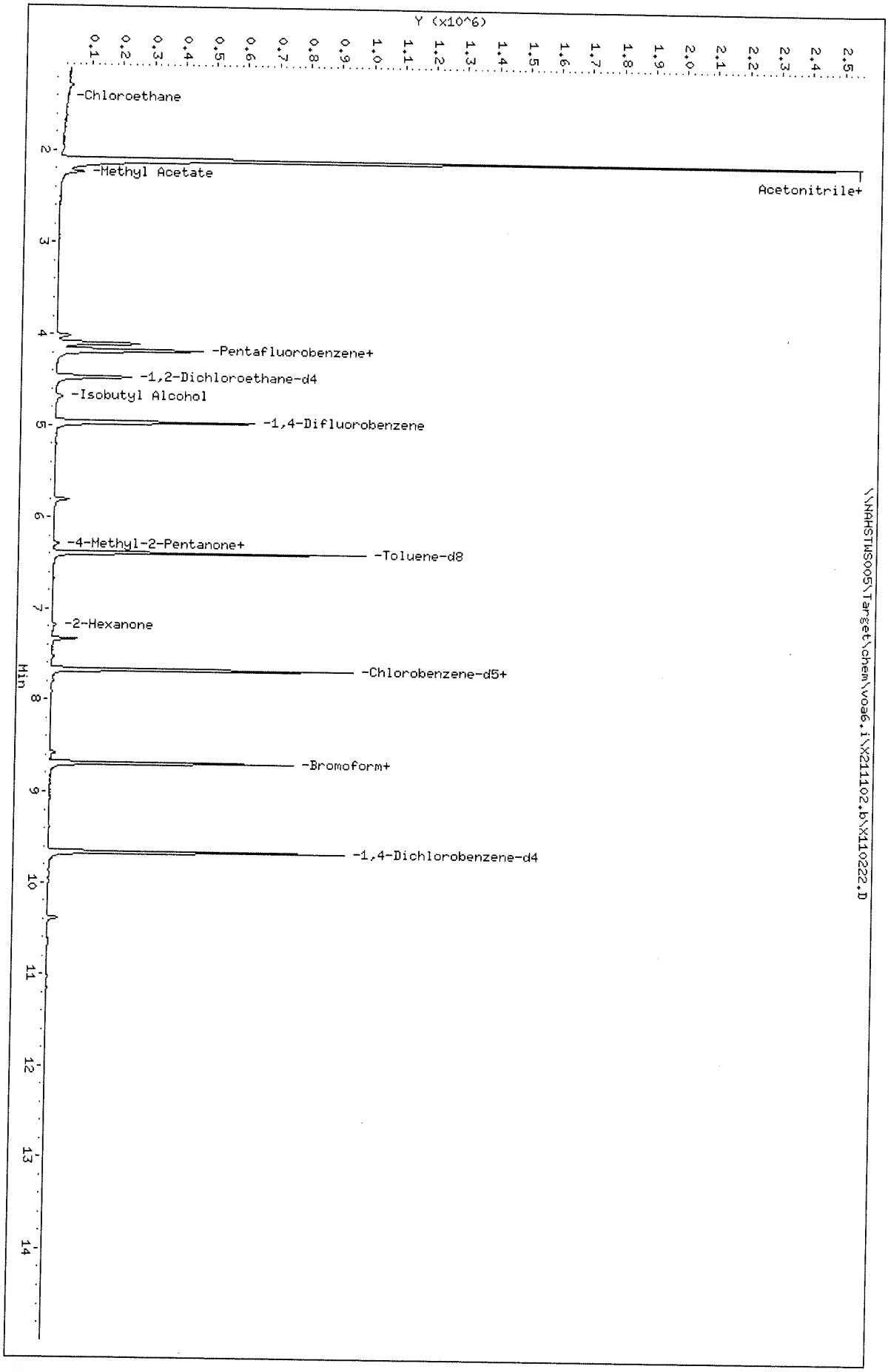
ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X211102.b\X110222.D
Lab Smp Id: HS21101272-07 Client Smp ID: HS21101272-07
Inj Date : 02-NOV-2021 18:12
Operator : PC Inst ID: voa6.i
Smp Info : HS21101272-07;HS21101272-07;;;
Misc Info : HS18090001;WATER;0;10000;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X211102.b\8260W.m
Meth Date : 16-Nov-2021 16:41 kori.bagsb Quant Type: ISTD
Cal Date : 08-OCT-2021 15:34 Cal File: X100808.D
Als bottle: 21
Dil Factor: 10000.00000
Integrator: HP RTE Compound Sublist: 01474-dod.sub
Target Version: 4.14
Processing Host: NAHSTW7017

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

Name	Value	Description
DF	10000.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	414148	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.096	(0.981)	188432	46.2680	46.26
$ 35 1,2-Dichloroethane-d4	65	4.469	4.469	(1.069)	185505	44.8158	44.81
* 36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	561379	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	497554	50.0000	
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	621140	49.1917	49.19
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	211183	48.5581	48.55
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	240977	50.0000	



Data File: \\NAHSTWS005\Target\chem\voa6.i\X211102.b\X110222.D
Date : 02-NOV-2021 18:12
Client ID: HS21101272-07
Sample Info: HS21101272-07;HS21101272-07;;;
Purge Volume: 5.0
Column phase: DB624

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

Data File: \\NAHSTWS005\Target\chem\voa6.i\X211102.b\X110223.D Page 1
Report Date: 16-Nov-2021 16:43

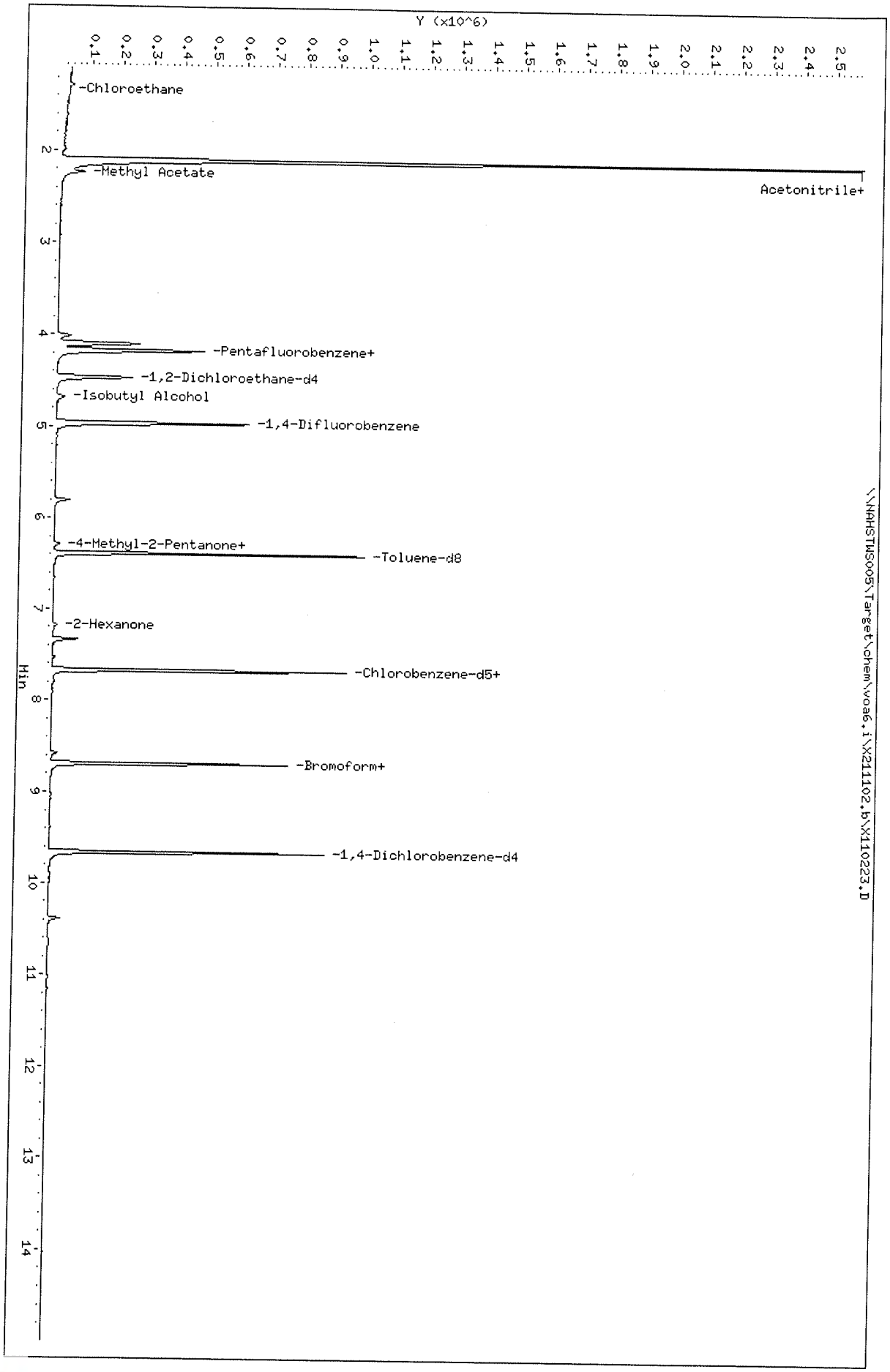
ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X211102.b\X110223.D
Lab Smp Id: HS21101272-08 Client Smp ID: HS21101272-08
Inj Date : 02-NOV-2021 18:33
Operator : PC Inst ID: voa6.i
Smp Info : HS21101272-08;HS21101272-08;;;
Misc Info : HS18090001;WATER;0;10000;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X211102.b\8260W.m
Meth Date : 16-Nov-2021 16:41 kori.bagsb Quant Type: ISTD
Cal Date : 08-OCT-2021 15:34 Cal File: X100808.D
Als bottle: 22
Dil Factor: 10000.00000
Integrator: HP RTE Compound Sublist: 01474-dod.sub
Target Version: 4.14
Processing Host: NAHSTW7017

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

Name	Value	Description
DF	10000.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	412754	50.0000	
$ 30 Dibromofluoromethane	113	4.096	4.096	(0.979)	188912	46.5493	46.54
$ 35 1,2-Dichloroethane-d4	65	4.469	4.469	(1.068)	183072	44.3575	44.35
* 36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	555037	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	500387	50.0000	
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	609584	48.0032	48.00
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	206151	47.0926	47.09
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	225386	50.0000	



Data File: \\NAHSTWS005\Target\chem\voa6.i\X211102.b\X110223.D
Date : 02-NOV-2021 18:33
Client ID: HS21101272-08
Sample Info: HS21101272-08;HS21101272-08;;;
Purge Volume: 5.0
Column phase: DB624

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

Data File: \\NAHSTWS005\Target\chem\voa6.i\X211102.b\X110224.D Page 1
Report Date: 15-Nov-2021 17:06

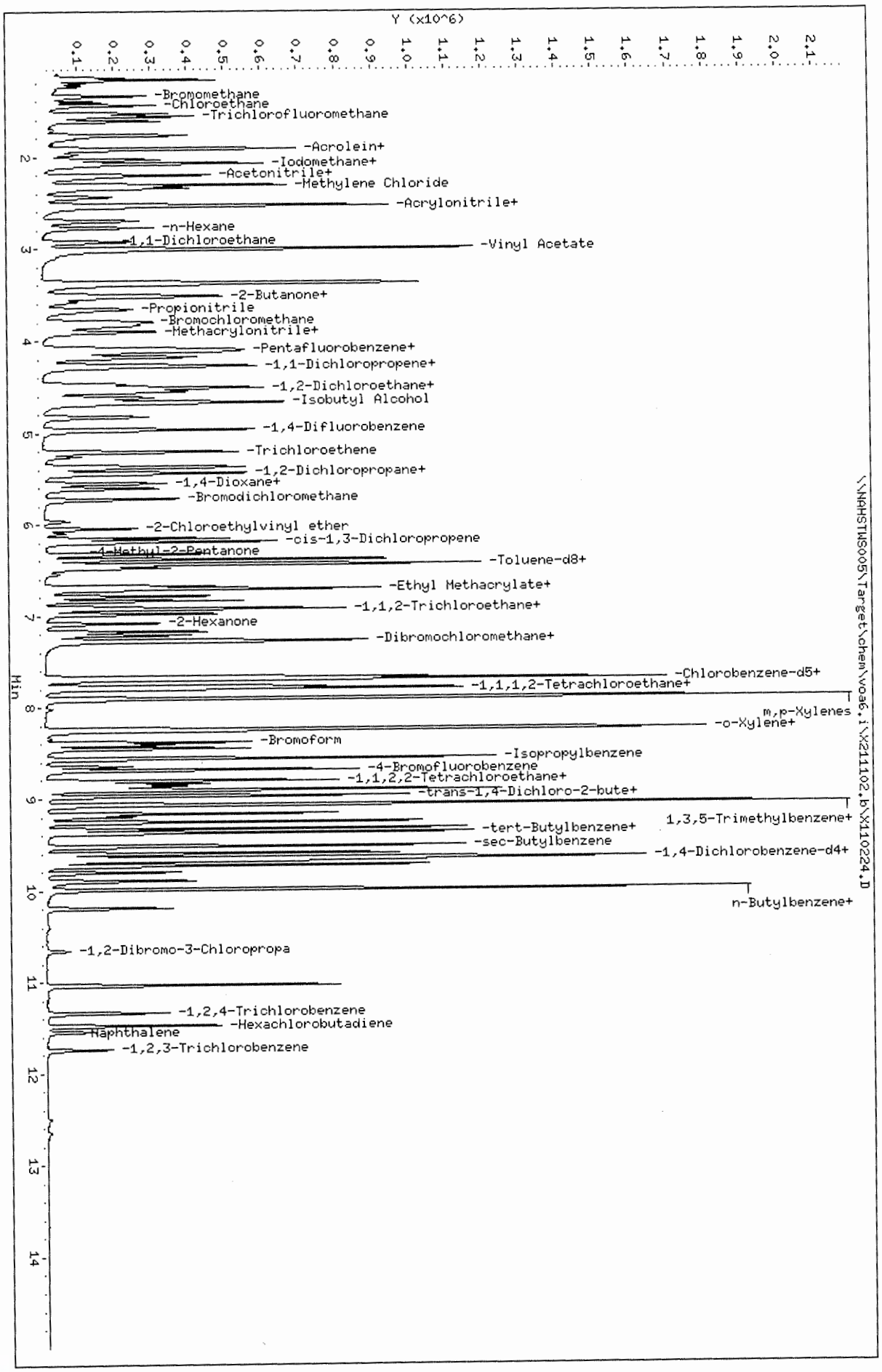
ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X211102.b\X110224.D
Lab Smp Id: CCV-END Client Smp ID: CCV
Inj Date : 02-NOV-2021 18:54
Operator : PC Inst ID: voa6.i
Smp Info : CCV-END;CCV;2-END;;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X211102.b\8260W.m
Meth Date : 15-Nov-2021 17:06 voa6.i Quant Type: ISTD
Cal Date : 08-OCT-2021 15:34 Cal File: X100808.D
Als bottle: 23 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 01474-dod.sub
Target Version: 4.14
Processing Host: NAHSTW7017

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

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

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	361604	50.0000	
$ 30 Dibromofluoromethane	113	4.096	4.096	(0.979)	177676	50.0000	50.05
$ 35 1,2-Dichloroethane-d4	65	4.469	4.469	(1.068)	169173	50.0000	46.89
* 36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	510683	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	481698	50.0000	
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	567754	50.0000	46.44
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	212808	50.0000	50.59
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	246382	50.0000	
5 Vinyl Chloride	62	1.145	1.145	(0.274)	148038	50.0000	39.04
11 1,1-Dichloroethene	96	1.912	1.912	(0.457)	133775	50.0000	41.47
17 Methylene Chloride	84	2.306	2.306	(0.551)	149820	50.0000	47.43
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	173890	50.0000	46.25
33 1,2-Dichloroethane	62	4.555	4.555	(0.918)	186579	50.0000	43.55
38 Trichloroethene	130	5.207	5.207	(1.049)	180439	50.0000	46.71
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	118018	50.0000	45.91



Data File: \\NAHSTWS005\Target\chem\voa6.i\X211102.b\X110224.D
Date : 02-NOV-2021 18:54
Client ID: CCV
Sample Info: CCV-END;CCV;2-END;;;
Purge Volume: 5.0
Column phase: DB624

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

HS21101272 9056_S IC

ALS WO# HS21101272

Sequence: 110421
Last Update Operator: alshs.nouser

CD	Name	Comment	Type	Position	Dilution	Level	Instrument Method	Processing Method	Volume	Status
	STD1		Calibratio	BB1	1.00	1	Anions Program ISO37mM 150mm short 0.4	Anions Proce	5.0	Finished
	STD2		Calibratio	BB2	1.00	2	Anions Program ISO37mM 150mm short 0.4	Anions Proce	5.0	Finished
	STD3		Calibratio	BB3	1.00	3	Anions Program ISO37mM 150mm short 0.4	Anions Proce	5.0	Finished
	STD4		Calibratio	BB4	1.00	4	Anions Program ISO37mM 150mm short 0.4	Anions Proce	5.0	Finished
	STD5		Calibratio	BB5	1.00	5	Anions Program ISO37mM 150mm short 0.4	Anions Proce	5.0	Finished
	STD6		Calibratio	BB6	1.00	6	Anions Program ISO37mM 150mm short 0.4	Anions Proce	5.0	Finished
	ICV		Unknown	BA7	1.00		Anions Program ISO37mM 150mm short 0.4	Anions Proce	5.0	Finished
	ICB		Unknown	BA8	1.00		Anions Program ISO37mM 150mm short 0.4	Anions Proce	5.0	Finished
	CCV		Unknown	R1	1.00		Anions Program ISO37mM 150mm short 0.4	Anions Proce	5.0	Finished
	CCB		Unknown	R4	1.00		Anions Program ISO37mM 150mm short 0.4	Anions Proce	5.0	Finished
	MBLK-172014		Unknown	R5	1.00		Anions Program ISO37mM 150mm short 0.4	Anions Proce	5.0	Finished
	LCS-172014		Unknown	R2	1.00		Anions Program ISO37mM 150mm short 0.4	Anions Proce	5.0	Finished
	HS21110057-02		Unknown	RA2	1.00		Anions Program ISO37mM 150mm short 0.4	Anions Proce	5.0	Finished
	HS21110057-02MS		Unknown	RA3	1.00		Anions Program ISO37mM 150mm short 0.4	Anions Proce	5.0	Finished
	HS21110057-02MSD		Unknown	RA4	1.00		Anions Program ISO37mM 150mm short 0.4	Anions Proce	5.0	Finished
	CCV1		Unknown	R3	1.00		Anions Program ISO37mM 150mm short 0.4	Anions Proce	5.0	Finished
	CCB		Unknown	R8	1.00		Anions Program ISO37mM 150mm short 0.4	Anions Proce	5.0	Finished
	CCV		Unknown	R1	1.00		Anions Program ISO37mM 150mm short 0.4	Anions Proce	5.0	Finished
	CCB		Unknown	R4	1.00		Anions Program ISO37mM 150mm short 0.4	Anions Proce	5.0	Finished
	HS21101272-09		Unknown	GD5	1.00		Anions Program ISO37mM 150mm short 0.4	Anions Proce	5.0	Finished
	CCV1		Unknown	R3	1.00		Anions Program ISO37mM 150mm short 0.4	Anions Proce	5.0	Finished
	CCB		Unknown	R8	1.00		Anions Program ISO37mM 150mm short 0.4	Anions Proce	5.0	Finished

Sequence: 110421
Last Update Operator: alshs.nouser

Inject Time
11/3/2021 4:47:51 PM -05:00
11/3/2021 4:55:19 PM -05:00
11/3/2021 5:02:47 PM -05:00
11/3/2021 5:10:15 PM -05:00
11/3/2021 5:17:44 PM -05:00
11/3/2021 5:25:12 PM -05:00
11/3/2021 5:34:10 PM -05:00
11/3/2021 5:41:38 PM -05:00
11/4/2021 9:46:30 AM -05:00
11/4/2021 9:53:57 AM -05:00
11/4/2021 10:01:24 AM -05:00
11/4/2021 10:08:50 AM -05:00
11/4/2021 10:23:44 AM -05:00
11/4/2021 10:31:10 AM -05:00
11/4/2021 10:38:37 AM -05:00
11/4/2021 11:15:48 AM -05:00
11/4/2021 11:23:15 AM -05:00
11/4/2021 10:02:50 PM -05:00
11/4/2021 10:10:16 PM -05:00
11/4/2021 10:25:08 PM -05:00
11/4/2021 11:39:28 PM -05:00
11/4/2021 11:46:54 PM -05:00

Sequence: 110721
Injection #6: STD6

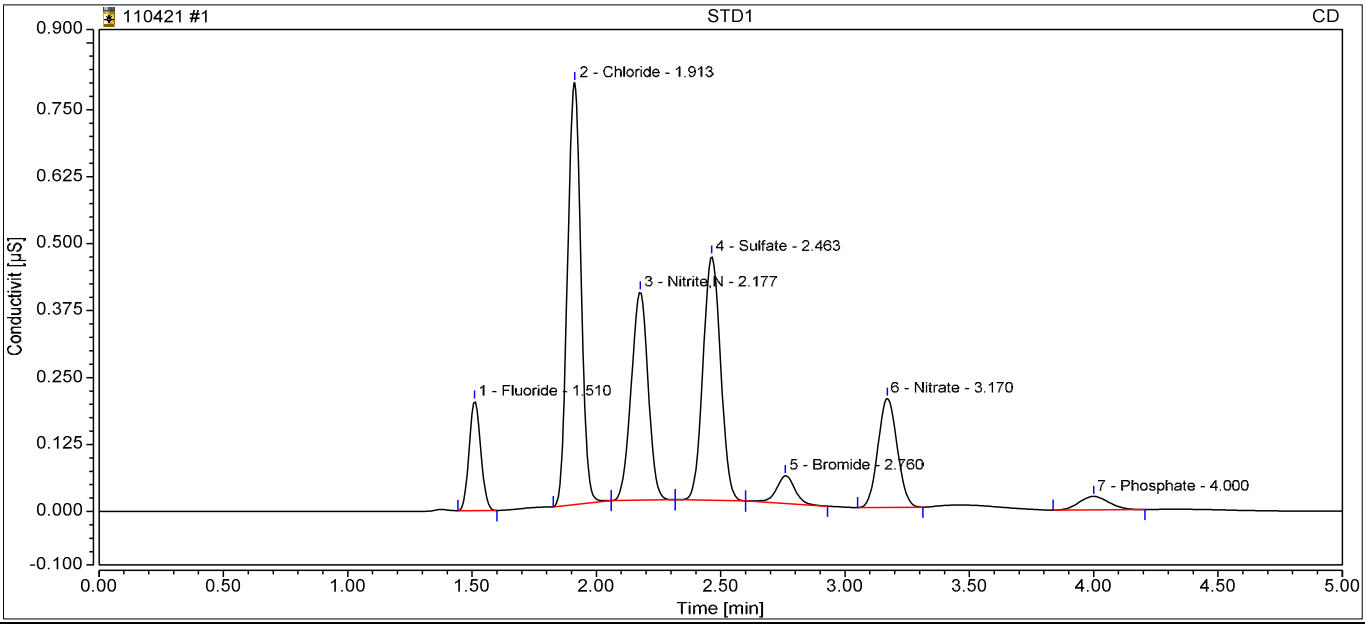
Calibration

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*	*27.8876*	*0.99658*	*-0.0083*	*0.2107*	*0.0000*
2	Chloride	Lin, WithOffset, 1/	Area	6	10.8147	0.99945	-0.0187	0.1414	0.0000
3	Nitrite,N	Quad, WithOffset,	Area	6	13.6827	0.99907	-0.0001	0.3141	-0.0036
4	Sulfate	Lin, WithOffset, 1/	Area	6	12.4596	0.99926	-0.0126	0.1039	0.0000
5	Bromide	Lin, WithOffset, 1/	Area	6	18.4384	0.99858	-0.0030	0.0609	0.0000
6	Nitrate	Lin, WithOffset, 1/	Area	6	10.9439	0.99950	-0.0172	0.3553	0.0000
n.a.	Chlorate	Lin, WithOffset, 1/	Area	0	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	Phosphate	Quad, WithOffset,	Area	5	27.6931	0.99780	-0.0107	0.1204	0.0006
Maximum					**27.8876**	0.99950			
Minimum					10.8147	**0.99658**			

1 STD1

Sample Name:	**STD1**	*Injection Volume:*	**5.00**
Vial Number:	**BB1**	*Channel:*	**CD**
Sample Type:	**Calibration Standard**	*Wavelength:*	**210**
Control Program:	**Anions Program ISO37mM 150mm short 0.4**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/03/2021 16:47**	*Sample Weight:*	**1.0000**

Run Time:



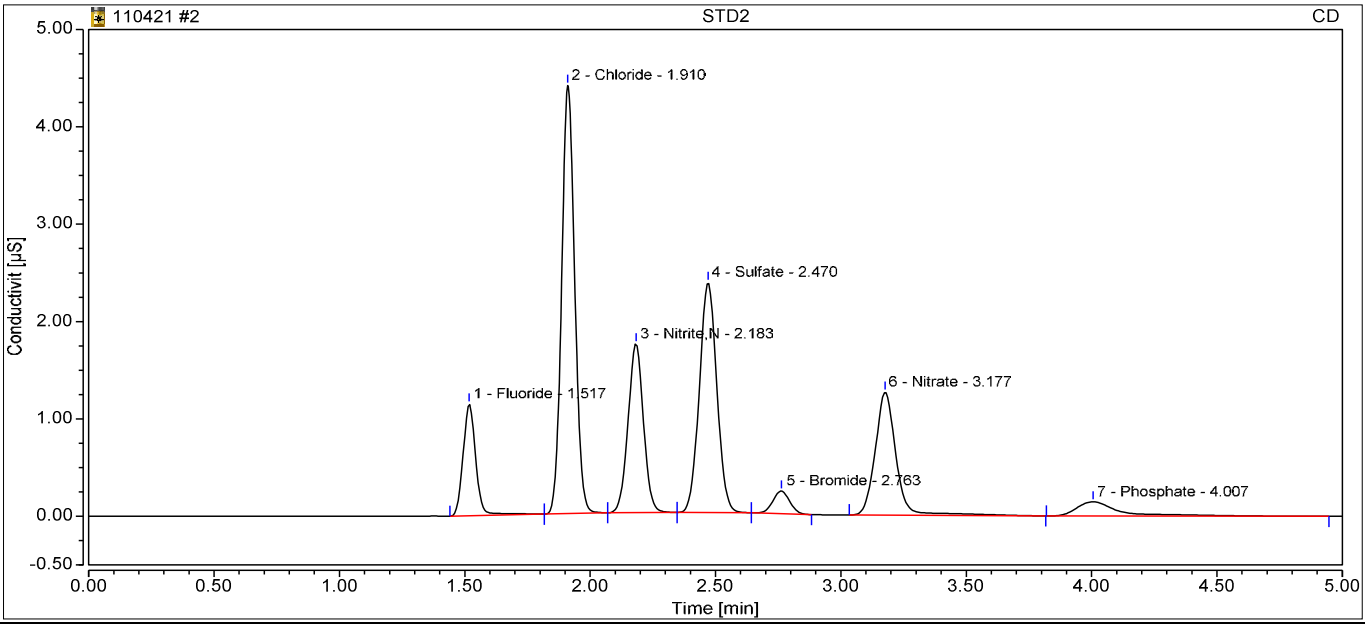
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	1.51	Fluoride	BMB	0.011	0.0921	0.0921	1.0000
2	1.91	Chloride	BMB	0.049	0.4810	0.4810	1.0000
3	2.18	Nitrite,N	BMB	0.031	0.0978	0.0978	1.0000
4	2.46	Sulfate	BMB	0.037	0.4805	0.4805	1.0000
5	2.76	Bromide	BMB	0.004	0.1226	0.1226	1.0000
6	3.17	Nitrate	BMB	0.018	0.0999	0.0999	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
7	4.00	Phosphate	BMB	0.004	0.1178	0.1178	1.0000
Total:			**0.000**	**0.155**		**1.49**	

2 STD2

Sample Name:	**STD2**	*Injection Volume:*	**5.00**
Vial Number:	**BB2**	*Channel:*	**CD**
Sample Type:	**Calibration Standard**	*Wavelength:*	**210**
Control Program:	**Anions Program ISO37mM 150mm short 0.4**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/03/2021 16:55**	*Sample Weight:*	**1.0000**

Run Time:



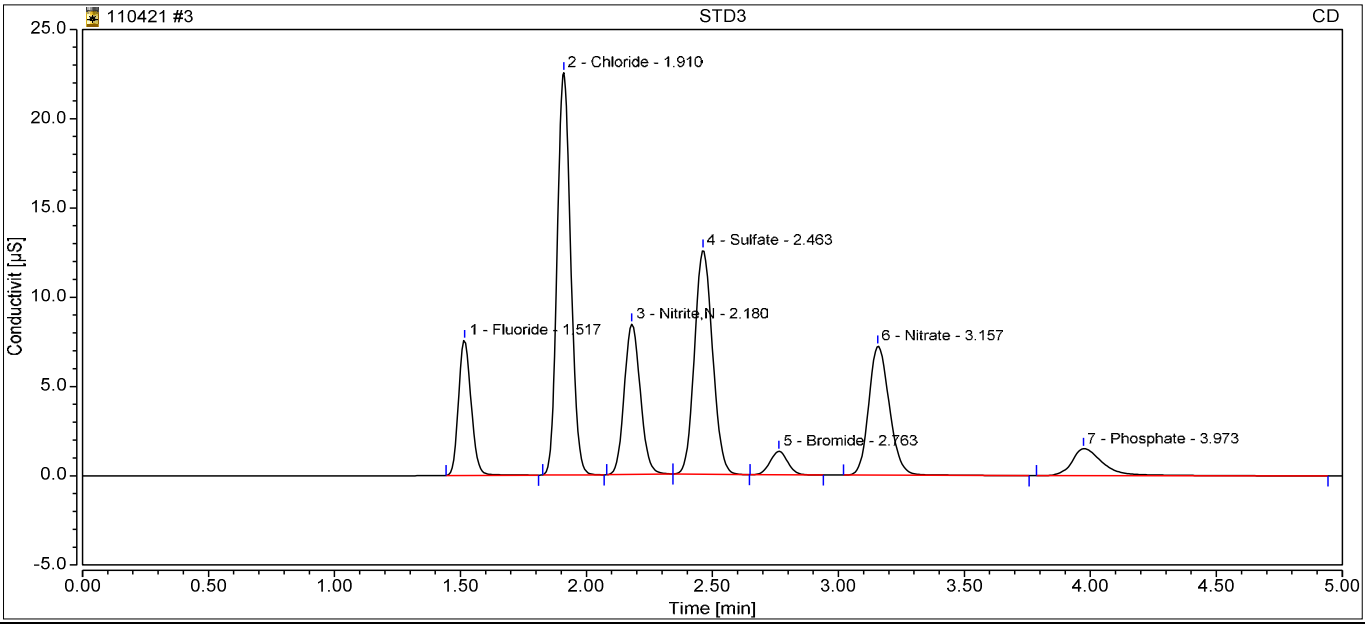
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	1.52	Fluoride	BMB	0.068	0.3607	0.3607	1.0000
2	1.91	Chloride	BMB	0.265	2.0057	2.0057	1.0000
3	2.18	Nitrite,N	BMB	0.123	0.3950	0.3950	1.0000
4	2.47	Sulfate	BMB	0.191	1.9556	1.9556	1.0000
5	2.76	Bromide	BMB	0.018	0.3462	0.3462	1.0000
6	3.18	Nitrate	BMB	0.122	0.3914	0.3914	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
7	4.01	Phosphate	BMB	0.029	0.3309	0.3309	1.0000
Total:			**0.000**	**0.816**		**5.79**	

3 STD3

Sample Name:	**STD3**	*Injection Volume:*	**5.00**
Vial Number:	**BB3**	*Channel:*	**CD**
Sample Type:	**Calibration Standard**	*Wavelength:*	**210**
Control Program:	**Anions Program ISO37mM 150mm short 0.4**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/03/2021 17:02**	*Sample Weight:*	**1.0000**

Run Time:



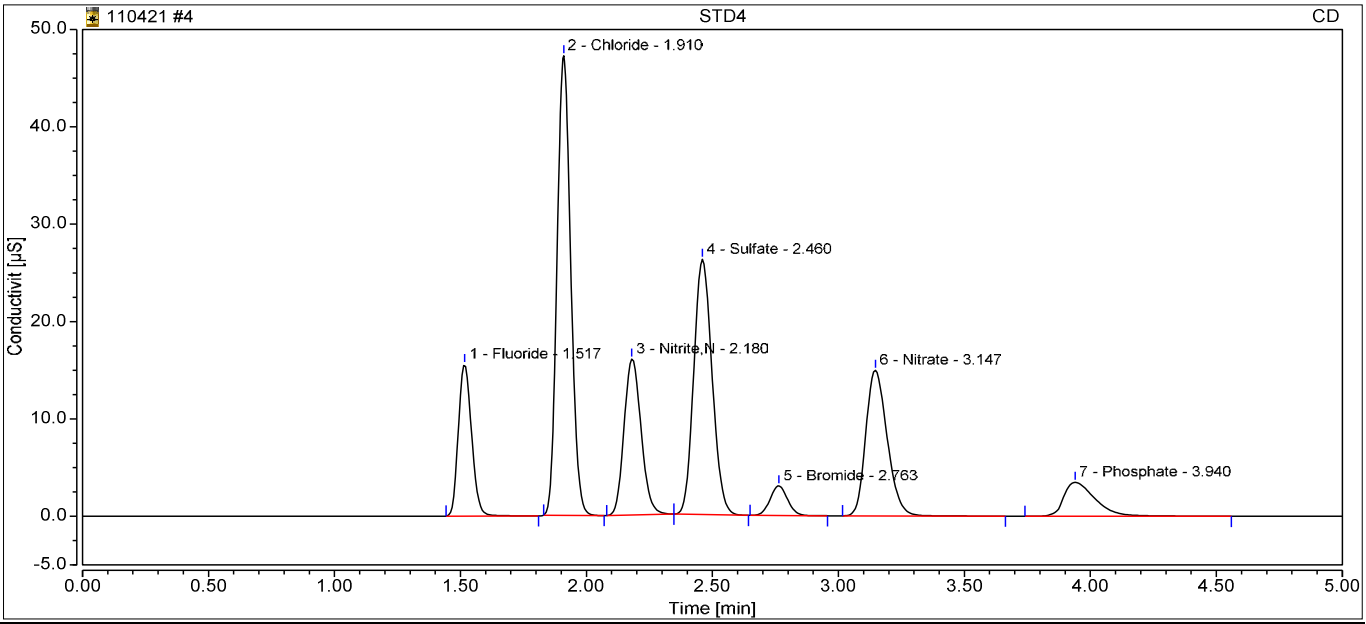
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	1.52	Fluoride	BMB	0.442	2.1349	2.1349	1.0000
2	1.91	Chloride	BMB	1.402	10.0450	10.0450	1.0000
3	2.18	Nitrite,N	BMB	0.623	2.0307	2.0307	1.0000
4	2.46	Sulfate	BMB	1.041	10.1470	10.1470	1.0000
5	2.76	Bromide	BMB	0.106	1.7946	1.7946	1.0000
6	3.16	Nitrate	BMB	0.689	1.9863	1.9863	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
7	3.97	Phosphate	BMB	0.219	1.8914	1.8914	1.0000
Total:			**0.000**	**4.522**		**30.03**	

4 STD4

Sample Name:	**STD4**	*Injection Volume:*	**5.00**
Vial Number:	**BB4**	*Channel:*	**CD**
Sample Type:	**Calibration Standard**	*Wavelength:*	**210**
Control Program:	**Anions Program ISO37mM 150mm short 0.4**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/03/2021 17:10**	*Sample Weight:*	**1.0000**

Run Time:



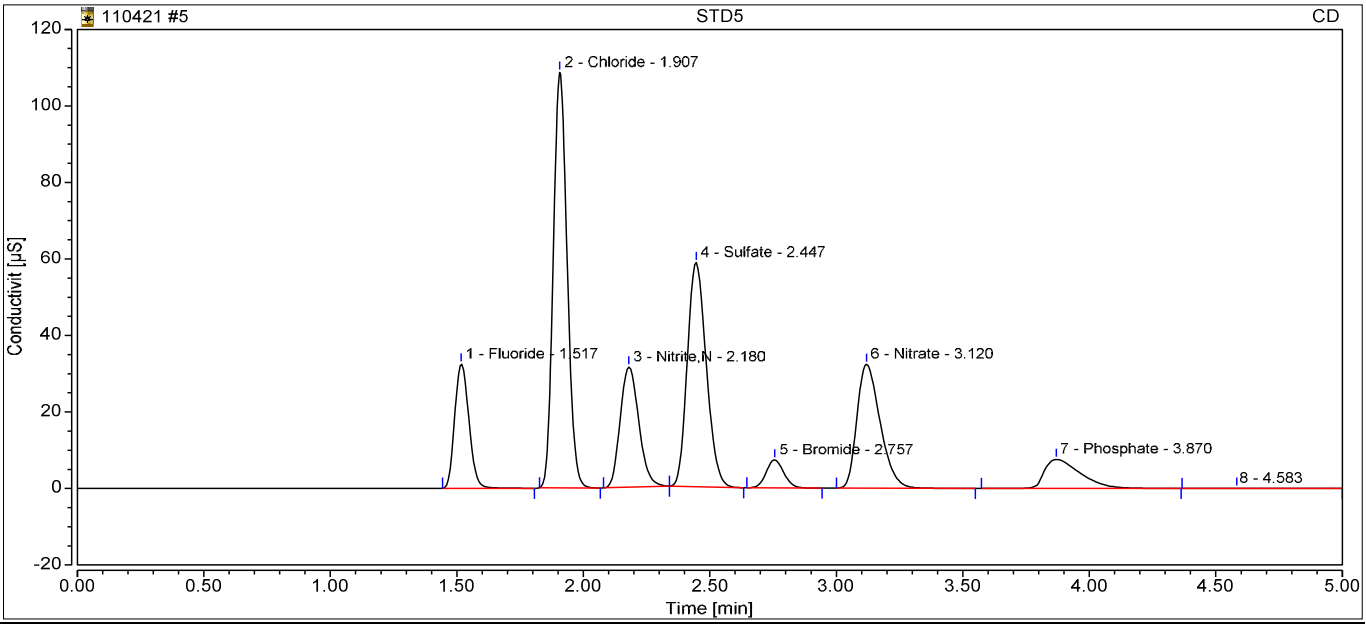
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	1.52	Fluoride	BMB	0.950	4.5474	4.5474	1.0000
2	1.91	Chloride	BMB	2.964	21.0908	21.0908	1.0000
3	2.18	Nitrite,N	BMB	1.258	4.2075	4.2075	1.0000
4	2.46	Sulfate	BMB	2.212	21.4145	21.4145	1.0000
5	2.76	Bromide	BMB	0.244	4.0546	4.0546	1.0000
6	3.15	Nitrate	BMB	1.476	4.2029	4.2029	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
7	3.94	Phosphate	BMB	0.509	4.2200	4.2200	1.0000
Total:			**0.000**	**9.612**		**63.74**	

5 STD5

Sample Name:	**STD5**	*Injection Volume:*	**5.00**
Vial Number:	**BB5**	*Channel:*	**CD**
Sample Type:	**Calibration Standard**	*Wavelength:*	**210**
Control Program:	**Anions Program ISO37mM 150mm short 0.4**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/03/2021 17:17**	*Sample Weight:*	**1.0000**

Run Time:



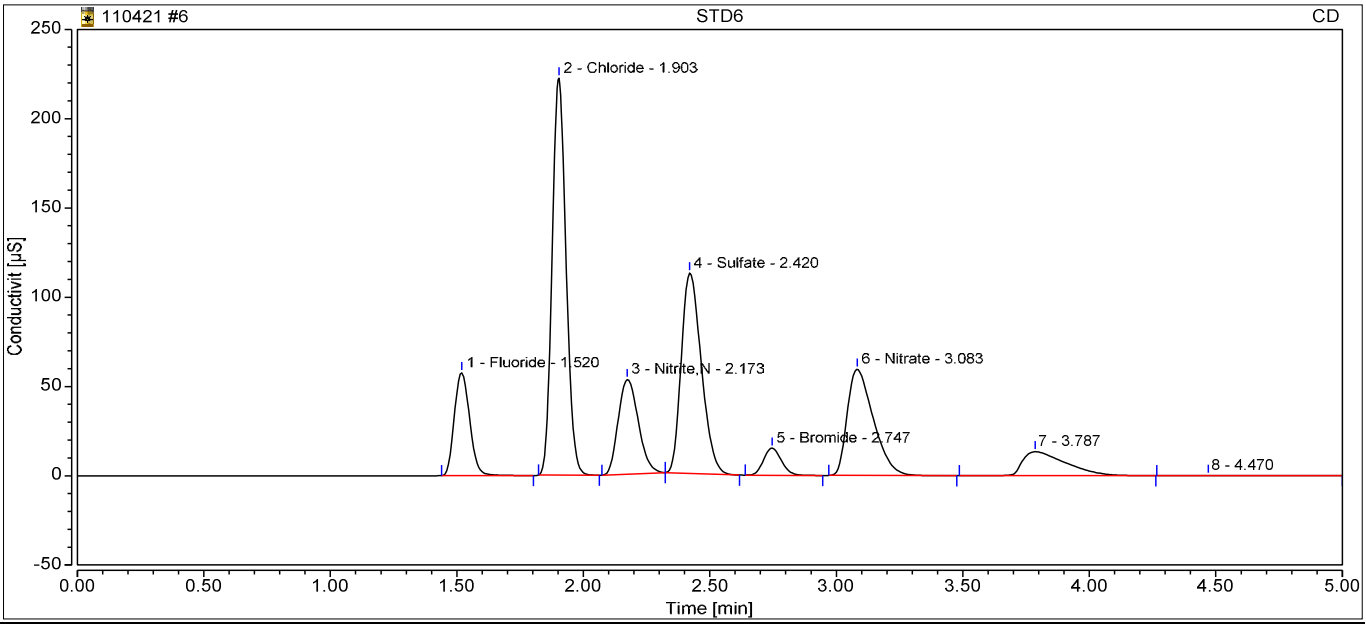
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	1.52	Fluoride	BMB	2.119	10.0932	10.0932	1.0000
2	1.91	Chloride	BMB	6.872	48.7329	48.7329	1.0000
3	2.18	Nitrite,N	BMB	2.675	9.5625	9.5625	1.0000
4	2.45	Sulfate	BMB	5.085	49.0735	49.0735	1.0000
5	2.76	Bromide	BMB	0.592	9.7669	9.7669	1.0000
6	3.12	Nitrate	BMB	3.447	9.7499	9.7499	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
7	3.87	Phosphate	BMB	1.248	9.9393	9.9393	1.0000
Total:			**0.000**	**22.037**		**146.92**	

6 STD6

Sample Name:	**STD6**	*Injection Volume:*	**5.00**
Vial Number:	**BB6**	*Channel:*	**CD**
Sample Type:	**Calibration Standard**	*Wavelength:*	**210**
Control Program:	**Anions Program ISO37mM 150mm short 0.4**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/03/2021 17:25**	*Sample Weight:*	**1.0000**

Run Time:



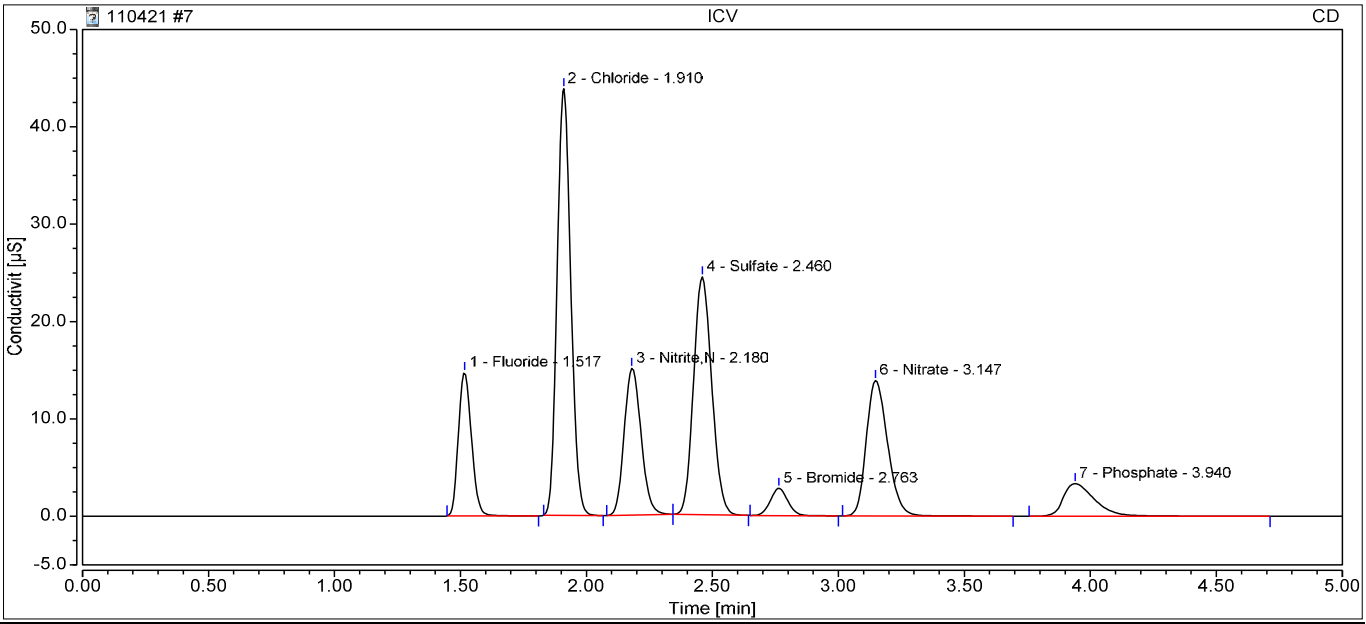
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	1.52	Fluoride	BMB	4.053	19.2717	19.2717	1.0000
2	1.90	Chloride	BMB	14.142	100.1446	100.1446	1.0000
3	2.17	Nitrite,N	BMB	4.884	20.2397	20.2397	1.0000
4	2.42	Sulfate	BMB	10.316	99.4289	99.4289	1.0000
5	2.75	Bromide	BMB	1.240	20.4151	20.4151	1.0000
6	3.08	Nitrate	BMB	7.113	20.0696	20.0696	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**	**41.749**		**279.57**	

7 ICV

Sample Name:	**ICV**	*Injection Volume:*	**5.00**
Vial Number:	**BA7**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program ISO37mM 150mm short 0.4**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/03/2021 17:34**	*Sample Weight:*	**1.0000**

Run Time:



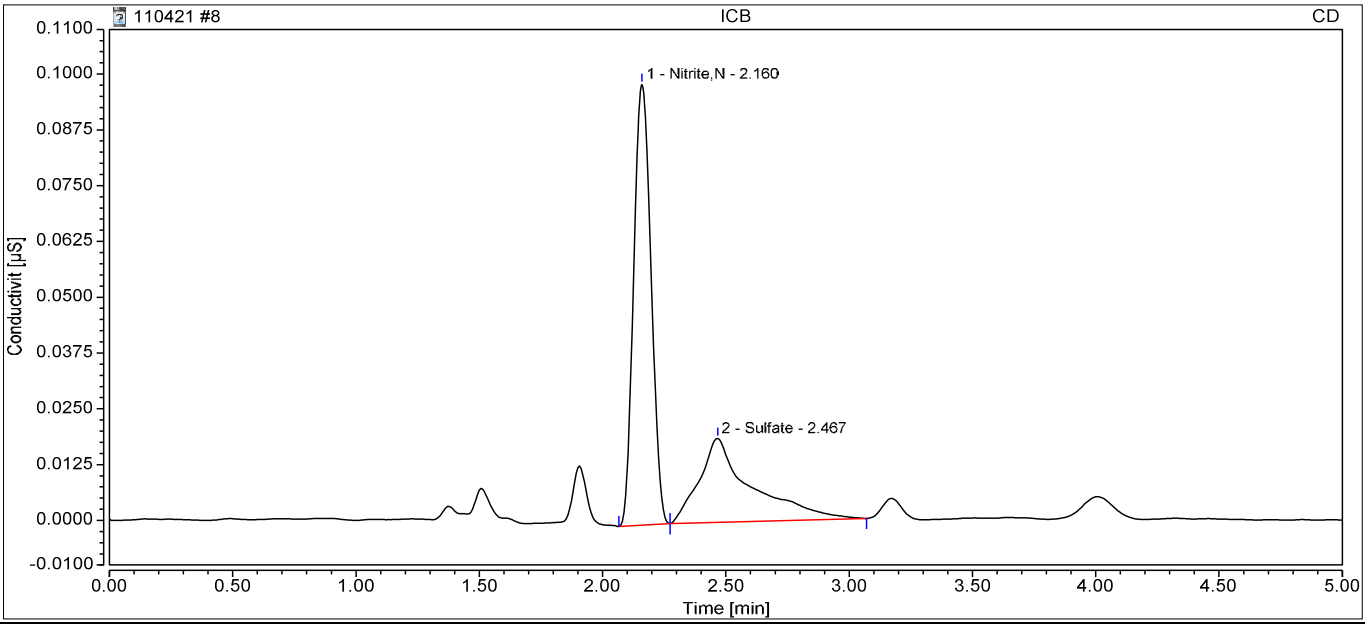
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	1.52	Fluoride	BMB	0.887	4.2482	4.2482	1.0000
2	1.91	Chloride	BMB	2.749	19.5719	19.5719	1.0000
3	2.18	Nitrite,N	BMB	1.174	3.9149	3.9149	1.0000
4	2.46	Sulfate	BMB	2.051	19.8617	19.8617	1.0000
5	2.76	Bromide	BMB	0.224	3.7196	3.7196	1.0000
6	3.15	Nitrate	BMB	1.365	3.8915	3.8915	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
7	3.94	Phosphate	BMB	0.490	4.0717	4.0717	1.0000
Total:			**0.000**	**8.940**		**59.28**	

8 ICB

Sample Name:	**ICB**	*Injection Volume:*	**5.00**
Vial Number:	**BA8**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program ISO37mM 150mm short 0.4**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/03/2021 17:41**	*Sample Weight:*	**1.0000**

Run Time:

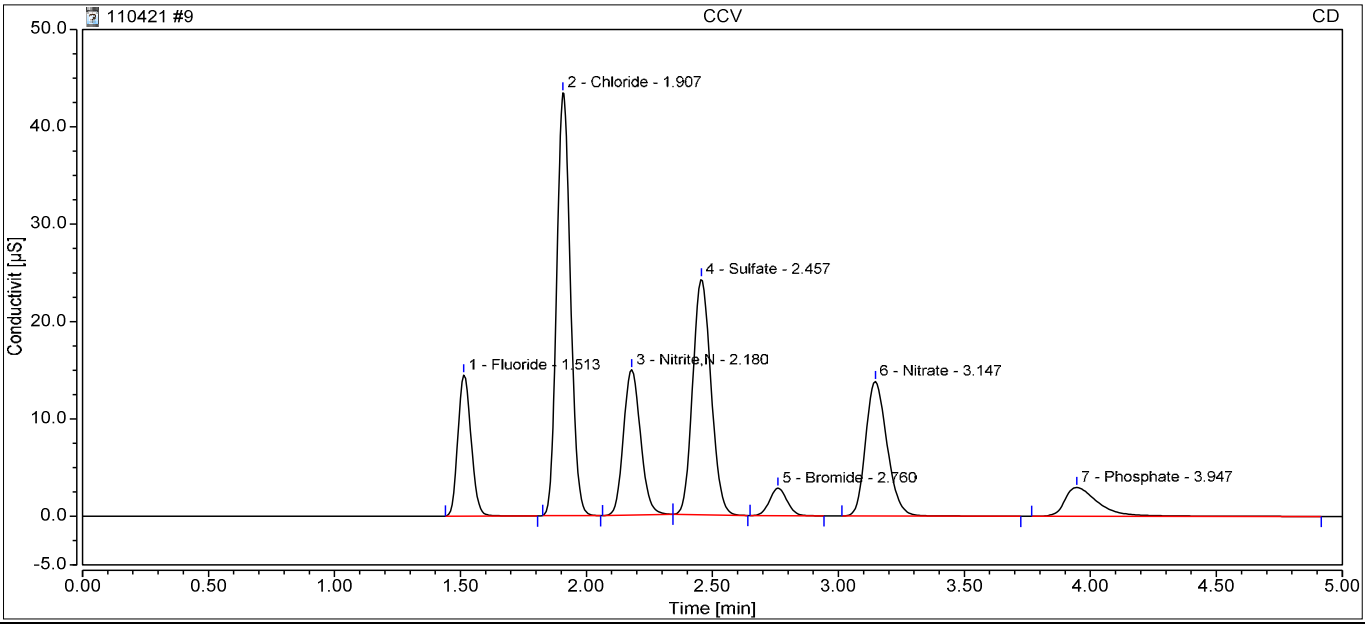


Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Chloride	n.a.	n.a.	n.a.	n.a.	1.0000
1	2.16	Nitrite,N	BMB	0.008	0.0260	0.0260	1.0000
2	2.47	Sulfate	BMB	0.005	0.1656	0.1656	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**	**0.013**		**0.19**	

9	*CCV*		
Sample Name:	**CCV**	*Injection Volume:*	**5.00**
Vial Number:	**R1**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program ISO37mM 150mm short 0.4**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/04/2021 09:46**	*Sample Weight:*	**1.0000**

Run Time:



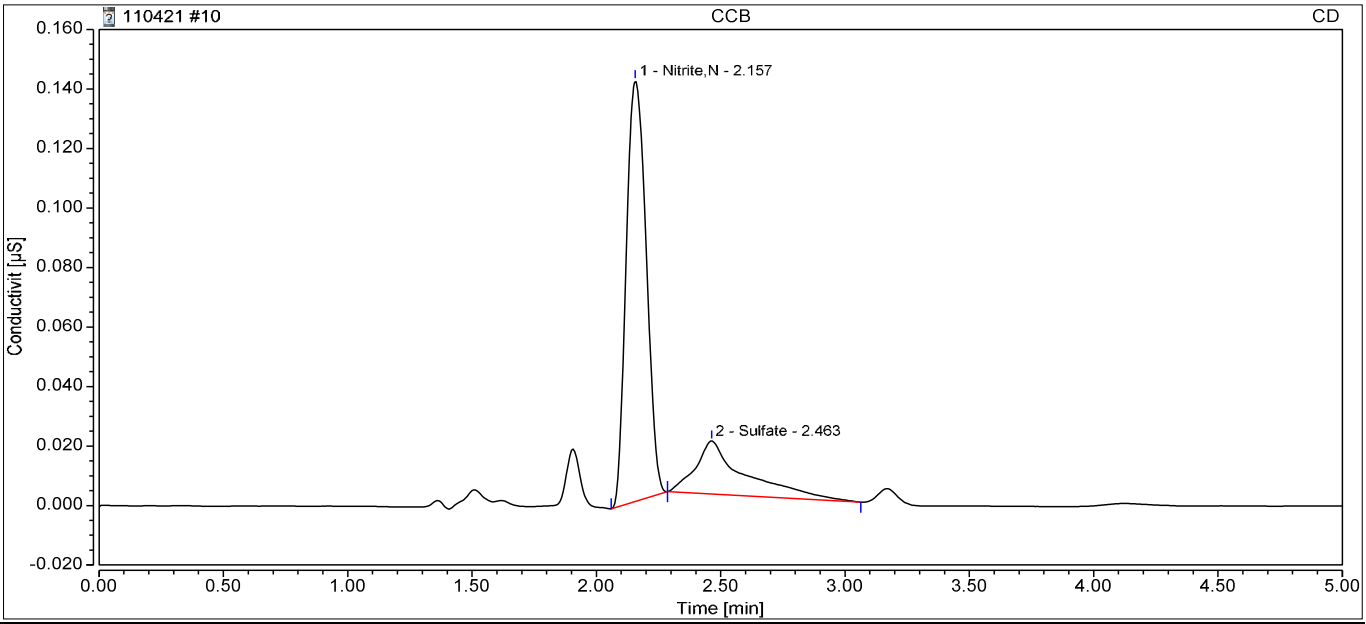
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	1.51	Fluoride	BMB	0.884	4.2328	4.2328	1.0000
2	1.91	Chloride	BMB	2.740	19.5093	19.5093	1.0000
3	2.18	Nitrite,N	BMB	1.172	3.9050	3.9050	1.0000
4	2.46	Sulfate	BMB	2.037	19.7295	19.7295	1.0000
5	2.76	Bromide	BMB	0.227	3.7766	3.7766	1.0000
6	3.15	Nitrate	BMB	1.362	3.8819	3.8819	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
7	3.95	Phosphate	BMB	0.462	3.8528	3.8528	1.0000
Total:			**0.000**	**8.884**		**58.89**	

10 CCB

Sample Name:	**CCB**	*Injection Volume:*	**5.00**
Vial Number:	**R4**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program ISO37mM 150mm short 0.4**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/04/2021 09:53**	*Sample Weight:*	**1.0000**

Run Time:



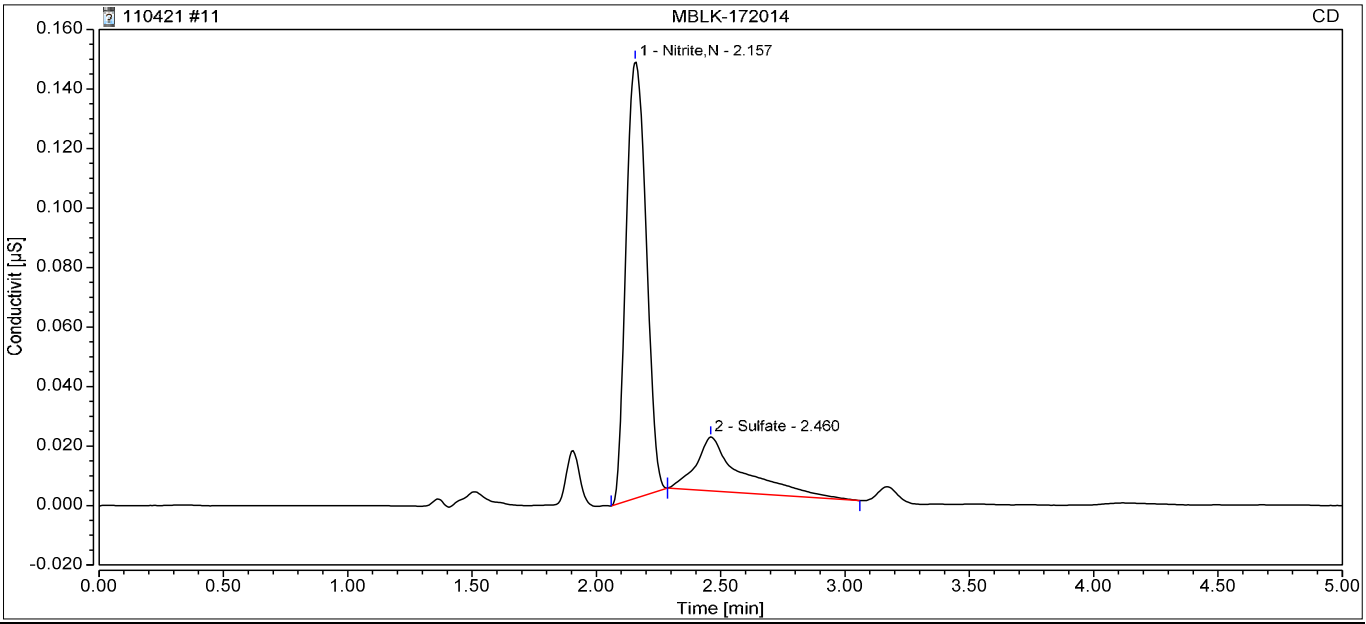
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Chloride	n.a.	n.a.	n.a.	n.a.	1.0000
1	2.16	Nitrite,N	BMB	0.013	0.0423	0.0423	1.0000
2	2.46	Sulfate	BMB	0.004	0.1607	0.1607	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**	**0.017**		**0.20**	

11 MBLK-172014

Sample Name:	**MBLK-172014**	*Injection Volume:*	**5.00**
Vial Number:	**R5**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program ISO37mM 150mm short 0.4**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/04/2021 10:01**	*Sample Weight:*	**1.0000**

Run Time:



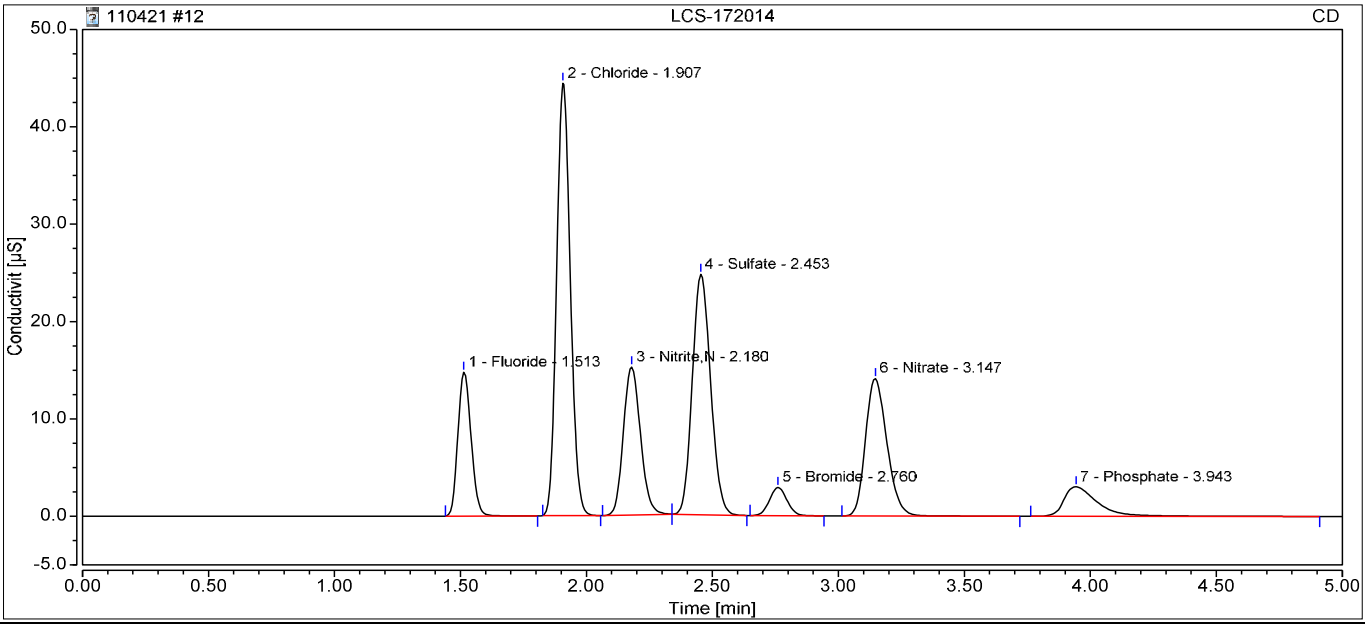
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Chloride	n.a.	n.a.	n.a.	n.a.	1.0000
1	2.16	Nitrite,N	BMB	0.014	0.0443	0.0443	1.0000
2	2.46	Sulfate	BMB	0.004	0.1589	0.1589	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**	**0.018**		**0.20**	

12 LCS-172014

Sample Name:	**LCS-172014**	*Injection Volume:*	**5.00**
Vial Number:	**R2**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program ISO37mM 150mm short 0.4**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/04/2021 10:08**	*Sample Weight:*	**1.0000**

Run Time:



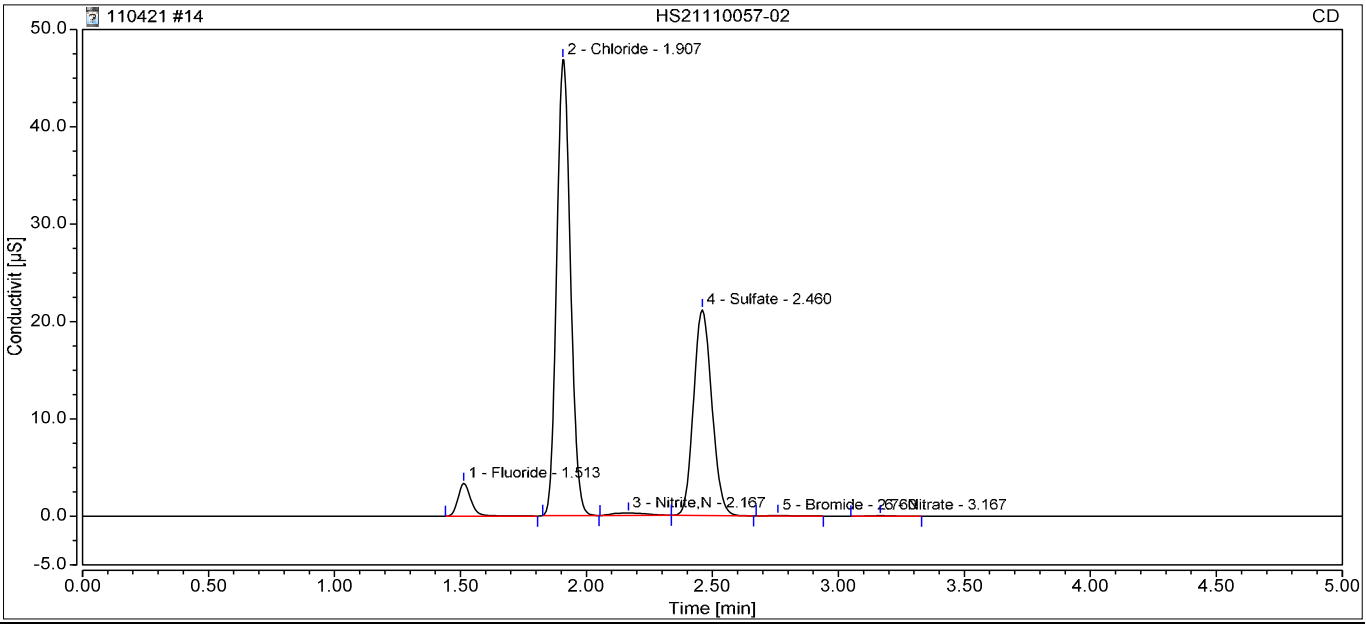
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	1.51	Fluoride	BMB	0.901	4.3137	4.3137	1.0000
2	1.91	Chloride	BMB	2.798	19.9170	19.9170	1.0000
3	2.18	Nitrite,N	BMB	1.196	3.9921	3.9921	1.0000
4	2.45	Sulfate	BMB	2.078	20.1288	20.1288	1.0000
5	2.76	Bromide	BMB	0.232	3.8655	3.8655	1.0000
6	3.15	Nitrate	BMB	1.393	3.9691	3.9691	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
7	3.94	Phosphate	BMB	0.472	3.9280	3.9280	1.0000
Total:			**0.000**	**9.070**		**60.11**	

14 HS21110057-02

Sample Name:	**HS21110057-02**	*Injection Volume:*	**5.00**
Vial Number:	**RA2**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program ISO37mM 150mm short 0.4**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/04/2021 10:23**	*Sample Weight:*	**1.0000**

Run Time:

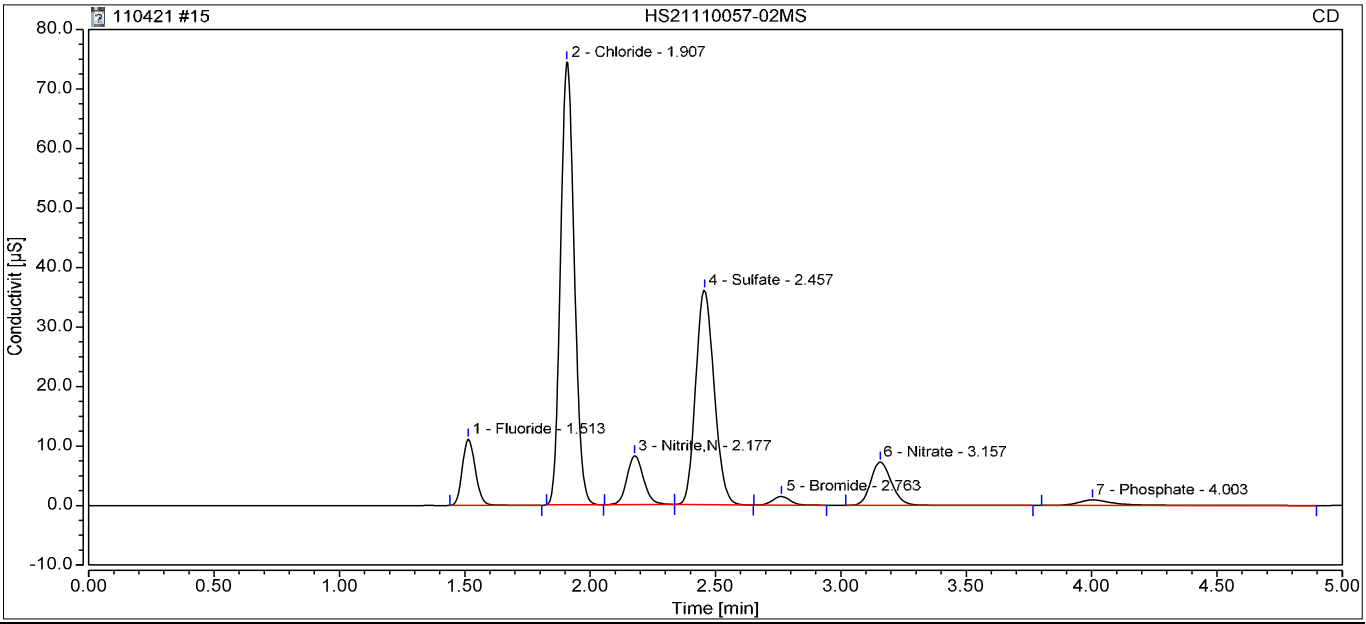


Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	1.51	Fluoride	BMB	0.202	0.9998	0.9998	1.0000
2	1.91	Chloride	BMB	2.958	21.0489	21.0489	1.0000
3	2.17	Nitrite,N	BMB	0.038	0.1227	0.1227	1.0000
4	2.46	Sulfate	BMB	1.778	17.2331	17.2331	1.0000
5	2.76	Bromide	BMB	0.004	0.1083	0.1083	1.0000
6	3.17	Nitrate	BMB	0.004	0.0605	0.0605	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**4.984**		**39.57**	

15	*HS21110057-02MS*		
Sample Name:	**HS21110057-02MS**	*Injection Volume:*	**5.00**
Vial Number:	**RA3**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program ISO37mM 150mm short 0.4**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/04/2021 10:31**	*Sample Weight:*	**1.0000**

Run Time:



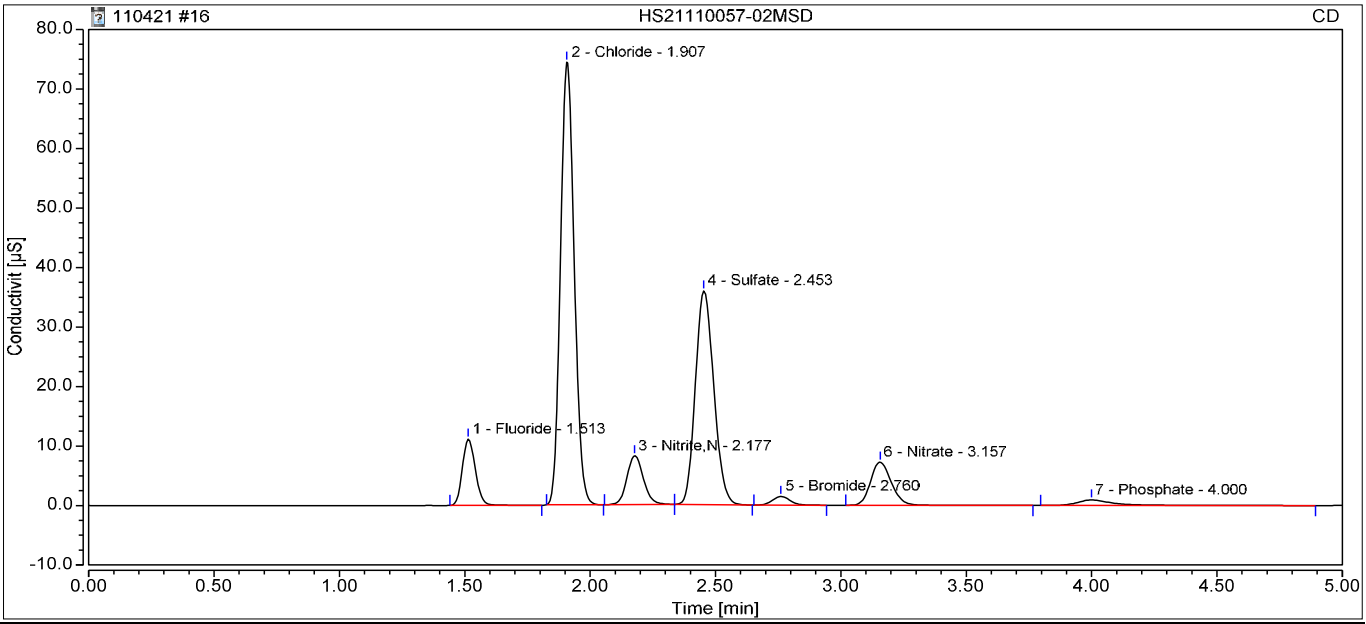
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	1.51	Fluoride	BMB	0.673	3.2319	3.2319	1.0000
2	1.91	Chloride	BMB	4.722	33.5250	33.5250	1.0000
3	2.18	Nitrite,N	BMB	0.630	2.0528	2.0528	1.0000
4	2.46	Sulfate	BMB	3.079	29.7648	29.7648	1.0000
5	2.76	Bromide	BMB	0.117	1.9712	1.9712	1.0000
6	3.16	Nitrate	BMB	0.700	2.0174	2.0174	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
7	4.00	Phosphate	BMB	0.162	1.4212	1.4212	1.0000
Total:			**0.000**	**10.082**		**73.98**	

16 HS21110057-02MSD

Sample Name:	**HS21110057-02MSD**	*Injection Volume:*	**5.00**
Vial Number:	**RA4**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program ISO37mM 150mm short 0.4**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/04/2021 10:38**	*Sample Weight:*	**1.0000**

Run Time:



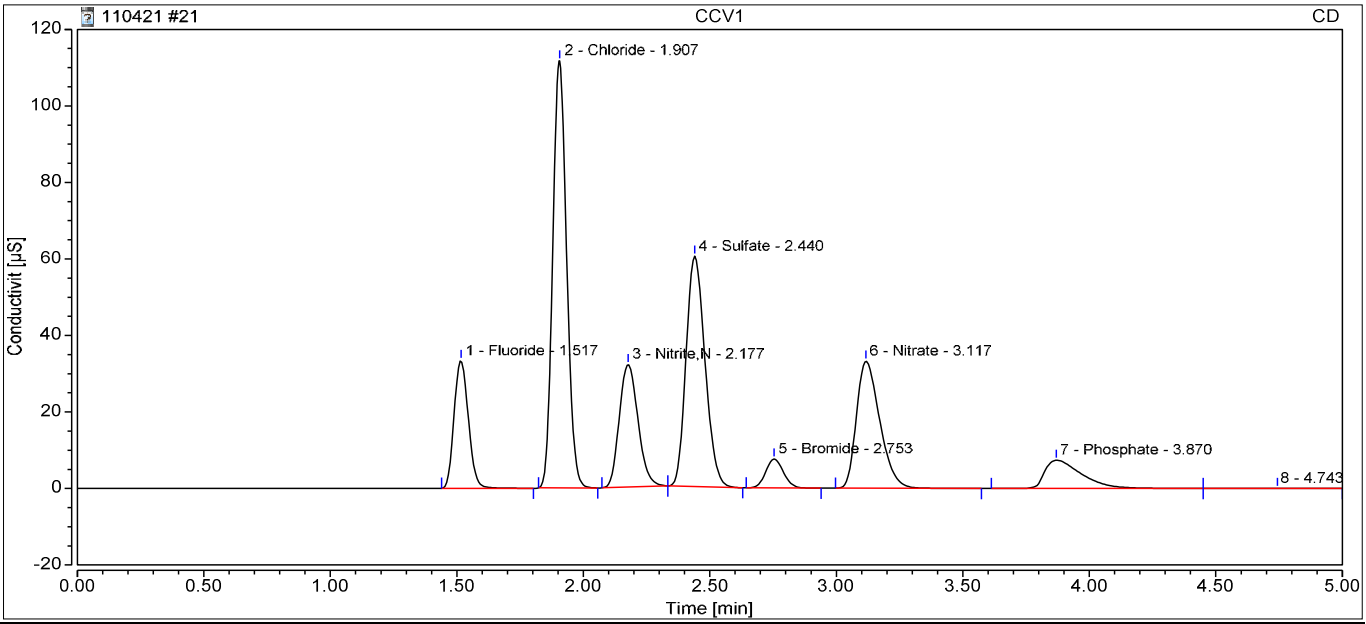
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	1.51	Fluoride	BMB	0.672	3.2266	3.2266	1.0000
2	1.91	Chloride	BMB	4.708	33.4258	33.4258	1.0000
3	2.18	Nitrite,N	BMB	0.629	2.0512	2.0512	1.0000
4	2.45	Sulfate	BMB	3.062	29.6007	29.6007	1.0000
5	2.76	Bromide	BMB	0.117	1.9667	1.9667	1.0000
6	3.16	Nitrate	BMB	0.697	2.0114	2.0114	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
7	4.00	Phosphate	BMB	0.161	1.4156	1.4156	1.0000
Total:			**0.000**	**10.046**		**73.70**	

21 CCV1

Sample Name:	**CCV1**	*Injection Volume:*	**5.00**
Vial Number:	**R3**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program ISO37mM 150mm short 0.4**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/04/2021 11:15**	*Sample Weight:*	**1.0000**

Run Time:



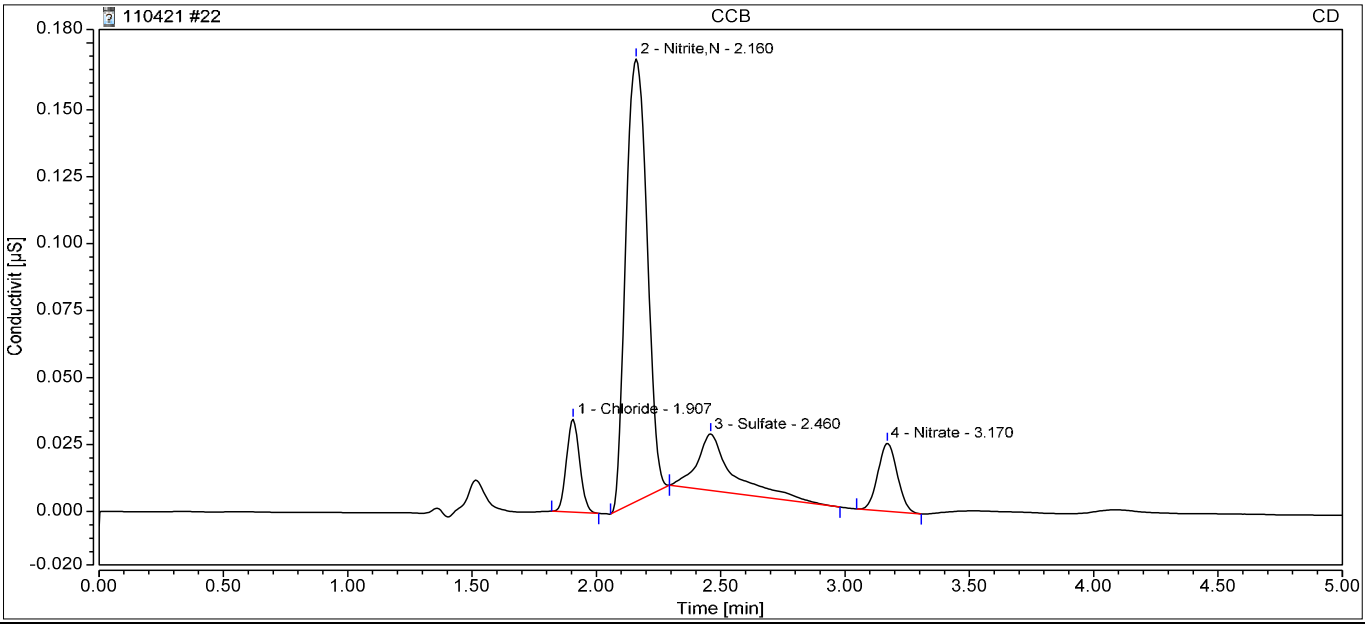
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	1.52	Fluoride	BMB	2.184	10.4016	10.4016	1.0000
2	1.91	Chloride	BMB	7.083	50.2220	50.2220	1.0000
3	2.18	Nitrite,N	BMB	2.746	9.8537	9.8537	1.0000
4	2.44	Sulfate	BMB	5.232	50.4835	50.4835	1.0000
5	2.75	Bromide	BMB	0.614	10.1337	10.1337	1.0000
6	3.12	Nitrate	BMB	3.551	10.0443	10.0443	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
7	3.87	Phosphate	BMB	1.247	9.9296	9.9296	1.0000
Total:			**0.000**	**22.656**		**151.07**	

22 CCB

Sample Name:	**CCB**	*Injection Volume:*	**5.00**
Vial Number:	**R8**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program ISO37mM 150mm short 0.4**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/04/2021 11:23**	*Sample Weight:*	**1.0000**

Run Time:



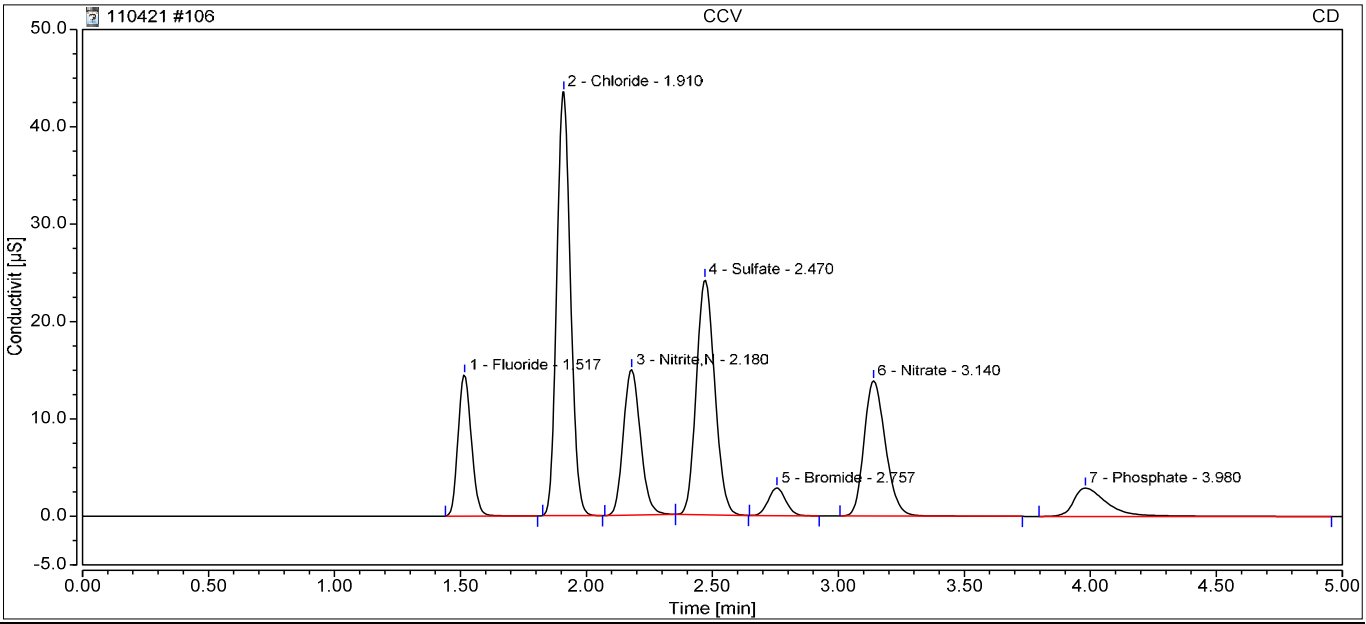
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	1.0000
1	1.91	Chloride	BMB	0.002	0.1471	0.1471	1.0000
2	2.16	Nitrite,N	BMB	0.016	0.0524	0.0524	1.0000
3	2.46	Sulfate	BMB	0.004	0.1557	0.1557	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
4	3.17	Nitrate	BMB	0.002	0.0549	0.0549	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**	**0.024**		**0.41**	

106 CCV

Sample Name:	**CCV**	*Injection Volume:*	**5.00**
Vial Number:	**R1**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program ISO37mM 150mm short 0.4**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/04/2021 22:02**	*Sample Weight:*	**1.0000**

Run Time:



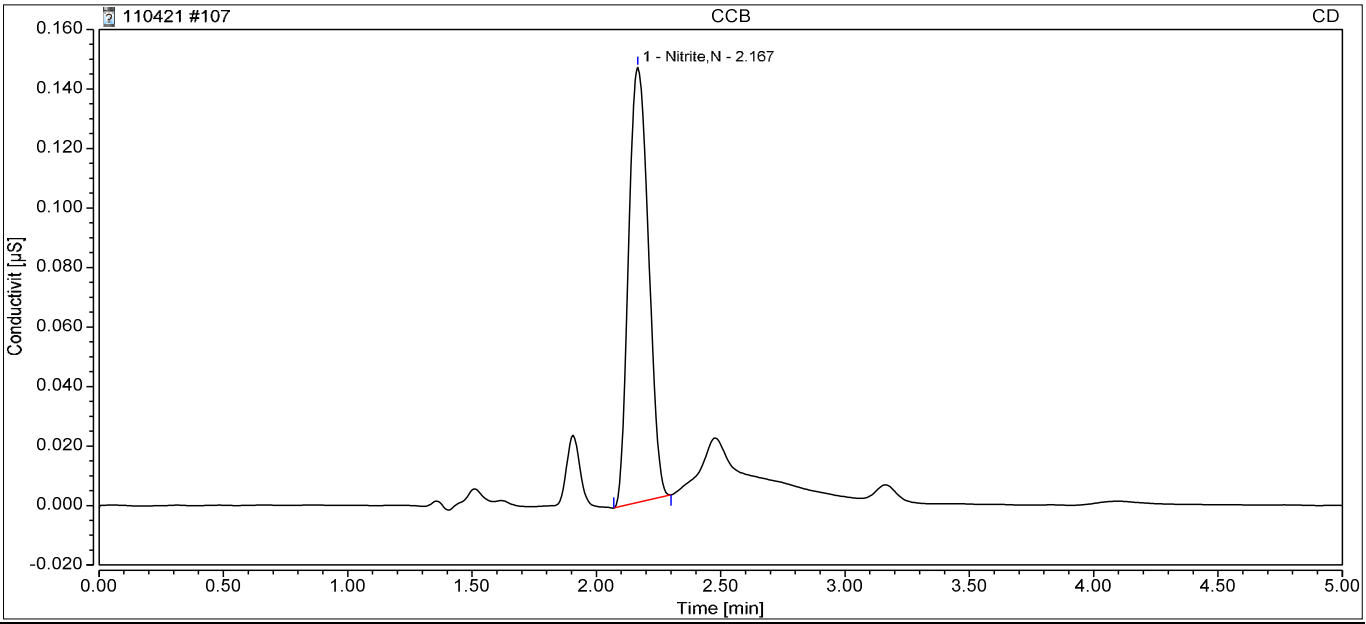
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	1.52	Fluoride	BMB	0.889	4.2585	4.2585	1.0000
2	1.91	Chloride	BMB	2.747	19.5588	19.5588	1.0000
3	2.18	Nitrite,N	BMB	1.179	3.9311	3.9311	1.0000
4	2.47	Sulfate	BMB	2.046	19.8188	19.8188	1.0000
5	2.76	Bromide	BMB	0.228	3.7983	3.7983	1.0000
6	3.14	Nitrate	BMB	1.366	3.8940	3.8940	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
7	3.98	Phosphate	BMB	0.450	3.7510	3.7510	1.0000
Total:			**0.000**	**8.906**		**59.01**	

107 CCB

Sample Name:	**CCB**	*Injection Volume:*	**5.00**
Vial Number:	**R4**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program ISO37mM 150mm short 0.4**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/04/2021 22:10**	*Sample Weight:*	**1.0000**

Run Time:



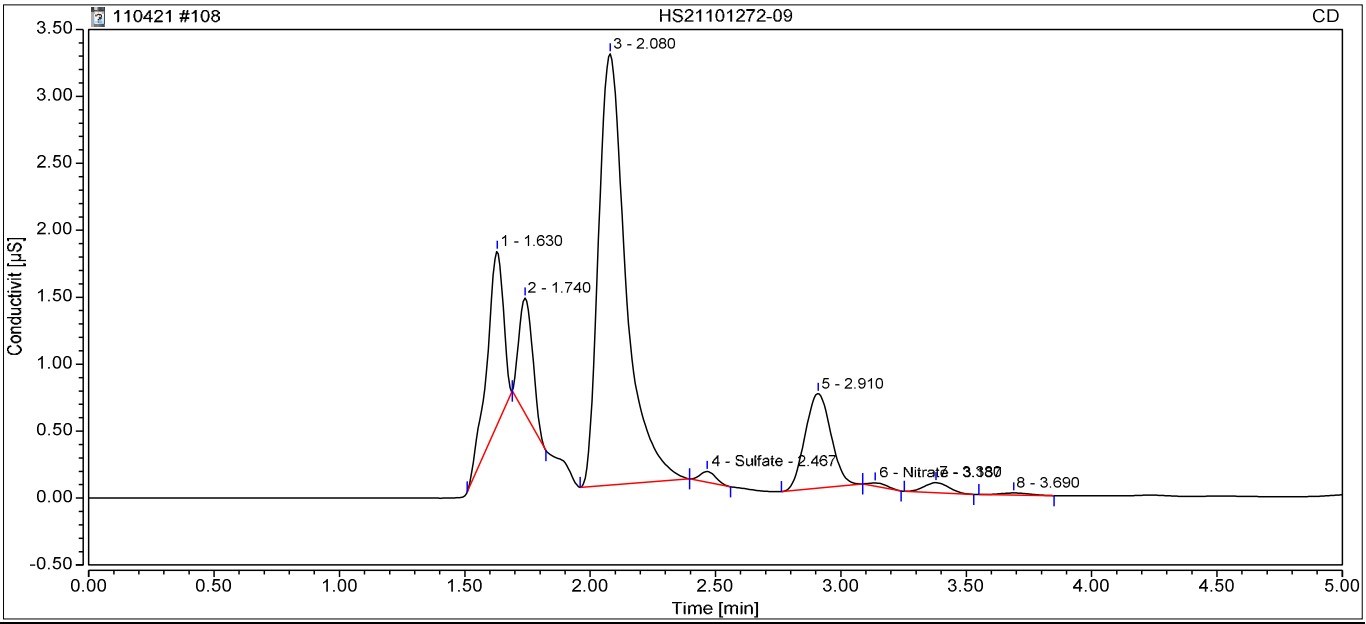
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Chloride	n.a.	n.a.	n.a.	n.a.	1.0000
1	2.17	Nitrite,N	BMB	0.014	0.0435	0.0435	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**	**0.014**		**0.04**	

108 HS21101272-09

Sample Name:	**HS21101272-09**	*Injection Volume:*	**5.00**
Vial Number:	**GD5**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program ISO37mM 150mm short 0.4**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/04/2021 22:25**	*Sample Weight:*	**1.0000**

Run Time:



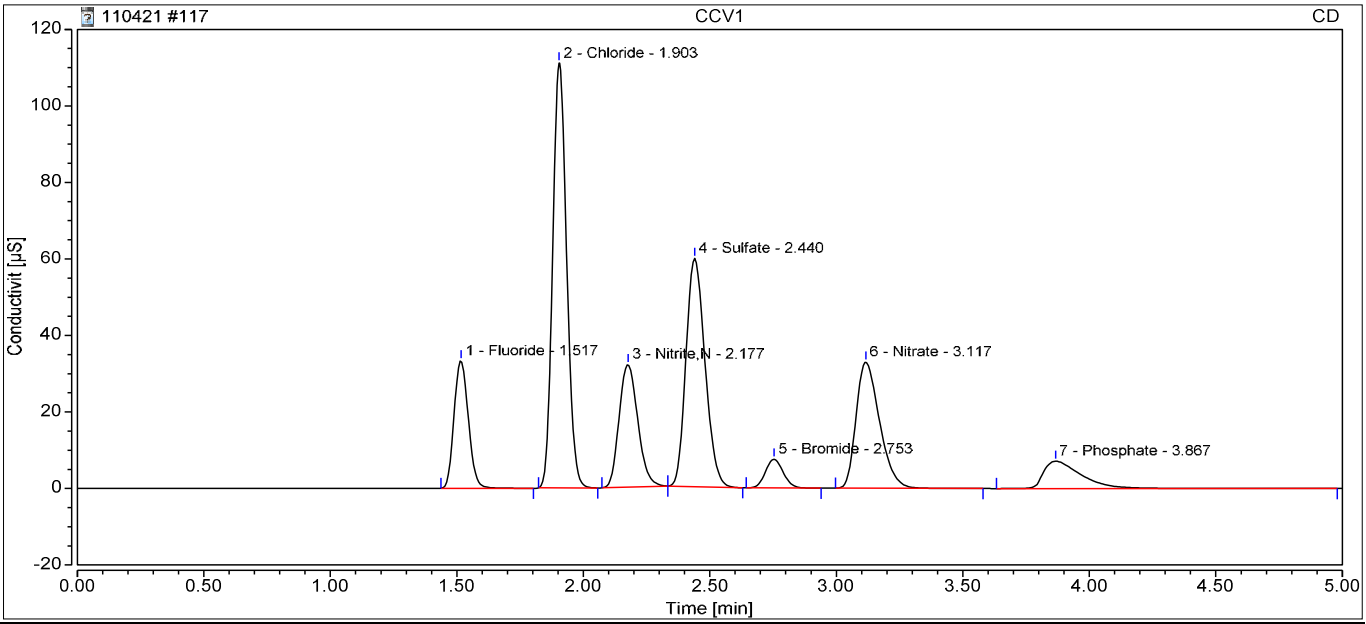
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Chloride	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	1.0000
4	2.47	Sulfate	BMB	0.006	0.1777	0.1777	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
6	3.14	Nitrate	BMB	0.002	0.0542	0.0542	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**0.008**		**0.23**	

117 CCV1

Sample Name:	**CCV1**	*Injection Volume:*	**5.00**
Vial Number:	**R3**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program ISO37mM 150mm short 0.4**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/04/2021 23:39**	*Sample Weight:*	**1.0000**

Run Time:



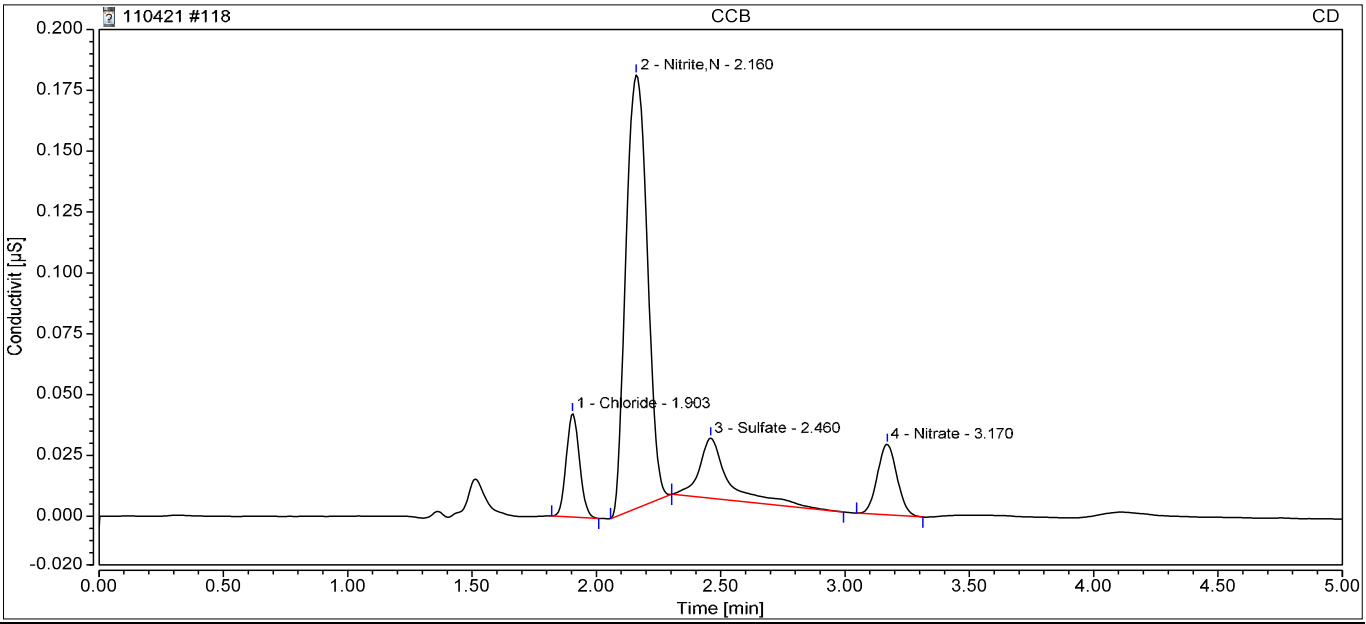
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	1.52	Fluoride	BMB	2.190	10.4321	10.4321	1.0000
2	1.90	Chloride	BMB	7.079	50.1953	50.1953	1.0000
3	2.18	Nitrite,N	BMB	2.742	9.8373	9.8373	1.0000
4	2.44	Sulfate	BMB	5.209	50.2639	50.2639	1.0000
5	2.75	Bromide	BMB	0.614	10.1300	10.1300	1.0000
6	3.12	Nitrate	BMB	3.544	10.0247	10.0247	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
7	3.87	Phosphate	BMB	1.231	9.8084	9.8084	1.0000
Total:			**0.000**	**22.609**		**150.69**	

118 CCB

Sample Name:	**CCB**	*Injection Volume:*	**5.00**
Vial Number:	**R8**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program ISO37mM 150mm short 0.4**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/04/2021 23:46**	*Sample Weight:*	**1.0000**

Run Time:



Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	1.0000
1	1.90	Chloride	BMB	0.003	0.1506	0.1506	1.0000
2	2.16	Nitrite,N	BMB	0.018	0.0568	0.0568	1.0000
3	2.46	Sulfate	BMB	0.003	0.1543	0.1543	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
4	3.17	Nitrate	BMB	0.003	0.0558	0.0558	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**	**0.026**		**0.42**	

HS21101272 RSK 175 Raw Data

ALS WO# HS21101272

FID04 -Logbook

Batch: 26730
Date: 01-24-2017
Method: RSK 175 ICAL
Comments: Target Sequence 170124

Analyst: Nosa Izekor
Reviewer:
Laboratory: Houston

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

Chemical	Value
ICAL STD ID	30010700217
ICV STD ID	30010700610

FORM 3
WATER GASES METHOD SPIKE RECOVERY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS21101272

Matrix Spike - ENG SC Sample No.: ICV

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

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

COMMENTS: _____

_____

FORM III GASES

FORM 6
GASES INITIAL CALIBRATION DATA

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS21101272

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

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

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

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

FORM VI GASES

FORM 6
GASES INITIAL CALIBRATION DATA

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS2110127

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

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

RF1000: 007

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

FORM VI GASES

Data File: \\nahstws005\Target\chem\FID-4.i\170124A.b\001.D Page 1
Report Date: 16-Nov-2021 16:03

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\170124A.b\001.D
Lab Smp Id: ICAL1 Client Smp ID: ICAL1
Inj Date : 24-JAN-2017 09:06
Operator : JA Inst ID: FID-4.i
Smp Info : ICAL1;ICAL1;;;
Misc Info :
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\170124A.b\RSKNI2.m
Meth Date : 15-Nov-2021 14:10 linh.pham Quant Type: ESTD
Cal Date : 24-JAN-2017 09:06 Cal File: 001.D
Als bottle: 1 Calibration Sample, Level: 1
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: stdNIP2.sub
Target Version: 4.14

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

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

QC Flag Legend

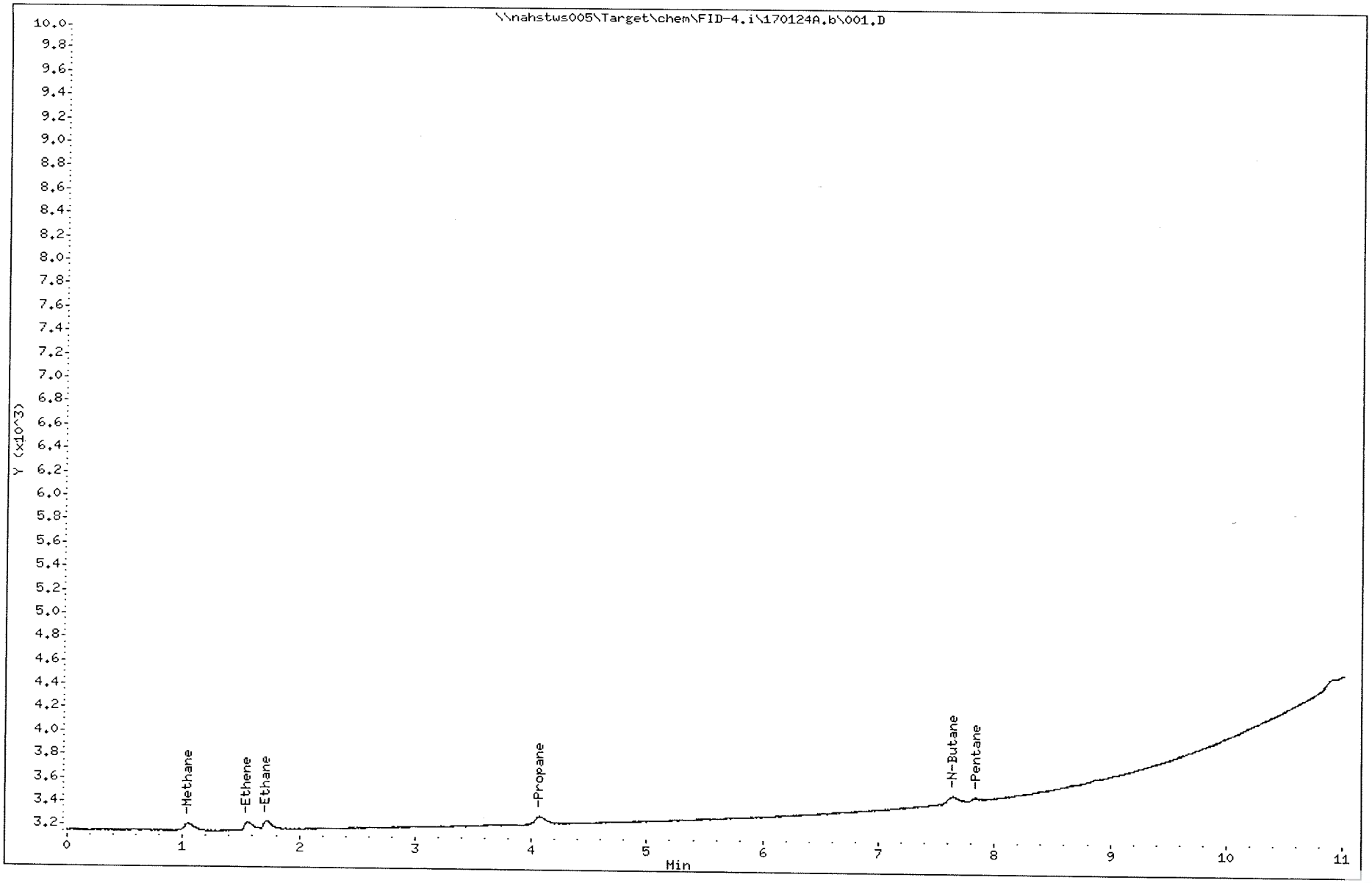
a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).

Data File: \\nahstws005\Target\chem\FID-4.i\170124A.b\001.D
Date : 24-JAN-2017 09:06
Client ID: ICAL1
Sample Info: ICAL1;ICAL1;;;

Column phase: Rtx-PLOT

Instrument: FID-4.i

Operator: JA
Column diameter: 0.53



Data File: \\nahstws005\Target\chem\FID-4.i\170124A.b\002.D Page 1
Report Date: 16-Nov-2021 16:03

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\170124A.b\002.D
Lab Smp Id: ICAL2 Client Smp ID: ICAL2
Inj Date : 24-JAN-2017 09:30
Operator : MA Inst ID: FID-4.i
Smp Info : ICAL2;ICAL2;;;
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\170124A.b\RSKNI2.m
Meth Date : 15-Nov-2021 14:10 linh.pham Quant Type: ESTD
Cal Date : 24-JAN-2017 09:59 Cal File: 003.D
Als bottle: 2 Calibration Sample, Level: 2
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: stdNIP2.sub
Target Version: 4.14

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

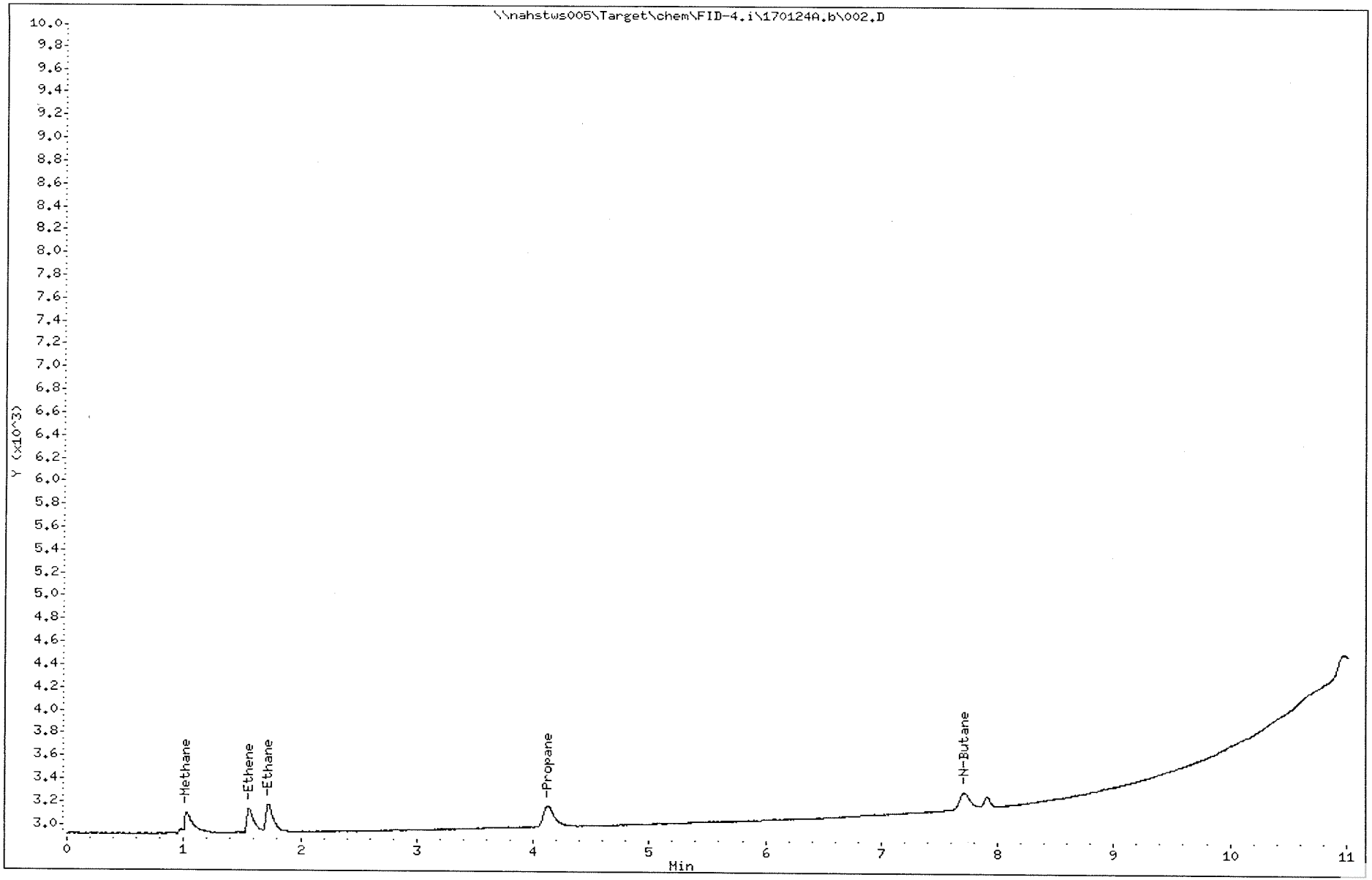
Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)
1 Methane	1.023	1.030	-0.007	944	0.96500	0.968
2 Ethene	1.560	1.556	0.004	956	1.68500	1.630
3 Ethane	1.723	1.723	0.000	1209	1.80400	1.641
4 Propane	4.123	4.113	0.010	1279	2.64600	2.927
5 N-Butane	7.716	7.690	0.026	936	3.49600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

Data File: \\nahstws005\Target\chem\FID-4.i\170124A.b\002.D
Date : 24-JAN-2017 09:30
Client ID: ICAL2
Sample Info: ICAL2;ICAL2;;;

Column phase: Rtx-PLOT

Instrument: FID-4.i

Operator: MA
Column diameter: 0.53



Data File: \\nahstws005\Target\chem\FID-4.i\170124A.b\003.D Page 1
Report Date: 16-Nov-2021 16:03

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\170124A.b\003.D
Lab Smp Id: ICAL3 Client Smp ID: ICAL3
Inj Date : 24-JAN-2017 09:59
Operator : MA Inst ID: FID-4.i
Smp Info : ICAL3;ICAL3;;;
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\170124A.b\RSKNI2.m
Meth Date : 15-Nov-2021 14:10 linh.pham Quant Type: ESTD
Cal Date : 24-JAN-2017 11:13 Cal File: 007.D
Als bottle: 3 Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: stdNIP2.sub
Target Version: 4.14

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

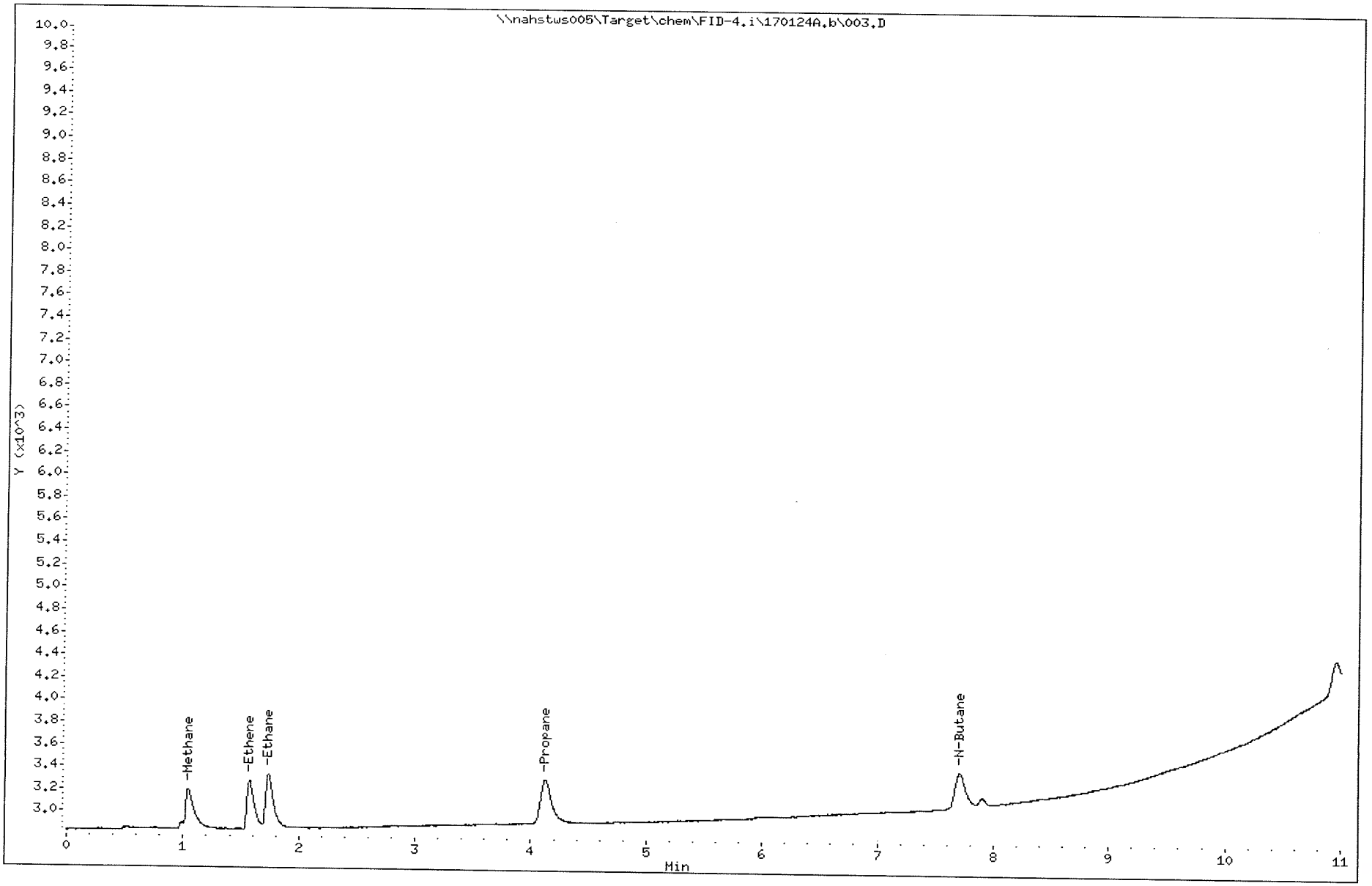
Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)
1 Methane	1.043	1.030	0.013	1967	1.92900	2.018
2 Ethene	1.570	1.556	0.014	1904	3.37000	3.247
3 Ethane	1.736	1.723	0.013	2378	3.60900	3.229
4 Propane	4.123	4.113	0.010	2602	5.29300	4.926
5 N-Butane	7.703	7.690	0.013	2034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

Data File: \\nahstws005\Target\chem\FID-4.i\170124A.b\003.D
Date : 24-JAN-2017 09:59
Client ID: ICAL3
Sample Info: ICAL3;ICAL3;;;

Column phase: Rtx-PLOT

Instrument: FID-4.i

Operator: MA
Column diameter: 0.53



ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\170124A.b\004.D
Lab Smp Id: ICAL4 Client Smp ID: ICAL4
Inj Date : 24-JAN-2017 10:15
Operator : MA Inst ID: FID-4.i
Smp Info : ICAL4;ICAL4;;;
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\170124A.b\RSKNI2.m
Meth Date : 15-Nov-2021 14:10 linh.pham Quant Type: ESTD
Cal Date : 24-JAN-2017 09:30 Cal File: 002.D
Als bottle: 4 Calibration Sample, Level: 4
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: stdNIP2.sub
Target Version: 4.14

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

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

QC Flag Legend

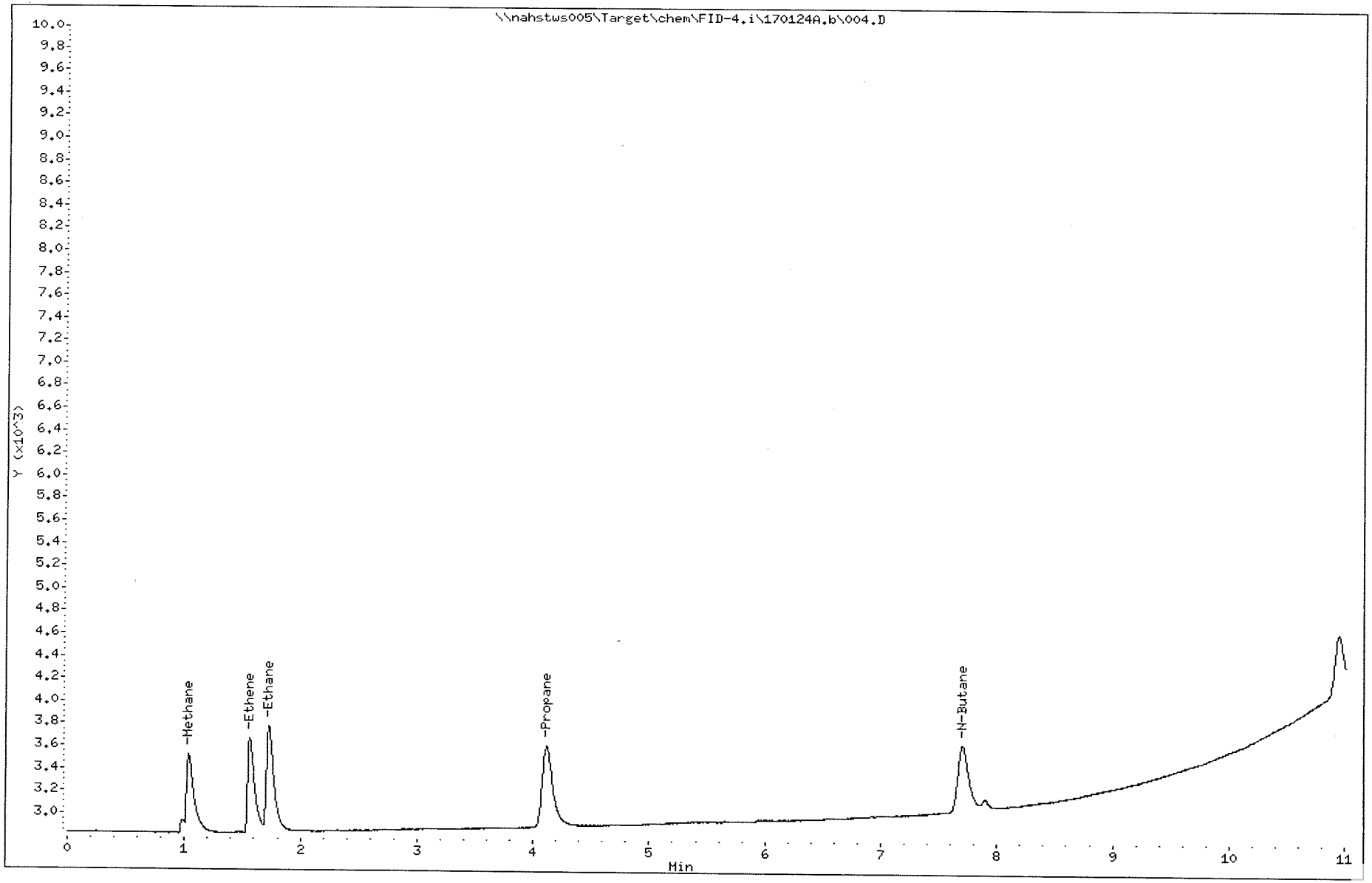
M - Compound response manually integrated.

Data File: \\nahstws005\Target\chem\FID-4.i\170124A.b\004.D
Date : 24-JAN-2017 10:15
Client ID: ICAL4
Sample Info: ICAL4;ICAL4;;;

Column phase: Rtx-PLOT

Instrument: FID-4.i

Operator: MA
Column diameter: 0.53



Data File: \\nahstws005\Target\chem\FID-4.i\170124A.b\005.D Page 1
Report Date: 16-Nov-2021 16:03

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\170124A.b\005.D
Lab Smp Id: ICAL5 Client Smp ID: ICAL5
Inj Date : 24-JAN-2017 10:39
Operator : MA Inst ID: FID-4.i
Smp Info : ICAL5;ICAL5;;;
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\170124A.b\RSKNI2.m
Meth Date : 15-Nov-2021 14:10 linh.pham Quant Type: ESTD
Cal Date : 24-JAN-2017 10:39 Cal File: 005.D
Als bottle: 5 Calibration Sample, Level: 5
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: stdNIP2.sub
Target Version: 4.14

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

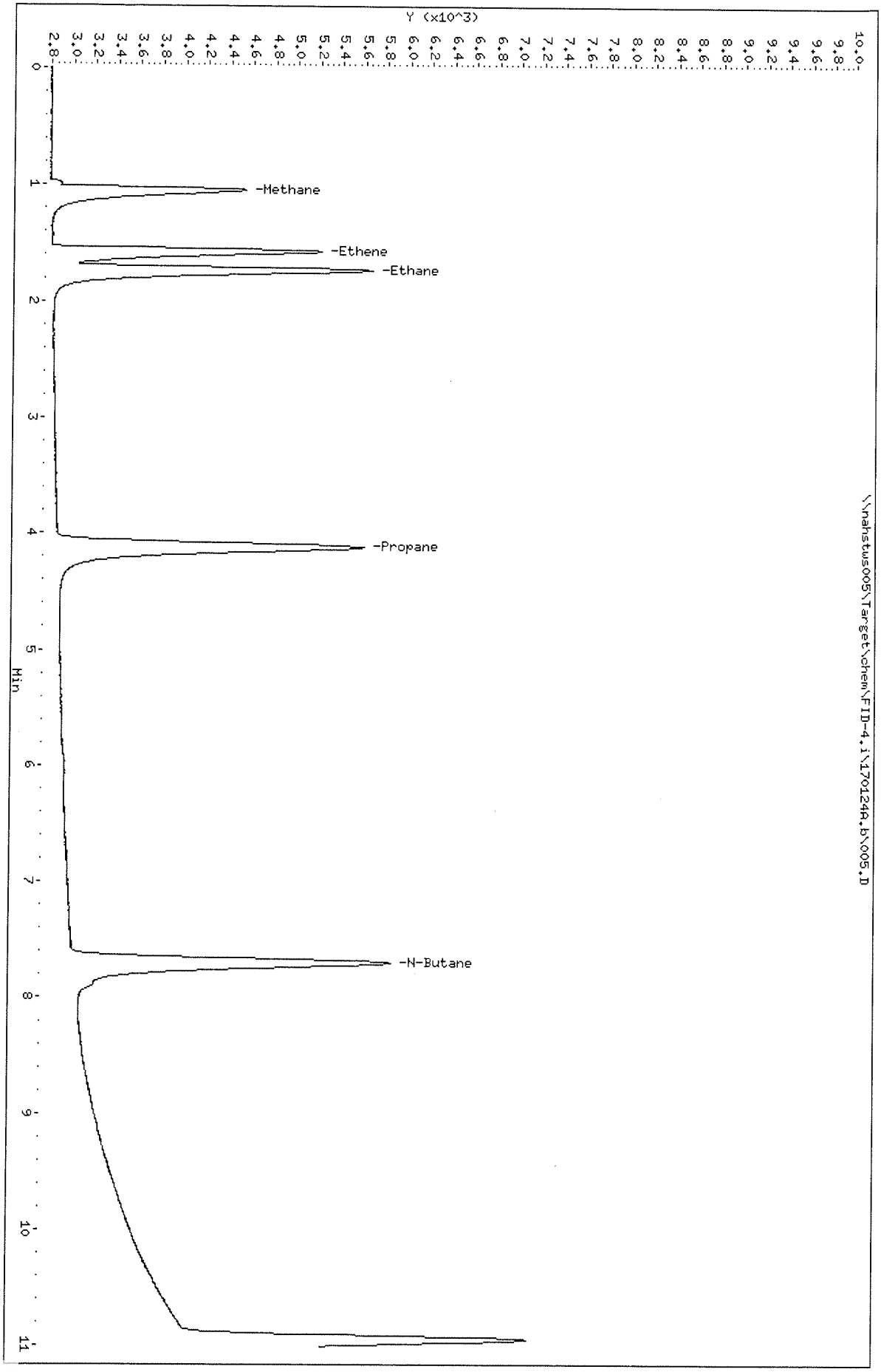
Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)
1 Methane	1.043	1.030	0.013	9268	9.64700	9.511
2 Ethene	1.570	1.556	0.014	11210	16.8500	19.121
3 Ethane	1.733	1.723	0.010	14588	18.0430	19.811
4 Propane	4.120	4.113	0.007	18294	26.4630	27.415
5 N-Butane	7.700	7.690	0.010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

QC Flag Legend

M - Compound response manually integrated.

Data File: \\nahstws005\Target\chem\FID-4,i\170124A,b\005.D
Date : 24-JAN-2017 10:39
Client ID: ICAL5
Sample Info: ICAL5;ICAL5;;;
Column phase: Rtx-PLOT

Instrument: FID-4,i
Operator: MA
Column diameter: 0.53



Data File: \\nahstws005\Target\chem\FID-4.i\170124A.b\006.D Page 1
Report Date: 16-Nov-2021 16:03

ALS Laboratory Group

Dissolved Gases Analysis

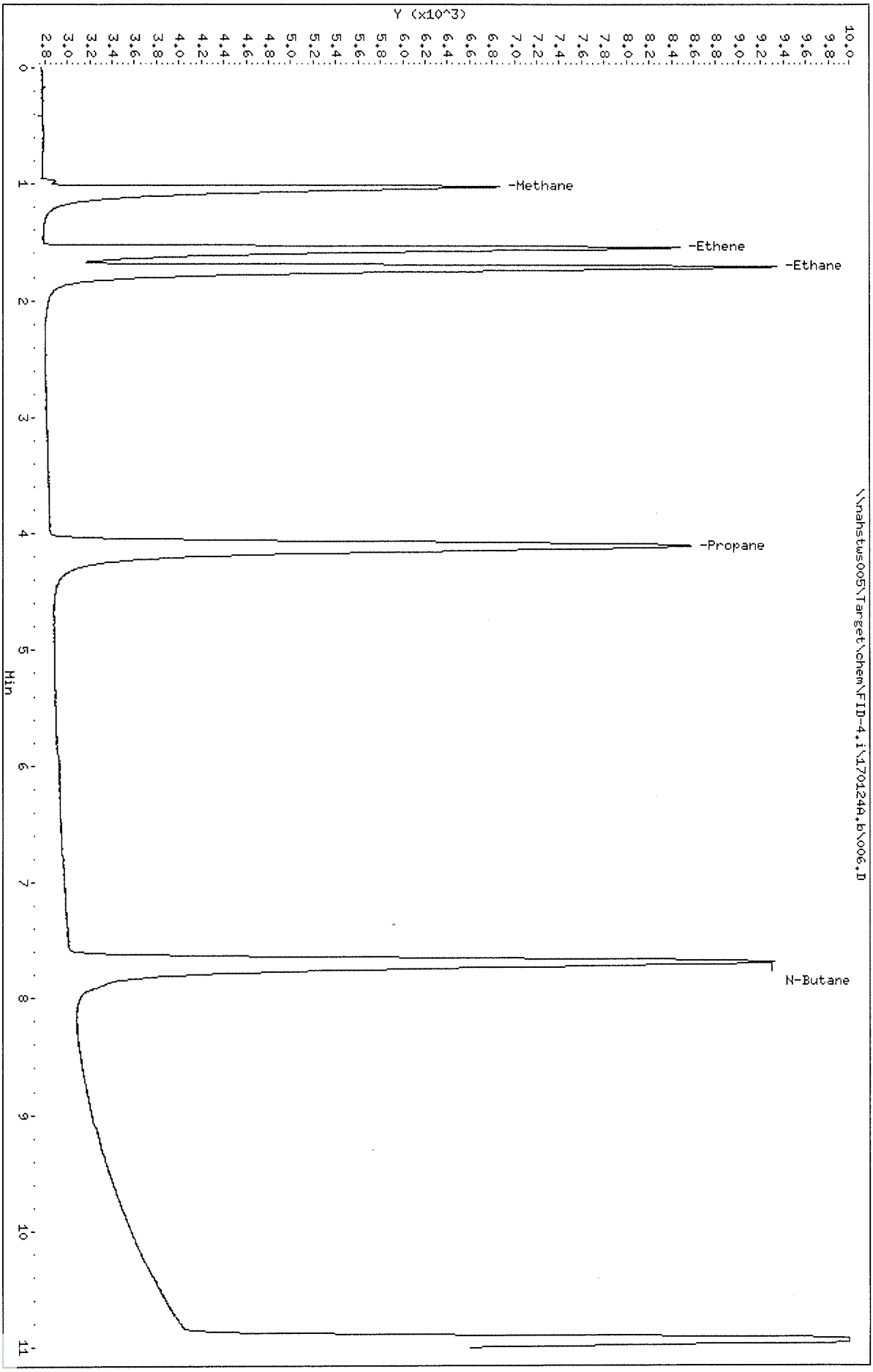
Data file : \\nahstws005\Target\chem\FID-4.i\170124A.b\006.D
Lab Smp Id: ICAL6 Client Smp ID: ICAL6
Inj Date : 24-JAN-2017 10:57
Operator : MA Inst ID: FID-4.i
Smp Info : ICAL6;ICAL6;;;
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\170124A.b\RSKNI2.m
Meth Date : 15-Nov-2021 14:10 linh.pham Quant Type: ESTD
Cal Date : 24-JAN-2017 10:39 Cal File: 005.D
Als bottle: 6 Calibration Sample, Level: 6
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: stdNIP2.sub
Target Version: 4.14

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

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

Data File: \\nahstws005\Target\chem\FID-4,i\170124A,b\006,D
Date : 24-JAN-2017 10:57
Client ID: ICAL6
Sample Info: ICAL6;ICAL6;;;
Column phase: Rtx-PLOT

Instrument: FID-4,i
Operator: MA
Column diameter: 0.53



ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\170124A.b\007.D
Lab Smp Id: ICAL7 Client Smp ID: ICAL7
Inj Date : 24-JAN-2017 11:13
Operator : MA Inst ID: FID-4.i
Smp Info : ICAL7;ICAL7;;;
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\170124A.b\RSKNI2.m
Meth Date : 15-Nov-2021 14:10 linh.pham Quant Type: ESTD
Cal Date : 24-JAN-2017 10:57 Cal File: 006.D
Als bottle: 7 Calibration Sample, Level: 7
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: stdNIP2.sub
Target Version: 4.14

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

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

QC Flag Legend

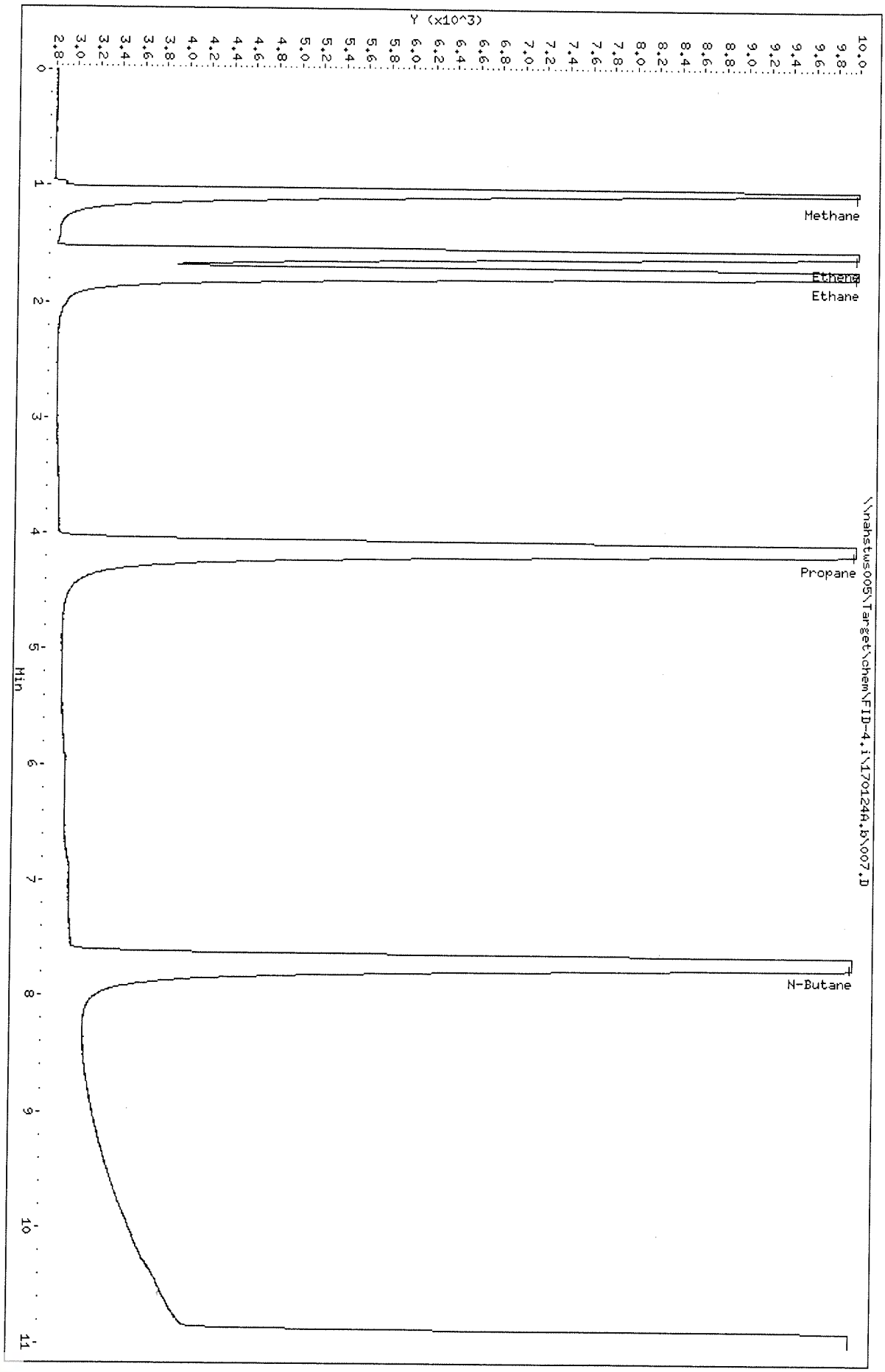
A - Target compound detected but, quantitated amount exceeded maximum amount.

Data File: \\nahstws005\Target\chem\FID-4.i\170124A.b\007.D
Date : 24-JAN-2017 11:13
Client ID: ICAL7
Sample Info: ICAL7;ICAL7;;;

Column phase: Rtx-PLOT

Instrument: FID-4.i

Operator: MA
Column diameter: 0.53



Data File: \\nahstws005\Target\chem\FID-4.i\170124A.b\008.D Page 1
Report Date: 16-Nov-2021 16:03

ALS Laboratory Group

Dissolved Gases Analysis

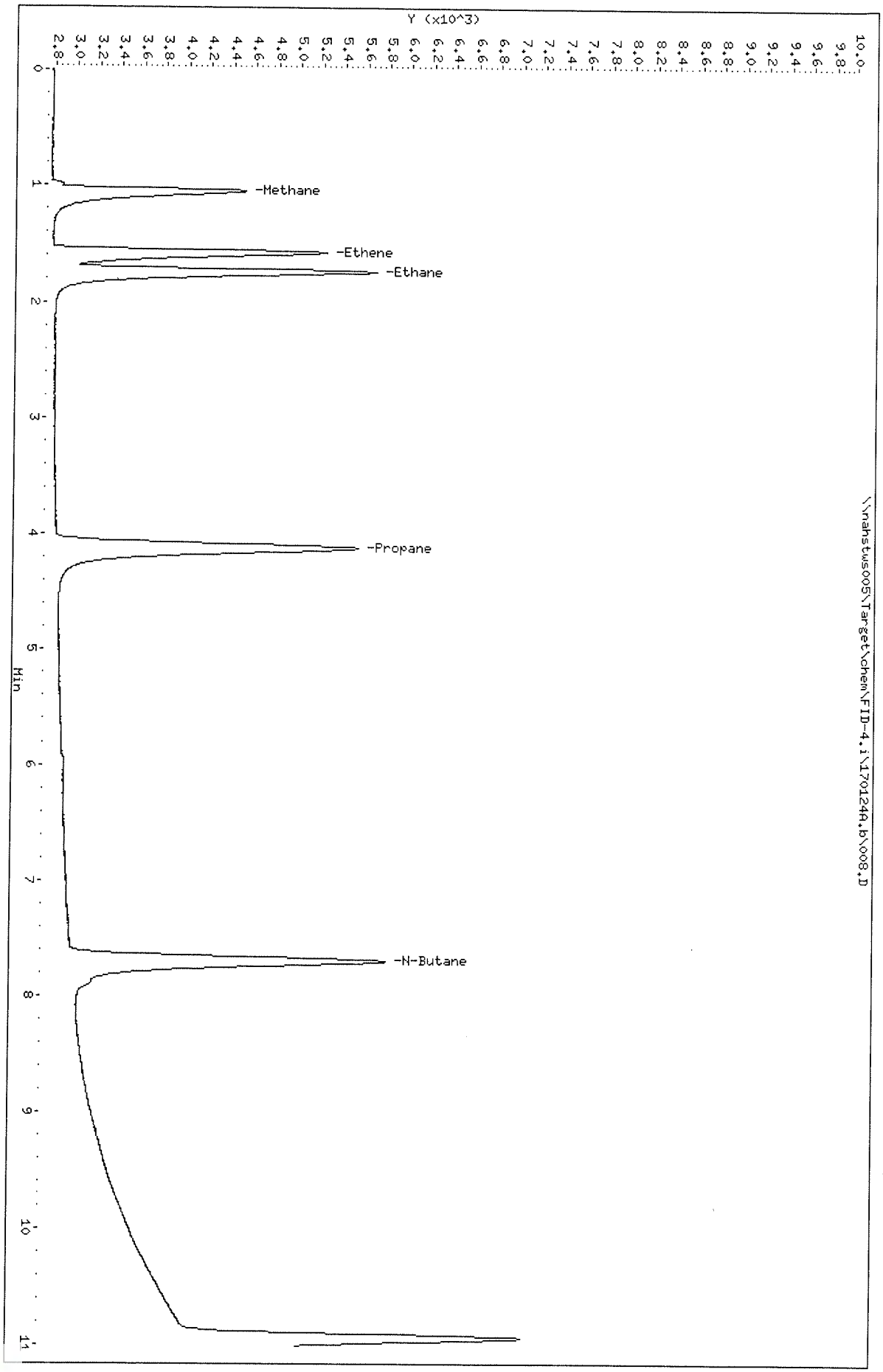
Data file : \\nahstws005\Target\chem\FID-4.i\170124A.b\008.D
Lab Smp Id: ICV Client Smp ID: ICV
Inj Date : 24-JAN-2017 12:05
Operator : MA Inst ID: FID-4.i
Smp Info : ICV;ICV;;;
Misc Info : ;1;0;1
Comment :
Method : \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\RSKNI2.m
Meth Date : 15-Nov-2021 14:10 linh.pham Quant Type: ESTD
Cal Date : 24-JAN-2017 11:13 Cal File: 007.D
Als bottle: 8 QC Sample: METHSPIKE
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: stdNIP2.sub
Target Version: 4.14

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

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	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\170124A.b\008.D
Date : 24-JAN-2017 12:05
Client ID: ICV
Sample Info: ICV;ICV;;;
Column Phase: Rtx-PLOT

Instrument: FID-4.i
Operator: MA
Column diameter: 0.53



FID04 -Logbook

Batch: 47191
Date: 11-01-2021
Method: rsk175
Comments:

Analyst: Purvi Lad
Reviewer:
Laboratory: Houston

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	pH
1	RSK-CCV	CCV	11-01-2021 09:15 am	1.00	0.00 mL	0.00 mL	001.D	Liquid	Y	NA
2	MBLK-211101	MBLK	11-01-2021 09:25 am	1.00	0.00 mL	0.00 mL	002.D	Liquid	Y	NA
3	LCS-211101	LCS	11-01-2021 09:50 am	1.00	0.00 mL	0.00 mL	003.D	Liquid	Y	NA
4	HS21101171-01	SAMP	11-01-2021 10:00 am	1.00	0.00 mL	0.00 mL	004.D	Liquid	Y	<2
5	HS21101171-02	SAMP	11-01-2021 10:08 am	1.00	0.00 mL	0.00 mL	005.D	Liquid	Y	<2
6	HS21101171-02MS	MS	11-01-2021 10:45 am	1.00	0.00 mL	0.00 mL	006.D	Liquid	Y	<2
7	HS21101171-02MSD	MSD	11-01-2021 10:56 am	1.00	0.00 mL	0.00 mL	007.D	Liquid	Y	<2
8	HS21101171-03	SAMP	11-01-2021 11:04 am	1.00	0.00 mL	0.00 mL	008.D	Liquid	Y	<2
9	HS21101171-04	SAMP	11-01-2021 11:18 am	1.00	0.00 mL	0.00 mL	009.D	Liquid	Y	<2
10	HS21101171-01	SAMP	11-01-2021 11:39 am	100.0(	0.00 mL	0.00 mL	010.D	Liquid	Y	<2
11	RSK-CCV	CCV	11-01-2021 11:53 am	1.00	0.00 mL	0.00 mL	011.D	Liquid	Y	NA
12	HS21101171-02	SAMP	11-01-2021 12:04 pm	100.0(	0.00 mL	0.00 mL	012.D	Liquid	Y	<2
13	HS21101171-03	SAMP	11-01-2021 12:13 pm	10.00	0.00 mL	0.00 mL	013.D	Liquid	Y	<2
14	HS21101171-04	SAMP	11-01-2021 12:21 pm	10.00	0.00 mL	0.00 mL	014.D	Liquid	Y	<2
15	HS21101272-03	SAMP	11-01-2021 12:34 pm	1.00	0.00 mL	0.00 mL	015.D	Liquid	Y	<2
16	HS21101272-04	SAMP	11-01-2021 12:48 pm	1.00	0.00 mL	0.00 mL	016.D	Liquid	Y	<2
17	HS21101272-10	SAMP	11-01-2021 12:58 pm	1.00	0.00 mL	0.00 mL	017.D	Liquid	Y	<2
18	HS21101272-03	SAMP	11-01-2021 01:10 pm	100.0(	0.00 mL	0.00 mL	018.D	Liquid	Y	<2
19	HS21101272-04	SAMP	11-01-2021 01:18 pm	50.00	0.00 mL	0.00 mL	019.D	Liquid	Y	<2
20	HS21101272-10	SAMP	11-01-2021 01:26 pm	100.0(	0.00 mL	0.00 mL	020.D	Liquid	Y	<2
21	HS21101554-11	SAMP	11-01-2021 01:38 pm	1.00	0.00 mL	0.00 mL	021.D	Liquid	Y	<2
22	RSK-CCV	CCV	11-01-2021 01:46 pm	1.00	0.00 mL	0.00 mL	022.D	Liquid	Y	NA
23	HS21101554-12	SAMP	11-01-2021 01:55 pm	1.00	0.00 mL	0.00 mL	023.D	Liquid	Y	<2
24	HS21101554-15	SAMP	11-01-2021 02:04 pm	1.00	0.00 mL	0.00 mL	024.D	Liquid	Y	<2
25	HS21101554-11	SAMP	11-01-2021 02:15 pm	10.00	0.00 mL	0.00 mL	025.D	Liquid	Y	<2
26	HS21101554-12	SAMP	11-01-2021 02:23 pm	10.00	0.00 mL	0.00 mL	026.D	Liquid	Y	<2
27	RSK-CCV	CCV	11-01-2021 02:31 pm	1.00	0.00 mL	0.00 mL	027.D	Liquid	Y	NA

FORM 7B
GASES CALIBRATION VERIFICATION SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS21101272

Instrument ID: FID-4 Calibration Date: 11/01/21 Time: 0915

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

Init. Calib. Times: 0906 1113

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

COMPOUND	RRF OR AMOUNT	RRF250.00 OR AMOUNT	MIN RRF	%D OR %DRIFT	MAX %D OR %DRIFT	CURV TYPE
Ethane	719.48900	703.26442	0.01	2.26	20.00	AVRG
Methane	974.99200	788.84627	0.01	19.09	20.00	AVRG
Ethene	585.76000	611.57270	0.01	-4.41	20.00	AVRG

FORM VII GASES

FORM 7B
GASES CALIBRATION VERIFICATION SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS21101272

Instrument ID: FID-4 Calibration Date: 11/01/21 Time: 1153

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

Init. Calib. Times: 0906 1113

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

COMPOUND	RRF OR AMOUNT	RRF250.00 OR AMOUNT	MIN RRF	%D OR %DRIFT	MAX %D OR %DRIFT	CURV TYPE
Ethane	719.48900	789.11489	0.01	-9.68	20.00	AVRG
Methane	974.99200	823.46844	0.01	15.54	20.00	AVRG
Ethene	585.76000	691.21662	0.01	-18.00	20.00	AVRG

FORM VII GASES

FORM 7B
GASES CALIBRATION VERIFICATION SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS21101272

Instrument ID: FID-4 Calibration Date: 11/01/21 Time: 1346

Lab File ID: 022 Init. Calib. Date(s): 01/24/17 01/24/17

Init. Calib. Times: 0906 1113

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

COMPOUND	RRF OR AMOUNT	RRF250.00 OR AMOUNT	MIN RRF	%D OR %DRIFT	MAX %D OR %DRIFT	CURV TYPE
Ethane	719.48900	755.58388	0.01	-5.02	20.00	AVRG
Methane	974.99200	881.93221	0.01	9.54	20.00	AVRG
Ethene	585.76000	692.22552	0.01	-18.18	20.00	AVRG

FORM VII GASES

FORM 7B
GASES CALIBRATION VERIFICATION SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS21101272

Instrument ID: FID-4 Calibration Date: 11/01/21 Time: 1431

Lab File ID: 027 Init. Calib. Date(s): 01/24/17 01/24/17

Init. Calib. Times: 0906 1113

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

COMPOUND	RRF OR AMOUNT	RRF250.00 OR AMOUNT	MIN RRF	%D OR %DRIFT	MAX %D OR %DRIFT	CURV TYPE
Ethane	719.48900	788.44981	0.01	-9.58	20.00	AVRG
Methane	974.99200	914.79216	0.01	6.17	20.00	AVRG
Ethene	585.76000	690.86053	0.01	-17.94	20.00	AVRG

FORM VII GASES

Data File: \\nahstws005\Target\chem\FID-4.i\211101.b\001.D
Report Date: 17-Nov-2021 09:45

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\211101.b\001.D
Lab Smp Id: RSK-CCV Client Smp ID: RSK-CCV
Inj Date : 01-NOV-2021 09:15
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\211101.b\RSKNI3.m
Meth Date : 17-Nov-2021 09:40 linh.pham 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: ALSHSW7104

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

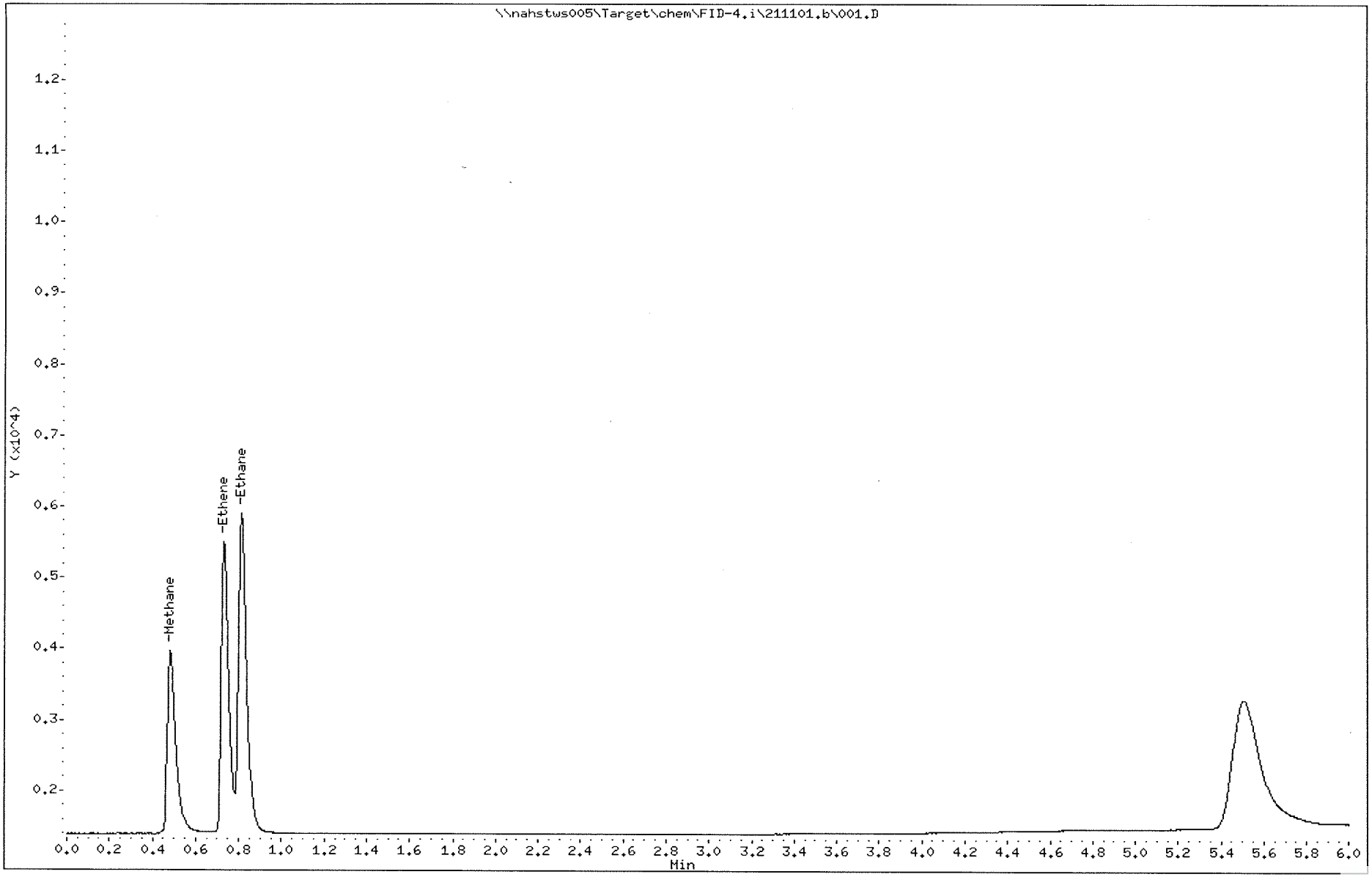
Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)
1 Methane	0.480	0.473	0.007	7610	9.64700	7.805
2 Ethene	0.730	0.726	0.004	10305	16.8500	17.592
3 Ethane	0.813	0.810	0.003	12689	18.0430	17.636

Data File: \\nahstws005\Target\chem\FID-4.i\211101.b\001.D
Date : 01-NOV-2021 09:15
Client ID: RSK-CCV
Sample Info: RSK-CCV;RSK-CCV;2;4

Column phase: Rtx-PLOT

Instrument: FID-4.i

Operator: PL
Column diameter: 0.53



ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\211101.b\Before\001.D
Lab Smp Id: RSK-CCV Client Smp ID: RSK-CCV
Inj Date : 01-NOV-2021 09:15
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\211101.b\RSKNI3.m
Meth Date : 17-Nov-2021 09:47 linh.pham Quant Type: ESTD
Cal Date : 24-JAN-2017 10:15 Cal File: 004.D
Als bottle: 1 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: RSK175.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

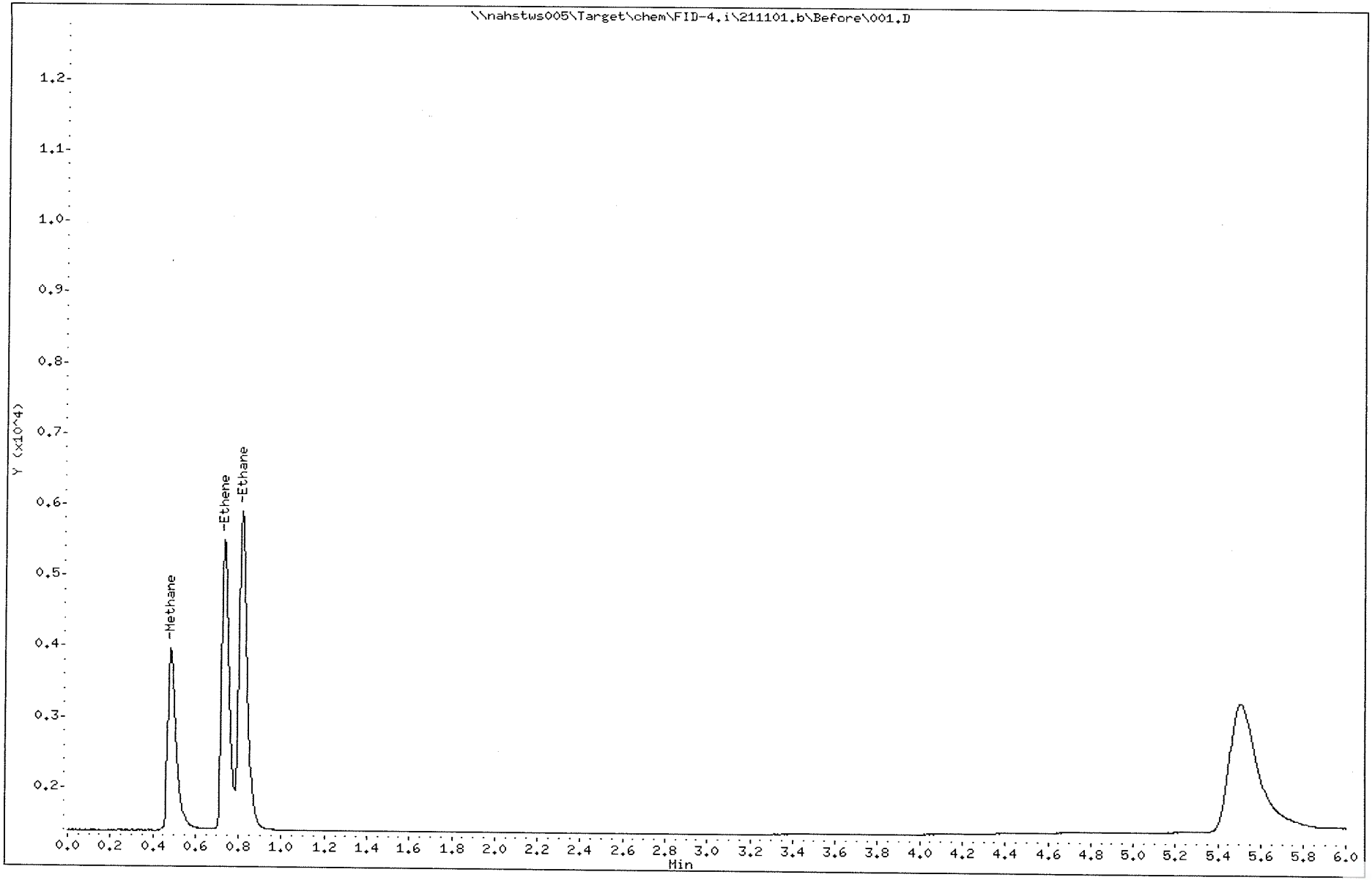
Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)
1 Methane	0.480	0.483	-0.003	7323	9.64700	7.510
2 Ethene	0.730	0.736	-0.006	10122	16.8500	17.280
3 Ethane	0.813	0.820	-0.007	12345	18.0430	17.157

Data File: \\nahstws005\Target\chem\FID-4.i\211101.b\Before\001.D
Date : 01-NOV-2021 09:15
Client ID: RSK-CCV
Sample Info: RSK-CCV;RSK-CCV;2;4

Column phase: Rtx-PLOT

Instrument: FID-4.i

Operator: PL
Column diameter: 0.53



Data File: \\nahstws005\Target\chem\FID-4.i\211101.b\002.D Page 1
Report Date: 17-Nov-2021 09:45

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\211101.b\002.D
Lab Smp Id: MBLK-211101 Client Smp ID: MBLK-211101
Inj Date : 01-NOV-2021 09:25
Operator : PL Inst ID: FID-4.i
Smp Info : MBLK-211101;MBLK-211101;3;;BLANK
Misc Info : ;1;0;1
Comment :
Method : \\NAHSTWS005\Target\chem\FID-4.i\211101.b\RSKNI3.m
Meth Date : 17-Nov-2021 09:40 linh.pham 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: ALSHSW7104

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

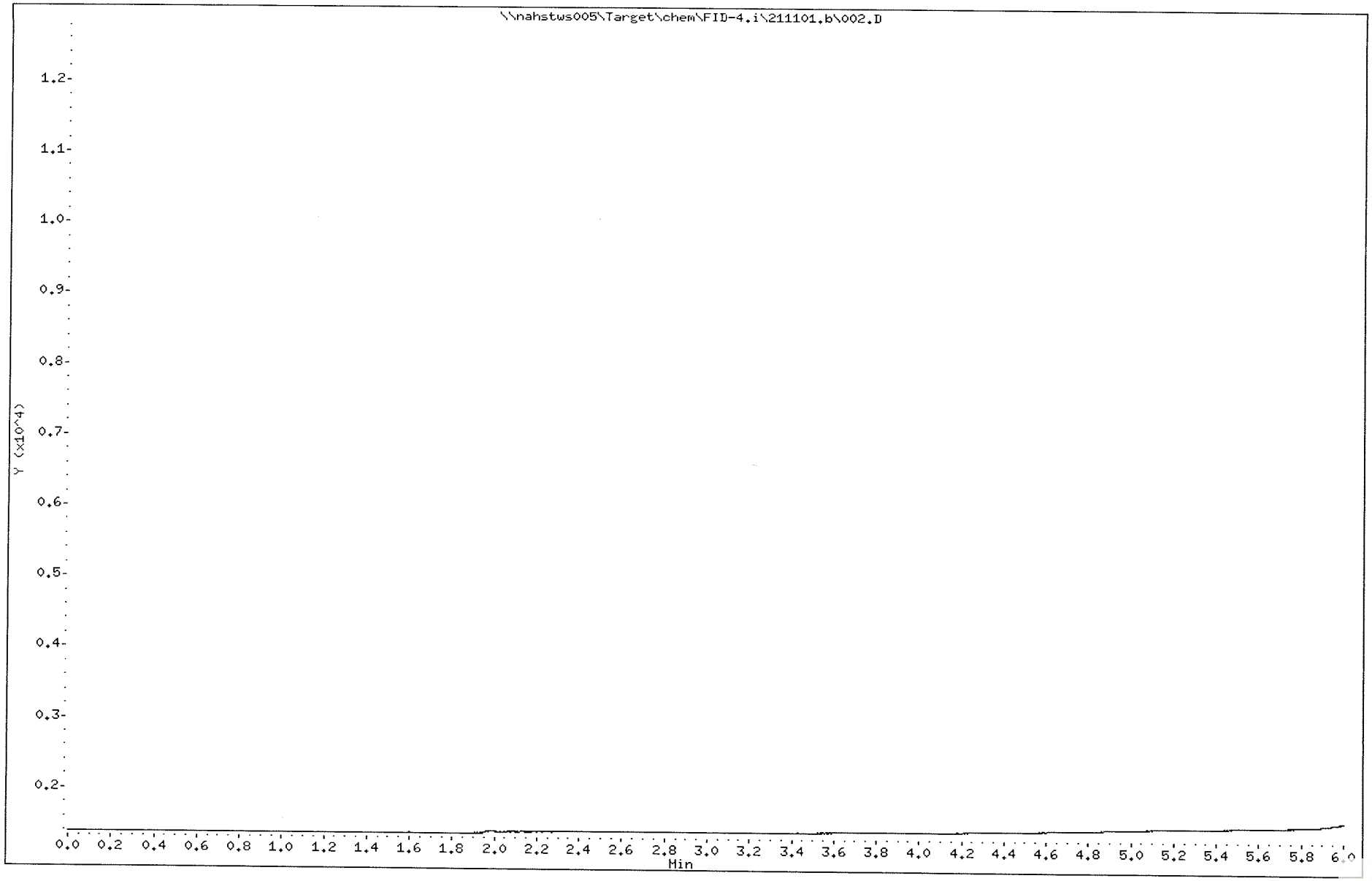
Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)

Data File: \\nahstws005\Target\chem\FID-4.i\211101.b\002.D
Date : 01-NOV-2021 09:25
Client ID: MBLK-211101
Sample Info: MBLK-211101;MBLK-211101;3;;BLANK

Column phase: Rtx-PLOT

Instrument: FID-4.i

Operator: PL
Column diameter: 0.53



ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\211101.b\Before\002.D
Lab Smp Id: MBLK-211101 Client Smp ID: MBLK-211101
Inj Date : 01-NOV-2021 09:25
Operator : PL Inst ID: FID-4.i
Smp Info : MBLK-211101;MBLK-211101;3;;BLANK
Misc Info : ;1;0;1
Comment :
Method : \\NAHSTWS005\Target\chem\FID-4.i\211101.b\RSKNI3.m
Meth Date : 17-Nov-2021 09:47 linh.pham Quant Type: ESTD
Cal Date : 24-JAN-2017 10:15 Cal File: 004.D
Als bottle: 2 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: RSK175.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

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

Data File: \\nahstws005\Target\chem\FID-4.i\211101.b\Before\002.D

Date : 01-NOV-2021 09:25

Client ID: MBLK-211101

Sample Info: MBLK-211101;MBLK-211101;3;;BLANK

Column phase: Rtx-PLOT

Instrument: FID-4.i

Operator: PL

Column diameter: 0.53



Data File: \\nahstws005\Target\chem\FID-4.i\211101.b\003.D Page 1
Report Date: 17-Nov-2021 09:45

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\211101.b\003.D
Lab Smp Id: LCS-211101 Client Smp ID: LCS-211101
Inj Date : 01-NOV-2021 09:50
Operator : PL Inst ID: FID-4.i
Smp Info : LCS-211101;LCS-211101;3;;LCS
Misc Info : ;1;0;1
Comment :
Method : \\NAHSTWS005\Target\chem\FID-4.i\211101.b\RSKNI3.m
Meth Date : 17-Nov-2021 09:40 linh.pham 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: ALSHSW7104

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	0.486	0.473	0.013	9606	9.85239	9.852(M)
2 Ethene	0.733	0.726	0.007	11255	19.2143	19.214(M)
3 Ethane	0.816	0.810	0.006	12898	17.9266	17.926(M)

QC Flag Legend

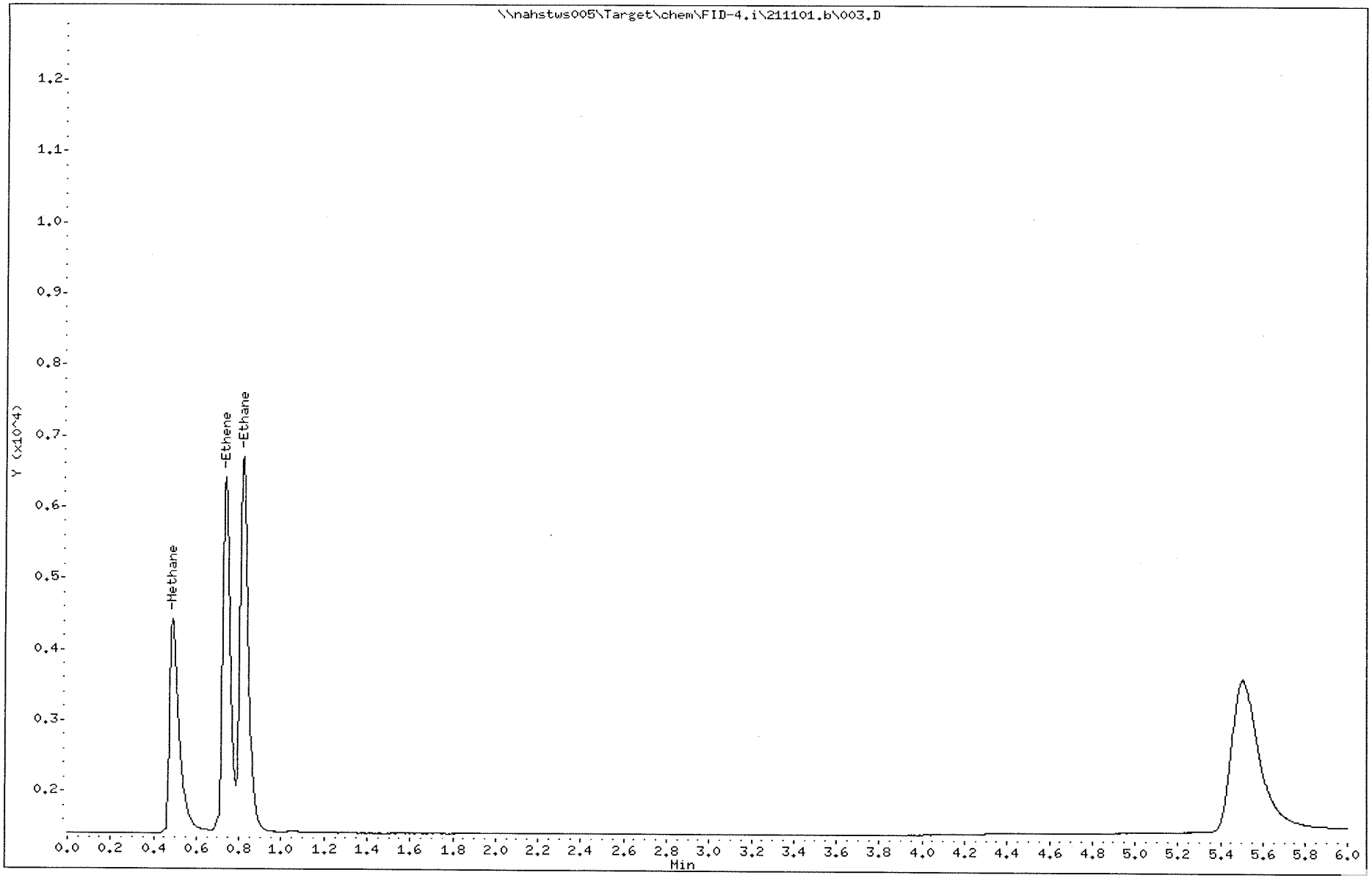
M - Compound response manually integrated.

Data File: \\nahstws005\Target\chem\FID-4.i\211101.b\003.D
Date : 01-NOV-2021 09:50
Client ID: LCS-211101
Sample Info: LCS-211101;LCS-211101;3;;LCS

Column phase: Rtx-PLOT

Instrument: FID-4.i

Operator: PL
Column diameter: 0.53



ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\211101.b\Before\003.D
Lab Smp Id: LCS-211101 Client Smp ID: LCS-211101
Inj Date : 01-NOV-2021 09:50
Operator : PL Inst ID: FID-4.i
Smp Info : LCS-211101;LCS-211101;3;;LCS
Misc Info : ;1;0;1
Comment :
Method : \\NAHSTWS005\Target\chem\FID-4.i\211101.b\RSKNI3.m
Meth Date : 17-Nov-2021 09:47 linh.pham Quant Type: ESTD
Cal Date : 24-JAN-2017 10:15 Cal File: 004.D
Als bottle: 3 QC Sample: LCS
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: RSK175.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)
1 Methane	0.486	0.483	0.003	9750	10.0001	10.000
2 Ethene	0.733	0.736	-0.003	12775	21.8093	21.809(R)
3 Ethane	0.816	0.820	-0.004	14897	20.7050	20.704

QC Flag Legend

R - Spike/Surrogate failed recovery limits.

Data File: \\nahstws005\Target\chem\FID-4.i\211101.b\Before\003.D

Date : 01-NOV-2021 09:50

Client ID: LCS-211101

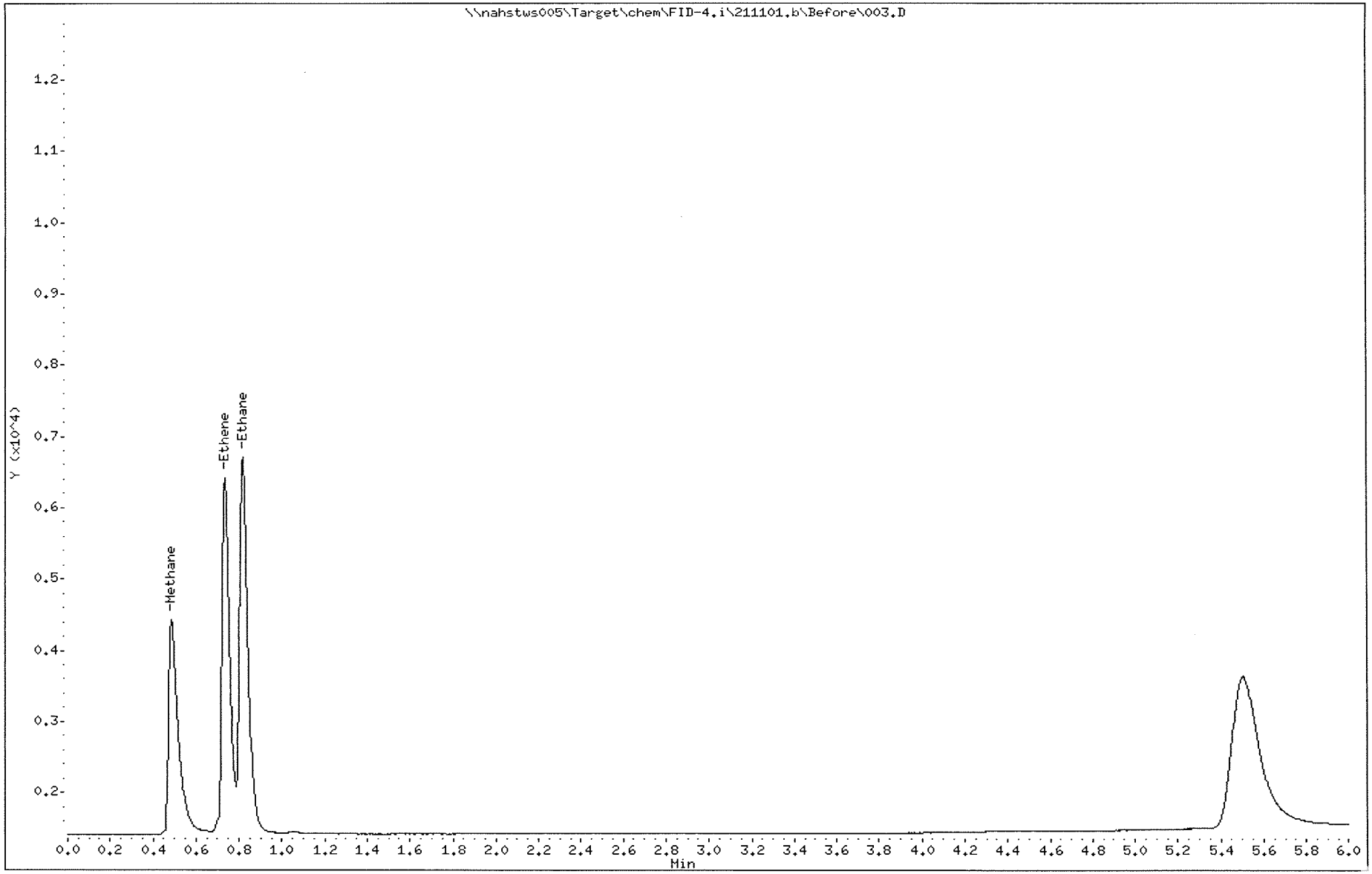
Instrument: FID-4.i

Sample Info: LCS-211101;LCS-211101;3;;LCS

Operator: PL

Column phase: Rtx-PLOT

Column diameter: 0.53



Data File: \\nahstws005\Target\chem\FID-4.i\211101.b\006.D Page 1
Report Date: 17-Nov-2021 09:45

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\211101.b\006.D
Lab Smp Id: HS21101171-02MS Client Smp ID: HS21101171-02MS
Inj Date : 01-NOV-2021 10:45
Operator : PL Inst ID: FID-4.i
Smp Info : HS21101171-02MS;HS21101171-02MS
Misc Info : ;1;0;1
Comment :
Method : \\NAHSTWS005\Target\chem\FID-4.i\211101.b\RSKNI3.m
Meth Date : 17-Nov-2021 09:40 linh.pham Quant Type: ESTD
Cal Date : 24-JAN-2017 10:15 Cal File: 004.D
Als bottle: 6 QC Sample: MS
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: RSK175.sub
Target Version: 4.14
Processing Host: ALSHSW7104

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	0.490	0.473	0.017	1839705	1886.89	1886.891(AR)
2 Ethene	0.730	0.726	0.004	14333	24.4690	24.469(R)
3 Ethane	0.816	0.810	0.006	10226	14.2129	14.212(M)

QC Flag Legend

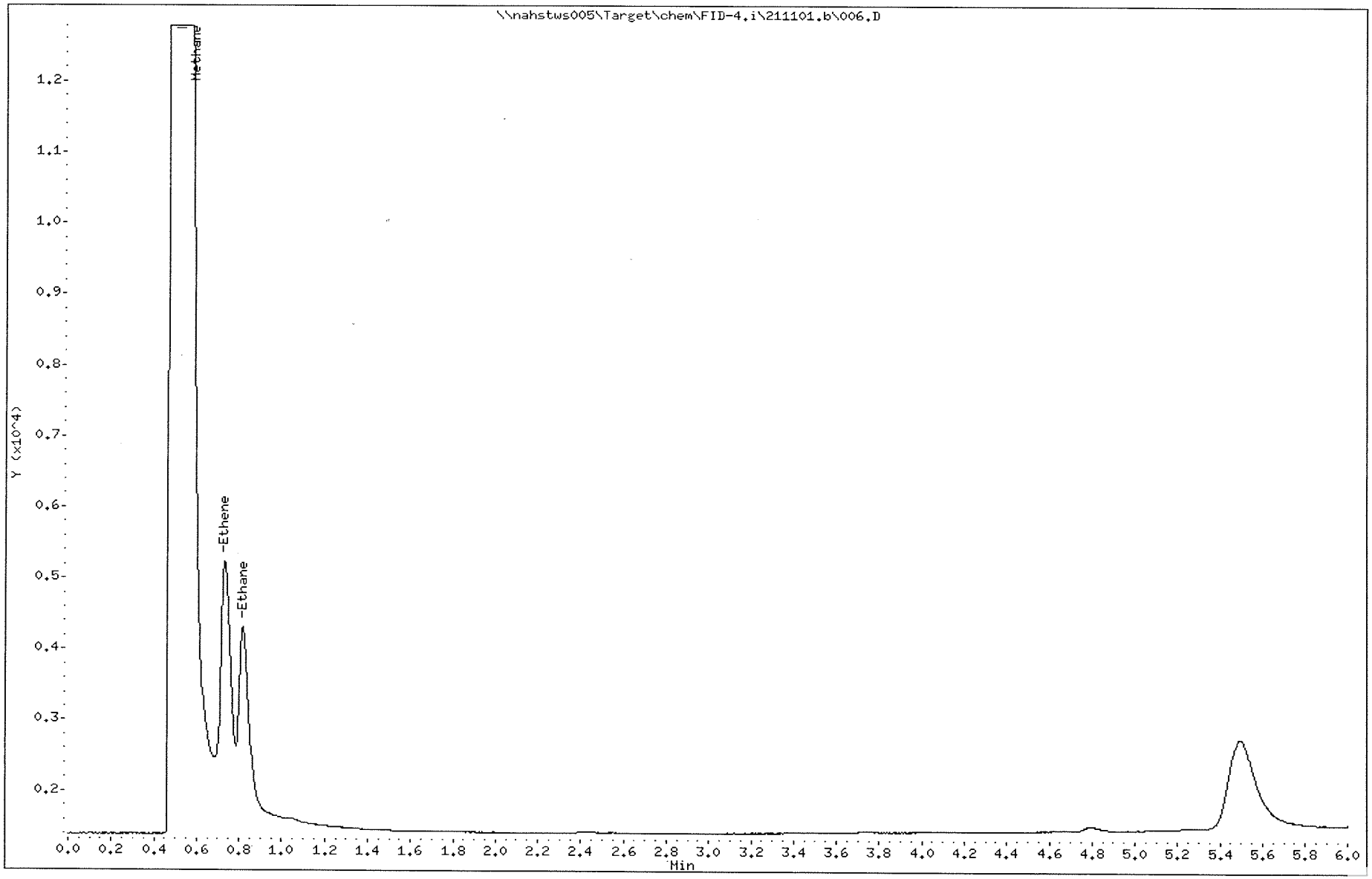
A - Target compound detected but, quantitated amount exceeded maximum amount.
R - Spike/Surrogate failed recovery limits.
M - Compound response manually integrated.

Data File: \\nahstws005\Target\chem\FID-4.i\211101.b\006.D
Date : 01-NOV-2021 10:45
Client ID: HS21101171-02MS
Sample Info: HS21101171-02MS;HS21101171-02MS

Column phase: Rtx-PLOT

Instrument: FID-4.i

Operator: PL
Column diameter: 0.53



ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\211101.b\Before\006.D
Lab Smp Id: HS21101171-02MS Client Smp ID: HS21101171-02MS
Inj Date : 01-NOV-2021 10:45
Operator : PL Inst ID: FID-4.i
Smp Info : HS21101171-02MS;HS21101171-02MS
Misc Info : ;1;0;1
Comment :
Method : \\NAHSTWS005\Target\chem\FID-4.i\211101.b\RSKNI3.m
Meth Date : 17-Nov-2021 09:47 linh.pham Quant Type: ESTD
Cal Date : 24-JAN-2017 10:15 Cal File: 004.D
Als bottle: 6 QC Sample: MS
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: RSK175.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)
1 Methane	0.490	0.483	0.007	1839705	1886.89	1886.891(AR)
2 Ethene	0.730	0.736	-0.006	14333	24.4690	24.469(R)
3 Ethane	0.816	0.820	-0.004	14163	19.6848	19.684

QC Flag Legend

A - Target compound detected but, quantitated amount exceeded maximum amount.
R - Spike/Surrogate failed recovery limits.

Data File: \\nahstws005\Target\chem\FID-4.i\211101.b\Before\006.D

Date : 01-NOV-2021 10:45

Client ID: HS21101171-02MS

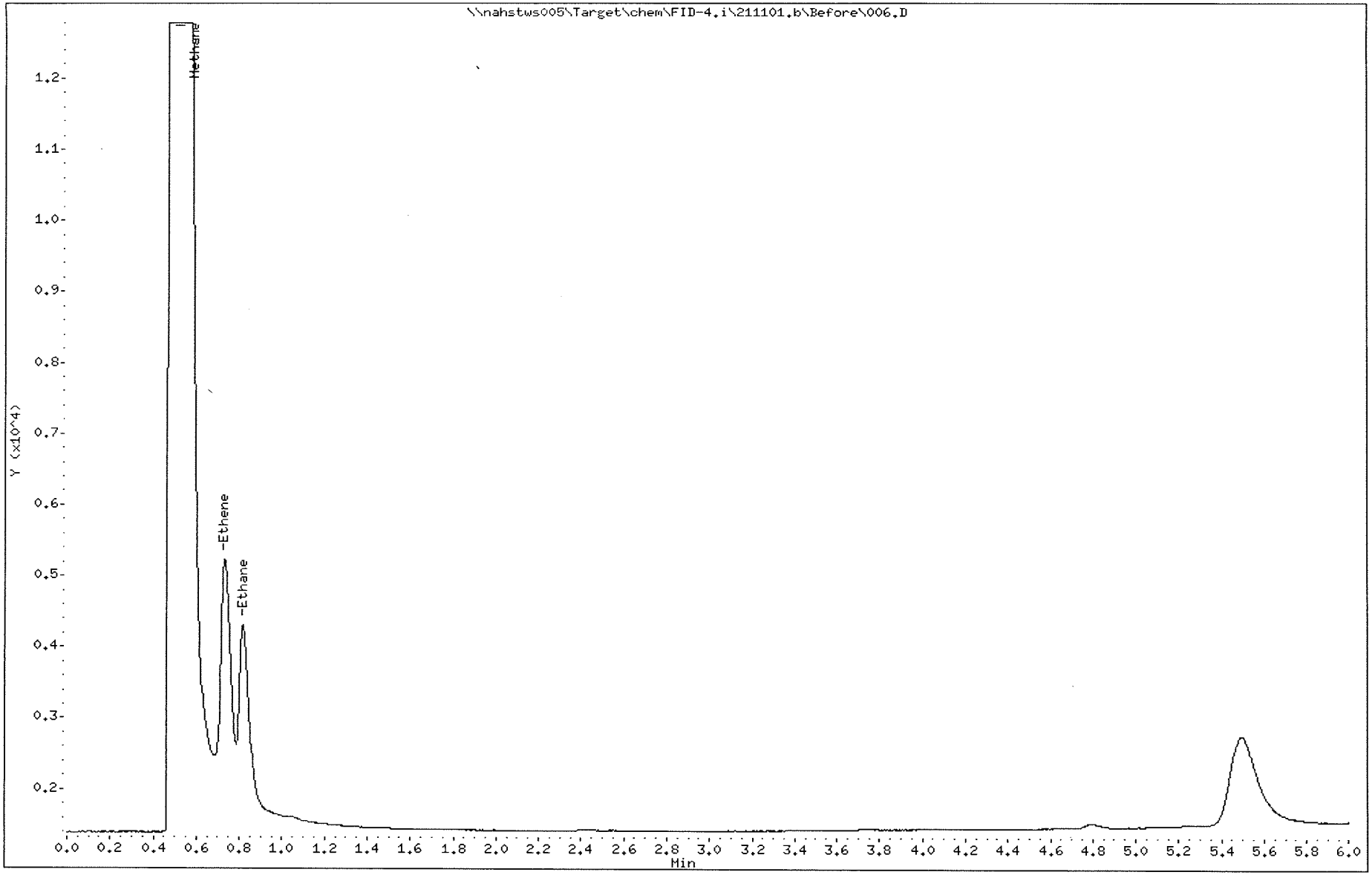
Instrument: FID-4.i

Sample Info: HS21101171-02MS;HS21101171-02MS

Operator: PL

Column phase: Rtx-PLOT

Column diameter: 0.53



ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\211101.b\007.D
Lab Smp Id: HS21101171-02MSD Client Smp ID: HS21101171-02MSD
Inj Date : 01-NOV-2021 10:56
Operator : PL Inst ID: FID-4.i
Smp Info : HS21101171-02MSD;HS21101171-02MSD
Misc Info : ;1;0;1
Comment :
Method : \\NAHSTWS005\Target\chem\FID-4.i\211101.b\RSKNI3.m
Meth Date : 17-Nov-2021 09:40 linh.pham Quant Type: ESTD
Cal Date : 24-JAN-2017 10:15 Cal File: 004.D
Als bottle: 7 QC Sample: MSD
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: RSK175.sub
Target Version: 4.14
Processing Host: ALSHSW7104

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	0.490	0.473	0.017	1916512	1965.67	1965.668(AR)
2 Ethene	0.730	0.726	0.004	13465	22.9872	22.987(RM)
3 Ethane	0.816	0.810	0.006	11529	16.0239	16.023(M)

QC Flag Legend

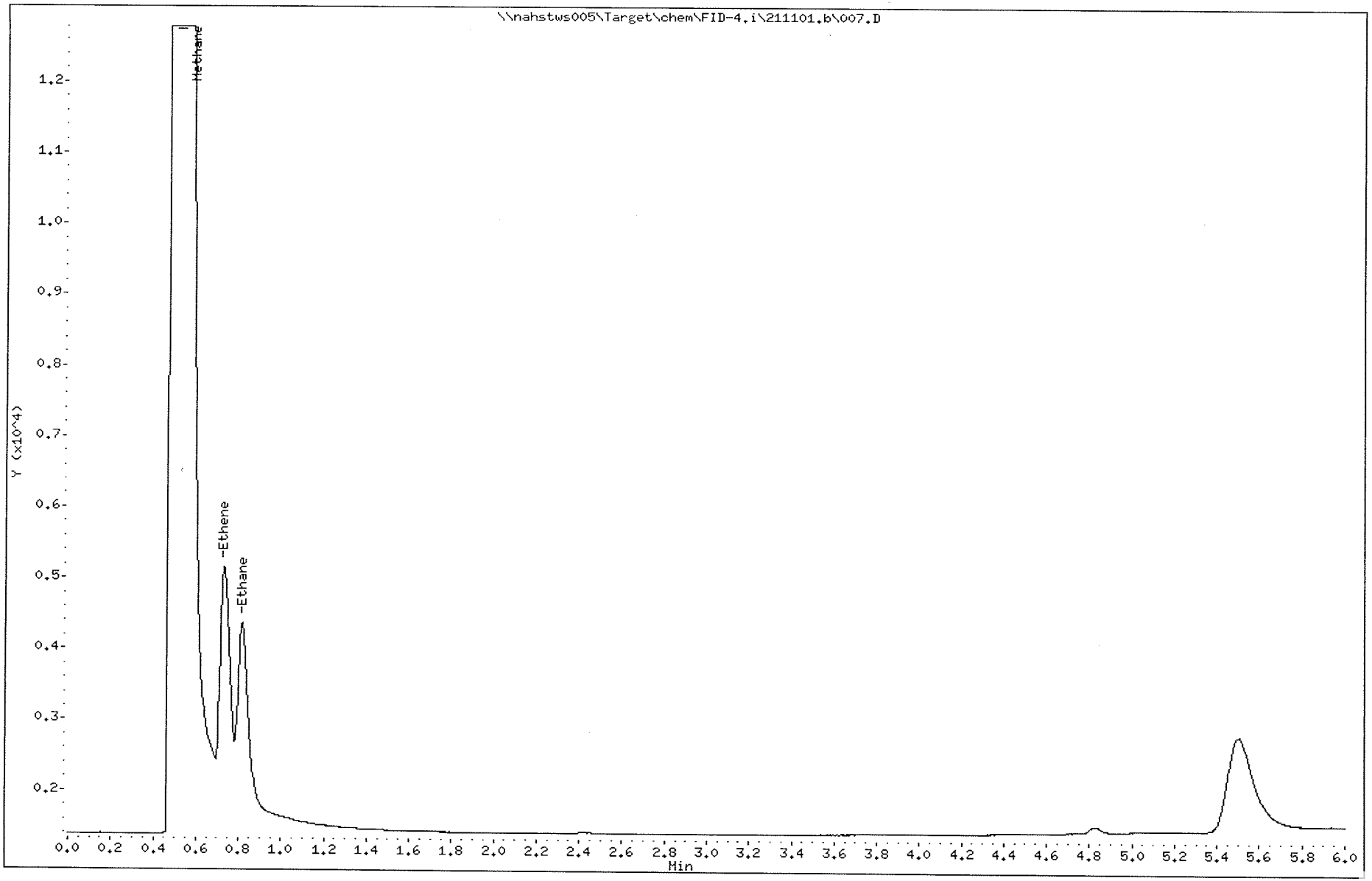
A - Target compound detected but, quantitated amount exceeded maximum amount.
R - Spike/Surrogate failed recovery limits.
M - Compound response manually integrated.

Data File: \\nahstws005\Target\chem\FID-4.i\211101.b\007.D
Date : 01-NOV-2021 10:56
Client ID: HS21101171-02MSD
Sample Info: HS21101171-02MSD;HS21101171-02MSD

Column phase: Rtx-PLOT

Instrument: FID-4.i

Operator: PL
Column diameter: 0.53



ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\211101.b\Before\007.D
Lab Smp Id: HS21101171-02MSD Client Smp ID: HS21101171-02MSD
Inj Date : 01-NOV-2021 10:56
Operator : PL Inst ID: FID-4.i
Smp Info : HS21101171-02MSD;HS21101171-02MSD
Misc Info : ;1;0;1
Comment :
Method : \\NAHSTWS005\Target\chem\FID-4.i\211101.b\RSKNI3.m
Meth Date : 17-Nov-2021 09:47 linh.pham Quant Type: ESTD
Cal Date : 24-JAN-2017 10:15 Cal File: 004.D
Als bottle: 7 QC Sample: MSD
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: RSK175.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)
1 Methane	0.490	0.483	0.007	1914712	1963.82	1963.822(AR)
2 Ethene	0.730	0.736	-0.006	21830	37.2678	37.267(R)

QC Flag Legend

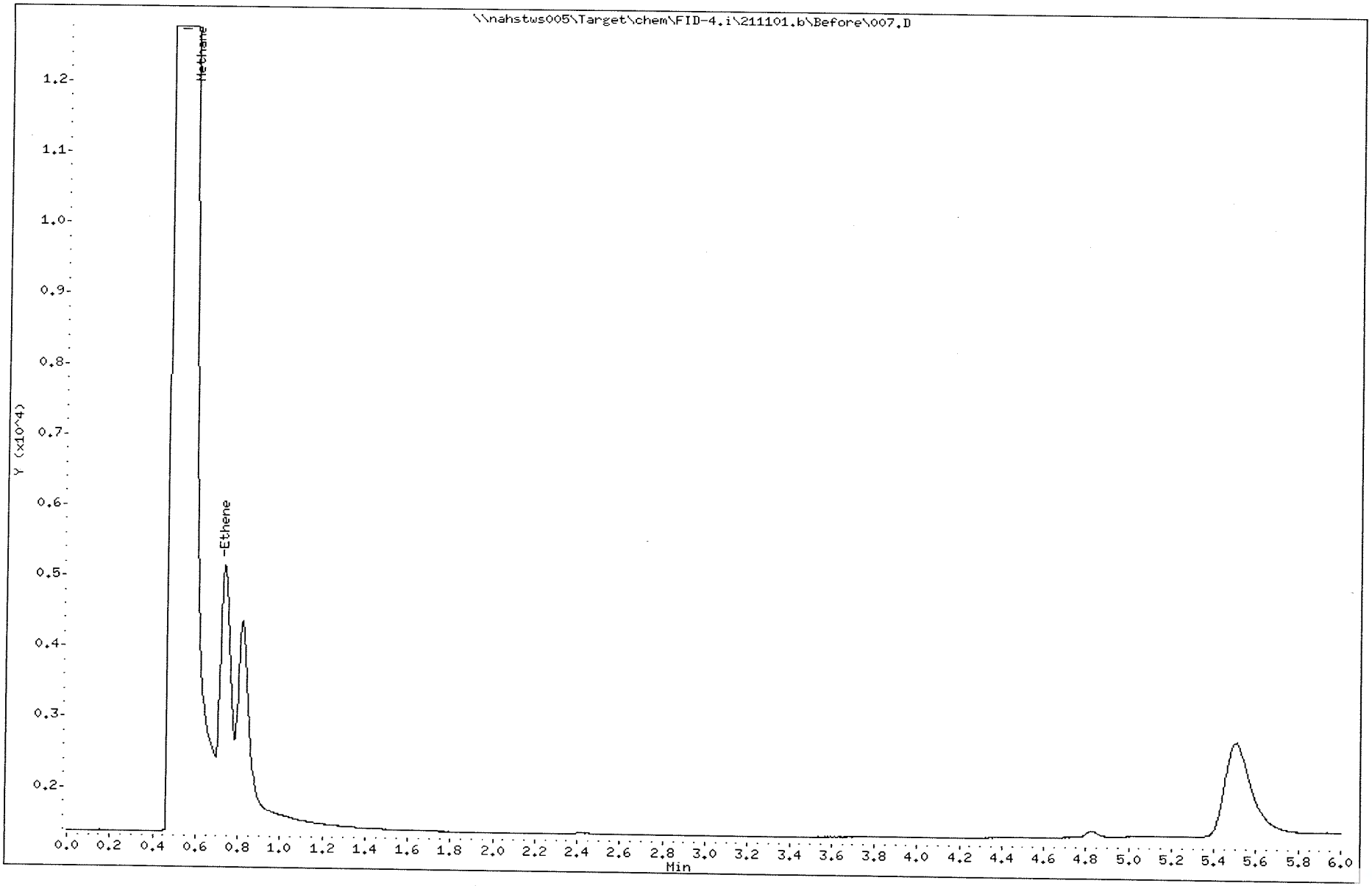
A - Target compound detected but, quantitated amount exceeded maximum amount.
R - Spike/Surrogate failed recovery limits.

Data File: \\nahstws005\Target\chem\FID-4.i\211101.b\Before\007.D
Date : 01-NOV-2021 10:56
Client ID: HS21101171-02MSD
Sample Info: HS21101171-02MSD;HS21101171-02MSD

Column phase: Rtx-PLOT

Instrument: FID-4.i

Operator: PL
Column diameter: 0.53



Data File: \\nahstws005\Target\chem\FID-4.i\211101.b\011.D
Report Date: 17-Nov-2021 09:45

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\211101.b\011.D
Lab Smp Id: RSK-CCV Client Smp ID: RSK-CCV
Inj Date : 01-NOV-2021 11:53
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\211101.b\RSKNI3.m
Meth Date : 17-Nov-2021 09:40 linh.pham 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: ALSHSW7104

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	0.480	0.473	0.007	7944	9.64700	8.147 (M)
2 Ethene	0.730	0.726	0.004	11647	16.8500	19.883 (M)
3 Ethane	0.810	0.810	0.000	14238	18.0430	19.789 (M)

QC Flag Legend

M - Compound response manually integrated.

Data File: \\nahstws005\Target\chem\FID-4.i\211101.b\011.D

Date : 01-NOV-2021 11:53

Client ID: RSK-CCV

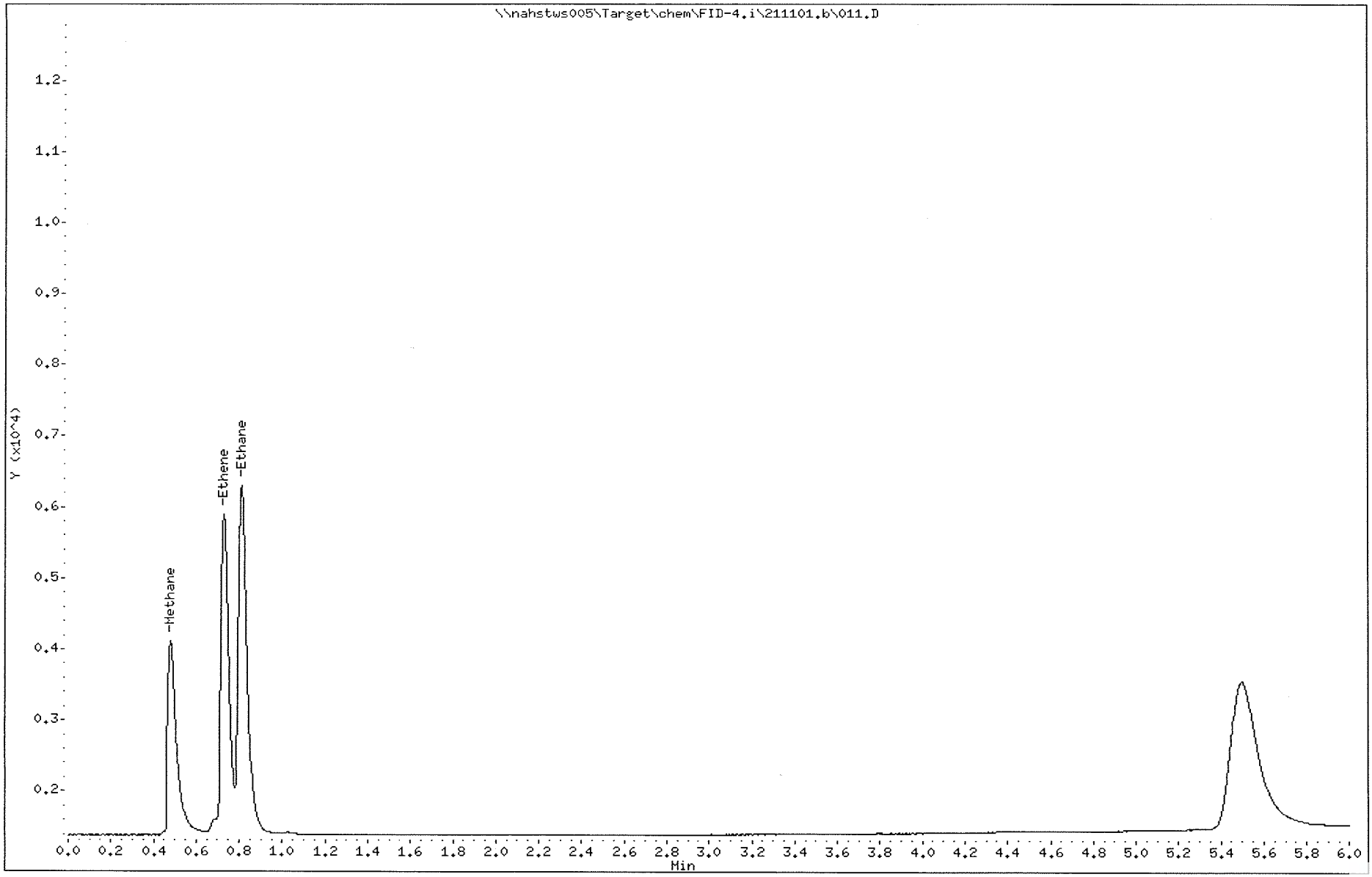
Instrument: FID-4.i

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

Operator: PL

Column phase: Rtx-PLOT

Column diameter: 0.53



ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\211101.b\Before\011.D
Lab Smp Id: RSK-CCV Client Smp ID: RSK-CCV
Inj Date : 01-NOV-2021 11:53
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\211101.b\RSKNI3.m
Meth Date : 17-Nov-2021 09:47 linh.pham Quant Type: ESTD
Cal Date : 24-JAN-2017 10:15 Cal File: 004.D
Als bottle: 11 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: RSK175.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

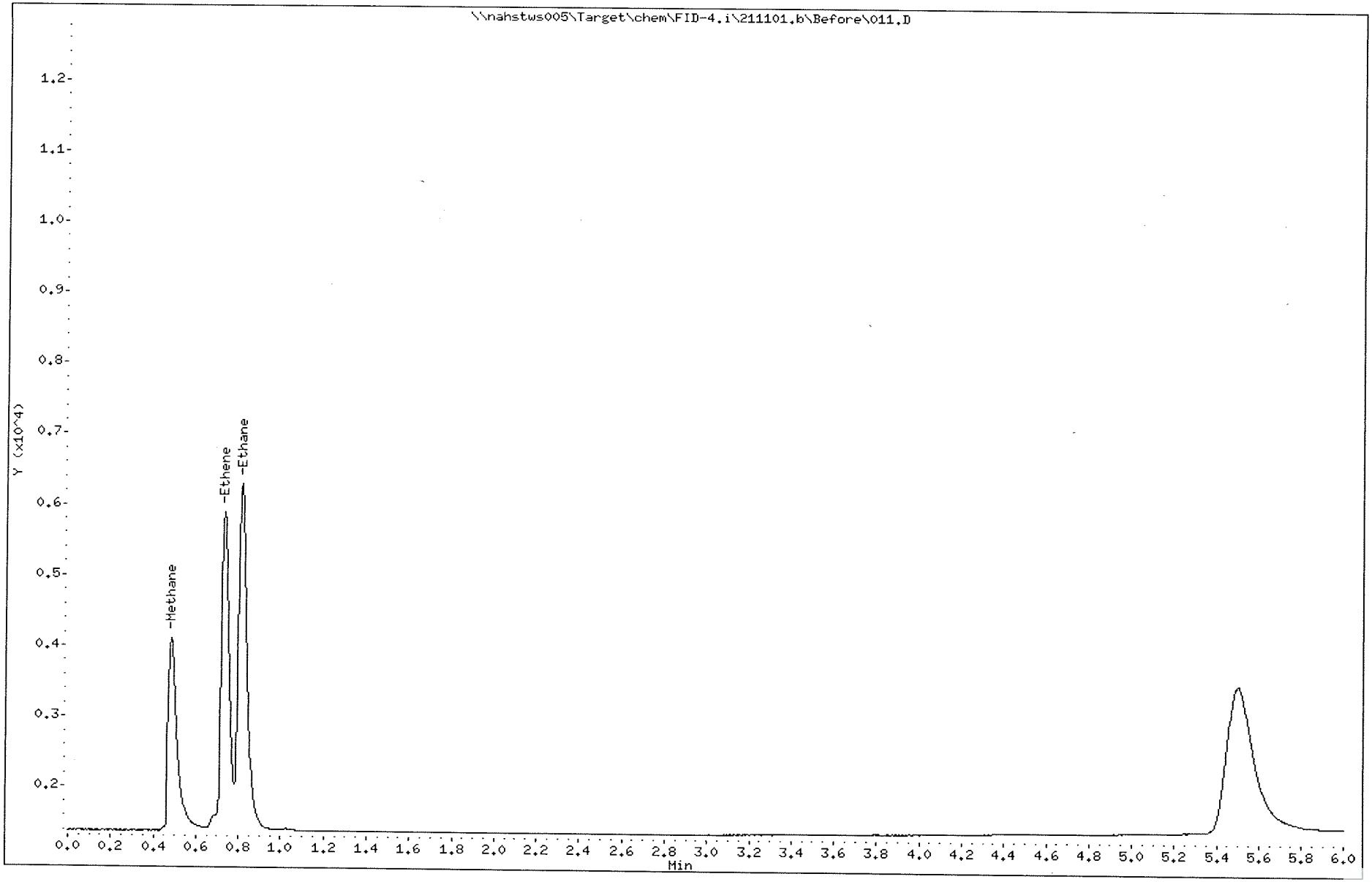
Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)
1 Methane	0.480	0.483	-0.003	8276	9.64700	8.488
2 Ethene	0.730	0.736	-0.006	12284	16.8500	20.971
3 Ethane	0.810	0.820	-0.010	14828	18.0430	20.609

Data File: \\nahstws005\Target\chem\FID-4.i\211101.b\Before\011.D
Date : 01-NOV-2021 11:53
Client ID: RSK-CCV
Sample Info: RSK-CCV;RSK-CCV;2;4

Column phase: Rtx-PLOT

Instrument: FID-4.i

Operator: PL
Column diameter: 0.53



Data File: \\nahstws005\Target\chem\FID-4.i\211101.b\015.D
Report Date: 17-Nov-2021 09:45

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\211101.b\015.D
Lab Smp Id: HS21101272-03 Client Smp ID: HS21101272-03
Inj Date : 01-NOV-2021 12:34
Operator : PL Inst ID: FID-4.i
Smp Info : HS21101272-03;HS21101272-03
Misc Info : ;1;0;1
Comment :
Method : \\NAHSTWS005\Target\chem\FID-4.i\211101.b\RSKNI3.m
Meth Date : 17-Nov-2021 09:40 linh.pham Quant Type: ESTD
Cal Date : 24-JAN-2017 10:15 Cal File: 004.D
Als bottle: 15
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: RSK175.sub
Target Version: 4.14
Processing Host: ALSHSW7104

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	0.486	0.473	0.013	1101265	1129.51	1129.511(A)
2 Ethene	0.726	0.726	0.000	3967	6.77239	6.772(M)

QC Flag Legend

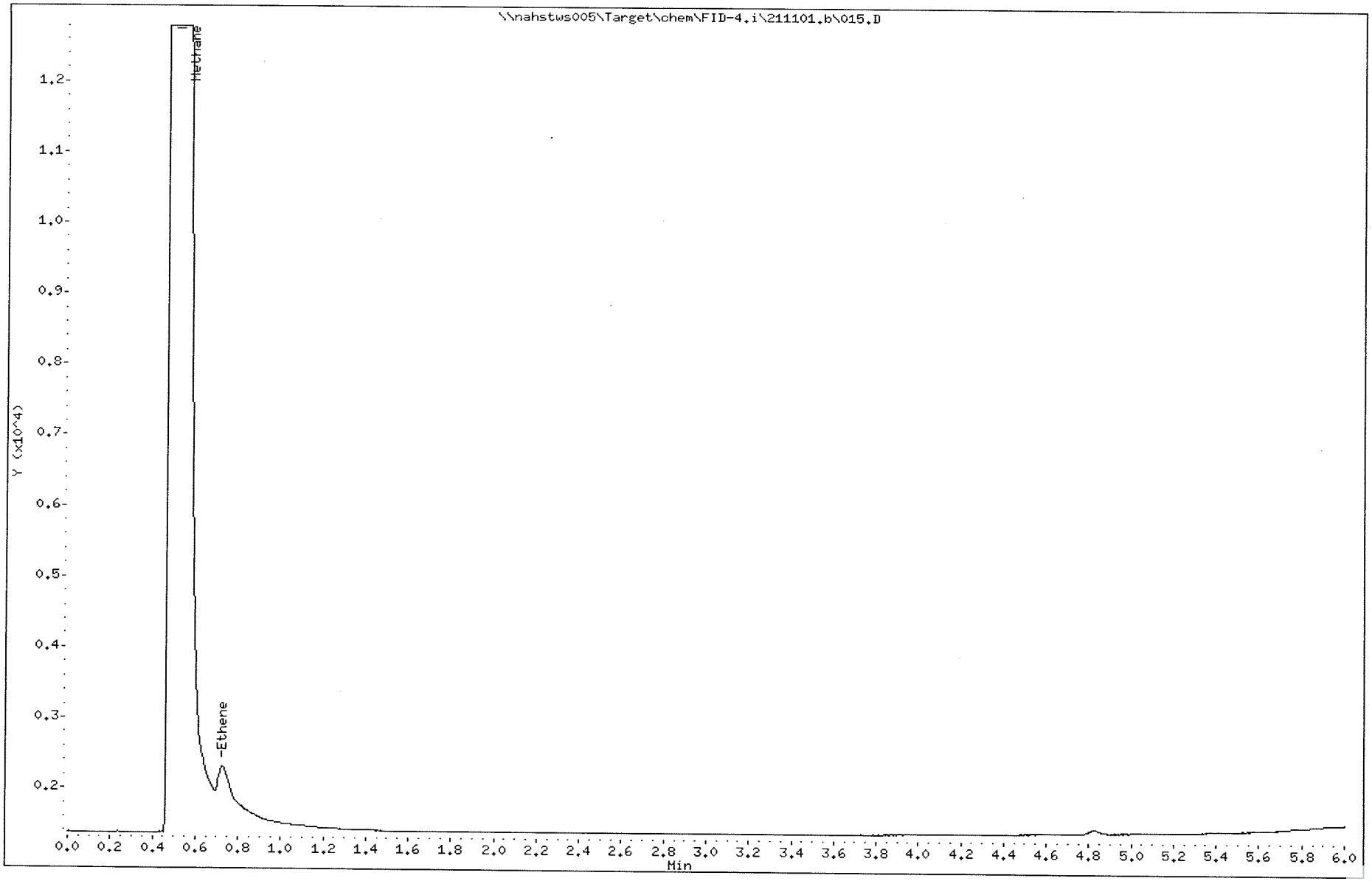
A - Target compound detected but, quantitated amount exceeded maximum amount.
M - Compound response manually integrated.

Data File: \\nahstws005\Target\chem\FID-4.i\211101.b\015.D
Date : 01-NOV-2021 12:34
Client ID: HS21101272-03
Sample Info: HS21101272-03;HS21101272-03

Column phase: Rtx-PLOT

Instrument: FID-4.i

Operator: PL
Column diameter: 0.53



ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\211101.b\Before\015.D
Lab Smp Id: HS21101272-03 Client Smp ID: HS21101272-03
Inj Date : 01-NOV-2021 12:34
Operator : PL Inst ID: FID-4.i
Smp Info : HS21101272-03;HS21101272-03
Misc Info : ;1;0;1
Comment :
Method : \\NAHSTWS005\Target\chem\FID-4.i\211101.b\RSKNI3.m
Meth Date : 17-Nov-2021 09:47 linh.pham Quant Type: ESTD
Cal Date : 24-JAN-2017 10:15 Cal File: 004.D
Als bottle: 15
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: RSK175.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)
1 Methane	0.486	0.483	0.003	1101265	1129.51	1129.511(A)
2 Ethene	0.726	0.736	-0.010	6998	11.9469	11.946

QC Flag Legend

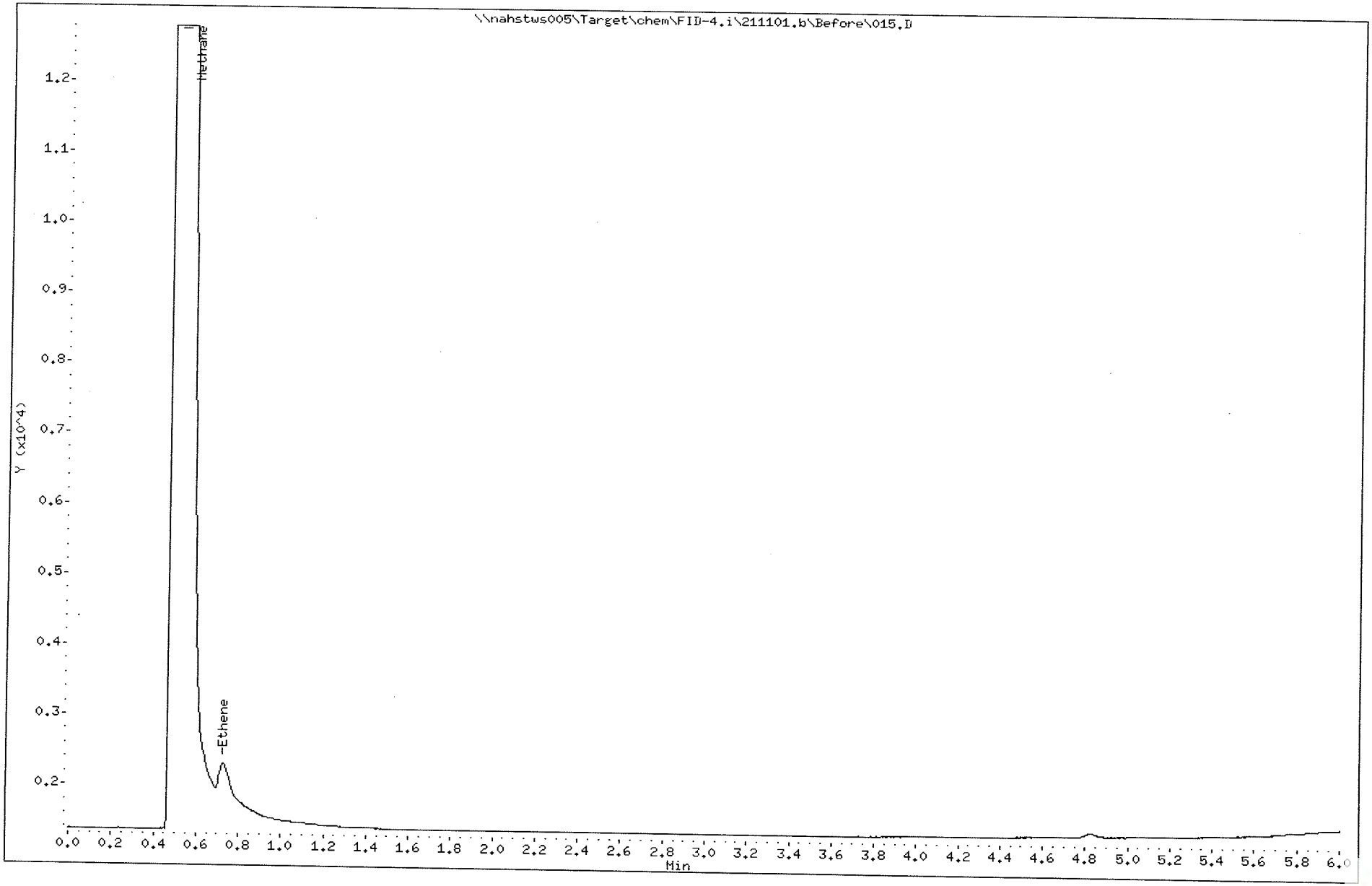
A - Target compound detected but, quantitated amount exceeded maximum amount.

Data File: \\nahstws005\Target\chem\FID-4.i\211101.b\Before\015.D
Date : 01-NOV-2021 12:34
Client ID: HS21101272-03
Sample Info: HS21101272-03;HS21101272-03

Column phase: Rtx-PLOT

Instrument: FID-4.i

Operator: PL
Column diameter: 0.53



Data File: \\nahstws005\Target\chem\FID-4.i\211101.b\016.D Page 1
Report Date: 17-Nov-2021 09:45

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\211101.b\016.D
Lab Smp Id: HS21101272-04 Client Smp ID: HS21101272-04
Inj Date : 01-NOV-2021 12:48
Operator : PL Inst ID: FID-4.i
Smp Info : HS21101272-04;HS21101272-04
Misc Info : ;1;0;1
Comment :
Method : \\NAHSTWS005\Target\chem\FID-4.i\211101.b\RSKNI3.m
Meth Date : 17-Nov-2021 09:40 linh.pham Quant Type: ESTD
Cal Date : 24-JAN-2017 10:15 Cal File: 004.D
Als bottle: 16
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: RSK175.sub
Target Version: 4.14
Processing Host: ALSHSW7104

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	0.490	0.473	0.017	611138	626.813	626.813(A)
2 Ethene	0.746	0.726	0.020	1686	2.87831	2.878(M)
3 Ethane	0.786	0.810	-0.024	1203	1.67202	1.672(M)

QC Flag Legend

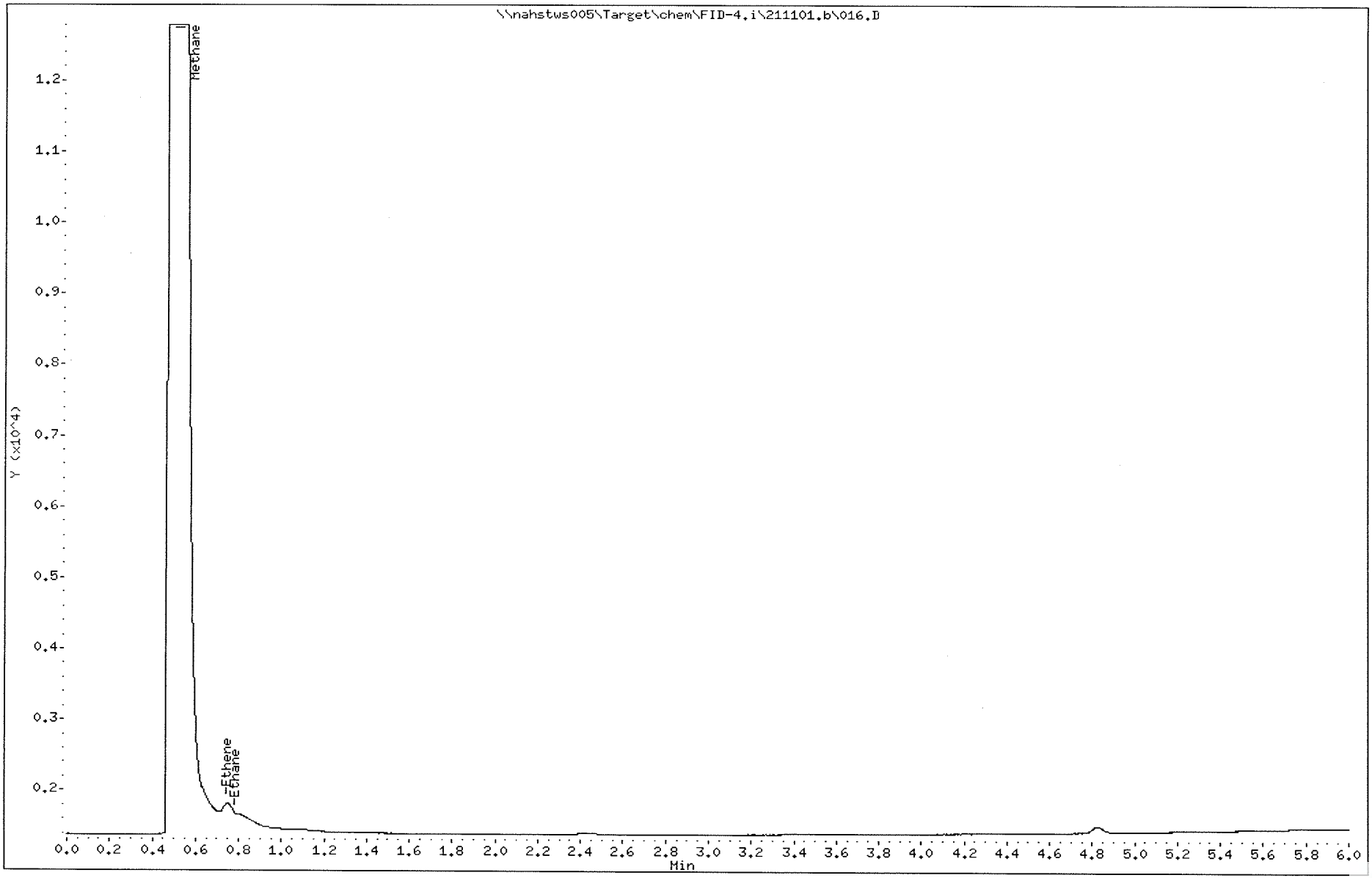
A - Target compound detected but, quantitated amount exceeded maximum amount.
M - Compound response manually integrated.

Data File: \\nahstws005\Target\chem\FID-4.i\211101.b\016.D
Date : 01-NOV-2021 12:48
Client ID: HS21101272-04
Sample Info: HS21101272-04;HS21101272-04

Column phase: Rtx-PLOT

Instrument: FID-4.i

Operator: PL
Column diameter: 0.53



Data File: \\nahstws005\Target\chem\FID-4.i\211101.b\Before\016.D Page 1
Report Date: 17-Nov-2021 09:49

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\211101.b\Before\016.D
Lab Smp Id: HS21101272-04 Client Smp ID: HS21101272-04
Inj Date : 01-NOV-2021 12:48
Operator : PL Inst ID: FID-4.i
Smp Info : HS21101272-04;HS21101272-04
Misc Info : ;1;0;1
Comment :
Method : \\NAHSTWS005\Target\chem\FID-4.i\211101.b\RSKNI3.m
Meth Date : 17-Nov-2021 09:47 linh.pham Quant Type: ESTD
Cal Date : 24-JAN-2017 10:15 Cal File: 004.D
Als bottle: 16
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: RSK175.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)
1 Methane	0.490	0.483	0.007	611138	626.813	626.813(A)
2 Ethene	0.746	0.736	0.010	3418	5.83515	5.835

QC Flag Legend

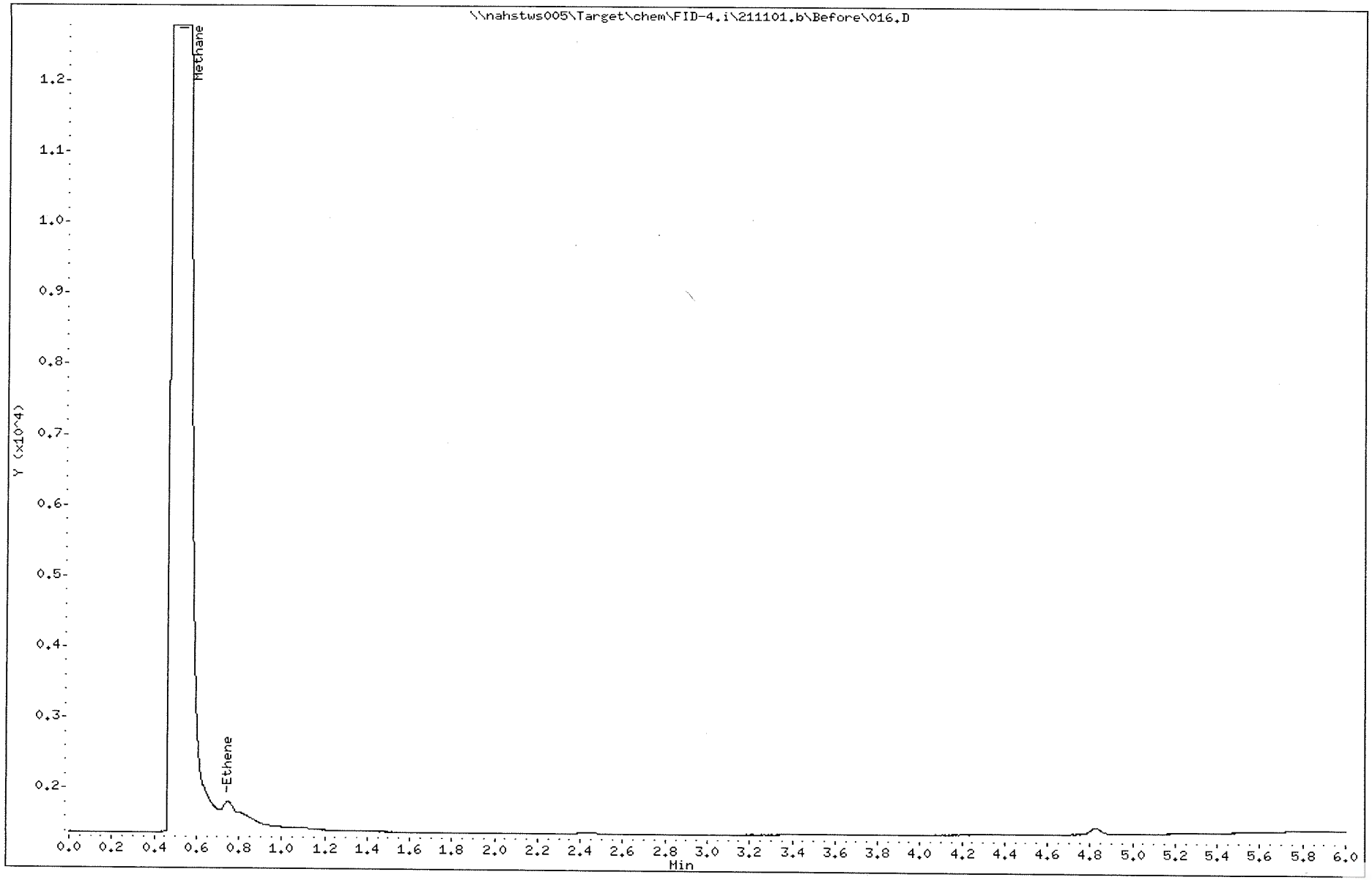
A - Target compound detected but, quantitated amount exceeded maximum amount.

Data File: \\nahstws005\Target\chem\FID-4.i\211101.b\Before\016.D
Date : 01-NOV-2021 12:48
Client ID: HS21101272-04
Sample Info: HS21101272-04;HS21101272-04

Column phase: Rtx-PLOT

Instrument: FID-4.i

Operator: PL
Column diameter: 0.53



Data File: \\nahstws005\Target\chem\FID-4.i\211101.b\017.D
Report Date: 17-Nov-2021 09:45

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\211101.b\017.D
Lab Smp Id: HS21101272-10 Client Smp ID: HS21101272-10
Inj Date : 01-NOV-2021 12:58
Operator : PL Inst ID: FID-4.i
Smp Info : HS21101272-10;HS21101272-10
Misc Info : ;1;0;1
Comment :
Method : \\NAHSTWS005\Target\chem\FID-4.i\211101.b\RSKNI3.m
Meth Date : 17-Nov-2021 09:40 linh.pham 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: ALSHSW7104

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	0.486	0.473	0.013	2167103	2222.69	2222.687(A)
2 Ethene	0.730	0.726	0.004	539547	921.105	921.105(A)

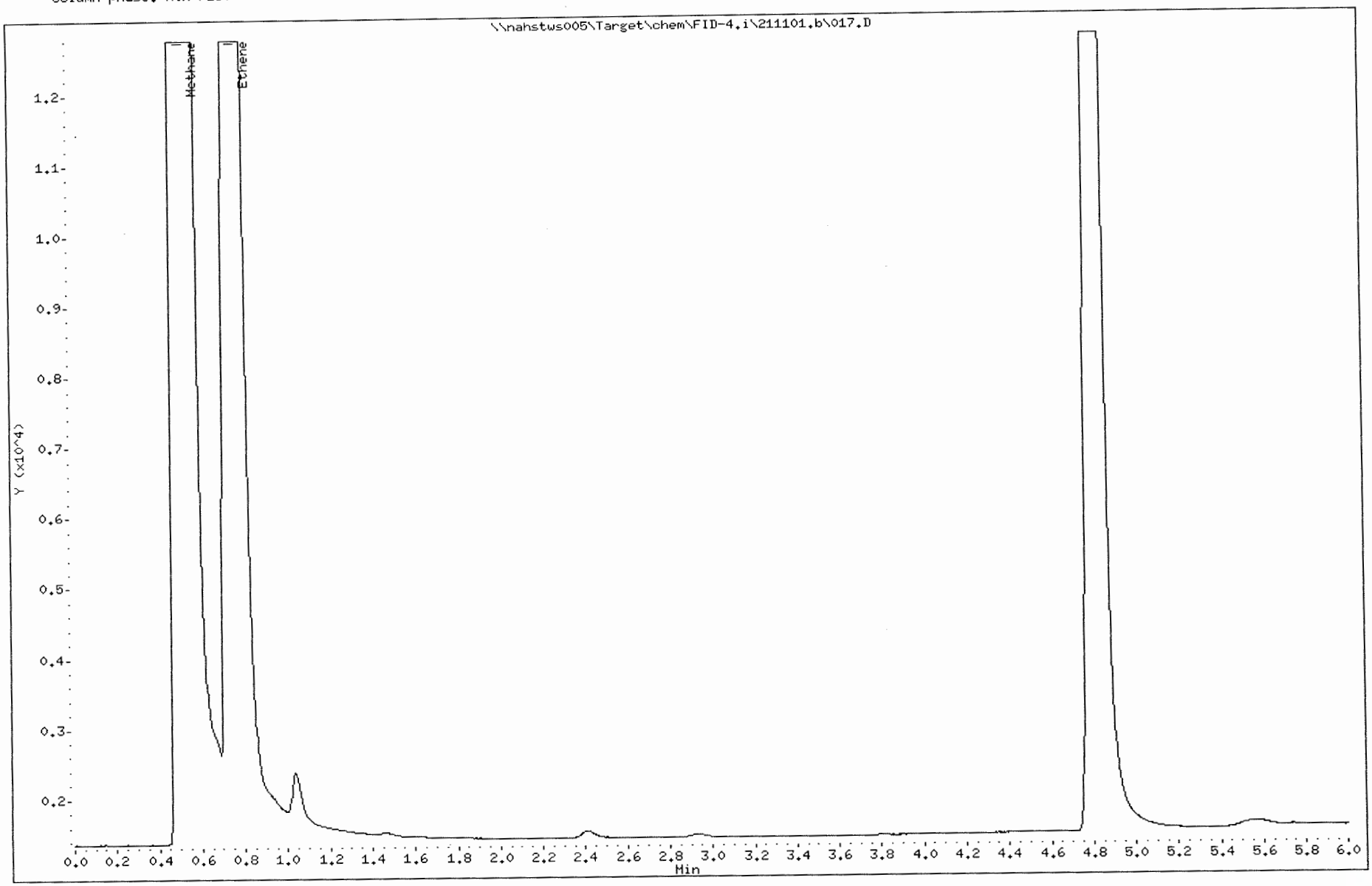
QC Flag Legend

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

Data File: \\nahstws005\Target\chem\FID-4.i\211101.b\017.D
Date : 01-NOV-2021 12:58
Client ID: HS21101272-10
Sample Info: HS21101272-10;HS21101272-10

Instrument: FID-4.i
Operator: PL
Column diameter: 0.53

Column phase: Rtx-PLOT



ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\211101.b\Before\017.D
Lab Smp Id: HS21101272-10 Client Smp ID: HS21101272-10
Inj Date : 01-NOV-2021 12:58
Operator : PL Inst ID: FID-4.i
Smp Info : HS21101272-10;HS21101272-10
Misc Info : ;1;0;1
Comment :
Method : \\NAHSTWS005\Target\chem\FID-4.i\211101.b\RSKNI3.m
Meth Date : 17-Nov-2021 09:47 linh.pham 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)	FINAL (ug/L)
1 Methane	0.486	0.483	0.003	2167103	2222.69	2222.687(A)
2 Ethene	0.730	0.736	-0.006	539547	921.105	921.105(A)

QC Flag Legend

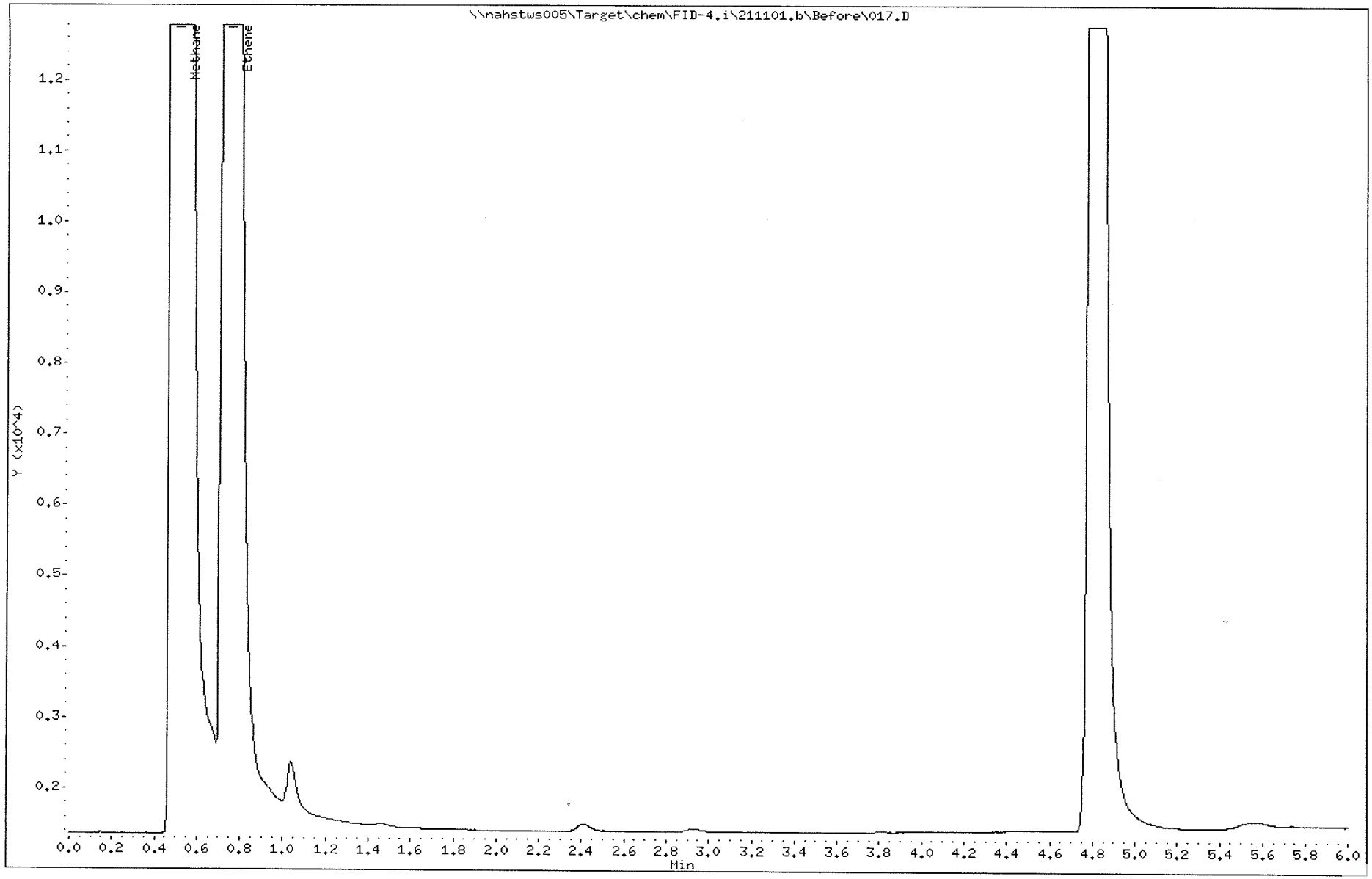
A - Target compound detected but, quantitated amount exceeded maximum amount.

Data File: \\nahstws005\Target\chem\FID-4.i\211101.b\Before\017.D
Date : 01-NOV-2021 12:58
Client ID: HS21101272-10
Sample Info: HS21101272-10;HS21101272-10

Column phase: Rtx-PLOT

Instrument: FID-4.i

Operator: PL
Column diameter: 0.53



Data File: \\nahstws005\Target\chem\FID-4.i\211101.b\018.D
Report Date: 17-Nov-2021 09:45

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\211101.b\018.D
Lab Smp Id: HS21101272-03 Client Smp ID: HS21101272-03
Inj Date : 01-NOV-2021 13:10
Operator : PL Inst ID: FID-4.i
Smp Info : HS21101272-03;HS21101272-03
Misc Info : ;1;0;100
Comment :
Method : \\NAHSTWS005\Target\chem\FID-4.i\211101.b\RSKNI3.m
Meth Date : 17-Nov-2021 09:40 linh.pham Quant Type: ESTD
Cal Date : 24-JAN-2017 10:15 Cal File: 004.D
Als bottle: 18
Dil Factor: 100.00000
Integrator: Falcon Compound Sublist: RSK175.sub
Target Version: 4.14
Processing Host: ALSHSW7104

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	0.503	0.473	0.030	13384	13.7273	1372.728 (M)

QC Flag Legend

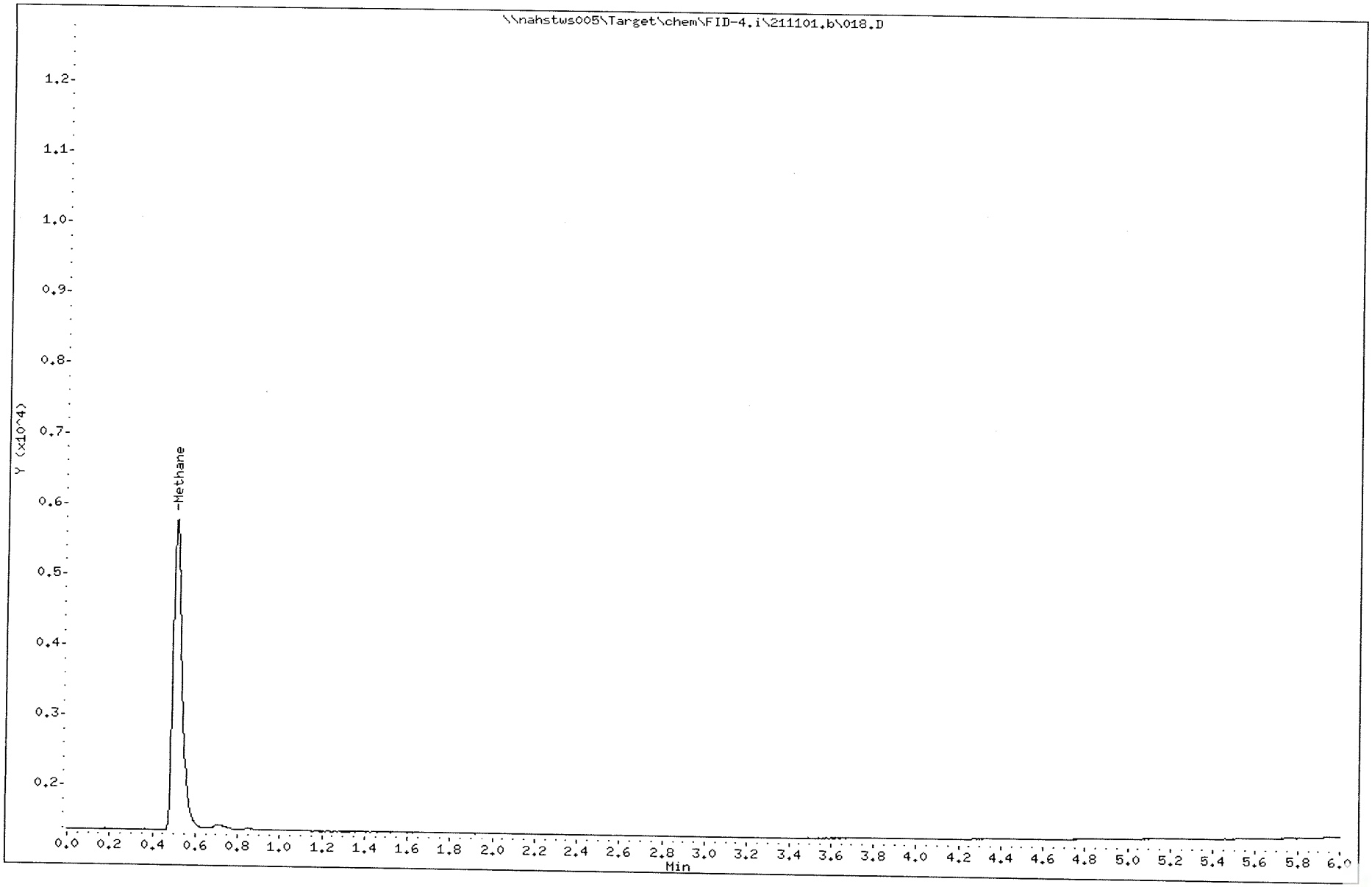
M - Compound response manually integrated.

Data File: \\nahstws005\Target\chem\FID-4.i\211101.b\018.D
Date : 01-NOV-2021 13:10
Client ID: HS21101272-03
Sample Info: HS21101272-03;HS21101272-03

Column phase: Rtx-PLOT

Instrument: FID-4.i

Operator: PL
Column diameter: 0.53



ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\211101.b\Before\018.D
Lab Smp Id: HS21101272-03 Client Smp ID: HS21101272-03
Inj Date : 01-NOV-2021 13:10
Operator : PL Inst ID: FID-4.i
Smp Info : HS21101272-03;HS21101272-03
Misc Info : ;1;0;100
Comment :
Method : \\NAHSTWS005\Target\chem\FID-4.i\211101.b\RSKNI3.m
Meth Date : 17-Nov-2021 09:47 linh.pham Quant Type: ESTD
Cal Date : 24-JAN-2017 10:15 Cal File: 004.D
Als bottle: 18
Dil Factor: 100.00000
Integrator: Falcon Compound Sublist: RSK175.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

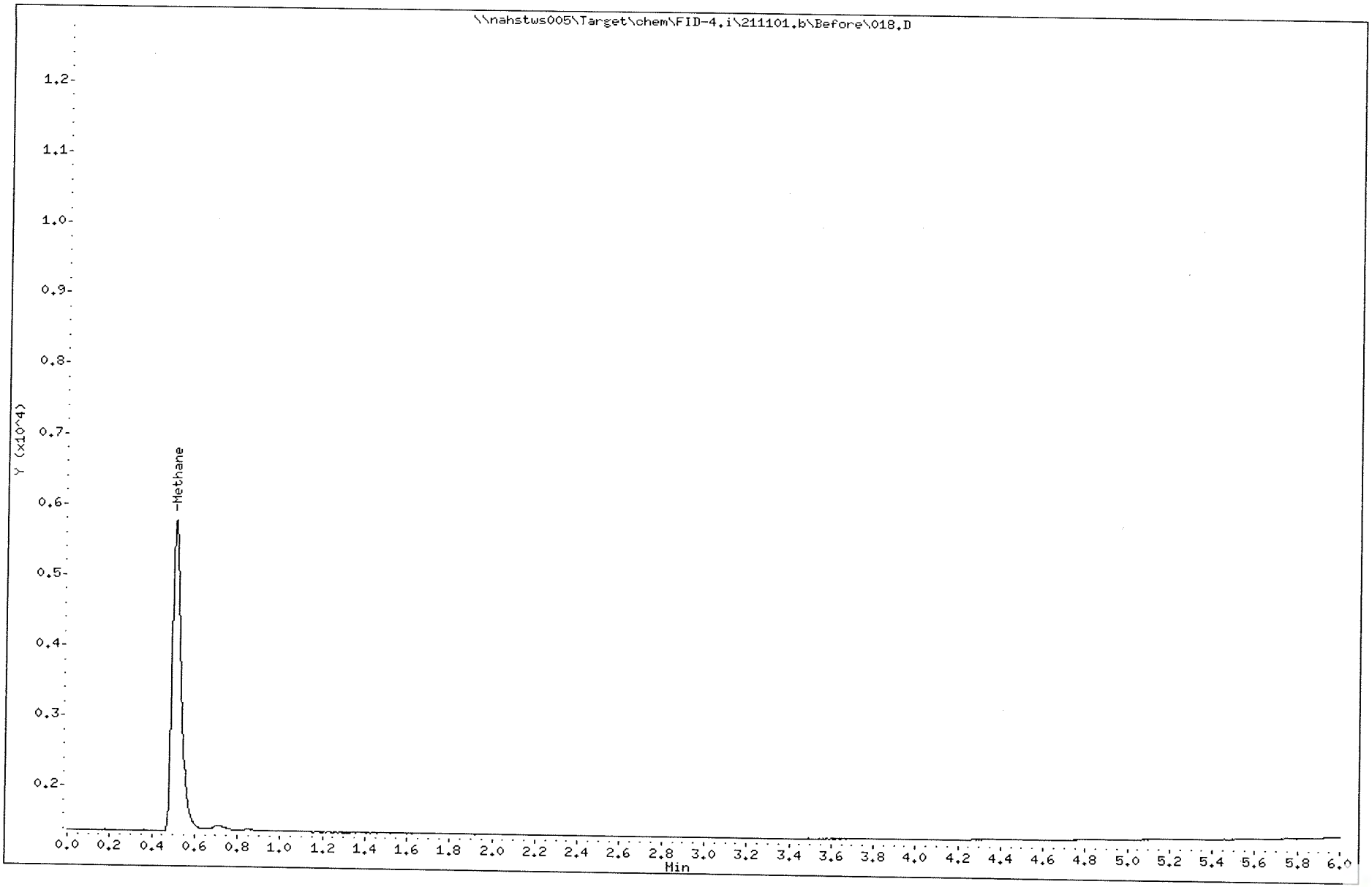
Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)
1 Methane	0.503	0.483	0.020	13625	13.9745	1397.446

Data File: \\nahstws005\Target\chem\FID-4.i\211101.b\Before\018.D
Date : 01-NOV-2021 13:10
Client ID: HS21101272-03
Sample Info: HS21101272-03;HS21101272-03

Column phase: Rtx-PLOT

Instrument: FID-4.i

Operator: PL
Column diameter: 0.53



Data File: \\nahstws005\Target\chem\FID-4.i\211101.b\019.D
Report Date: 17-Nov-2021 09:45

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\211101.b\019.D
Lab Smp Id: HS21101272-04 Client Smp ID: HS21101272-04
Inj Date : 01-NOV-2021 13:18
Operator : PL Inst ID: FID-4.i
Smp Info : HS21101272-04;HS21101272-04
Misc Info : ;1;0;50
Comment :
Method : \\NAHSTWS005\Target\chem\FID-4.i\211101.b\RSKNI3.m
Meth Date : 17-Nov-2021 09:40 linh.pham Quant Type: ESTD
Cal Date : 24-JAN-2017 10:15 Cal File: 004.D
Als bottle: 19
Dil Factor: 50.00000
Integrator: Falcon Compound Sublist: RSK175.sub
Target Version: 4.14
Processing Host: ALSHSW7104

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	0.500	0.473	0.027	12006	12.3139	615.697(M)

QC Flag Legend

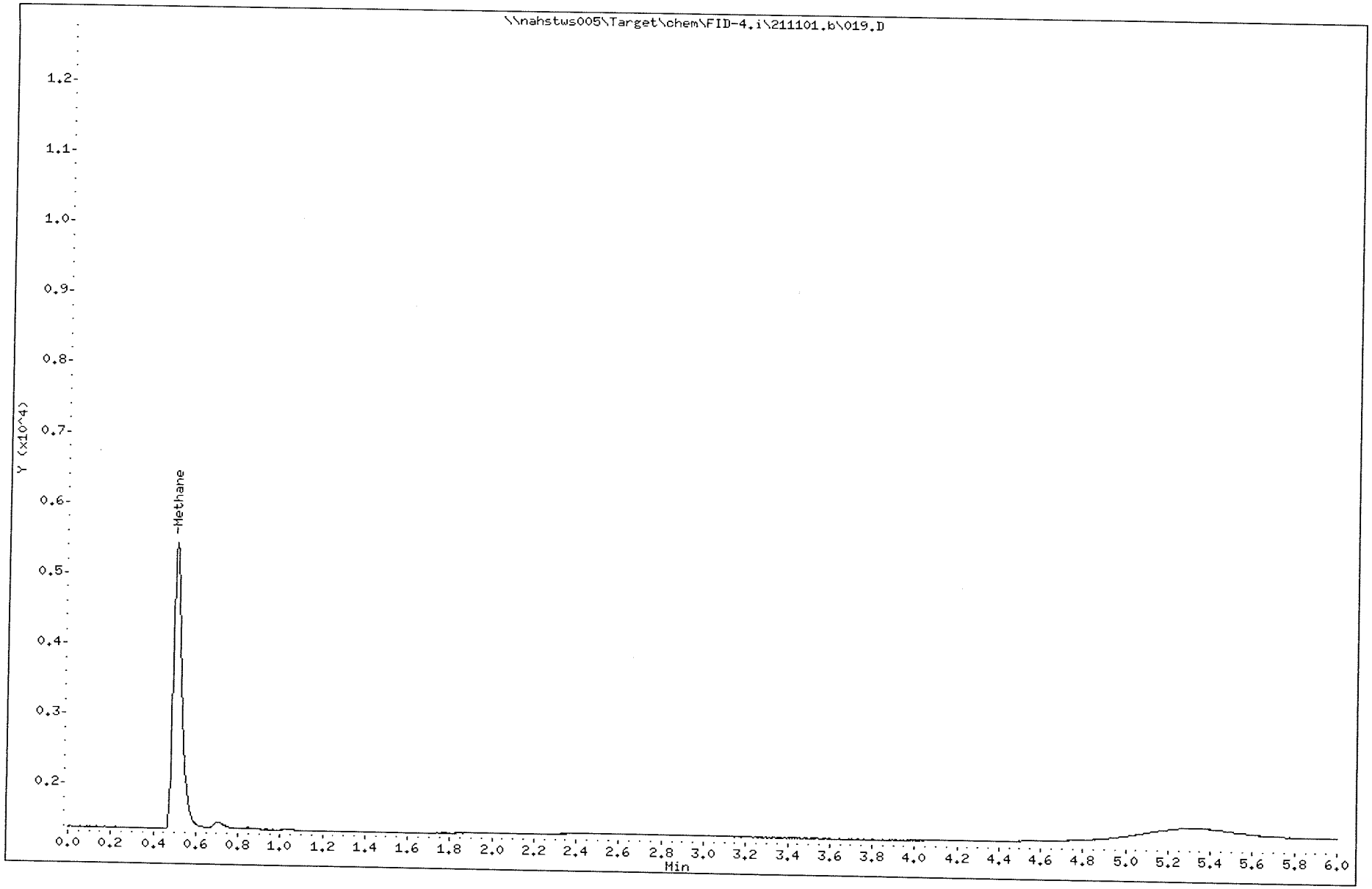
M - Compound response manually integrated.

Data File: \\nahstws005\Target\chem\FID-4.i\211101.b\019.D
Date : 01-NOV-2021 13:18
Client ID: HS21101272-04
Sample Info: HS21101272-04;HS21101272-04

Column phase: Rtx-PLOT

Instrument: FID-4.i

Operator: PL
Column diameter: 0.53



ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\211101.b\Before\019.D
Lab Smp Id: HS21101272-04 Client Smp ID: HS21101272-04
Inj Date : 01-NOV-2021 13:18
Operator : PL Inst ID: FID-4.i
Smp Info : HS21101272-04;HS21101272-04
Misc Info : ;1;0;50
Comment :
Method : \\NAHSTWS005\Target\chem\FID-4.i\211101.b\RSKNI3.m
Meth Date : 17-Nov-2021 09:47 linh.pham Quant Type: ESTD
Cal Date : 24-JAN-2017 10:15 Cal File: 004.D
Als bottle: 19
Dil Factor: 50.00000
Integrator: Falcon Compound Sublist: RSK175.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)
1 Methane	0.500	0.483	0.017	12288	12.6032	630.158

Data File: \\nahstws005\Target\chem\FID-4.i\211101.b\Before\019.D

Date : 01-NOV-2021 13:18

Client ID: HS21101272-04

Instrument: FID-4.i

Sample Info: HS21101272-04;HS21101272-04

Operator: PL

Column phase: Rtx-PLOT

Column diameter: 0.53



Data File: \\nahstws005\Target\chem\FID-4.i\211101.b\020.D Page 1
Report Date: 17-Nov-2021 09:45

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\211101.b\020.D
Lab Smp Id: HS21101272-10 Client Smp ID: HS21101272-10
Inj Date : 01-NOV-2021 13:26
Operator : PL Inst ID: FID-4.i
Smp Info : HS21101272-10;HS21101272-10
Misc Info : ;1;0;100
Comment :
Method : \\NAHSTWS005\Target\chem\FID-4.i\211101.b\RSKNI3.m
Meth Date : 17-Nov-2021 09:40 linh.pham Quant Type: ESTD
Cal Date : 24-JAN-2017 10:15 Cal File: 004.D
Als bottle: 20
Dil Factor: 100.00000
Integrator: Falcon Compound Sublist: RSK175.sub
Target Version: 4.14
Processing Host: ALSHSW7104

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

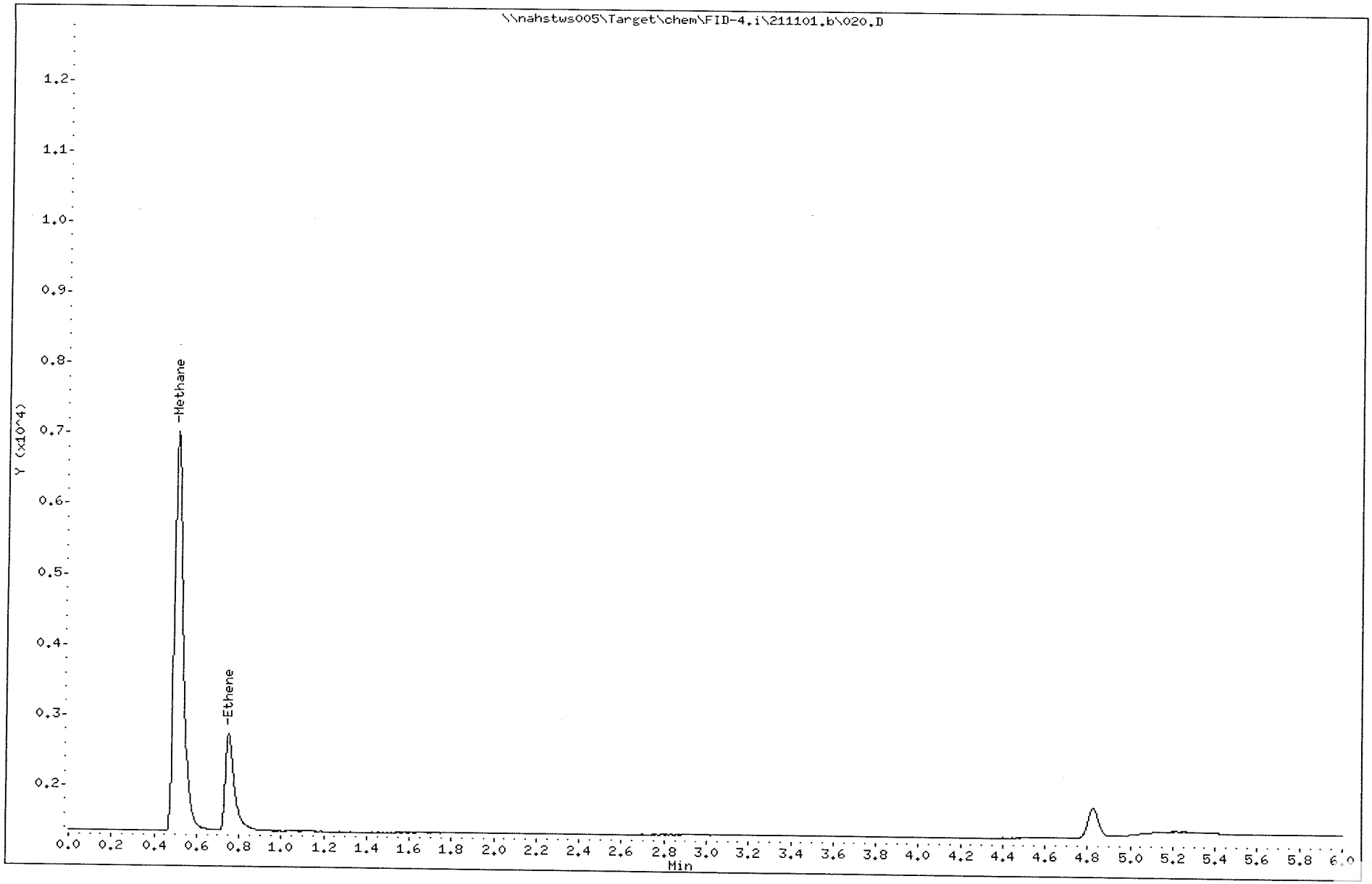
Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)
1 Methane	0.500	0.473	0.027	16970	17.4053	1740.526
2 Ethene	0.750	0.726	0.024	4180	7.13602	713.602

Data File: \\nahstws005\Target\chem\FID-4.i\211101.b\020.D
Date : 01-NOV-2021 13:26
Client ID: HS21101272-10
Sample Info: HS21101272-10;HS21101272-10

Column phase: Rtx-PLOT

Instrument: FID-4.i

Operator: PL
Column diameter: 0.53



ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\211101.b\Before\020.D
Lab Smp Id: HS21101272-10 Client Smp ID: HS21101272-10
Inj Date : 01-NOV-2021 13:26
Operator : PL Inst ID: FID-4.i
Smp Info : HS21101272-10;HS21101272-10
Misc Info : ;1;0;100
Comment :
Method : \\NAHSTWS005\Target\chem\FID-4.i\211101.b\RSKNI3.m
Meth Date : 17-Nov-2021 09:47 linh.pham Quant Type: ESTD
Cal Date : 24-JAN-2017 10:15 Cal File: 004.D
Als bottle: 20
Dil Factor: 100.00000
Integrator: Falcon Compound Sublist: RSK175.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

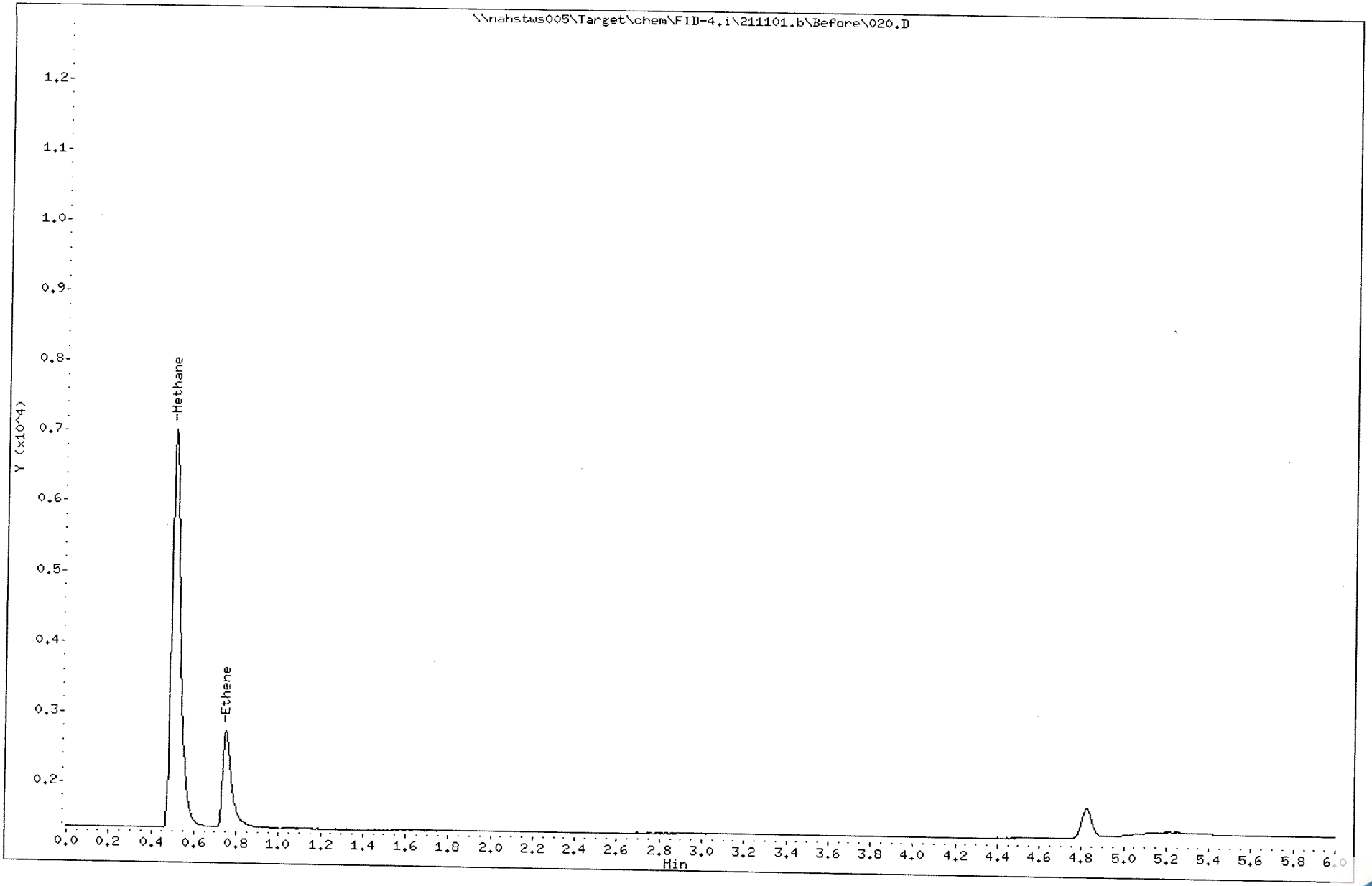
Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)
1 Methane	0.500	0.483	0.017	16970	17.4053	1740.526
2 Ethene	0.750	0.736	0.014	4180	7.13602	713.602

Data File: \\nahstws005\Target\chem\FID-4.i\211101.b\Before\020.D
Date : 01-NOV-2021 13:26
Client ID: HS21101272-10
Sample Info: HS21101272-10;HS21101272-10

Column phase: Rtx-PLOT

Instrument: FID-4.i

Operator: PL
Column diameter: 0.53



Data File: \\nahstws005\Target\chem\FID-4.i\211101.b\022.D
Report Date: 17-Nov-2021 09:45

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\211101.b\022.D
Lab Smp Id: RSK-CCV Client Smp ID: RSK-CCV
Inj Date : 01-NOV-2021 13:46
Operator : PL Inst ID: FID-4.i
Smp Info : RSK-CCV;RSK-CCV;2;4
Misc Info : ;1;0;1
Comment :
Method : \\NAHSTWS005\Target\chem\FID-4.i\211101.b\RSKNI3.m
Meth Date : 17-Nov-2021 09:40 linh.pham 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: ALSHSW7104

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	0.473	0.473	0.000	8508	9.64700	8.726 (M)
2 Ethene	0.726	0.726	0.000	11664	16.8500	19.912 (M)
3 Ethane	0.810	0.810	0.000	13633	18.0430	18.948 (M)

QC Flag Legend

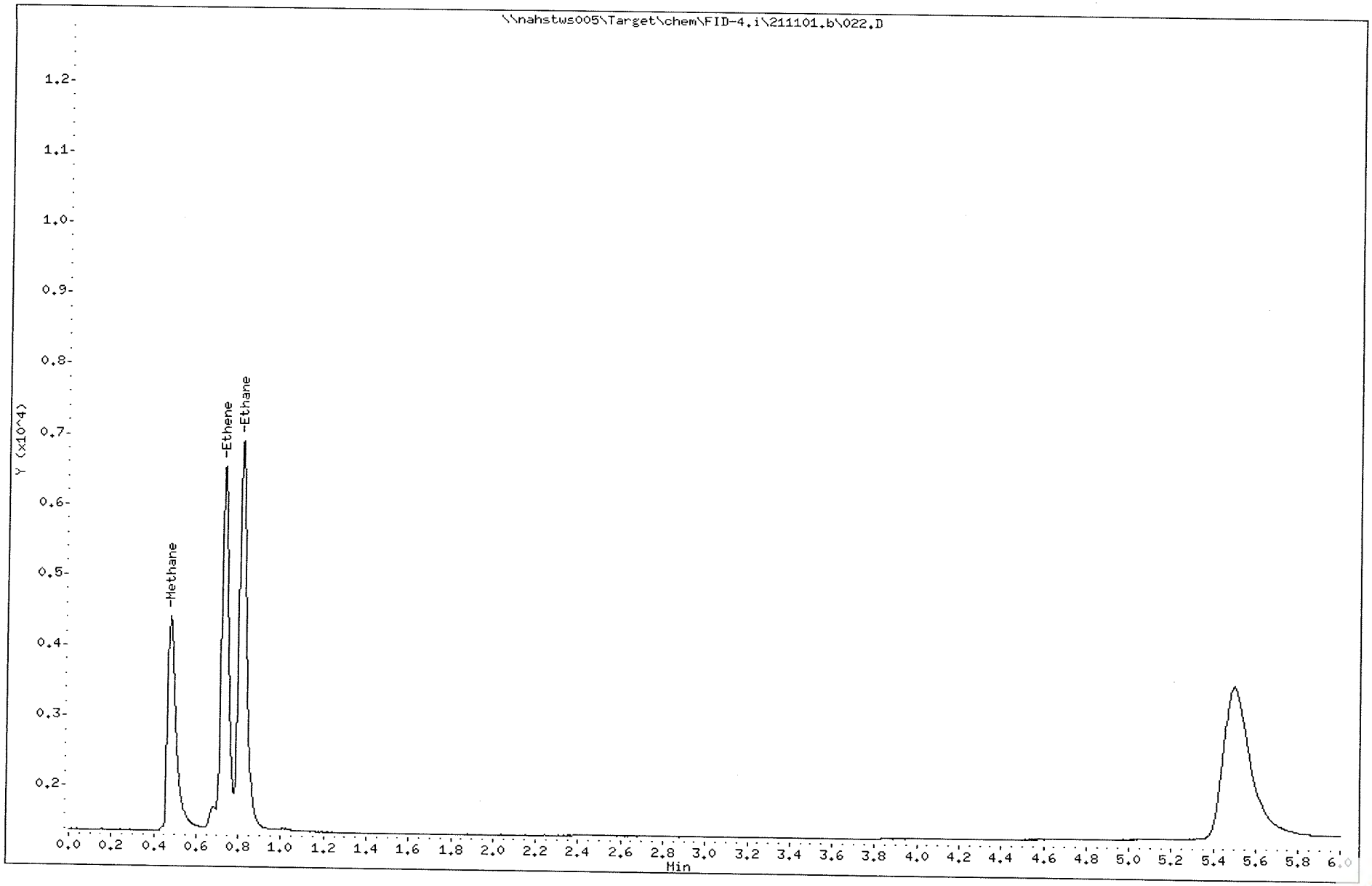
M - Compound response manually integrated.

Data File: \\nahstws005\Target\chem\FID-4.i\211101.b\022.D
Date : 01-NOV-2021 13:46
Client ID: RSK-CCV
Sample Info: RSK-CCV;RSK-CCV;2;4

Column phase: Rtx-PLOT

Instrument: FID-4.i

Operator: PL
Column diameter: 0.53



ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\211101.b\Before\022.D
Lab Smp Id: RSK-CCV Client Smp ID: RSK-CCV
Inj Date : 01-NOV-2021 13:46
Operator : PL Inst ID: FID-4.i
Smp Info : RSK-CCV;RSK-CCV;2;4
Misc Info : ;1;0;1
Comment :
Method : \\NAHSTWS005\Target\chem\FID-4.i\211101.b\RSKNI3.m
Meth Date : 17-Nov-2021 09:47 linh.pham Quant Type: ESTD
Cal Date : 24-JAN-2017 10:15 Cal File: 004.D
Als bottle: 22 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: RSK175.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

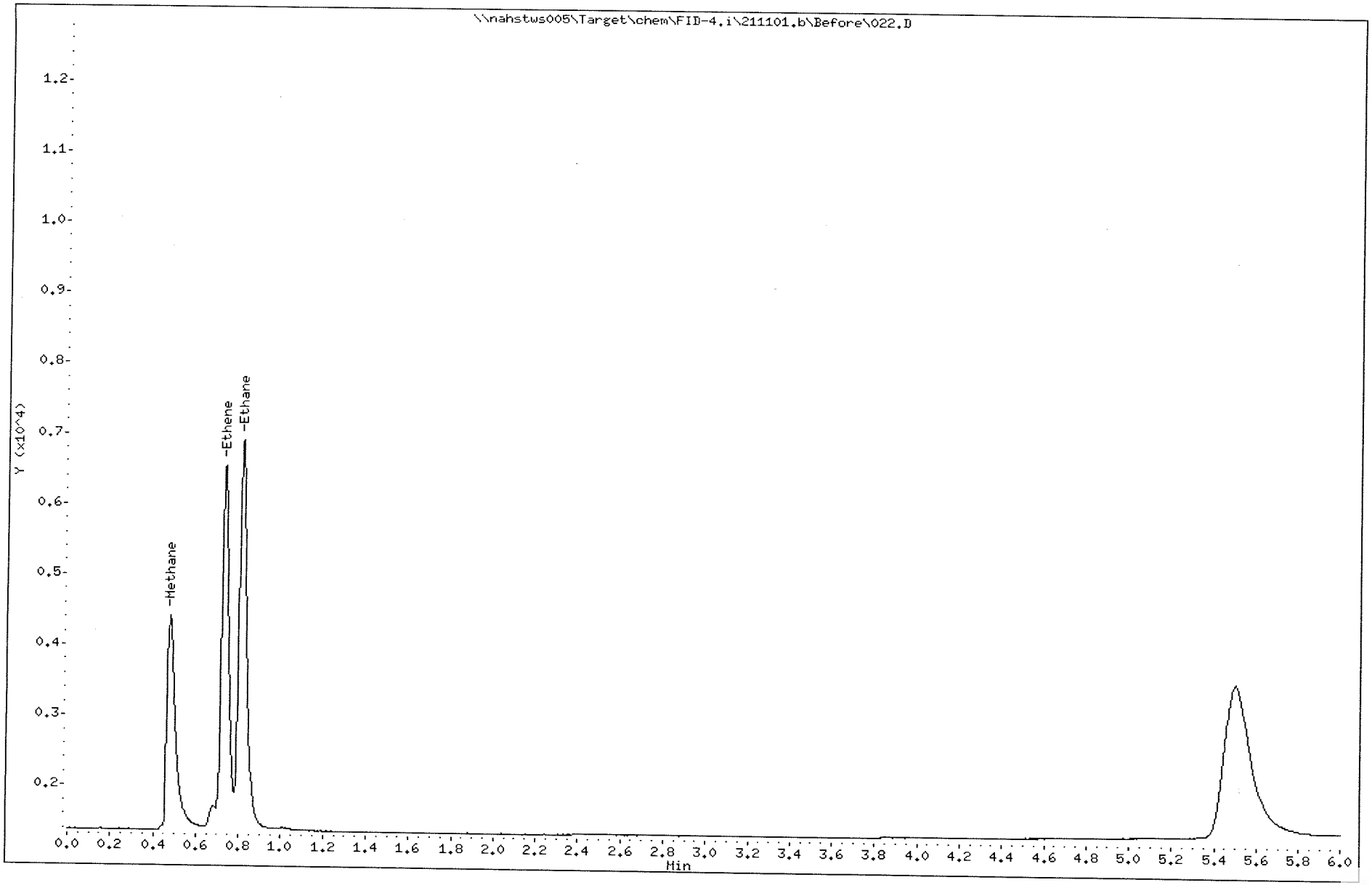
Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)
1 Methane	0.473	0.483	-0.010	8712	9.64700	8.935
2 Ethene	0.726	0.736	-0.010	13239	16.8500	22.601
3 Ethane	0.810	0.820	-0.010	15054	18.0430	20.923

Data File: \\nahstws005\Target\chem\FID-4.i\211101.b\Before\022.D
Date : 01-NOV-2021 13:46
Client ID: RSK-CCV
Sample Info: RSK-CCV;RSK-CCV;2;4

Column phase: Rtx-PLOT

Instrument: FID-4.i

Operator: PL
Column diameter: 0.53



Data File: \\nahstws005\Target\chem\FID-4.i\211101.b\027.D
Report Date: 17-Nov-2021 09:45

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\211101.b\027.D
Lab Smp Id: RSK-CCV Client Smp ID: RSK-CCV
Inj Date : 01-NOV-2021 14:31
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\211101.b\RSKNI3.m
Meth Date : 17-Nov-2021 09:40 linh.pham Quant Type: ESTD
Cal Date : 24-JAN-2017 10:15 Cal File: 004.D
Als bottle: 27 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: RSK175.sub
Target Version: 4.14
Processing Host: ALSHSW7104

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

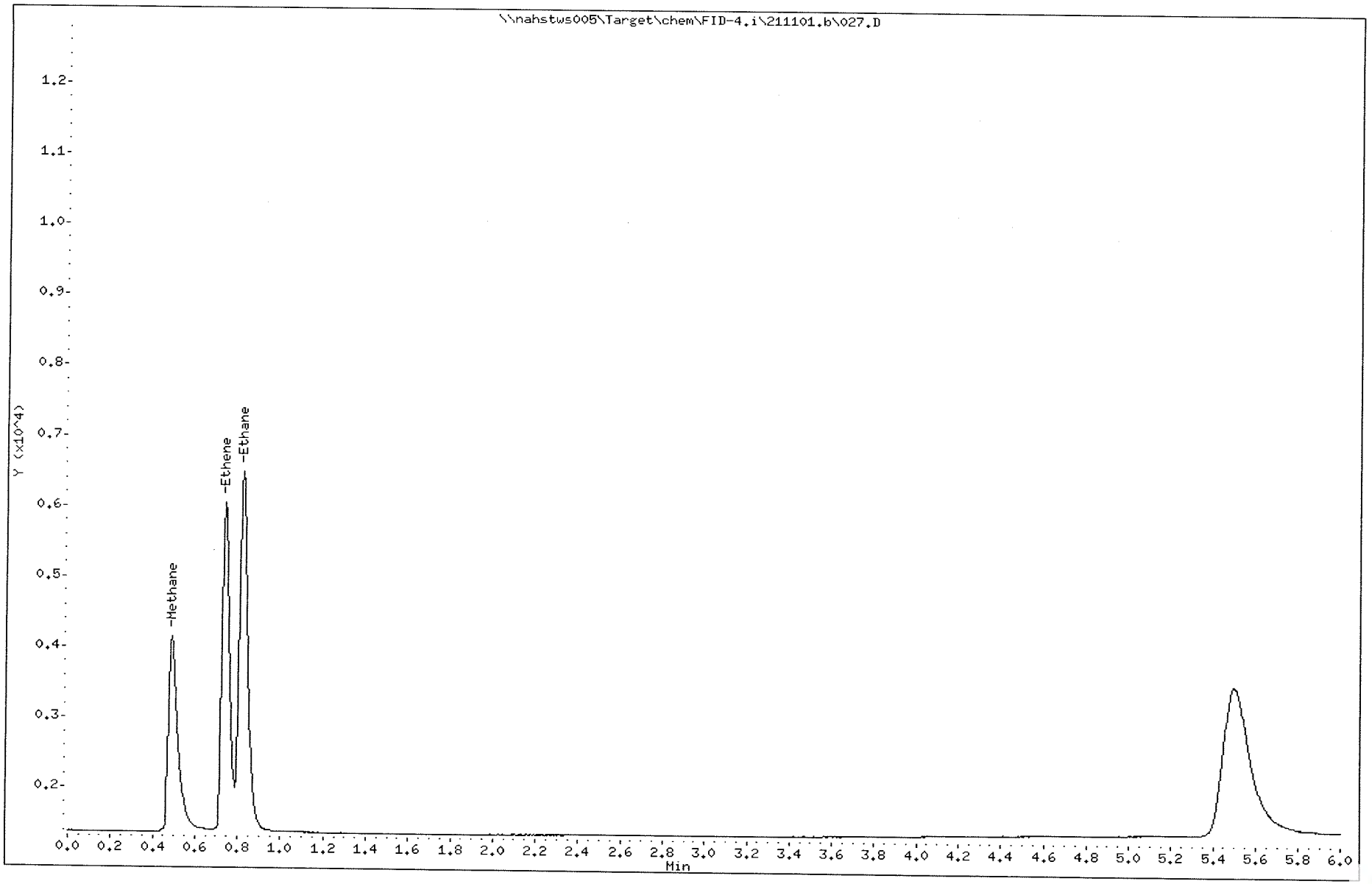
Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)
1 Methane	0.483	0.473	0.010	8825	9.64700	9.051
2 Ethene	0.736	0.726	0.010	11641	16.8500	19.873
3 Ethane	0.820	0.810	0.010	14226	18.0430	19.772

Data File: \\nahstws005\Target\chem\FID-4.i\211101.b\027.D
Date : 01-NOV-2021 14:31
Client ID: RSK-CCV
Sample Info: RSK-CCV;RSK-CCV;2;4

Column phase: Rtx-PLOT

Instrument: FID-4.i

Operator: PL
Column diameter: 0.53



ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\211101.b\Before\027.D
Lab Smp Id: RSK-CCV Client Smp ID: RSK-CCV
Inj Date : 01-NOV-2021 14:31
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\211101.b\RSKNI3.m
Meth Date : 17-Nov-2021 09:47 linh.pham Quant Type: ESTD
Cal Date : 24-JAN-2017 10:15 Cal File: 004.D
Als bottle: 27 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: RSK175.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

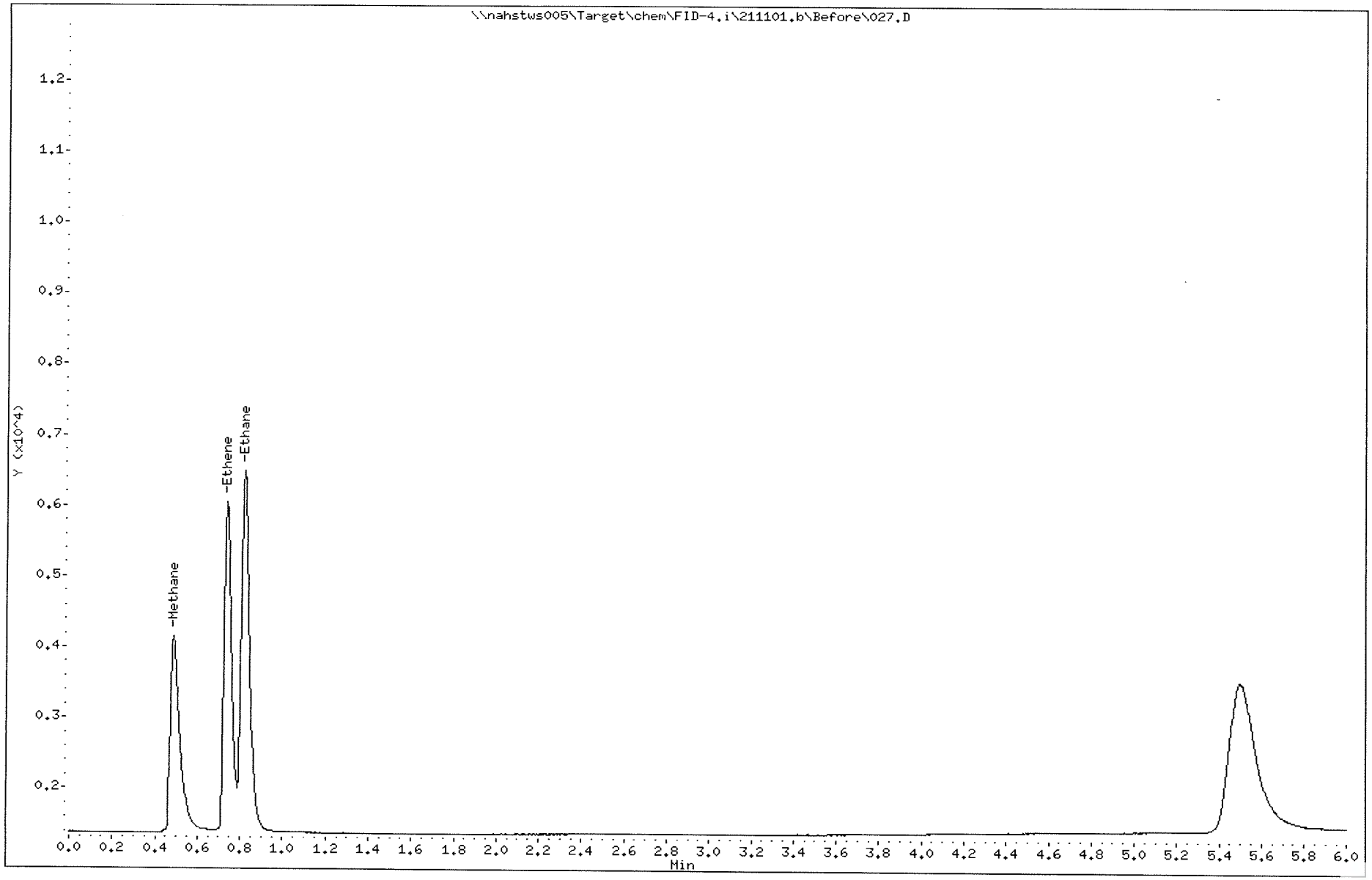
Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)
1 Methane	0.483	0.483	0.000	8992	9.64700	9.222
2 Ethene	0.736	0.736	0.000	11847	16.8500	20.224
3 Ethane	0.820	0.820	0.000	14566	18.0430	20.244

Data File: \\nahstws005\Target\chem\FID-4.i\211101.b\Before\027.D
Date : 01-NOV-2021 14:31
Client ID: RSK-CCV
Sample Info: RSK-CCV;RSK-CCV;2;4

Column phase: Rtx-PLOT

Instrument: FID-4.i

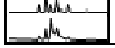
Operator: PL
Column diameter: 0.53



HS21101272 9056_W IC

ALS WO# HS21101272

Sequence: 102221
Last Update Operator: alshs.nouser

CD	Name	Comment	Type	Position	Dilution	Level	Instrument Method	Processing Method	Volume	Status	Inject Time
	STD1		Calibratio	BA1	1.00	1	Anions Program IS	Anions Proce	5.0	Finished	9/8/2021 2:57:23 PM -05:00
	STD2		Calibratio	BA2	1.00	2	Anions Program IS	Anions Proce	5.0	Finished	9/8/2021 3:04:47 PM -05:00
	STD3		Calibratio	BA3	1.00	3	Anions Program IS	Anions Proce	5.0	Finished	9/8/2021 3:12:12 PM -05:00
	STD4		Calibratio	BA4	1.00	4	Anions Program IS	Anions Proce	5.0	Finished	9/8/2021 3:19:37 PM -05:00
	STD5		Calibratio	BA5	1.00	5	Anions Program IS	Anions Proce	5.0	Finished	9/8/2021 3:27:03 PM -05:00
	STD6		Calibratio	BA6	1.00	6	Anions Program IS	Anions Proce	5.0	Finished	9/8/2021 3:34:27 PM -05:00
	ICV		Unknown	BA7	1.00		Anions Program IS	Anions Proce	5.0	Finished	9/8/2021 3:41:50 PM -05:00
	ICB		Unknown	BA8	1.00		Anions Program IS	Anions Proce	5.0	Finished	9/8/2021 3:56:37 PM -05:00
	CCV		Unknown	R1	1.00		Anions Program IS	Anions Proce	5.0	Finished	10/22/2021 7:45:02 PM -05:00
	CCB		Unknown	R4	1.00		Anions Program IS	Anions Proce	5.0	Finished	10/22/2021 7:52:26 PM -05:00
	MBLK	9056_W	Unknown	R5	1.00		Anions Program IS	Anions Proce	5.0	Finished	10/22/2021 7:59:52 PM -05:00
	LCS		Unknown	R2	1.00		Anions Program IS	Anions Proce	5.0	Finished	10/22/2021 8:07:17 PM -05:00
	LCSD		Unknown	B1	1.00		Anions Program IS	Anions Proce	5.0	Finished	10/22/2021 8:14:43 PM -05:00
	HS21101256-02		Unknown	BA7	1.00		Anions Program IS	Anions Proce	5.0	Finished	10/22/2021 8:29:31 PM -05:00
	HS21101256-02MS		Unknown	BA8	1.00		Anions Program IS	Anions Proce	5.0	Finished	10/22/2021 8:36:54 PM -05:00
	HS21101256-02MSD		Unknown	BB1	1.00		Anions Program IS	Anions Proce	5.0	Finished	10/22/2021 8:44:18 PM -05:00
	CCV1		Unknown	R3	1.00		Anions Program IS	Anions Proce	5.0	Finished	10/22/2021 9:13:54 PM -05:00
	CCB		Unknown	R6	1.00		Anions Program IS	Anions Proce	5.0	Finished	10/22/2021 9:21:19 PM -05:00
	CCV		Unknown	R1	1.00		Anions Program IS	Anions Proce	5.0	Finished	10/22/2021 10:35:16 PM -05:00
	CCB		Unknown	R4	1.00		Anions Program IS	Anions Proce	5.0	Finished	10/22/2021 10:42:41 PM -05:00
	HS21101272-03DF5		Unknown	BC8	5.00		Anions Program IS	Anions Proce	5.0	Finished	10/22/2021 11:04:54 PM -05:00
	HS21101272-07DF5		Unknown	BD1	5.00		Anions Program IS	Anions Proce	5.0	Finished	10/22/2021 11:12:18 PM -05:00
	HS21101272-08DF5		Unknown	BD2	5.00		Anions Program IS	Anions Proce	5.0	Finished	10/22/2021 11:19:42 PM -05:00
	HS21101272-10DF5		Unknown	BD3	5.00		Anions Program IS	Anions Proce	5.0	Finished	10/22/2021 11:27:06 PM -05:00
	CCV1		Unknown	R3	1.00		Anions Program IS	Anions Proce	5.0	Finished	10/22/2021 11:49:19 PM -05:00
	CCB		Unknown	R6	1.00		Anions Program IS	Anions Proce	5.0	Finished	10/22/2021 11:56:44 PM -05:00

Sequence: 101521
Injection #6: STD6

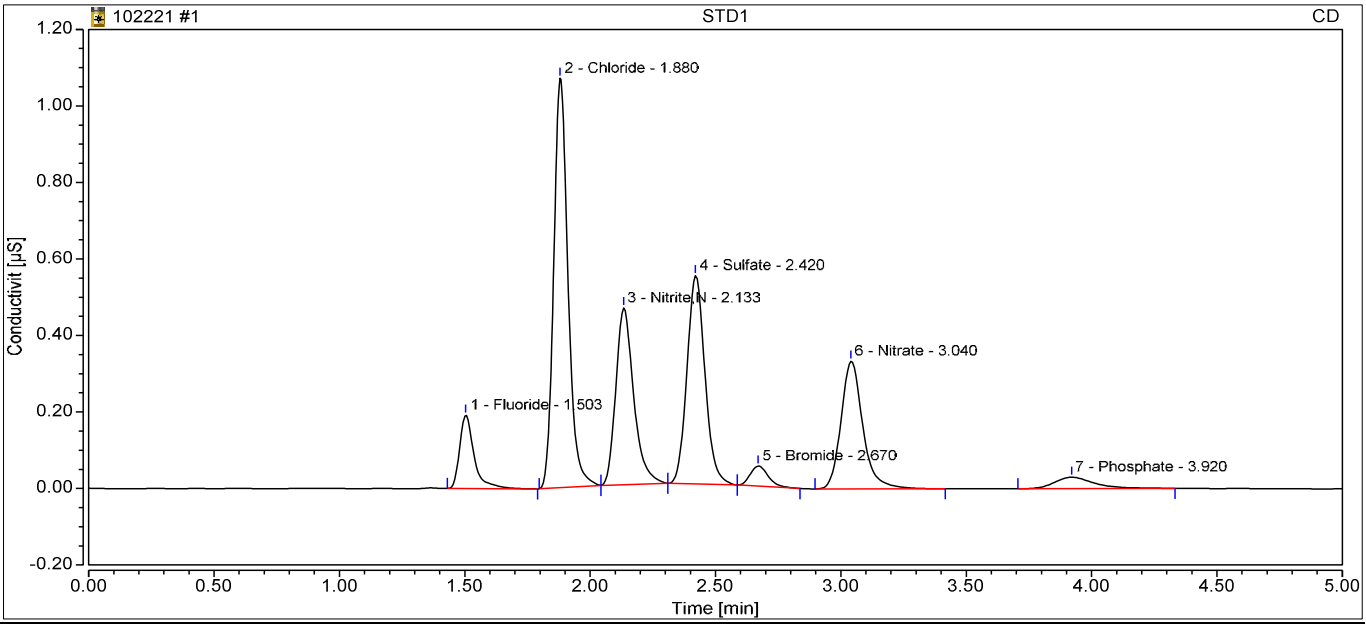
Calibration

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*	*14.8917*	*0.99901*	*-0.0076*	*0.2037*	*0.0000*
2	Chloride	Lin, WithOffset, 1/	Area	6	6.3298	0.99978	0.0062	0.1342	0.0000
3	Nitrite,N	Quad, WithOffset,	Area	6	6.9766	0.99974	0.0102	0.2986	-0.0023
4	Sulfate	Lin, WithOffset, 1/	Area	6	6.6535	0.99977	-0.0001	0.0971	0.0000
5	Bromide	Lin, WithOffset, 1/	Area	6	8.9157	0.99963	-0.0016	0.0548	0.0000
6	Nitrate	Lin, WithOffset, 1/	Area	6	6.7024	0.99976	0.0001	0.3403	0.0000
n.a.	Chlorate	Lin, WithOffset, 1/	Area	0	n.a.	n.a.	n.a.	n.a.	n.a.
7	Phosphate	Quad, WithOffset,	Area	6	11.6511	0.99965	-0.0052	0.0981	0.0012
Maximum					**14.8917**	0.99978			
Minimum					6.3298	**0.99901**			

1 STD1

Sample Name:	**STD1**	*Injection Volume:*	**5.00**
Vial Number:	**BA1**	*Channel:*	**CD**
Sample Type:	**Calibration Standard**	*Wavelength:*	**210**
Control Program:	**Anions Program ISO37mM 150mm short 0.4**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**09/08/2021 14:57**	*Sample Weight:*	**1.0000**

Run Time:

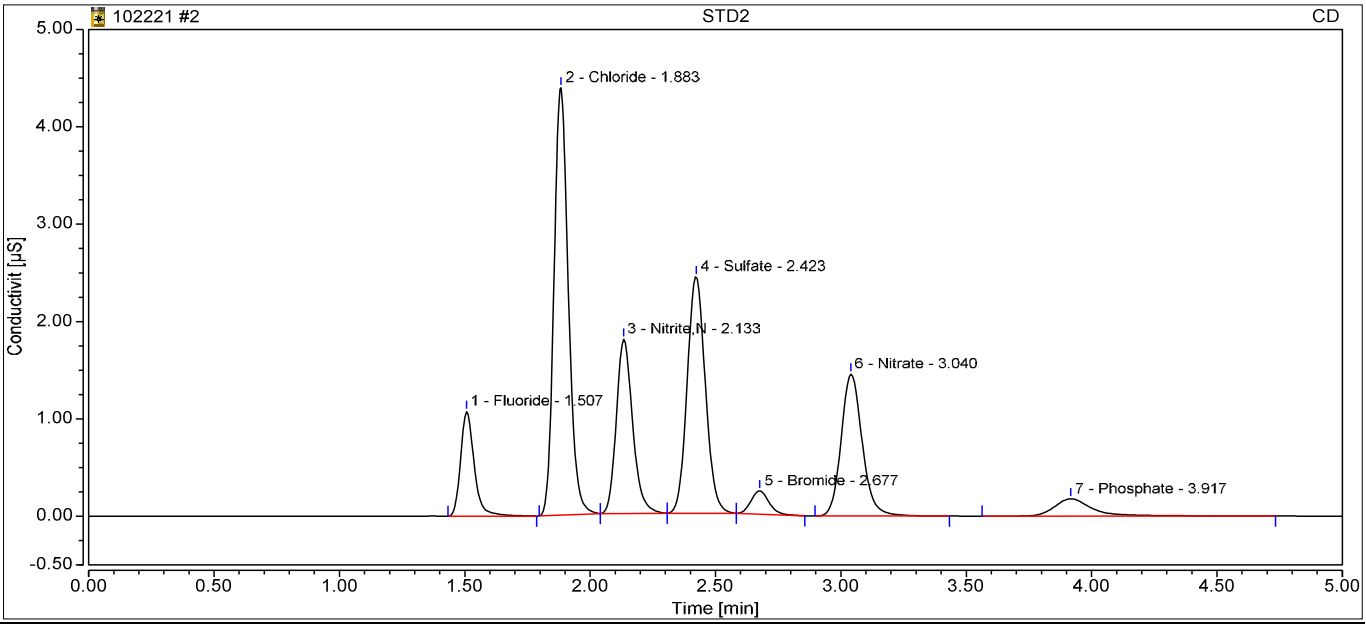


Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	1.50	Fluoride	BMB	0.013	0.1005	0.1005	1.0000
2	1.88	Chloride	BMB	0.070	0.4785	0.4785	1.0000
3	2.13	Nitrite,N	BMB	0.038	0.0937	0.0937	1.0000
4	2.42	Sulfate	BMB	0.045	0.4684	0.4684	1.0000
5	2.67	Bromide	BMB	0.004	0.1078	0.1078	1.0000
6	3.04	Nitrate	BMB	0.034	0.0982	0.0982	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
7	3.92	Phosphate	BMB	0.005	0.1085	0.1085	1.0000
Total:			**0.000**	**0.210**		**1.46**	

2 STD2			
Sample Name:	**STD2**	*Injection Volume:*	**5.00**
Vial Number:	**BA2**	*Channel:*	**CD**
Sample Type:	**Calibration Standard**	*Wavelength:*	**210**
Control Program:	**Anions Program ISO37mM 150mm short 0.4**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**09/08/2021 15:04**	*Sample Weight:*	**1.0000**

Run Time:



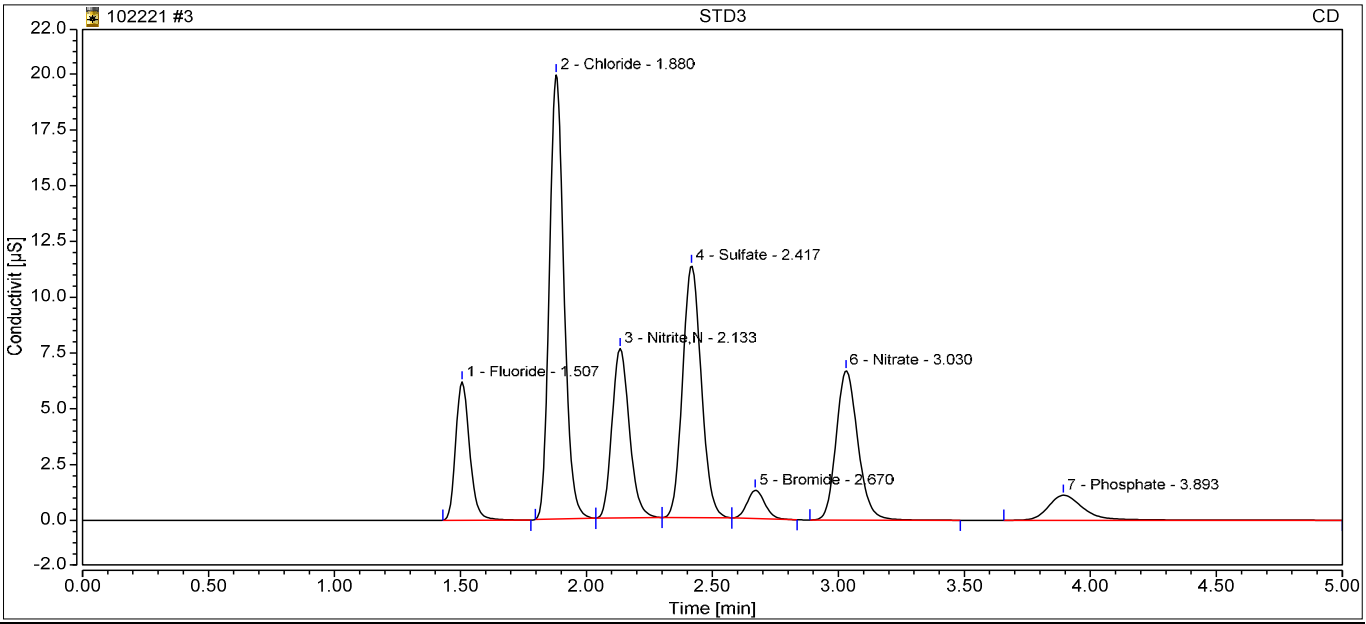
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	1.51	Fluoride	BMB	0.068	0.3708	0.3708	1.0000
2	1.88	Chloride	BMB	0.290	2.1158	2.1158	1.0000
3	2.13	Nitrite,N	BMB	0.135	0.4190	0.4190	1.0000
4	2.42	Sulfate	BMB	0.204	2.1052	2.1052	1.0000
5	2.68	Bromide	BMB	0.020	0.3906	0.3906	1.0000
6	3.04	Nitrate	BMB	0.142	0.4172	0.4172	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
7	3.92	Phosphate	BMB	0.032	0.3731	0.3731	1.0000
Total:			**0.000**	**0.891**		**6.19**	

3 STD3

Sample Name:	**STD3**	*Injection Volume:*	**5.00**
Vial Number:	**BA3**	*Channel:*	**CD**
Sample Type:	**Calibration Standard**	*Wavelength:*	**210**
Control Program:	**Anions Program ISO37mM 150mm short 0.4**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**09/08/2021 15:12**	*Sample Weight:*	**1.0000**

Run Time:



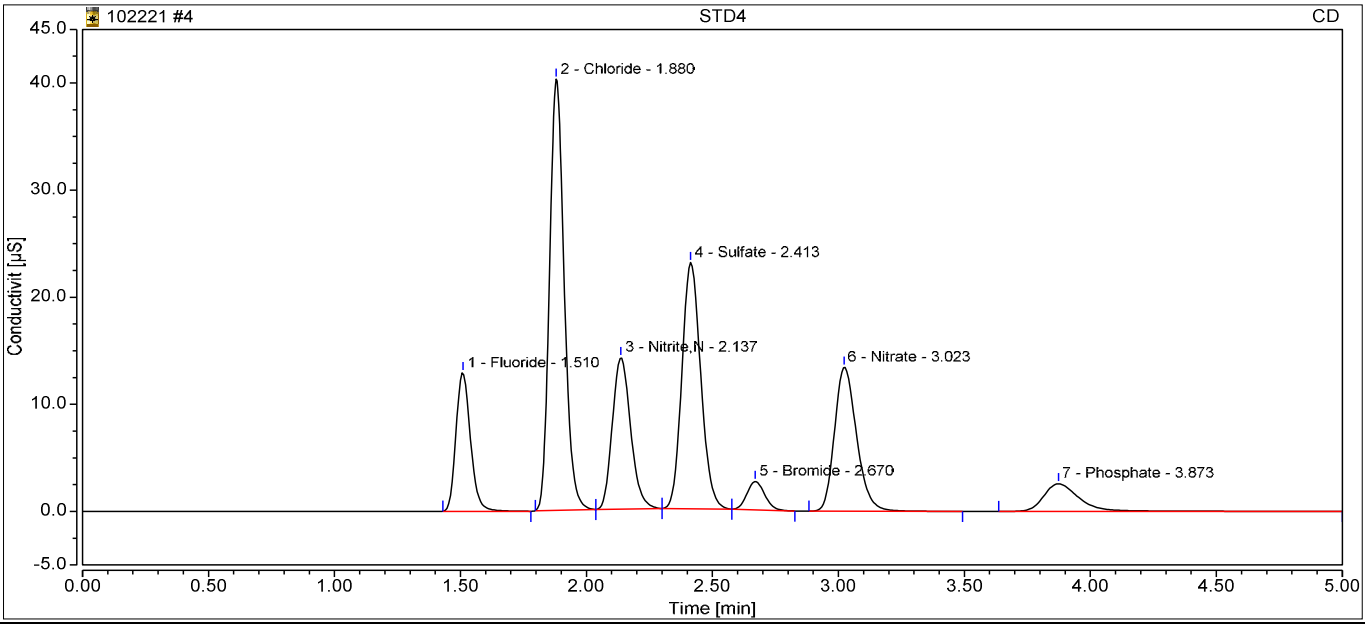
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	1.51	Fluoride	BMB	0.401	2.0041	2.0041	1.0000
2	1.88	Chloride	BMB	1.334	9.8953	9.8953	1.0000
3	2.13	Nitrite,N	BMB	0.605	2.0242	2.0242	1.0000
4	2.42	Sulfate	BMB	0.971	10.0035	10.0035	1.0000
5	2.67	Bromide	BMB	0.103	1.9116	1.9116	1.0000
6	3.03	Nitrate	BMB	0.668	1.9622	1.9622	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
7	3.89	Phosphate	BMB	0.185	1.8909	1.8909	1.0000
Total:			**0.000**	**4.266**		**29.69**	

4 STD4

Sample Name:	**STD4**	*Injection Volume:*	**5.00**
Vial Number:	**BA4**	*Channel:*	**CD**
Sample Type:	**Calibration Standard**	*Wavelength:*	**210**
Control Program:	**Anions Program ISO37mM 150mm short 0.4**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**09/08/2021 15:19**	*Sample Weight:*	**1.0000**

Run Time:



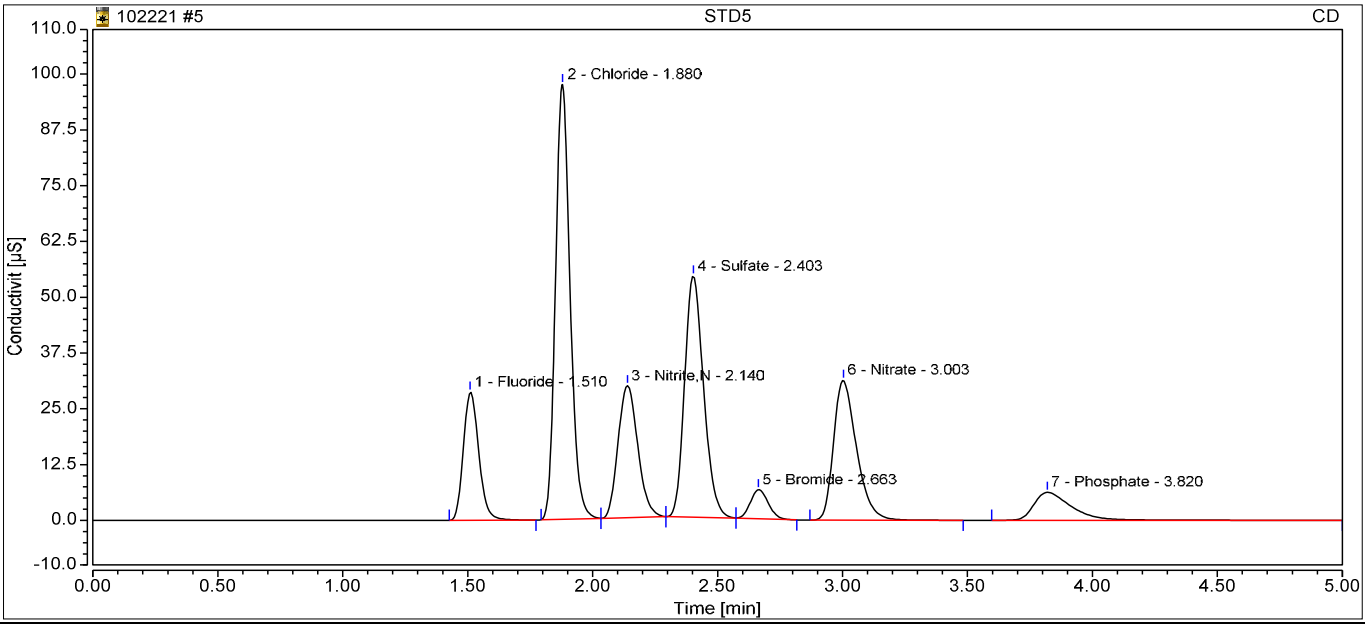
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	1.51	Fluoride	BMB	0.866	4.2910	4.2910	1.0000
2	1.88	Chloride	BMB	2.709	20.1365	20.1365	1.0000
3	2.14	Nitrite,N	BMB	1.191	4.0819	4.0819	1.0000
4	2.41	Sulfate	BMB	1.991	20.5124	20.5124	1.0000
5	2.67	Bromide	BMB	0.216	3.9679	3.9679	1.0000
6	3.02	Nitrate	BMB	1.366	4.0146	4.0146	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
7	3.87	Phosphate	BMB	0.424	4.1568	4.1568	1.0000
Total:			**0.000**	**8.762**		**61.16**	

5 STD5

Sample Name:	**STD5**	*Injection Volume:*	**5.00**
Vial Number:	**BA5**	*Channel:*	**CD**
Sample Type:	**Calibration Standard**	*Wavelength:*	**210**
Control Program:	**Anions Program ISO37mM 150mm short 0.4**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**09/08/2021 15:27**	*Sample Weight:*	**1.0000**

Run Time:



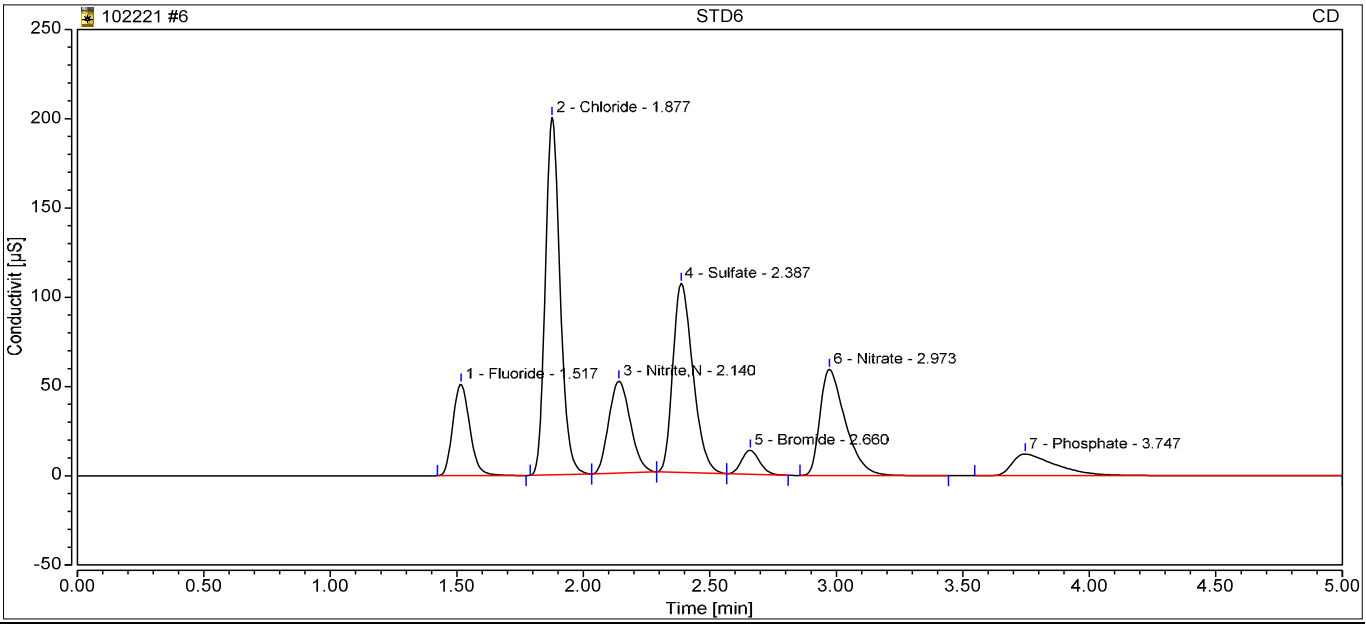
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	1.51	Fluoride	BMB	2.057	10.1376	10.1376	1.0000
2	1.88	Chloride	BMB	6.582	48.9987	48.9987	1.0000
3	2.14	Nitrite,N	BMB	2.709	9.7764	9.7764	1.0000
4	2.40	Sulfate	BMB	4.762	49.0593	49.0593	1.0000
5	2.66	Bromide	BMB	0.537	9.8247	9.8247	1.0000
6	3.00	Nitrate	BMB	3.333	9.7942	9.7942	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
7	3.82	Phosphate	BMB	1.095	9.9725	9.9725	1.0000
Total:			**0.000**	**21.075**		**147.56**	

6 STD6

Sample Name:	**STD6**	*Injection Volume:*	**5.00**
Vial Number:	**BA6**	*Channel:*	**CD**
Sample Type:	**Calibration Standard**	*Wavelength:*	**210**
Control Program:	**Anions Program ISO37mM 150mm short 0.4**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**09/08/2021 15:34**	*Sample Weight:*	**1.0000**

Run Time:



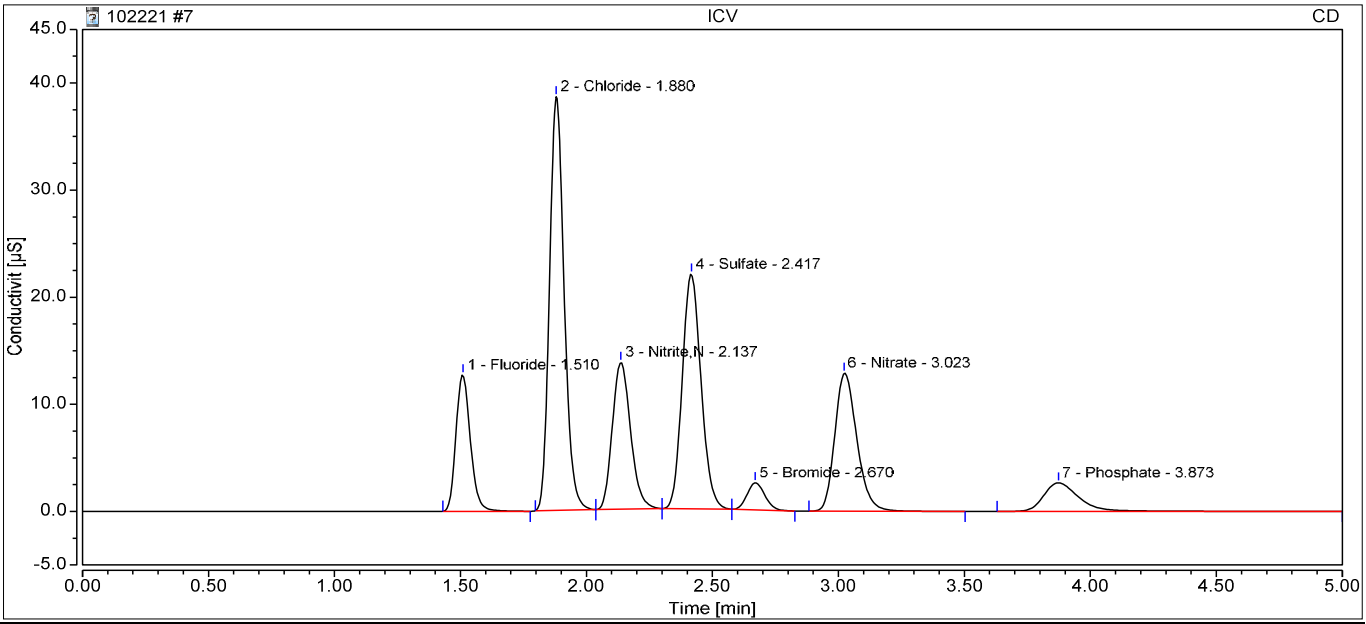
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	1.52	Fluoride	BMB	3.983	19.5961	19.5961	1.0000
2	1.88	Chloride	BMB	13.545	100.8752	100.8752	1.0000
3	2.14	Nitrite,N	BMB	5.085	20.1110	20.1110	1.0000
4	2.39	Sulfate	BMB	9.740	100.3513	100.3513	1.0000
5	2.66	Bromide	BMB	1.110	20.2973	20.2973	1.0000
6	2.97	Nitrate	BMB	6.879	20.2136	20.2136	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
7	3.75	Phosphate	BMB	2.448	19.9964	19.9964	1.0000
Total:			**0.000**	**42.790**		**301.44**	

7 ICV

Sample Name:	**ICV**	*Injection Volume:*	**5.00**
Vial Number:	**BA7**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program ISO37mM 150mm short 0.4**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**09/08/2021 15:41**	*Sample Weight:*	**1.0000**

Run Time:



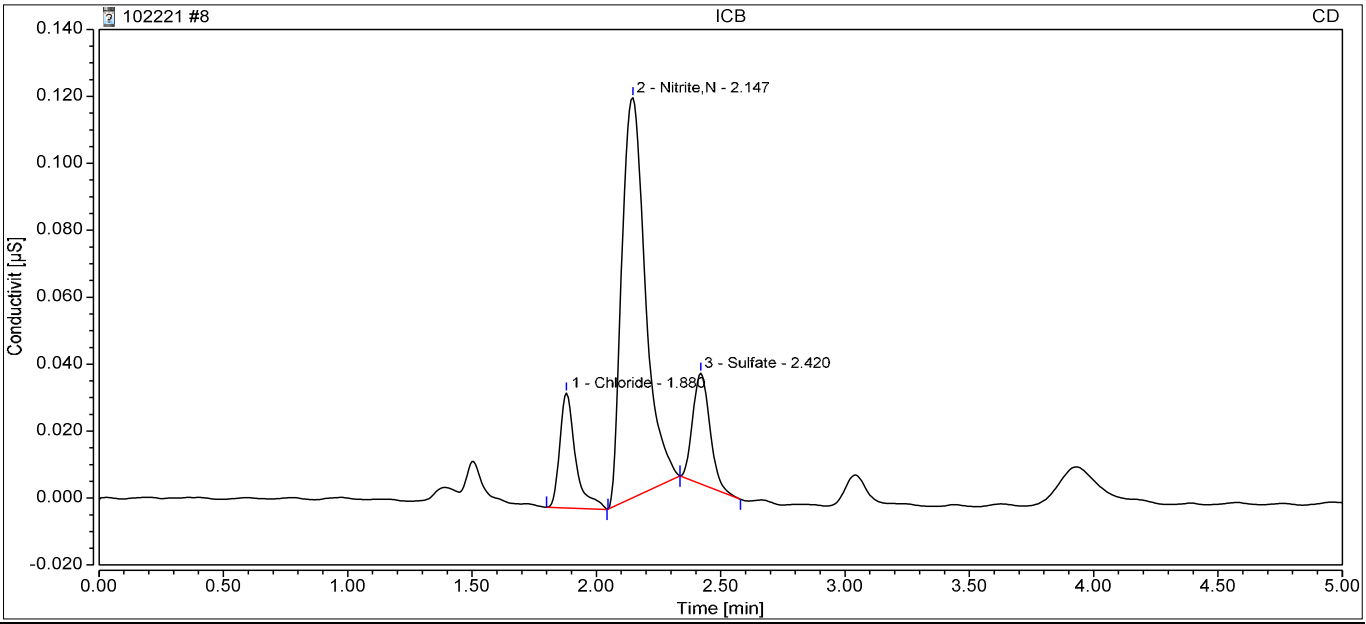
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	1.51	Fluoride	BMB	0.849	4.2062	4.2062	1.0000
2	1.88	Chloride	BMB	2.597	19.3008	19.3008	1.0000
3	2.14	Nitrite,N	BMB	1.152	3.9447	3.9447	1.0000
4	2.42	Sulfate	BMB	1.895	19.5248	19.5248	1.0000
5	2.67	Bromide	BMB	0.207	3.7999	3.7999	1.0000
6	3.02	Nitrate	BMB	1.307	3.8406	3.8406	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
7	3.87	Phosphate	BMB	0.438	4.2917	4.2917	1.0000
Total:			**0.000**	**8.445**		**58.91**	

8 ICB

Sample Name:	**ICB**	*Injection Volume:*	**5.00**
Vial Number:	**BA8**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program ISO37mM 150mm short 0.4**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**09/08/2021 15:56**	*Sample Weight:*	**1.0000**

Run Time:



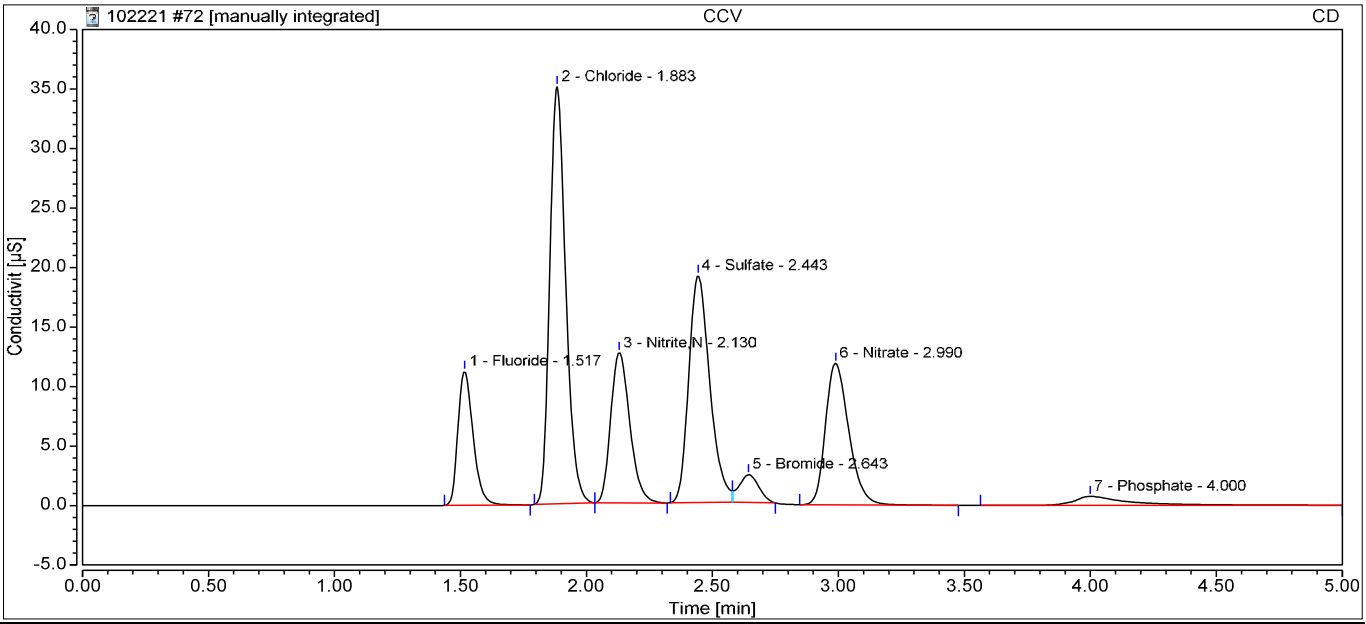
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	1.0000
1	1.88	Chloride	BMB	0.003	n.a.	n.a.	1.0000
2	2.15	Nitrite,N	BMB	0.013	0.0102	0.0102	1.0000
3	2.42	Sulfate	BMB	0.003	0.0287	0.0287	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**	**0.018**		**0.04**	

72 CCV

Sample Name:	**CCV**	*Injection Volume:*	**5.00**
Vial Number:	**R1**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program ISO37mM 150mm short 0.4**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/22/2021 19:45**	*Sample Weight:*	**1.0000**

Run Time:



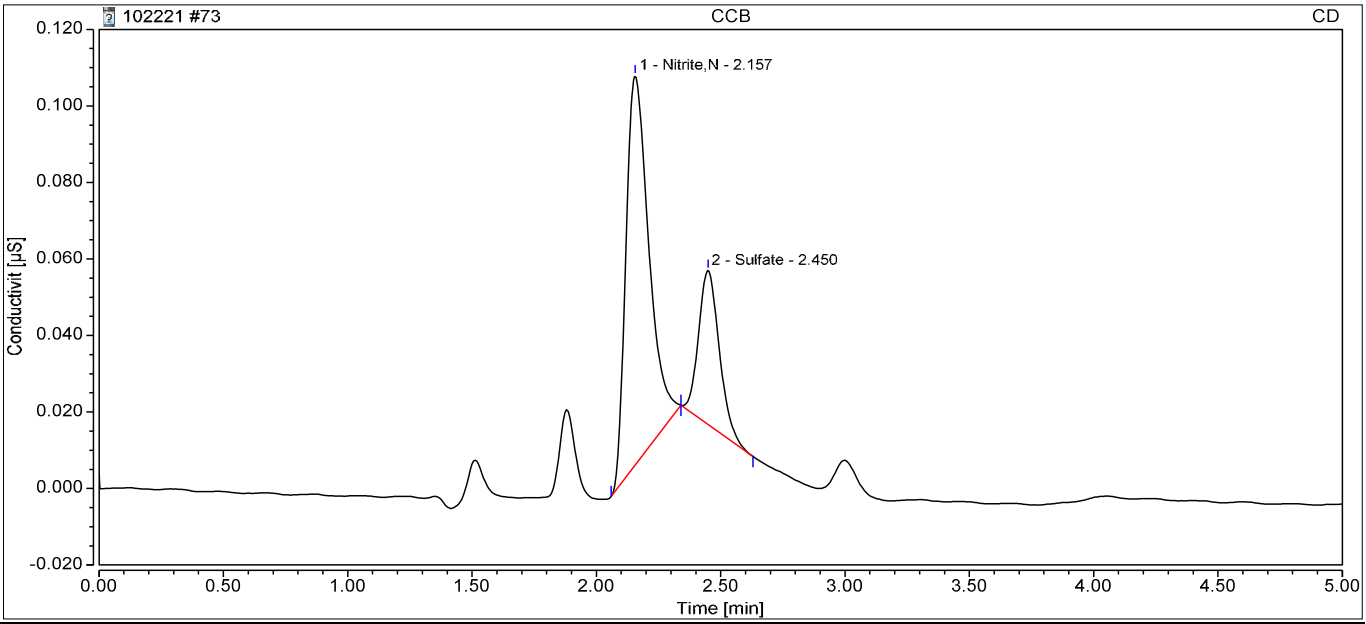
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	1.52	Fluoride	BMB	0.789	3.9102	3.9102	1.0000
2	1.88	Chloride	BMB	2.567	19.0834	19.0834	1.0000
3	2.13	Nitrite,N	BMB	1.109	3.7916	3.7916	1.0000
4	2.44	Sulfate	BM *	1.845	19.0131	19.0131	1.0000
5	2.64	Bromide	MB*	0.212	3.9051	3.9051	1.0000
6	2.99	Nitrate	BMB	1.277	3.7512	3.7512	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
7	4.00	Phosphate	BMB	0.193	1.9707	1.9707	1.0000
Total:			**0.000**	**7.992**		**55.43**	

73 CCB

Sample Name:	**CCB**	*Injection Volume:*	**5.00**
Vial Number:	**R4**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program ISO37mM 150mm short 0.4**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/22/2021 19:52**	*Sample Weight:*	**1.0000**

Run Time:



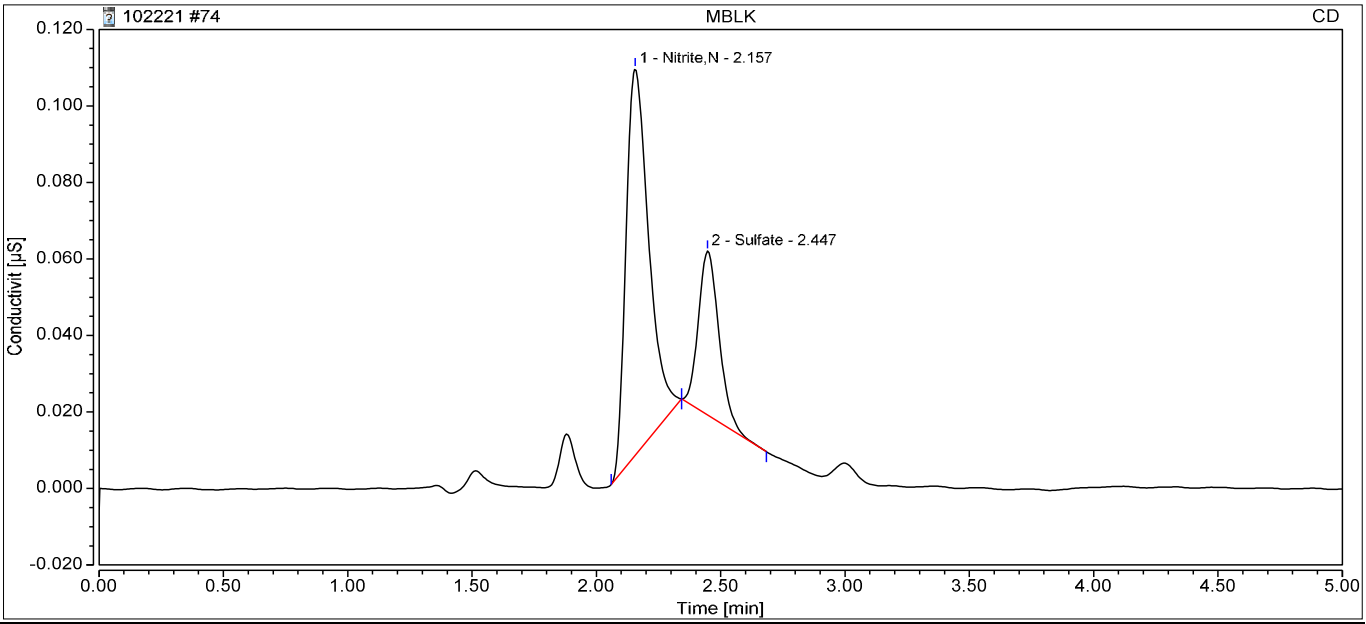
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Chloride	n.a.	n.a.	n.a.	n.a.	1.0000
1	2.16	Nitrite,N	BMB	0.011	0.0023	0.0023	1.0000
2	2.45	Sulfate	BMB	0.004	0.0415	0.0415	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**	**0.015**		**0.04**	

74 MBLK

Sample Name:	**MBLK**	*Injection Volume:*	**5.00**
Vial Number:	**R5**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program ISO37mM 150mm short 0.4**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/22/2021 19:59**	*Sample Weight:*	**1.0000**

Run Time:

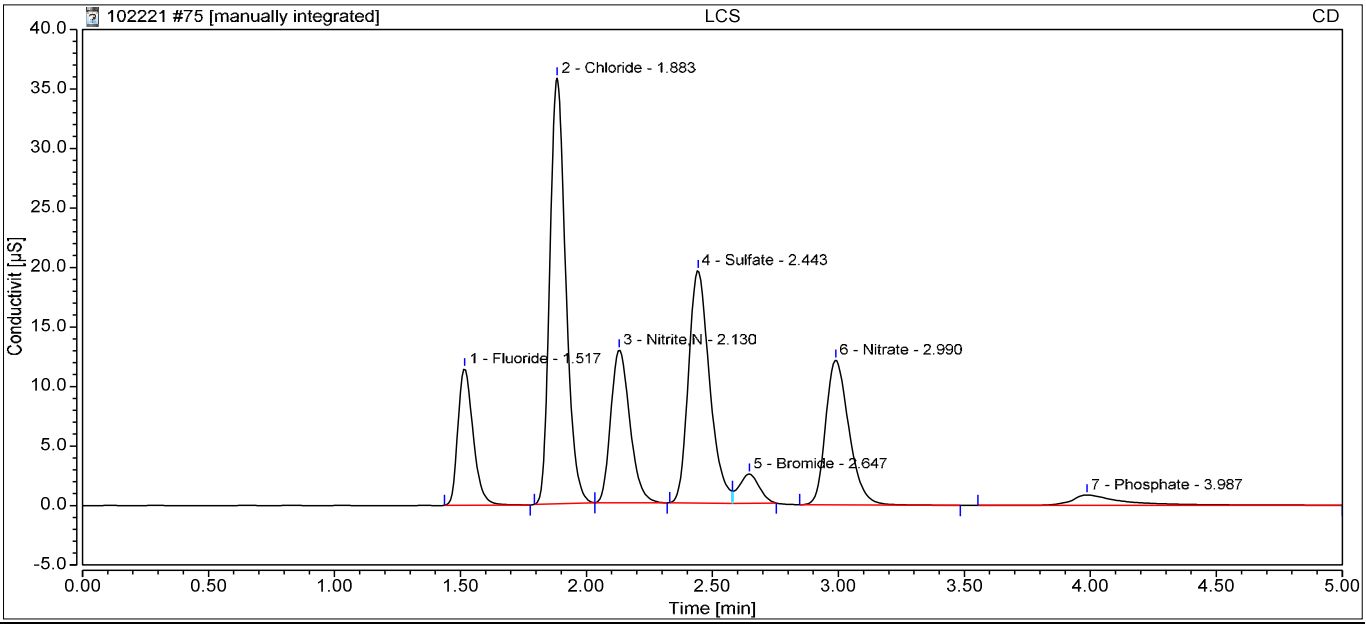


Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Chloride	n.a.	n.a.	n.a.	n.a.	1.0000
1	2.16	Nitrite,N	BMB	0.011	0.0018	0.0018	1.0000
2	2.45	Sulfate	BMB	0.004	0.0438	0.0438	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**	**0.015**		**0.05**	

75 LCS			
Sample Name:	**LCS**	*Injection Volume:*	**5.00**
Vial Number:	**R2**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program ISO37mM 150mm short 0.4**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/22/2021 20:07**	*Sample Weight:*	**1.0000**

Run Time:



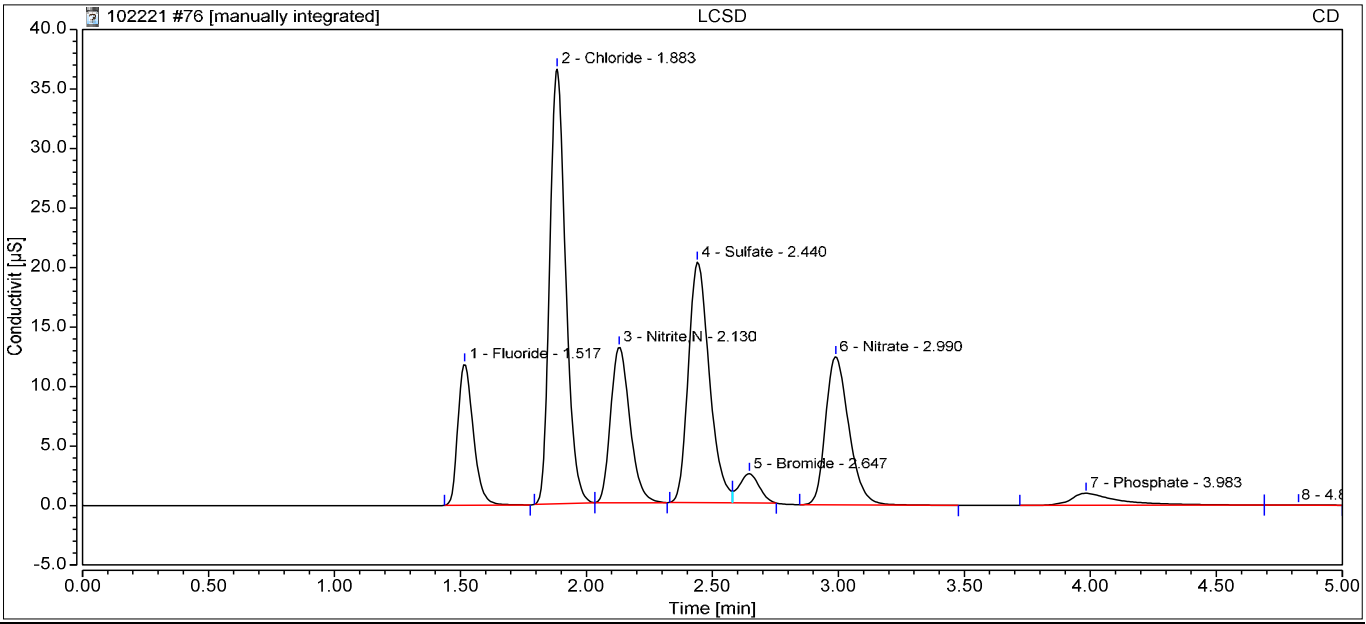
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	1.52	Fluoride	BMB	0.806	3.9948	3.9948	1.0000
2	1.88	Chloride	BMB	2.623	19.4999	19.4999	1.0000
3	2.13	Nitrite,N	BMB	1.131	3.8696	3.8696	1.0000
4	2.44	Sulfate	BM *	1.900	19.5726	19.5726	1.0000
5	2.65	Bromide	MB*	0.227	4.1791	4.1791	1.0000
6	2.99	Nitrate	BMB	1.306	3.8376	3.8376	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
7	3.99	Phosphate	BMB	0.209	2.1317	2.1317	1.0000
Total:			**0.000**	**8.203**		**57.09**	

76 LCSD

Sample Name:	**LCSD**	*Injection Volume:*	**5.00**
Vial Number:	**B1**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program ISO37mM 150mm short 0.4**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/22/2021 20:14**	*Sample Weight:*	**1.0000**

Run Time:

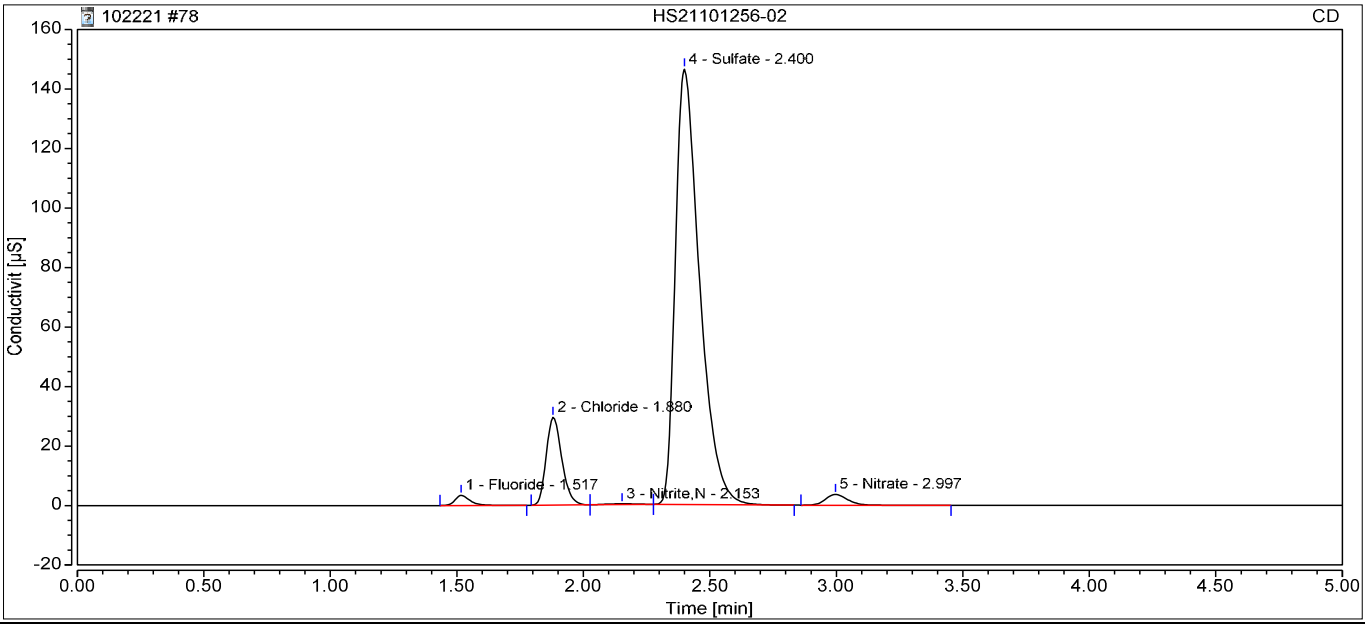


Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	1.52	Fluoride	BMB	0.843	4.1753	4.1753	1.0000
2	1.88	Chloride	BMB	2.680	19.9240	19.9240	1.0000
3	2.13	Nitrite,N	BMB	1.155	3.9536	3.9536	1.0000
4	2.44	Sulfate	BM *	1.959	20.1882	20.1882	1.0000
5	2.65	Bromide	MB*	0.226	4.1539	4.1539	1.0000
6	2.99	Nitrate	BMB	1.338	3.9306	3.9306	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
7	3.98	Phosphate	BMB	0.224	2.2693	2.2693	1.0000
Total:			**0.000**	**8.424**		**58.59**	

78 HS21101256-02			
Sample Name:	**HS21101256-02**	*Injection Volume:*	**5.00**
Vial Number:	**BA7**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program ISO37mM 150mm short 0.4**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/22/2021 20:29**	*Sample Weight:*	**1.0000**

Run Time:



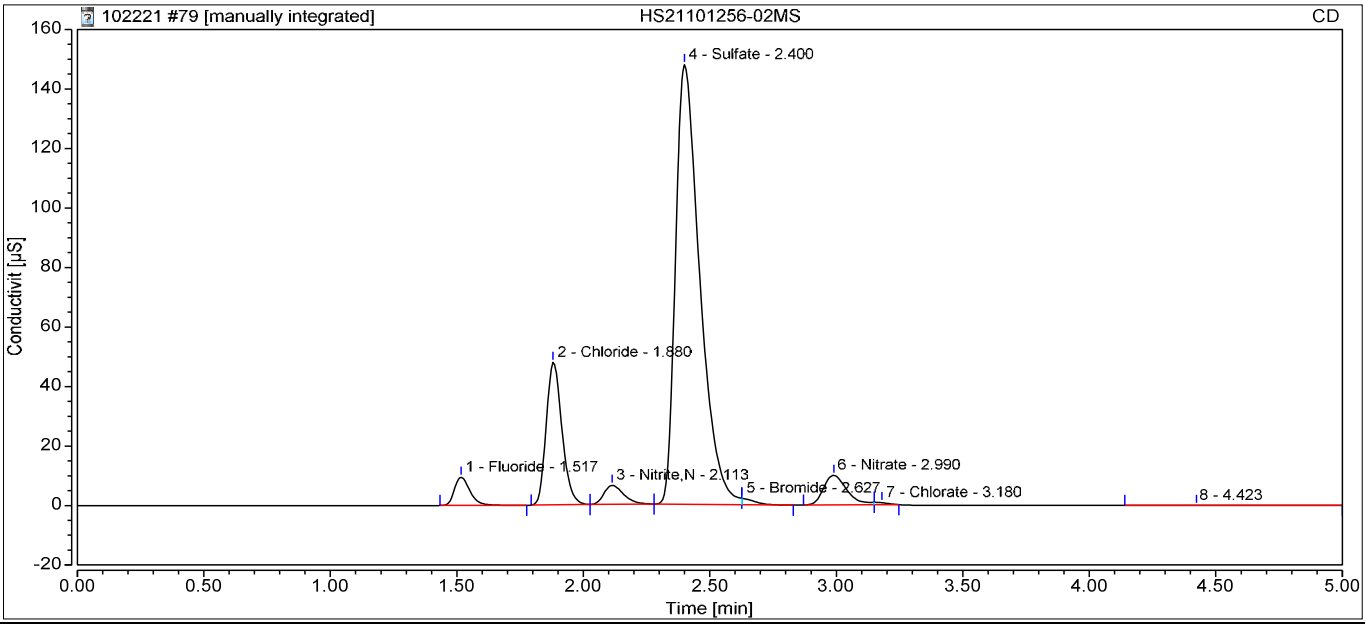
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	1.52	Fluoride	BMB	0.235	1.1904	1.1904	1.0000
2	1.88	Chloride	BMB	2.111	15.6812	15.6812	1.0000
3	2.15	Nitrite,N	BMB	0.037	0.0896	0.0896	1.0000
4	2.40	Sulfate	BMB	16.259	167.5098	167.5098	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
5	3.00	Nitrate	BMB	0.371	1.0912	1.0912	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**	**19.013**		**185.56**	

79 *HS21101256-02MS*

Sample Name:	**HS21101256-02MS**	*Injection Volume:*	**5.00**
Vial Number:	**BA8**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program ISO37mM 150mm short 0.4**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/22/2021 20:36**	*Sample Weight:*	**1.0000**

Run Time:



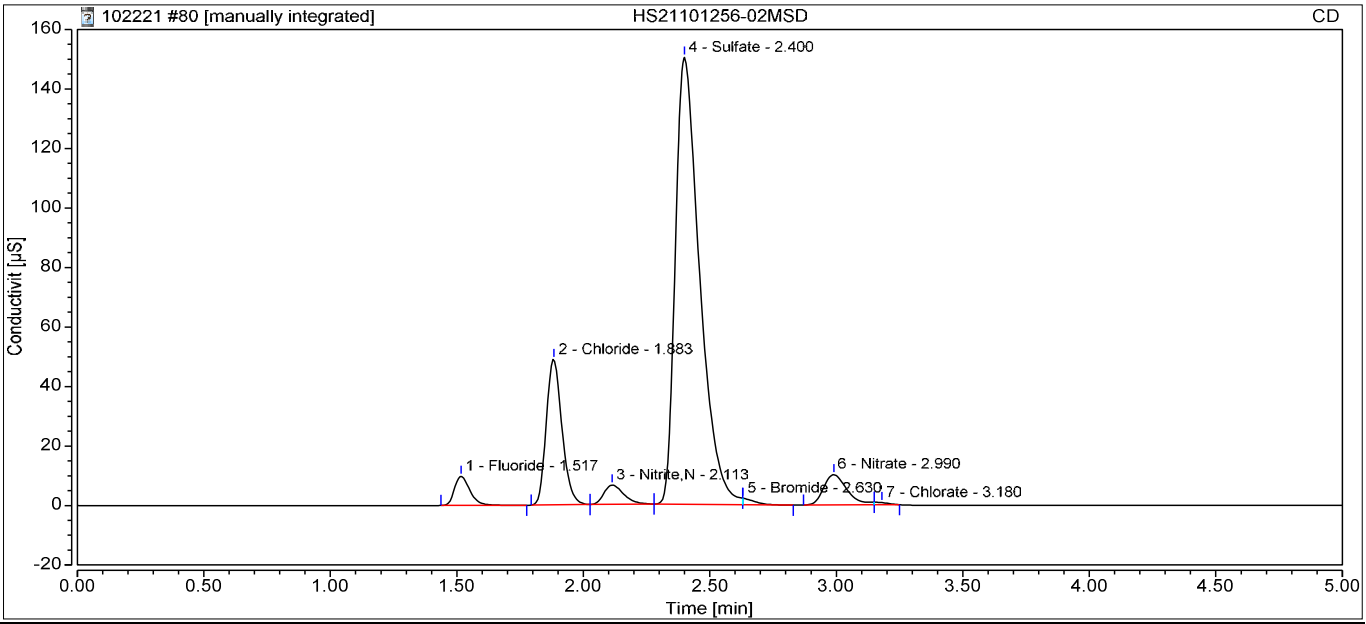
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	1.52	Fluoride	BMB	0.677	3.3638	3.3638	1.0000
2	1.88	Chloride	BMB	3.462	25.7463	25.7463	1.0000
3	2.11	Nitrite,N	BMB	0.576	1.9231	1.9231	1.0000
4	2.40	Sulfate	BM *	16.426	169.2338	169.2338	1.0000
5	2.63	Bromide	MB*	0.119	2.2001	2.2001	1.0000
6	2.99	Nitrate	BM *	1.060	3.1153	3.1153	1.0000
7	3.18	Chlorate	MB*	0.044	n.a.	n.a.	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**22.364**		**205.58**	

80 HS21101256-02MSD

Sample Name:	**HS21101256-02MSD**	*Injection Volume:*	**5.00**
Vial Number:	**BB1**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program ISO37mM 150mm short 0.4**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/22/2021 20:44**	*Sample Weight:*	**1.0000**

Run Time:



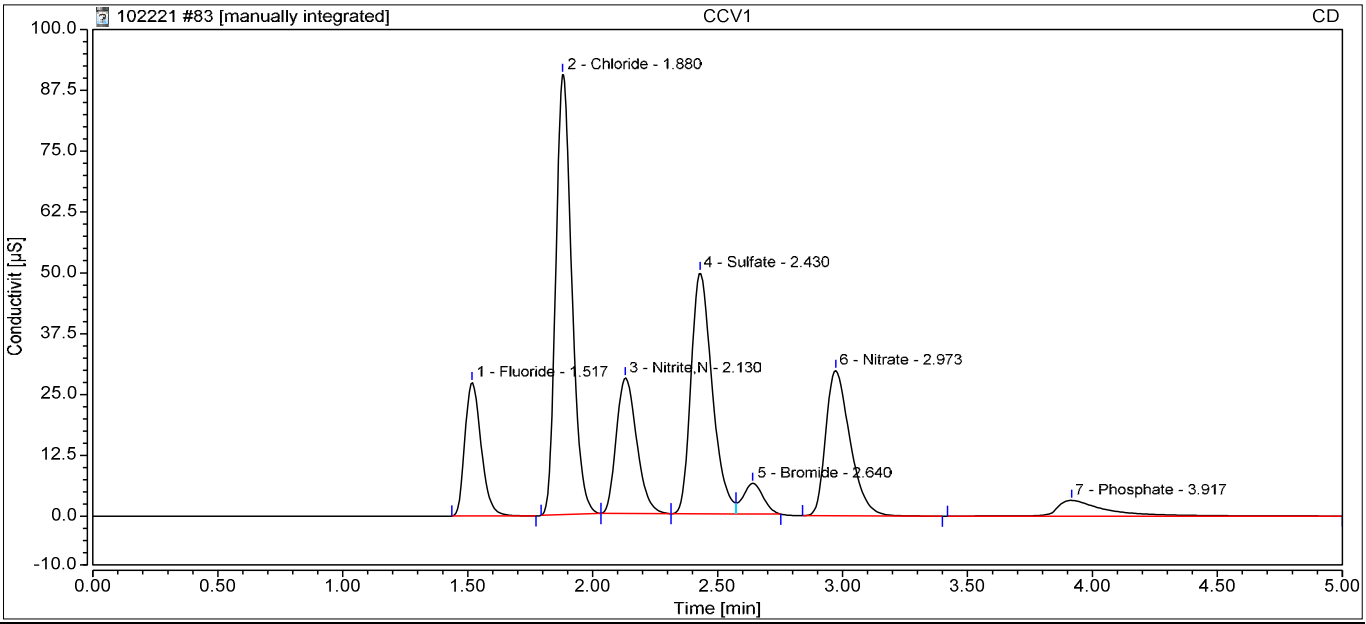
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	1.52	Fluoride	BMB	0.695	3.4504	3.4504	1.0000
2	1.88	Chloride	BMB	3.530	26.2539	26.2539	1.0000
3	2.11	Nitrite,N	BMB	0.588	1.9656	1.9656	1.0000
4	2.40	Sulfate	BM *	16.726	172.3250	172.3250	1.0000
5	2.63	Bromide	MB*	0.114	2.1060	2.1060	1.0000
6	2.99	Nitrate	BM *	1.090	3.2028	3.2028	1.0000
7	3.18	Chlorate	MB*	0.048	n.a.	n.a.	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**22.791**		**209.30**	

83 CCV1

Sample Name:	**CCV1**	*Injection Volume:*	**5.00**
Vial Number:	**R3**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program ISO37mM 150mm short 0.4**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/22/2021 21:13**	*Sample Weight:*	**1.0000**

Run Time:



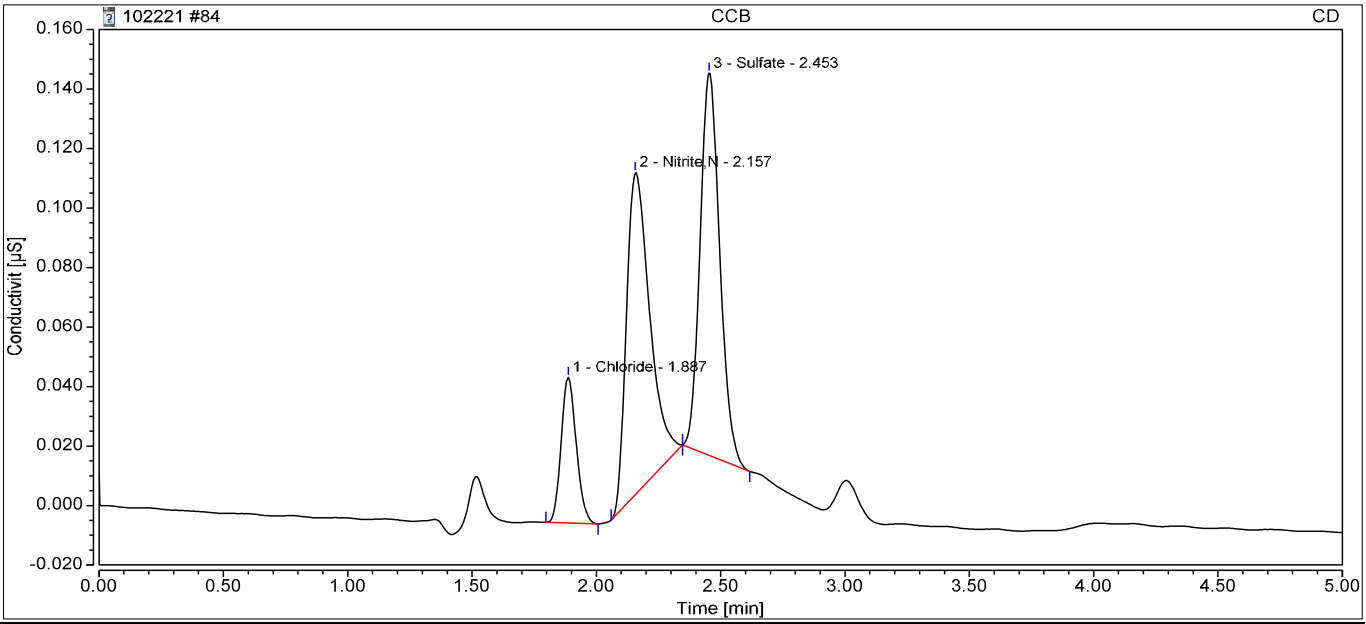
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	1.52	Fluoride	BMB	2.074	10.2225	10.2225	1.0000
2	1.88	Chloride	BMB	6.705	49.9131	49.9131	1.0000
3	2.13	Nitrite,N	BMb*	2.644	9.5188	9.5188	1.0000
4	2.43	Sulfate	bM *	4.869	50.1695	50.1695	1.0000
5	2.64	Bromide	MB*	0.590	10.7980	10.7980	1.0000
6	2.97	Nitrate	BMB	3.374	9.9151	9.9151	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
7	3.92	Phosphate	BMB	0.750	7.0764	7.0764	1.0000
Total:			**0.000**	**21.007**		**147.61**	

84 CCB

Sample Name:	**CCB**	*Injection Volume:*	**5.00**
Vial Number:	**R6**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program ISO37mM 150mm short 0.4**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/22/2021 21:21**	*Sample Weight:*	**1.0000**

Run Time:



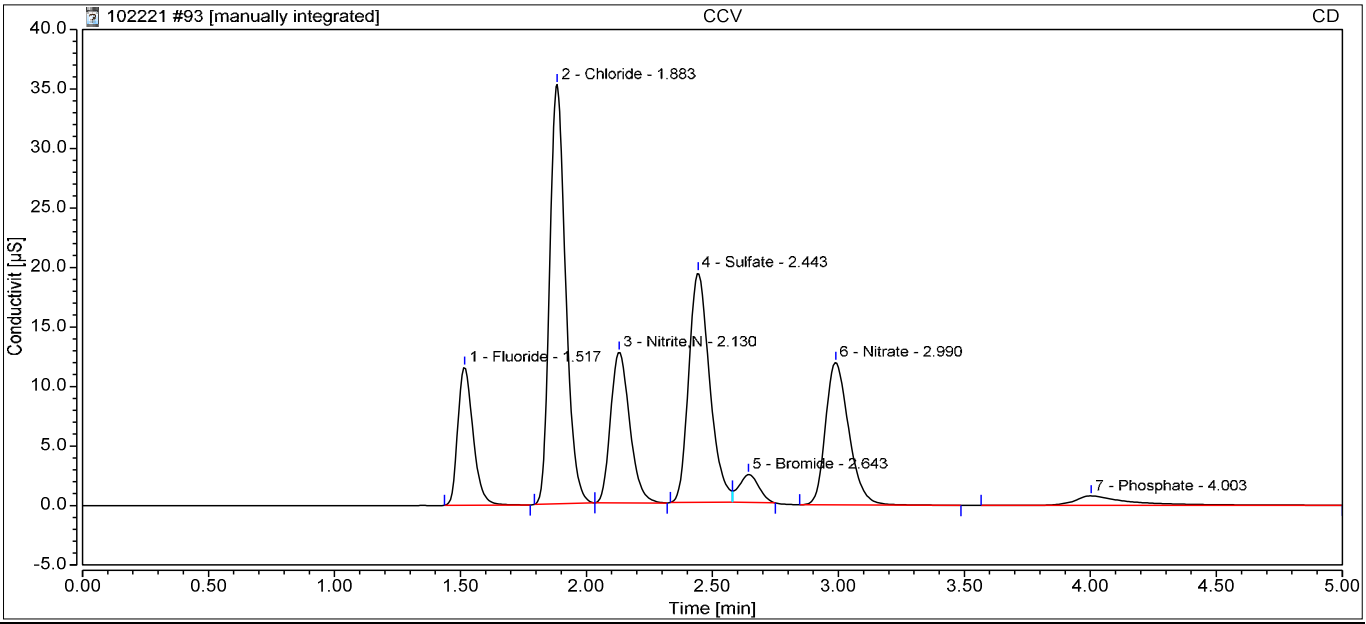
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	1.0000
1	1.89	Chloride	BMB	0.003	n.a.	n.a.	1.0000
2	2.16	Nitrite,N	BMB	0.012	0.0051	0.0051	1.0000
3	2.45	Sulfate	BMB	0.012	0.1228	0.1228	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**	**0.027**		**0.13**	

93 CCV

Sample Name:	**CCV**	*Injection Volume:*	**5.00**
Vial Number:	**R1**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program ISO37mM 150mm short 0.4**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/22/2021 22:35**	*Sample Weight:*	**1.0000**

Run Time:



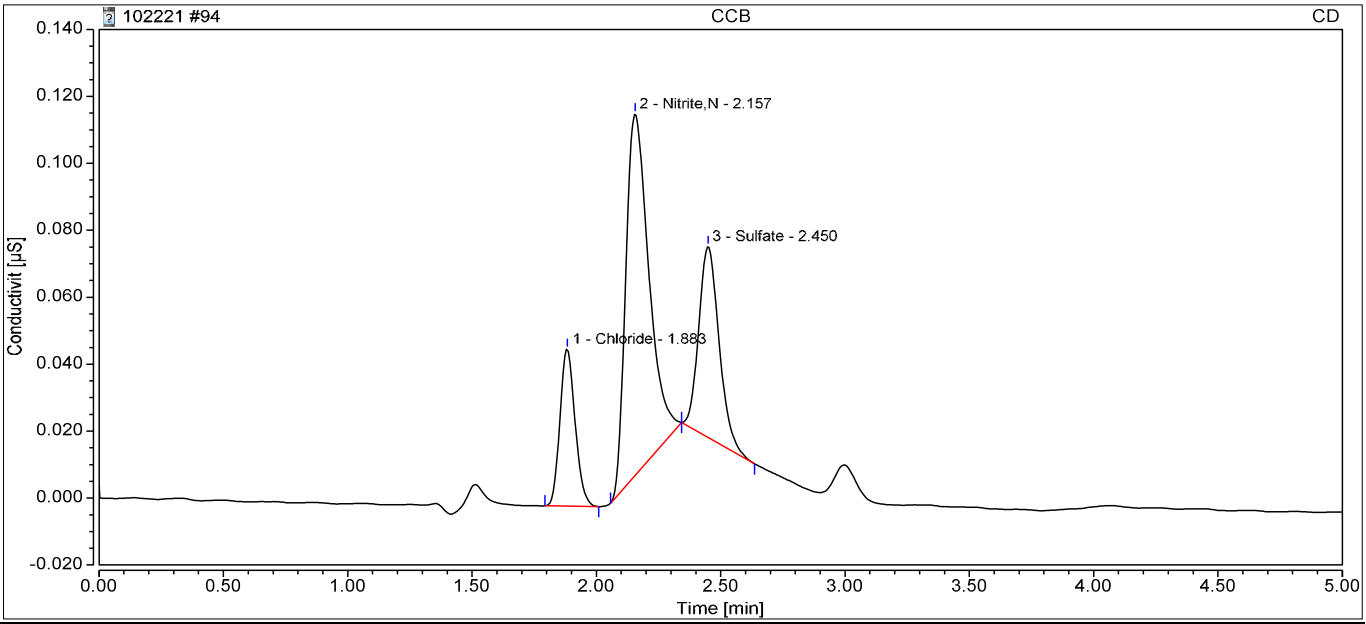
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	1.52	Fluoride	BMB	0.817	4.0495	4.0495	1.0000
2	1.88	Chloride	BMB	2.581	19.1852	19.1852	1.0000
3	2.13	Nitrite,N	BMB	1.115	3.8141	3.8141	1.0000
4	2.44	Sulfate	BM *	1.862	19.1833	19.1833	1.0000
5	2.64	Bromide	MB*	0.214	3.9354	3.9354	1.0000
6	2.99	Nitrate	BMB	1.284	3.7739	3.7739	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
7	4.00	Phosphate	BMB	0.203	2.0669	2.0669	1.0000
Total:			**0.000**	**8.077**		**56.01**	

94 CCB

Sample Name:	**CCB**	*Injection Volume:*	**5.00**
Vial Number:	**R4**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program ISO37mM 150mm short 0.4**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/22/2021 22:42**	*Sample Weight:*	**1.0000**

Run Time:



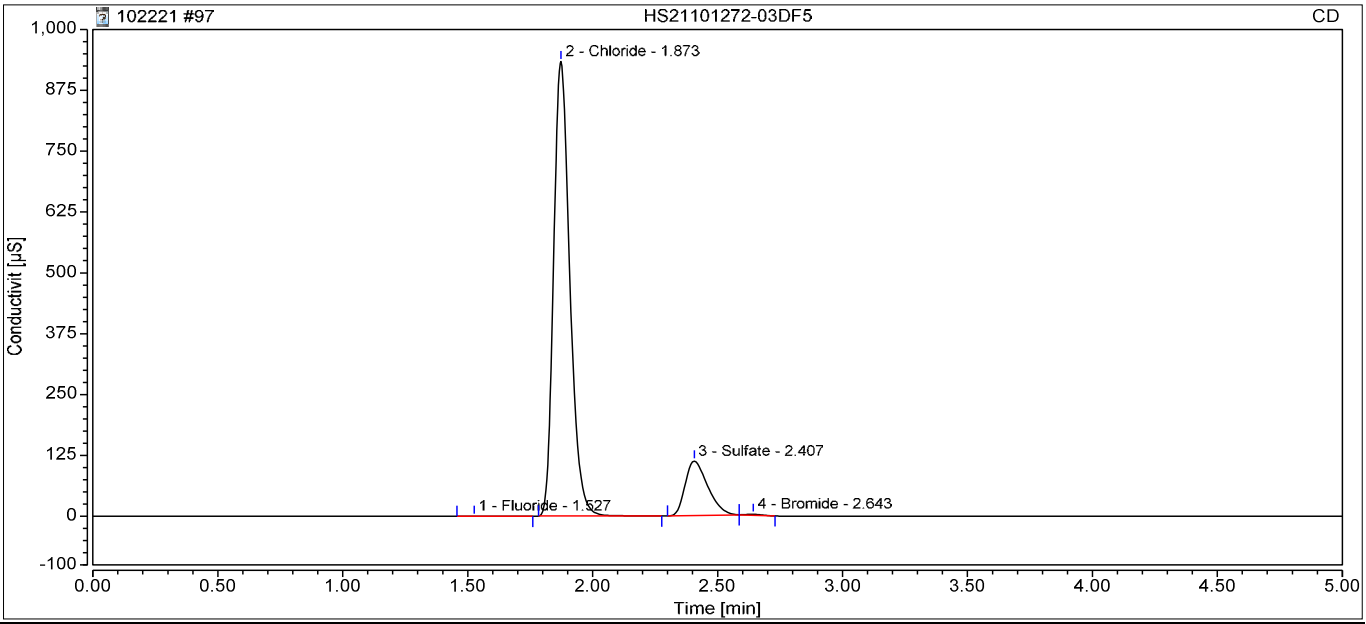
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	1.0000
1	1.88	Chloride	BMB	0.003	n.a.	n.a.	1.0000
2	2.16	Nitrite,N	BMB	0.012	0.0049	0.0049	1.0000
3	2.45	Sulfate	BMB	0.005	0.0571	0.0571	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**	**0.020**		**0.06**	

97 HS21101272-03DF5

Sample Name:	**HS21101272-03DF5**	*Injection Volume:*	**5.00**
Vial Number:	**BC8**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program ISO37mM 150mm short 0.4**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**5.0000**
Recording Time:	**10/22/2021 23:04**	*Sample Weight:*	**1.0000**

Run Time:



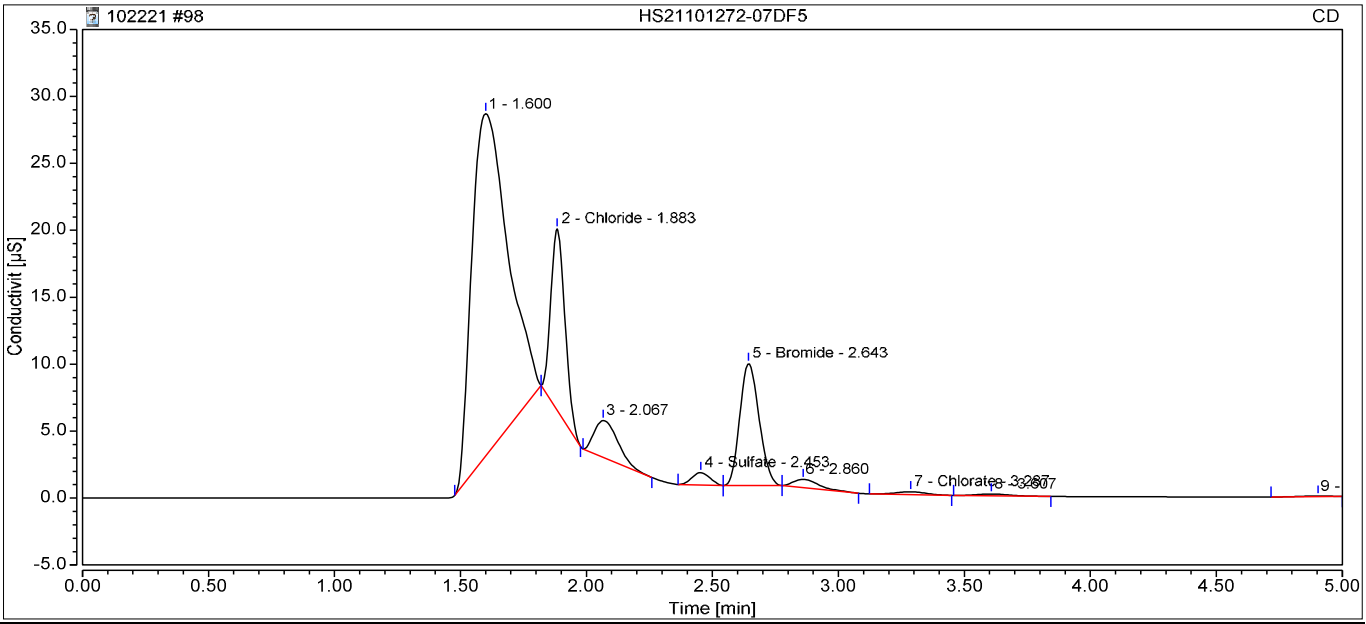
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	1.53	Fluoride	BMB	0.026	0.1654	0.8270	5.0000
2	1.87	Chloride	BMB	70.185	522.8878	2614.4390	5.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	5.0000
3	2.41	Sulfate	BMB	11.673	120.2659	601.3296	5.0000
4	2.64	Bromide	BMB	0.144	2.6551	13.2757	5.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	5.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	5.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	5.0000
Total:			**0.000**	**82.028**		**3229.87**	

98 HS21101272-07DF5

Sample Name:	**HS21101272-07DF5**	*Injection Volume:*	**5.00**
Vial Number:	**BD1**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program ISO37mM 150mm short 0.4**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**5.0000**
Recording Time:	**10/22/2021 23:12**	*Sample Weight:*	**1.0000**

Run Time:



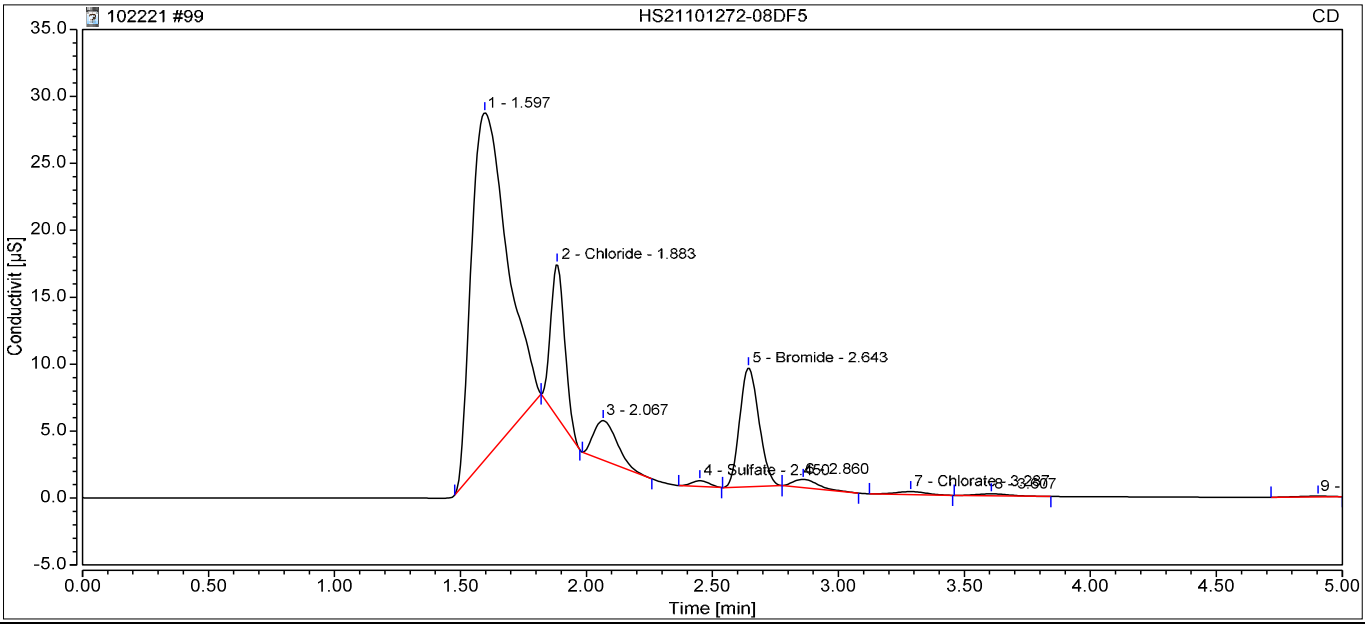
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	5.0000
2	1.88	Chloride	BMB	0.882	6.5284	32.6421	5.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	5.0000
4	2.45	Sulfate	BMB	0.077	0.7909	3.9545	5.0000
5	2.64	Bromide	BMB	0.809	14.8038	74.0190	5.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	5.0000
7	3.29	Chlorate	BMB	0.029	n.a.	n.a.	5.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	5.0000
Total:			**0.000**	**1.797**		**110.62**	

99 HS21101272-08DF5

Sample Name:	**HS21101272-08DF5**	*Injection Volume:*	**5.00**
Vial Number:	**BD2**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program ISO37mM 150mm short 0.4**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**5.0000**
Recording Time:	**10/22/2021 23:19**	*Sample Weight:*	**1.0000**

Run Time:



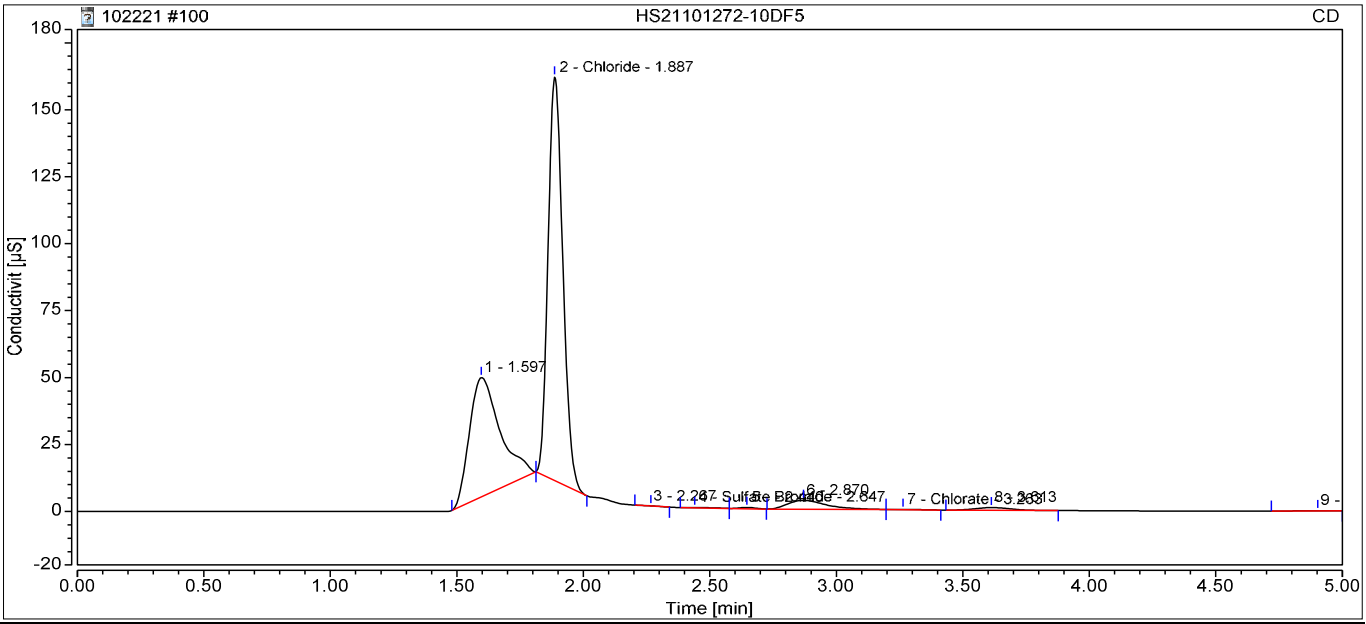
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	5.0000
2	1.88	Chloride	BMB	0.738	5.4547	27.2736	5.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	5.0000
4	2.45	Sulfate	BMB	0.035	0.3610	1.8048	5.0000
5	2.64	Bromide	BMB	0.790	14.4561	72.2804	5.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	5.0000
7	3.29	Chlorate	BMB	0.030	n.a.	n.a.	5.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	5.0000
Total:			**0.000**	**1.593**		**101.36**	

100 HS21101272-10DF5

Sample Name:	**HS21101272-10DF5**	*Injection Volume:*	**5.00**
Vial Number:	**BD3**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program ISO37mM 150mm short 0.4**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**5.0000**
Recording Time:	**10/22/2021 23:27**	*Sample Weight:*	**1.0000**

Run Time:



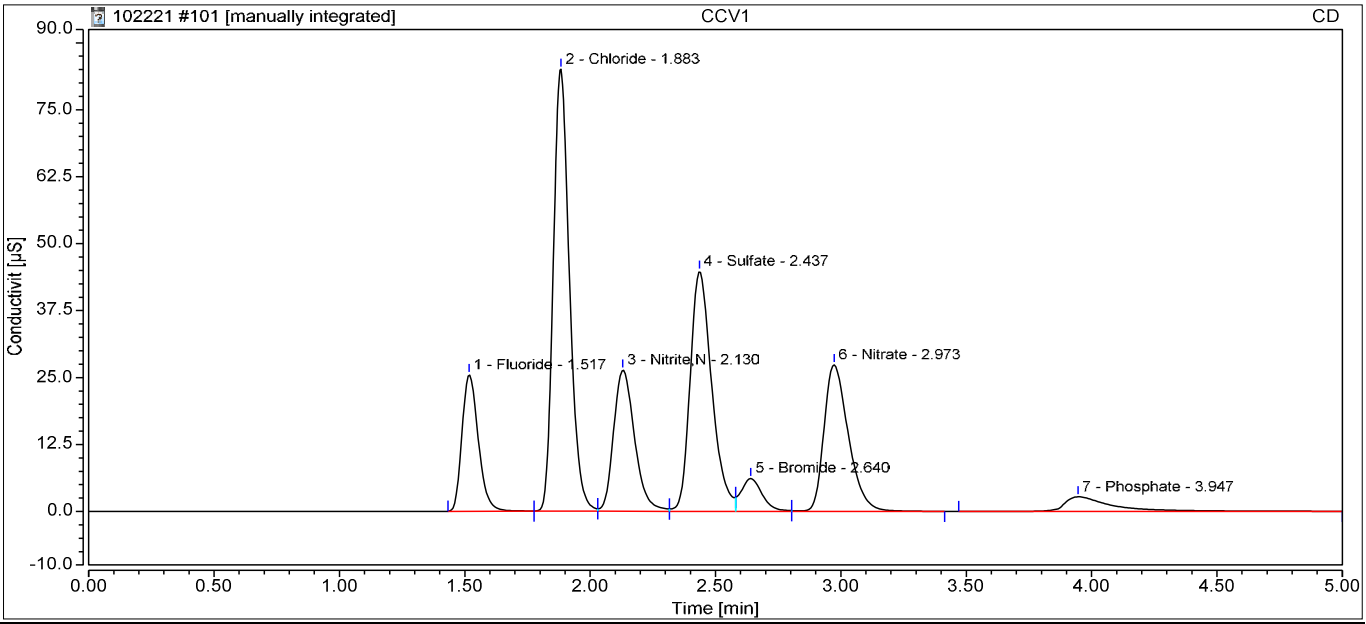
Integration Results

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.	5.0000
2	1.89	Chloride	BMB	10.203	75.9767	379.8837	5.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	5.0000
4	2.44	Sulfate	BMB	0.016	0.1649	0.8243	5.0000
5	2.65	Bromide	BMB	0.032	0.6203	3.1013	5.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	5.0000
7	3.26	Chlorate	BMB	0.010	n.a.	n.a.	5.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	5.0000
Total:			**0.000**	**10.262**		**383.81**	

101 CCV1

Sample Name:	**CCV1**	*Injection Volume:*	**5.00**
Vial Number:	**R3**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program ISO37mM 150mm short 0.4**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/22/2021 23:49**	*Sample Weight:*	**1.0000**

Run Time:



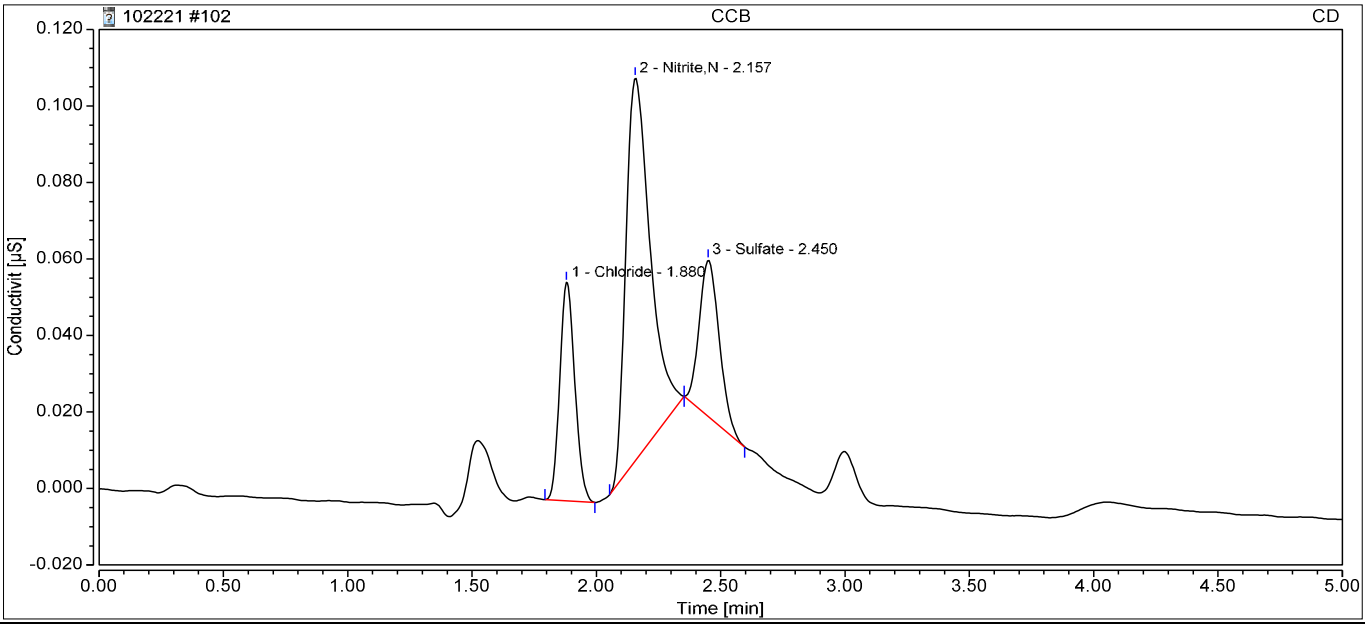
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	1.52	Fluoride	BMb*	1.924	9.4856	9.4856	1.0000
2	1.88	Chloride	bM *	6.150	45.7778	45.7778	1.0000
3	2.13	Nitrite,N	M *	2.562	9.1970	9.1970	1.0000
4	2.44	Sulfate	M *	4.487	46.2277	46.2277	1.0000
5	2.64	Bromide	M *	0.598	10.9482	10.9482	1.0000
6	2.97	Nitrate	MB*	3.096	9.0964	9.0964	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
7	3.95	Phosphate	BMB	0.605	5.8032	5.8032	1.0000
Total:			**0.000**	**19.422**		**136.54**	

102 CCB

Sample Name:	**CCB**	*Injection Volume:*	**5.00**
Vial Number:	**R6**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program ISO37mM 150mm short 0.4**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/22/2021 23:56**	*Sample Weight:*	**1.0000**

Run Time:



Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	1.0000
1	1.88	Chloride	BMB	0.004	n.a.	n.a.	1.0000
2	2.16	Nitrite,N	BMB	0.011	0.0039	0.0039	1.0000
3	2.45	Sulfate	BMB	0.004	0.0407	0.0407	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**	**0.019**		**0.04**	

Sequence: 110721
Last Update Operator: alshs.nouser

CD	Name	Comment	Type	Position	Dilution	Level	Instrument Method	Processing Method	Volume	Status
	STD1		Calibratio	BB1	1.00	1	Anions Program ISO37mM 150mm short 0.4	Anions Proce	5.0	Finished
	STD2		Calibratio	BB2	1.00	2	Anions Program ISO37mM 150mm short 0.4	Anions Proce	5.0	Finished
	STD3		Calibratio	BB3	1.00	3	Anions Program ISO37mM 150mm short 0.4	Anions Proce	5.0	Finished
	STD4		Calibratio	BB4	1.00	4	Anions Program ISO37mM 150mm short 0.4	Anions Proce	5.0	Finished
	STD5		Calibratio	BB5	1.00	5	Anions Program ISO37mM 150mm short 0.4	Anions Proce	5.0	Finished
	STD6		Calibratio	BB6	1.00	6	Anions Program ISO37mM 150mm short 0.4	Anions Proce	5.0	Finished
	ICV		Unknown	BA7	1.00		Anions Program ISO37mM 150mm short 0.4	Anions Proce	5.0	Finished
	ICB		Unknown	BA8	1.00		Anions Program ISO37mM 150mm short 0.4	Anions Proce	5.0	Finished
	CCV		Unknown	R1	1.00		Anions Program ISO37mM 150mm short 0.4	Anions Proce	5.0	Finished
	CCB		Unknown	R4	1.00		Anions Program ISO37mM 150mm short 0.4	Anions Proce	5.0	Finished
	HS21101272-03DF20		Unknown	RE2	20.00		Anions Program ISO37mM 150mm short 0.4	Anions Proce	5.0	Finished
	CCV1		Unknown	R3	1.00		Anions Program ISO37mM 150mm short 0.4	Anions Proce	5.0	Finished
	CCB		Unknown	R8	1.00		Anions Program ISO37mM 150mm short 0.4	Anions Proce	5.0	Finished
	MBLK		Unknown	R5	1.00		Anions Program ISO37mM 150mm short 0.4	Anions Proce	5.0	Finished
	LCS		Unknown	R2	1.00		Anions Program ISO37mM 150mm short 0.4	Anions Proce	5.0	Finished
	HS21101670-14		Unknown	GA4	1.00		Anions Program ISO37mM 150mm short 0.4	Anions Proce	5.0	Finished
	HS21101670-14MS		Unknown	GA5	1.00		Anions Program ISO37mM 150mm short 0.4	Anions Proce	5.0	Finished
	HS21101670-14MSD		Unknown	GA6	1.00		Anions Program ISO37mM 150mm short 0.4	Anions Proce	5.0	Finished
	CCV		Unknown	R1	1.00		Anions Program ISO37mM 150mm short 0.4	Anions Proce	5.0	Finished
	CCB		Unknown	R4	1.00		Anions Program ISO37mM 150mm short 0.4	Anions Proce	5.0	Finished

Sequence: 110721
Last Update Operator: alshs.nouser

Inject Time
11/3/2021 4:47:51 PM -05:00
11/3/2021 4:55:19 PM -05:00
11/3/2021 5:02:47 PM -05:00
11/3/2021 5:10:15 PM -05:00
11/3/2021 5:17:44 PM -05:00
11/3/2021 5:25:12 PM -05:00
11/3/2021 5:34:10 PM -05:00
11/3/2021 5:41:38 PM -05:00
11/7/2021 2:08:23 PM -06:00
11/7/2021 2:15:46 PM -06:00
11/7/2021 2:52:44 PM -06:00
11/7/2021 3:37:05 PM -06:00
11/7/2021 3:44:29 PM -06:00
11/7/2021 3:59:17 PM -06:00
11/7/2021 4:06:41 PM -06:00
11/7/2021 4:43:50 PM -06:00
11/7/2021 4:51:14 PM -06:00
11/7/2021 4:58:37 PM -06:00
11/7/2021 5:06:01 PM -06:00
11/7/2021 5:20:48 PM -06:00

Sequence: 110721
Injection #6: STD6

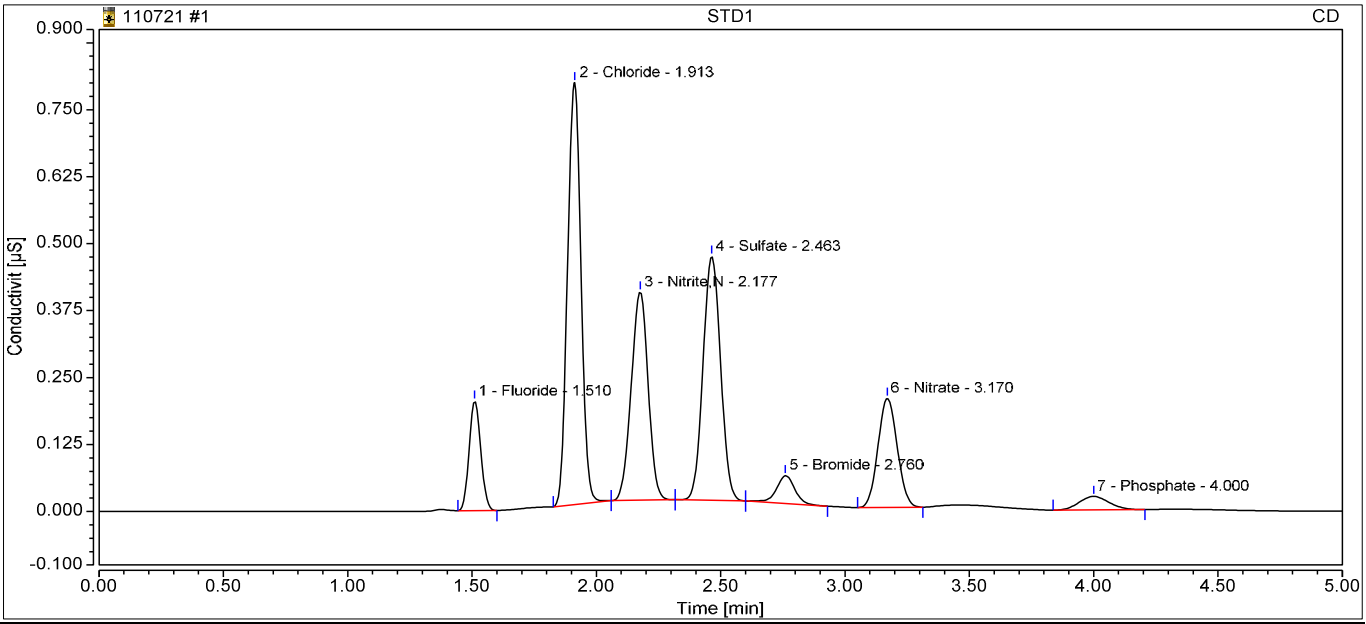
Calibration

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*	*27.8876*	*0.99658*	*-0.0083*	*0.2107*	*0.0000*
2	Chloride	Lin, WithOffset, 1/	Area	6	10.8147	0.99945	-0.0187	0.1414	0.0000
3	Nitrite,N	Quad, WithOffset,	Area	6	13.6827	0.99907	-0.0001	0.3141	-0.0036
4	Sulfate	Lin, WithOffset, 1/	Area	6	12.4596	0.99926	-0.0126	0.1039	0.0000
5	Bromide	Lin, WithOffset, 1/	Area	6	18.4384	0.99858	-0.0030	0.0609	0.0000
6	Nitrate	Lin, WithOffset, 1/	Area	6	10.9439	0.99950	-0.0172	0.3553	0.0000
n.a.	Chlorate	Lin, WithOffset, 1/	Area	0	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	Phosphate	Quad, WithOffset,	Area	5	27.6931	0.99780	-0.0107	0.1204	0.0006
Maximum					**27.8876**	0.99950			
Minimum					10.8147	**0.99658**			

1 STD1

Sample Name:	**STD1**	*Injection Volume:*	**5.00**
Vial Number:	**BB1**	*Channel:*	**CD**
Sample Type:	**Calibration Standard**	*Wavelength:*	**210**
Control Program:	**Anions Program ISO37mM 150mm short 0.4**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/03/2021 16:47**	*Sample Weight:*	**1.0000**

Run Time:



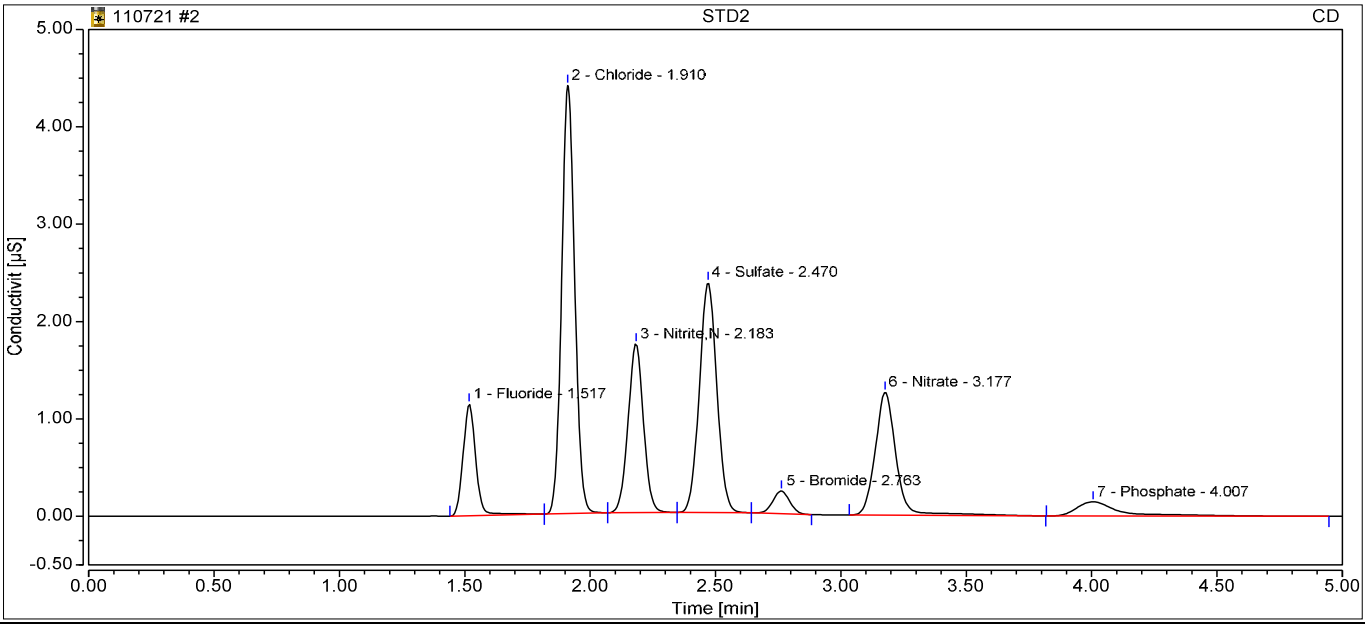
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	1.51	Fluoride	BMB	0.011	0.0921	0.0921	1.0000
2	1.91	Chloride	BMB	0.049	0.4810	0.4810	1.0000
3	2.18	Nitrite,N	BMB	0.031	0.0978	0.0978	1.0000
4	2.46	Sulfate	BMB	0.037	0.4805	0.4805	1.0000
5	2.76	Bromide	BMB	0.004	0.1226	0.1226	1.0000
6	3.17	Nitrate	BMB	0.018	0.0999	0.0999	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
7	4.00	Phosphate	BMB	0.004	0.1178	0.1178	1.0000
Total:			**0.000**	**0.155**		**1.49**	

2 STD2

Sample Name:	**STD2**	*Injection Volume:*	**5.00**
Vial Number:	**BB2**	*Channel:*	**CD**
Sample Type:	**Calibration Standard**	*Wavelength:*	**210**
Control Program:	**Anions Program ISO37mM 150mm short 0.4**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/03/2021 16:55**	*Sample Weight:*	**1.0000**

Run Time:



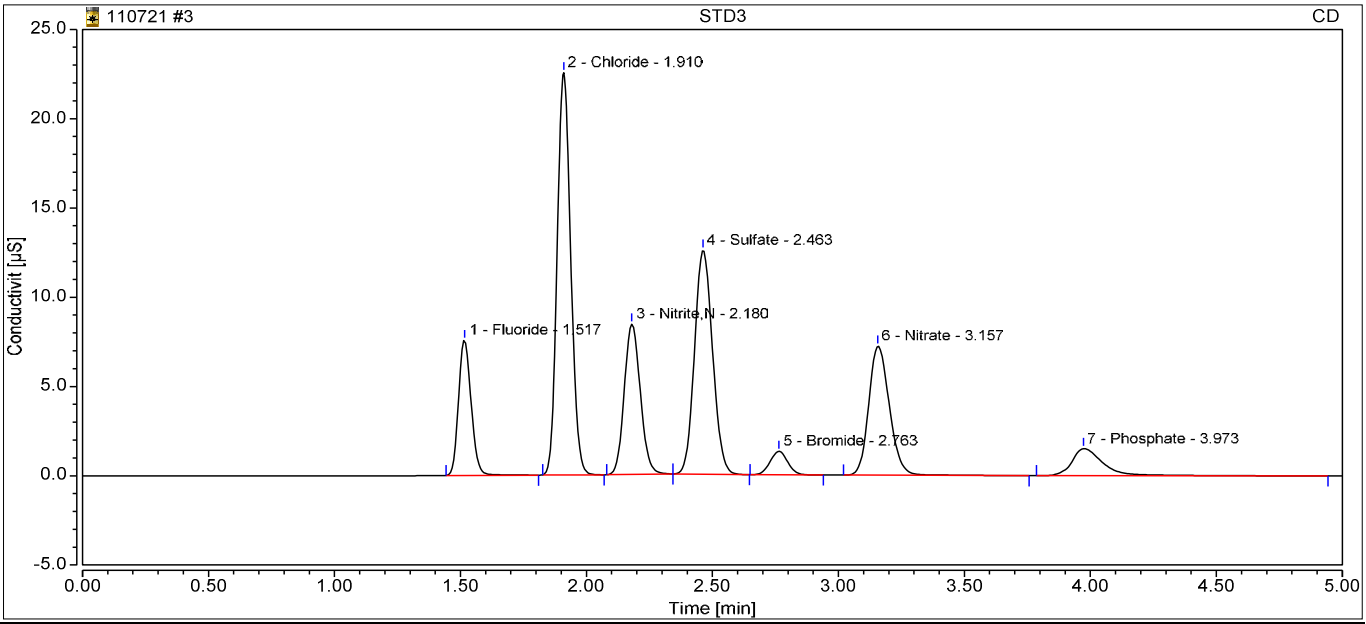
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	1.52	Fluoride	BMB	0.068	0.3607	0.3607	1.0000
2	1.91	Chloride	BMB	0.265	2.0057	2.0057	1.0000
3	2.18	Nitrite,N	BMB	0.123	0.3950	0.3950	1.0000
4	2.47	Sulfate	BMB	0.191	1.9556	1.9556	1.0000
5	2.76	Bromide	BMB	0.018	0.3462	0.3462	1.0000
6	3.18	Nitrate	BMB	0.122	0.3914	0.3914	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
7	4.01	Phosphate	BMB	0.029	0.3309	0.3309	1.0000
Total:			**0.000**	**0.816**		**5.79**	

3 STD3

Sample Name:	**STD3**	*Injection Volume:*	**5.00**
Vial Number:	**BB3**	*Channel:*	**CD**
Sample Type:	**Calibration Standard**	*Wavelength:*	**210**
Control Program:	**Anions Program ISO37mM 150mm short 0.4**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/03/2021 17:02**	*Sample Weight:*	**1.0000**

Run Time:



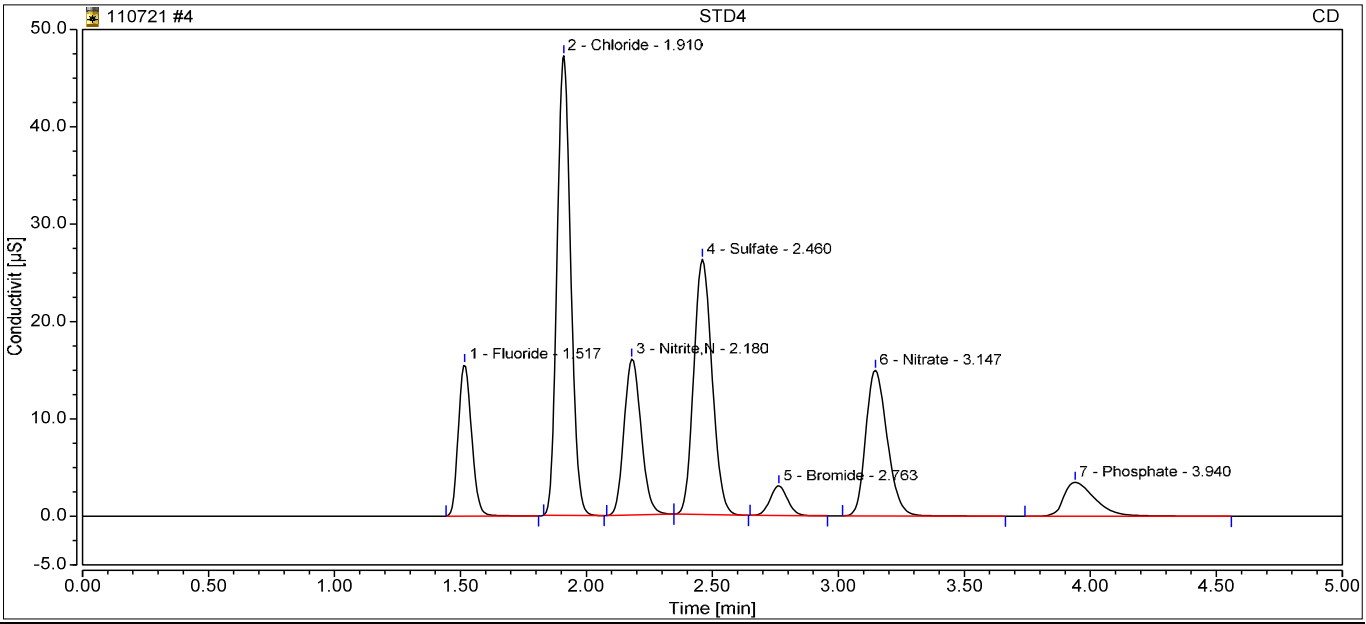
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	1.52	Fluoride	BMB	0.442	2.1349	2.1349	1.0000
2	1.91	Chloride	BMB	1.402	10.0450	10.0450	1.0000
3	2.18	Nitrite,N	BMB	0.623	2.0307	2.0307	1.0000
4	2.46	Sulfate	BMB	1.041	10.1470	10.1470	1.0000
5	2.76	Bromide	BMB	0.106	1.7946	1.7946	1.0000
6	3.16	Nitrate	BMB	0.689	1.9863	1.9863	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
7	3.97	Phosphate	BMB	0.219	1.8914	1.8914	1.0000
Total:			**0.000**	**4.522**		**30.03**	

4 STD4

Sample Name:	**STD4**	*Injection Volume:*	**5.00**
Vial Number:	**BB4**	*Channel:*	**CD**
Sample Type:	**Calibration Standard**	*Wavelength:*	**210**
Control Program:	**Anions Program ISO37mM 150mm short 0.4**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/03/2021 17:10**	*Sample Weight:*	**1.0000**

Run Time:



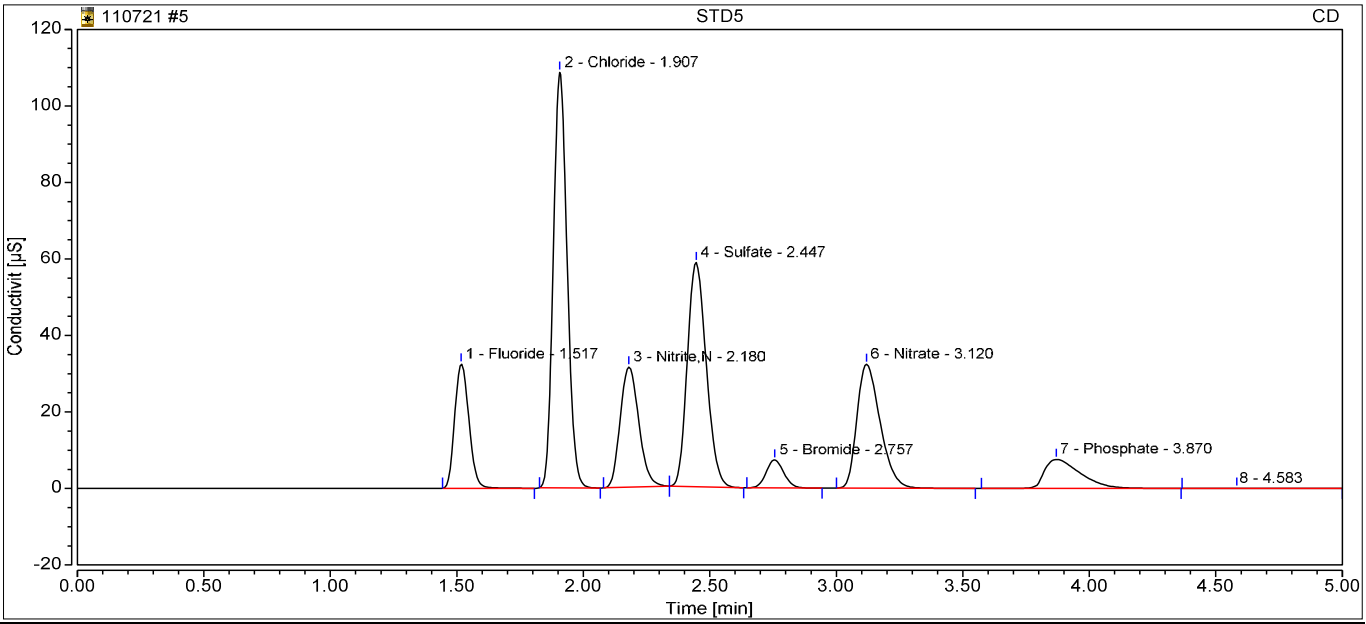
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	1.52	Fluoride	BMB	0.950	4.5474	4.5474	1.0000
2	1.91	Chloride	BMB	2.964	21.0908	21.0908	1.0000
3	2.18	Nitrite,N	BMB	1.258	4.2075	4.2075	1.0000
4	2.46	Sulfate	BMB	2.212	21.4145	21.4145	1.0000
5	2.76	Bromide	BMB	0.244	4.0546	4.0546	1.0000
6	3.15	Nitrate	BMB	1.476	4.2029	4.2029	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
7	3.94	Phosphate	BMB	0.509	4.2200	4.2200	1.0000
Total:			**0.000**	**9.612**		**63.74**	

5 STD5

Sample Name:	**STD5**	*Injection Volume:*	**5.00**
Vial Number:	**BB5**	*Channel:*	**CD**
Sample Type:	**Calibration Standard**	*Wavelength:*	**210**
Control Program:	**Anions Program ISO37mM 150mm short 0.4**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/03/2021 17:17**	*Sample Weight:*	**1.0000**

Run Time:



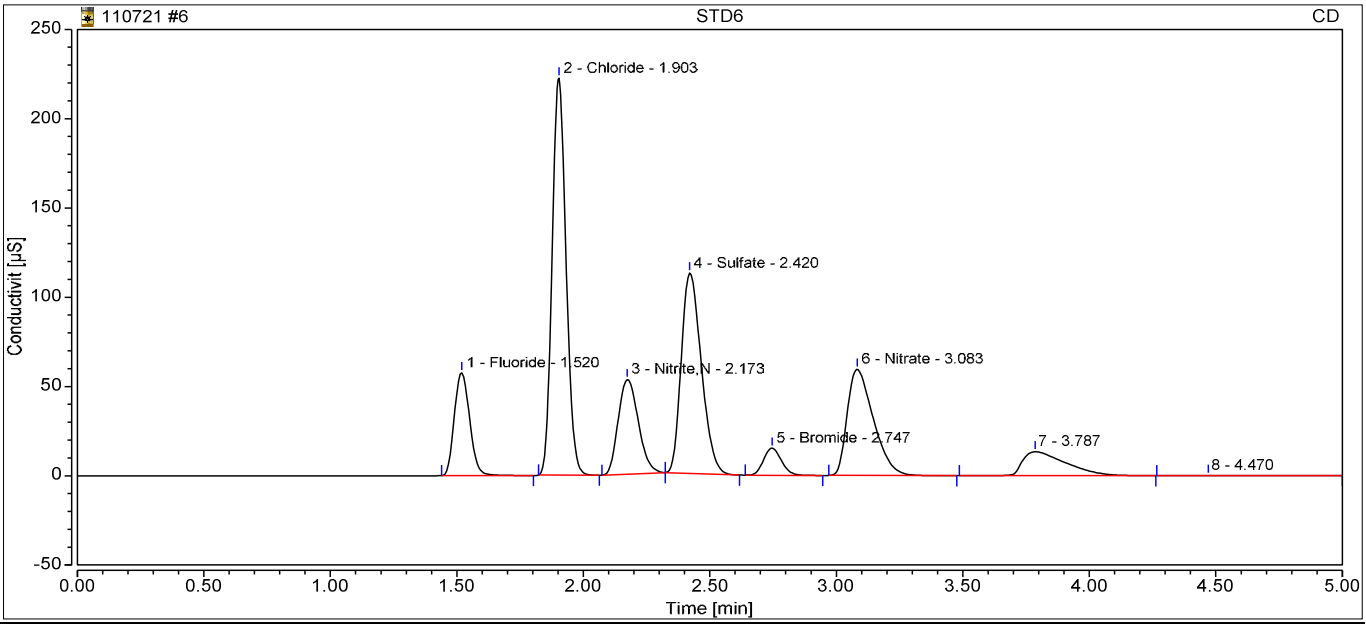
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	1.52	Fluoride	BMB	2.119	10.0932	10.0932	1.0000
2	1.91	Chloride	BMB	6.872	48.7329	48.7329	1.0000
3	2.18	Nitrite,N	BMB	2.675	9.5625	9.5625	1.0000
4	2.45	Sulfate	BMB	5.085	49.0735	49.0735	1.0000
5	2.76	Bromide	BMB	0.592	9.7669	9.7669	1.0000
6	3.12	Nitrate	BMB	3.447	9.7499	9.7499	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
7	3.87	Phosphate	BMB	1.248	9.9393	9.9393	1.0000
Total:			**0.000**	**22.037**		**146.92**	

6 STD6

Sample Name:	**STD6**	*Injection Volume:*	**5.00**
Vial Number:	**BB6**	*Channel:*	**CD**
Sample Type:	**Calibration Standard**	*Wavelength:*	**210**
Control Program:	**Anions Program ISO37mM 150mm short 0.4**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/03/2021 17:25**	*Sample Weight:*	**1.0000**

Run Time:

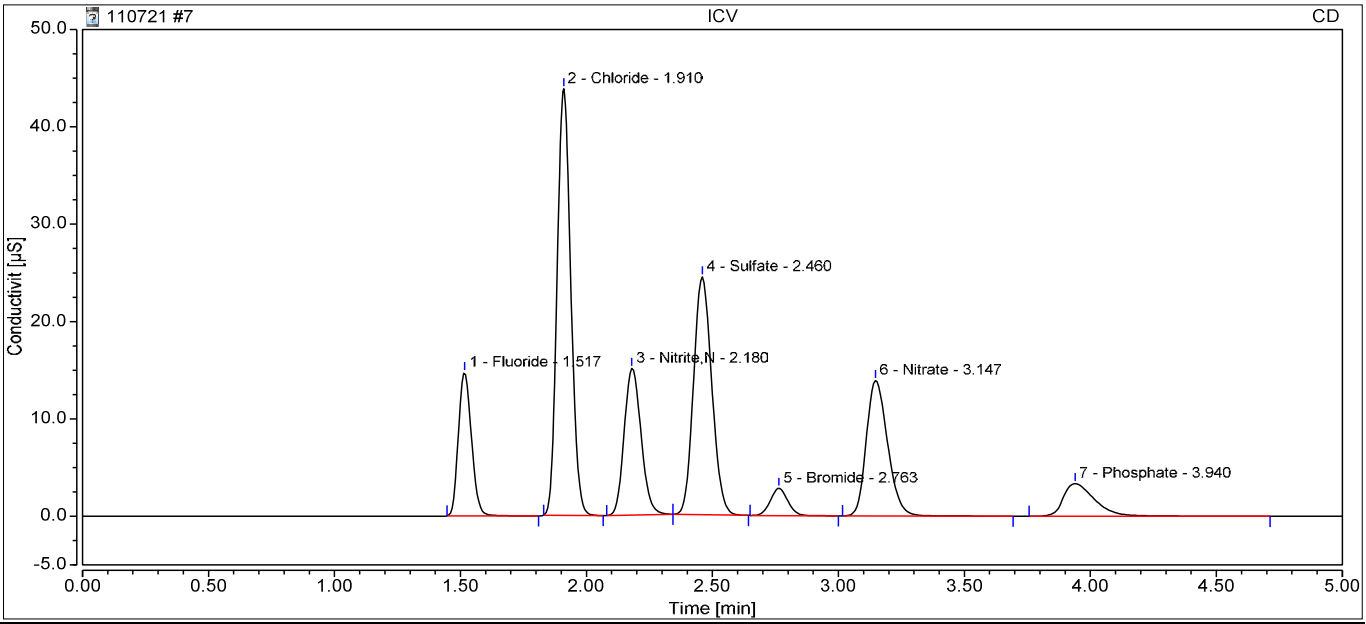


Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	1.52	Fluoride	BMB	4.053	19.2717	19.2717	1.0000
2	1.90	Chloride	BMB	14.142	100.1446	100.1446	1.0000
3	2.17	Nitrite,N	BMB	4.884	20.2397	20.2397	1.0000
4	2.42	Sulfate	BMB	10.316	99.4289	99.4289	1.0000
5	2.75	Bromide	BMB	1.240	20.4151	20.4151	1.0000
6	3.08	Nitrate	BMB	7.113	20.0696	20.0696	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**	**41.749**		**279.57**	

7 ICV			
Sample Name:	**ICV**	*Injection Volume:*	**5.00**
Vial Number:	**BA7**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program ISO37mM 150mm short 0.4**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/03/2021 17:34**	*Sample Weight:*	**1.0000**

Run Time:



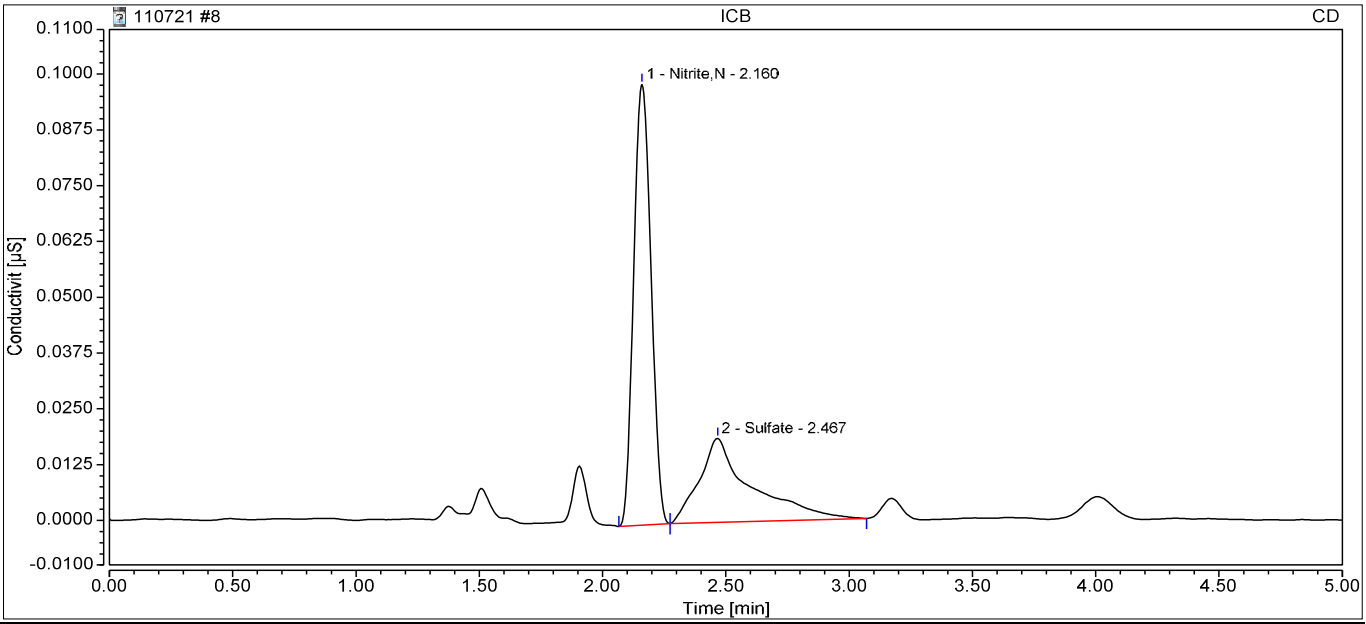
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	1.52	Fluoride	BMB	0.887	4.2482	4.2482	1.0000
2	1.91	Chloride	BMB	2.749	19.5719	19.5719	1.0000
3	2.18	Nitrite,N	BMB	1.174	3.9149	3.9149	1.0000
4	2.46	Sulfate	BMB	2.051	19.8617	19.8617	1.0000
5	2.76	Bromide	BMB	0.224	3.7196	3.7196	1.0000
6	3.15	Nitrate	BMB	1.365	3.8915	3.8915	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
7	3.94	Phosphate	BMB	0.490	4.0717	4.0717	1.0000
Total:			**0.000**	**8.940**		**59.28**	

8 ICB

Sample Name:	**ICB**	*Injection Volume:*	**5.00**
Vial Number:	**BA8**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program ISO37mM 150mm short 0.4**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/03/2021 17:41**	*Sample Weight:*	**1.0000**

Run Time:



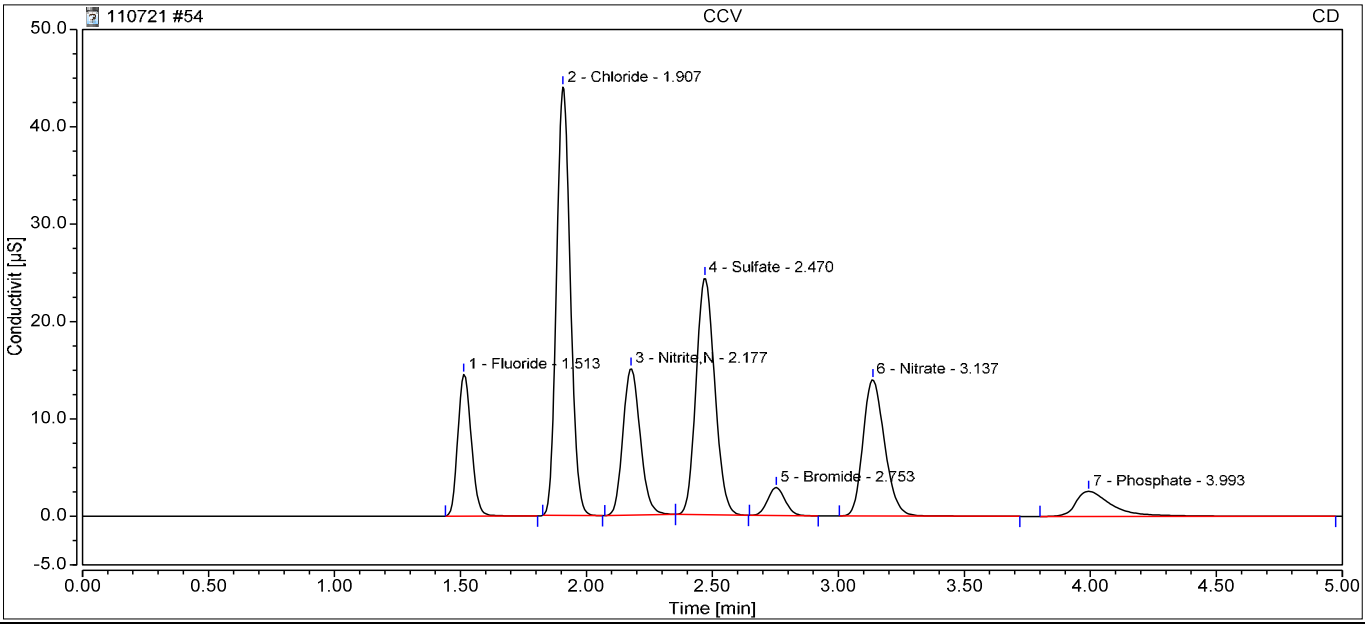
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Chloride	n.a.	n.a.	n.a.	n.a.	1.0000
1	2.16	Nitrite,N	BMB	0.008	0.0260	0.0260	1.0000
2	2.47	Sulfate	BMB	0.005	0.1656	0.1656	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**	**0.013**		**0.19**	

54 CCV

Sample Name:	**CCV**	*Injection Volume:*	**5.00**
Vial Number:	**R1**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program ISO37mM 150mm short 0.4**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/07/2021 14:08**	*Sample Weight:*	**1.0000**

Run Time:



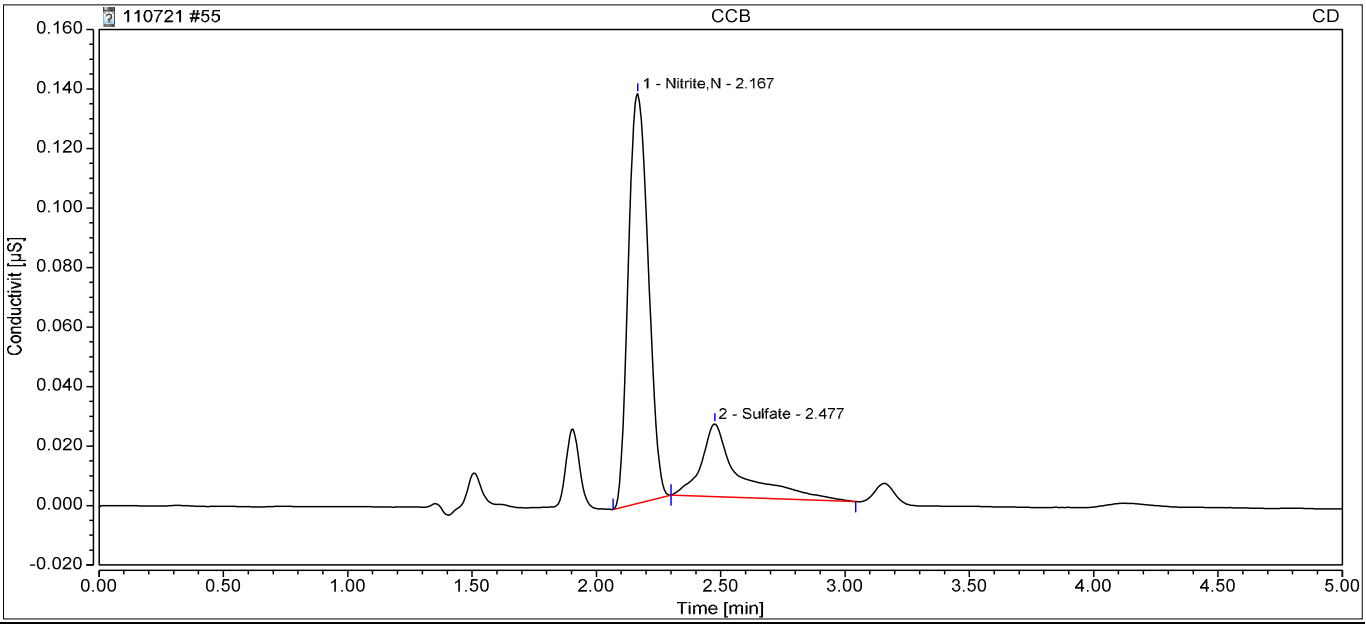
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	1.51	Fluoride	BMB	0.902	4.3215	4.3215	1.0000
2	1.91	Chloride	BMB	2.796	19.9047	19.9047	1.0000
3	2.18	Nitrite,N	BMB	1.199	4.0024	4.0024	1.0000
4	2.47	Sulfate	BMB	2.086	20.1977	20.1977	1.0000
5	2.75	Bromide	BMB	0.232	3.8646	3.8646	1.0000
6	3.14	Nitrate	BMB	1.391	3.9649	3.9649	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
7	3.99	Phosphate	BMB	0.434	3.6262	3.6262	1.0000
Total:			**0.000**	**9.041**		**59.88**	

55 CCB

Sample Name:	**CCB**	*Injection Volume:*	**5.00**
Vial Number:	**R4**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program ISO37mM 150mm short 0.4**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/07/2021 14:15**	*Sample Weight:*	**1.0000**

Run Time:



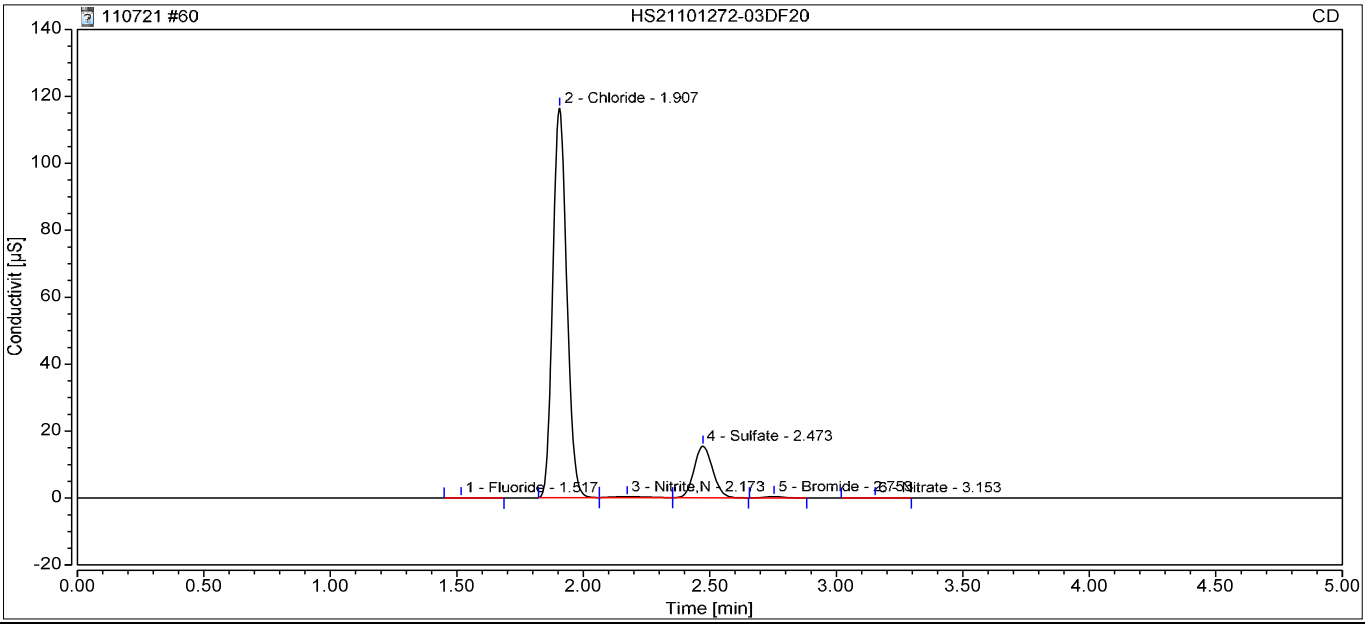
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Chloride	n.a.	n.a.	n.a.	n.a.	1.0000
1	2.17	Nitrite,N	BMB	0.013	0.0409	0.0409	1.0000
2	2.48	Sulfate	BMB	0.004	0.1633	0.1633	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**	**0.017**		**0.20**	

60 HS21101272-03DF20

Sample Name:	**HS21101272-03DF20**	*Injection Volume:*	**5.00**
Vial Number:	**RE2**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program ISO37mM 150mm short 0.4**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**20.0000**
Recording Time:	**11/07/2021 14:52**	*Sample Weight:*	**1.0000**

Run Time:



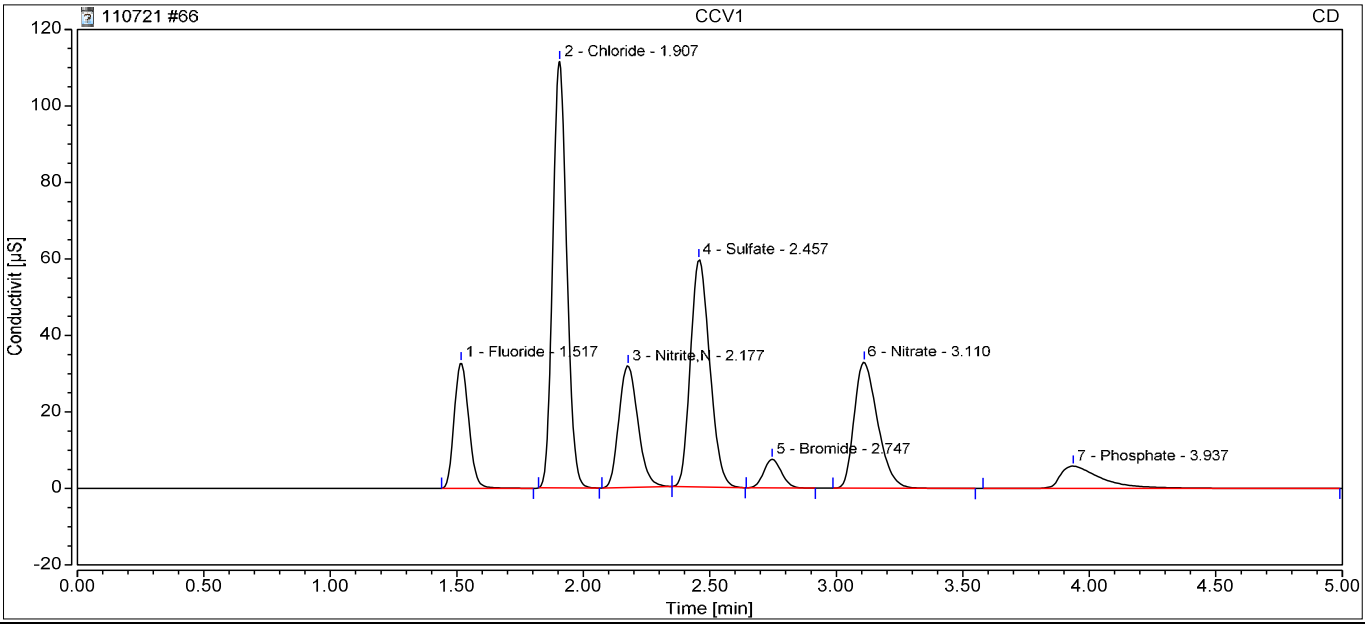
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	1.52	Fluoride	BMB	0.005	0.0634	1.2682	20.0000
2	1.91	Chloride	BMB	7.459	52.8831	1057.6629	20.0000
3	2.17	Nitrite,N	BMB	0.041	0.1300	2.5992	20.0000
4	2.47	Sulfate	BMB	1.307	12.7047	254.0938	20.0000
5	2.75	Bromide	BMB	0.029	0.5329	10.6585	20.0000
6	3.15	Nitrate	BMB	0.003	0.0558	1.1151	20.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	20.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	20.0000
Total:			**0.000**	**8.844**		**1327.40**	

66 CCV1

Sample Name:	**CCV1**	*Injection Volume:*	**5.00**
Vial Number:	**R3**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program ISO37mM 150mm short 0.4**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/07/2021 15:37**	*Sample Weight:*	**1.0000**

Run Time:



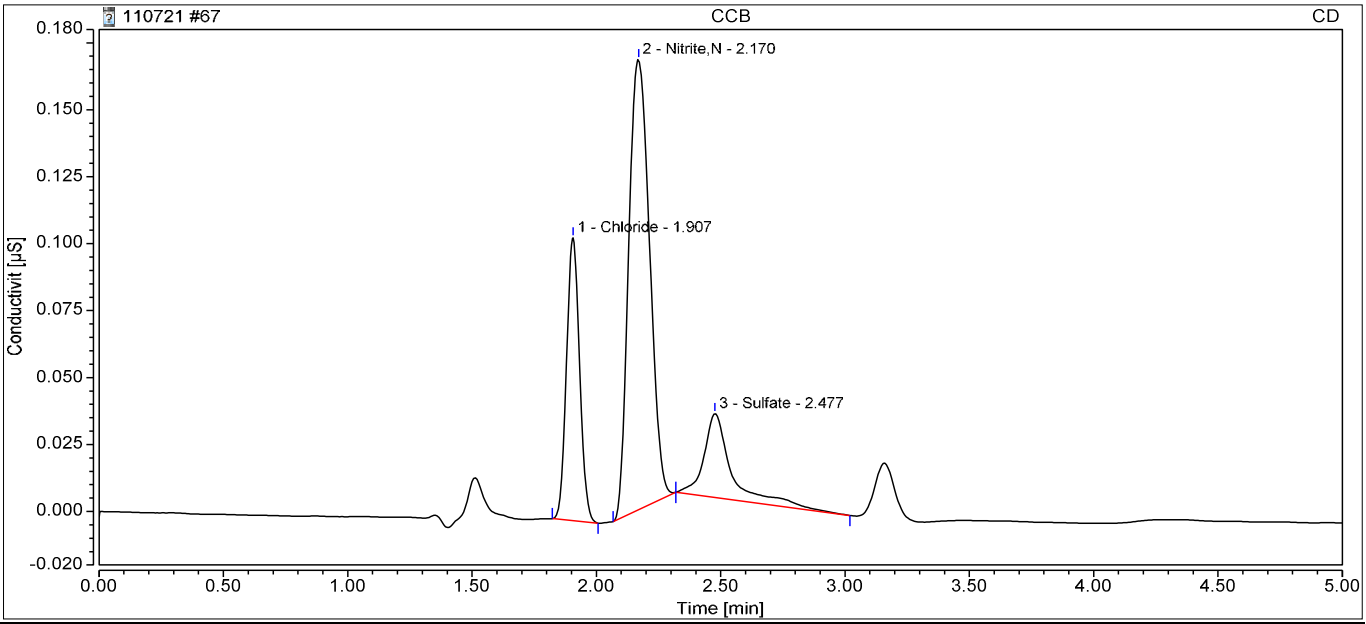
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	1.52	Fluoride	BMB	2.181	10.3891	10.3891	1.0000
2	1.91	Chloride	BMB	7.141	50.6335	50.6335	1.0000
3	2.18	Nitrite,N	BMB	2.762	9.9191	9.9191	1.0000
4	2.46	Sulfate	BMB	5.257	50.7258	50.7258	1.0000
5	2.75	Bromide	BMB	0.608	10.0268	10.0268	1.0000
6	3.11	Nitrate	BMB	3.538	10.0065	10.0065	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
7	3.94	Phosphate	BMB	1.106	8.8658	8.8658	1.0000
Total:			**0.000**	**22.592**		**150.57**	

67 CCB

Sample Name:	**CCB**	*Injection Volume:*	**5.00**
Vial Number:	**R8**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program ISO37mM 150mm short 0.4**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/07/2021 15:44**	*Sample Weight:*	**1.0000**

Run Time:



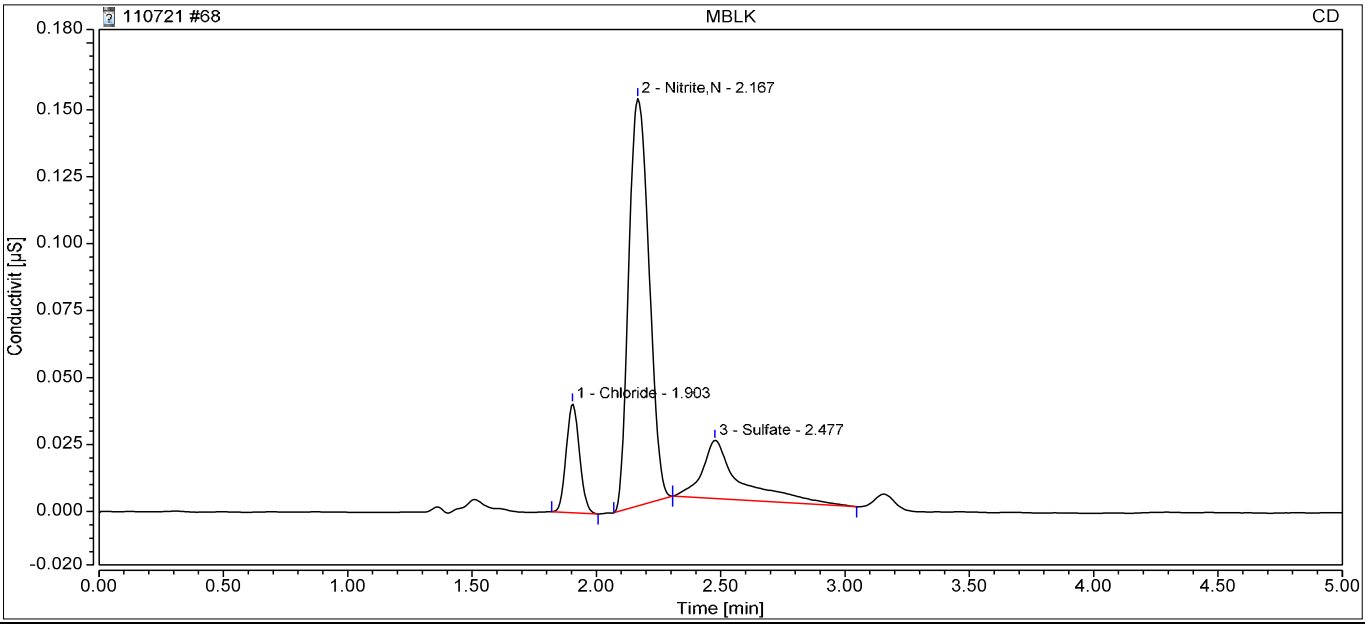
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	1.0000
1	1.91	Chloride	BMB	0.006	0.1774	0.1774	1.0000
2	2.17	Nitrite,N	BMB	0.016	0.0523	0.0523	1.0000
3	2.48	Sulfate	BMB	0.004	0.1603	0.1603	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**	**0.027**		**0.39**	

68 MBLK

Sample Name:	**MBLK**	*Injection Volume:*	**5.00**
Vial Number:	**R5**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program ISO37mM 150mm short 0.4**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/07/2021 15:59**	*Sample Weight:*	**1.0000**

Run Time:



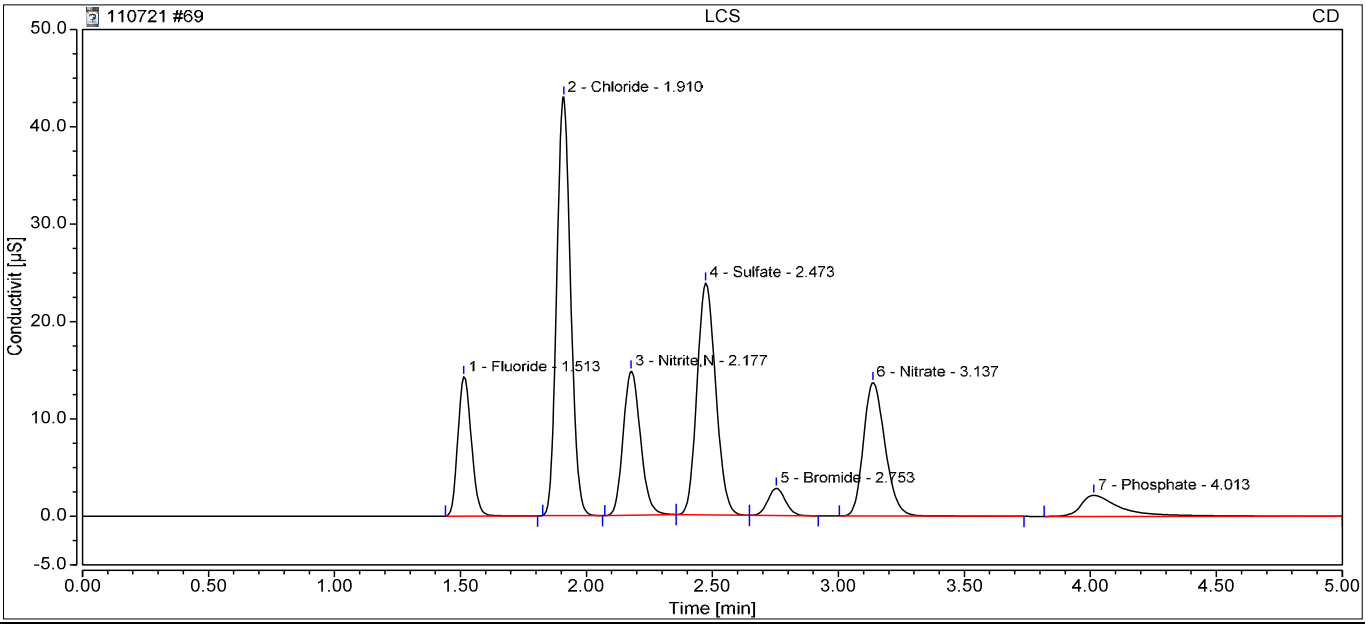
Integration Results

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	1.90	Chloride	BMB	0.003	0.1498	0.1498	1.0000
2	2.17	Nitrite,N	BMB	0.014	0.0462	0.0462	1.0000
3	2.48	Sulfate	BMB	0.004	0.1585	0.1585	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**	**0.021**		**0.35**	

69 LCS

Sample Name:	**LCS**	*Injection Volume:*	**5.00**
Vial Number:	**R2**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program ISO37mM 150mm short 0.4**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/07/2021 16:06**	*Sample Weight:*	**1.0000**

Run Time:



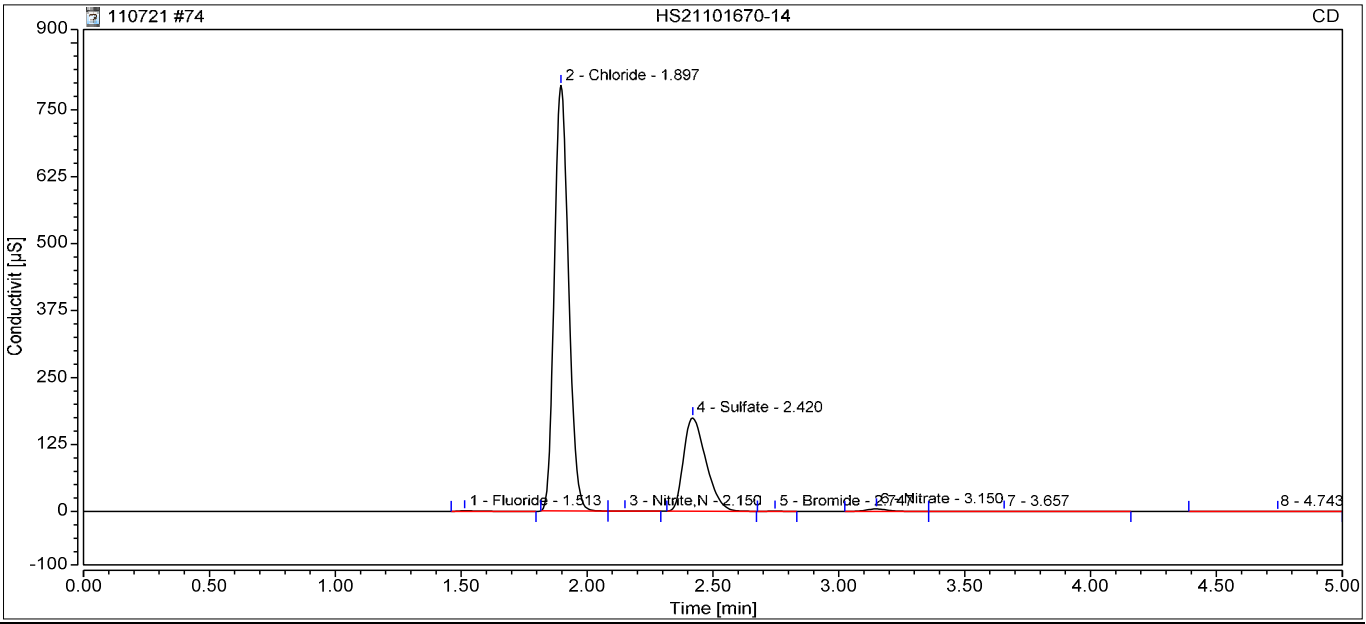
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	1.51	Fluoride	BMB	0.888	4.2528	4.2528	1.0000
2	1.91	Chloride	BMB	2.741	19.5127	19.5127	1.0000
3	2.18	Nitrite,N	BMB	1.177	3.9225	3.9225	1.0000
4	2.47	Sulfate	BMB	2.044	19.7956	19.7956	1.0000
5	2.75	Bromide	BMB	0.227	3.7729	3.7729	1.0000
6	3.14	Nitrate	BMB	1.364	3.8862	3.8862	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
7	4.01	Phosphate	BMB	0.399	3.3475	3.3475	1.0000
Total:			**0.000**	**8.838**		**58.49**	

74 HS21101670-14

Sample Name:	**HS21101670-14**	*Injection Volume:*	**5.00**
Vial Number:	**GA4**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program ISO37mM 150mm short 0.4**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/07/2021 16:43**	*Sample Weight:*	**1.0000**

Run Time:



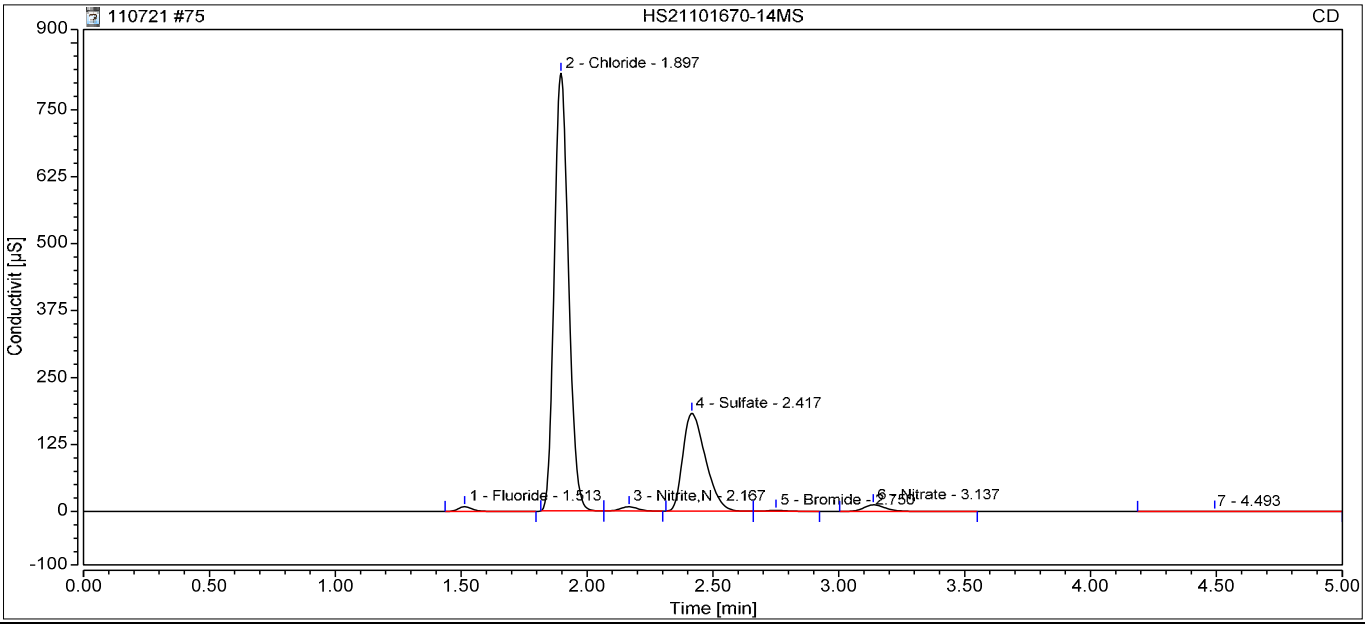
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	1.51	Fluoride	BMB	0.127	0.6404	0.6404	1.0000
2	1.90	Chloride	BMB	52.088	368.4903	368.4903	1.0000
3	2.15	Nitrite,N	BMB	0.019	0.0599	0.0599	1.0000
4	2.42	Sulfate	BMB	18.017	173.5585	173.5585	1.0000
5	2.75	Bromide	BMB	0.013	0.2708	0.2708	1.0000
6	3.15	Nitrate	BMB	0.433	1.2677	1.2677	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**	**70.696**		**544.29**	

75 HS21101670-14MS

Sample Name:	**HS21101670-14MS**	*Injection Volume:*	**5.00**
Vial Number:	**GA5**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program ISO37mM 150mm short 0.4**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/07/2021 16:51**	*Sample Weight:*	**1.0000**

Run Time:



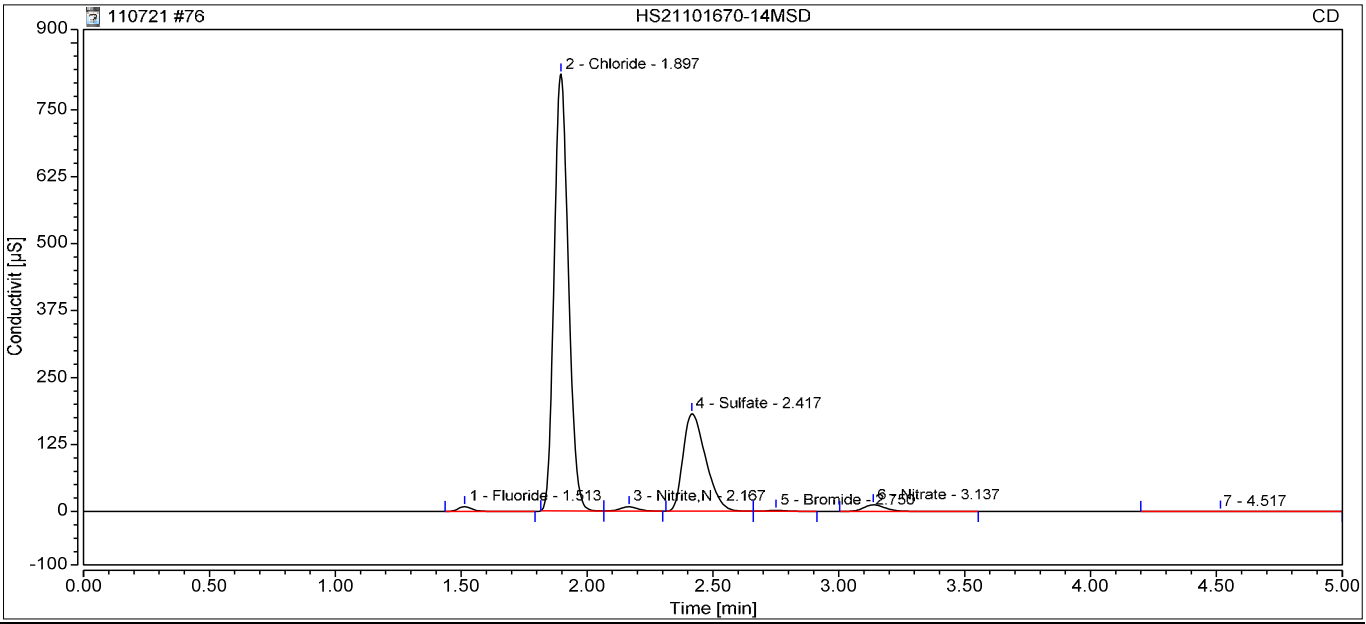
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	1.51	Fluoride	BMB	0.580	2.7899	2.7899	1.0000
2	1.90	Chloride	BMB	53.588	379.1045	379.1045	1.0000
3	2.17	Nitrite,N	BMB	0.636	2.0754	2.0754	1.0000
4	2.42	Sulfate	BMB	19.074	183.7343	183.7343	1.0000
5	2.75	Bromide	BMB	0.135	2.2717	2.2717	1.0000
6	3.14	Nitrate	BMB	1.212	3.4585	3.4585	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**	**75.225**		**573.43**	

76 HS21101670-14MSD

Sample Name:	**HS21101670-14MSD**	*Injection Volume:*	**5.00**
Vial Number:	**GA6**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program ISO37mM 150mm short 0.4**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/07/2021 16:58**	*Sample Weight:*	**1.0000**

Run Time:



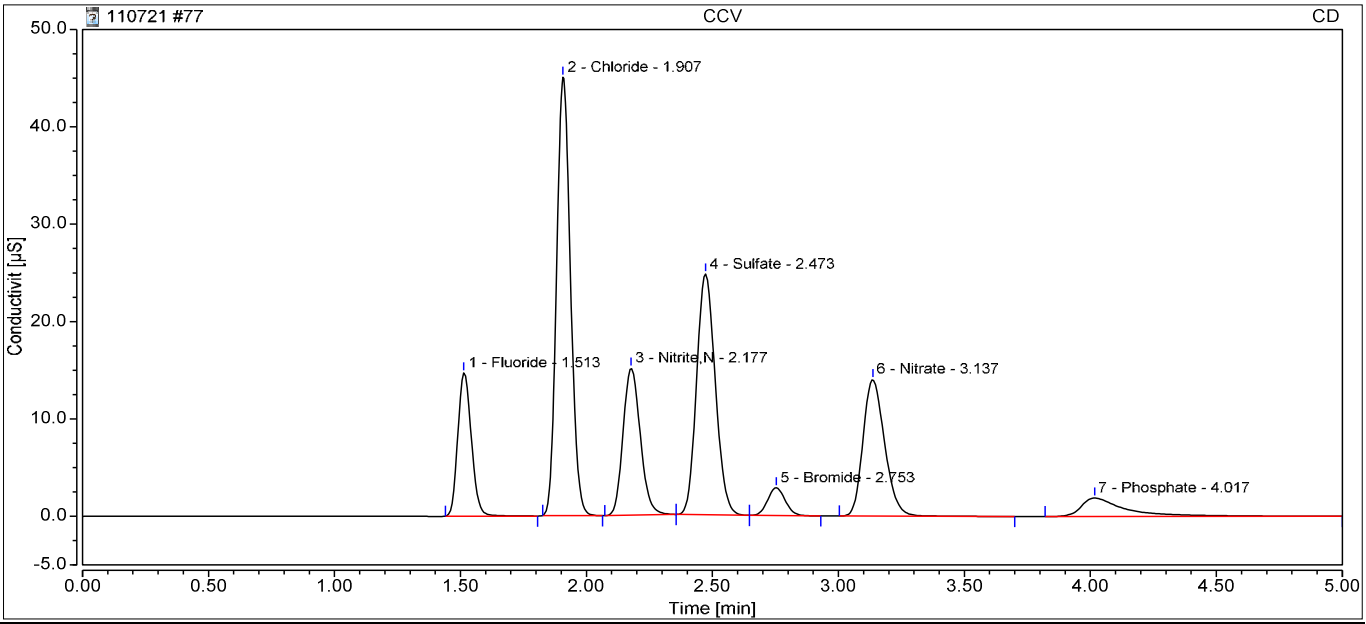
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	1.51	Fluoride	BMB	0.577	2.7795	2.7795	1.0000
2	1.90	Chloride	BMB	53.546	378.8031	378.8031	1.0000
3	2.17	Nitrite,N	BMB	0.637	2.0762	2.0762	1.0000
4	2.42	Sulfate	BMB	19.045	183.4546	183.4546	1.0000
5	2.75	Bromide	BMB	0.135	2.2611	2.2611	1.0000
6	3.14	Nitrate	BMB	1.213	3.4638	3.4638	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**	**75.152**		**572.84**	

77 CCV

Sample Name:	**CCV**	*Injection Volume:*	**5.00**
Vial Number:	**R1**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program ISO37mM 150mm short 0.4**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/07/2021 17:06**	*Sample Weight:*	**1.0000**

Run Time:



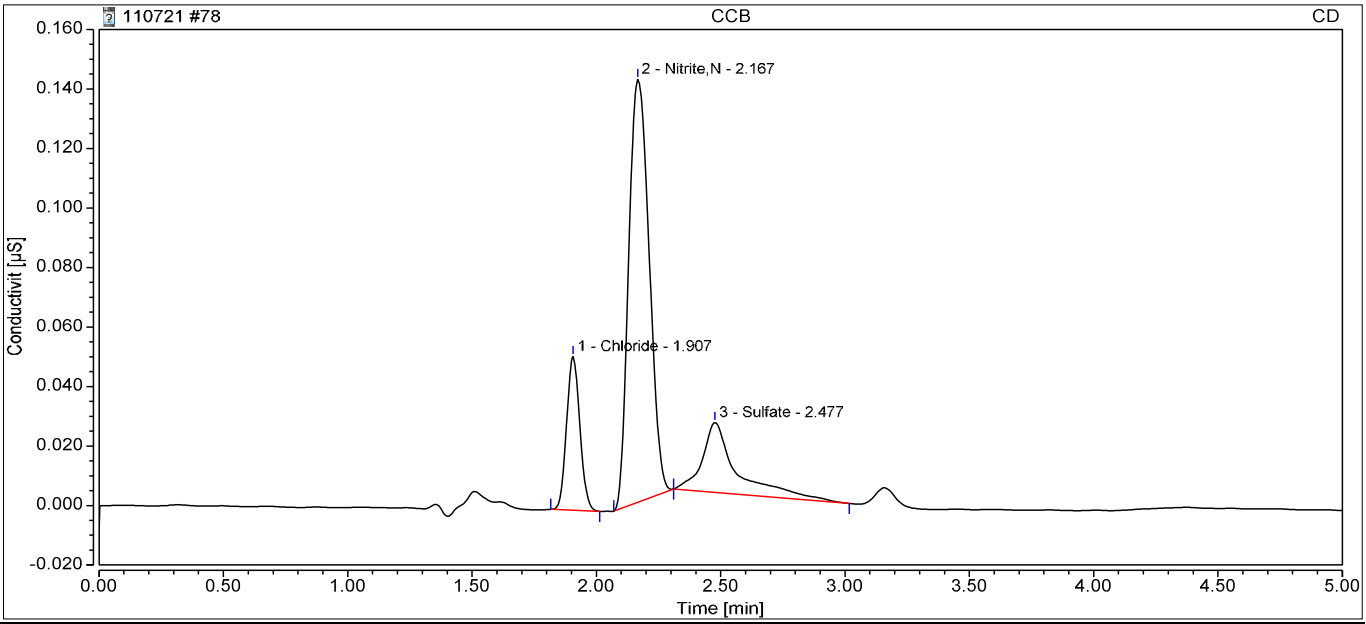
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	1.51	Fluoride	BMB	0.920	4.4050	4.4050	1.0000
2	1.91	Chloride	BMB	2.871	20.4321	20.4321	1.0000
3	2.18	Nitrite,N	BMB	1.201	4.0073	4.0073	1.0000
4	2.47	Sulfate	BMB	2.128	20.6050	20.6050	1.0000
5	2.75	Bromide	BMB	0.232	3.8561	3.8561	1.0000
6	3.14	Nitrate	BMB	1.397	3.9799	3.9799	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
7	4.02	Phosphate	BMB	0.400	3.3565	3.3565	1.0000
Total:			**0.000**	**9.148**		**60.64**	

78 CCB

Sample Name:	**CCB**	*Injection Volume:*	**5.00**
Vial Number:	**R4**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program ISO37mM 150mm short 0.4**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method ISO**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/07/2021 17:20**	*Sample Weight:*	**1.0000**

Run Time:



Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	1.0000
1	1.91	Chloride	BMB	0.003	0.1547	0.1547	1.0000
2	2.17	Nitrite,N	BMB	0.014	0.0433	0.0433	1.0000
3	2.48	Sulfate	BMB	0.004	0.1578	0.1578	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**	**0.021**		**0.36**	

HS21101272 Wet Chemitry Raw Data

ALS WO# HS21101272

Report Date: 11/4/2021 : 7:11 PM

PC-TitratION PLUS
Calibration Report

Calibration Record # 2422

Calibration Settings

Calibration ID	PH CAL 4-7-10	Date	11/4/2021
Channel	1	Time	7:11 PM
Probe Type	pH	Temperature	295.92 K 22.77 C
Probe ID	PH ELECTRODE	Analysis Type	Single Line Fit

Calibration Results

Slope	-58.592	CorrCoeff	0.9999
Intercept	-2.237	Equation:	Y = (-58.592) X + (-2.237)

Calibration Validity True Operator

	Result	Minimum	Maximum
Slope	-58.592	-65.00	-53.00
Intercept	-2.237	-100.00	100.00
Correlation Coefficient	0.9999	0.99	1.00

Note: "True" means the calibration was within the specified ranges
"False" means the calibration was NOT within the specified ranges

Calibration Data	Standard	Reading
	4.00	174.92
	7.00	-5.00
	10.00	-176.63

#394941 (A)
#394942 (B)
#394943 (SOIL)

11/4/2021

PC-TitratION PLUS by Man-Tech Associates, Inc.
CALRPRTLive1.SRW
Copyright Hinterland Software Ltd.

Report Date: 11/5/2021 : 3:44 AM

PC-TitratION PLUS
Water Analysis Report

Run Number 4215 **Order Number** 20211104-2

SampleID	RunDate	RunTime	Temp	cond (uS)	pH	palk-ppm	talk-ppm	bcarb-ppm	carb-ppm	hydr-ppm	mLs @ 8.3	mLs @ 4.5	mLs @ 4.2
ICV-PH	11/4/2021	7:46 PM	23.23	-1.00	6.07	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00
TAP WATER	11/4/2021	7:51 PM	23.06	-1.00	6.91	.00	278.36	278.36	.00	.00	.00	2.65	2.65
WBLKW1-211104	11/4/2021	7:57 PM	23.04	-1.00	5.74	.00	1.47	1.47	.00	.00	.00	.05	.05
LCS1-211104	11/4/2021	8:06 PM	23.04	-1.00	10.75	523.29	1,026.24	.00	1,005.89	20.35	4.98	9.77	9.77
LCSD1-211104	11/4/2021	8:14 PM	23.14	-1.00	10.76	526.14	1,029.23	.00	1,006.17	23.06	5.01	9.80	9.80
HS21110230-02	11/4/2021	8:21 PM	23.12	-1.00	8.04	.00	150.27	150.27	.00	.00	.00	1.43	1.43
HS21110230-02DUP	11/4/2021	8:27 PM	22.23	-1.00	8.07	.00	165.94	165.94	.00	.00	.00	1.58	1.58
HS21110230-03	11/4/2021	8:34 PM	22.11	-1.00	7.95	.00	146.85	146.85	.00	.00	.00	1.40	1.40
HS21110190-01DF10	11/4/2021	8:43 PM	22.19	-1.00	10.19	451.70	1,209.04	305.64	903.40	.00	4.30	11.51	11.51
HS21110190-02DF10	11/4/2021	8:53 PM	22.48	-1.00	10.16	450.09	1,224.75	324.58	900.17	.00	4.29	11.66	11.66
HS21110190-03DF10	11/4/2021	9:02 PM	22.66	-1.00	10.14	450.34	1,218.28	317.59	900.68	.00	4.29	11.60	11.60
CCV-PH	11/4/2021	9:05 PM	22.75	-1.00	7.07	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00
CCV-ALK	11/4/2021	9:14 PM	22.58	-1.00	10.62	483.51	1,088.55	121.53	967.01	.00	4.60	10.37	10.37
DI RINSE	11/4/2021	9:20 PM	22.74	-1.00	6.19	.00	1.44	1.44	.00	.00	.00	.05	.05
HS21110087-01	11/4/2021	9:25 PM	22.72	-1.00	5.50	.00	.73	.73	.00	.00	.00	.04	.04
HS21110190-04DF10	11/4/2021	9:35 PM	22.69	-1.00	10.14	463.78	1,227.03	299.46	927.57	.00	4.42	11.69	11.69
HS21110190-05DF10	11/4/2021	9:44 PM	22.83	-1.00	10.13	447.22	1,212.61	318.16	894.45	.00	4.26	11.55	11.55
HS21101773-10	11/4/2021	9:53 PM	22.89	-1.00	7.83	.00	900.48	900.48	.00	.00	.00	8.58	8.58
HS21101773-10DUP	11/4/2021	10:01 PM	22.87	-1.00	7.84	.00	885.55	885.55	.00	.00	.00	8.43	8.43
HS21101773-11	11/4/2021	10:10 PM	22.78	-1.00	8.08	.00	1,066.91	1,066.91	.00	.00	.00	10.16	10.16
HS21101773-12	11/4/2021	10:18 PM	22.81	-1.00	7.70	.00	596.86	596.86	.00	.00	.00	5.68	5.68
HS21101773-13	11/4/2021	10:25 PM	22.72	-1.00	8.27	.00	827.23	827.23	.00	.00	.00	7.88	7.88
HS21101773-14	11/4/2021	10:32 PM	22.64	-1.00	7.38	.00	366.93	366.93	.00	.00	.00	3.49	3.49
CCV-PH	11/4/2021	10:35 PM	22.60	-1.00	7.08	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00
CCV-ALK	11/4/2021	10:44 PM	22.45	-1.00	10.61	480.28	1,110.67	150.11	960.56	.00	4.57	10.58	10.58
DI RINSE	11/4/2021	10:50 PM	22.67	-1.00	6.13	.00	2.26	2.26	.00	.00	.00	.05	.05
HS21101773-15	11/4/2021	10:59 PM	22.60	-1.00	8.14	.00	1,080.79	1,080.79	.00	.00	.00	10.29	10.29

PC-TitratION PLUS by Man-Tech Associates, Inc.
GENERAL RESULTS REPORT.SRW
Copyright Hinterland Software Ltd
GENERAL RESULTS REPORT.SRW
Copyright Hinterland Software Ltd.



Run Number 4215 **Order Number** 20211104-2

SampleID	RunDate	RunTime	Temp	cond (uS)	pH	palk-ppm	talk-ppm	bcarb-ppm	carb-ppm	hydr-ppm	mLs @ 8.3	mLs @ 4.5	mLs @ 4.2
HS21101774-01	11/4/2021	11:06 PM	22.69	-1.00	8.00	.00	443.12	443.12	.00	.00	.00	4.22	4.22
HS21101774-02	11/4/2021	11:13 PM	22.77	-1.00	7.83	.00	451.27	451.27	.00	.00	.00	4.30	4.30
HS21101774-03	11/4/2021	11:21 PM	22.70	-1.00	8.26	.00	565.56	565.56	.00	.00	.00	5.39	5.39
HS21101774-04	11/4/2021	11:28 PM	22.63	-1.00	7.90	.00	438.06	438.06	.00	.00	.00	4.17	4.17
HS21101774-05	11/4/2021	11:35 PM	22.57	-1.00	7.99	.00	407.90	407.90	.00	.00	.00	3.88	3.88
HS21101774-06	11/4/2021	11:41 PM	22.48	-1.00	8.08	.00	434.53	434.53	.00	.00	.00	4.14	4.14
WLCS2-211104	11/4/2021	11:51 PM	22.51	-1.00	10.76	520.27	1,047.23	6.68	1,040.55	.00	4.95	9.97	9.97
CCV-PH	11/4/2021	11:54 PM	22.61	-1.00	7.08	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00
CCVALK	11/5/2021	12:03 AM	22.45	-1.00	10.58	478.61	1,098.85	141.63	957.22	.00	4.56	10.47	10.47
DI RINSE	11/5/2021	12:09 AM	22.66	-1.00	6.15	.00	1.81	1.81	.00	.00	.00	.05	.05
WBLKW2-211104	11/5/2021	12:14 AM	22.67	-1.00	5.49	.00	1.09	1.09	.00	.00	.00	.04	.04
WLCSD2-211104	11/5/2021	12:23 AM	22.60	-1.00	10.71	516.56	1,032.39	.00	1,031.67	.73	4.92	9.83	9.83
HS21110159-02	11/5/2021	12:30 AM	22.66	-1.00	7.00	.00	537.86	537.86	.00	.00	.00	5.12	5.12
HS21110159-02DUP	11/5/2021	12:37 AM	22.60	-1.00	6.99	.00	524.76	524.76	.00	.00	.00	5.00	5.00
HS21110159-01	11/5/2021	12:44 AM	22.57	-1.00	7.07	.00	500.05	500.05	.00	.00	.00	4.76	4.76
HS21110159-03	11/5/2021	12:50 AM	22.58	-1.00	7.65	.00	135.09	135.09	.00	.00	.00	1.29	1.29
HS21110159-04	11/5/2021	12:58 AM	22.52	-1.00	10.26	87.25	136.25	.00	98.00	38.25	.83	1.30	1.30
HS21110159-05	11/5/2021	1:05 AM	22.63	-1.00	8.23	.00	5.87	5.87	.00	.00	.00	.09	.09
HS21110159-06	11/5/2021	1:12 AM	22.74	-1.00	7.72	.00	136.64	136.64	.00	.00	.00	1.30	1.30
HS21110191-01	11/5/2021	1:18 AM	22.64	-1.00	8.14	.00	210.31	210.31	.00	.00	.00	2.00	2.00
CCV-PH	11/5/2021	1:21 AM	22.61	-1.00	7.08	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00
CCV-ALK	11/5/2021	1:30 AM	22.45	-1.00	10.55	472.41	1,130.99	186.18	944.81	.00	4.50	10.77	10.77
DI RINSE	11/5/2021	1:36 AM	22.67	-1.00	6.07	.00	1.70	1.70	.00	.00	.00	.05	.05
HS21110072-01	11/5/2021	1:43 AM	22.52	-1.00	8.45	7.64	335.22	319.93	15.29	.00	.07	3.19	3.19
HS21110072-02	11/5/2021	1:49 AM	22.54	-1.00	7.85	.00	256.07	256.07	.00	.00	.00	2.44	2.44
HS21110201-01	11/5/2021	1:56 AM	22.51	-1.00	8.63	17.33	467.23	432.56	34.67	.00	.17	4.45	4.45
HS21110201-02	11/5/2021	2:03 AM	22.52	-1.00	8.58	16.33	480.40	447.73	32.67	.00	.16	4.58	4.58
HS21110201-03	11/5/2021	2:09 AM	22.58	-1.00	8.50	9.95	351.32	331.43	19.89	.00	.09	3.35	3.35
HS21110201-04	11/5/2021	2:16 AM	22.54	-1.00	8.47	8.17	335.83	319.49	16.34	.00	.08	3.20	3.20
HS21110201-05	11/5/2021	2:22 AM	22.52	-1.00	8.51	9.77	324.61	305.06	19.54	.00	.09	3.09	3.09

PC-TitratION PLUS by Man-Tech Associates, Inc.

GENERAL RESULTS REPORT.SRW

Copyright Hinterland Software Ltd.

Run Number 4215 **Order Number** 20211104-2

SampleID	RunDate	RunTime	Temp	cond (uS)	pH	palk-ppm	talk-ppm	bcarb-ppm	carb-ppm	hydr-ppm	mLs @ 8.3	mLs @ 4.5	mLs @ 4.2
HS21110201-06	11/5/2021	2:29 AM	22.51	-1.00	8.52	10.12	340.96	320.72	20.24	.00	.10	3.25	3.25
HS21110201-07	11/5/2021	2:35 AM	22.51	-1.00	8.53	10.34	331.90	311.22	20.68	.00	.10	3.16	3.16
CCV-PH	11/5/2021	2:38 AM	22.54	-1.00	7.07	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00
CCV-ALK	11/5/2021	2:47 AM	22.39	-1.00	10.53	470.67	1,099.66	158.32	941.34	.00	4.48	10.47	10.47
DI RINSE	11/5/2021	2:53 AM	22.55	-1.00	6.05	.00	1.48	1.48	.00	.00	.00	.05	.05
MBLK-172105	11/5/2021	2:58 AM	22.54	-1.00	5.43	.00	.91	.91	.00	.00	.00	.04	.04
LCS-172105	11/5/2021	3:07 AM	22.46	-1.00	10.68	527.56	1,055.62	.49	1,055.12	.00	5.02	10.05	10.05
LCSD-172105	11/5/2021	3:16 AM	22.52	-1.00	10.67	506.11	1,032.73	20.51	1,012.22	.00	4.82	9.84	9.84
HS21101272-09	11/5/2021	3:19 AM	22.45	-1.00	4.52	.00	-5.92	-5.92	.00	.00	.00	.02	.02
HS21101272-09DUP	11/5/2021	3:23 AM	22.28	-1.00	4.47	.00	-7.85	-7.85	.00	.00	.00	.00	.00
CCV-PH	11/5/2021	3:26 AM	22.28	-1.00	7.07	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00
CCV-ALK	11/5/2021	3:36 AM	22.20	-1.00	10.53	469.48	1,116.35	177.39	938.96	.00	4.47	10.63	10.63
DI-RINSE	11/5/2021	3:42 AM	22.37	-1.00	6.05	.00	1.91	1.91	.00	.00	.00	.05	.05

PC-TitratION PLUS by Man-Tech Associates, Inc.

GENERAL RESULTS REPORT.SRW

Copyright Hinterland Software Ltd.

C:\TOC-L\Data\2021_10_25_002.tlx

	Type	Analysis	Sample Name	Sample ID	Origin	Manual Dilut	Result
1	Unknown	NPOC	RINSE		10_18_2021_CAL.cal	1.000	NPOC:0.06454
2	Unknown	NPOC	RINSE		10_18_2021_CAL.cal	1.000	NPOC:0.06455
3	Unknown	NPOC	RINSE		10_18_2021_CAL.cal	1.000	NPOC:0.07074
4	Standard	NPOC	CAL	3100604915	10_25_2021_CAL.202	1.000	
5	Unknown	NPOC	ICB		10_25_2021_CAL.cal	1.000	NPOC:0.09179
6	Unknown	NPOC	ICV	3100604423	10_25_2021_CAL.cal	1.000	NPOC:10.60mg/
7	Unknown	NPOC	ICB		10_25_2021_CAL.cal	1.000	NPOC:0.05172
8	Unknown	NPOC	CCB		10_25_2021_CAL.cal	1.000	NPOC:0.01239
9	Unknown	NPOC	CCV	317195504	10_25_2021_CAL.cal	1.000	NPOC:25.73mg/
10	Unknown	NPOC	CCB		10_25_2021_CAL.cal	1.000	NPOC:0.06181
11	Unknown	NPOC	MBLK-10252021		10_25_2021_CAL.cal	1.000	NPOC:0.05600
12	Unknown	NPOC	LCS-10252021	3100604423	10_25_2021_CAL.cal	1.000	NPOC:9.287mg/
13	Unknown	NPOC	LCSD-10252021	3100604423	10_25_2021_CAL.cal	1.000	NPOC:10.83mg/
14	Unknown	NPOC	HS21101075-01DF10		10_25_2021_CAL.cal	1.000	NPOC:0.2805m
15	Unknown	NPOC	HS21101075-01MSDF1		10_25_2021_CAL.cal	1.000	NPOC:12.37mg/
16	Unknown	NPOC	HS21101075-02DF10		10_25_2021_CAL.cal	1.000	NPOC:0.3788m
17	Unknown	NPOC	HS21101075-03DF10		10_25_2021_CAL.cal	1.000	NPOC:0.2410m
18	Unknown	NPOC	HS21101075-04DF10		10_25_2021_CAL.cal	1.000	NPOC:0.3913m
19	Unknown	NPOC	HS21101075-05DF10		10_25_2021_CAL.cal	1.000	NPOC:0.2171m
20	Unknown	NPOC	HS21101075-06DF10		10_25_2021_CAL.cal	1.000	NPOC:0.1665m
21	Unknown	NPOC	CCV	317195504	10_25_2021_CAL.cal	1.000	NPOC:25.66mg/
22	Unknown	NPOC	CCB		10_25_2021_CAL.cal	1.000	NPOC:0.05208
23	Unknown	NPOC	HS21101075-07DF10		10_25_2021_CAL.cal	1.000	NPOC:0.1747m
24	Unknown	NPOC	HS21101075-08DF10		10_25_2021_CAL.cal	1.000	NPOC:0.1648m
25	Unknown	NPOC	HS21101075-09DF10		10_25_2021_CAL.cal	1.000	NPOC:0.1167m
26	Unknown	NPOC	HS21101075-10DF10		10_25_2021_CAL.cal	1.000	NPOC:0.1071m
27	Unknown	NPOC	CCV	317195504	10_25_2021_CAL.cal	1.000	NPOC:25.76mg/
28	Unknown	NPOC	CCB		10_25_2021_CAL.cal	1.000	NPOC:0.05571
29	Unknown	NPOC	MBLK-10252021		10_25_2021_CAL.cal	1.000	NPOC:0.06486
30	Unknown	NPOC	LCS-10252021	3100604423	10_25_2021_CAL.cal	1.000	NPOC:9.320mg/
31	Unknown	NPOC	LCSD-10252021	3100604423	10_25_2021_CAL.cal	1.000	NPOC:10.96mg/
32	Unknown	NPOC	HS21101075-11DF10		10_25_2021_CAL.cal	1.000	NPOC:0.1323m
33	Unknown	NPOC	HS21101075-11MSDF1		10_25_2021_CAL.cal	1.000	NPOC:11.21mg/
34	Unknown	NPOC	HS21101075-12DF10		10_25_2021_CAL.cal	1.000	NPOC:0.2792m
35	Unknown	NPOC	HS21101080-01DF10		10_25_2021_CAL.cal	1.000	NPOC:0.1261m
36	Unknown	NPOC	HS21101080-02DF10		10_25_2021_CAL.cal	1.000	NPOC:0.1407m
37	Unknown	NPOC	HS21101080-03DF10		10_25_2021_CAL.cal	1.000	NPOC:0.1267m
38	Unknown	NPOC	HS21101080-04DF10		10_25_2021_CAL.cal	1.000	NPOC:0.1381m
39	Unknown	NPOC	CCV	317195504	10_25_2021_CAL.cal	1.000	NPOC:25.74mg/
40	Unknown	NPOC	CCB		10_25_2021_CAL.cal	1.000	NPOC:0.09212
41	Unknown	NPOC	HS21101080-05DF10		10_25_2021_CAL.cal	1.000	NPOC:0.1654m
42	Unknown	NPOC	HS21101080-06DF10		10_25_2021_CAL.cal	1.000	NPOC:0.1460m
43	Unknown	NPOC	HS21101080-07DF10		10_25_2021_CAL.cal	1.000	NPOC:0.1360m
44	Unknown	NPOC	HS21101080-08DF10		10_25_2021_CAL.cal	1.000	NPOC:0.1453m
45	Unknown	NPOC	CCV	317195504	10_25_2021_CAL.cal	1.000	NPOC:25.54mg/
46	Unknown	NPOC	CCB		10_25_2021_CAL.cal	1.000	NPOC:0.1296m
47	Unknown	NPOC	MBLK-10252021		10_25_2021_CAL.cal	1.000	NPOC:0.05576
48	Unknown	NPOC	LCS-10252021	3100604423	10_25_2021_CAL.cal	1.000	NPOC:9.292mg/
49	Unknown	NPOC	LCSD-10252021	3100604423	10_25_2021_CAL.cal	1.000	NPOC:10.94mg/
50	Unknown	NPOC	HS21101080-09DF10		10_25_2021_CAL.cal	1.000	NPOC:0.2259m
51	Unknown	NPOC	HS21101080-09MSDF1		10_25_2021_CAL.cal	1.000	NPOC:11.03mg/

C:\TOC-L\Data\2021_10_25_002.tlx

	Type	Analysis	Sample Name	Sample ID	Origin	Manual Dilut	Result
52	Unknown	NPOC	HS21101080-10DF10		10_25_2021_CAL.cal	1.000	NPOC:0.1935m
53	Unknown	NPOC	HS21101080-11DF10		10_25_2021_CAL.cal	1.000	NPOC:0.1278m
54	Unknown	NPOC	HS21101080-12DF10		10_25_2021_CAL.cal	1.000	NPOC:0.1284m
55	Unknown	NPOC	HS21101080-13DF10		10_25_2021_CAL.cal	1.000	NPOC:0.1196m
56	Unknown	NPOC	HS21101080-14DF10		10_25_2021_CAL.cal	1.000	NPOC:0.2314m
57	Unknown	NPOC	CCV	317195504	10_25_2021_CAL.cal	1.000	NPOC:25.69mg/
58	Unknown	NPOC	CCB		10_25_2021_CAL.cal	1.000	NPOC:0.02809
59	Unknown	NPOC	HS21101083-01DF10		10_25_2021_CAL.cal	1.000	NPOC:0.2332m
60	Unknown	NPOC	HS21101083-02DF10		10_25_2021_CAL.cal	1.000	NPOC:0.2108m
61	Unknown	NPOC	HS21101083-03DF10		10_25_2021_CAL.cal	1.000	NPOC:0.2038m
62	Unknown	NPOC	HS21101083-04DF10		10_25_2021_CAL.cal	1.000	NPOC:0.3380m
63	Unknown	NPOC	CCV	317195504	10_25_2021_CAL.cal	1.000	NPOC:25.53mg/
64	Unknown	NPOC	CCB		10_25_2021_CAL.cal	1.000	NPOC:0.1115m
65	Unknown	NPOC	MBLK-10252021		10_25_2021_CAL.cal	1.000	NPOC:0.06795
66	Unknown	NPOC	LCS-10252021	3100604423	10_25_2021_CAL.cal	1.000	NPOC:9.230mg/
67	Unknown	NPOC	LCSD-10252021	3100604423	10_25_2021_CAL.cal	1.000	NPOC:10.89mg/
68	Unknown	NPOC	HS21101083-05DF10		10_25_2021_CAL.cal	1.000	NPOC:0.4956m
69	Unknown	NPOC	HS21101083-05MSDF1		10_25_2021_CAL.cal	1.000	NPOC:11.17mg/
70	Unknown	NPOC	HS21101083-06DF10		10_25_2021_CAL.cal	1.000	NPOC:0.2640m
71	Unknown	NPOC	HS21101083-07DF10		10_25_2021_CAL.cal	1.000	NPOC:0.2414m
72	Unknown	NPOC	HS21101083-08DF10		10_25_2021_CAL.cal	1.000	NPOC:0.2102m
73	Unknown	NPOC	HS21101083-09DF10		10_25_2021_CAL.cal	1.000	NPOC:0.1629m
74	Unknown	NPOC	HS21101083-10DF10		10_25_2021_CAL.cal	1.000	NPOC:0.1838m
75	Unknown	NPOC	CCV	317195504	10_25_2021_CAL.cal	1.000	NPOC:25.60mg/
76	Unknown	NPOC	CCB		10_25_2021_CAL.cal	1.000	NPOC:0.1118m
77	Unknown	NPOC	HS21101083-11DF10		10_25_2021_CAL.cal	1.000	NPOC:0.1718m
78	Unknown	NPOC	HS21101083-12DF10		10_25_2021_CAL.cal	1.000	NPOC:0.1978m
79	Unknown	NPOC	HS21101083-13DF10		10_25_2021_CAL.cal	1.000	NPOC:0.2415m
80	Unknown	NPOC	HS21101083-14DF10		10_25_2021_CAL.cal	1.000	NPOC:0.2981m
81	Unknown	NPOC	CCV	317195504	10_25_2021_CAL.cal	1.000	NPOC:25.57mg/
82	Unknown	NPOC	CCB		10_25_2021_CAL.cal	1.000	NPOC:0.1184m

C:\TOC-L\Data\2021_10_25_002.tlx

	Notes	Status	Date / Time	Vial
1		Completed	10/25/2021 6:02:30	64
2		Completed	10/25/2021 6:13:46	65
3		Completed	10/25/2021 6:24:47	66
4		Completed	10/25/2021 8:13:11	1, 2, 3, 4, 5,
5		Completed	10/25/2021 8:29:06	1
6		Completed	10/25/2021 8:45:09	8
7		Completed	10/25/2021 9:01:04	1
8		Completed	10/25/2021 9:48:50	64
9		Completed	10/25/2021 10:05:19	9
10		Completed	10/25/2021 10:21:02	10
11		Completed	10/25/2021 10:36:45	11
12		Completed	10/25/2021 10:52:59	12
13		Completed	10/25/2021 11:09:01	13
14		Completed	10/25/2021 11:24:44	14
15		Completed	10/25/2021 11:40:52	15
16		Completed	10/25/2021 11:56:35	16
17		Completed	10/26/2021 12:12:18	17
18		Completed	10/26/2021 12:28:01	18
19		Completed	10/26/2021 12:43:44	19
20		Completed	10/26/2021 12:59:27	20
21		Completed	10/26/2021 1:15:58	9
22		Completed	10/26/2021 1:31:41	10
23		Completed	10/26/2021 1:47:30	21
24		Completed	10/26/2021 2:03:13	22
25		Completed	10/26/2021 2:18:56	23
26		Completed	10/26/2021 2:34:39	24
27		Completed	10/26/2021 2:50:56	9
28		Completed	10/26/2021 3:06:39	10
29		Completed	10/26/2021 3:22:22	11
30		Completed	10/26/2021 3:38:27	12
31		Completed	10/26/2021 3:54:35	13
32		Completed	10/26/2021 4:10:25	25
33		Completed	10/26/2021 4:26:25	26
34		Completed	10/26/2021 4:42:08	27
35		Completed	10/26/2021 4:57:52	28
36		Completed	10/26/2021 5:13:36	29
37		Completed	10/26/2021 5:29:20	30
38		Completed	10/26/2021 5:45:04	31
39		Completed	10/26/2021 6:01:22	32
40		Completed	10/26/2021 6:17:06	33
41		Completed	10/26/2021 6:32:50	34
42		Completed	10/26/2021 6:48:35	35
43		Completed	10/26/2021 7:04:19	36
44		Completed	10/26/2021 7:20:02	37
45		Completed	10/26/2021 7:36:27	32
46		Completed	10/26/2021 7:52:11	33
47		Completed	10/26/2021 8:07:55	11
48		Completed	10/26/2021 8:23:52	12
49		Completed	10/26/2021 8:39:51	13
50		Completed	10/26/2021 8:55:33	38
51		Completed	10/26/2021 9:11:37	39

	Notes	Status	Date / Time	Vial
52		Completed	10/26/2021 9:27:20	40
53		Completed	10/26/2021 9:43:06	41
54		Completed	10/26/2021 9:58:51	42
55		Completed	10/26/2021 10:14:35	43
56		Completed	10/26/2021 10:30:21	44
57		Completed	10/26/2021 10:46:46	32
58		Completed	10/26/2021 11:02:30	33
59		Completed	10/26/2021 11:18:23	45
60		Completed	10/26/2021 11:34:07	46
61		Completed	10/26/2021 11:49:51	47
62		Completed	10/26/2021 12:05:36	48
63		Completed	10/26/2021 12:21:57	49
64		Completed	10/26/2021 12:37:42	50
65		Completed	10/26/2021 12:53:28	11
66		Completed	10/26/2021 1:09:27	12
67		Completed	10/26/2021 1:25:38	13
68		Completed	10/26/2021 1:41:34	51
69		Completed	10/26/2021 1:57:34	52
70		Completed	10/26/2021 2:13:19	53
71		Completed	10/26/2021 2:29:04	54
72		Completed	10/26/2021 2:44:49	55
73		Completed	10/26/2021 3:00:34	56
74		Completed	10/26/2021 3:16:19	57
75		Completed	10/26/2021 3:32:39	49
76		Completed	10/26/2021 3:48:24	50
77		Completed	10/26/2021 4:04:17	58
78		Completed	10/26/2021 4:20:02	59
79		Completed	10/26/2021 4:35:47	60
80		Completed	10/26/2021 4:51:32	61
81		Completed	10/26/2021 5:07:56	49
82		Completed	10/26/2021 5:23:41	50

TOC-Control L Report

2021_10_25_002.tlx

Instr.Information

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

Cal. Curve

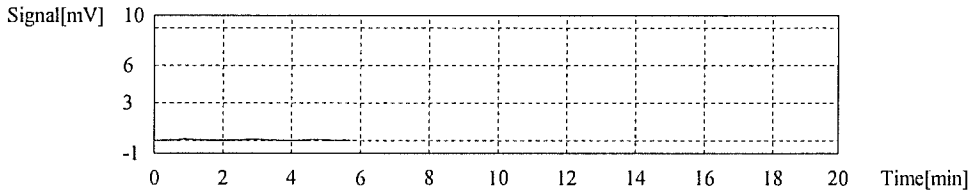
Sample Name:	CAL
Sample ID:	3100604915
Cal. Curve:	10_25_2021_CAL.2021_10_25_18_24_47.cal
Status	Completed

Type	Anal.
Standard	NPOC

Conc: 0.000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	0.1779	50uL	1.000	*******		10/25/2021 6:33:22 PM
2	0.000	50uL	1.000	*******		10/25/2021 6:36:36 PM
3	0.000	50uL	1.000	*******		10/25/2021 6:39:50 PM

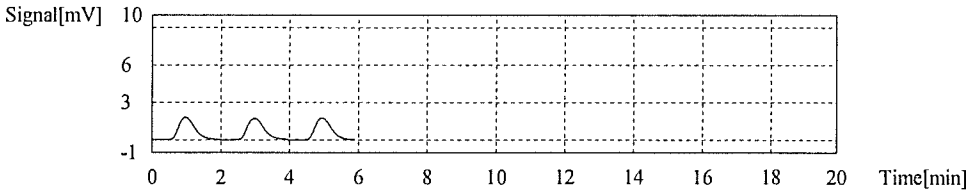
Acid Add.	1.500%
Sparge Gas Flow	80mL/min
Sp. Time	120.0sec
Mean Area	0.05930



Conc: 1.000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	5.679	50uL	1.000	*******		10/25/2021 6:48:38 PM
2	5.762	50uL	1.000	*******		10/25/2021 6:51:52 PM
3	5.629	50uL	1.000	*******		10/25/2021 6:55:02 PM

Acid Add.	1.500%
Sparge Gas Flow	80mL/min
Sp. Time	120.0sec
Mean Area	5.690



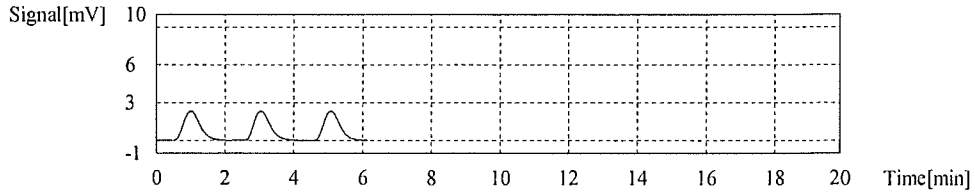
Conc: 2.000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	7.704	50uL	1.000	*******		10/25/2021 7:03:55 PM
2	7.453	50uL	1.000	*******		10/25/2021 7:07:06 PM
3	7.508	50uL	1.000	*******		10/25/2021 7:10:22 PM

TOC-Control L Report

2021_10_25_002.tlx

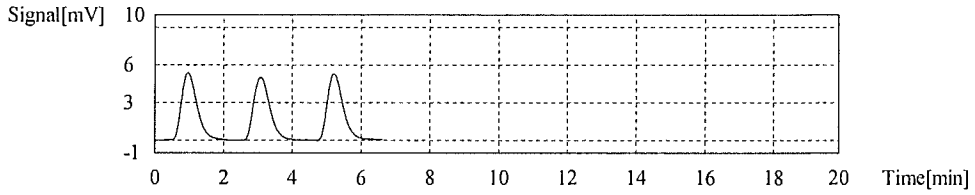
Acid Add.	1.500%
Sparge Gas Flow	80mL/min
Sp. Time	120.0sec
Mean Area	7.555



Conc: 5.000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	16.62	50uL	1.000	*******		10/25/2021 7:19:15 PM
2	16.58	50uL	1.000	*******		10/25/2021 7:22:33 PM
3	16.79	50uL	1.000	*******		10/25/2021 7:26:01 PM

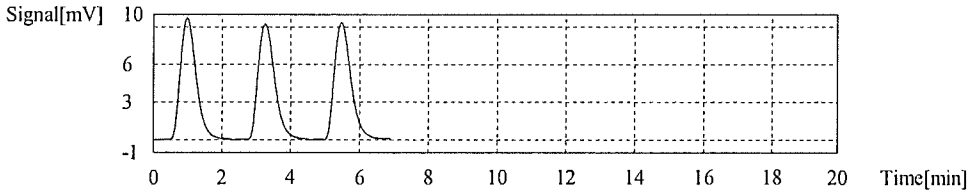
Acid Add.	1.500%
Sparge Gas Flow	80mL/min
Sp. Time	120.0sec
Mean Area	16.66



Conc: 10.00mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	30.96	50uL	1.000	*******		10/25/2021 7:35:05 PM
2	31.10	50uL	1.000	*******		10/25/2021 7:38:17 PM
3	31.16	50uL	1.000	*******		10/25/2021 7:41:41 PM

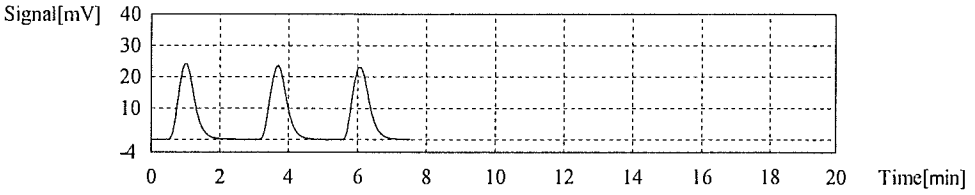
Acid Add.	1.500%
Sparge Gas Flow	80mL/min
Sp. Time	120.0sec
Mean Area	31.07



Conc: 25.00mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	79.40	50uL	1.000	*******		10/25/2021 7:51:09 PM
2	79.56	50uL	1.000	*******		10/25/2021 7:54:09 PM
3	79.35	50uL	1.000	*******		10/25/2021 7:57:24 PM

Acid Add.	1.500%
Sparge Gas Flow	80mL/min
Sp. Time	120.0sec
Mean Area	79.44



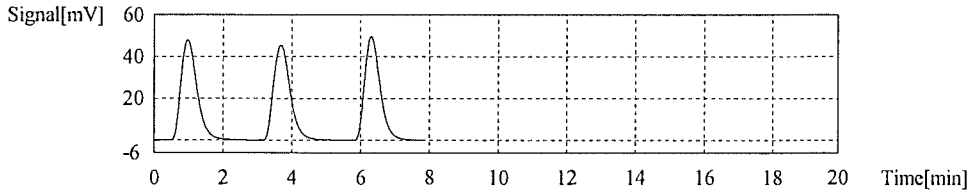
Conc: 50.00mg/L

TOC-Control L Report

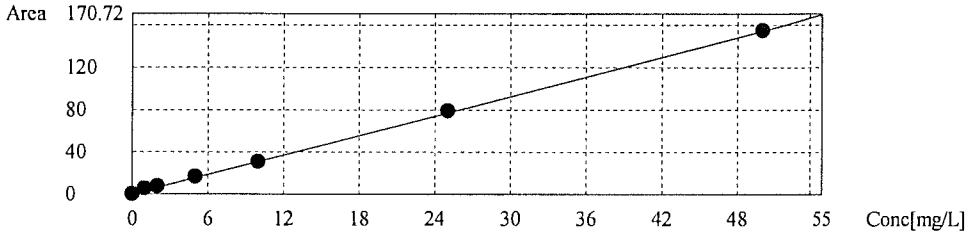
2021_10_25_002.tlx

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	156.1	50uL	1.000	*******		10/25/2021 8:06:53 PM
2	154.0	50uL	1.000	*******		10/25/2021 8:10:05 PM
3	155.5	50uL	1.000	*******		10/25/2021 8:13:11 PM

Acid Add. 1.500%
Sparge Gas Flow 80mL/min
Sp. Time 120.0sec
Mean Area 155.2



Slope: 3.086
Intercept 0.000
r^2 0.9997
r 0.9999
RSE(%) N/A
Zero Shift Yes



Sample

Sample Name: ICV
Sample ID: 3100604423
Origin: 10_25_2021_CAL.cal
Status Completed
Chk. Result

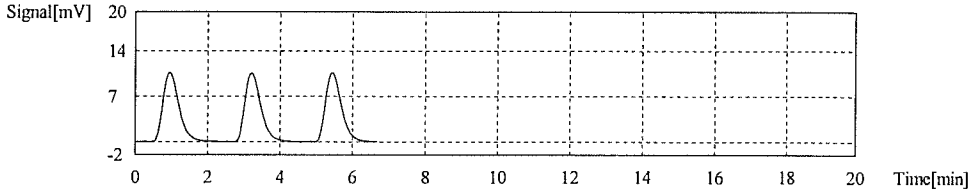
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:10.60mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	32.74	10.61mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	10/25/2021 8:38:14 PM
2	32.74	10.61mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	10/25/2021 8:41:41 PM
3	32.67	10.59mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	10/25/2021 8:45:09 PM

Mean Area 32.72
Mean Conc. 10.60mg/L



Sample

TOC-Control L Report

2021_10_25_002.tlx

Sample Name: ICB
Sample ID:
Origin: 10_25_2021_CAL.cal
Status Completed
Chk. Result

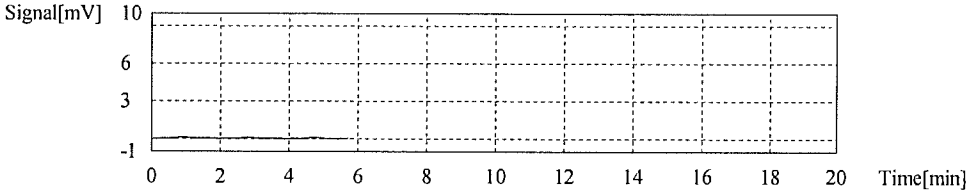
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.05172mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	0.1343	0.04352mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	10/25/2021 8:54:04 PM
2	0.1944	0.06299mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	10/25/2021 8:57:34 PM
3	0.1502	0.04867mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	10/25/2021 9:01:04 PM

Mean Area 0.1596
Mean Conc. 0.05172mg/L



C:\TOC-L\Data\2021_11_02_001.tlx

	Type	Analysis	Sample Name	Sample ID	Origin	Manual Dilut	Result
1	Unknown	NPOC	CCV	317195504	10_25_2021_CAL.cal	1.000	NPOC:26.48mg/
2	Unknown	NPOC	CCB		10_25_2021_CAL.cal	1.000	NPOC:0.08713
3	Unknown	NPOC	MBLK-11022021		10_25_2021_CAL.cal	1.000	NPOC:0.04376
4	Unknown	NPOC	LCS-11022021	3100604423	10_25_2021_CAL.cal	1.000	NPOC:10.73mg/
5	Unknown	NPOC	LCSD-11022021	3100604423	10_25_2021_CAL.cal	1.000	NPOC:10.65mg/
6	Unknown	NPOC	HS21101575-05DF10		10_25_2021_CAL.cal	1.000	NPOC:0.4614m
7	Unknown	NPOC	HS21101575-06DF10		10_25_2021_CAL.cal	1.000	NPOC:1.702mg/
8	Unknown	NPOC	HS21101663-01DF10		10_25_2021_CAL.cal	1.000	NPOC:0.4357m
9	Unknown	NPOC	HS21101663-01MSDF1		10_25_2021_CAL.cal	1.000	NPOC:12.60mg/
10	Unknown	NPOC	HS21101663-02DF10		10_25_2021_CAL.cal	1.000	NPOC:1.230mg/
11	Unknown	NPOC	HS21101663-03DF10		10_25_2021_CAL.cal	1.000	NPOC:0.2907m
12	Unknown	NPOC	HS21101575-01DF10		10_25_2021_CAL.cal	1.000	NPOC:0.2168m
13	Unknown	NPOC	CCV	317195504	10_25_2021_CAL.cal	1.000	NPOC:25.63mg/
14	Unknown	NPOC	CCB		10_25_2021_CAL.cal	1.000	NPOC:0.09372
15	Unknown	NPOC	HS21101575-02DF10		10_25_2021_CAL.cal	1.000	NPOC:0.2987m
16	Unknown	NPOC	HS21101575-03DF10		10_25_2021_CAL.cal	1.000	NPOC:0.2224m
17	Unknown	NPOC	HS21101575-04DF10		10_25_2021_CAL.cal	1.000	NPOC:0.1748m
18	Unknown	NPOC	HS21101575-07DF10		10_25_2021_CAL.cal	1.000	NPOC:0.1840m
19	Unknown	NPOC	CCV	317195504	10_25_2021_CAL.cal	1.000	NPOC:25.74mg/
20	Unknown	NPOC	CCB		10_25_2021_CAL.cal	1.000	NPOC:0.07664
21	Unknown	NPOC	MBLK-11022021		10_25_2021_CAL.cal	1.000	NPOC:0.06666
22	Unknown	NPOC	LCS-11022021	3100604423	10_25_2021_CAL.cal	1.000	NPOC:10.59mg/
23	Unknown	NPOC	LCSD-11022021	3100604423	10_25_2021_CAL.cal	1.000	NPOC:10.44mg/
24	Unknown	NPOC	HS21101575-08DF10		10_25_2021_CAL.cal	1.000	NPOC:0.3589m
25	Unknown	NPOC	HS21101575-09DF10		10_25_2021_CAL.cal	1.000	NPOC:0.1371m
26	Unknown	NPOC	HS21101575-10DF10		10_25_2021_CAL.cal	1.000	NPOC:0.1450m
27	Unknown	NPOC	HS21101575-11DF10		10_25_2021_CAL.cal	1.000	NPOC:0.2043m
28	Unknown	NPOC	HS21101575-12DF11		10_25_2021_CAL.cal	1.000	NPOC:0.4842m
29	Unknown	NPOC	HS21101575-13DF10		10_25_2021_CAL.cal	1.000	NPOC:0.3785m
30	Unknown	NPOC	HS21101575-14DF10		10_25_2021_CAL.cal	1.000	NPOC:0.3857m
31	Unknown	NPOC	CCV	317195504	10_25_2021_CAL.cal	1.000	NPOC:25.66mg/
32	Unknown	NPOC	CCB		10_25_2021_CAL.cal	1.000	NPOC:0.1192m
33	Unknown	NPOC	HS21101575-15DF10		10_25_2021_CAL.cal	1.000	NPOC:0.3362m
34	Unknown	NPOC	HS21101666-01DF10		10_25_2021_CAL.cal	1.000	NPOC:1.642mg/
35	Unknown	NPOC	HS21101666-02DF10		10_25_2021_CAL.cal	1.000	NPOC:7.281mg/
36	Unknown	NPOC	HS21101666-02MSDF1		10_25_2021_CAL.cal	1.000	NPOC:18.13mg/
37	Unknown	NPOC	CCV	317195504	10_25_2021_CAL.cal	1.000	NPOC:26.13mg/
38	Unknown	NPOC	CCB		10_25_2021_CAL.cal	1.000	NPOC:0.09305
39	Unknown	NPOC	MBLK-11022021		10_25_2021_CAL.cal	1.000	NPOC:0.03107
40	Unknown	NPOC	LCS-11022021	3100604423	10_25_2021_CAL.cal	1.000	NPOC:10.64mg/
41	Unknown	NPOC	LCSD-11022021	3100604423	10_25_2021_CAL.cal	1.000	NPOC:10.66mg/
42	Unknown	NPOC	HS21101144-10		10_25_2021_CAL.cal	1.000	NPOC:1.342mg/
43	Unknown	NPOC	HS21101144-10MS		10_25_2021_CAL.cal	1.000	NPOC:15.03mg/
44	Unknown	NPOC	HS21101144-11		10_25_2021_CAL.cal	1.000	NPOC:3.045mg/
45	Unknown	NPOC	HS21101144-12		10_25_2021_CAL.cal	1.000	NPOC:37.88mg/
46	Unknown	NPOC	HS21101144-14		10_25_2021_CAL.cal	1.000	NPOC:15.74mg/
47	Unknown	NPOC	HS21101528-01		10_25_2021_CAL.cal	1.000	NPOC:8.531mg/
48	Unknown	NPOC	HS21101531-01		10_25_2021_CAL.cal	1.000	NPOC:11.27mg/
49	Unknown	NPOC	CCV	317195504	10_25_2021_CAL.cal	1.000	NPOC:26.46mg/
50	Unknown	NPOC	CCB		10_25_2021_CAL.cal	1.000	NPOC:0.3280m
51	Unknown	NPOC	HS21101534-01		10_25_2021_CAL.cal	1.000	NPOC:4.808mg/

C:\TOC-L\Data\2021_11_02_001.tlx

	Type	Analysis	Sample Name	Sample ID	Origin	Manual Dilut	Result
52	Unknown	NPOC	HS21101538-01		10_25_2021_CAL.cal	1.000	NPOC:5.249mg/
53	Unknown	NPOC	HS21101663-01DF10		10_25_2021_CAL.cal	1.000	NPOC:0.5860m
54	Unknown	NPOC	HS21101663-02DF10		10_25_2021_CAL.cal	1.000	NPOC:1.689mg/
55	Unknown	NPOC	CCV	317195504	10_25_2021_CAL.cal	1.000	NPOC:25.95mg/
56	Unknown	NPOC	CCB		10_25_2021_CAL.cal	1.000	NPOC:0.2002m
57	Unknown	NPOC	MBLK-11022021		10_25_2021_CAL.cal	1.000	NPOC:0.1213m
58	Unknown	NPOC	LCS-11022021	3100604423	10_25_2021_CAL.cal	1.000	NPOC:10.69mg/
59	Unknown	NPOC	LCSD-11022021	3100604423	10_25_2021_CAL.cal	1.000	NPOC:10.71mg/
60	Unknown	NPOC	HS21101663-03DF10		10_25_2021_CAL.cal	1.000	NPOC:0.3343m
61	Unknown	NPOC	HS21101171-01		10_25_2021_CAL.cal	1.000	NPOC:158.8mg/
62	Unknown	NPOC	HS21101171-02		10_25_2021_CAL.cal	1.000	NPOC:241.4mg/
63	Unknown	NPOC	HS21101171-02MS		10_25_2021_CAL.cal	1.000	NPOC:267.3mg/
64	Unknown	NPOC	HS21101171-03		10_25_2021_CAL.cal	1.000	NPOC:19.48mg/
65	Unknown	NPOC	HS21101171-04		10_25_2021_CAL.cal	1.000	NPOC:69.42mg/
66	Unknown	NPOC	HS21101620-04		10_25_2021_CAL.cal	1.000	NPOC:10.15mg/
67	Unknown	NPOC	CCV	317195504	10_25_2021_CAL.cal	1.000	NPOC:26.04mg/
68	Unknown	NPOC	CCB		10_25_2021_CAL.cal	1.000	NPOC:0.1605m
69	Unknown	NPOC	HS21101620-05		10_25_2021_CAL.cal	1.000	NPOC:5.046mg/
70	Unknown	NPOC	HS21101621-01		10_25_2021_CAL.cal	1.000	NPOC:3.064mg/
71	Unknown	NPOC	HS21101272-03		10_25_2021_CAL.cal	1.000	NPOC:8.461mg/
72	Unknown	NPOC	HS21101272-04		10_25_2021_CAL.cal	1.000	NPOC:11.29mg/
73	Unknown	NPOC	CCV	317195504	10_25_2021_CAL.cal	1.000	NPOC:26.10mg/
74	Unknown	NPOC	CCB		10_25_2021_CAL.cal	1.000	NPOC:0.1947m

C:\TOC-L\Data\2021_11_02_001.tlx

	Notes	Status	Date / Time	Vial
1		Completed	11/2/2021 6:35:45 P	1
2		Completed	11/2/2021 6:51:28 P	2
3		Completed	11/2/2021 7:07:11 P	3
4		Completed	11/2/2021 7:23:37 P	4
5		Completed	11/2/2021 7:39:35 P	5
6		Completed	11/2/2021 7:55:18 P	6
7		Completed	11/2/2021 8:11:01 P	7
8		Completed	11/2/2021 8:26:44 P	8
9		Completed	11/2/2021 8:42:58 P	9
10		Completed	11/2/2021 8:58:42 P	10
11		Completed	11/2/2021 9:14:25 P	11
12		Completed	11/2/2021 9:30:08 P	12
13		Completed	11/2/2021 9:46:56 P	1
14		Completed	11/2/2021 10:02:39	2
15		Completed	11/2/2021 10:18:28	13
16		Completed	11/2/2021 10:34:11	14
17		Completed	11/2/2021 10:49:54	15
18		Completed	11/2/2021 11:05:37	16
19		Completed	11/2/2021 11:21:59	1
20		Completed	11/2/2021 11:37:42	2
21		Completed	11/2/2021 11:53:25	3
22		Completed	11/3/2021 12:09:25	4
23		Completed	11/3/2021 12:25:19	5
24		Completed	11/3/2021 12:41:08	17
25		Completed	11/3/2021 12:56:51	18
26		Completed	11/3/2021 1:12:34 A	19
27		Completed	11/3/2021 1:28:17 A	20
28		Completed	11/3/2021 1:44:00 A	21
29		Completed	11/3/2021 1:59:43 A	22
30		Completed	11/3/2021 2:15:26 A	23
31		Completed	11/3/2021 2:31:36 A	24
32		Completed	11/3/2021 2:47:19 A	25
33		Completed	11/3/2021 3:03:02 A	26
34		Completed	11/3/2021 3:18:46 A	27
35		Completed	11/3/2021 3:34:43 A	28
36		Completed	11/3/2021 3:50:48 A	29
37		Completed	11/3/2021 4:07:11 A	24
38		Completed	11/3/2021 4:22:54 A	25
39		Completed	11/3/2021 4:38:39 A	3
40		Completed	11/3/2021 4:54:41 A	4
41		Completed	11/3/2021 5:10:35 A	5
42		Completed	11/3/2021 5:26:34 A	30
43		Completed	11/3/2021 5:42:36 A	31
44		Completed	11/3/2021 5:58:20 A	32
45		Completed	11/3/2021 6:14:44 A	33
46		Completed	11/3/2021 6:30:48 A	34
47		Completed	11/3/2021 6:46:44 A	35
48		Completed	11/3/2021 7:02:42 A	36
49		Completed	11/3/2021 7:19:04 A	24
50		Completed	11/3/2021 7:34:47 A	25
51		Completed	11/3/2021 7:50:57 A	37

	Notes	Status	Date / Time	Vial
52		Completed	11/3/2021 8:06:56 A	38
53		Completed	11/3/2021 8:22:40 A	39
54		Completed	11/3/2021 8:38:24 A	40
55		Completed	11/3/2021 8:54:30 A	41
56		Completed	11/3/2021 9:10:14 A	42
57		Completed	11/3/2021 9:26:03 A	3
58		Completed	11/3/2021 9:42:06 A	4
59		Completed	11/3/2021 9:58:04 A	5
60		Completed	11/3/2021 10:13:57	43
61		Completed	11/3/2021 10:30:18	44
62		Completed	11/3/2021 10:46:45	45
63		Completed	11/3/2021 11:03:11	46
64		Completed	11/3/2021 11:19:18	47
65		Completed	11/3/2021 11:38:25	48
66		Completed	11/3/2021 11:54:29	49
67		Completed	11/3/2021 12:26:31	41
68		Completed	11/3/2021 12:42:15	42
69		Completed	11/3/2021 12:58:14	50
70		Completed	11/3/2021 1:13:59 P	51
71		Completed	11/3/2021 1:30:01 P	52
72		Completed	11/3/2021 1:46:08 P	53
73		Completed	11/3/2021 2:18:00 P	41
74		Completed	11/3/2021 2:33:45 P	42

TOC-Control L Report

2021_11_02_001.tlx

Instr.Information

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

Sample

Sample Name: CCV
Sample ID: 317195504
Origin: 10_25_2021_CAL.cal
Status: Completed
Chk. Result:

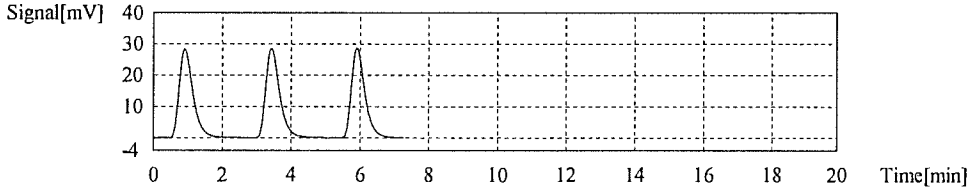
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:25.95mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	79.96	25.91mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/3/2021 8:47:45 AM
2	80.62	26.12mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/3/2021 8:51:13 AM
3	79.73	25.83mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/3/2021 8:54:30 AM

Mean Area: 80.10
Mean Conc.: 25.95mg/L



Sample

Sample Name: CCB
Sample ID:
Origin: 10_25_2021_CAL.cal
Status: Completed
Chk. Result:

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.2002mg/L

1. Det

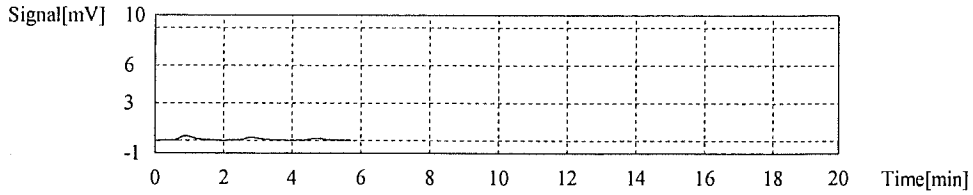
Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	0.9533	0.3089mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/3/2021 9:03:14 AM
2	0.5055	0.1638mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/3/2021 9:06:44 AM
3	0.3951	0.1280mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/3/2021 9:10:14 AM

TOC-Control L Report

2021_11_02_001.tlx

Mean Area 0.6180
Mean Conc. 0.2002mg/L



Sample

Sample Name: MBLK-11022021
Sample ID:
Origin: 10_25_2021_CAL.cal
Status Completed
Chk. Result

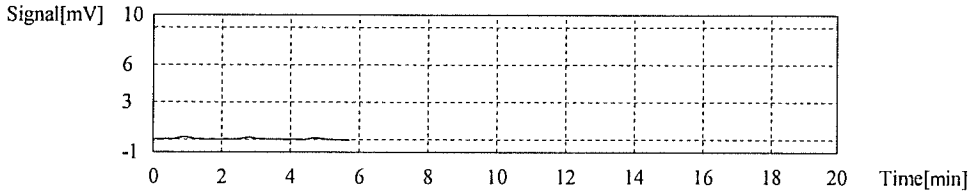
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.1213mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	0.4409	0.1429mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/3/2021 9:19:02 AM
2	0.3589	0.1163mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/3/2021 9:22:32 AM
3	0.3235	0.1048mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/3/2021 9:26:03 AM

Mean Area 0.3744
Mean Conc. 0.1213mg/L



Sample

Sample Name: LCS-11022021
Sample ID: 3100604423
Origin: 10_25_2021_CAL.cal
Status Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:10.69mg/L

1. Det

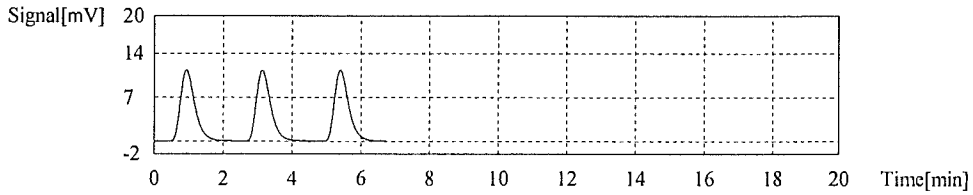
Anal.: NPOC

TOC-Control L Report

2021_11_02_001.tlx

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	33.27	10.78mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/3/2021 9:35:05 AM
2	32.90	10.66mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/3/2021 9:38:37 AM
3	32.82	10.63mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/3/2021 9:42:06 AM

Mean Area 33.00
Mean Conc. 10.69mg/L



Sample

Sample Name: LCSD-11022021
Sample ID: 3100604423
Origin: 10_25_2021_CAL.cal
Status Completed
Chk. Result

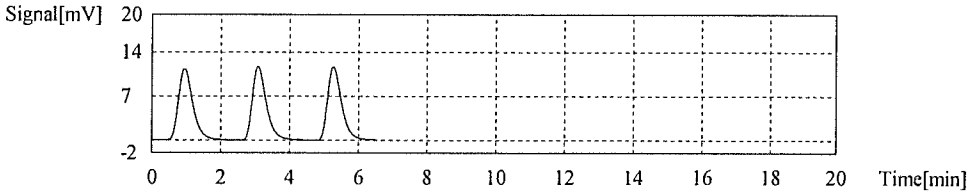
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:10.71mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	33.16	10.74mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/3/2021 9:51:05 AM
2	33.12	10.73mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/3/2021 9:54:36 AM
3	32.90	10.66mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/3/2021 9:58:04 AM

Mean Area 33.06
Mean Conc. 10.71mg/L



Sample

Sample Name: HS21101171-02
Sample ID:
Origin: 10_25_2021_CAL.cal
Status Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:241.4mg/L

1. Det

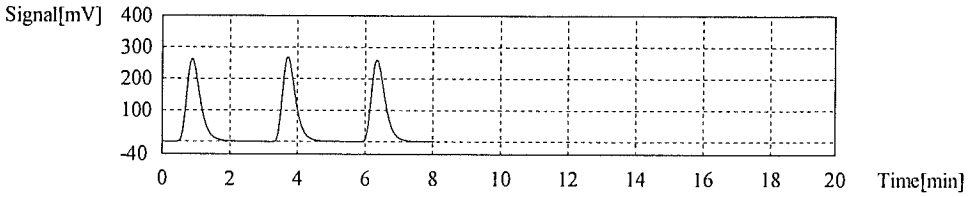
TOC-Control L Report

2021_11_02_001.tlx

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	746.8	242.0mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/3/2021 10:39:58 AM
2	743.6	240.9mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/3/2021 10:43:15 AM
3	744.8	241.3mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/3/2021 10:46:45 AM

Mean Area 745.1
Mean Conc. 241.4mg/L



Sample

Sample Name: HS21101171-02MS
Sample ID:
Origin: 10_25_2021_CAL.cal
Status Completed
Chk. Result

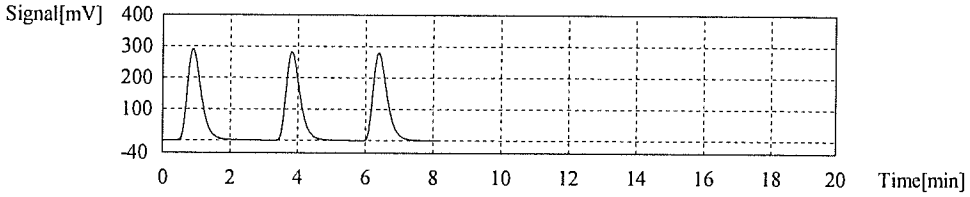
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:267.3mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	840.0	272.2mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/3/2021 10:56:30 AM
2	822.0	266.3mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/3/2021 10:59:40 AM
3	813.0	263.4mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/3/2021 11:03:11 AM

Mean Area 825.0
Mean Conc. 267.3mg/L



Sample

Sample Name: HS21101272-03
Sample ID:
Origin: 10_25_2021_CAL.cal
Status Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:8.461mg/L

TOC-Control L Report

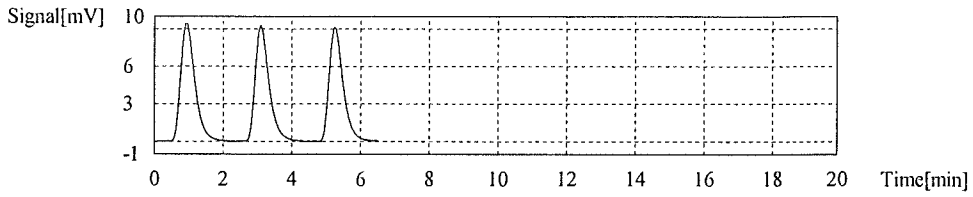
2021_11_02_001.tlx

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	26.90	8.716mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/3/2021 1:23:00 PM
2	25.84	8.373mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/3/2021 1:26:29 PM
3	25.60	8.295mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/3/2021 1:30:01 PM

Mean Area 26.11
Mean Conc. 8.461mg/L



Sample

Sample Name: HS21101272-04
Sample ID:
Origin: 10_25_2021_CAL.cal
Status Completed
Chk. Result

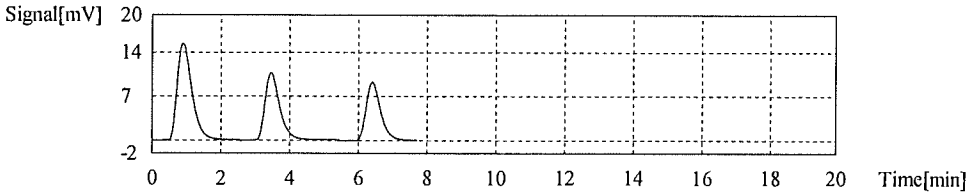
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC.11.29mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	45.64	14.79mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/3/2021 1:39:25 PM
2	31.45	10.19mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/3/2021 1:43:16 PM
3	27.46	8.898mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/3/2021 1:46:08 PM

Mean Area 34.85
Mean Conc. 11.29mg/L



Sample

Sample Name: CCV
Sample ID: 317195504
Origin: 10_25_2021_CAL.cal
Status Completed
Chk. Result

TOC-Control L Report

2021_11_02_001.tlx

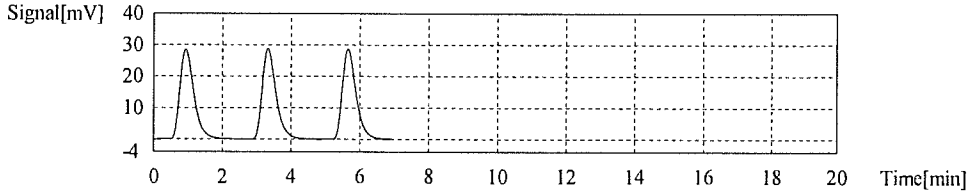
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:26.10mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	81.24	26.32mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/3/2021 2:11:09 PM
2	80.46	26.07mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/3/2021 2:14:35 PM
3	79.97	25.91mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/3/2021 2:18:00 PM

Mean Area 80.56
Mean Conc. 26.10mg/L



Sample

Sample Name: CCB
Sample ID:
Origin: 10_25_2021_CAL.cal
Status Completed
Chk. Result

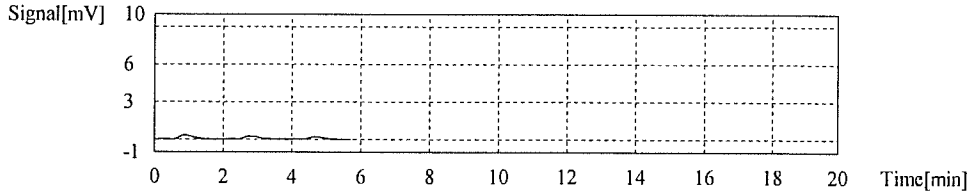
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.1947mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	0.8478	0.2747mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/3/2021 2:26:44 PM
2	0.5344	0.1732mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/3/2021 2:30:14 PM
3	0.4202	0.1362mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/3/2021 2:33:45 PM

Mean Area 0.6008
Mean Conc. 0.1947mg/L



C:\TOC-L\Data\2021_11_04_002.tlx

	Type	Analysis	Sample Name	Sample ID	Origin	Manual Dilut	Result
1	Unknown	NPOC	CCV	317195504	10_25_2021_CAL.cal	1.000	NPOC:26.70mg/
2	Unknown	NPOC	CCB		10_25_2021_CAL.cal	1.000	NPOC:0.2143m
3	Unknown	NPOC	MBLK-11042021		10_25_2021_CAL.cal	1.000	NPOC:0.1843m
4	Unknown	NPOC	LCS-11042021	3100604423	10_25_2021_CAL.cal	1.000	NPOC:11.04mg/
5	Unknown	NPOC	LCSD-11042021	3100604423	10_25_2021_CAL.cal	1.000	NPOC:10.96mg/
6	Unknown	NPOC	HS21110107-01DF10		10_25_2021_CAL.cal	1.000	NPOC:11.31mg/
7	Unknown	NPOC	HS21110107-02D10		10_25_2021_CAL.cal	1.000	NPOC:6.038mg/
8	Unknown	NPOC	HS21110107-03DF10		10_25_2021_CAL.cal	1.000	NPOC:2.341mg/
9	Unknown	NPOC	HS21110107-04DF10		10_25_2021_CAL.cal	1.000	NPOC:0.1923m
10	Unknown	NPOC	HS21110107-04MSDF1		10_25_2021_CAL.cal	1.000	NPOC:11.86mg/
11	Unknown	NPOC	HS21110107-05DF10		10_25_2021_CAL.cal	1.000	NPOC:0.2430m
12	Unknown	NPOC	HS21110107-06DF10		10_25_2021_CAL.cal	1.000	NPOC:0.1672m
13	Unknown	NPOC	CCV	317195504	10_25_2021_CAL.cal	1.000	NPOC:25.99mg/
14	Unknown	NPOC	CCB		10_25_2021_CAL.cal	1.000	NPOC:0.1183m
15	Unknown	NPOC	HS21110107-07DF10		10_25_2021_CAL.cal	1.000	NPOC:0.3506m
16	Unknown	NPOC	HS21110107-08DF10		10_25_2021_CAL.cal	1.000	NPOC:0.5128m
17	Unknown	NPOC	HS21110107-09DF10		10_25_2021_CAL.cal	1.000	NPOC:0.3968m
18	Unknown	NPOC	HS21110107-10DF10		10_25_2021_CAL.cal	1.000	NPOC:0.2544m
19	Unknown	NPOC	CCV	317195504	10_25_2021_CAL.cal	1.000	NPOC:26.25mg/
20	Unknown	NPOC	CCB		10_25_2021_CAL.cal	1.000	NPOC:0.1040m
21	Unknown	NPOC	MBLK-11042021		10_25_2021_CAL.cal	1.000	NPOC:0.07925
22	Unknown	NPOC	LCS-11042021	3100604423	10_25_2021_CAL.cal	1.000	NPOC:10.66mg/
23	Unknown	NPOC	LCSD-11042021	3100604423	10_25_2021_CAL.cal	1.000	NPOC:10.78mg/
24	Unknown	NPOC	HS21101171-01DF10		10_25_2021_CAL.cal	1.000	NPOC:13.98mg/
25	Unknown	NPOC	HS21101171-02DF10		10_25_2021_CAL.cal	1.000	NPOC:20.32mg/
26	Unknown	NPOC	HS21101171-02MSDF1		10_25_2021_CAL.cal	1.000	NPOC:22.03mg/
27	Unknown	NPOC	HS21101171-04DF2		10_25_2021_CAL.cal	1.000	NPOC:33.51mg/
28	Unknown	NPOC	HS21110090-01		10_25_2021_CAL.cal	1.000	NPOC:0.7075m
29	Unknown	NPOC	HS21101272-07DF100		10_25_2021_CAL.cal	1.000	NPOC:1504mg/
30	Unknown	NPOC	HS21101272-08DF100		10_25_2021_CAL.cal	1.000	NPOC:1458mg/
31	Unknown	NPOC	CCV	317195504	10_25_2021_CAL.cal	1.000	NPOC:26.28mg/
32	Unknown	NPOC	CCB		10_25_2021_CAL.cal	1.000	NPOC:0.1989m
33	Unknown	NPOC	HS21101272-10DF100		10_25_2021_CAL.cal	1.000	NPOC:26.11mg/
34	Unknown	NPOC	HS21101382-01		10_25_2021_CAL.cal	1.000	NPOC:0.7655m
35	Unknown	NPOC	HS21101692-01		10_25_2021_CAL.cal	1.000	NPOC:8.793mg/
36	Unknown	NPOC	HS21101694-01		10_25_2021_CAL.cal	1.000	NPOC:6.640mg/
37	Unknown	NPOC	CCV	317195504	10_25_2021_CAL.cal	1.000	NPOC:25.96mg/
38	Unknown	NPOC	CCB		10_25_2021_CAL.cal	1.000	NPOC:0.1034m
39	Unknown	NPOC	MBLK-11042021		10_25_2021_CAL.cal	1.000	NPOC:0.1129m
40	Unknown	NPOC	LCS-11042021	3100604423	10_25_2021_CAL.cal	1.000	NPOC:10.80mg/
41	Unknown	NPOC	LCSD-11042021	3100604423	10_25_2021_CAL.cal	1.000	NPOC:10.69mg/
42	Unknown	NPOC	HS21101422-01		10_25_2021_CAL.cal	1.000	NPOC:31.91mg/
43	Unknown	NPOC	HS21101421-01		10_25_2021_CAL.cal	1.000	NPOC:8.657mg/
44	Unknown	NPOC	HS21101421-02		10_25_2021_CAL.cal	1.000	NPOC:8.585mg/
45	Unknown	NPOC	HS21101421-03		10_25_2021_CAL.cal	1.000	NPOC:8.032mg/
46	Unknown	NPOC	HS21101421-04		10_25_2021_CAL.cal	1.000	NPOC:11.41mg/
47	Unknown	NPOC	HS21101421-05		10_25_2021_CAL.cal	1.000	NPOC:18.30mg/
48	Unknown	NPOC	HS21101421-06		10_25_2021_CAL.cal	1.000	NPOC:4.032mg/
49	Unknown	NPOC	CCV	317195504	10_25_2021_CAL.cal	1.000	NPOC:25.92mg/
50	Unknown	NPOC	CCB		10_25_2021_CAL.cal	1.000	NPOC:0.1484m
51	Unknown	NPOC	HS21101714-01		10_25_2021_CAL.cal	1.000	NPOC:4.483mg/

C:\TOC-L\Data\2021_11_04_002.tlx

	Type	Analysis	Sample Name	Sample ID	Origin	Manual Dilut	Result
52	Unknown	NPOC	HS21101714-01MS		10_25_2021_CAL.cal	1.000	NPOC:15.66mg/
53	Unknown	NPOC	HS21101714-02		10_25_2021_CAL.cal	1.000	NPOC:4.718mg/
54	Unknown	NPOC	HS21101729-01		10_25_2021_CAL.cal	1.000	NPOC:3.291mg/
55	Unknown	NPOC	CCV	317195504	10_25_2021_CAL.cal	1.000	NPOC:25.77mg/
56	Unknown	NPOC	CCB		10_25_2021_CAL.cal	1.000	NPOC:0.1084m
57	Unknown	NPOC	MBLK-11042021		10_25_2021_CAL.cal	1.000	NPOC:0.09793
58	Unknown	NPOC	LCS-11042021	3100604423	10_25_2021_CAL.cal	1.000	NPOC:10.72mg/
59	Unknown	NPOC	LCSD-11042021	3100604423	10_25_2021_CAL.cal	1.000	NPOC:10.81mg/
60	Unknown	NPOC	HS21101738-01		10_25_2021_CAL.cal	1.000	NPOC:10.99mg/
61	Unknown	NPOC	HS21101738-01MS		10_25_2021_CAL.cal	1.000	NPOC:22.91mg/
62	Unknown	NPOC	HS21110085-01		10_25_2021_CAL.cal	1.000	NPOC:0.2338m
63	Unknown	NPOC	HS21101272-07DF100		10_25_2021_CAL.cal	1.000	NPOC:178.3mg/
64	Unknown	NPOC	HS21101272-08DF100		10_25_2021_CAL.cal	1.000	NPOC:172.3mg/
65	Unknown	NPOC	HS21101272-07DF200		10_25_2021_CAL.cal	1.000	NPOC:2.187mg/
66	Unknown	NPOC	HS21101272-08DF200		10_25_2021_CAL.cal	1.000	NPOC:2.079mg/
67	Unknown	NPOC	CCV	317195504	10_25_2021_CAL.cal	1.000	NPOC:25.98mg/
68	Unknown	NPOC	CCB		10_25_2021_CAL.cal	1.000	NPOC:0.1469m

	Notes	Status	Date / Time	Vial
1		Completed	11/4/2021 7:32:40 P	1
2		Completed	11/4/2021 7:48:23 P	2
3		Completed	11/4/2021 8:04:06 P	3
4		Completed	11/4/2021 8:20:08 P	4
5		Completed	11/4/2021 8:36:14 P	5
6		Completed	11/4/2021 8:52:11 P	6
7		Completed	11/4/2021 9:08:05 P	7
8		Completed	11/4/2021 9:23:50 P	8
9		Completed	11/4/2021 9:39:33 P	9
10		Completed	11/4/2021 9:55:38 P	10
11		Completed	11/4/2021 10:11:21	11
12		Completed	11/4/2021 10:27:04	12
13		Completed	11/4/2021 10:59:06	1
14		Completed	11/4/2021 11:14:49	2
15		Completed	11/4/2021 11:30:38	13
16		Completed	11/4/2021 11:46:21	14
17		Completed	11/5/2021 12:02:04	15
18		Completed	11/5/2021 12:17:47	16
19		Completed	11/5/2021 12:49:46	1
20		Completed	11/5/2021 1:05:29 A	2
21		Completed	11/5/2021 1:21:12 A	3
22		Completed	11/5/2021 1:37:15 A	4
23		Completed	11/5/2021 1:53:28 A	5
24		Completed	11/5/2021 2:09:43 A	17
25		Completed	11/5/2021 2:25:49 A	18
26		Completed	11/5/2021 2:41:32 A	19
27		Completed	11/5/2021 2:57:45 A	20
28		Completed	11/5/2021 3:13:28 A	21
29		Completed	11/5/2021 3:33:36 A	22
30		Completed	11/5/2021 3:53:41 A	23
31		Completed	11/5/2021 4:26:12 A	24
32		Completed	11/5/2021 4:41:55 A	25
33		Completed	11/5/2021 4:57:58 A	26
34		Completed	11/5/2021 5:13:41 A	27
35		Completed	11/5/2021 5:29:40 A	28
36		Completed	11/5/2021 5:45:38 A	29
37		Completed	11/5/2021 6:18:04 A	24
38		Completed	11/5/2021 6:33:47 A	25
39		Completed	11/5/2021 6:49:32 A	3
40		Completed	11/5/2021 7:05:41 A	4
41		Completed	11/5/2021 7:21:41 A	5
42		Completed	11/5/2021 7:38:07 A	30
43		Completed	11/5/2021 7:54:06 A	31
44		Completed	11/5/2021 8:10:05 A	32
45		Completed	11/5/2021 8:26:04 A	33
46		Completed	11/5/2021 8:42:24 A	34
47		Completed	11/5/2021 8:58:47 A	35
48		Completed	11/5/2021 9:14:33 A	36
49		Completed	11/5/2021 9:47:02 A	24
50		Completed	11/5/2021 10:02:45	25
51		Completed	11/5/2021 10:18:48	37

	Notes	Status	Date / Time	Vial
52		Completed	11/5/2021 10:34:54	38
53		Completed	11/5/2021 10:50:53	39
54		Completed	11/5/2021 11:06:39	40
55		Completed	11/5/2021 11:38:58	41
56		Completed	11/5/2021 11:54:42	42
57		Completed	11/5/2021 12:10:30	3
58		Completed	11/5/2021 12:26:33	4
59		Completed	11/5/2021 12:42:45	5
60		Completed	11/5/2021 12:58:59	43
61		Completed	11/5/2021 1:15:14 P	44
62		Completed	11/5/2021 1:30:58 P	45
63		Completed	11/5/2021 2:06:43 P	49
64		Completed	11/5/2021 2:23:08 P	50
65		Completed	11/5/2021 4:00:09 P	54
66		Completed	11/5/2021 4:15:54 P	55
67		Completed	11/5/2021 4:48:18 P	41
68		Completed	11/5/2021 5:04:02 P	42

TOC-Control L Report

2021_11_04_002.tlx

Instr.Information

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

Sample

Sample Name:	CCV
Sample ID:	317195504
Origin:	10_25_2021_CAL.cal
Status	Completed
Chk. Result	

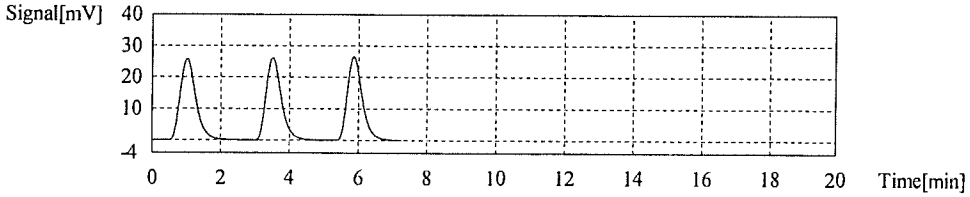
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:26.25mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	81.65	26.46mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/5/2021 12:42:55 AM
2	80.68	26.14mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/5/2021 12:46:16 AM
3	80.75	26.16mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/5/2021 12:49:46 AM

Mean Area	81.03
Mean Conc.	26.25mg/L



Sample

Sample Name:	CCB
Sample ID:	
Origin:	10_25_2021_CAL.cal
Status	Completed
Chk. Result	

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.1040mg/L

1. Det

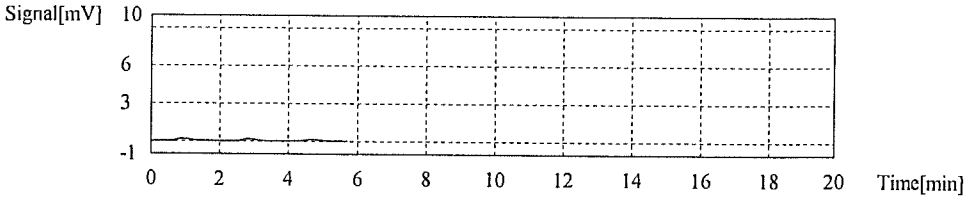
Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	0.3637	0.1178mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/5/2021 12:58:29 AM
2	0.3966	0.1285mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/5/2021 1:01:59 AM
3	0.2029	0.06574mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/5/2021 1:05:29 AM

TOC-Control L Report

2021_11_04_002.tlx

Mean Area 0.3211
Mean Conc. 0.1040mg/L



Sample

Sample Name: MBLK-11042021
Sample ID:
Origin: 10_25_2021_CAL.cal
Status Completed
Chk. Result

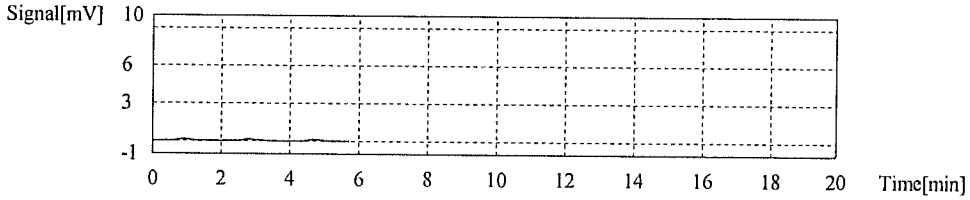
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.07925mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	0.2524	0.08178mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/5/2021 1:14:12 AM
2	0.2312	0.07491mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/5/2021 1:17:42 AM
3	0.2502	0.08107mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/5/2021 1:21:12 AM

Mean Area 0.2446
Mean Conc. 0.07925mg/L



Sample

Sample Name: LCS-11042021
Sample ID: 3100604423
Origin: 10_25_2021_CAL.cal
Status Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:10.66mg/L

1. Det

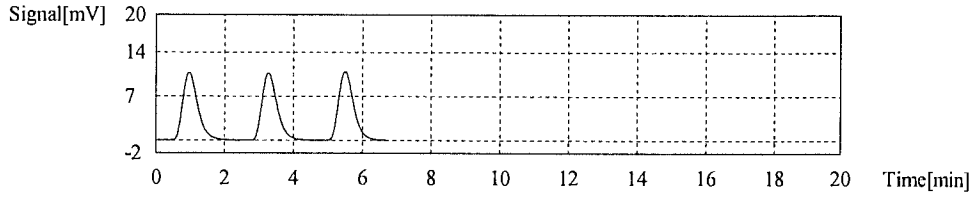
Anal.: NPOC

TOC-Control L Report

2021_11_04_002.tlx

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	32.75	10.61mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/5/2021 1:30:19 AM
2	32.62	10.57mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/5/2021 1:33:44 AM
3	33.37	10.81mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/5/2021 1:37:15 AM

Mean Area 32.91
Mean Conc. 10.66mg/L



Sample

Sample Name: LCSD-11042021
Sample ID: 3100604423
Origin: 10_25_2021_CAL.cal
Status Completed
Chk. Result

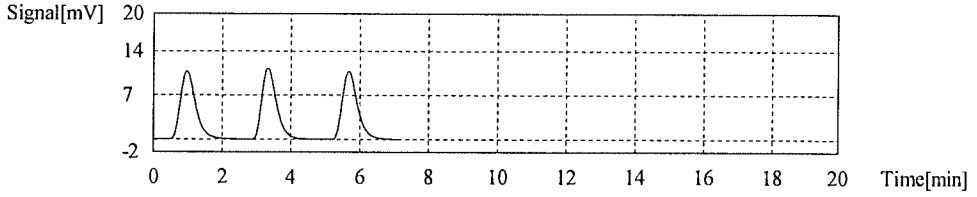
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:10.78mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	33.21	10.76mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/5/2021 1:46:27 AM
2	33.37	10.81mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/5/2021 1:49:54 AM
3	33.26	10.78mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/5/2021 1:53:28 AM

Mean Area 33.28
Mean Conc. 10.78mg/L



Sample

Sample Name: HS21101171-02DF10
Sample ID:
Origin: 10_25_2021_CAL.cal
Status Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:20.32mg/L

1. Det

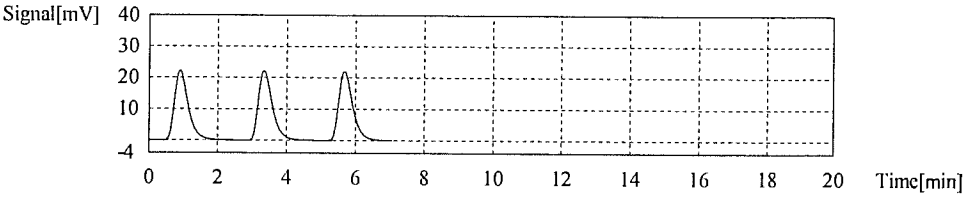
TOC-Control L Report

2021_11_04_002.tlx

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	62.21	20.16mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/5/2021 2:18:58 AM
2	62.96	20.40mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/5/2021 2:22:22 AM
3	63.00	20.41mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/5/2021 2:25:49 AM

Mean Area 62.72
Mean Conc. 20.32mg/L



Sample

Sample Name: HS21101171-02MSDF10
Sample ID:
Origin: 10_25_2021_CAL.cal
Status Completed
Chk. Result

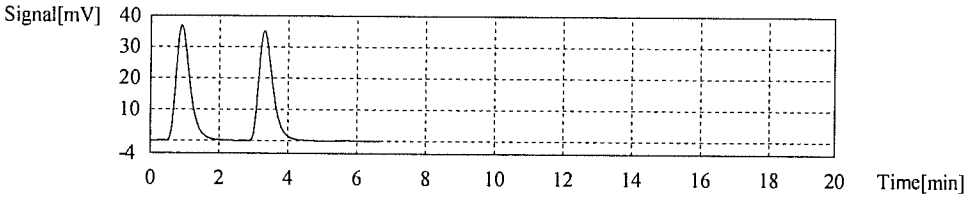
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:22.03mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	103.9	33.67mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/5/2021 2:35:02 AM
2	99.73	32.31mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/5/2021 2:38:30 AM
3	0.3239	0.1049mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/5/2021 2:41:32 AM

Mean Area 67.98
Mean Conc. 22.03mg/L



Sample

Sample Name: CCV
Sample ID: 317195504
Origin: 10_25_2021_CAL.cal
Status Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:26.28mg/L

TOC-Control L Report

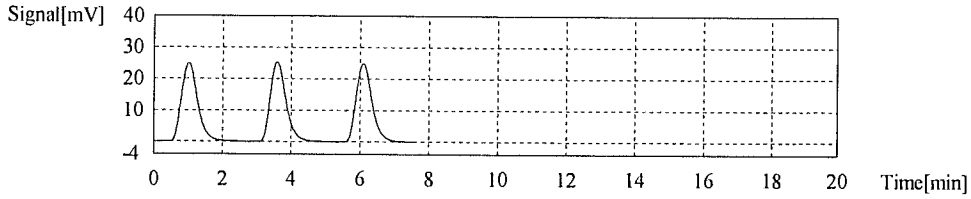
2021_11_04_002.tlx

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	81.64	26.45mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/5/2021 4:19:16 AM
2	80.84	26.19mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/5/2021 4:22:39 AM
3	80.82	26.19mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/5/2021 4:26:12 AM

Mean Area 81.10
Mean Conc. 26.28mg/L



Sample

Sample Name: CCB
Sample ID:
Origin: 10_25_2021_CAL.cal
Status Completed
Chk. Result

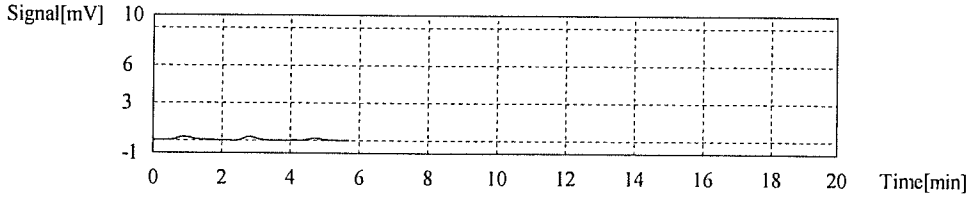
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.1989mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	0.6624	0.2146mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/5/2021 4:34:55 AM
2	0.7910	0.2563mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/5/2021 4:38:25 AM
3	0.3882	0.1258mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/5/2021 4:41:55 AM

Mean Area 0.6139
Mean Conc. 0.1989mg/L



Sample

Sample Name: HS21101272-10DF100
Sample ID:
Origin: 10_25_2021_CAL.cal
Status Completed
Chk. Result

TOC-Control L Report

2021_11_04_002.tlx

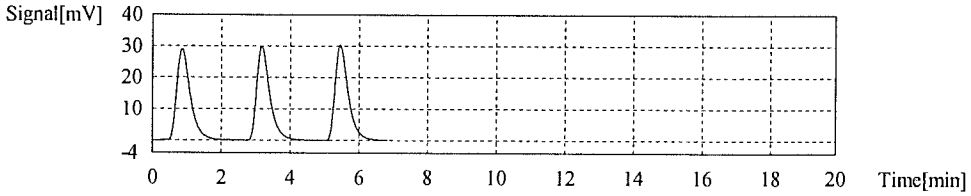
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:26.11mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	80.50	26.08mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/5/2021 4:51:03 AM
2	80.10	25.95mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/5/2021 4:54:30 AM
3	81.15	26.29mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/5/2021 4:57:58 AM

Mean Area 80.58
Mean Conc. 26.11mg/L



Sample

Sample Name: CCV
Sample ID: 317195504
Origin: 10_25_2021_CAL.cal
Status Completed
Chk. Result

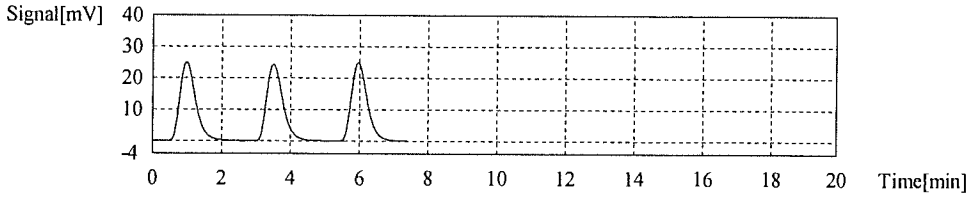
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:25.96mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	80.01	25.92mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/5/2021 6:11:12 AM
2	79.39	25.72mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/5/2021 6:14:36 AM
3	80.93	26.22mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/5/2021 6:18:04 AM

Mean Area 80.11
Mean Conc. 25.96mg/L



Sample

TOC-Control L Report

2021_11_04_002.tlx

Sample Name: CCB
Sample ID:
Origin: 10_25_2021_CAL.cal
Status Completed
Chk. Result

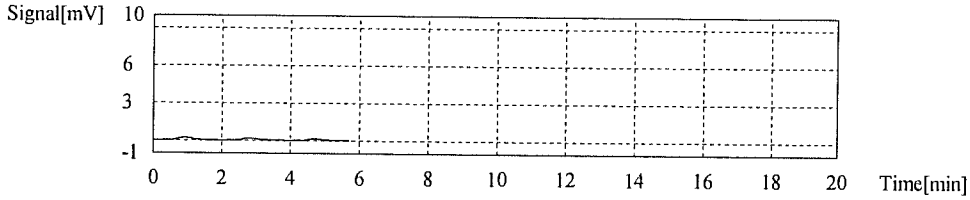
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.1034mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	0.4052	0.1313mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/5/2021 6:26:47 AM
2	0.2800	0.09072mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/5/2021 6:30:17 AM
3	0.2720	0.08813mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/5/2021 6:33:47 AM

Mean Area 0.3191
Mean Conc. 0.1034mg/L



C:\TOC-L\Data\2021_11_04_002.tlx

	Type	Analysis	Sample Name	Sample ID	Origin	Manual Dilut	Result
1	Unknown	NPOC	CCV	317195504	10_25_2021_CAL.cal	1.000	NPOC:26.70mg/
2	Unknown	NPOC	CCB		10_25_2021_CAL.cal	1.000	NPOC:0.2143m
3	Unknown	NPOC	MBLK-11042021		10_25_2021_CAL.cal	1.000	NPOC:0.1843m
4	Unknown	NPOC	LCS-11042021	3100604423	10_25_2021_CAL.cal	1.000	NPOC:11.04mg/
5	Unknown	NPOC	LCSD-11042021	3100604423	10_25_2021_CAL.cal	1.000	NPOC:10.96mg/
6	Unknown	NPOC	HS21110107-01DF10		10_25_2021_CAL.cal	1.000	NPOC:11.31mg/
7	Unknown	NPOC	HS21110107-02D10		10_25_2021_CAL.cal	1.000	NPOC:6.038mg/
8	Unknown	NPOC	HS21110107-03DF10		10_25_2021_CAL.cal	1.000	NPOC:2.341mg/
9	Unknown	NPOC	HS21110107-04DF10		10_25_2021_CAL.cal	1.000	NPOC:0.1923m
10	Unknown	NPOC	HS21110107-04MSDF1		10_25_2021_CAL.cal	1.000	NPOC:11.86mg/
11	Unknown	NPOC	HS21110107-05DF10		10_25_2021_CAL.cal	1.000	NPOC:0.2430m
12	Unknown	NPOC	HS21110107-06DF10		10_25_2021_CAL.cal	1.000	NPOC:0.1672m
13	Unknown	NPOC	CCV	317195504	10_25_2021_CAL.cal	1.000	NPOC:25.99mg/
14	Unknown	NPOC	CCB		10_25_2021_CAL.cal	1.000	NPOC:0.1183m
15	Unknown	NPOC	HS21110107-07DF10		10_25_2021_CAL.cal	1.000	NPOC:0.3506m
16	Unknown	NPOC	HS21110107-08DF10		10_25_2021_CAL.cal	1.000	NPOC:0.5128m
17	Unknown	NPOC	HS21110107-09DF10		10_25_2021_CAL.cal	1.000	NPOC:0.3968m
18	Unknown	NPOC	HS21110107-10DF10		10_25_2021_CAL.cal	1.000	NPOC:0.2544m
19	Unknown	NPOC	CCV	317195504	10_25_2021_CAL.cal	1.000	NPOC:26.25mg/
20	Unknown	NPOC	CCB		10_25_2021_CAL.cal	1.000	NPOC:0.1040m
21	Unknown	NPOC	MBLK-11042021		10_25_2021_CAL.cal	1.000	NPOC:0.07925
22	Unknown	NPOC	LCS-11042021	3100604423	10_25_2021_CAL.cal	1.000	NPOC:10.66mg/
23	Unknown	NPOC	LCSD-11042021	3100604423	10_25_2021_CAL.cal	1.000	NPOC:10.78mg/
24	Unknown	NPOC	HS21101171-01DF10		10_25_2021_CAL.cal	1.000	NPOC:13.98mg/
25	Unknown	NPOC	HS21101171-02DF10		10_25_2021_CAL.cal	1.000	NPOC:20.32mg/
26	Unknown	NPOC	HS21101171-02MSDF1		10_25_2021_CAL.cal	1.000	NPOC:22.03mg/
27	Unknown	NPOC	HS21101171-04DF2		10_25_2021_CAL.cal	1.000	NPOC:33.51mg/
28	Unknown	NPOC	HS21110090-01		10_25_2021_CAL.cal	1.000	NPOC:0.7075m
29	Unknown	NPOC	HS21101272-07DF100		10_25_2021_CAL.cal	1.000	NPOC:1504mg/
30	Unknown	NPOC	HS21101272-08DF100		10_25_2021_CAL.cal	1.000	NPOC:1458mg/
31	Unknown	NPOC	CCV	317195504	10_25_2021_CAL.cal	1.000	NPOC:26.28mg/
32	Unknown	NPOC	CCB		10_25_2021_CAL.cal	1.000	NPOC:0.1989m
33	Unknown	NPOC	HS21101272-10DF100		10_25_2021_CAL.cal	1.000	NPOC:26.11mg/
34	Unknown	NPOC	HS21101382-01		10_25_2021_CAL.cal	1.000	NPOC:0.7655m
35	Unknown	NPOC	HS21101692-01		10_25_2021_CAL.cal	1.000	NPOC:8.793mg/
36	Unknown	NPOC	HS21101694-01		10_25_2021_CAL.cal	1.000	NPOC:6.640mg/
37	Unknown	NPOC	CCV	317195504	10_25_2021_CAL.cal	1.000	NPOC:25.96mg/
38	Unknown	NPOC	CCB		10_25_2021_CAL.cal	1.000	NPOC:0.1034m
39	Unknown	NPOC	MBLK-11042021		10_25_2021_CAL.cal	1.000	NPOC:0.1129m
40	Unknown	NPOC	LCS-11042021	3100604423	10_25_2021_CAL.cal	1.000	NPOC:10.80mg/
41	Unknown	NPOC	LCSD-11042021	3100604423	10_25_2021_CAL.cal	1.000	NPOC:10.69mg/
42	Unknown	NPOC	HS21101422-01		10_25_2021_CAL.cal	1.000	NPOC:31.91mg/
43	Unknown	NPOC	HS21101421-01		10_25_2021_CAL.cal	1.000	NPOC:8.657mg/
44	Unknown	NPOC	HS21101421-02		10_25_2021_CAL.cal	1.000	NPOC:8.585mg/
45	Unknown	NPOC	HS21101421-03		10_25_2021_CAL.cal	1.000	NPOC:8.032mg/
46	Unknown	NPOC	HS21101421-04		10_25_2021_CAL.cal	1.000	NPOC:11.41mg/
47	Unknown	NPOC	HS21101421-05		10_25_2021_CAL.cal	1.000	NPOC:18.30mg/
48	Unknown	NPOC	HS21101421-06		10_25_2021_CAL.cal	1.000	NPOC:4.032mg/
49	Unknown	NPOC	CCV	317195504	10_25_2021_CAL.cal	1.000	NPOC:25.92mg/
50	Unknown	NPOC	CCB		10_25_2021_CAL.cal	1.000	NPOC:0.1484m
51	Unknown	NPOC	HS21101714-01		10_25_2021_CAL.cal	1.000	NPOC:4.483mg/

C:\TOC-L\Data\2021_11_04_002.tlx

	Type	Analysis	Sample Name	Sample ID	Origin	Manual Dilut	Result
52	Unknown	NPOC	HS21101714-01MS		10_25_2021_CAL.cal	1.000	NPOC:15.66mg/
53	Unknown	NPOC	HS21101714-02		10_25_2021_CAL.cal	1.000	NPOC:4.718mg/
54	Unknown	NPOC	HS21101729-01		10_25_2021_CAL.cal	1.000	NPOC:3.291mg/
55	Unknown	NPOC	CCV	317195504	10_25_2021_CAL.cal	1.000	NPOC:25.77mg/
56	Unknown	NPOC	CCB		10_25_2021_CAL.cal	1.000	NPOC:0.1084m
58	Unknown	NPOC	LCS-11042021	3100604423	10_25_2021_CAL.cal	1.000	NPOC:10.72mg/
59	Unknown	NPOC	LCSD-11042021	3100604423	10_25_2021_CAL.cal	1.000	NPOC:10.81mg/
60	Unknown	NPOC	HS21101738-01		10_25_2021_CAL.cal	1.000	NPOC:10.99mg/
61	Unknown	NPOC	HS21101738-01MS		10_25_2021_CAL.cal	1.000	NPOC:22.91mg/
62	Unknown	NPOC	HS21110085-01		10_25_2021_CAL.cal	1.000	NPOC:0.2338m
63	Unknown	NPOC	HS21101272-07DF100		10_25_2021_CAL.cal	1.000	NPOC:178.3mg/
64	Unknown	NPOC	HS21101272-08DF100		10_25_2021_CAL.cal	1.000	NPOC:172.3mg/
65	Unknown	NPOC	HS21101272-07DF200		10_25_2021_CAL.cal	1.000	NPOC:2.187mg/
66	Unknown	NPOC	HS21101272-08DF200		10_25_2021_CAL.cal	1.000	NPOC:2.079mg/
67	Unknown	NPOC	CCV	317195504	10_25_2021_CAL.cal	1.000	NPOC:25.98mg/
68	Unknown	NPOC	CCB		10_25_2021_CAL.cal	1.000	NPOC:0.1469m

C:\TOC-L\Data\2021_11_04_002.tlx

	Notes	Status	Date / Time	Vial
1		Completed	11/4/2021 7:32:40 P	1
2		Completed	11/4/2021 7:48:23 P	2
3		Completed	11/4/2021 8:04:06 P	3
4		Completed	11/4/2021 8:20:08 P	4
5		Completed	11/4/2021 8:36:14 P	5
6		Completed	11/4/2021 8:52:11 P	6
7		Completed	11/4/2021 9:08:05 P	7
8		Completed	11/4/2021 9:23:50 P	8
9		Completed	11/4/2021 9:39:33 P	9
10		Completed	11/4/2021 9:55:38 P	10
11		Completed	11/4/2021 10:11:21	11
12		Completed	11/4/2021 10:27:04	12
13		Completed	11/4/2021 10:59:06	1
14		Completed	11/4/2021 11:14:49	2
15		Completed	11/4/2021 11:30:38	13
16		Completed	11/4/2021 11:46:21	14
17		Completed	11/5/2021 12:02:04	15
18		Completed	11/5/2021 12:17:47	16
19		Completed	11/5/2021 12:49:46	1
20		Completed	11/5/2021 1:05:29 A	2
21		Completed	11/5/2021 1:21:12 A	3
22		Completed	11/5/2021 1:37:15 A	4
23		Completed	11/5/2021 1:53:28 A	5
24		Completed	11/5/2021 2:09:43 A	17
25		Completed	11/5/2021 2:25:49 A	18
26		Completed	11/5/2021 2:41:32 A	19
27		Completed	11/5/2021 2:57:45 A	20
28		Completed	11/5/2021 3:13:28 A	21
29		Completed	11/5/2021 3:33:36 A	22
30		Completed	11/5/2021 3:53:41 A	23
31		Completed	11/5/2021 4:26:12 A	24
32		Completed	11/5/2021 4:41:55 A	25
33		Completed	11/5/2021 4:57:58 A	26
34		Completed	11/5/2021 5:13:41 A	27
35		Completed	11/5/2021 5:29:40 A	28
36		Completed	11/5/2021 5:45:38 A	29
37		Completed	11/5/2021 6:18:04 A	24
38		Completed	11/5/2021 6:33:47 A	25
39		Completed	11/5/2021 6:49:32 A	3
40		Completed	11/5/2021 7:05:41 A	4
41		Completed	11/5/2021 7:21:41 A	5
42		Completed	11/5/2021 7:38:07 A	30
43		Completed	11/5/2021 7:54:06 A	31
44		Completed	11/5/2021 8:10:05 A	32
45		Completed	11/5/2021 8:26:04 A	33
46		Completed	11/5/2021 8:42:24 A	34
47		Completed	11/5/2021 8:58:47 A	35
48		Completed	11/5/2021 9:14:33 A	36
49		Completed	11/5/2021 9:47:02 A	24
50		Completed	11/5/2021 10:02:45	25
51		Completed	11/5/2021 10:18:48	37

	Notes	Status	Date / Time	Vial
52		Completed	11/5/2021 10:34:54	38
53		Completed	11/5/2021 10:50:53	39
54		Completed	11/5/2021 11:06:39	40
55		Completed	11/5/2021 11:38:58	41
56		Completed	11/5/2021 11:54:42	42
58		Completed	11/5/2021 12:26:33	4
59		Completed	11/5/2021 12:42:45	5
60		Completed	11/5/2021 12:58:59	43
61		Completed	11/5/2021 1:15:14 P	44
62		Completed	11/5/2021 1:30:58 P	45
63		Completed	11/5/2021 2:06:43 P	49
64		Completed	11/5/2021 2:23:08 P	50
65		Completed	11/5/2021 4:00:09 P	54
66		Completed	11/5/2021 4:15:54 P	55
67		Completed	11/5/2021 4:48:18 P	41
68		Completed	11/5/2021 5:04:02 P	42

TOC-Control L Report

2021_11_04_002.tlx

Instr.Information

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

Sample

Sample Name: CCV
Sample ID: 317195504
Origin: 10_25_2021_CAL.cal
Status: Completed
Chk. Result:

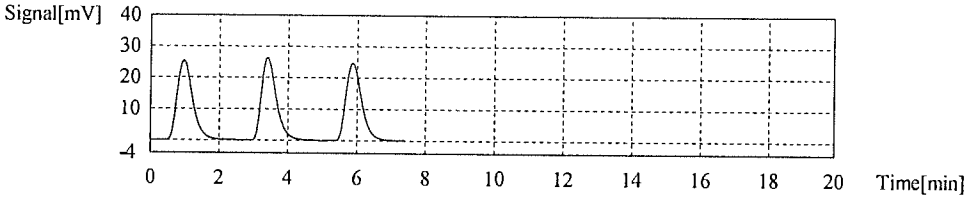
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:25.77mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	79.92	25.90mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/5/2021 11:31:56 AM
2	79.45	25.74mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/5/2021 11:35:24 AM
3	79.22	25.67mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/5/2021 11:38:58 AM

Mean Area: 79.53
Mean Conc.: 25.77mg/L



Sample

Sample Name: CCB
Sample ID:
Origin: 10_25_2021_CAL.cal
Status: Completed
Chk. Result:

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.1084mg/L

1. Det

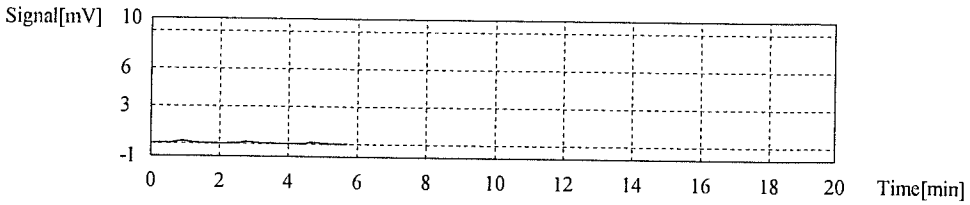
Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	0.4546	0.1473mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/5/2021 11:47:42 AM
2	0.2315	0.07501mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/5/2021 11:51:12 AM
3	0.3179	0.1030mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/5/2021 11:54:42 AM

TOC-Control L Report

2021_11_04_002.tlx

Mean Area 0.3347
Mean Conc. 0.1084mg/L



Sample

Sample Name: LCS-11042021
Sample ID: 3100604423
Origin: 10_25_2021_CAL.cal
Status Completed
Chk. Result

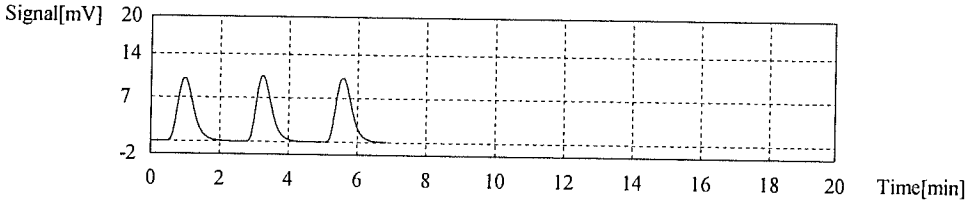
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:10.72mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	32.74	10.61mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/5/2021 12:19:37 PM
2	33.14	10.74mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/5/2021 12:23:07 PM
3	33.36	10.81mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/5/2021 12:26:33 PM

Mean Area 33.08
Mean Conc. 10.72mg/L



Sample

Sample Name: LCSD-11042021
Sample ID: 3100604423
Origin: 10_25_2021_CAL.cal
Status Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:10.81mg/L

1. Det

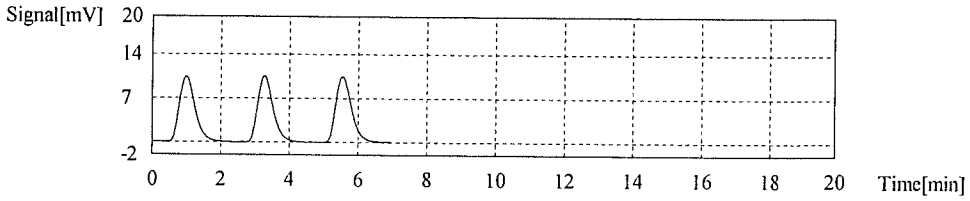
Anal.: NPOC

TOC-Control L Report

2021_11_04_002.tlx

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	33.17	10.75mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/5/2021 12:35:39 PM
2	33.25	10.77mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/5/2021 12:39:09 PM
3	33.69	10.92mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/5/2021 12:42:45 PM

Mean Area 33.37
Mean Conc. 10.81mg/L



Sample

Sample Name: HS21101738-01
Sample ID:
Origin: 10_25_2021_CAL.cal
Status Completed
Chk. Result

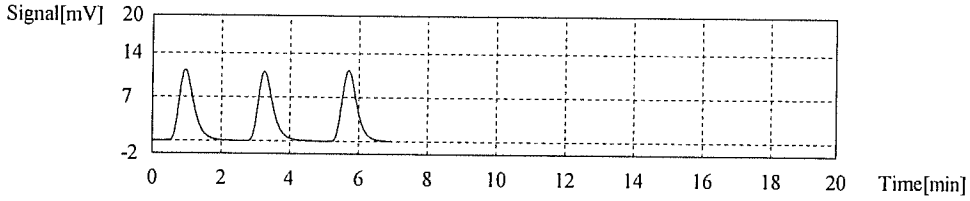
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:10.99mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	33.91	10.99mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/5/2021 12:52:02 PM
2	33.52	10.86mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/5/2021 12:55:39 PM
3	34.37	11.14mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/5/2021 12:58:59 PM

Mean Area 33.93
Mean Conc. 10.99mg/L



Sample

Sample Name: HS21101738-01MS
Sample ID:
Origin: 10_25_2021_CAL.cal
Status Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:22.91mg/L

1. Det

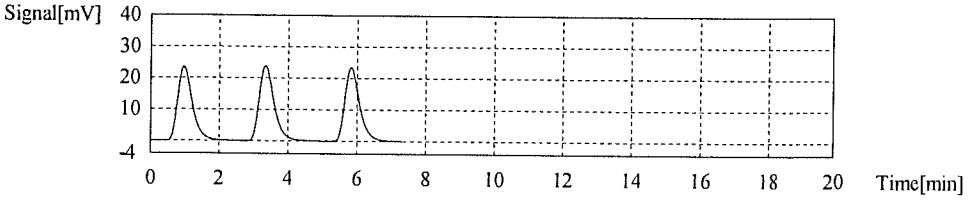
TOC-Control L Report

2021_11_04_002.tlx

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	70.06	22.70mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/5/2021 1:08:11 PM
2	71.44	23.15mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/5/2021 1:11:49 PM
3	70.61	22.88mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/5/2021 1:15:14 PM

Mean Area 70.70
Mean Conc. 22.91mg/L



Sample

Sample Name: HS21101272-07DF2000
Sample ID:
Origin: 10_25_2021_CAL.cal
Status Completed
Chk. Result

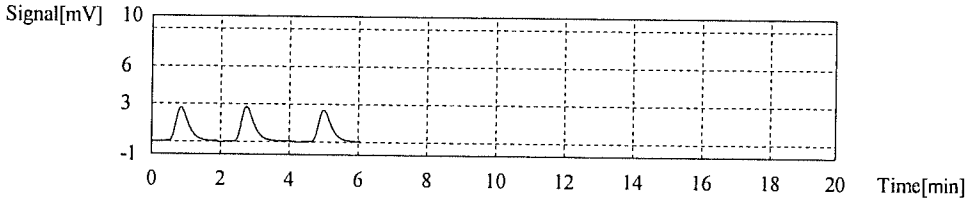
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:2.187mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	6.666	2.160mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/5/2021 3:53:09 PM
2	7.217	2.338mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/5/2021 3:57:00 PM
3	6.367	2.063mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/5/2021 4:00:09 PM

Mean Area 6.750
Mean Conc. 2.187mg/L



Sample

Sample Name: HS21101272-08DF2000
Sample ID:
Origin: 10_25_2021_CAL.cal
Status Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:2.079mg/L

TOC-Control L Report

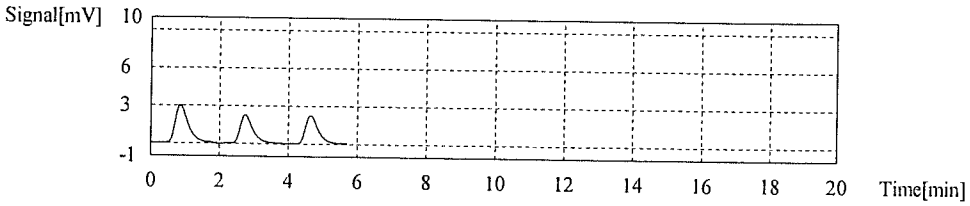
2021_11_04_002.tlx

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	7.824	2.535mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/5/2021 4:08:54 PM
2	5.733	1.858mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/5/2021 4:12:24 PM
3	5.694	1.845mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/5/2021 4:15:54 PM

Mean Area 6.417
Mean Conc. 2.079mg/L



Sample

Sample Name: CCV
Sample ID: 317195504
Origin: 10_25_2021_CAL.cal
Status Completed
Chk. Result

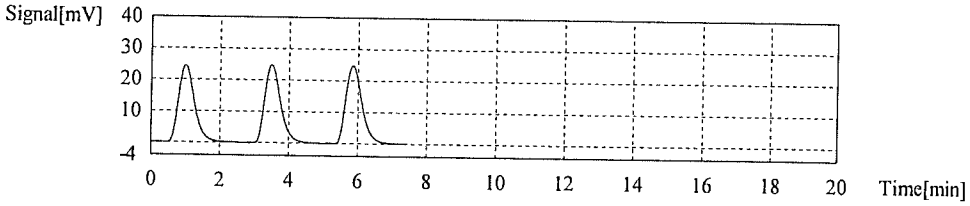
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:25.98mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	79.36	25.71mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/5/2021 4:41:15 PM
2	79.75	25.84mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/5/2021 4:44:35 PM
3	81.43	26.38mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/5/2021 4:48:18 PM

Mean Area 80.18
Mean Conc. 25.98mg/L



Sample

Sample Name: CCB
Sample ID:
Origin: 10_25_2021_CAL.cal
Status Completed
Chk. Result

TOC-Control L Report

2021_11_04_002.tlx

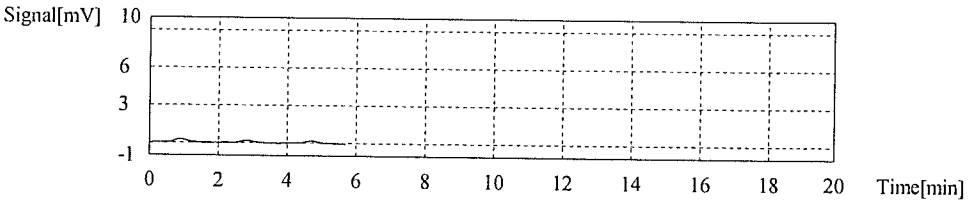
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.1469mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	0.6321	0.2048mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/5/2021 4:57:02 PM
2	0.4112	0.1332mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/5/2021 5:00:32 PM
3	0.3168	0.1026mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/5/2021 5:04:02 PM

Mean Area 0.4534
Mean Conc. 0.1469mg/L



HS21101554 Longhorn Army Ammunition Plant
16 October 2021 Cover Page

ALS WO# HS21101554

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

HS21101554 Longhorn Army Ammunition Plant 16 October 2021 Cover Page
CoverPage
HS21101554 Longhorn Army Ammunition Plant 16 October 2021 Final
CoverLetter
Sample Summary
CaseNarrative
16WW44-211025
16WW37-211025
16WW38-211025
16WW14-211025
16RW06-211025
16RW07-211025
16WW39-211025
16PM02-211025
16PM03-211025
16PM03-211025-FD
16RW09-211026
16RW10-211026
16RW01-211026
16WW13-211026
16WW42-211026
16PM09-211026

Table of Contents (continued)

16PM06-211026
16PM14-211026
Trip Blank-211026
Dates Report
QC
Acronyms
Certifications
SampleReceiptCheckList
COC
HS21101554 8260 Raw Data
HS21101554 RSK 175 Raw Data
HS21101554 Wet Chemistry

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

WorkOrder: HS21101554

Longhorn Army Ammunition Plant 16 October 2021

Aptim Environmental & Infrastucture, Inc.

Vicki Graves
10333 Richmond Ave Ste 1030
Houston TX 77042

23-Dec-2021

HS21101554 Longhorn Army Ammunition Plant
16 October 2021 Final

ALS WO# HS21101554

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

November 09, 2021

Vicki Graves
Aptim Environmental & Infrastucture, Inc.
10333 Richmond Ave
Ste 1030
Houston, TX 77042

Work Order: **HS21101554**

Laboratory Results for: **Longhorn Army Ammunition Plant 16 October 2021**

Dear Vicki Graves ,

ALS Environmental received 19 sample(s) on Oct 27, 2021 for the analysis presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

Generated By: DAYNA.FISHER
Ragen Giga
Project Manager

ALS Houston, US Date: 09-Nov-21

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 October 2021
Work Order: HS21101554

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS21101554-01	16WW44-211025	Groundwater		25-Oct-2021 07:35	27-Oct-2021 10:30	☐
HS21101554-02	16WW37-211025	Groundwater		25-Oct-2021 08:20	27-Oct-2021 10:30	☐
HS21101554-03	16WW38-211025	Groundwater		25-Oct-2021 09:05	27-Oct-2021 10:30	☐
HS21101554-04	16WW14-211025	Groundwater		25-Oct-2021 09:50	27-Oct-2021 10:30	☐
HS21101554-05	16RW06-211025	Groundwater		25-Oct-2021 10:30	27-Oct-2021 10:30	☐
HS21101554-06	16RW07-211025	Groundwater		25-Oct-2021 11:10	27-Oct-2021 10:30	☐
HS21101554-07	16WW39-211025	Groundwater		25-Oct-2021 11:55	27-Oct-2021 10:30	☐
HS21101554-08	16PM02-211025	Groundwater		25-Oct-2021 12:40	27-Oct-2021 10:30	☐
HS21101554-09	16PM03-211025	Groundwater		25-Oct-2021 13:20	27-Oct-2021 10:30	☐
HS21101554-10	16PM03-211025-FD	Groundwater		25-Oct-2021 13:20	27-Oct-2021 10:30	☐
HS21101554-11	16RW09-211026	Groundwater		26-Oct-2021 07:40	27-Oct-2021 10:30	☐
HS21101554-12	16RW10-211026	Groundwater		26-Oct-2021 08:40	27-Oct-2021 10:30	☐
HS21101554-13	16RW01-211026	Groundwater		26-Oct-2021 09:25	27-Oct-2021 10:30	☐
HS21101554-14	16WW13-211026	Groundwater		26-Oct-2021 10:05	27-Oct-2021 10:30	☐
HS21101554-15	16WW42-211026	Groundwater		26-Oct-2021 10:45	27-Oct-2021 10:30	☐
HS21101554-16	16PM09-211026	Groundwater		26-Oct-2021 11:30	27-Oct-2021 10:30	☐
HS21101554-17	16PM06-211026	Groundwater		26-Oct-2021 12:10	27-Oct-2021 10:30	☐
HS21101554-18	16PM14-211026	Groundwater		26-Oct-2021 12:50	27-Oct-2021 10:30	☐
HS21101554-19	Trip Blank-211026	Water	CG-082521-466	26-Oct-2021 00:00	27-Oct-2021 10:30	☐

ALS Houston, US Date: 09-Nov-21

Client: Aptim Environmental & Infrastucture, Inc. **CASE NARRATIVE**
Project: Longhorn Army Ammunition Plant 16 October 2021
Work Order: HS21101554

GC Semivolatiles by Method RSK-175

Batch ID: R394683

Sample ID: HS21101171-02MS

- MS and MSD are for an unrelated sample

GCMS Volatiles by Method SW8260

Batch ID: R395185

Sample ID: 16PM09-211026 (HS21101554-16)

- Lowest practical dilution for sample HS21101554-16 due to matrix.

Sample ID: 16WW42-211026 (HS21101554-15)

- Lowest practical dilution for sample HS21101554-15 due to matrix.

Sample ID: 16WW39-211025 (HS21101554-07MSD)

- MSD recovered below lower control limits for Trichloroethene

Batch ID: R395088

Sample ID: 16RW07-211025 (HS21101554-06)

- Lowest practical dilution for sample HS21101554-06 due to matrix.

Sample ID: 16RW09-211026 (HS21101554-11)

- Lowest practical dilution for sample HS21101554-11 due to matrix.

Sample ID: 16RW10-211026 (HS21101554-12)

- Lowest practical dilution for sample HS21101554-12 due to matrix.

Batch ID: R395050

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

WetChemistry by Method SM5310B

Batch ID: R395038

Sample ID: 16WW42-211026 (HS21101554-15MS)

- The recovery of the Matrix Spike (MS) associated to this analyte was outside of the established control limits. However, the LCS was within control limits. The recovery of the MS may be due to sample matrix interference.

ALS Houston, US Date: 09-Nov-21

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: Longhorn Army Ammunition Plant 16 October 2021 WorkOrder:HS21101554
Sample ID: 16WW44-211025 Lab ID:HS21101554-01
Collection Date: 25-Oct-2021 07:35 Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	05-Nov-2021 16:50
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	05-Nov-2021 16:50
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	05-Nov-2021 16:50
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	05-Nov-2021 16:50
Methylene chloride	1.0	U	0.40	1.0	2.0	ug/L	1	05-Nov-2021 16:50
Trichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	05-Nov-2021 16:50
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	05-Nov-2021 16:50
Surr: 1,2-Dichloroethane-d4	*91.6*			**0**	*81-118*	*%REC*	*1*	*05-Nov-2021 16:50*
Surr: 4-Bromofluorobenzene	*95.4*			**0**	*85-114*	*%REC*	*1*	*05-Nov-2021 16:50*
Surr: Dibromofluoromethane	*95.4*			**0**	*80-119*	*%REC*	*1*	*05-Nov-2021 16:50*
Surr: Toluene-d8	*96.8*			**0**	*89-112*	*%REC*	*1*	*05-Nov-2021 16:50*

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

ALS Houston, US Date: 09-Nov-21

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: Longhorn Army Ammunition Plant 16 October 2021 WorkOrder:HS21101554
Sample ID: 16WW37-211025 Lab ID:HS21101554-02
Collection Date: 25-Oct-2021 08:20 Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	05-Nov-2021 17:11
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	05-Nov-2021 17:11
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	05-Nov-2021 17:11
cis-1,2-Dichloroethene	**15**		**0.20**	**0.50**	**1.0**	**ug/L**	1	05-Nov-2021 17:11
Methylene chloride	1.0	U	0.40	1.0	2.0	ug/L	1	05-Nov-2021 17:11
Trichloroethene	**190**		**0.20**	**0.50**	**1.0**	**ug/L**	1	05-Nov-2021 17:11
Vinyl chloride	**4.2**		**0.20**	**0.50**	**1.0**	**ug/L**	1	05-Nov-2021 17:11
Surr: 1,2-Dichloroethane-d4	*88.9*			**0**	*81-118*	*%REC*	*1*	*05-Nov-2021 17:11*
Surr: 4-Bromofluorobenzene	*95.7*			**0**	*85-114*	*%REC*	*1*	*05-Nov-2021 17:11*
Surr: Dibromofluoromethane	*93.8*			**0**	*80-119*	*%REC*	*1*	*05-Nov-2021 17:11*
Surr: Toluene-d8	*93.8*			**0**	*89-112*	*%REC*	*1*	*05-Nov-2021 17:11*

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

ALS Houston, US Date: 09-Nov-21

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: Longhorn Army Ammunition Plant 16 October 2021 WorkOrder:HS21101554
Sample ID: 16WW38-211025 Lab ID:HS21101554-03
Collection Date: 25-Oct-2021 09:05 Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,2-Trichloroethane	5.0	U	1.5	5.0	5.0	ug/L	5	07-Nov-2021 15:37
1,1-Dichloroethene	**10**		**1.0**	**2.5**	**5.0**	**ug/L**	5	07-Nov-2021 15:37
1,2-Dichloroethane	2.5	U	1.0	2.5	5.0	ug/L	5	07-Nov-2021 15:37
cis-1,2-Dichloroethene	**870**		**1.0**	**2.5**	**5.0**	**ug/L**	5	07-Nov-2021 15:37
Methylene chloride	5.0	U	2.0	5.0	10	ug/L	5	07-Nov-2021 15:37
Trichloroethene	**1,200**		**5.0**	**12**	**25**	**ug/L**	25	07-Nov-2021 15:58
Vinyl chloride	**48**		**1.0**	**2.5**	**5.0**	**ug/L**	5	07-Nov-2021 15:37
Surr: 1,2-Dichloroethane-d4	*84.2*			**0**	*81-118*	*%REC*	*5*	*07-Nov-2021 15:37*
Surr: 1,2-Dichloroethane-d4	*83.0*			**0**	*81-118*	*%REC*	*25*	*07-Nov-2021 15:58*
Surr: 4-Bromofluorobenzene	*91.4*			**0**	*85-114*	*%REC*	*5*	*07-Nov-2021 15:37*
Surr: 4-Bromofluorobenzene	*95.8*			**0**	*85-114*	*%REC*	*25*	*07-Nov-2021 15:58*
Surr: Dibromofluoromethane	*89.9*			**0**	*80-119*	*%REC*	*25*	*07-Nov-2021 15:58*
Surr: Dibromofluoromethane	*90.0*			**0**	*80-119*	*%REC*	*5*	*07-Nov-2021 15:37*
Surr: Toluene-d8	*96.8*			**0**	*89-112*	*%REC*	*5*	*07-Nov-2021 15:37*
Surr: Toluene-d8	*96.0*			**0**	*89-112*	*%REC*	*25*	*07-Nov-2021 15:58*

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

ALS Houston, US Date: 09-Nov-21

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: Longhorn Army Ammunition Plant 16 October 2021 WorkOrder:HS21101554
Sample ID: 16WW14-211025 Lab ID:HS21101554-04
Collection Date: 25-Oct-2021 09:50 Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	07-Nov-2021 14:54
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	07-Nov-2021 14:54
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Nov-2021 14:54
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	07-Nov-2021 14:54
Methylene chloride	1.0	U	0.40	1.0	2.0	ug/L	1	07-Nov-2021 14:54
Trichloroethene	**12**		**0.20**	**0.50**	**1.0**	**ug/L**	1	07-Nov-2021 14:54
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	07-Nov-2021 14:54
Surr: 1,2-Dichloroethane-d4	*85.6*			**0**	*81-118*	*%REC*	*1*	*07-Nov-2021 14:54*
Surr: 4-Bromofluorobenzene	*96.6*			**0**	*85-114*	*%REC*	*1*	*07-Nov-2021 14:54*
Surr: Dibromofluoromethane	*92.0*			**0**	*80-119*	*%REC*	*1*	*07-Nov-2021 14:54*
Surr: Toluene-d8	*94.5*			**0**	*89-112*	*%REC*	*1*	*07-Nov-2021 14:54*

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

ALS Houston, US Date: 09-Nov-21

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: Longhorn Army Ammunition Plant 16 October 2021 WorkOrder:HS21101554
Sample ID: 16RW06-211025 Lab ID:HS21101554-05
Collection Date: 25-Oct-2021 10:30 Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	07-Nov-2021 15:16
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	07-Nov-2021 15:16
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Nov-2021 15:16
cis-1,2-Dichloroethene	**6.8**		**0.20**	**0.50**	**1.0**	**ug/L**	1	07-Nov-2021 15:16
Methylene chloride	1.0	U	0.40	1.0	2.0	ug/L	1	07-Nov-2021 15:16
Trichloroethene	**34**		**0.20**	**0.50**	**1.0**	**ug/L**	1	07-Nov-2021 15:16
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	07-Nov-2021 15:16
Surr: 1,2-Dichloroethane-d4	*83.8*			**0**	*81-118*	*%REC*	*1*	*07-Nov-2021 15:16*
Surr: 4-Bromofluorobenzene	*93.7*			**0**	*85-114*	*%REC*	*1*	*07-Nov-2021 15:16*
Surr: Dibromofluoromethane	*89.4*			**0**	*80-119*	*%REC*	*1*	*07-Nov-2021 15:16*
Surr: Toluene-d8	*95.2*			**0**	*89-112*	*%REC*	*1*	*07-Nov-2021 15:16*

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

ALS Houston, US Date: 09-Nov-21

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: Longhorn Army Ammunition Plant 16 October 2021 WorkOrder:HS21101554
Sample ID: 16RW07-211025 Lab ID:HS21101554-06
Collection Date: 25-Oct-2021 11:10 Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
1,1,2-Trichloroethane	5.0	U	1.5	5.0	5.0	ug/L	5	07-Nov-2021 17:43
1,1-Dichloroethene	**4.1**	J	**1.0**	**2.5**	**5.0**	**ug/L**	5	07-Nov-2021 17:43
1,2-Dichloroethane	2.5	U	1.0	2.5	5.0	ug/L	5	07-Nov-2021 17:43
cis-1,2-Dichloroethene	**35**		**1.0**	**2.5**	**5.0**	**ug/L**	5	07-Nov-2021 17:43
Methylene chloride	5.0	U	2.0	5.0	10	ug/L	5	07-Nov-2021 17:43
Trichloroethene	**700**		**1.0**	**2.5**	**5.0**	**ug/L**	5	07-Nov-2021 17:43
Vinyl chloride	**15**		**1.0**	**2.5**	**5.0**	**ug/L**	5	07-Nov-2021 17:43
Surr: 1,2-Dichloroethane-d4	*83.7*			**0**	*81-118*	*%REC*	*5*	*07-Nov-2021 17:43*
Surr: 4-Bromofluorobenzene	*95.3*			**0**	*85-114*	*%REC*	*5*	*07-Nov-2021 17:43*
Surr: Dibromofluoromethane	*91.3*			**0**	*80-119*	*%REC*	*5*	*07-Nov-2021 17:43*
Surr: Toluene-d8	*97.2*			**0**	*89-112*	*%REC*	*5*	*07-Nov-2021 17:43*

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

ALS Houston, US Date: 09-Nov-21

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: Longhorn Army Ammunition Plant 16 October 2021 WorkOrder:HS21101554
Sample ID: 16WW39-211025 Lab ID:HS21101554-07
Collection Date: 25-Oct-2021 11:55 Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	07-Nov-2021 16:19
1,1-Dichloroethene	**0.61**	J	**0.20**	**0.50**	**1.0**	**ug/L**	1	07-Nov-2021 16:19
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Nov-2021 16:19
cis-1,2-Dichloroethene	**28**		**0.20**	**0.50**	**1.0**	**ug/L**	1	07-Nov-2021 16:19
Methylene chloride	1.0	U	0.40	1.0	2.0	ug/L	1	07-Nov-2021 16:19
Trichloroethene	**210**		**1.0**	**2.5**	**5.0**	**ug/L**	5	08-Nov-2021 13:56
Vinyl chloride	**1.8**		**0.20**	**0.50**	**1.0**	**ug/L**	1	07-Nov-2021 16:19
Surr: 1,2-Dichloroethane-d4	*85.5*			**0**	*81-118*	*%REC*	*1*	*07-Nov-2021 16:19*
Surr: 1,2-Dichloroethane-d4	*85.4*			**0**	*81-118*	*%REC*	*5*	*08-Nov-2021 13:56*
Surr: 4-Bromofluorobenzene	*93.2*			**0**	*85-114*	*%REC*	*1*	*07-Nov-2021 16:19*
Surr: 4-Bromofluorobenzene	*97.4*			**0**	*85-114*	*%REC*	*5*	*08-Nov-2021 13:56*
Surr: Dibromofluoromethane	*91.5*			**0**	*80-119*	*%REC*	*1*	*07-Nov-2021 16:19*
Surr: Dibromofluoromethane	*89.7*			**0**	*80-119*	*%REC*	*5*	*08-Nov-2021 13:56*
Surr: Toluene-d8	*94.0*			**0**	*89-112*	*%REC*	*1*	*07-Nov-2021 16:19*
Surr: Toluene-d8	*95.7*			**0**	*89-112*	*%REC*	*5*	*08-Nov-2021 13:56*

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

ALS Houston, US Date: 09-Nov-21

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: Longhorn Army Ammunition Plant 16 October 2021 WorkOrder:HS21101554
Sample ID: 16PM02-211025 Lab ID:HS21101554-08
Collection Date: 25-Oct-2021 12:40 Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
1,1,2-Trichloroethane	25	U	7.5	25	25	ug/L	25	07-Nov-2021 21:13
1,1-Dichloroethene	**21**	J	**5.0**	**12**	**25**	**ug/L**	25	07-Nov-2021 21:13
1,2-Dichloroethane	**16**	J	**5.0**	**12**	**25**	**ug/L**	25	07-Nov-2021 21:13
cis-1,2-Dichloroethene	**2,500**		**5.0**	**12**	**25**	**ug/L**	25	07-Nov-2021 21:13
Methylene chloride	25	U	10	25	50	ug/L	25	07-Nov-2021 21:13
Trichloroethene	**16,000**		**50**	**120**	**250**	**ug/L**	250	07-Nov-2021 21:34
Vinyl chloride	**35**		**5.0**	**12**	**25**	**ug/L**	25	07-Nov-2021 21:13
Surr: 1,2-Dichloroethane-d4	*86.0*			**0**	*81-118*	*%REC*	*25*	*07-Nov-2021 21:13*
Surr: 1,2-Dichloroethane-d4	*87.1*			**0**	*81-118*	*%REC*	*250*	*07-Nov-2021 21:34*
Surr: 4-Bromofluorobenzene	*96.4*			**0**	*85-114*	*%REC*	*25*	*07-Nov-2021 21:13*
Surr: 4-Bromofluorobenzene	*94.3*			**0**	*85-114*	*%REC*	*250*	*07-Nov-2021 21:34*
Surr: Dibromofluoromethane	*91.9*			**0**	*80-119*	*%REC*	*25*	*07-Nov-2021 21:13*
Surr: Dibromofluoromethane	*93.1*			**0**	*80-119*	*%REC*	*250*	*07-Nov-2021 21:34*
Surr: Toluene-d8	*96.0*			**0**	*89-112*	*%REC*	*25*	*07-Nov-2021 21:13*
Surr: Toluene-d8	*95.3*			**0**	*89-112*	*%REC*	*250*	*07-Nov-2021 21:34*

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

ALS Houston, US Date: 09-Nov-21

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: Longhorn Army Ammunition Plant 16 October 2021 WorkOrder:HS21101554
Sample ID: 16PM03-211025 Lab ID:HS21101554-09
Collection Date: 25-Oct-2021 13:20 Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,2-Trichloroethane	10	U	3.0	10	10	ug/L	10	07-Nov-2021 19:49
1,1-Dichloroethene	**21**		**2.0**	**5.0**	**10**	**ug/L**	10	07-Nov-2021 19:49
1,2-Dichloroethane	**21**		**2.0**	**5.0**	**10**	**ug/L**	10	07-Nov-2021 19:49
cis-1,2-Dichloroethene	**7,400**		**20**	**50**	**100**	**ug/L**	100	07-Nov-2021 20:10
Methylene chloride	10	U	4.0	10	20	ug/L	10	07-Nov-2021 19:49
Trichloroethene	**6,300**		**20**	**50**	**100**	**ug/L**	100	07-Nov-2021 20:10
Vinyl chloride	**120**		**2.0**	**5.0**	**10**	**ug/L**	10	07-Nov-2021 19:49
Surr: 1,2-Dichloroethane-d4	*83.7*			**0**	*81-118*	*%REC*	*10*	*07-Nov-2021 19:49*
Surr: 1,2-Dichloroethane-d4	*86.8*			**0**	*81-118*	*%REC*	*100*	*07-Nov-2021 20:10*
Surr: 4-Bromofluorobenzene	*91.6*			**0**	*85-114*	*%REC*	*10*	*07-Nov-2021 19:49*
Surr: 4-Bromofluorobenzene	*97.8*			**0**	*85-114*	*%REC*	*100*	*07-Nov-2021 20:10*
Surr: Dibromofluoromethane	*90.0*			**0**	*80-119*	*%REC*	*10*	*07-Nov-2021 19:49*
Surr: Dibromofluoromethane	*90.6*			**0**	*80-119*	*%REC*	*100*	*07-Nov-2021 20:10*
Surr: Toluene-d8	*96.5*			**0**	*89-112*	*%REC*	*10*	*07-Nov-2021 19:49*
Surr: Toluene-d8	*97.3*			**0**	*89-112*	*%REC*	*100*	*07-Nov-2021 20:10*

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

ALS Houston, US Date: 09-Nov-21

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: Longhorn Army Ammunition Plant 16 October 2021 WorkOrder:HS21101554
Sample ID: 16PM03-211025-FD Lab ID:HS21101554-10
Collection Date: 25-Oct-2021 13:20 Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
1,1,2-Trichloroethane	10	U	3.0	10	10	ug/L	10	07-Nov-2021 20:31
1,1-Dichloroethene	**21**		**2.0**	**5.0**	**10**	**ug/L**	10	07-Nov-2021 20:31
1,2-Dichloroethane	**21**		**2.0**	**5.0**	**10**	**ug/L**	10	07-Nov-2021 20:31
cis-1,2-Dichloroethene	**7,500**		**20**	**50**	**100**	**ug/L**	100	07-Nov-2021 20:52
Methylene chloride	10	U	4.0	10	20	ug/L	10	07-Nov-2021 20:31
Trichloroethene	**6,300**		**20**	**50**	**100**	**ug/L**	100	07-Nov-2021 20:52
Vinyl chloride	**120**		**2.0**	**5.0**	**10**	**ug/L**	10	07-Nov-2021 20:31
Surr: 1,2-Dichloroethane-d4	*86.6*			**0**	*81-118*	*%REC*	*10*	*07-Nov-2021 20:31*
Surr: 1,2-Dichloroethane-d4	*86.2*			**0**	*81-118*	*%REC*	*100*	*07-Nov-2021 20:52*
Surr: 4-Bromofluorobenzene	*94.8*			**0**	*85-114*	*%REC*	*10*	*07-Nov-2021 20:31*
Surr: 4-Bromofluorobenzene	*94.5*			**0**	*85-114*	*%REC*	*100*	*07-Nov-2021 20:52*
Surr: Dibromofluoromethane	*93.0*			**0**	*80-119*	*%REC*	*10*	*07-Nov-2021 20:31*
Surr: Dibromofluoromethane	*91.6*			**0**	*80-119*	*%REC*	*100*	*07-Nov-2021 20:52*
Surr: Toluene-d8	*96.2*			**0**	*89-112*	*%REC*	*10*	*07-Nov-2021 20:31*
Surr: Toluene-d8	*96.5*			**0**	*89-112*	*%REC*	*100*	*07-Nov-2021 20:52*

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

ALS Houston, US Date: 09-Nov-21

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 October 2021
Sample ID: 16RW09-211026
Collection Date: 26-Oct-2021 07:40

ANALYTICAL REPORT
WorkOrder:HS21101554
Lab ID:HS21101554-11
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
1,1,2-Trichloroethane	5.0	U	1.5	5.0	5.0	ug/L	5	07-Nov-2021 18:25
1,1-Dichloroethene	**5.4**		**1.0**	**2.5**	**5.0**	**ug/L**	5	07-Nov-2021 18:25
1,2-Dichloroethane	2.5	U	1.0	2.5	5.0	ug/L	5	07-Nov-2021 18:25
cis-1,2-Dichloroethene	**340**		**1.0**	**2.5**	**5.0**	**ug/L**	5	07-Nov-2021 18:25
Methylene chloride	5.0	U	2.0	5.0	10	ug/L	5	07-Nov-2021 18:25
Trichloroethene	**610**		**1.0**	**2.5**	**5.0**	**ug/L**	5	07-Nov-2021 18:25
Vinyl chloride	**28**		**1.0**	**2.5**	**5.0**	**ug/L**	5	07-Nov-2021 18:25
Surr: 1,2-Dichloroethane-d4	*86.1*			**0**	*81-118*	*%REC*	*5*	*07-Nov-2021 18:25*
Surr: 4-Bromofluorobenzene	*95.0*			**0**	*85-114*	*%REC*	*5*	*07-Nov-2021 18:25*
Surr: Dibromofluoromethane	*90.7*			**0**	*80-119*	*%REC*	*5*	*07-Nov-2021 18:25*
Surr: Toluene-d8	*97.1*			**0**	*89-112*	*%REC*	*5*	*07-Nov-2021 18:25*
DISSOLVED GASES BY RSK-175		**Method:RSK-175**						Analyst: PPM
Ethane	0.000500	U	0.000144	0.000500	0.00100	mg/L	1	01-Nov-2021 13:38
Ethene	**0.00260**		**0.000234**	**0.000500**	**0.00100**	**mg/L**	1	01-Nov-2021 13:38
Methane	**0.180**		**0.00107**	**0.00250**	**0.00500**	**mg/L**	10	01-Nov-2021 14:15
TOTAL ORGANIC CARBON - SM5310B-2011		**Method:SM5310B**						Analyst: JAC
Organic Carbon, Total	**2.58**		**0.500**	**1.00**	**1.00**	**mg/L**	1	05-Nov-2021 22:49

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

ALS Houston, US Date: 09-Nov-21

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: Longhorn Army Ammunition Plant 16 October 2021 WorkOrder:HS21101554
Sample ID: 16RW10-211026 Lab ID:HS21101554-12
Collection Date: 26-Oct-2021 08:40 Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
1,1,2-Trichloroethane	5.0	U	1.5	5.0	5.0	ug/L	5	07-Nov-2021 19:07
1,1-Dichloroethene	**3.9**	J	**1.0**	**2.5**	**5.0**	**ug/L**	5	07-Nov-2021 19:07
1,2-Dichloroethane	**15**		**1.0**	**2.5**	**5.0**	**ug/L**	5	07-Nov-2021 19:07
cis-1,2-Dichloroethene	**500**		**1.0**	**2.5**	**5.0**	**ug/L**	5	07-Nov-2021 19:07
Methylene chloride	5.0	U	2.0	5.0	10	ug/L	5	07-Nov-2021 19:07
Trichloroethene	**950**		**1.0**	**2.5**	**5.0**	**ug/L**	5	07-Nov-2021 19:07
Vinyl chloride	**25**		**1.0**	**2.5**	**5.0**	**ug/L**	5	07-Nov-2021 19:07
Surr: 1,2-Dichloroethane-d4	*86.6*			**0**	*81-118*	*%REC*	*5*	*07-Nov-2021 19:07*
Surr: 4-Bromofluorobenzene	*95.8*			**0**	*85-114*	*%REC*	*5*	*07-Nov-2021 19:07*
Surr: Dibromofluoromethane	*93.5*			**0**	*80-119*	*%REC*	*5*	*07-Nov-2021 19:07*
Surr: Toluene-d8	*97.9*			**0**	*89-112*	*%REC*	*5*	*07-Nov-2021 19:07*
DISSOLVED GASES BY RSK-175		**Method:RSK-175**						Analyst: PPM
Ethane	0.000500	U	0.000144	0.000500	0.00100	mg/L	1	01-Nov-2021 13:55
Ethene	**0.00519**		**0.000234**	**0.000500**	**0.00100**	**mg/L**	1	01-Nov-2021 13:55
Methane	**0.216**		**0.00107**	**0.00250**	**0.00500**	**mg/L**	10	01-Nov-2021 14:23
TOTAL ORGANIC CARBON - SM5310B-2011		**Method:SM5310B**						Analyst: JAC
Organic Carbon, Total	**5.90**		**0.500**	**1.00**	**1.00**	**mg/L**	1	05-Nov-2021 23:05

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

ALS Houston, US Date: 09-Nov-21

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: Longhorn Army Ammunition Plant 16 October 2021 WorkOrder:HS21101554
Sample ID: 16RW01-211026 Lab ID:HS21101554-13
Collection Date: 26-Oct-2021 09:25 Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
1,1,2-Trichloroethane	5.0	U	1.5	5.0	5.0	ug/L	5	08-Nov-2021 14:38
1,1-Dichloroethene	2.5	U	1.0	2.5	5.0	ug/L	5	08-Nov-2021 14:38
1,2-Dichloroethane	2.5	U	1.0	2.5	5.0	ug/L	5	08-Nov-2021 14:38
cis-1,2-Dichloroethene	**81**		**1.0**	**2.5**	**5.0**	**ug/L**	5	08-Nov-2021 14:38
Methylene chloride	5.0	U	2.0	5.0	10	ug/L	5	08-Nov-2021 14:38
Trichloroethene	**2,200**		**10**	**25**	**50**	**ug/L**	50	08-Nov-2021 17:26
Vinyl chloride	**2.3**	J	**1.0**	**2.5**	**5.0**	**ug/L**	5	08-Nov-2021 14:38
Surr: 1,2-Dichloroethane-d4	*81.8*			**0**	*81-118*	*%REC*	*50*	*08-Nov-2021 17:26*
Surr: 1,2-Dichloroethane-d4	*86.4*			**0**	*81-118*	*%REC*	*5*	*08-Nov-2021 14:38*
Surr: 4-Bromofluorobenzene	*94.6*			**0**	*85-114*	*%REC*	*5*	*08-Nov-2021 14:38*
Surr: 4-Bromofluorobenzene	*93.4*			**0**	*85-114*	*%REC*	*50*	*08-Nov-2021 17:26*
Surr: Dibromofluoromethane	*92.0*			**0**	*80-119*	*%REC*	*5*	*08-Nov-2021 14:38*
Surr: Dibromofluoromethane	*88.7*			**0**	*80-119*	*%REC*	*50*	*08-Nov-2021 17:26*
Surr: Toluene-d8	*96.5*			**0**	*89-112*	*%REC*	*50*	*08-Nov-2021 17:26*
Surr: Toluene-d8	*95.8*			**0**	*89-112*	*%REC*	*5*	*08-Nov-2021 14:38*

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

ALS Houston, US Date: 09-Nov-21

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: Longhorn Army Ammunition Plant 16 October 2021 WorkOrder:HS21101554
Sample ID: 16WW13-211026 Lab ID:HS21101554-14
Collection Date: 26-Oct-2021 10:05 Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,2-Trichloroethane	5.0	U	1.5	5.0	5.0	ug/L	5	08-Nov-2021 14:59
1,1-Dichloroethene	2.5	U	1.0	2.5	5.0	ug/L	5	08-Nov-2021 14:59
1,2-Dichloroethane	2.5	U	1.0	2.5	5.0	ug/L	5	08-Nov-2021 14:59
cis-1,2-Dichloroethene	**680**		**1.0**	**2.5**	**5.0**	**ug/L**	5	08-Nov-2021 14:59
Methylene chloride	5.0	U	2.0	5.0	10	ug/L	5	08-Nov-2021 14:59
Trichloroethene	**2,800**		**5.0**	**12**	**25**	**ug/L**	25	08-Nov-2021 17:47
Vinyl chloride	**10**		**1.0**	**2.5**	**5.0**	**ug/L**	5	08-Nov-2021 14:59
Surr: 1,2-Dichloroethane-d4	*85.2*			**0**	*81-118*	*%REC*	*5*	*08-Nov-2021 14:59*
Surr: 1,2-Dichloroethane-d4	*83.7*			**0**	*81-118*	*%REC*	*25*	*08-Nov-2021 17:47*
Surr: 4-Bromofluorobenzene	*93.5*			**0**	*85-114*	*%REC*	*5*	*08-Nov-2021 14:59*
Surr: 4-Bromofluorobenzene	*97.1*			**0**	*85-114*	*%REC*	*25*	*08-Nov-2021 17:47*
Surr: Dibromofluoromethane	*91.0*			**0**	*80-119*	*%REC*	*5*	*08-Nov-2021 14:59*
Surr: Dibromofluoromethane	*90.0*			**0**	*80-119*	*%REC*	*25*	*08-Nov-2021 17:47*
Surr: Toluene-d8	*97.4*			**0**	*89-112*	*%REC*	*25*	*08-Nov-2021 17:47*
Surr: Toluene-d8	*94.7*			**0**	*89-112*	*%REC*	*5*	*08-Nov-2021 14:59*

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

ALS Houston, US Date: 09-Nov-21

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: Longhorn Army Ammunition Plant 16 October 2021 WorkOrder:HS21101554
Sample ID: 16WW42-211026 Lab ID:HS21101554-15
Collection Date: 26-Oct-2021 10:45 Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
1,1,2-Trichloroethane	10	U	3.0	10	10	ug/L	10	08-Nov-2021 15:20
1,1-Dichloroethene	5.0	U	2.0	5.0	10	ug/L	10	08-Nov-2021 15:20
1,2-Dichloroethane	5.0	U	2.0	5.0	10	ug/L	10	08-Nov-2021 15:20
cis-1,2-Dichloroethene	**980**		**2.0**	**5.0**	**10**	**ug/L**	10	08-Nov-2021 15:20
Methylene chloride	10	U	4.0	10	20	ug/L	10	08-Nov-2021 15:20
Trichloroethene	**180**		**2.0**	**5.0**	**10**	**ug/L**	10	08-Nov-2021 15:20
Vinyl chloride	5.0	U	2.0	5.0	10	ug/L	10	08-Nov-2021 15:20
Surr: 1,2-Dichloroethane-d4	*84.9*			**0**	*81-118*	*%REC*	*10*	*08-Nov-2021 15:20*
Surr: 4-Bromofluorobenzene	*95.2*			**0**	*85-114*	*%REC*	*10*	*08-Nov-2021 15:20*
Surr: Dibromofluoromethane	*91.9*			**0**	*80-119*	*%REC*	*10*	*08-Nov-2021 15:20*
Surr: Toluene-d8	*97.3*			**0**	*89-112*	*%REC*	*10*	*08-Nov-2021 15:20*
DISSOLVED GASES BY RSK-175		**Method:RSK-175**						Analyst: PPM
Ethane	0.000500	U	0.000144	0.000500	0.00100	mg/L	1	01-Nov-2021 14:04
Ethene	0.000500	U	0.000234	0.000500	0.00100	mg/L	1	01-Nov-2021 14:04
Methane	**0.0121**		**0.000107**	**0.000250**	**0.000500**	**mg/L**	1	01-Nov-2021 14:04
TOTAL ORGANIC CARBON - SM5310B-2011		**Method:SM5310B**						Analyst: JAC
Organic Carbon, Total	**6.91**		**0.500**	**1.00**	**1.00**	**mg/L**	1	06-Nov-2021 00:09

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

ALS Houston, US Date: 09-Nov-21

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: Longhorn Army Ammunition Plant 16 October 2021 WorkOrder:HS21101554
Sample ID: 16PM09-211026 Lab ID:HS21101554-16
Collection Date: 26-Oct-2021 11:30 Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
1,1,2-Trichloroethane	5.0	U	1.5	5.0	5.0	ug/L	5	08-Nov-2021 15:41
1,1-Dichloroethene	**20**		**1.0**	**2.5**	**5.0**	**ug/L**	5	08-Nov-2021 15:41
1,2-Dichloroethane	2.5	U	1.0	2.5	5.0	ug/L	5	08-Nov-2021 15:41
cis-1,2-Dichloroethene	**520**		**1.0**	**2.5**	**5.0**	**ug/L**	5	08-Nov-2021 15:41
Methylene chloride	5.0	U	2.0	5.0	10	ug/L	5	08-Nov-2021 15:41
Trichloroethene	**770**		**1.0**	**2.5**	**5.0**	**ug/L**	5	08-Nov-2021 15:41
Vinyl chloride	**23**		**1.0**	**2.5**	**5.0**	**ug/L**	5	08-Nov-2021 15:41
Surr: 1,2-Dichloroethane-d4	*84.3*			**0**	*81-118*	*%REC*	*5*	*08-Nov-2021 15:41*
Surr: 4-Bromofluorobenzene	*93.9*			**0**	*85-114*	*%REC*	*5*	*08-Nov-2021 15:41*
Surr: Dibromofluoromethane	*91.8*			**0**	*80-119*	*%REC*	*5*	*08-Nov-2021 15:41*
Surr: Toluene-d8	*96.8*			**0**	*89-112*	*%REC*	*5*	*08-Nov-2021 15:41*

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

ALS Houston, US Date: 09-Nov-21

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: Longhorn Army Ammunition Plant 16 October 2021 WorkOrder:HS21101554
Sample ID: 16PM06-211026 Lab ID:HS21101554-17
Collection Date: 26-Oct-2021 12:10 Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,2-Trichloroethane	50	U	15	50	50	ug/L	50	08-Nov-2021 16:23
1,1-Dichloroethene	**36**	J	**10**	**25**	**50**	**ug/L**	50	08-Nov-2021 16:23
1,2-Dichloroethane	**40**	J	**10**	**25**	**50**	**ug/L**	50	08-Nov-2021 16:23
cis-1,2-Dichloroethene	**11,000**		**50**	**120**	**250**	**ug/L**	250	08-Nov-2021 18:29
Methylene chloride	50	U	20	50	100	ug/L	50	08-Nov-2021 16:23
Trichloroethene	**19,000**		**50**	**120**	**250**	**ug/L**	250	08-Nov-2021 18:29
Vinyl chloride	**390**		**10**	**25**	**50**	**ug/L**	50	08-Nov-2021 16:23
Surr: 1,2-Dichloroethane-d4	*87.0*			**0**	*81-118*	*%REC*	*50*	*08-Nov-2021 16:23*
Surr: 1,2-Dichloroethane-d4	*84.1*			**0**	*81-118*	*%REC*	*250*	*08-Nov-2021 18:29*
Surr: 4-Bromofluorobenzene	*94.8*			**0**	*85-114*	*%REC*	*250*	*08-Nov-2021 18:29*
Surr: 4-Bromofluorobenzene	*99.2*			**0**	*85-114*	*%REC*	*50*	*08-Nov-2021 16:23*
Surr: Dibromofluoromethane	*91.6*			**0**	*80-119*	*%REC*	*50*	*08-Nov-2021 16:23*
Surr: Dibromofluoromethane	*91.3*			**0**	*80-119*	*%REC*	*250*	*08-Nov-2021 18:29*
Surr: Toluene-d8	*95.9*			**0**	*89-112*	*%REC*	*250*	*08-Nov-2021 18:29*
Surr: Toluene-d8	*98.8*			**0**	*89-112*	*%REC*	*50*	*08-Nov-2021 16:23*

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

ALS Houston, US Date: 09-Nov-21

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: Longhorn Army Ammunition Plant 16 October 2021 WorkOrder:HS21101554
Sample ID: 16PM14-211026 Lab ID:HS21101554-18
Collection Date: 26-Oct-2021 12:50 Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,2-Trichloroethane	10	U	3.0	10	10	ug/L	10	08-Nov-2021 16:02
1,1-Dichloroethene	**9.5**	J	**2.0**	**5.0**	**10**	**ug/L**	10	08-Nov-2021 16:02
1,2-Dichloroethane	**18**		**2.0**	**5.0**	**10**	**ug/L**	10	08-Nov-2021 16:02
cis-1,2-Dichloroethene	**2,900**		**20**	**50**	**100**	**ug/L**	100	08-Nov-2021 18:08
Methylene chloride	10	U	4.0	10	20	ug/L	10	08-Nov-2021 16:02
Trichloroethene	**2,200**		**20**	**50**	**100**	**ug/L**	100	08-Nov-2021 18:08
Vinyl chloride	**56**		**2.0**	**5.0**	**10**	**ug/L**	10	08-Nov-2021 16:02
Surr: 1,2-Dichloroethane-d4	*84.7*			**0**	*81-118*	*%REC*	*10*	*08-Nov-2021 16:02*
Surr: 1,2-Dichloroethane-d4	*81.5*			**0**	*81-118*	*%REC*	*100*	*08-Nov-2021 18:08*
Surr: 4-Bromofluorobenzene	*97.9*			**0**	*85-114*	*%REC*	*100*	*08-Nov-2021 18:08*
Surr: 4-Bromofluorobenzene	*94.3*			**0**	*85-114*	*%REC*	*10*	*08-Nov-2021 16:02*
Surr: Dibromofluoromethane	*89.0*			**0**	*80-119*	*%REC*	*10*	*08-Nov-2021 16:02*
Surr: Dibromofluoromethane	*89.5*			**0**	*80-119*	*%REC*	*100*	*08-Nov-2021 18:08*
Surr: Toluene-d8	*99.4*			**0**	*89-112*	*%REC*	*100*	*08-Nov-2021 18:08*
Surr: Toluene-d8	*98.1*			**0**	*89-112*	*%REC*	*10*	*08-Nov-2021 16:02*

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

ALS Houston, US Date: 09-Nov-21

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: Longhorn Army Ammunition Plant 16 October 2021 WorkOrder:HS21101554
Sample ID: Trip Blank-211026 Lab ID:HS21101554-19
Collection Date: 26-Oct-2021 00:00 Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	ug/L	1	07-Nov-2021 13:51
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	07-Nov-2021 13:51
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	07-Nov-2021 13:51
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	07-Nov-2021 13:51
Methylene chloride	1.0	U	0.40	1.0	2.0	ug/L	1	07-Nov-2021 13:51
Trichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	07-Nov-2021 13:51
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	07-Nov-2021 13:51
Surr: 1,2-Dichloroethane-d4	*82.8*			**0**	*81-118*	*%REC*	*1*	*07-Nov-2021 13:51*
Surr: 4-Bromofluorobenzene	*95.9*			**0**	*85-114*	*%REC*	*1*	*07-Nov-2021 13:51*
Surr: Dibromofluoromethane	*92.3*			**0**	*80-119*	*%REC*	*1*	*07-Nov-2021 13:51*
Surr: Toluene-d8	*93.9*			**0**	*89-112*	*%REC*	*1*	*07-Nov-2021 13:51*

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

ALS Houston, US Date: 09-Nov-21

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 October 2021
WorkOrder: HS21101554

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: R394683 (0)	**Test Name :** DISSOLVED GASES BY RSK-175				**Matrix:** Groundwater	
HS21101554-11	16RW09-211026	26 Oct 2021 07:40			01 Nov 2021 14:15	10
HS21101554-11	16RW09-211026	26 Oct 2021 07:40			01 Nov 2021 13:38	1
HS21101554-12	16RW10-211026	26 Oct 2021 08:40			01 Nov 2021 14:23	10
HS21101554-12	16RW10-211026	26 Oct 2021 08:40			01 Nov 2021 13:55	1
HS21101554-15	16WW42-211026	26 Oct 2021 10:45			01 Nov 2021 14:04	1
Batch ID: R395038 (0)	**Test Name :** TOTAL ORGANIC CARBON - SM5310B-2011				**Matrix:** Groundwater	
HS21101554-11	16RW09-211026	26 Oct 2021 07:40			05 Nov 2021 22:49	1
HS21101554-12	16RW10-211026	26 Oct 2021 08:40			05 Nov 2021 23:05	1
HS21101554-15	16WW42-211026	26 Oct 2021 10:45			06 Nov 2021 00:09	1
Batch ID: R395050 (0)	**Test Name :** VOLATILES ORGANICS BY METHOD 8260C				**Matrix:** Groundwater	
HS21101554-01	16WW44-211025	25 Oct 2021 07:35			05 Nov 2021 16:50	1
HS21101554-02	16WW37-211025	25 Oct 2021 08:20			05 Nov 2021 17:11	1
Batch ID: R395088 (0)	**Test Name :** VOLATILES ORGANICS BY METHOD 8260C				**Matrix:** Water	
HS21101554-19	Trip Blank-211026	26 Oct 2021 00:00			07 Nov 2021 13:51	1
Batch ID: R395088 (0)	**Test Name :** VOLATILES ORGANICS BY METHOD 8260C				**Matrix:** Groundwater	
HS21101554-03	16WW38-211025	25 Oct 2021 09:05			07 Nov 2021 15:58	25
HS21101554-03	16WW38-211025	25 Oct 2021 09:05			07 Nov 2021 15:37	5
HS21101554-04	16WW14-211025	25 Oct 2021 09:50			07 Nov 2021 14:54	1
HS21101554-05	16RW06-211025	25 Oct 2021 10:30			07 Nov 2021 15:16	1
HS21101554-06	16RW07-211025	25 Oct 2021 11:10			07 Nov 2021 17:43	5
HS21101554-07	16WW39-211025	25 Oct 2021 11:55			07 Nov 2021 16:19	1
HS21101554-08	16PM02-211025	25 Oct 2021 12:40			07 Nov 2021 21:34	250
HS21101554-08	16PM02-211025	25 Oct 2021 12:40			07 Nov 2021 21:13	25
HS21101554-09	16PM03-211025	25 Oct 2021 13:20			07 Nov 2021 20:10	100
HS21101554-09	16PM03-211025	25 Oct 2021 13:20			07 Nov 2021 19:49	10
HS21101554-10	16PM03-211025-FD	25 Oct 2021 13:20			07 Nov 2021 20:52	100
HS21101554-10	16PM03-211025-FD	25 Oct 2021 13:20			07 Nov 2021 20:31	10
HS21101554-11	16RW09-211026	26 Oct 2021 07:40			07 Nov 2021 18:25	5
HS21101554-12	16RW10-211026	26 Oct 2021 08:40			07 Nov 2021 19:07	5

ALS Houston, US Date: 09-Nov-21

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 October 2021
WorkOrder: HS21101554

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: R395185 (0)	**Test Name :** VOLATILES ORGANICS BY METHOD 8260C				**Matrix:** Groundwater	
HS21101554-07	16WW39-211025	25 Oct 2021 11:55			08 Nov 2021 13:56	5
HS21101554-13	16RW01-211026	26 Oct 2021 09:25			08 Nov 2021 17:26	50
HS21101554-13	16RW01-211026	26 Oct 2021 09:25			08 Nov 2021 14:38	5
HS21101554-14	16WW13-211026	26 Oct 2021 10:05			08 Nov 2021 17:47	25
HS21101554-14	16WW13-211026	26 Oct 2021 10:05			08 Nov 2021 14:59	5
HS21101554-15	16WW42-211026	26 Oct 2021 10:45			08 Nov 2021 15:20	10
HS21101554-16	16PM09-211026	26 Oct 2021 11:30			08 Nov 2021 15:41	5
HS21101554-17	16PM06-211026	26 Oct 2021 12:10			08 Nov 2021 18:29	250
HS21101554-17	16PM06-211026	26 Oct 2021 12:10			08 Nov 2021 16:23	50
HS21101554-18	16PM14-211026	26 Oct 2021 12:50			08 Nov 2021 18:08	100
HS21101554-18	16PM14-211026	26 Oct 2021 12:50			08 Nov 2021 16:02	10

ALS Houston, US Date: 09-Nov-21

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 October 2021
WorkOrder: HS21101554

QC BATCH REPORT

Batch ID: R394683 (0) **Instrument:** FID-4 **Method:** DISSOLVED GASES BY RSK-175

MBLK Sample ID: **MBLK-211101** Units: **mg/L** Analysis Date: **01-Nov-2021 09:25**
Client ID: Run ID: **FID-4_394683** SeqNo: **6351816** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethane	0.000500	0.00100								U
Ethene	0.000500	0.00100								U
Methane	0.000250	0.000500								U

LCS Sample ID: **LCS-211101** Units: **mg/L** Analysis Date: **01-Nov-2021 09:50**
Client ID: Run ID: **FID-4_394683** SeqNo: **6351856** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethane	0.0179	0.00100	0.01804	0	99.4	75 - 125				
Ethene	0.0192	0.00100	0.0168	0	114	75 - 125				
Methane	0.00985	0.000500	0.009647	0	102	75 - 125				

MS Sample ID: **HS21101171-02MS** Units: **mg/L** Analysis Date: **01-Nov-2021 10:45**
Client ID: Run ID: **FID-4_394683** SeqNo: **6351820** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethane	0.0142	0.00100	0.01804	0	78.8	75 - 125				
Ethene	0.0245	0.00100	0.0168	0.01321	67.0	75 - 125				S
Methane	1.89	0.000500	0.009647	2.319	-4480	75 - 125				SEO

MSD Sample ID: **HS21101171-02MSD** Units: **mg/L** Analysis Date: **01-Nov-2021 10:56**
Client ID: Run ID: **FID-4_394683** SeqNo: **6351821** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethane	0.0160	0.00100	0.01804	0	88.8	75 - 125	0.01421	12	30	
Ethene	0.0230	0.00100	0.0168	0.01321	58.2	75 - 125	0.02447	6.25	30	S
Methane	1.97	0.000500	0.009647	2.319	-3660	75 - 125	1.887	4.09	30	SEO

The following samples were analyzed in this batch: HS21101554-11 HS21101554-12 HS21101554-15

ALS Houston, US Date: 09-Nov-21

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 October 2021
WorkOrder: HS21101554

QC BATCH REPORT

Batch ID: R395050 (0) **Instrument: VOA6** **Method: VOLATILES ORGANICS BY METHOD 8260C**

MBLK Sample ID: **VBLKW-211105** Units: **ug/L** Analysis Date: **05-Nov-2021 12:58**
Client ID: Run ID: **VOA6_395050** SeqNo: **6357741** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,2-Trichloroethane	1.0	1.0								U
1,1-Dichloroethene	0.50	1.0								U
1,2-Dichloroethane	0.50	1.0								U
cis-1,2-Dichloroethene	0.50	1.0								U
Methylene chloride	1.0	2.0								U
Trichloroethene	0.50	1.0								U
Vinyl chloride	0.50	1.0								U
Surr: 1,2-Dichloroethane-d4	*43.36*	*1.0*	*50*	*0*	*86.7*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*48.12*	*1.0*	*50*	*0*	*96.2*	*85 - 114*				
Surr: Dibromofluoromethane	*47.14*	*1.0*	*50*	*0*	*94.3*	*80 - 119*				
Surr: Toluene-d8	*49.27*	*1.0*	*50*	*0*	*98.5*	*89 - 112*				

LCS Sample ID: **VLCSW-211105** Units: **ug/L** Analysis Date: **05-Nov-2021 12:16**
Client ID: Run ID: **VOA6_395050** SeqNo: **6357740** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,2-Trichloroethane	19.18	1.0	20	0	95.9	80 - 119				
1,1-Dichloroethene	17.06	1.0	20	0	85.3	71 - 131				
1,2-Dichloroethane	19.23	1.0	20	0	96.1	73 - 128				
cis-1,2-Dichloroethene	18.47	1.0	20	0	92.4	78 - 123				
Methylene chloride	20.33	2.0	20	0	102	74 - 124				
Trichloroethene	19.37	1.0	20	0	96.8	79 - 123				
Vinyl chloride	16.86	1.0	20	0	84.3	58 - 137				
Surr: 1,2-Dichloroethane-d4	*48.15*	*1.0*	*50*	*0*	*96.3*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*50.77*	*1.0*	*50*	*0*	*102*	*85 - 114*				
Surr: Dibromofluoromethane	*48.79*	*1.0*	*50*	*0*	*97.6*	*80 - 119*				
Surr: Toluene-d8	*45.26*	*1.0*	*50*	*0*	*90.5*	*89 - 112*				

ALS Houston, US Date: 09-Nov-21

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 October 2021
WorkOrder: HS21101554

QC BATCH REPORT

Batch ID: R395050 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MS Sample ID: **HS21101451-03MS** Units: **ug/L** Analysis Date: **05-Nov-2021 15:47**
Client ID: Run ID: **VOA6_395050** SeqNo: **6357746** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,2-Trichloroethane	19.05	1.0	20	0	95.3	80 - 119				
1,1-Dichloroethene	16.86	1.0	20	0	84.3	71 - 131				
1,2-Dichloroethane	17.36	1.0	20	0	86.8	73 - 128				
cis-1,2-Dichloroethene	18.66	1.0	20	0	93.3	78 - 123				
Methylene chloride	18.13	2.0	20	0	90.6	74 - 124				
Trichloroethene	18.83	1.0	20	0	94.2	79 - 123				
Vinyl chloride	15.58	1.0	20	0	77.9	58 - 137				
Surr: 1,2-Dichloroethane-d4	*43.05*	*1.0*	*50*	*0*	*86.1*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*49.35*	*1.0*	*50*	*0*	*98.7*	*85 - 114*				
Surr: Dibromofluoromethane	*45.91*	*1.0*	*50*	*0*	*91.8*	*80 - 119*				
Surr: Toluene-d8	*48.07*	*1.0*	*50*	*0*	*96.1*	*89 - 112*				

MSD Sample ID: **HS21101451-03MSD** Units: **ug/L** Analysis Date: **05-Nov-2021 16:08**
Client ID: Run ID: **VOA6_395050** SeqNo: **6357747** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,2-Trichloroethane	18.4	1.0	20	0	92.0	80 - 119	19.05	3.48	20	
1,1-Dichloroethene	15.89	1.0	20	0	79.4	71 - 131	16.86	5.92	20	
1,2-Dichloroethane	17.29	1.0	20	0	86.4	73 - 128	17.36	0.381	20	
cis-1,2-Dichloroethene	17.38	1.0	20	0	86.9	78 - 123	18.66	7.09	20	
Methylene chloride	17.36	2.0	20	0	86.8	74 - 124	18.13	4.34	20	
Trichloroethene	18.64	1.0	20	0	93.2	79 - 123	18.83	1.04	20	
Vinyl chloride	14.89	1.0	20	0	74.4	58 - 137	15.58	4.54	20	
Surr: 1,2-Dichloroethane-d4	*42.37*	*1.0*	*50*	*0*	*84.7*	*81 - 118*	*43.05*	*1.6*	*20*	
Surr: 4-Bromofluorobenzene	*48.73*	*1.0*	*50*	*0*	*97.5*	*85 - 114*	*49.35*	*1.27*	*20*	
Surr: Dibromofluoromethane	*45.34*	*1.0*	*50*	*0*	*90.7*	*80 - 119*	*45.91*	*1.25*	*20*	
Surr: Toluene-d8	*47.68*	*1.0*	*50*	*0*	*95.4*	*89 - 112*	*48.07*	*0.806*	*20*	

The following samples were analyzed in this batch: HS21101554-01 HS21101554-02

ALS Houston, US Date: 09-Nov-21

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 October 2021
WorkOrder: HS21101554

QC BATCH REPORT

Batch ID: R395088 (0) **Instrument: VOA6** **Method: VOLATILES ORGANICS BY METHOD 8260C**

MBLK Sample ID: **VBLKW-211107** Units: **ug/L** Analysis Date: **07-Nov-2021 13:30**
Client ID: Run ID: **VOA6_395088** SeqNo: **6358562** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,2-Trichloroethane	1.0	1.0								U
1,1-Dichloroethene	0.50	1.0								U
1,2-Dichloroethane	0.50	1.0								U
cis-1,2-Dichloroethene	0.50	1.0								U
Methylene chloride	1.0	2.0								U
Trichloroethene	0.50	1.0								U
Vinyl chloride	0.50	1.0								U
Surr: 1,2-Dichloroethane-d4	*43.61*	*1.0*	*50*	*0*	*87.2*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*47.39*	*1.0*	*50*	*0*	*94.8*	*85 - 114*				
Surr: Dibromofluoromethane	*45.99*	*1.0*	*50*	*0*	*92.0*	*80 - 119*				
Surr: Toluene-d8	*48.82*	*1.0*	*50*	*0*	*97.6*	*89 - 112*				

LCS Sample ID: **VLCSW-211107** Units: **ug/L** Analysis Date: **07-Nov-2021 12:48**
Client ID: Run ID: **VOA6_395088** SeqNo: **6358561** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,2-Trichloroethane	19.53	1.0	20	0	97.6	80 - 119				
1,1-Dichloroethene	17.54	1.0	20	0	87.7	71 - 131				
1,2-Dichloroethane	20.08	1.0	20	0	100	73 - 128				
cis-1,2-Dichloroethene	19.33	1.0	20	0	96.6	78 - 123				
Methylene chloride	20.08	2.0	20	0	100	74 - 124				
Trichloroethene	19.48	1.0	20	0	97.4	79 - 123				
Vinyl chloride	17.22	1.0	20	0	86.1	58 - 137				
Surr: 1,2-Dichloroethane-d4	*47.69*	*1.0*	*50*	*0*	*95.4*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*50.07*	*1.0*	*50*	*0*	*100*	*85 - 114*				
Surr: Dibromofluoromethane	*51.12*	*1.0*	*50*	*0*	*102*	*80 - 119*				
Surr: Toluene-d8	*45.91*	*1.0*	*50*	*0*	*91.8*	*89 - 112*				

ALS Houston, US Date: 09-Nov-21

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 October 2021
WorkOrder: HS21101554

QC BATCH REPORT

Batch ID: R395088 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MS Sample ID: **HS21101554-03MS** Units: **ug/L** Analysis Date: **07-Nov-2021 16:40**
Client ID: **16WW38-211025** Run ID: **VOA6_395088** SeqNo: **6358569** PrepDate: DF: **25**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,2-Trichloroethane	463	25	500	0	92.6	80 - 119				
1,1-Dichloroethene	410.7	25	500	0	82.1	71 - 131				
1,2-Dichloroethane	436.2	25	500	0	87.2	73 - 128				
cis-1,2-Dichloroethene	1326	25	500	864.4	92.3	78 - 123				
Methylene chloride	446	50	500	0	89.2	74 - 124				
Trichloroethene	1794	25	500	1211	117	79 - 123				
Vinyl chloride	406.4	25	500	0	81.3	58 - 137				
Surr: 1,2-Dichloroethane-d4	*1040*	*25*	*1250*	*0*	*83.2*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*1217*	*25*	*1250*	*0*	*97.4*	*85 - 114*				
Surr: Dibromofluoromethane	*1123*	*25*	*1250*	*0*	*89.9*	*80 - 119*				
Surr: Toluene-d8	*1200*	*25*	*1250*	*0*	*96.0*	*89 - 112*				

MSD Sample ID: **HS21101554-03MSD** Units: **ug/L** Analysis Date: **07-Nov-2021 17:01**
Client ID: **16WW38-211025** Run ID: **VOA6_395088** SeqNo: **6358570** PrepDate: DF: **25**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,2-Trichloroethane	415.5	25	500	0	83.1	80 - 119	463	10.8	20	
1,1-Dichloroethene	371.7	25	500	0	74.3	71 - 131	410.7	9.97	20	
1,2-Dichloroethane	393.5	25	500	0	78.7	73 - 128	436.2	10.3	20	
cis-1,2-Dichloroethene	1256	25	500	864.4	78.3	78 - 123	1326	5.44	20	
Methylene chloride	381.2	50	500	0	76.2	74 - 124	446	15.7	20	
Trichloroethene	1691	25	500	1211	95.9	79 - 123	1794	5.94	20	
Vinyl chloride	363.5	25	500	0	72.7	58 - 137	406.4	11.2	20	
Surr: 1,2-Dichloroethane-d4	*1030*	*25*	*1250*	*0*	*82.4*	*81 - 118*	*1040*	*0.994*	*20*	
Surr: 4-Bromofluorobenzene	*1233*	*25*	*1250*	*0*	*98.6*	*85 - 114*	*1217*	*1.28*	*20*	
Surr: Dibromofluoromethane	*1104*	*25*	*1250*	*0*	*88.3*	*80 - 119*	*1123*	*1.71*	*20*	
Surr: Toluene-d8	*1186*	*25*	*1250*	*0*	*94.9*	*89 - 112*	*1200*	*1.16*	*20*	

The following samples were analyzed in this batch:

HS21101554-03	HS21101554-04	HS21101554-05	HS21101554-06
HS21101554-07	HS21101554-08	HS21101554-09	HS21101554-10
HS21101554-11	HS21101554-12	HS21101554-19	

ALS Houston, US Date: 09-Nov-21

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 October 2021
WorkOrder: HS21101554

QC BATCH REPORT

Batch ID: R395185 (0) **Instrument: VOA6** **Method: VOLATILES ORGANICS BY METHOD 8260C**

MBLK Sample ID: **VBLKW-211108** Units: **ug/L** Analysis Date: **08-Nov-2021 13:34**
Client ID: Run ID: **VOA6_395185** SeqNo: **6360662** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,2-Trichloroethane	1.0	1.0								U
1,1-Dichloroethene	0.50	1.0								U
1,2-Dichloroethane	0.50	1.0								U
cis-1,2-Dichloroethene	0.50	1.0								U
Methylene chloride	1.0	2.0								U
Trichloroethene	0.50	1.0								U
Vinyl chloride	0.50	1.0								U
Surr: 1,2-Dichloroethane-d4	*40.86*	*1.0*	*50*	*0*	*81.7*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*47.87*	*1.0*	*50*	*0*	*95.7*	*85 - 114*				
Surr: Dibromofluoromethane	*45.67*	*1.0*	*50*	*0*	*91.3*	*80 - 119*				
Surr: Toluene-d8	*48.09*	*1.0*	*50*	*0*	*96.2*	*89 - 112*				

LCS Sample ID: **VLCSW-211108** Units: **ug/L** Analysis Date: **08-Nov-2021 12:52**
Client ID: Run ID: **VOA6_395185** SeqNo: **6360661** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,2-Trichloroethane	19.43	1.0	20	0	97.1	80 - 119				
1,1-Dichloroethene	17.48	1.0	20	0	87.4	71 - 131				
1,2-Dichloroethane	19.37	1.0	20	0	96.8	73 - 128				
cis-1,2-Dichloroethene	19.78	1.0	20	0	98.9	78 - 123				
Methylene chloride	20.7	2.0	20	0	103	74 - 124				
Trichloroethene	20.35	1.0	20	0	102	79 - 123				
Vinyl chloride	17.2	1.0	20	0	86.0	58 - 137				
Surr: 1,2-Dichloroethane-d4	*47.93*	*1.0*	*50*	*0*	*95.9*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*48.02*	*1.0*	*50*	*0*	*96.0*	*85 - 114*				
Surr: Dibromofluoromethane	*50.45*	*1.0*	*50*	*0*	*101*	*80 - 119*				
Surr: Toluene-d8	*45.12*	*1.0*	*50*	*0*	*90.2*	*89 - 112*				

ALS Houston, US Date: 09-Nov-21

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 October 2021
WorkOrder: HS21101554

QC BATCH REPORT

Batch ID: R395185 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MS Sample ID: **HS21101554-07MS** Units: **ug/L** Analysis Date: **08-Nov-2021 16:44**
Client ID: **16WW39-211025** Run ID: **VOA6_395185** SeqNo: **6360670** PrepDate: DF: **5**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,2-Trichloroethane	93.68	5.0	100	0	93.7	80 - 119				
1,1-Dichloroethene	80.07	5.0	100	0	80.1	71 - 131				
1,2-Dichloroethane	88.68	5.0	100	0	88.7	73 - 128				
cis-1,2-Dichloroethene	125.9	5.0	100	25.4	100	78 - 123				
Methylene chloride	84.82	10	100	0	84.8	74 - 124				
Trichloroethene	299.5	5.0	100	212.2	87.2	79 - 123				
Vinyl chloride	70.65	5.0	100	0	70.6	58 - 137				
Surr: 1,2-Dichloroethane-d4	*208.7*	*5.0*	*250*	*0*	*83.5*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*248.2*	*5.0*	*250*	*0*	*99.3*	*85 - 114*				
Surr: Dibromofluoromethane	*224.1*	*5.0*	*250*	*0*	*89.7*	*80 - 119*				
Surr: Toluene-d8	*232.2*	*5.0*	*250*	*0*	*92.9*	*89 - 112*				

MSD Sample ID: **HS21101554-07MSD** Units: **ug/L** Analysis Date: **08-Nov-2021 17:05**
Client ID: **16WW39-211025** Run ID: **VOA6_395185** SeqNo: **6360671** PrepDate: DF: **5**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,2-Trichloroethane	94.52	5.0	100	0	94.5	80 - 119	93.68	0.894	20	
1,1-Dichloroethene	77.86	5.0	100	0	77.9	71 - 131	80.07	2.79	20	
1,2-Dichloroethane	88.11	5.0	100	0	88.1	73 - 128	88.68	0.645	20	
cis-1,2-Dichloroethene	109.3	5.0	100	25.4	83.9	78 - 123	125.9	14.1	20	
Methylene chloride	84.67	10	100	0	84.7	74 - 124	84.82	0.17	20	
Trichloroethene	280.9	5.0	100	212.2	68.7	79 - 123	299.5	6.39	20	S
Vinyl chloride	65.87	5.0	100	0	65.9	58 - 137	70.65	7.01	20	
Surr: 1,2-Dichloroethane-d4	*210.8*	*5.0*	*250*	*0*	*84.3*	*81 - 118*	*208.7*	*1.01*	*20*	
Surr: 4-Bromofluorobenzene	*241.6*	*5.0*	*250*	*0*	*96.6*	*85 - 114*	*248.2*	*2.68*	*20*	
Surr: Dibromofluoromethane	*224.8*	*5.0*	*250*	*0*	*89.9*	*80 - 119*	*224.1*	*0.283*	*20*	
Surr: Toluene-d8	*237*	*5.0*	*250*	*0*	*94.8*	*89 - 112*	*232.2*	*2.03*	*20*	

The following samples were analyzed in this batch:

HS21101554-07	HS21101554-13	HS21101554-14	HS21101554-15
HS21101554-16	HS21101554-17	HS21101554-18	

ALS Houston, US Date: 09-Nov-21

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 October 2021
WorkOrder: HS21101554

QC BATCH REPORT

Batch ID: R395038 (0) **Instrument:** TOC_04 **Method:** TOTAL ORGANIC CARBON - SM5310B-2011

MBLK Sample ID: **MBLK-11052021** Units: **mg/L** Analysis Date: **05-Nov-2021 20:57**
Client ID: Run ID: **TOC_04_395038** SeqNo: **6357495** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Organic Carbon, Total	1.00	1.00								U

LCS Sample ID: **LCS-11052021** Units: **mg/L** Analysis Date: **05-Nov-2021 21:13**
Client ID: Run ID: **TOC_04_395038** SeqNo: **6357496** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Organic Carbon, Total	10.72	1.00	10	0	107	85 - 115				

LCSD Sample ID: **LCSD-11052021** Units: **mg/L** Analysis Date: **05-Nov-2021 21:30**
Client ID: Run ID: **TOC_04_395038** SeqNo: **6357497** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Organic Carbon, Total	10.74	1.00	10	0	107	85 - 115	10.72	0.186	20	

MS Sample ID: **HS21101554-15MS** Units: **mg/L** Analysis Date: **06-Nov-2021 00:25**
Client ID: **16WW42-211026** Run ID: **TOC_04_395038** SeqNo: **6357507** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Organic Carbon, Total	19.07	1.00	10	6.912	122	80 - 120				S

The following samples were analyzed in this batch: HS21101554-11 HS21101554-12 HS21101554-15

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 October 2021
WorkOrder: **HS21101554**

QUALIFIERS, ACRONYMS, UNITS

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

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

Unit Reported	Description
mg/L	Milligrams per Liter

CERTIFICATIONS,ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
Arkansas	21-022-0	26-Mar-2022
Dept of Defense	PJLA L20-507-R2	22-Dec-2021
Florida	E87611-33	30-Jun-2022
Illinois	2000322021-7	09-May-2022
Kansas	E-10352 2021-2022	31-Jul-2022
Kentucky	123043, 2021-2022	30-Apr-2022
Louisiana	03087, 2021-2022	30-Jun-2022
North Carolina	624-2021	31-Dec-2021
Texas	T104704231-21-28	30-Apr-2022

ALS Houston, US Date: 09-Nov-21

Sample Receipt Checklist

Work Order ID: HS21101554 **Date/Time Received:** 27-Oct-2021 10:30

Client Name: CBI-Houston **Received by:** Paresh M. Giga

Completed By: /S/ Paresh M. Giga (eSignature) 27-Oct-2021 18:55 (Date/Time) **Reviewed by:** /S/ Ragen Giga (eSignature) 28-Oct-2021 12:54 (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 ☐	3 Page(s)
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	COC IDs:none
Samplers name present on COC?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	
Temperature(s)/Thermometer(s):	1.2C U/c	IR31	
Cooler(s)/Kit(s):	43966		
Date/Time sample(s) sent to storage:	10/27/2021 19:15		
Water - VOA vials have zero headspace?	Yes ☑	No ☐	No VOA vials submitted ☐
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑
pH adjusted?	Yes ☐	No ☐	N/A ☑
pH adjusted by:			

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

Corrective Action:

CHAIN OF CUSTODY

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

Project: APTIM LONGHORN ARMY AMMN. PLANT (LHAAP) GROUNDWATER TREATMENT PLANT (GWTP) KARNACK, TEXAS	Project No. 501032
Job: **LHAAP 16 October 2021**	
Prepared By: Scott Beesinger	P.O. Number

Field Sample I.D.	Time	Sample Matrix	Date /	MS / MSD	No. OF CONTAINERS	Analyses: VOC by SW 8260B	TOC by SM5310C	MEE by RSK 175	Anions (bromide, sulfate, nitrate) by SW9056 and Alkalinity by SM2320	Bromide by SW9056	Perchlorate by SW6850	Metals (arsenic, chromium, manganese, nickel, thallium) by SW6020				Remarks (Preservatives, etc.)	Lab I.D.#
16WW44-211025		WG	10/25/21/0735		3	X											
16WW37-211025		WG	10/25/21/0820		3	X											
16WW38-211025		WG	10/25/21/0905		3	X											
16WW14-211025		WG	10/25/21/0950		3	X											
16RW06-211025		WG	10/25/21/1030		3	X											
16RW07-211025		WG	10/25/21/1110		3	X											
16WW39-211025		WG	10/25/21/1155		3	X											
16PM02-211025		WG	10/25/21/1240		3	X											

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

Relinquished By:	Date	Time	Received By:	Date	Time	Relinquished By:	Date	Time	Received By:	Date	Time
[signature]	10/26/21	1430	[signature]	10/29/21	1230						

For Lab Use Only

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

Remarks:

VIC-
43166 1.2
#3
C1100

HS21101554

Aptim Environmental & Infrastucture, Inc.
Longhorn Army Ammunition Plant 16 October 2021

(Word) S:\Forms\Chain of Custody - Bi Weekly

CHAIN OF CUSTODY

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

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

Project No. 501032

Job: **LHAAP 16 October 2021**

Prepared By: Scott Beesinger

P.O. Number

Field Sample I.D. Time	Sample Matrix	Date /	MS / MSD	No. OF CONTAINERS	Analyses: VOC by SW 8260B	TOC by SM5310C	MEE by RSK 175	Anions (bromide, sulfate, nitrate) by SW9056 and Alkalinity by SM2320	Bromide by SW9056	Perchlorate by SW6850	Metals (arsenic, chromium, manganese, nickel, thallium) by SW6020				Remarks (Preservatives, etc.)	Lab I.D.#
16PM03-211025	WG	10/25/21/1320		3	X											
16PM03-211025-FD	WG	10/25/21/1320		3	X											
16RW09-211026	WG	10/26/21/0740		8	X	X	X									
16RW10-211026	WG	10/26/21/0840		8	X	X	X									
16RW01-211026	WG	10/26/21/0925		3	X											
16WW13-211026	WG	10/26/21/1005		3	X											
16WW12-211026	WG	10/26/21/1045		8	X	X	X									
16PM09-211026	WG	10/26/21/1130		3	X											

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

Relinquished By:	Date	Time	Received By:	Date	Time	Relinquished By:	Date	Time	Received By:	Date	Time
Scott Beesinger	10/26/21	1430		10/27/21							

For Lab Use Only

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

Remarks:

HS21101554

Aptim Environmental & Infrastucture, Inc.
Longhorn Army Ammunition Plant 16 October 2021

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

CHAIN OF CUSTODY

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

Project: APTIM LONGHORN ARMY AMMN. PLANT (LHAAP) GROUNDWATER TREATMENT PLANT (GWTP) KARNACK, TEXAS	Project No. 501032
Job: **LHAAP 16 October 2021**	
Prepared By: Scott Beesinger	P.O. Number

Field Sample I.D.	Sample Matrix	Date / Time	MS / MSD	No. OF CONTAINERS	Analyses: VOC by SW 8260B	TOC by SM5310C	MEE by RSK 175	Anions (bromide, sulfate, nitrate) by SW9056 and Alkalinity by SM2320	Bromide by SW9056	Perchlorate by SW6850	Metals (arsenic, chromium, manganese, nickel, thallium) by SW6020				Remarks (Preservatives, etc.)	Lab I.D.#
16PMOB-211026	W	10/26/21 1210		3	X											
16PM14-211026	W	10/26/21 1250		3	X											
TRIP BLANK-211026	W	10/26/21		2	X											

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

Relinquished By:	Date	Time	Received By:	Date	Time	Relinquished By:	Date	Time	Received By:	Date	Time
Scott Beesinger	10/26/21	1430		10/27/21	1430						

For Lab Use Only

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

Remarks:

HS21101554

Aptim Environmental & Infrastucture, Inc.
Longhorn Army Ammunition Plant 16 October 2021

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

ALS
10450 Stanc iff Rd., Suite 210
Houston, T xas 77 99
T el. +1 281 530 5656
Fax. +1 281 530 5887

43466

CUSTODY SEAL

Date: 10/24/21 Time: 1540
Name: Cathy Bea
Company: BHP

Seal Broken By:
Date: 10/27/21

43466 OCT 27 2021

ORIGIN ID:SGRA (903) 930-8193
SCOTT BEESINGER
APTIM ENVIRONMENTAL & INFASTRUCTURE
1209-B EAST GRAND AVE
PMB 202
MARSHALL, TX 75670
UNITED STATES US

SHIP DATE: 27SEP21
ACTWGT: 1.00 LB MAN
CAD: 0221247/CAFE3504
DIMS: 26x14x14 IN

TO SHIPPING DEPT
ALS LABORATORY GROUP
10450 STANCLIFF RD
SUITE 210
HOUSTON TX 77099
(281) 530-5860
REF: LHAAP 04 - RG
RMA:

FedEx Express

FedEx TRK# 0221 5300 5222 5963

WED - 27 OCT AA
PRIORITY OVERNIGHT

77099
TX-US
IAH

AB SGRA

HS21101554 8260 Raw Data

ALS WO# HS21101554

MSVOA06 -Logbook

Batch: 46738
Date: 10-08-2021
Method: 8260
Comments:

Analyst: Presenta Cabascango
Reviewer:
Laboratory: Houston

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	p
1	BFB	TUNE	10-08-2021 12:47 pm	1.00	50 mL	50 mL	X100801.D	Liquid	Y	N
2	VSTD000.25	ICAL1	10-08-2021 01:08 pm	1.00	50 mL	50 mL	X100802.D	Liquid	Y	N
3	VSTD000.5	ICAL2	10-08-2021 01:50 pm	1.00	50 mL	50 mL	X100803.D	Liquid	Y	N
4	VSTD001	ICAL3	10-08-2021 02:11 pm	1.00	50 mL	50 mL	X100804.D	Liquid	Y	N
5	VSTD002	ICAL4	10-08-2021 02:32 pm	1.00	50 mL	50 mL	X100805.D	Liquid	Y	N
6	VSTD005	ICAL5	10-08-2021 02:53 pm	1.00	50 mL	50 mL	X100806.D	Liquid	Y	N
7	VSTD020	ICAL6	10-08-2021 03:14 pm	1.00	50 mL	50 mL	X100807.D	Liquid	Y	N
8	VSTD050	ICAL7	10-08-2021 03:34 pm	1.00	50 mL	50 mL	X100808.D	Liquid	Y	N
9	VSTD100	ICAL8	10-08-2021 03:55 pm	1.00	50 mL	50 mL	X100809.D	Liquid	Y	N
10	VSTD150	ICAL9	10-08-2021 04:16 pm	1.00	50 mL	50 mL	X100810.D	Liquid	Y	N
11	VSTD200	ICAL	10-08-2021 04:37 pm	1.00	50 mL	50 mL	X100811.D	Liquid	Y	N
12	BLANK	SAMP	10-08-2021 04:58 pm	1.00	50 mL	50 mL	X100812.D	Liquid	Y	N
13	BLANK	SAMP	10-08-2021 05:19 pm	1.00	50 mL	50 mL	X100813.D	Liquid	Y	N
14	CCV	CCV	10-08-2021 05:40 pm	1.00	50 mL	50 mL	X100814.D	Liquid	Y	N
15	BFB	TUNE	10-08-2021 06:01 pm	1.00	50 mL	50 mL	Y100801.D	Liquid	Y	N
16	CCV	CCV	10-08-2021 06:22 pm	1.00	50 mL	50 mL	Y100802a.D	Liquid	Y	N
17	CCV	CCV	10-08-2021 06:43 pm	1.00	50 mL	50 mL	Y100803.D	Liquid	Y	N
18	CCB	SAMP	10-08-2021 07:04 pm	1.00	50 mL	50 mL	Y100804.D	Liquid	Y	N
19	VLCSW-211008	LCS	10-08-2021 07:25 pm	1.00	50 mL	50 mL	Y100805.D	Liquid	Y	N
20	BLANK	SAMP	10-08-2021 07:46 pm	1.00	50 mL	50 mL	Y100806.D	Liquid	Y	N
21	BLANK	SAMP	10-08-2021 08:07 pm	1.00	50 mL	50 mL	Y100807.D	Liquid	Y	N
22	VBLKW-211008	MBLK	10-08-2021 08:28 pm	1.00	50 mL	50 mL	Y100808.D	Liquid	Y	N
23	HS21100202-01	SAMP	10-08-2021 08:49 pm	1.00	50 mL	50 mL	Y100809.D	Liquid	Y	N
24	HS21100202-03	SAMP	10-08-2021 09:10 pm	1.00	50 mL	50 mL	Y100810.D	Liquid	Y	N
25	HS21100202-04	SAMP	10-08-2021 09:31 pm	1.00	50 mL	50 mL	Y100811.D	Liquid	Y	N
26	HS21100461-01	SAMP	10-08-2021 09:52 pm	1.00	50 mL	50 mL	Y100812.D	Liquid	Y	N
27	HS21100461-02	SAMP	10-08-2021 10:14 pm	1.00	50 mL	50 mL	Y100813.D	Liquid	Y	N
28	HS21100461-03	SAMP	10-08-2021 10:35 pm	1.00	50 mL	50 mL	Y100814.D	Liquid	Y	N
29	HS21100300-01	SAMP	10-08-2021 10:56 pm	1.00	50 mL	50 mL	Y100815.D	Liquid	Y	N
30	HS21100300-03	SAMP	10-08-2021 11:17 pm	1.00	50 mL	50 mL	Y100816.D	Liquid	Y	N
31	HS21100300-04	SAMP	10-08-2021 11:38 pm	1.00	50 mL	50 mL	Y100817.D	Liquid	Y	N
32	HS21100300-05	SAMP	10-08-2021 11:59 pm	1.00	50 mL	50 mL	Y100818.D	Liquid	Y	N
33	HS21100300-06	SAMP	10-09-2021 12:20 am	1.00	50 mL	50 mL	Y100819.D	Liquid	Y	N
34	HS21100300-07	SAMP	10-09-2021 12:41 am	1.00	50 mL	50 mL	Y100820.D	Liquid	Y	N
35	HS21100308-01	SAMP	10-09-2021 01:02 am	1.00	50 mL	50 mL	Y100821.D	Liquid	Y	N
36	HS21100246-05	SAMP	10-09-2021 01:23 am	1.00	50 mL	50 mL	Y100822.D	Liquid	Y	N
37	HS21100300-06MS	MS	10-09-2021 01:44 am	1.00	50 mL	50 mL	Y100823.D	Liquid	Y	N
38	HS21100300-06MSD	MSD	10-09-2021 02:05 am	1.00	50 mL	50 mL	Y100824.D	Liquid	Y	N
39	CCV-END	CCV	10-09-2021 02:26 am	1.00	50 mL	50 mL	Y100825.D	Liquid	Y	N
40	HS21100312-08	SAMP	10-09-2021 02:47 am	1.00	50 mL	50 mL	Y100826.D	Liquid	Y	N
41	HS21100316-11	SAMP	10-09-2021 03:08 am	1.00	50 mL	50 mL	Y100827.D	Liquid	Y	N

MSVOA06 -Logbook

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	E
42	HS21100320-11	SAMP	10-09-2021 03:29 am	1.00	50 mL	50 mL	Y100828.D	Liquid	Y	N
43	HS21100323-19	SAMP	10-09-2021 03:50 am	1.00	50 mL	50 mL	Y100829.D	Liquid	Y	N
44	HS21100399-11	SAMP	10-09-2021 04:11 am	1.00	50 mL	50 mL	Y100830.D	Liquid	Y	N
45	HS21100457-07	SAMP	10-09-2021 04:32 am	1.00	50 mL	50 mL	Y100831.D	Liquid	Y	N
46	BLANK	SAMP	10-09-2021 04:53 am	1.00	50 mL	50 mL	Y100832.D	Liquid	Y	N

FORM 3
WATER VOLATILE METHOD SPIKE RECOVERY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS21101554

Matrix Spike - Sample No.: ICV

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE AMOUNT ()	% REC #	QC. LIMITS REC.
cis-1,2-Dichloroethene	50.00	50.82	102	80-120
Vinyl Chloride	50.00	47.21	94	80-120
Methylene Chloride	50.00	52.41	105	80-120
1,1-Dichloroethene	50.00	48.47	97	80-120
1,2-Dichloroethane	50.00	47.98	96	80-120
Trichloroethene	50.00	46.25	92	80-120
1,1,2-Trichloroethane	50.00	47.89	96	80-120

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

* Values outside of QC limits

COMMENTS: _____

_____

FORM III VOA

FORM 5
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS21101554

Lab File ID: X100801 BFB Injection Date: 10/08/21

Instrument ID: VOA6 BFB Injection Time: 1247

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

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	17.7
75	30.0 - 60.0% of mass 95	47.7
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	7.3
173	Less than 2.0% of mass 174	1.2 (1.2)1
174	Greater than 50.0% of mass 95	97.4
175	5.0 - 9.0% of mass 174	7.0 (7.2)1
176	95.0 - 101.0% of mass 174	92.6 (95.0)1
177	5.0 - 9.0% of mass 176	5.8 (6.3)2

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

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD000.25	VSTD000.25	X100802	10/08/21	1308
02	VSTD000.5	VSTD000.5	X100803	10/08/21	1350
03	VSTD001	VSTD001	X100804	10/08/21	1411
04	VSTD002	VSTD002	X100805	10/08/21	1432
05	VSTD005	VSTD005	X100806	10/08/21	1453
06	VSTD020	VSTD020	X100807	10/08/21	1514
07	VSTD050	VSTD050	X100808	10/08/21	1534
08	VSTD100	VSTD100	X100809	10/08/21	1555
09	VSTD150	VSTD150	X100810	10/08/21	1616
10	VSTD200	VSTD200	X100811	10/08/21	1637
11	ICV	ICV	X100814	10/08/21	1740
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

FORM V VOA

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS21101554

Instrument ID: VOA6 Calibration Date(s): 10/08/21 10/08/21

Column: DB624 ID: 0.18 (mm) Calibration Time(s): 1308 1637

LAB FILE ID: RF0.25: X100802 RF0.5: X100803 RF1: X100804
RF2: X100805 RF5: X100806 RF20: X100807

COMPOUND	RF0.25	RF0.5	RF1	RF2	RF5	RF20
Methylene Chloride		2444	4333	7762	19276	70665
1,1,2-Trichloroethane		0.263	0.266	0.315	0.301	0.258
Trichloroethene		0.432	0.477	0.393	0.391	0.354
Vinyl Chloride		0.582	0.594	0.586	0.600	0.514
1,1-Dichloroethene		0.463	0.490	0.473	0.500	0.440
1,2-Dichloroethane		0.420	0.472	0.432	0.456	0.429
cis-1,2-Dichloroethene		0.474	0.544	0.558	0.584	0.540
1,2-Dichloroethane-d4		3361	5961	9717	22194	84053
Dibromofluoromethane		2999	4837	8290	20676	78657
4-Bromofluorobenzene		4606	8328	13893	24945	96265
Toluene-d8		1.599	1.426	1.352	1.356	1.189

FORM VI VOA

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS2110155

Instrument ID: VOA6 Calibration Date(s): 10/08/21 10/08/21

Column: DB624 ID: 0.18 (mm) Calibration Time(s): 1308 1637

LAB FILE ID: RF50: X100808 RF100: X100809 RF150: X100810
RF200: X100811

COMPOUND	RF50	RF100	RF150	RF200
Methylene Chloride	173952	361756	542343	743741
1,1,2-Trichloroethane	0.248	0.252	0.247	0.251
Trichloroethene	0.334	0.343	0.335	0.344
Vinyl Chloride	0.466	0.457	0.449	0.471
1,1-Dichloroethene	0.407	0.411	0.402	0.428
1,2-Dichloroethane	0.402	0.391	0.386	0.386
cis-1,2-Dichloroethene	0.501	0.494	0.479	0.503
1,2-Dichloroethane-d4	202478	416593	610768	835313
Dibromofluoromethane	192579	417318	604609	839119
4-Bromofluorobenzene	246655	511094	745510	1012260
Toluene-d8	1.125	1.164	1.092	1.116

FORM VI VOA

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS2110155

Instrument ID: VOA6 Calibration Date(s): 10/08/21 10/08/21

Column: DB624 ID: 0.18 (mm) Calibration Time(s): 1308 1637

COMPOUND	CURVE	COEFFICENTS A0	COEFFICENTS A1	%RSD OR R^2	MAX %RSD OR R^2
Methylene Chloride	LINR	-2.53e-002	2.35098937	0.9995671	0.9900000
1,1,2-Trichloroethane	AVRG		0.26680323	9.145	15.000
Trichloroethene	AVRG		0.37820923	13.102	15.000
Vinyl Chloride	AVRG		0.52422244	12.478	15.000
1,1-Dichloroethene	AVRG		0.44601099	8.294	15.000
1,2-Dichloroethane	AVRG		0.41941937	7.419	15.000
cis-1,2-Dichloroethene	AVRG		0.51982554	7.323	15.000
1,2-Dichloroethane-d4	LINR	-4.07e-002	2.09187623	0.9992556	0.9900000
Dibromofluoromethane	LINR	-2.28e-002	2.08394752	0.9991289	0.9900000
4-Bromofluorobenzene	LINR	-2.74e-002	2.35257164	0.9998215	0.9900000
Toluene-d8	AVRG		1.26890009	13.667	15.000

FORM VI VOA

Data File: \\NAHSTWS005\Target\chem\voa6.i\X211008.b\X100801.D

Date : 08-OCT-2021 12:47

Client ID: BFB

Instrument: voa6.i

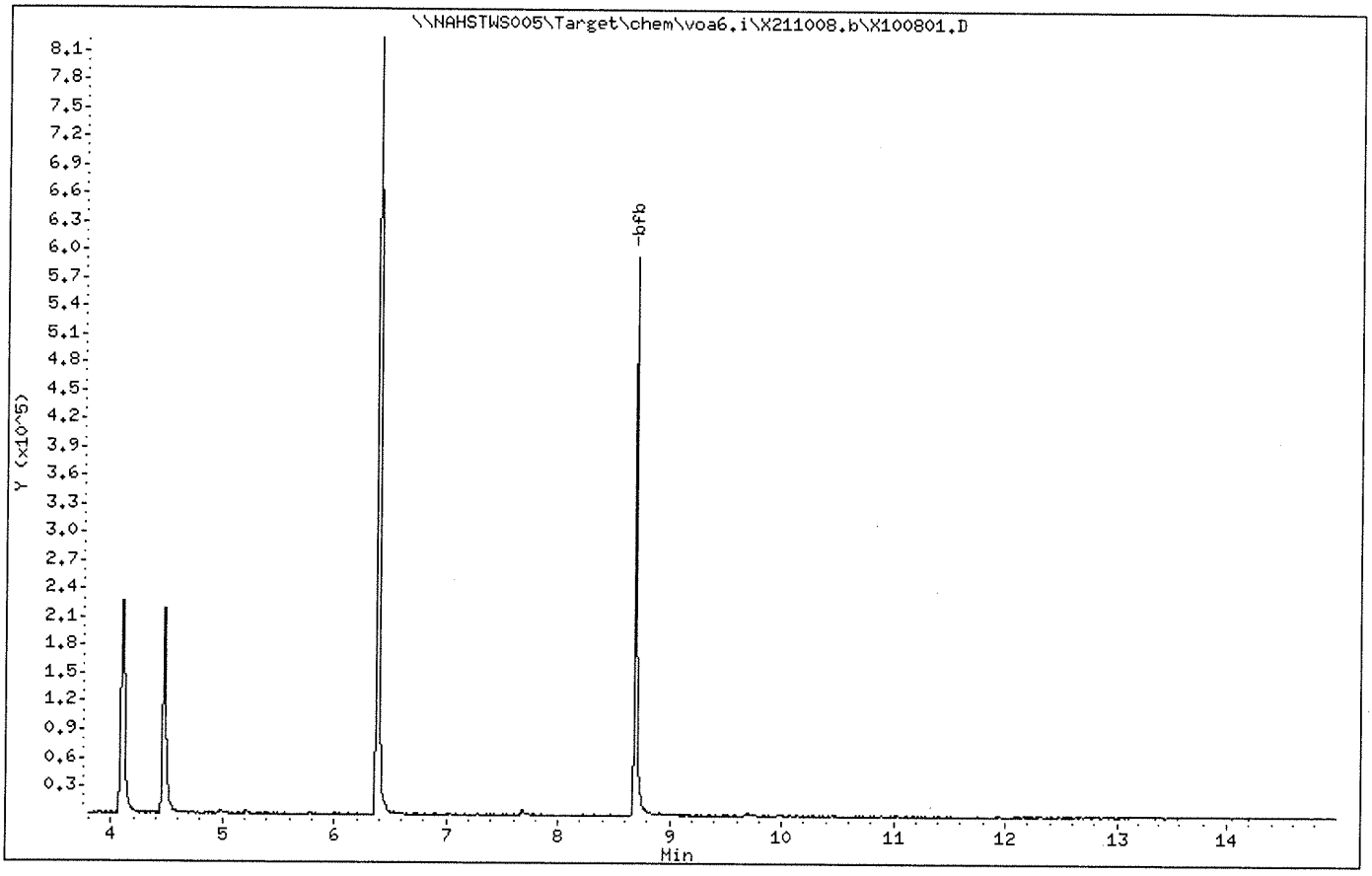
Sample Info: BFB;BFB;3;;BFB

Volume Injected (uL): 2.0

Operator: PC

Column phase: DB624

Column diameter: 0.25



Data File: \\NAHSTWS005\Target\chem\voa6.i\X211008.b\X100801.D

Date : 08-OCT-2021 12:47

Client ID: BFB

Instrument: voa6.i

Sample Info: BFB;BFB;3;;BFB

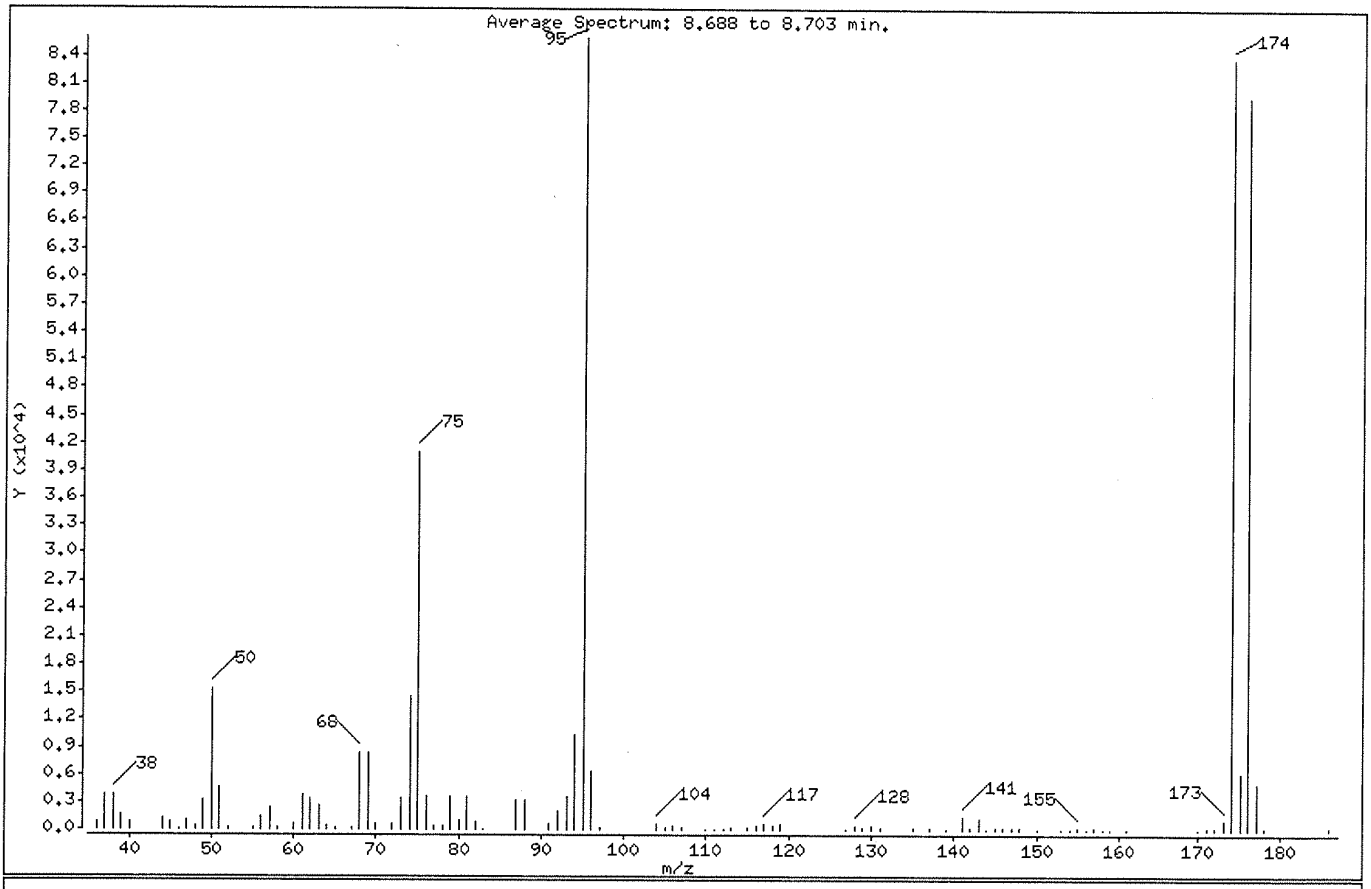
Volume Injected (uL): 2.0

Operator: PC

Column phase: DB624

Column diameter: 0.25

1 bfb



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	17.71
75	30.00 - 60.00% of mass 95	47.69
96	5.00 - 9.00% of mass 95	7.32
173	Less than 2.00% of mass 174	1.20 (1.23)
174	Greater than 50.00% of mass 95	97.43
175	5.00 - 9.00% of mass 174	7.05 (7.23)
176	95.00 - 101.00% of mass 174	92.59 (95.04)
177	5.00 - 9.00% of mass 176	5.83 (6.29)

Data File: \\NAHSTWS005\Target\chem\voa6.i\X211008.b\X100801.D

Date : 08-OCT-2021 12:47

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: X100801.D
Spectrum: Average Spectrum: 8.688 to 8.703 min.
Location of Maximum: 95.00
Number of points: 97

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	721	68.00	8366	105.00	192	146.00	142
37.00	3717	69.00	8247	106.00	438	147.00	134
38.00	3771	70.00	615	107.00	141	148.00	289
39.00	1498	72.00	610	110.00	76	150.00	47
40.00	771	73.00	3268	111.00	49	153.00	46
44.00	1225	74.00	14376	112.00	54	154.00	53
45.00	737	75.00	40960	113.00	150	155.00	276
46.00	93	76.00	3492	115.00	122	156.00	53
47.00	941	77.00	424	116.00	377	157.00	170
48.00	494	78.00	347	117.00	538	158.00	19
49.00	3152	79.00	3638	118.00	436	159.00	95
50.00	15214	80.00	1045	119.00	531	161.00	42
51.00	4568	81.00	3579	127.00	20	170.00	84
52.00	226	82.00	724	128.00	342	171.00	114
55.00	222	83.00	48	129.00	164	172.00	273
56.00	1360	87.00	3265	130.00	318	173.00	1029
57.00	2449	88.00	3096	131.00	136	174.00	83672
58.00	103	91.00	525	135.00	216	175.00	6051
60.00	630	92.00	2021	137.00	140	176.00	79520
61.00	3789	93.00	3470	139.00	44	177.00	5006
62.00	3324	94.00	10275	141.00	1339	178.00	134
63.00	2658	95.00	85880	142.00	123	186.00	131
64.00	410	96.00	6283	143.00	1219		
65.00	116	97.00	107	144.00	57		
67.00	212	104.00	516	145.00	106		

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X211008.b\X100802.D
Lab Smp Id: VSTD000.25 Client Smp ID: VSTD000.25
Inj Date : 08-OCT-2021 13:08
Operator : PC Inst ID: voa6.i
Smp Info : VSTD000.25;VSTD000.25;1;1;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X211008.b\8260W.m
Meth Date : 16-Nov-2021 17:21 voa6.i Quant Type: ISTD
Cal Date : 08-OCT-2021 16:37 Cal File: X100811.D
Als bottle: 2 Calibration Sample, Level: 1
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 08260_dryclean.su
Target Version: 4.14
Processing Host: NAHSTW7017

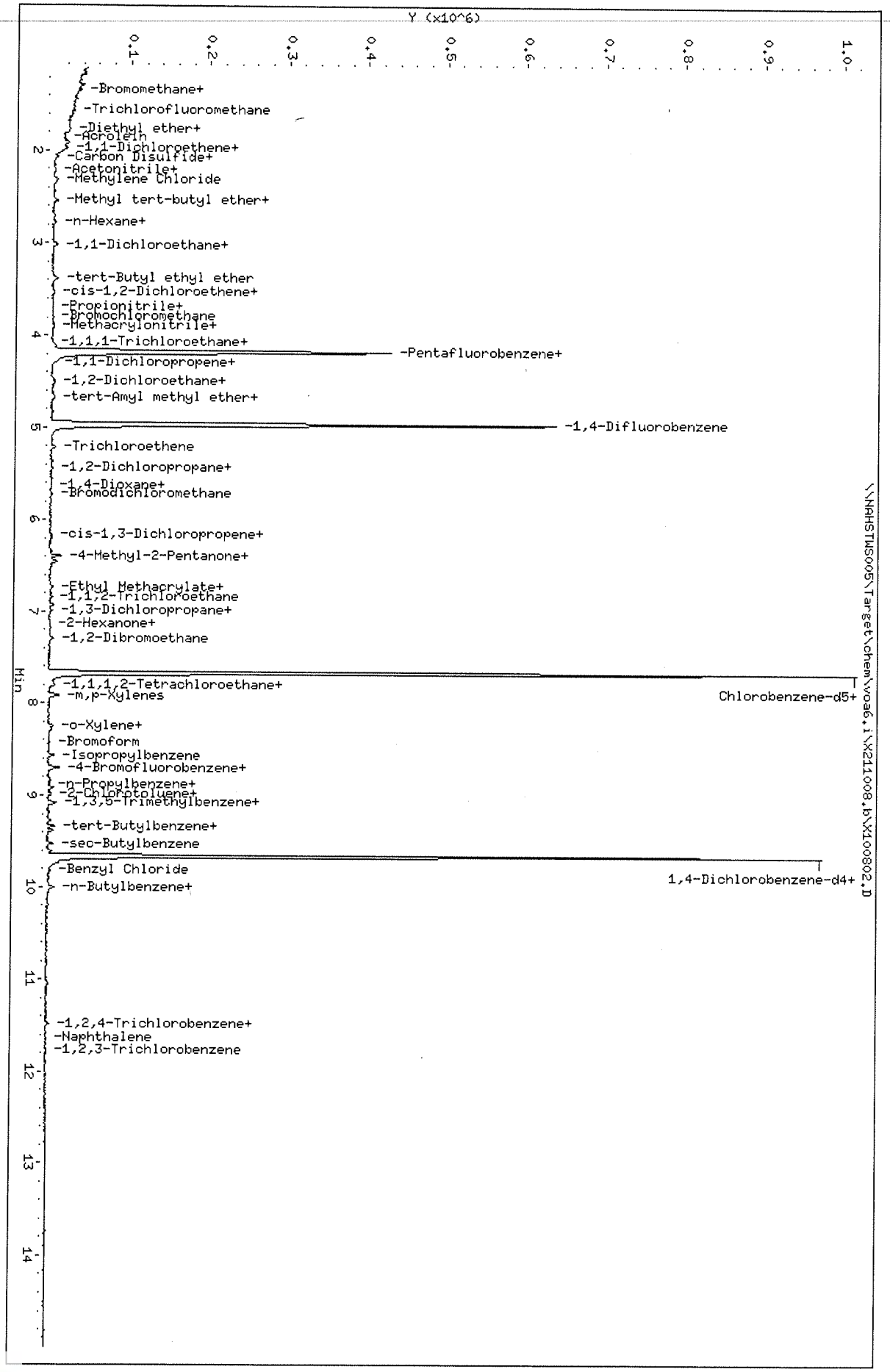
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

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

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	361573	50.0000	
* 36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	549183	50.0000	
* 47 Chlorobenzene-d5	117	7.670	7.670	(1.000)	504808	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	236339	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	2269	0.25000	(a)
$ 35 1,2-Dichloroethane-d4	65	4.490	4.490	(1.074)	3143	0.25000	(Ta)
$ 48 Toluene-d8	98	6.395	6.395	(0.834)	8062	0.25000	0.62(aM)
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	6096	0.25000	0.05(a)
11 1,1-Dichloroethene	96	1.918	1.918	(0.459)	1039	0.25000	0.32(a)
33 1,2-Dichloroethane	62	4.569	4.569	(0.921)	1501	0.25000	0.32(a)
27 cis-1,2-Dichloroethene	96	3.544	3.544	(0.848)	1215	0.25000	0.32(a)
17 Methylene Chloride	84	2.312	2.312	(0.553)	2242	0.25000	(a)
53 1,1,2-Trichloroethane	83	6.847	6.847	(0.893)	1010	0.25000	0.37(a)
38 Trichloroethene	130	5.213	5.213	(1.051)	1791	0.25000	0.43(aM)
5 Vinyl Chloride	62	1.145	1.145	(0.274)	1292	0.25000	0.34(aM)

QC Flag Legend

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

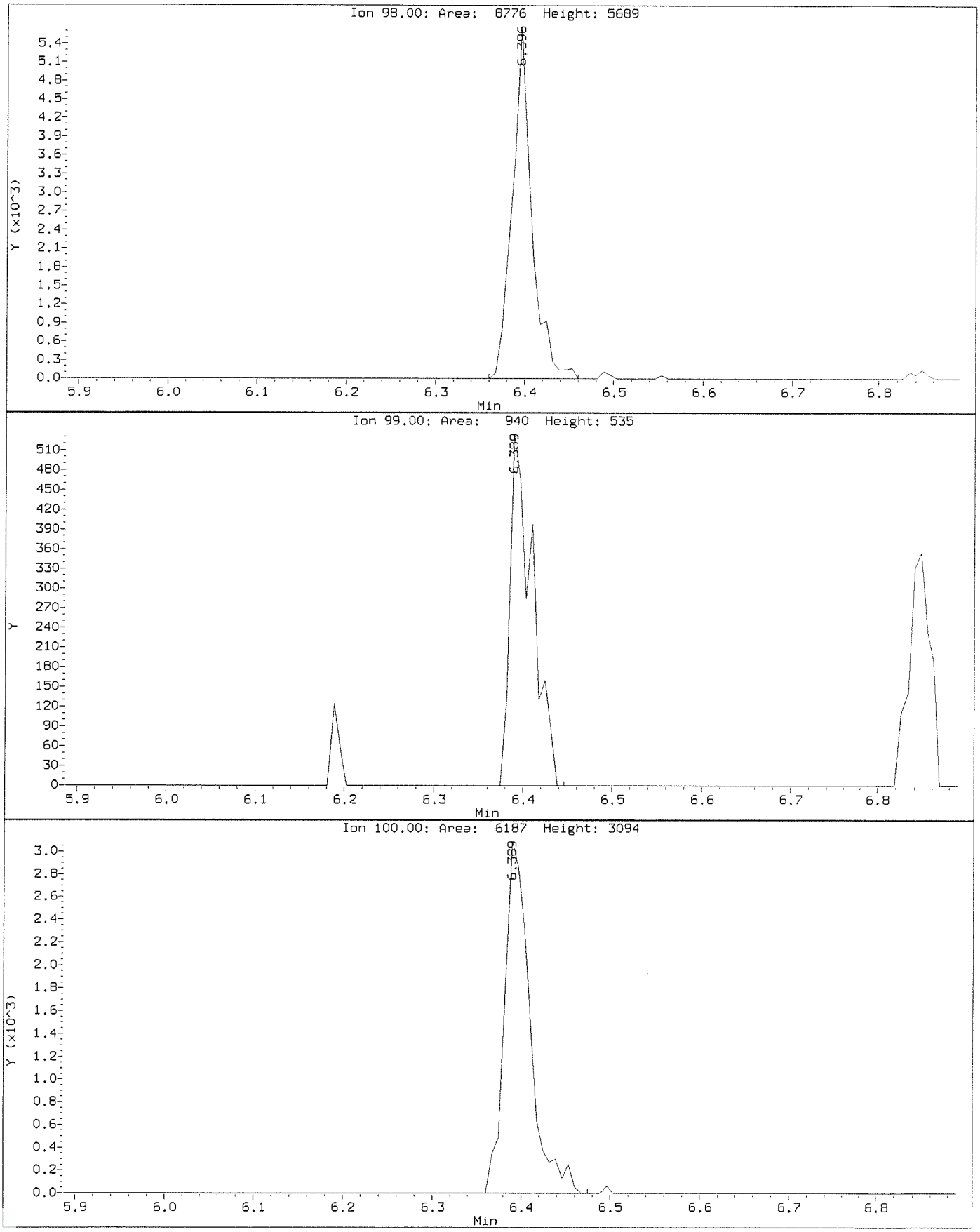


Data File: \\NAHSTWS005\Target\chem\voa6.i\X211008.b\X100802.D
Date : 08-OCT-2021 13:08
Client ID: VSTD000.25
Sample Info: VSTD000.25;VSTD000.25;1;1;;
Purge Volume: 5.0
Column phase: DB624

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

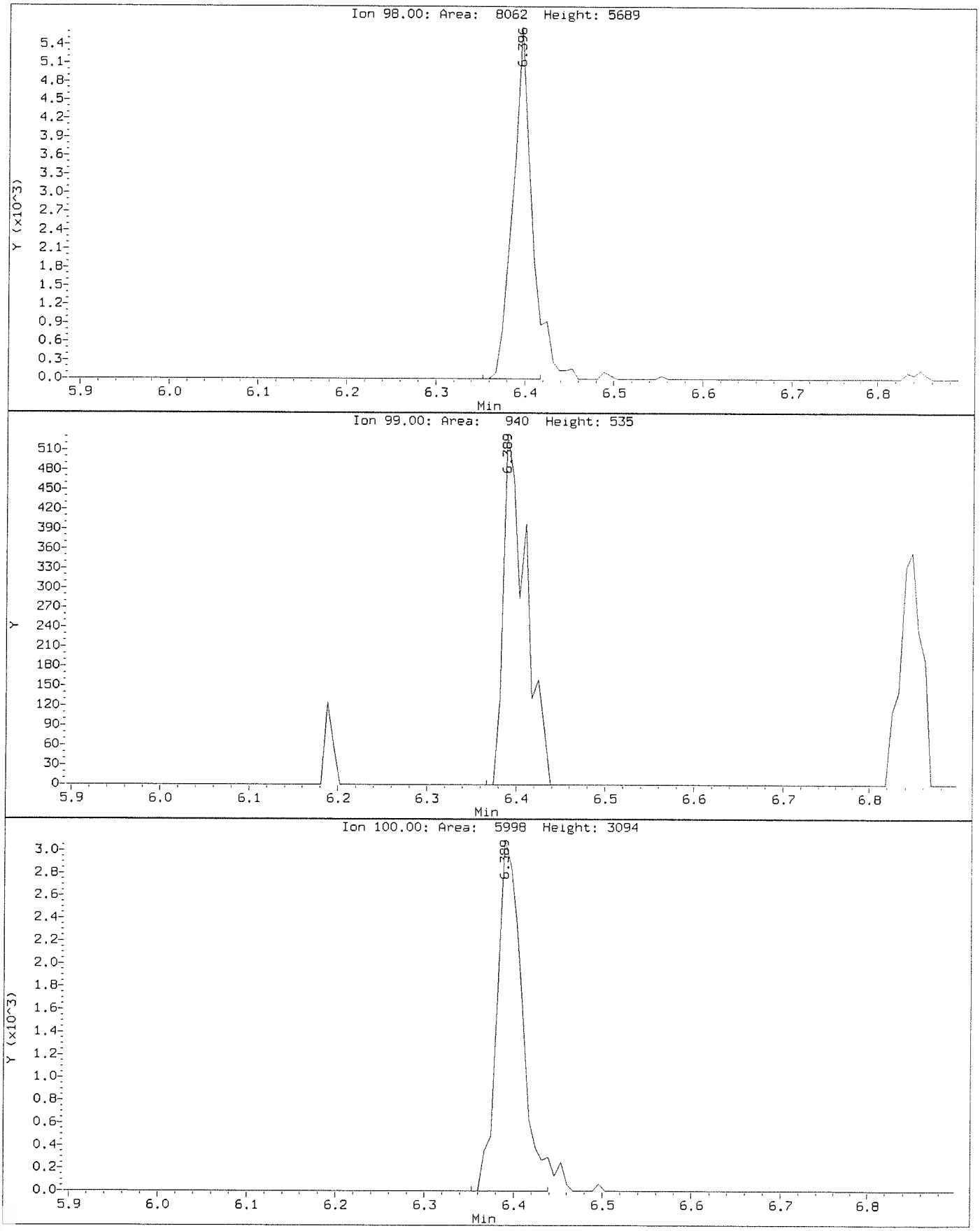
Data File: \\NAHSTWS005\Target\chem\voa6.i\X211008.b\Before\X100802.D
Injection Date: 08-OCT-2021 13:08
Instrument: voa6.i
Client Sample ID: VSTD000.25

Compound: Toluene-d8
CAS Number: 2037-26-5



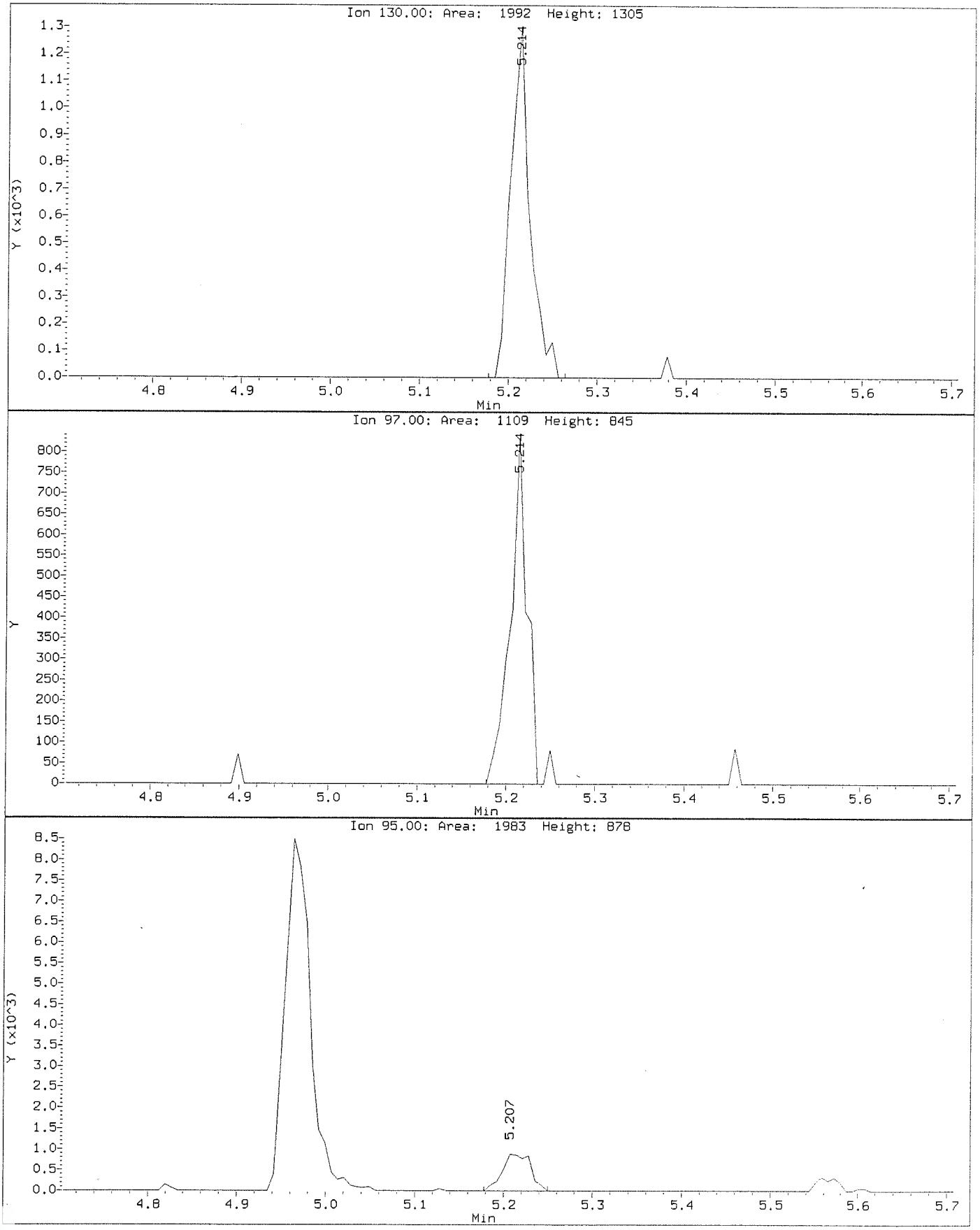
Data File: \\NAHSTWS005\Target\chem\voa6.i\X211008.b\X100802.D
Injection Date: 08-OCT-2021 13:08
Instrument: voa6.i
Client Sample ID: VSTD000.25

Compound: Toluene-d8
CAS Number: 2037-26-5



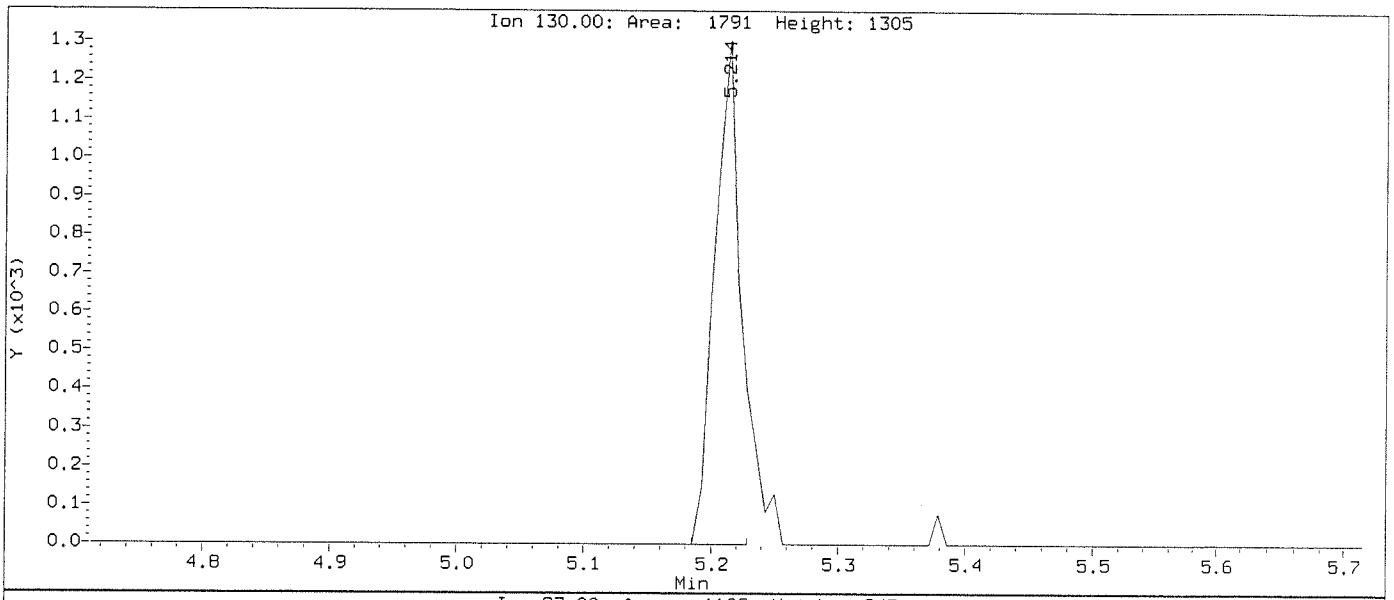
Data File: \\NAHSTWS005\Target\chem\voa6.i\X211008.b\Before\X100802.D
Injection Date: 08-OCT-2021 13:08
Instrument: voa6.i
Client Sample ID: VSTD000.25

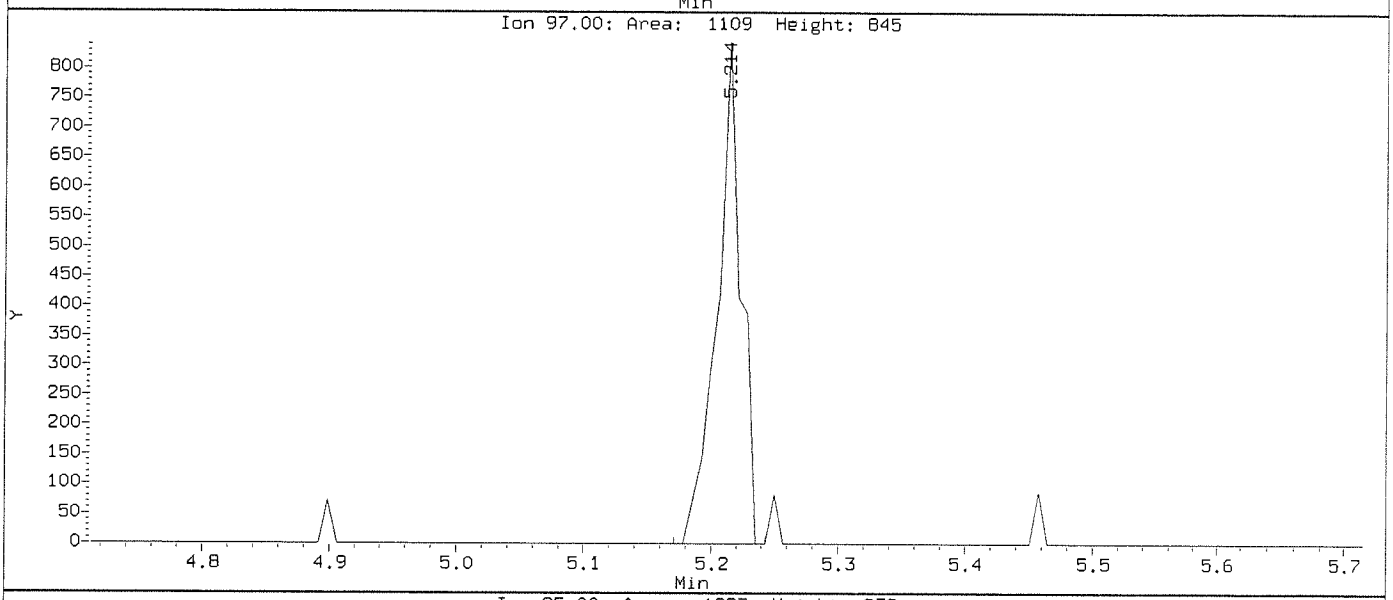
Compound: Trichloroethene
CAS Number: 79-01-6

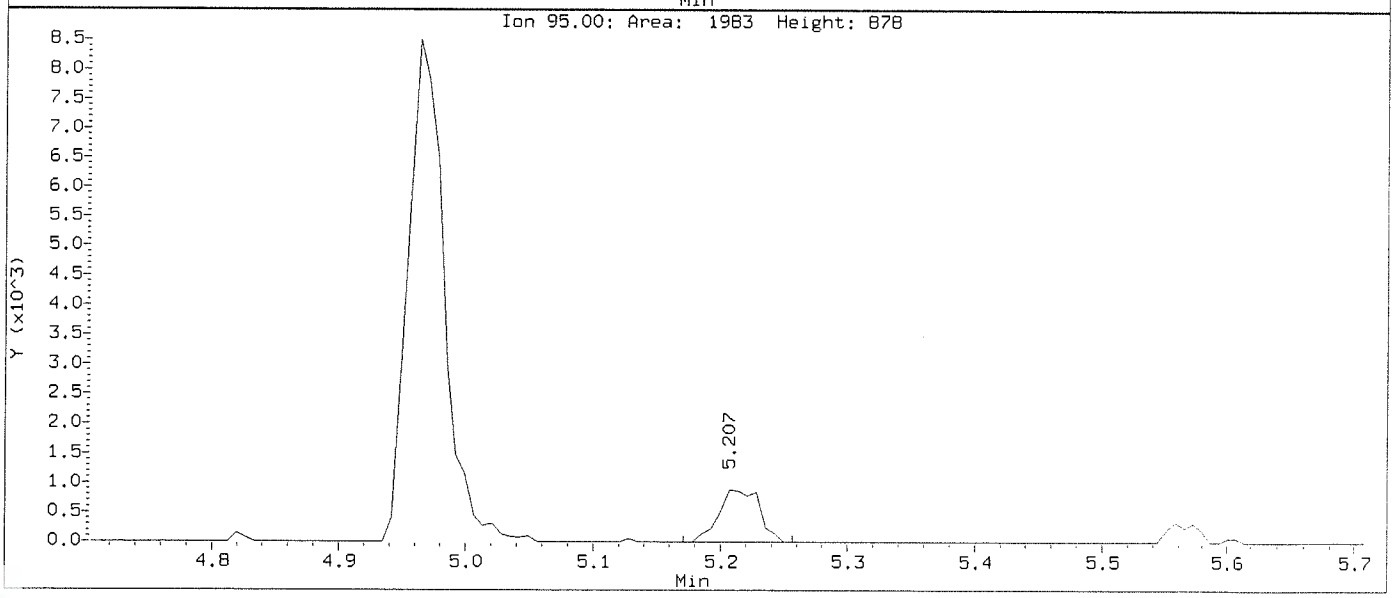


Data File: \\NAHSTWS005\Target\chem\voa6.i\X211008.b\X100802.D
Injection Date: 08-OCT-2021 13:08
Instrument: voa6.i
Client Sample ID: VSTD000.25

Compound: Trichloroethene
CAS Number: 79-01-6

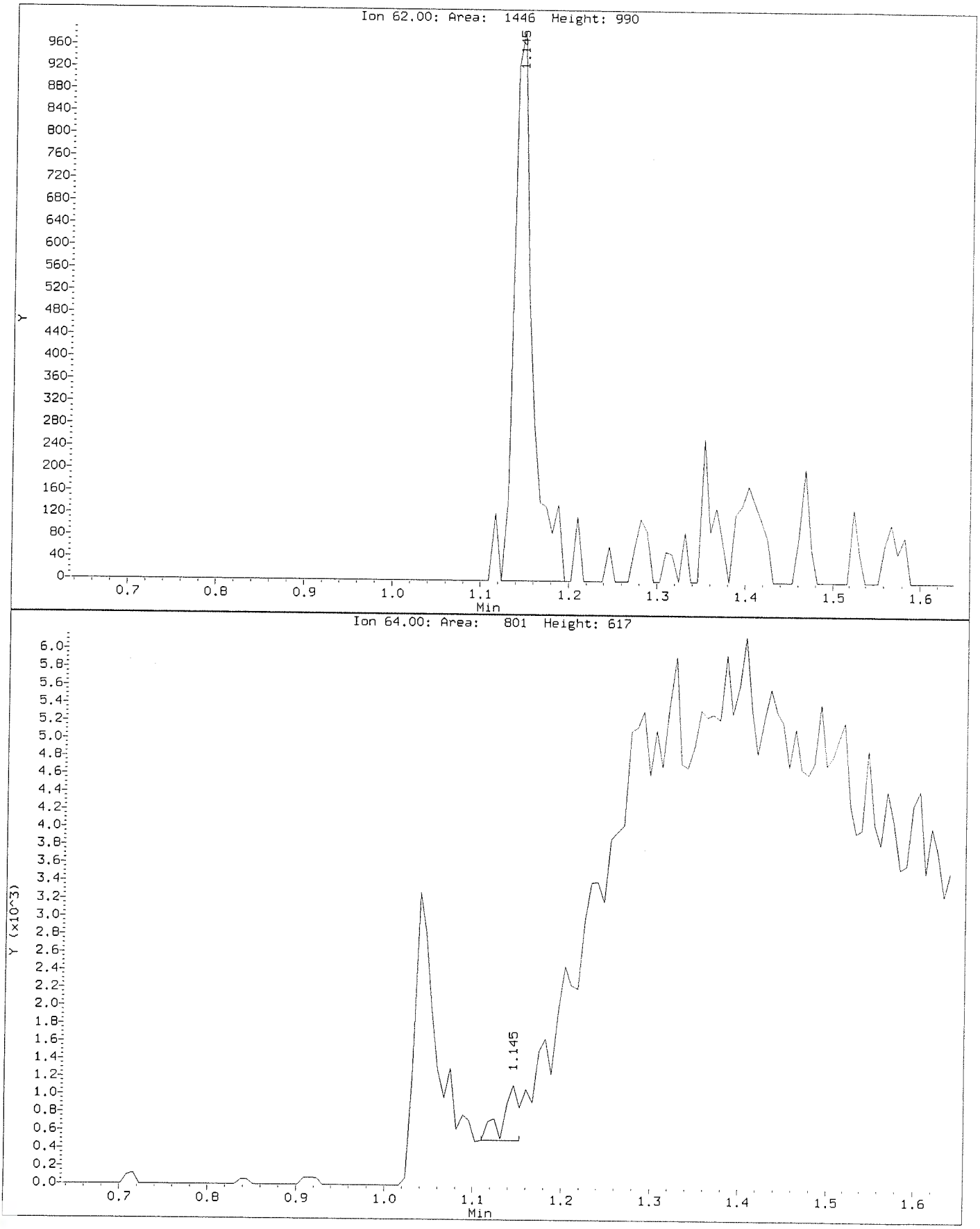






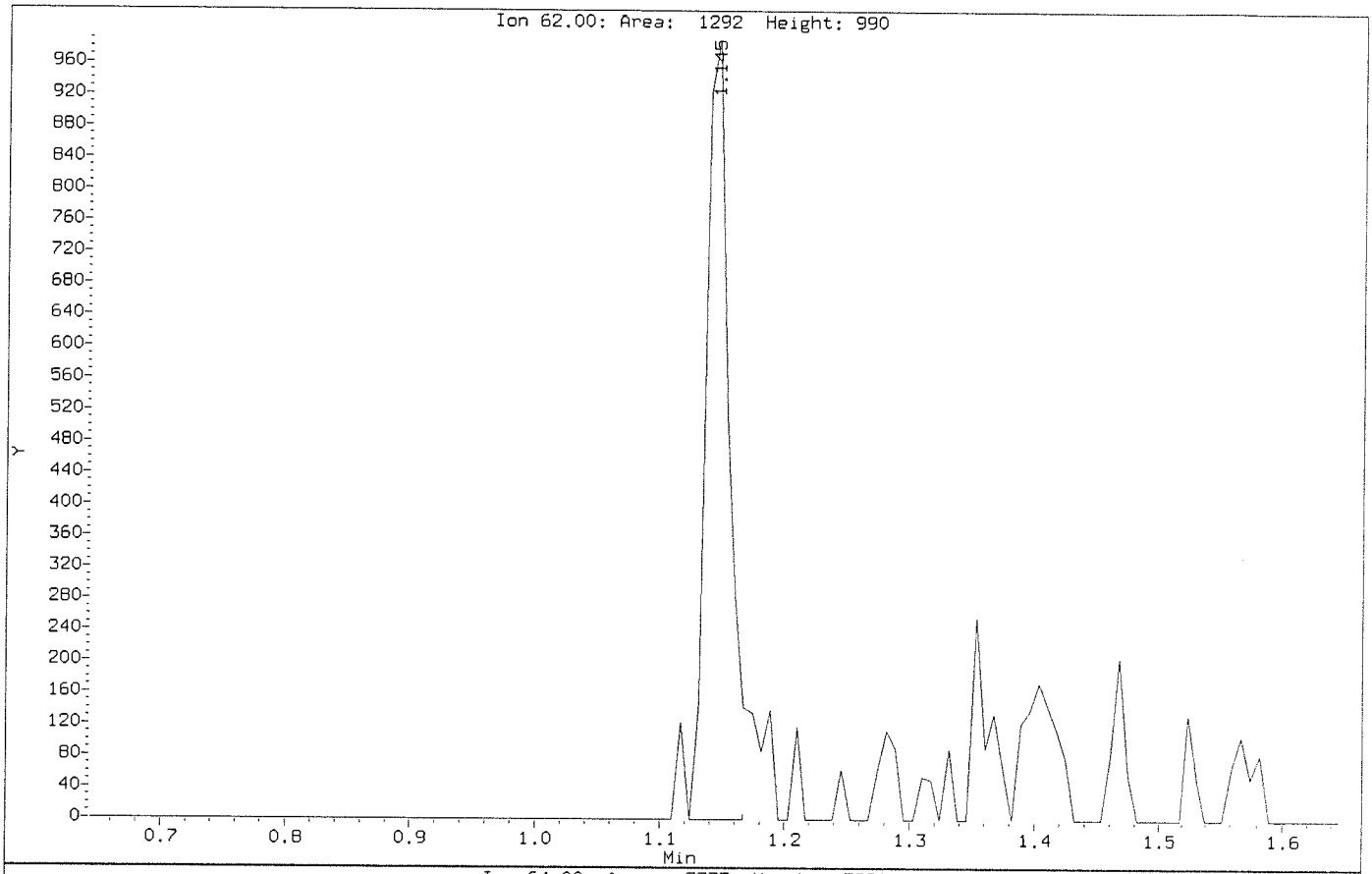
Data File: \\NAHSTWS005\Target\chem\voa6.i\X211008.b\Before\X100802.D
Injection Date: 08-OCT-2021 13:08
Instrument: voa6.i
Client Sample ID: VSTD000.25

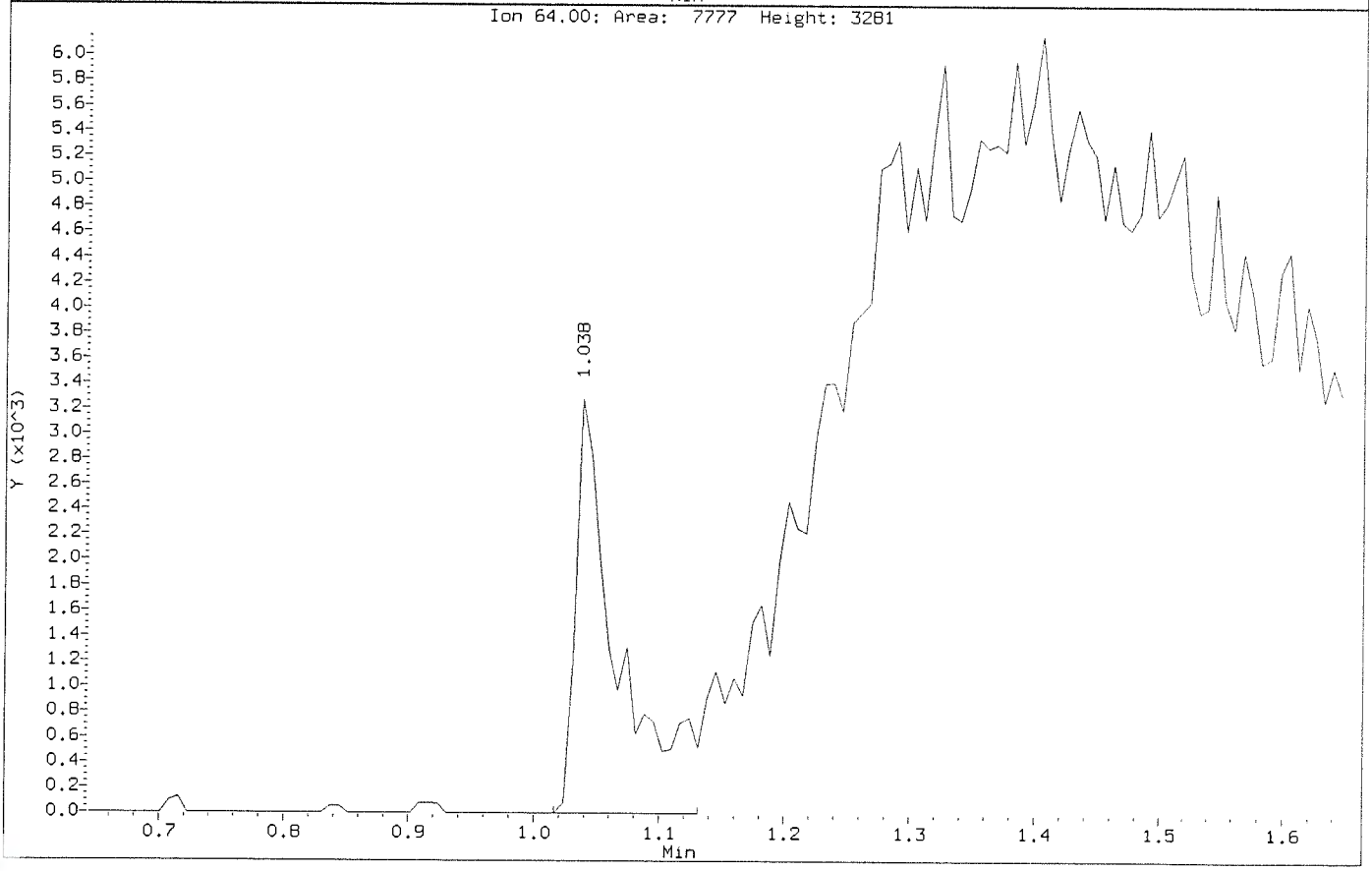
Compound: Vinyl Chloride
CAS Number: 75-01-4



Data File: \\NAHSTWS005\Target\chem\voa6.i\X211008.b\X100802.D
Injection Date: 08-OCT-2021 13:08
Instrument: voa6.i
Client Sample ID: VSTD000.25

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





ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X211008.b\X100803.D
Lab Smp Id: VSTD000.5 Client Smp ID: VSTD000.5
Inj Date : 08-OCT-2021 13:50
Operator : PC Inst ID: voa6.i
Smp Info : VSTD000.5;VSTD000.5;1;2;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X211008.b\8260W.m
Meth Date : 16-Nov-2021 17:21 voa6.i Quant Type: ISTD
Cal Date : 08-OCT-2021 13:08 Cal File: X100802.D
Als bottle: 4 Calibration Sample, Level: 2
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 08260_dryclean.su
Target Version: 4.14
Processing Host: NAHSTW7017

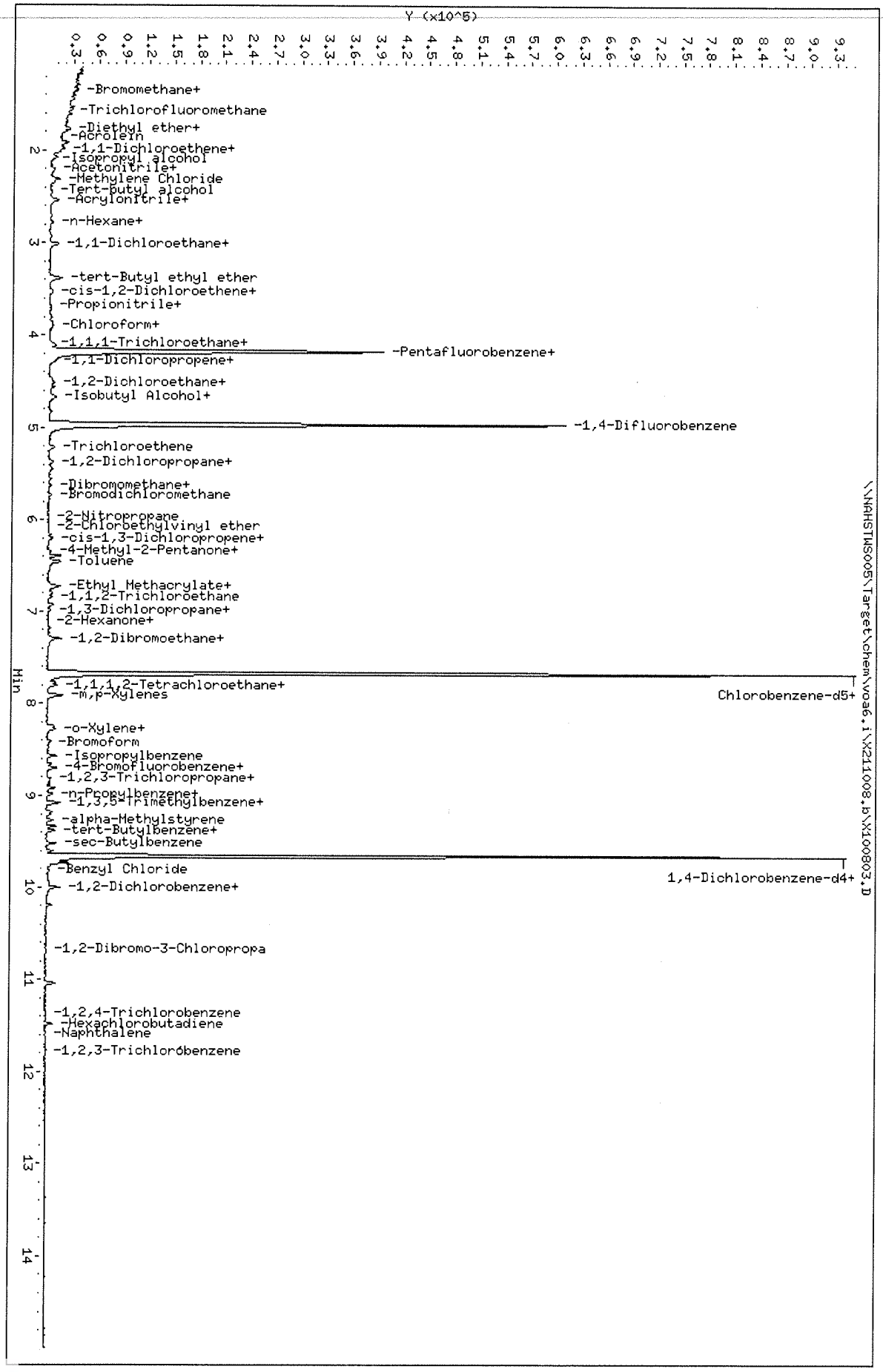
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

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

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	331902	50.0000	
* 36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	519409	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	485516	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	222200	50.0000	
$ 30 Dibromofluoromethane	113	4.111	4.111	(0.983)	2999	0.50000	(a)
$ 35 1,2-Dichloroethane-d4	65	4.490	4.490	(1.074)	3361	0.50000	(Ta)
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	7763	0.50000	0.63(aM)
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	4606	0.50000	(a)
11 1,1-Dichloroethene	96	1.926	1.926	(0.461)	1538	0.50000	0.51(a)
33 1,2-Dichloroethane	62	4.562	4.562	(0.919)	2184	0.50000	0.50(a)
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	1575	0.50000	0.45(a)
17 Methylene Chloride	84	2.305	2.305	(0.551)	2444	0.50000	(aM)
53 1,1,2-Trichloroethane	83	6.847	6.847	(0.893)	1277	0.50000	0.49(a)
38 Trichloroethene	130	5.214	5.214	(1.051)	2243	0.50000	0.57(aM)
5 Vinyl Chloride	62	1.145	1.145	(0.274)	1932	0.50000	0.55(aM)

QC Flag Legend

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

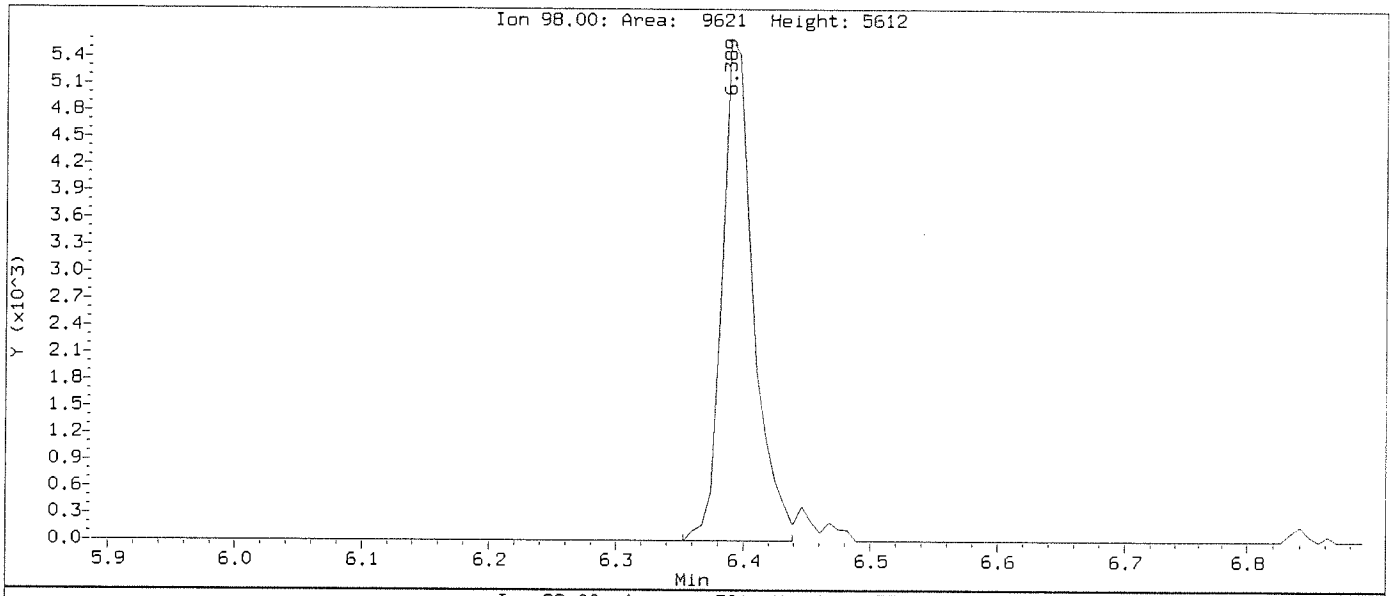


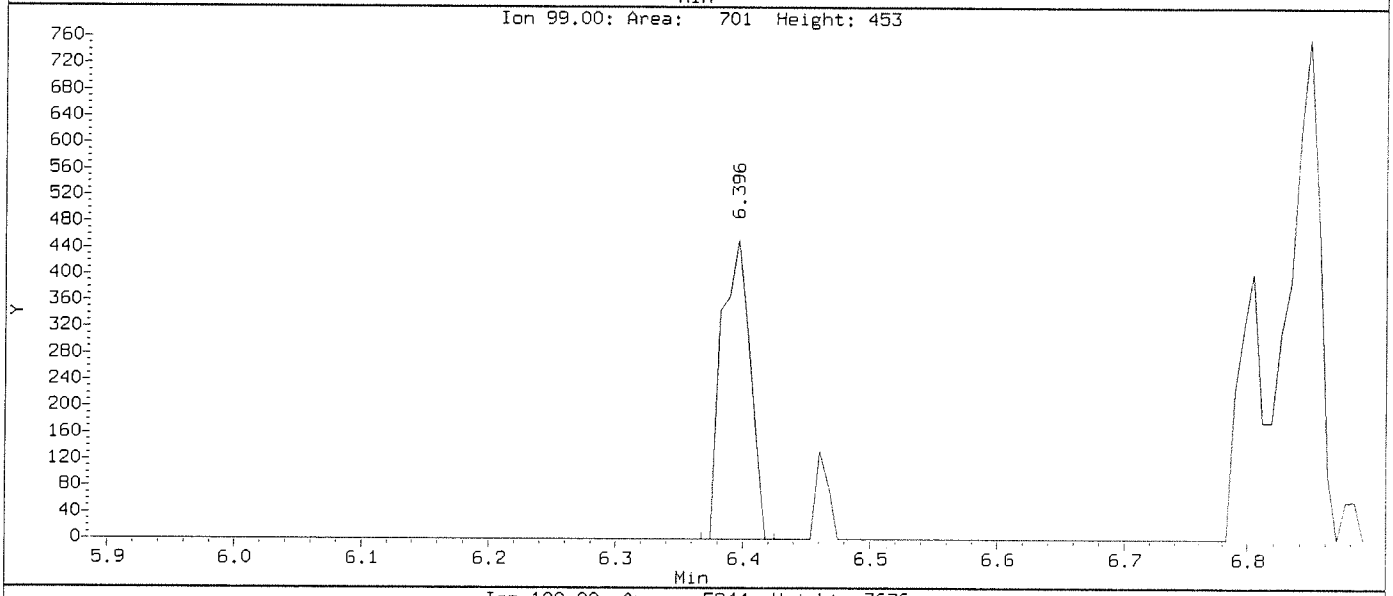
Data File: \\NAHSTWS005\Target\chem\voa6.i\X211008.b\X100803.D
Date : 08-OCT-2021 13:50
Client ID: WSTD000.5
Sample Info: WSTD000.5;WSTD000.5;1;2;;
Purge Volume: 5.0
Column phase: DB624

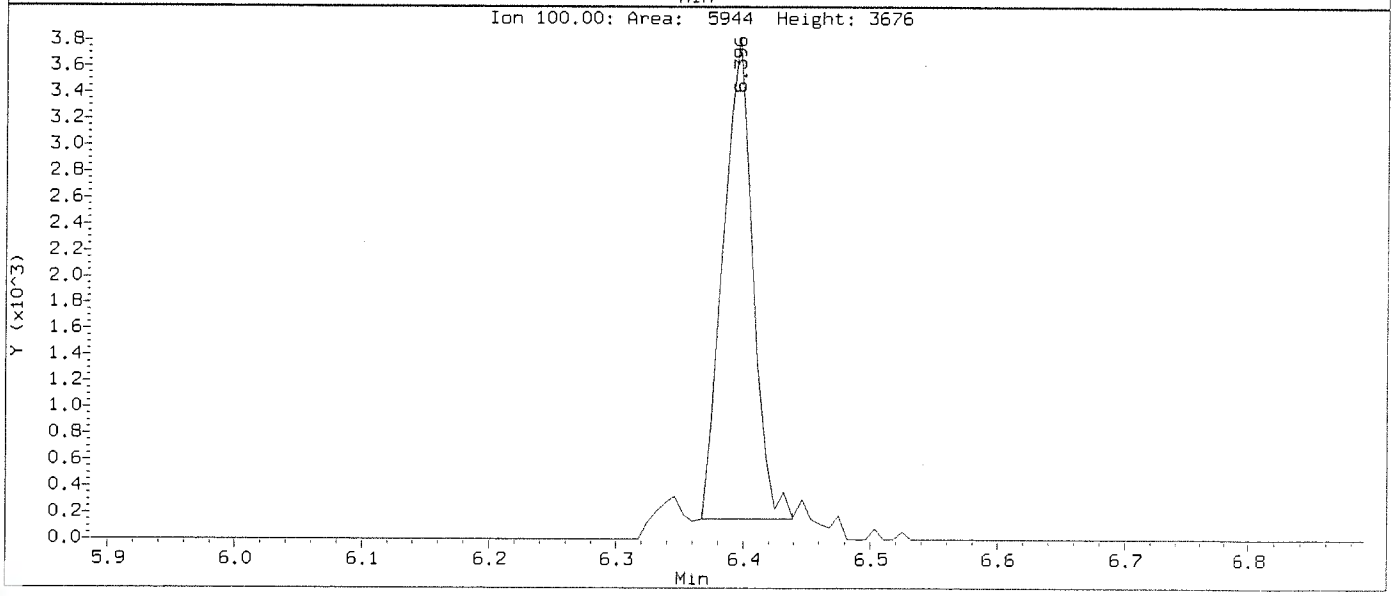
Instrument: voa6.i
Operator: PC
Column diameter: 0.18

Data File: \\NAHSTWS005\Target\chem\voa6.i\X211008.b\Before\X100803.D
Injection Date: 08-OCT-2021 13:50
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: Toluene-d8
CAS Number: 2037-26-5

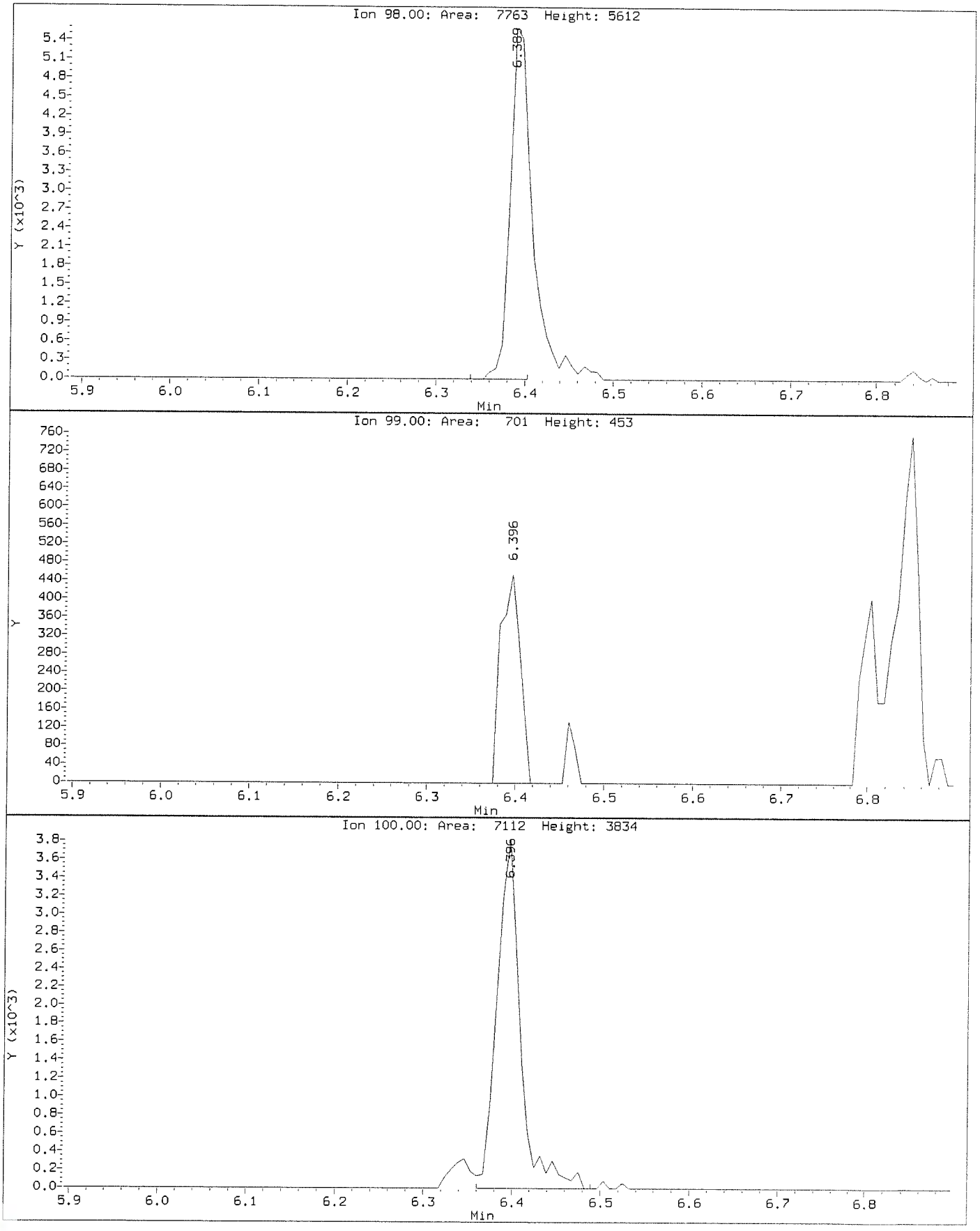






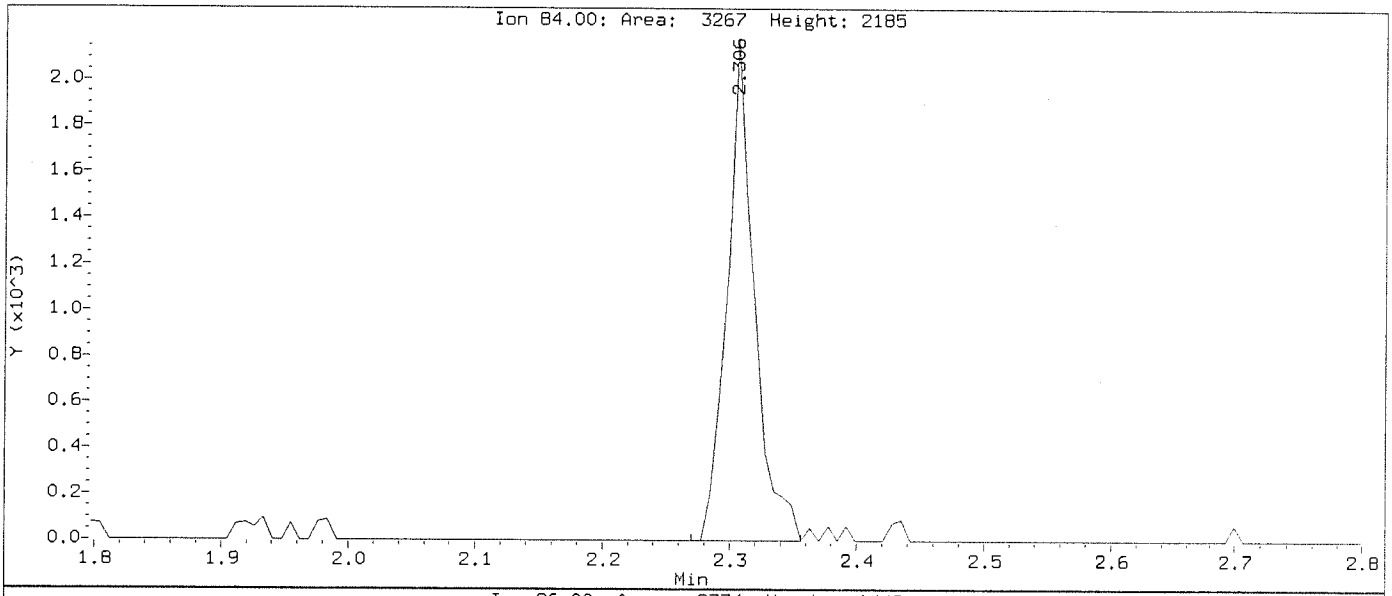
Data File: \\NAHSTWS005\Target\chem\voa6.i\X211008.b\X100803.D
Injection Date: 08-OCT-2021 13:50
Instrument: voa6.i
Client Sample ID: VSTD000.5

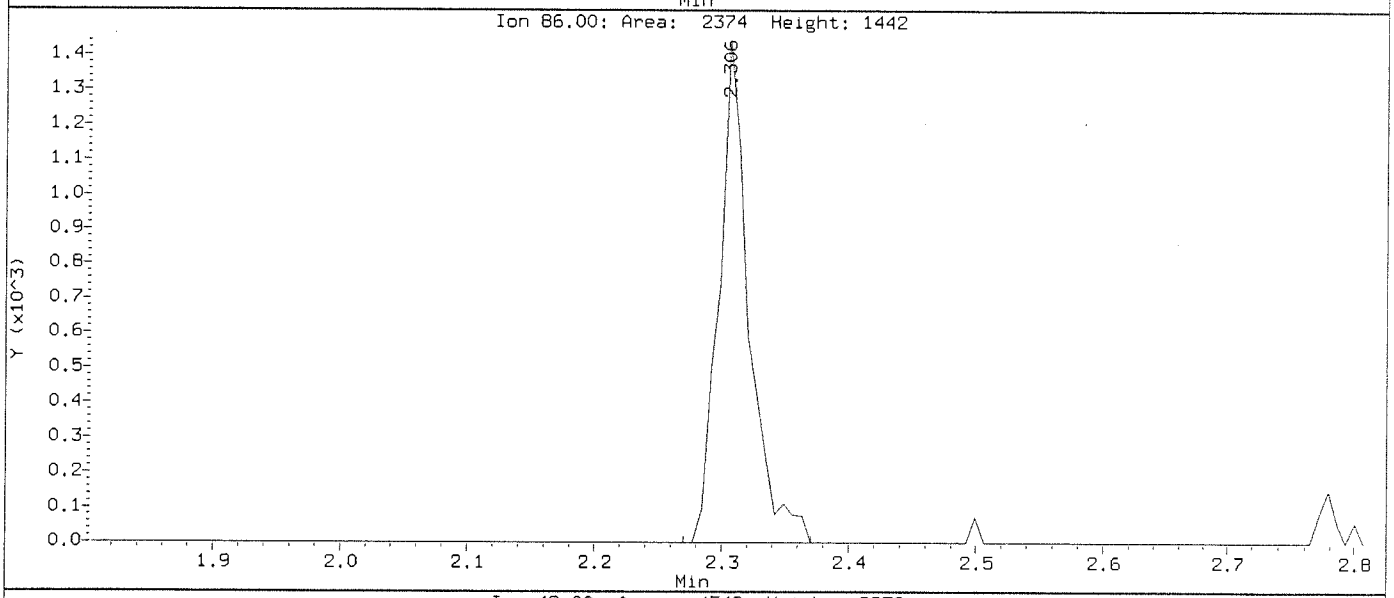
Compound: Toluene-d8
CAS Number: 2037-26-5

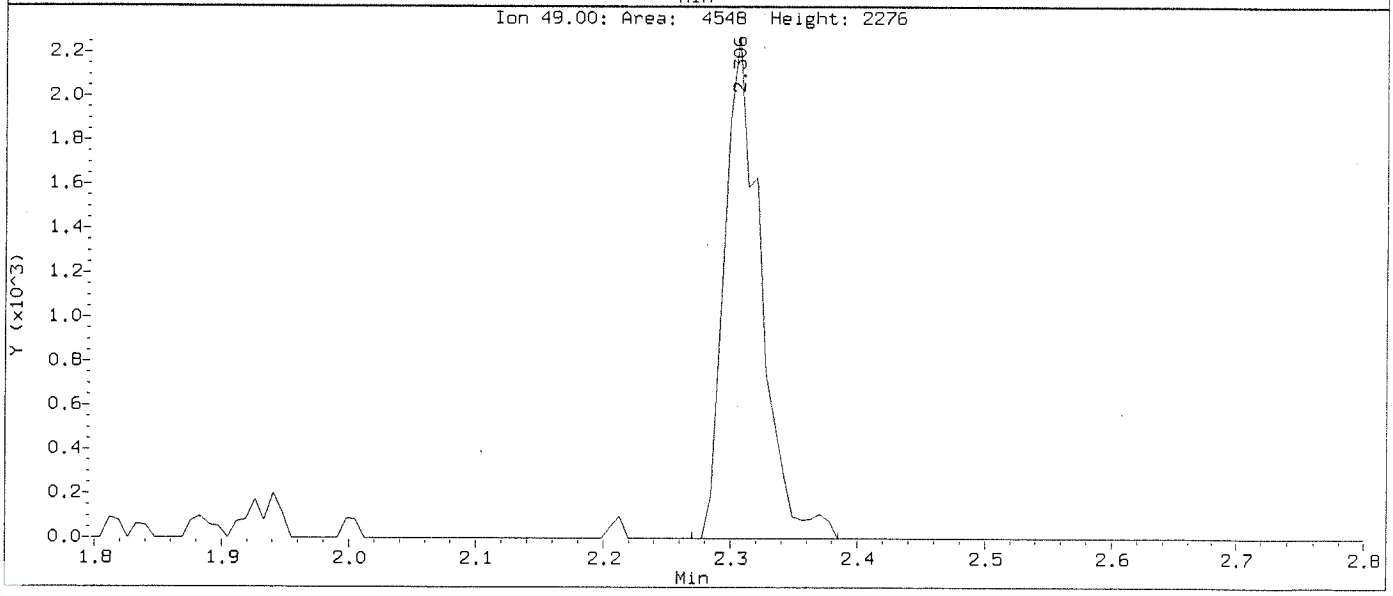


Data File: \\NAHSTWS005\Target\chem\voa6.i\X211008.b\Before\X100803.D
Injection Date: 08-OCT-2021 13:50
Instrument: voa6.i
Client Sample ID: VSTD000.5

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

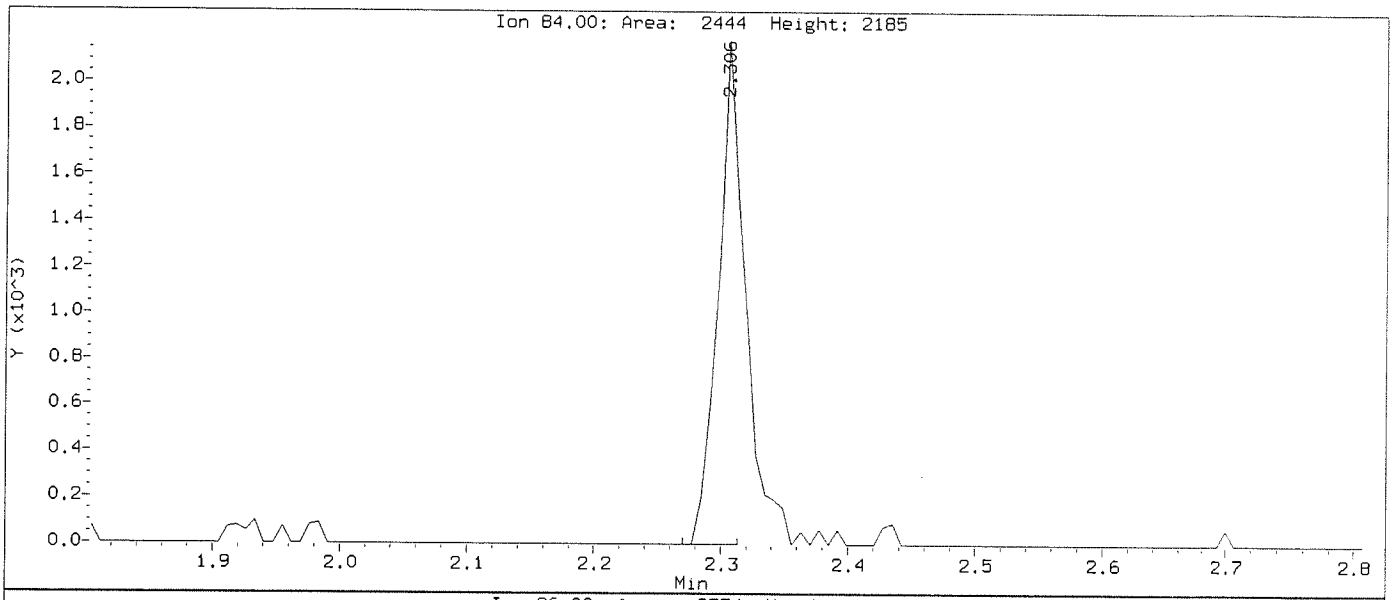


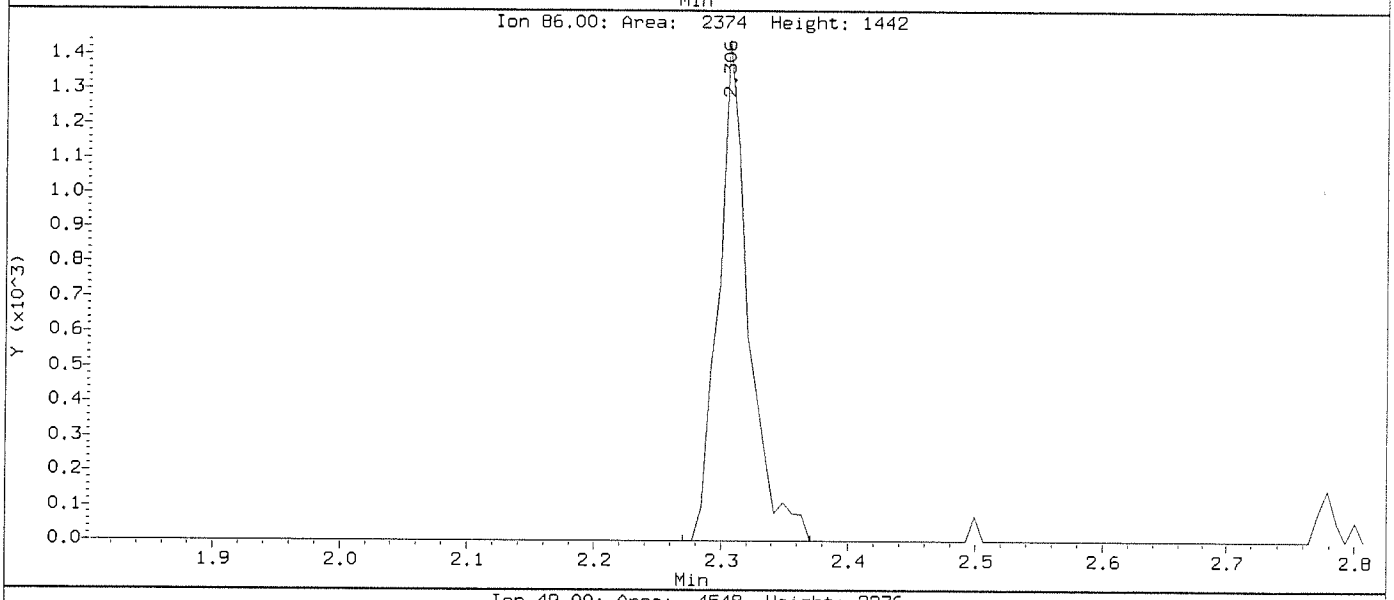


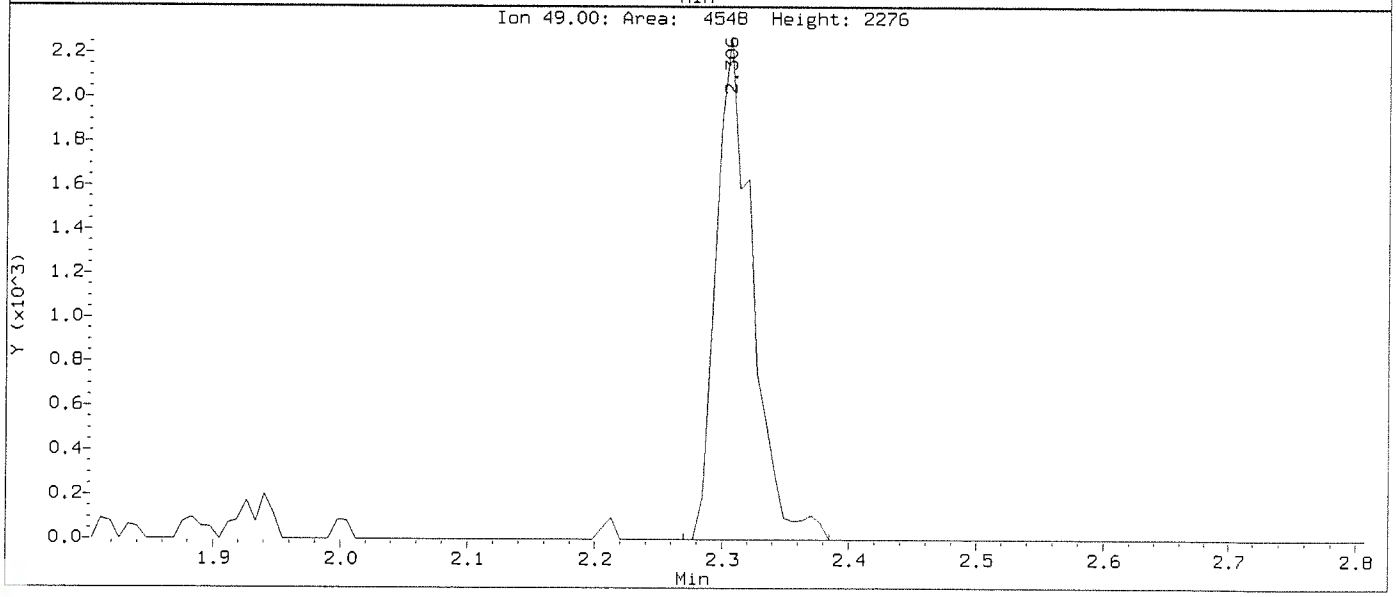


Data File: \\NAHSTWS005\Target\chem\voa6.i\X211008.b\X100803.D
Injection Date: 08-OCT-2021 13:50
Instrument: voa6.i
Client Sample ID: VSTD000.5

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

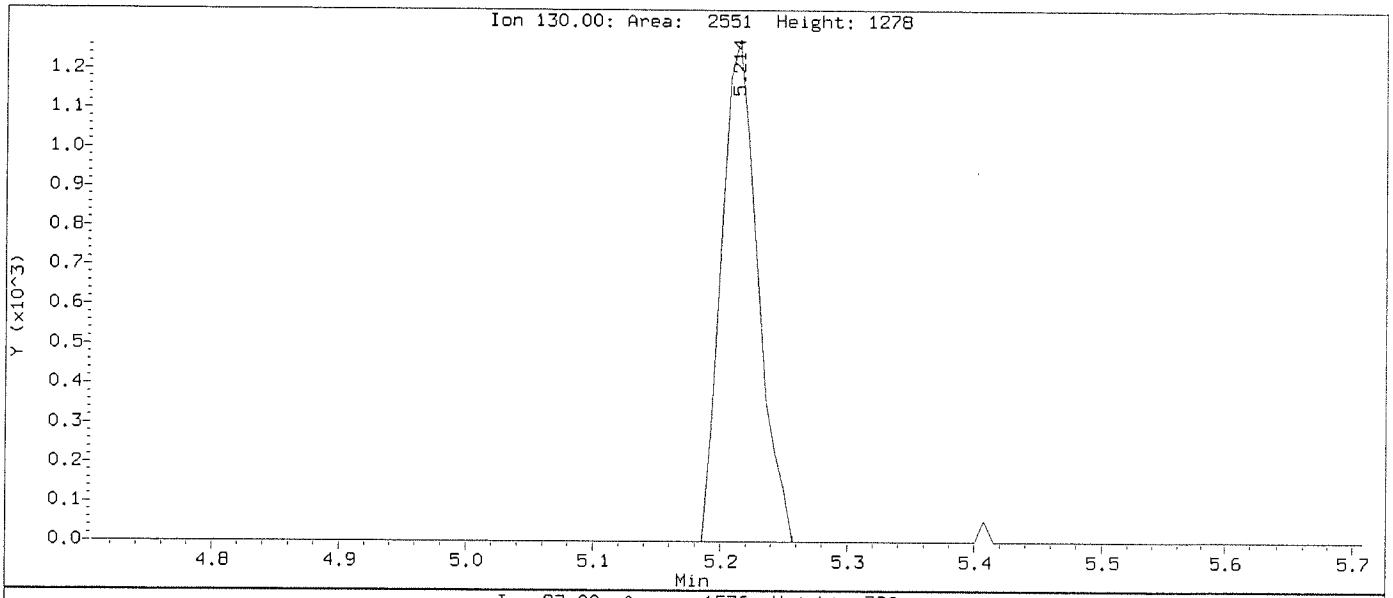


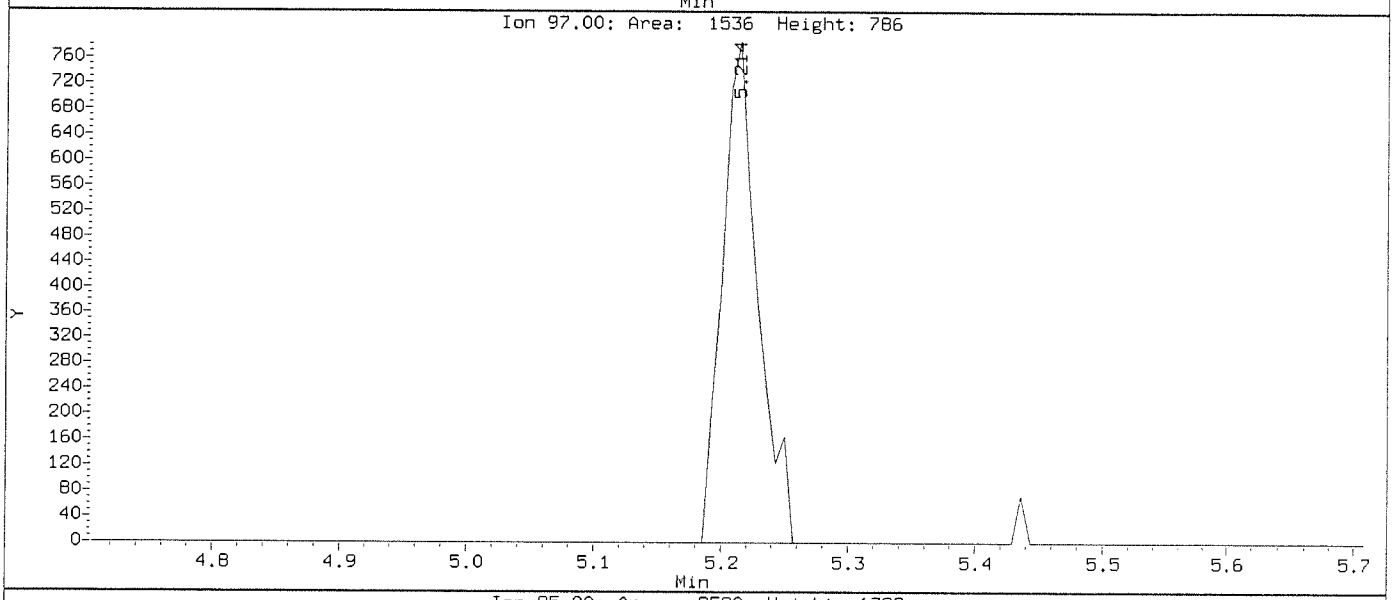


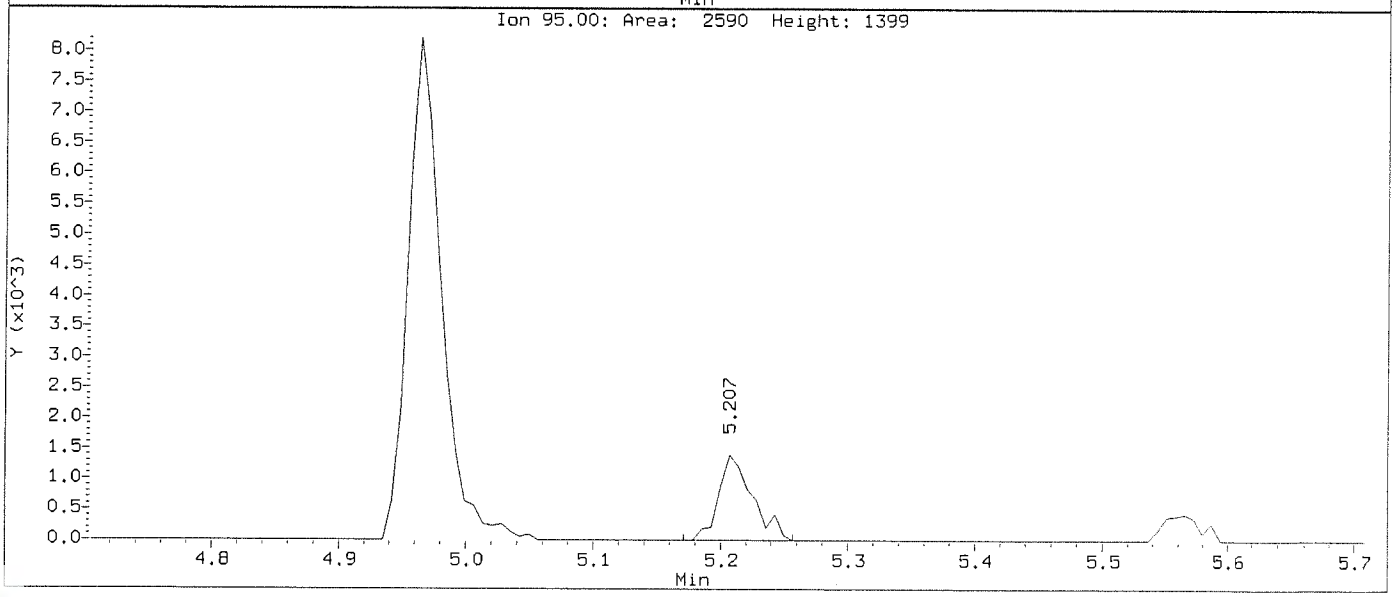


Data File: \\NAHSTWS005\Target\chem\voa6.i\X211008.b\Before\X100803.D
Injection Date: 08-OCT-2021 13:50
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: Trichloroethene
CAS Number: 79-01-6

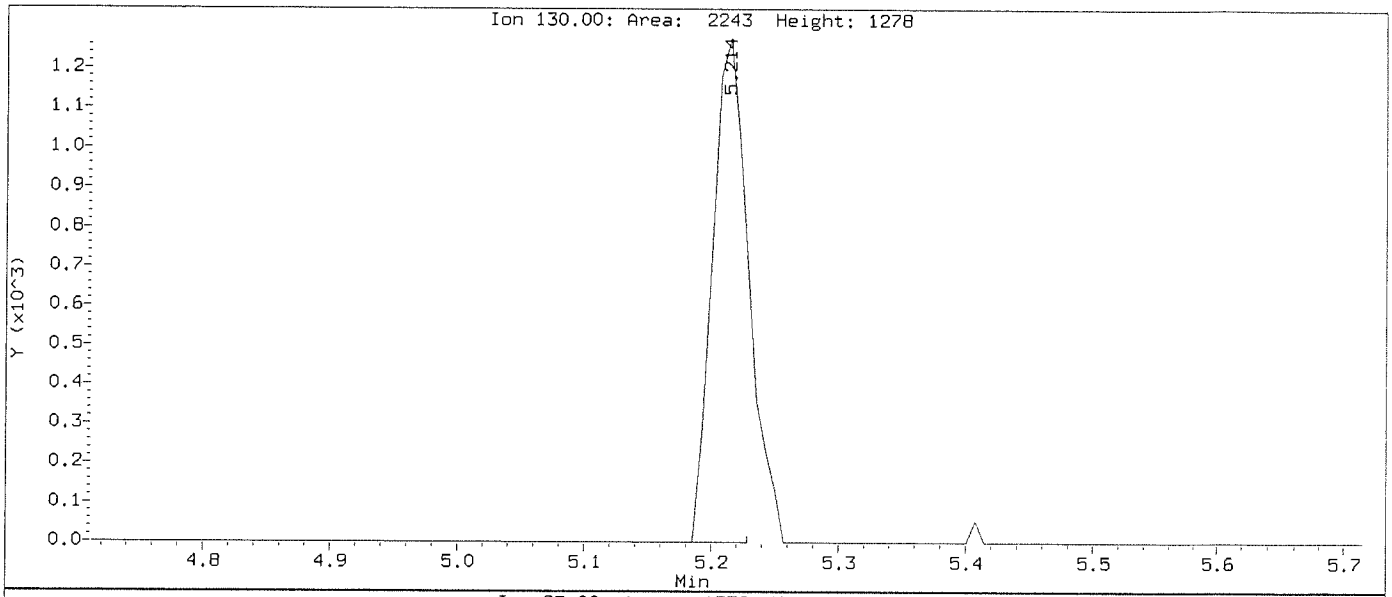


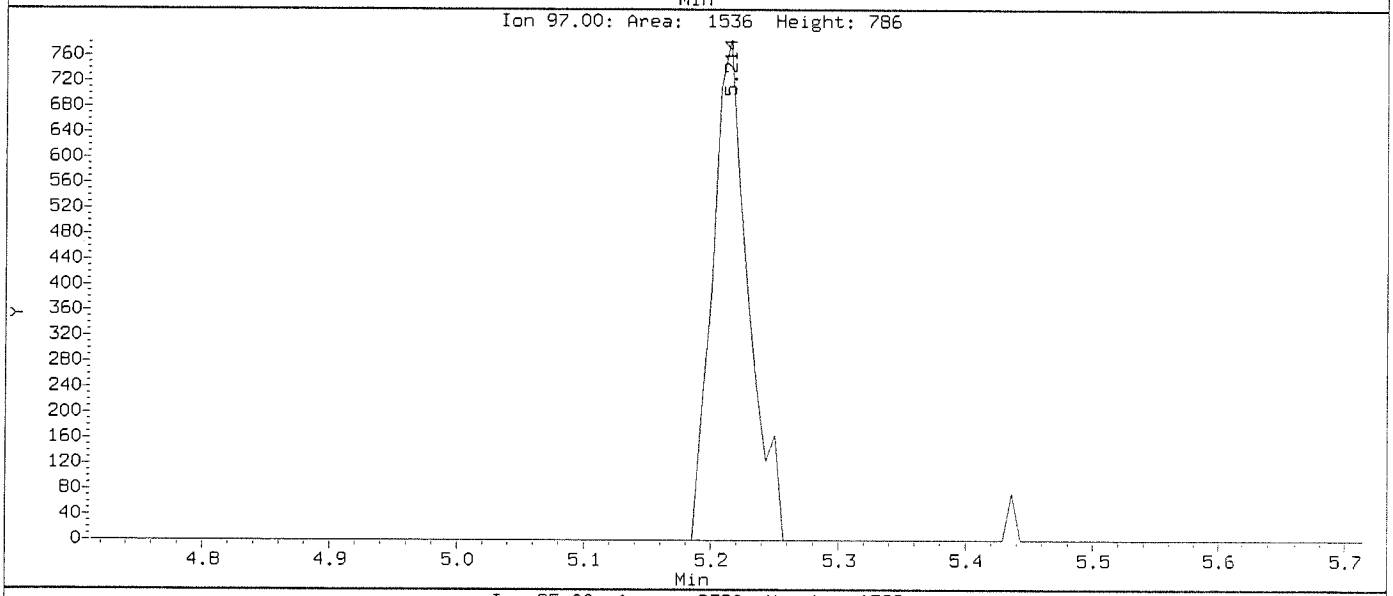


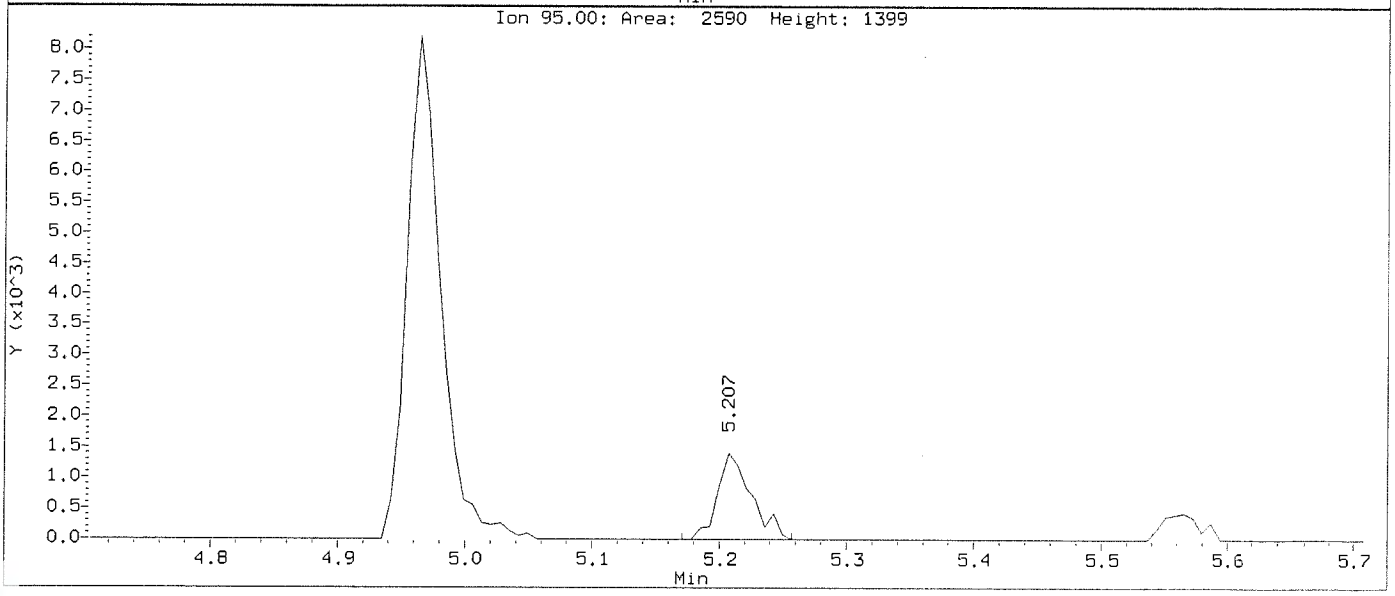


Data File: \\NAHSTWS005\Target\chem\voa6.i\X211008.b\X100803.D
Injection Date: 08-OCT-2021 13:50
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: Trichloroethene
CAS Number: 79-01-6

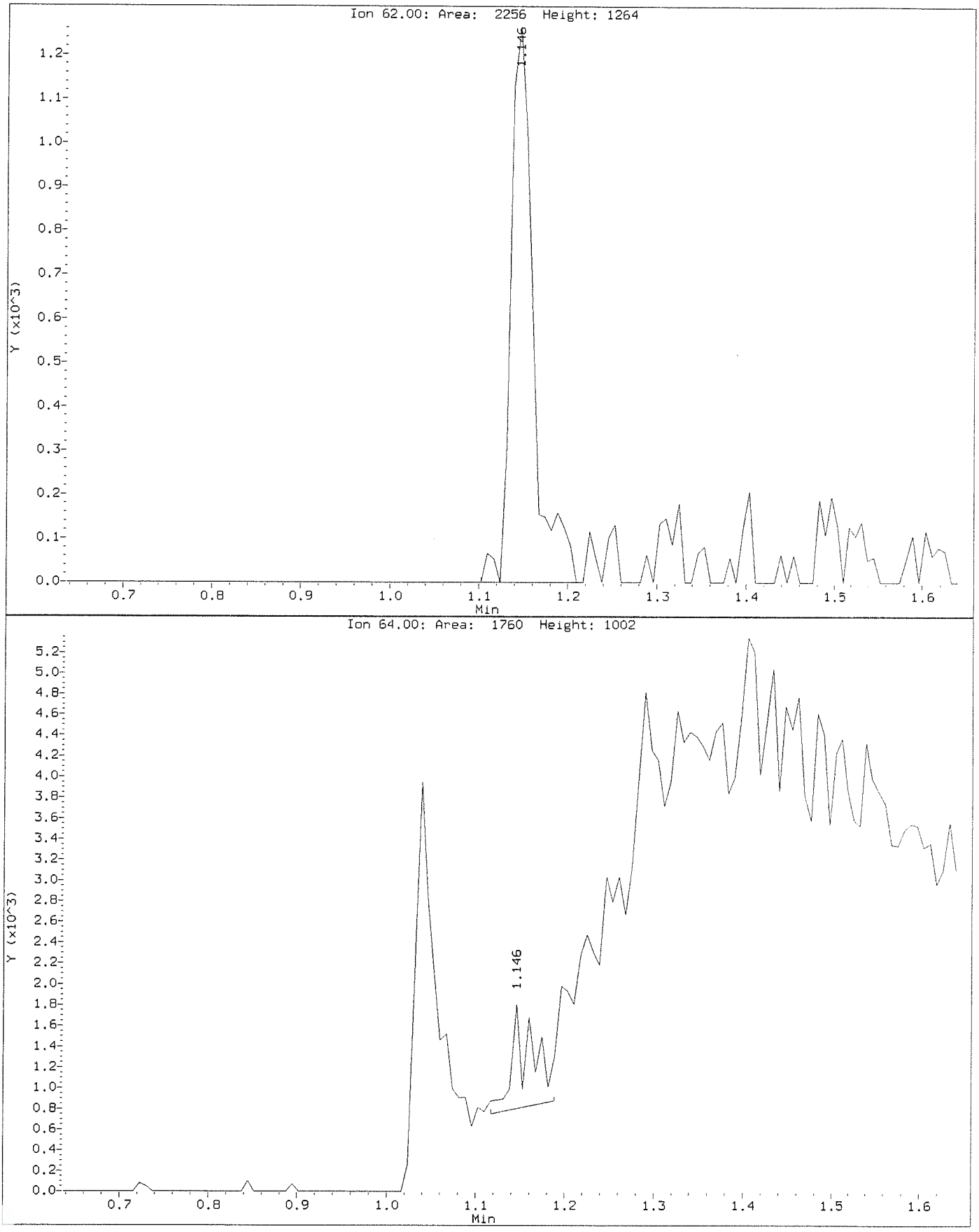






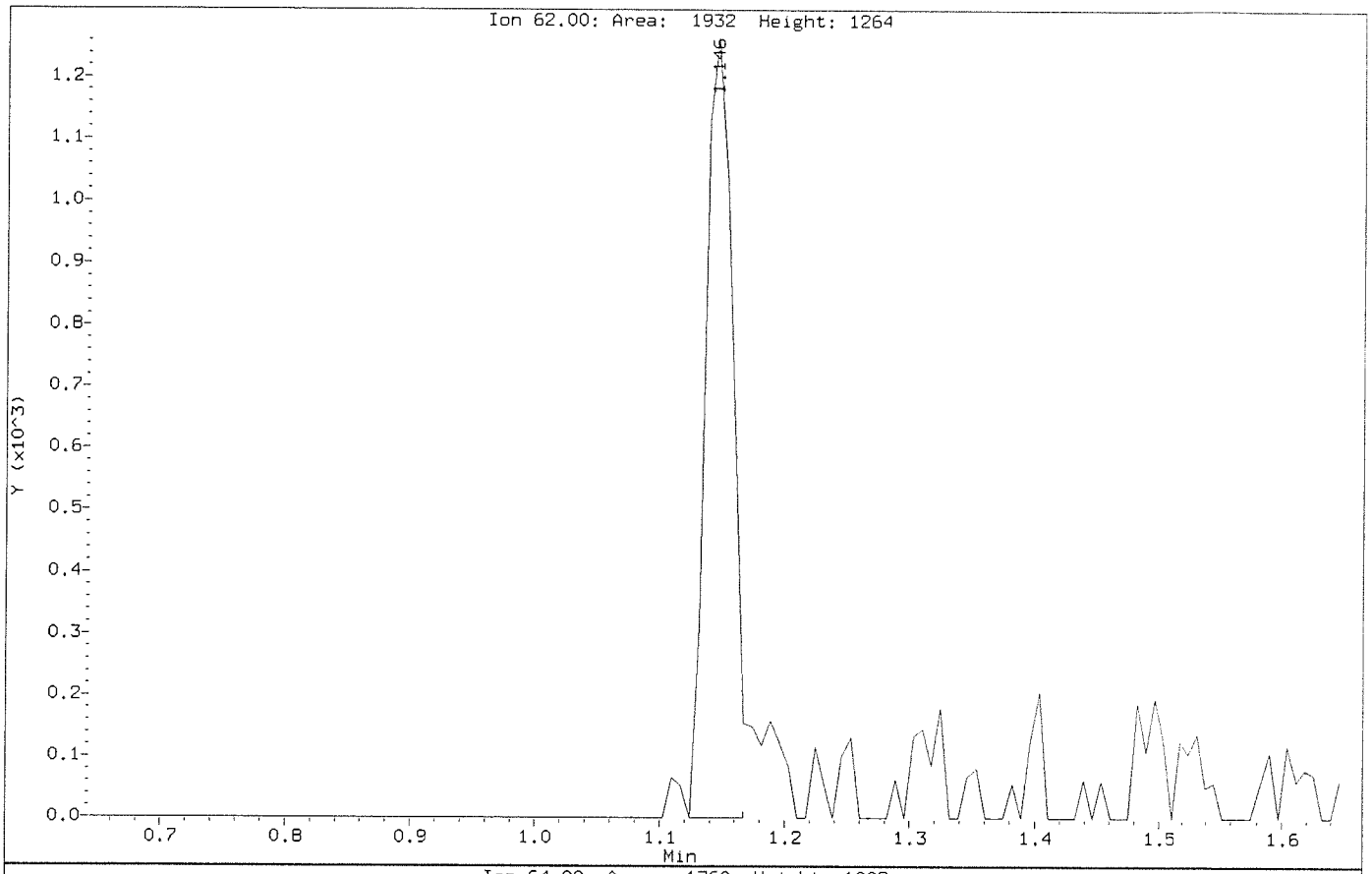
Data File: \\NAHSTWS005\Target\chem\voa6.i\X211008.b\Before\X100803.D
Injection Date: 08-OCT-2021 13:50
Instrument: voa6.i
Client Sample ID: VSTD000.5

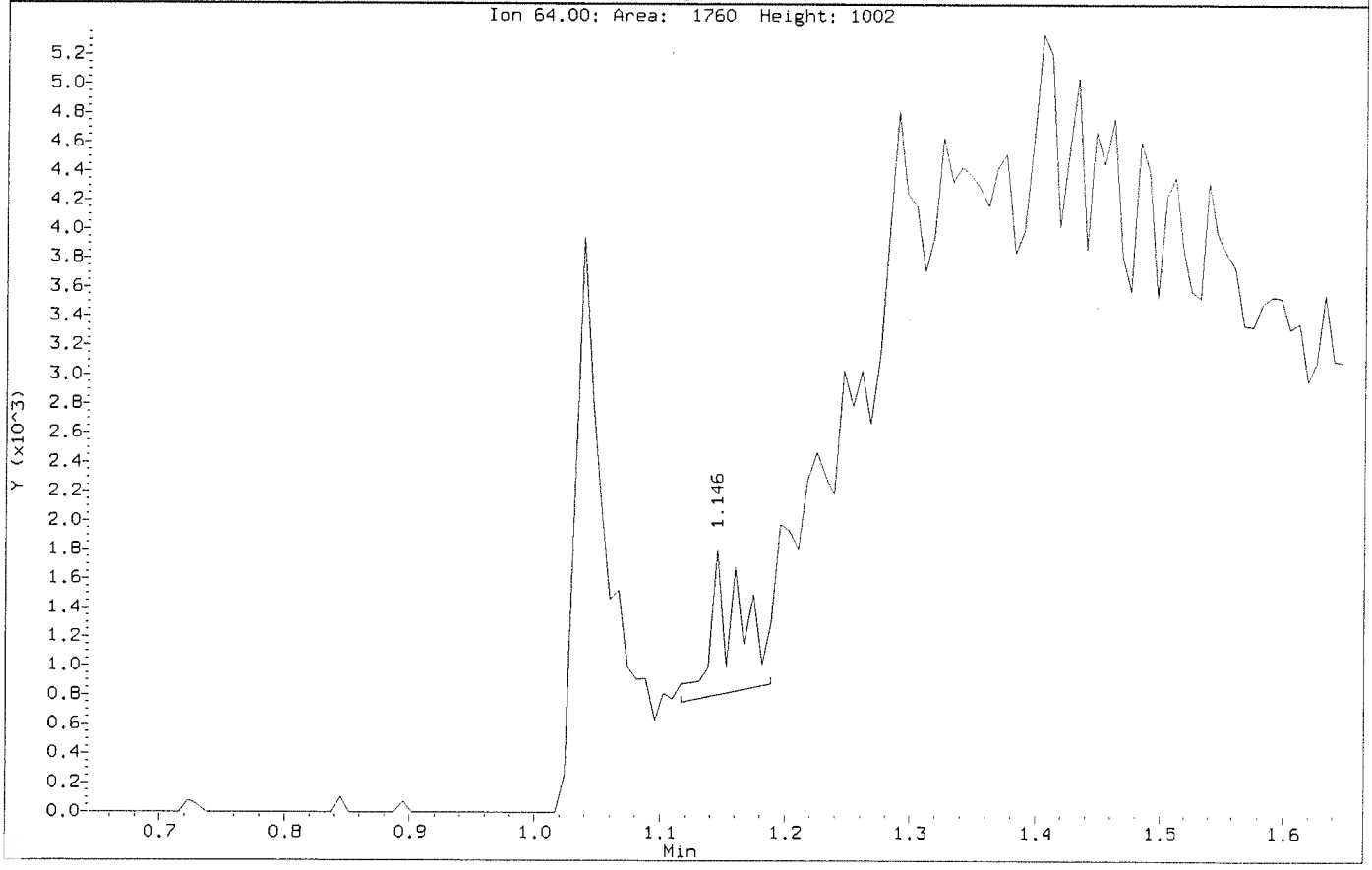
Compound: Vinyl Chloride
CAS Number: 75-01-4



Data File: \\NAHSTWS005\Target\chem\voa6.i\X211008.b\X100803.D
Injection Date: 08-OCT-2021 13:50
Instrument: voa6.i
Client Sample ID: VSTD000.5

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





ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X211008.b\X100804.D
Lab Smp Id: VSTD001 Client Smp ID: VSTD001
Inj Date : 08-OCT-2021 14:11
Operator : PC Inst ID: voa6.i
Smp Info : VSTD001;VSTD001;1;3;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X211008.b\8260W.m
Meth Date : 16-Nov-2021 17:18 voa6.i Quant Type: ISTD
Cal Date : 08-OCT-2021 13:50 Cal File: X100803.D
Als bottle: 5 Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 01474-dod.sub
Target Version: 4.14
Processing Host: NAHSTW7017

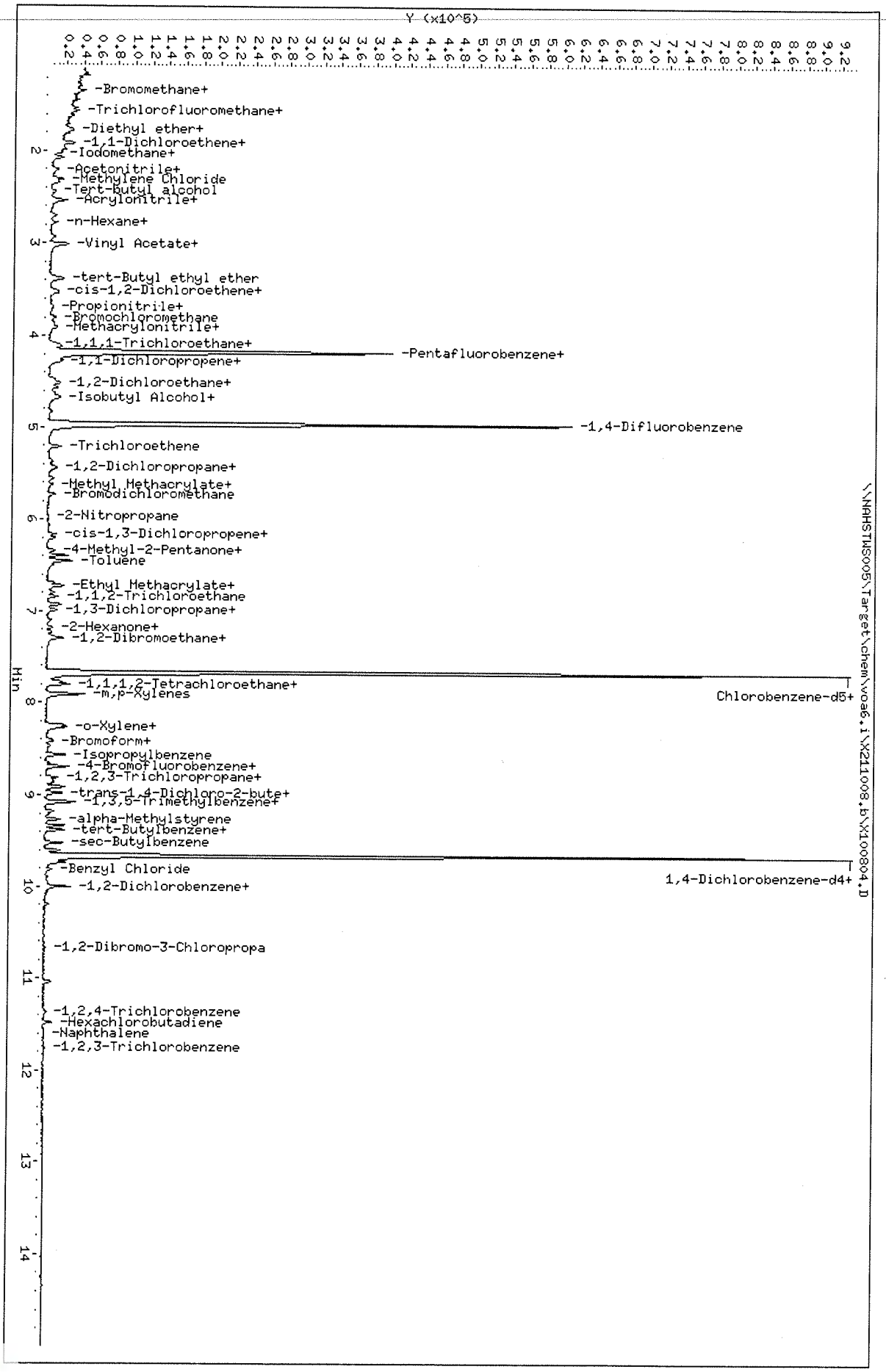
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

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

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	330851	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	4837	1.00000	0.38(a)
$ 35 1,2-Dichloroethane-d4	65	4.483	4.483	(1.072)	5961	1.00000	(a)
* 36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	510278	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	471635	50.0000	
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	13455	1.00000	1.12(aM)
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	8328	1.00000	0.70(a)
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	225436	50.0000	
5 Vinyl Chloride	62	1.145	1.145	(0.274)	3928	1.00000	1.13(aM)
11 1,1-Dichloroethene	96	1.912	1.912	(0.457)	3245	1.00000	1.09(a)
17 Methylene Chloride	84	2.313	2.313	(0.553)	4333	1.00000	0.27(aM)
27 cis-1,2-Dichloroethene	96	3.538	3.538	(0.846)	3601	1.00000	1.04(a)
33 1,2-Dichloroethane	62	4.562	4.562	(0.919)	4814	1.00000	1.12(a)
38 Trichloroethene	130	5.214	5.214	(1.051)	4864	1.00000	1.26(a)
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	2510	1.00000	0.99(a)

QC Flag Legend

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

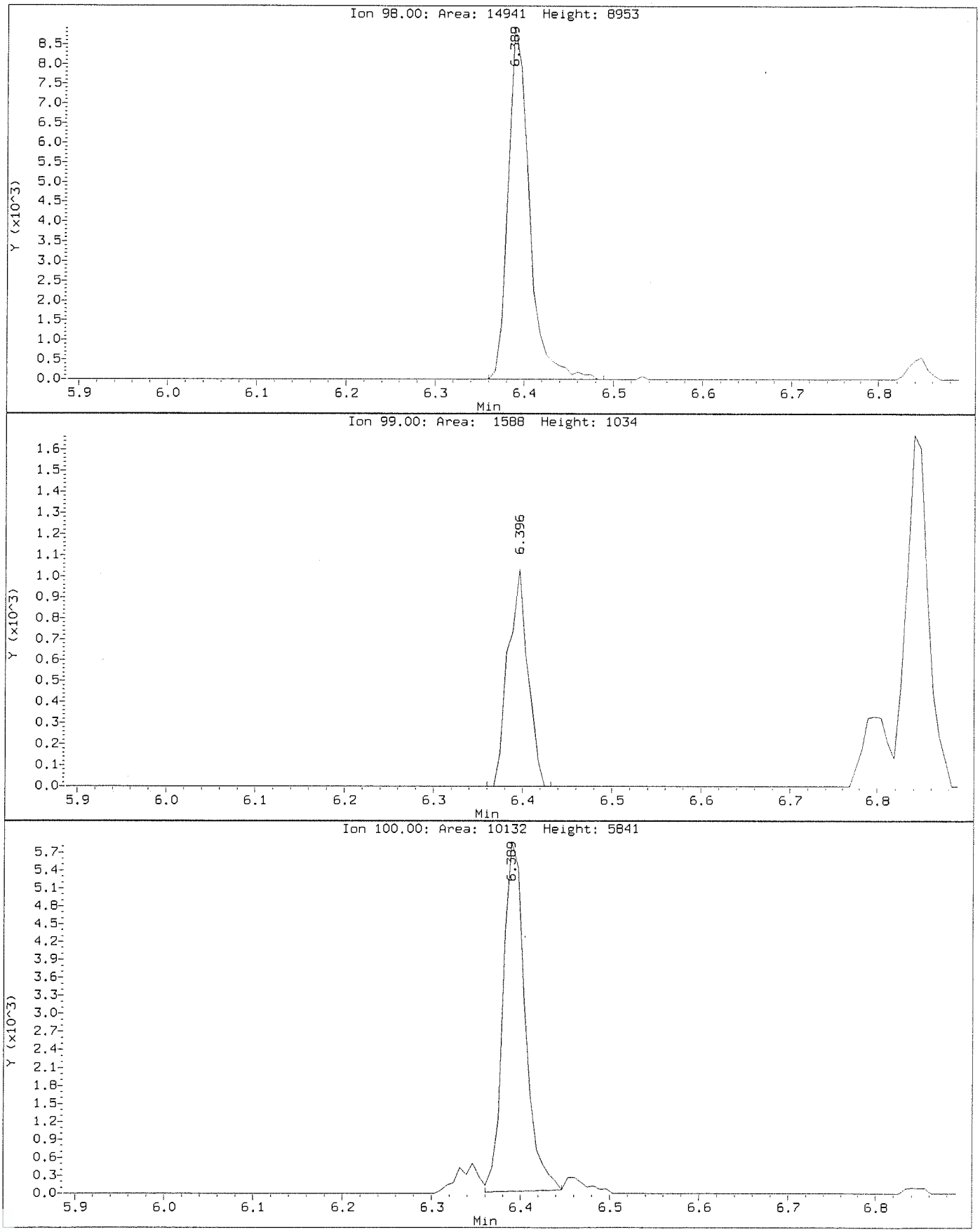


Data File: \\NAHSTWS005\Target\chem\voa6.i\X211008.b\X100804.D
Date : 08-OCT-2021 14:11
Client ID: VSTD001
Sample Info: VSTD001;VSTD001;1;3;;
Purge Volume: 5.0
Column phase: DB624

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

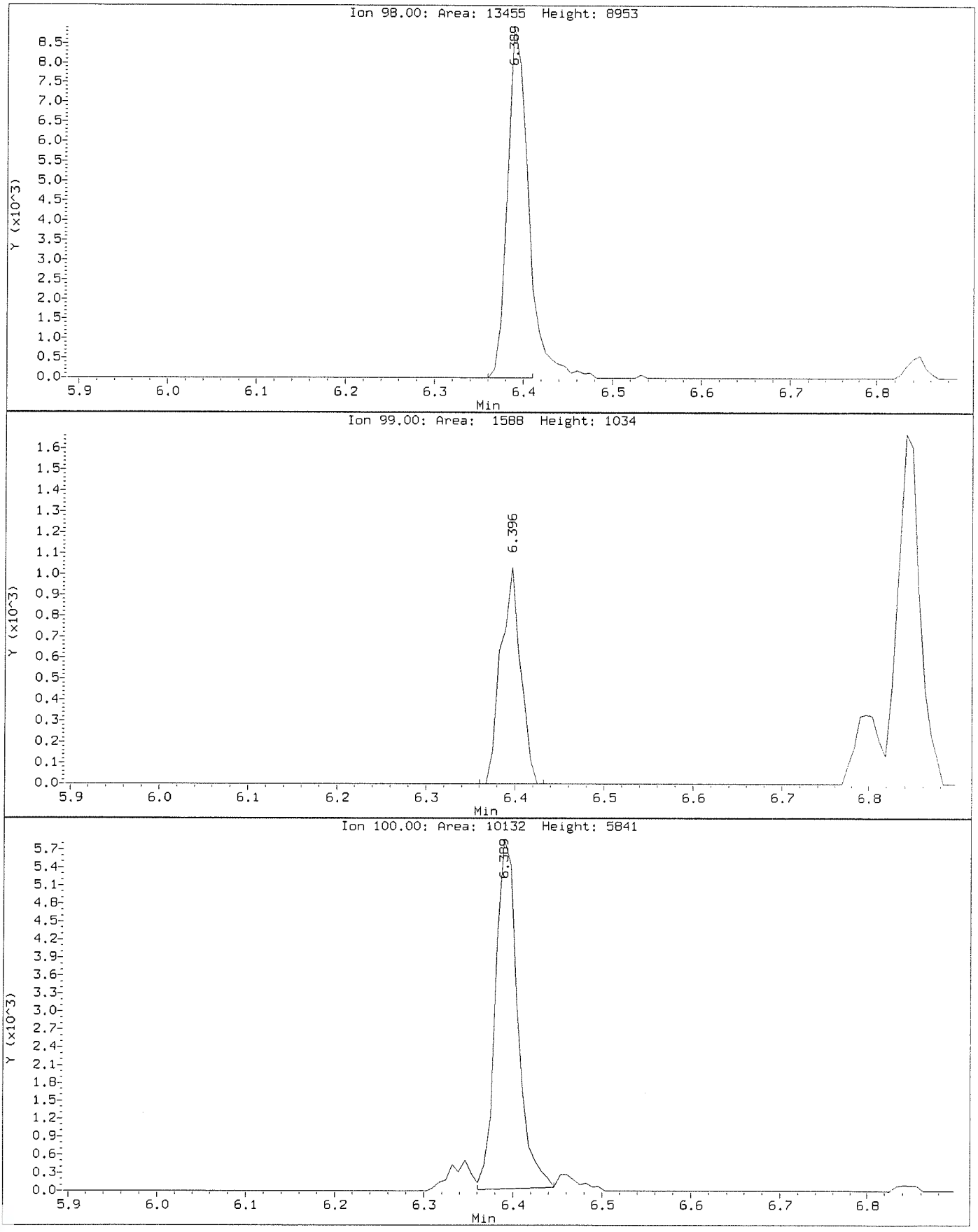
Data File: \\NAHSTWS005\Target\chem\voa6.i\X211008.b\Before\X100804.D
Injection Date: 08-OCT-2021 14:11
Instrument: voa6.i
Client Sample ID: VSTD001

Compound: Toluene-d8
CAS Number: 2037-26-5



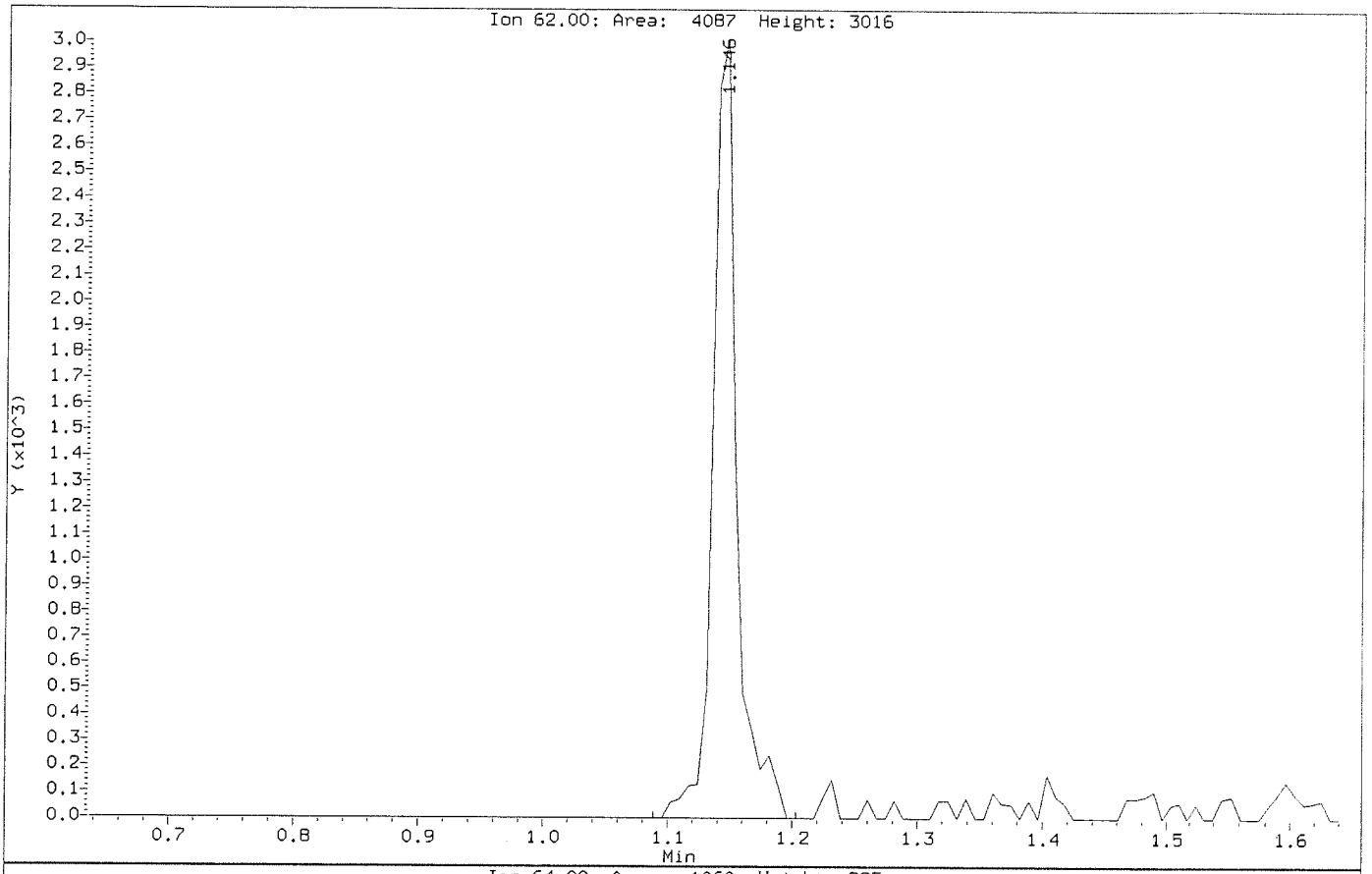
Data File: \\NAHSTWS005\Target\chem\voa6.i\X211008.b\X100804.D
Injection Date: 08-OCT-2021 14:11
Instrument: voa6.i
Client Sample ID: VSTD001

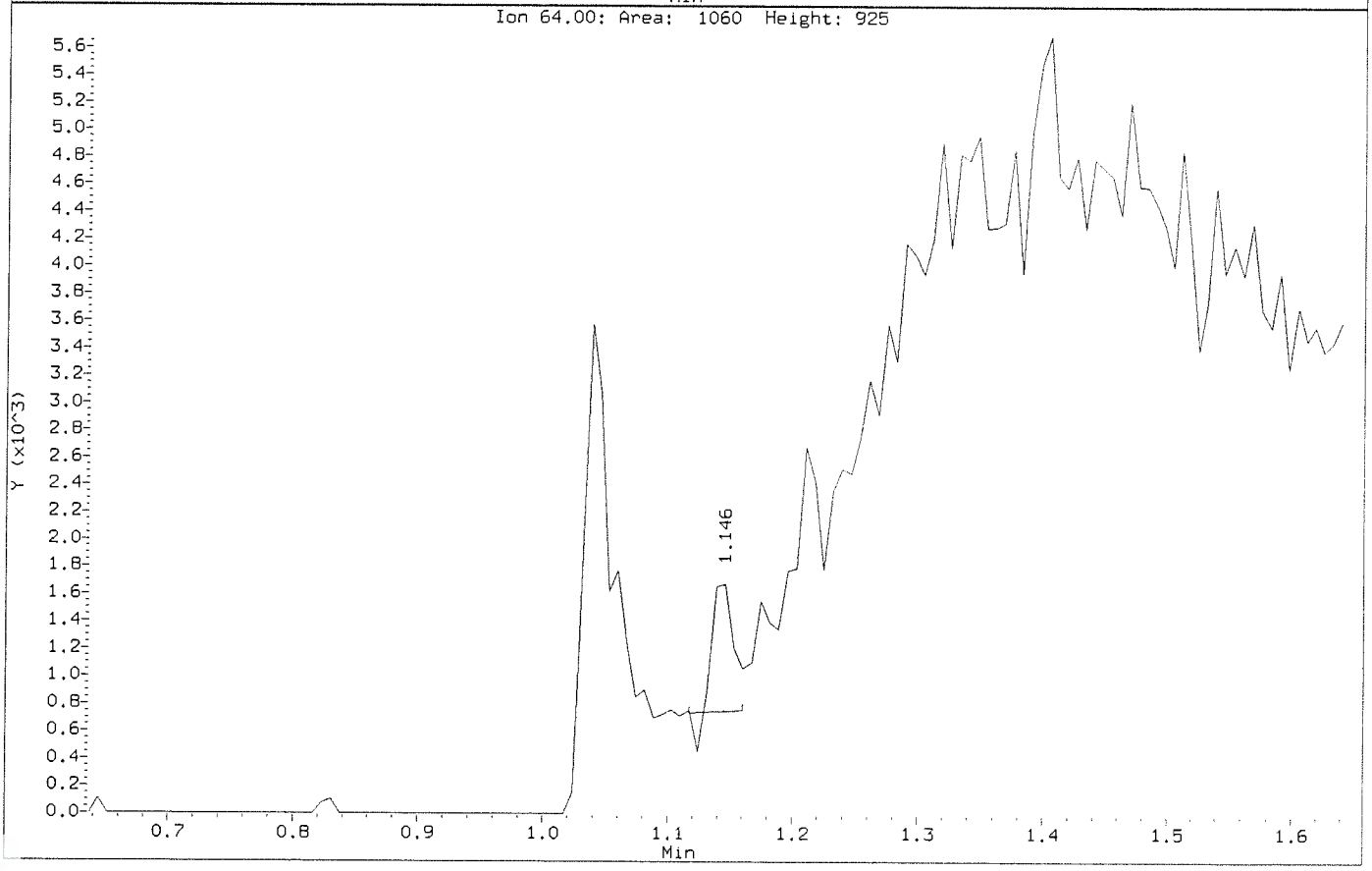
Compound: Toluene-d8
CAS Number: 2037-26-5



Data File: \\NAHSTWS005\Target\chem\voa6.i\X211008.b\Before\X100804.D
Injection Date: 08-OCT-2021 14:11
Instrument: voa6.i
Client Sample ID: VSTD001

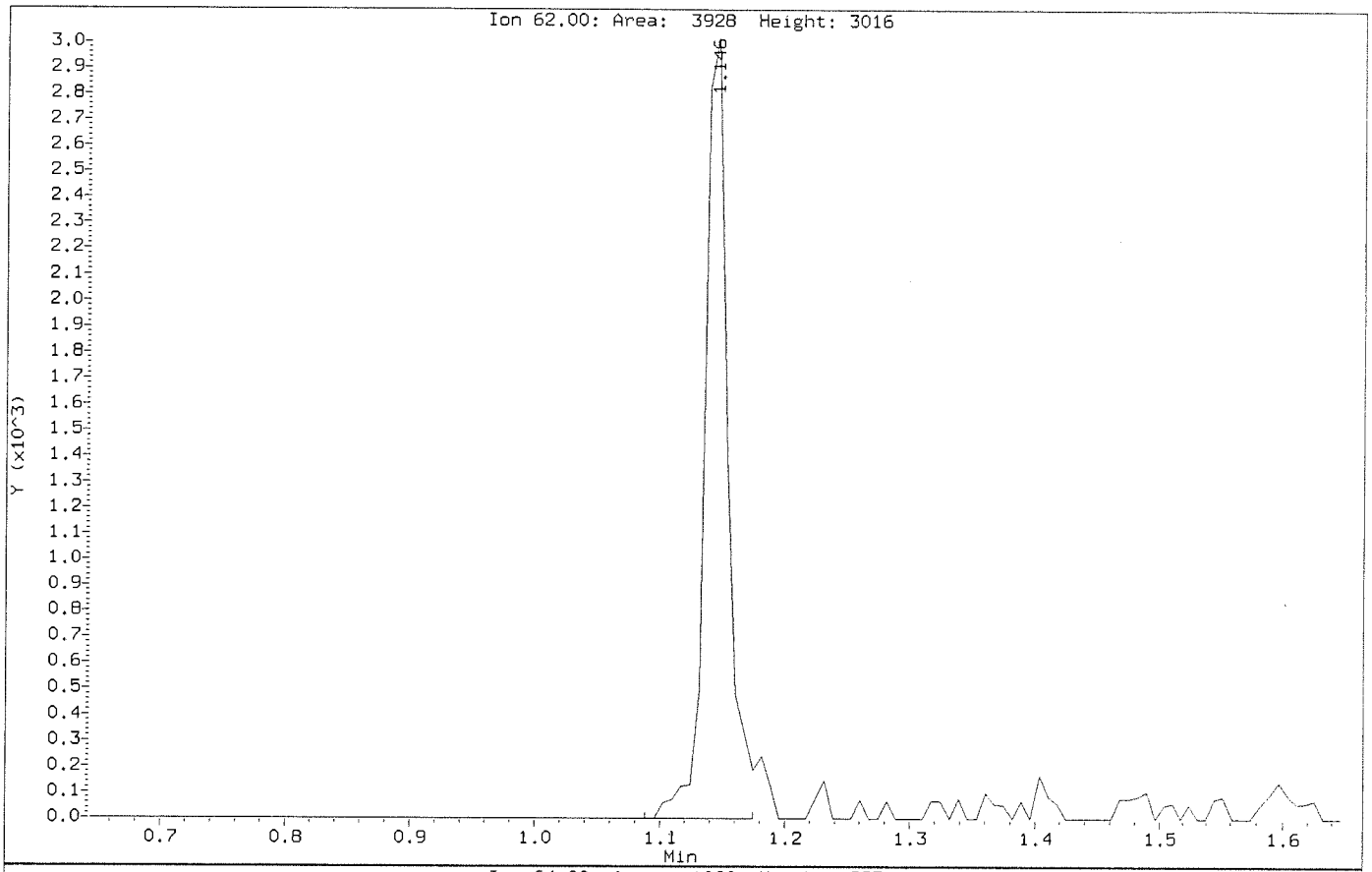
Compound: Vinyl Chloride
CAS Number: 75-01-4

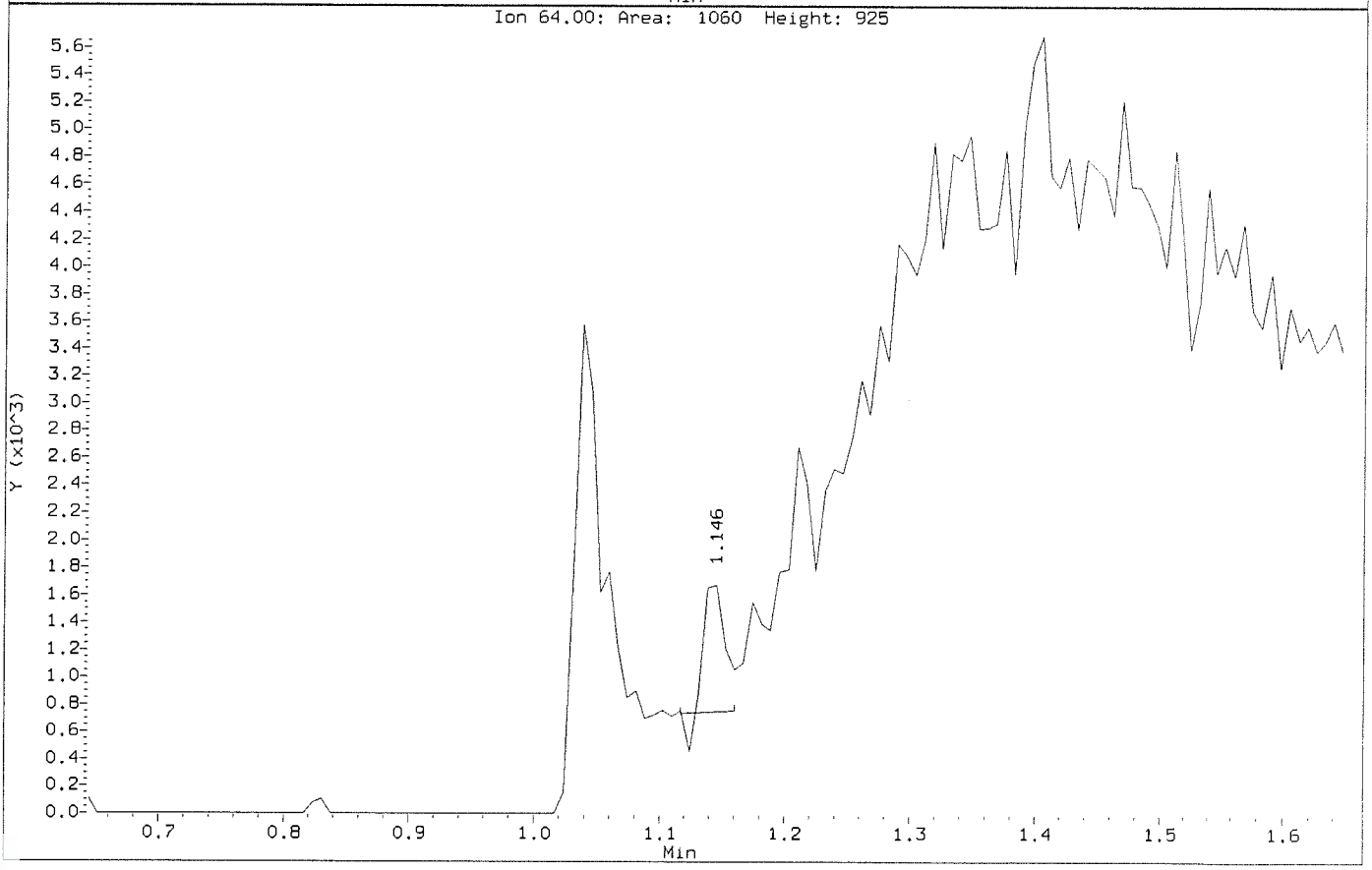




Data File: \\NAHSTWS005\Target\chem\voa6.i\X211008.b\X100804.D
Injection Date: 08-OCT-2021 14:11
Instrument: voa6.i
Client Sample ID: VSTD001

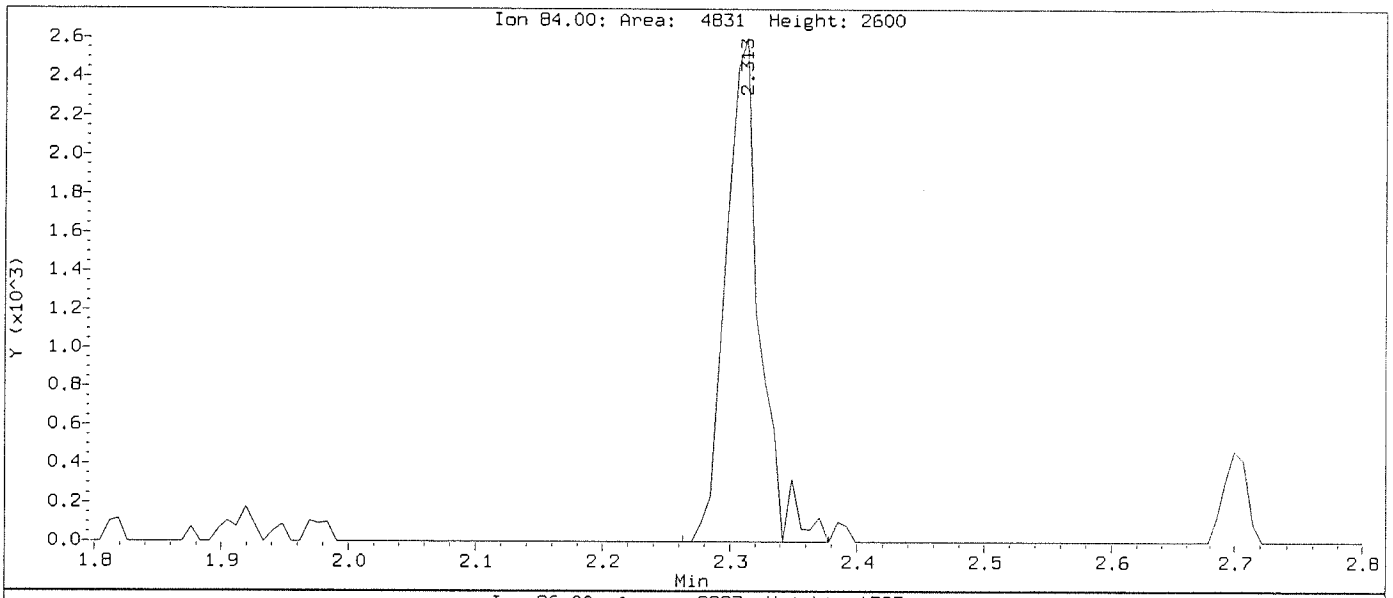
Compound: Vinyl Chloride
CAS Number: 75-01-4

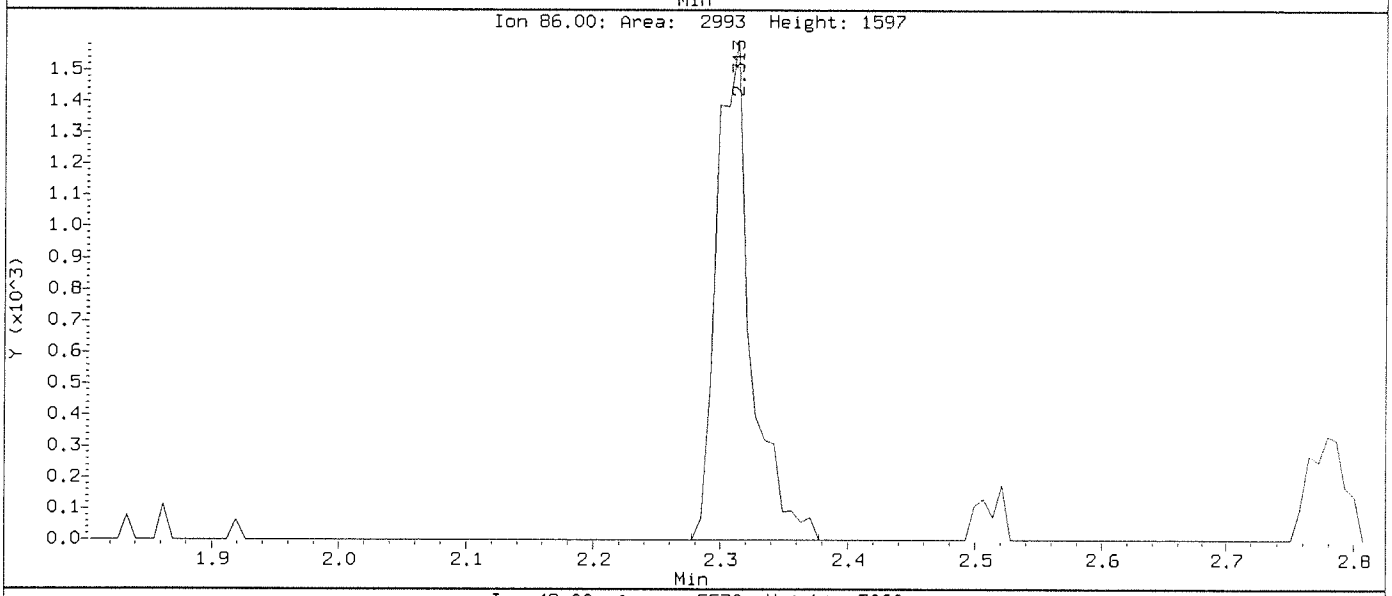


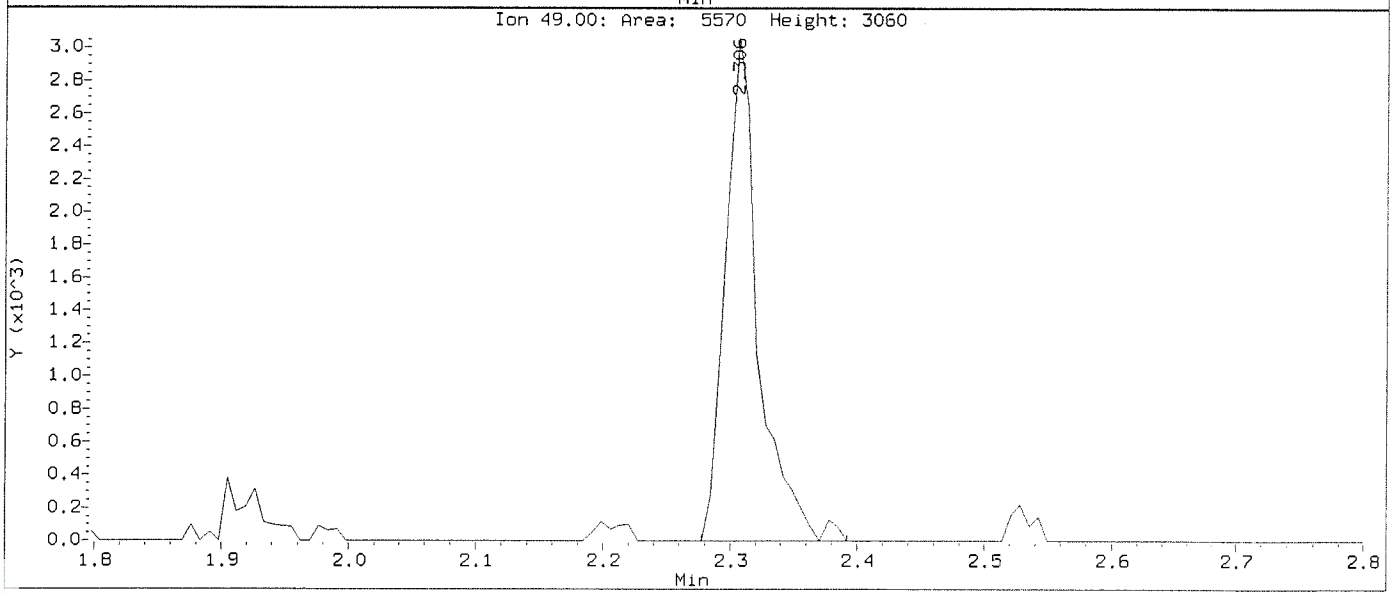


Data File: \\NAHSTWS005\Target\chem\voa6.i\X211008.b\Before\X100804.D
Injection Date: 08-OCT-2021 14:11
Instrument: voa6.i
Client Sample ID: VSTD001

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

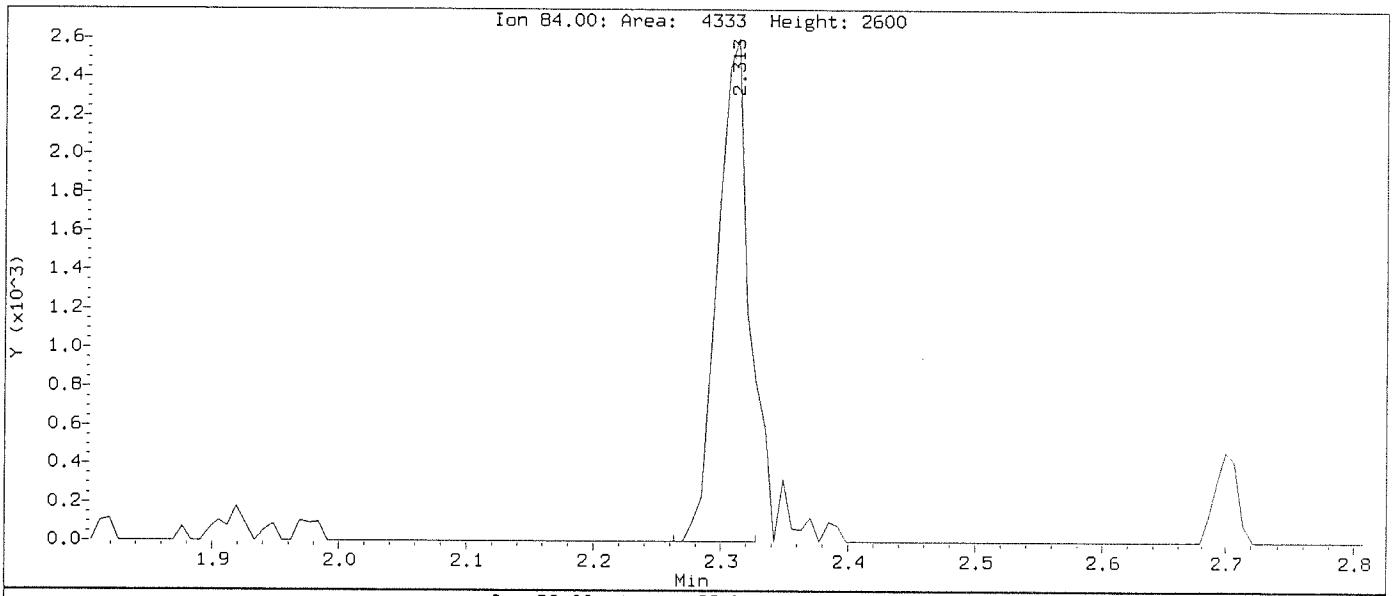


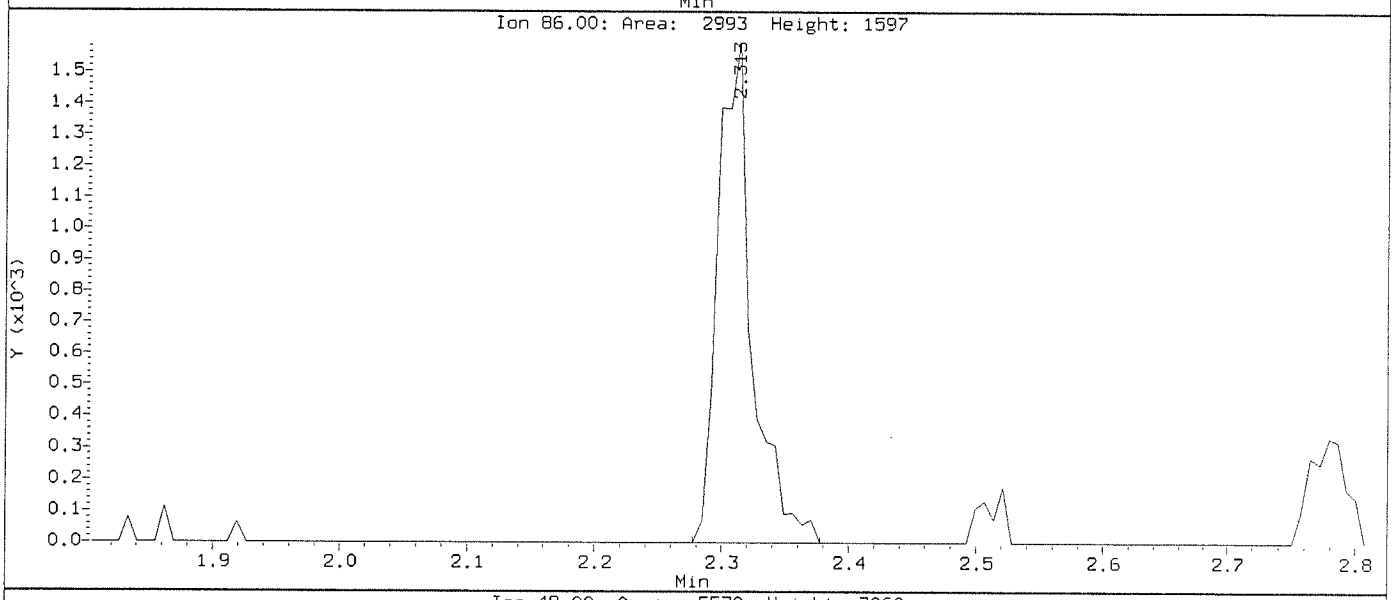


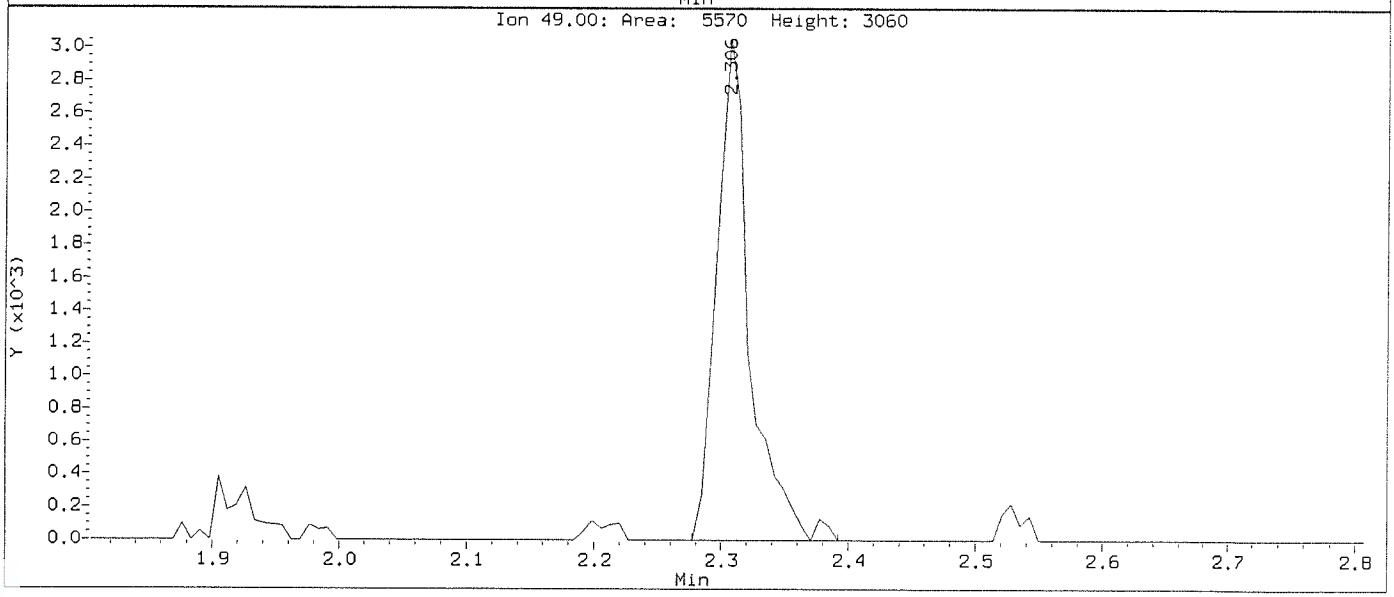


Data File: \\NAHSTWS005\Target\chem\voa6.i\X211008.b\X100804.D
Injection Date: 08-OCT-2021 14:11
Instrument: voa6.i
Client Sample ID: VSTD001

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







ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X211008.b\X100805.D
Lab Smp Id: VSTD002 Client Smp ID: VSTD002
Inj Date : 08-OCT-2021 14:32
Operator : PC Inst ID: voa6.i
Smp Info : VSTD002;VSTD002;1;4;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X211008.b\8260W.m
Meth Date : 16-Nov-2021 17:18 voa6.i Quant Type: ISTD
Cal Date : 08-OCT-2021 14:11 Cal File: X100804.D
Als bottle: 6 Calibration Sample, Level: 4
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 01474-dod.sub
Target Version: 4.14
Processing Host: NAHSTW7017

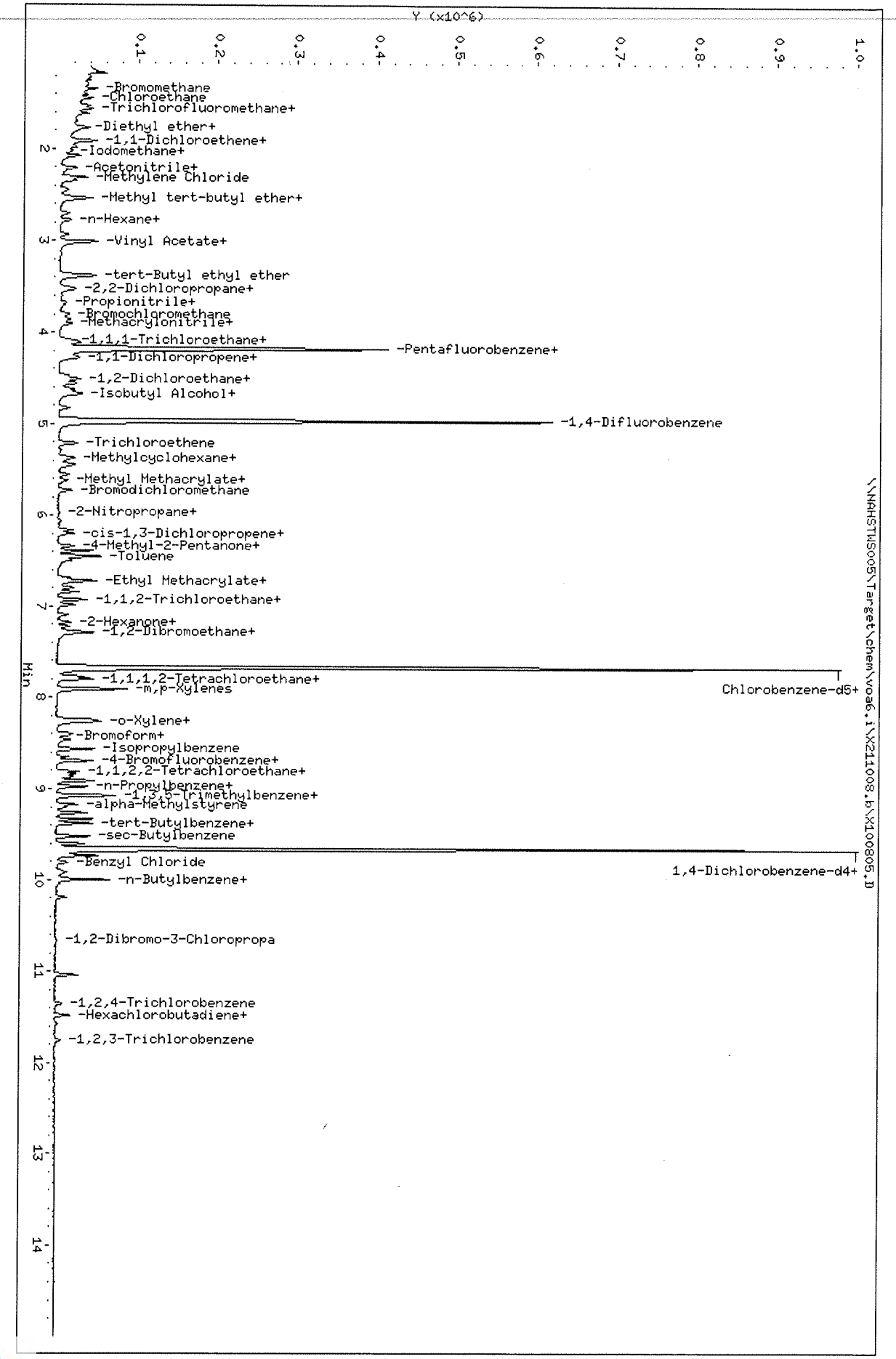
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

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

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	337388	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	8290	2.00000	1.41(a)
$ 35 1,2-Dichloroethane-d4	65	4.483	4.483	(1.072)	9717	2.00000	0.97(a)
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	523249	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	483928	50.0000	
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	26169	2.00000	2.13(aM)
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	13893	2.00000	2.00(a)
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	230329	50.0000	
5 Vinyl Chloride	62	1.145	1.145	(0.274)	7904	2.00000	2.23(a)
11 1,1-Dichloroethene	96	1.919	1.919	(0.459)	6379	2.00000	2.11(a)
17 Methylene Chloride	84	2.305	2.305	(0.551)	7762	2.00000	1.43(a)
27 cis-1,2-Dichloroethene	96	3.537	3.537	(0.846)	7524	2.00000	2.14(a)
33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	9049	2.00000	2.06(a)
38 Trichloroethene	130	5.214	5.214	(1.049)	8221	2.00000	2.07(a)
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	6097	2.00000	2.36(a)

QC Flag Legend

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

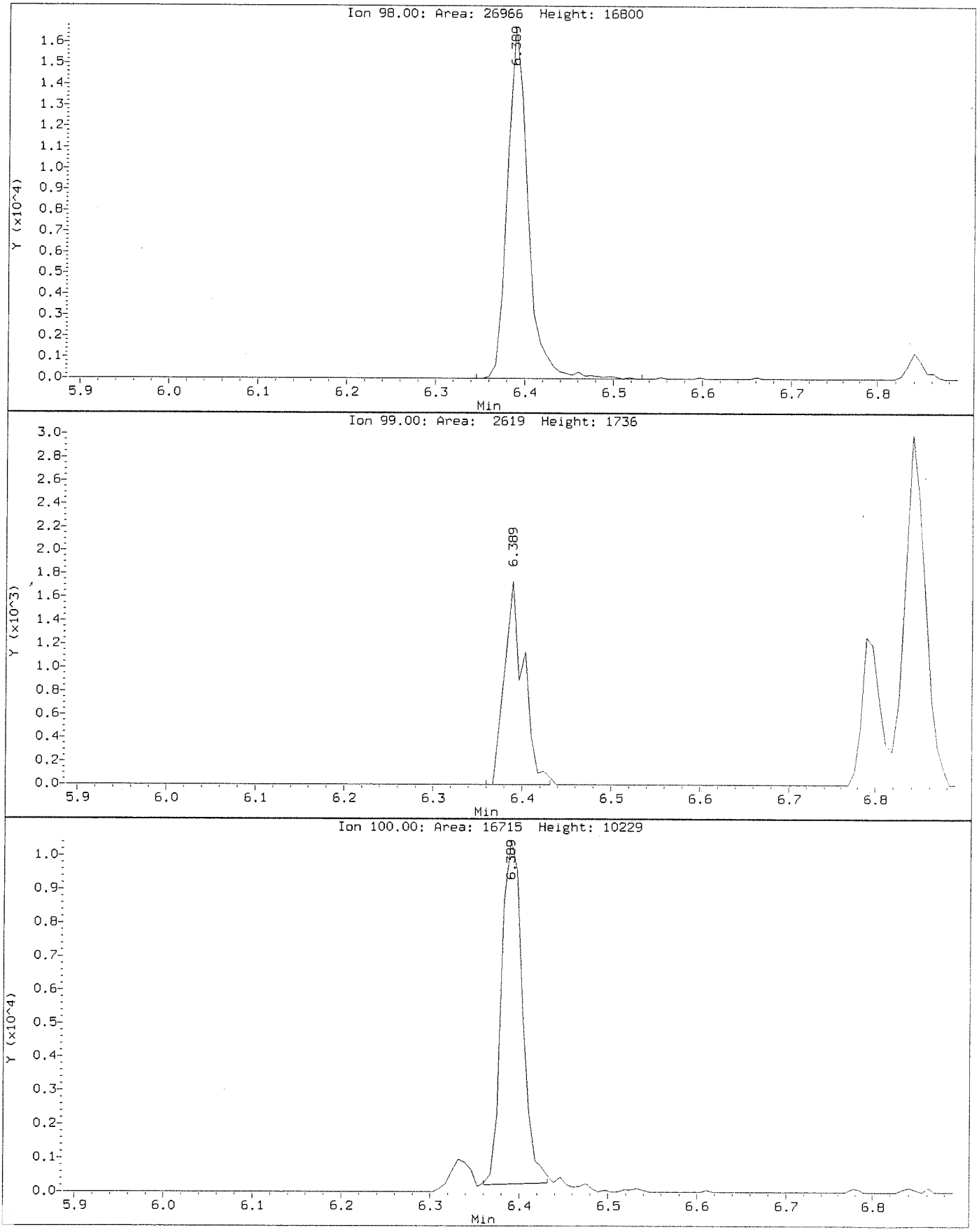


Data File: \\NAHSTWS005\Target\chem\voa6.i\X211008.b\X100805.D
Date : 08-OCT-2021 14:32
Client ID: VSTD002
Sample Info: VSTD002;VSTD002;1;4;;
Purge Volume: 5.0
Column phase: DB624

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

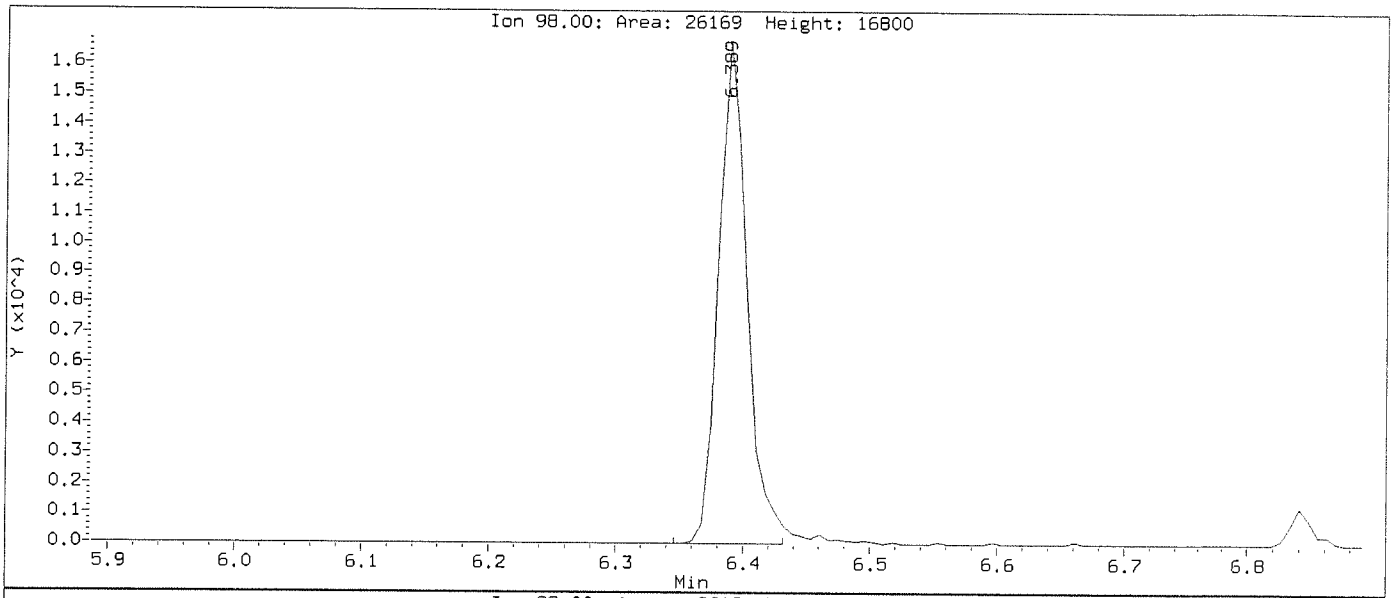
Data File: \\NAHSTWS005\Target\chem\voa6.i\X211008.b\Before\X100805.D
Injection Date: 08-OCT-2021 14:32
Instrument: voa6.i
Client Sample ID: VSTD002

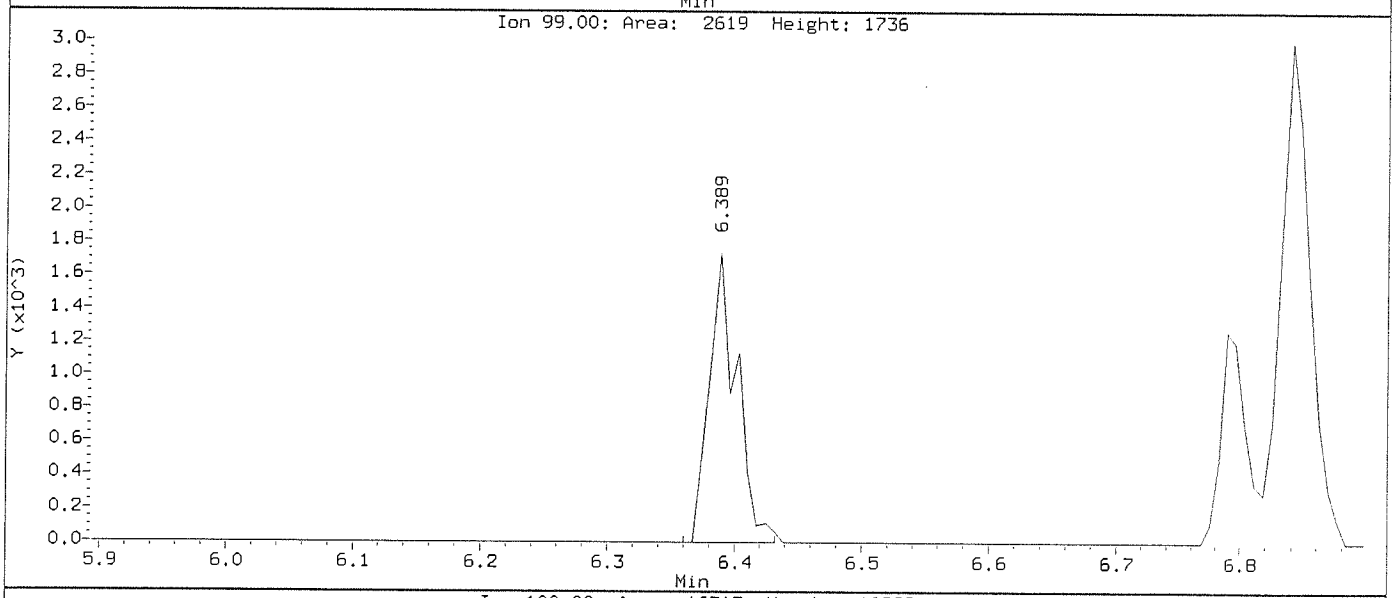
Compound: Toluene-d8
CAS Number: 2037-26-5

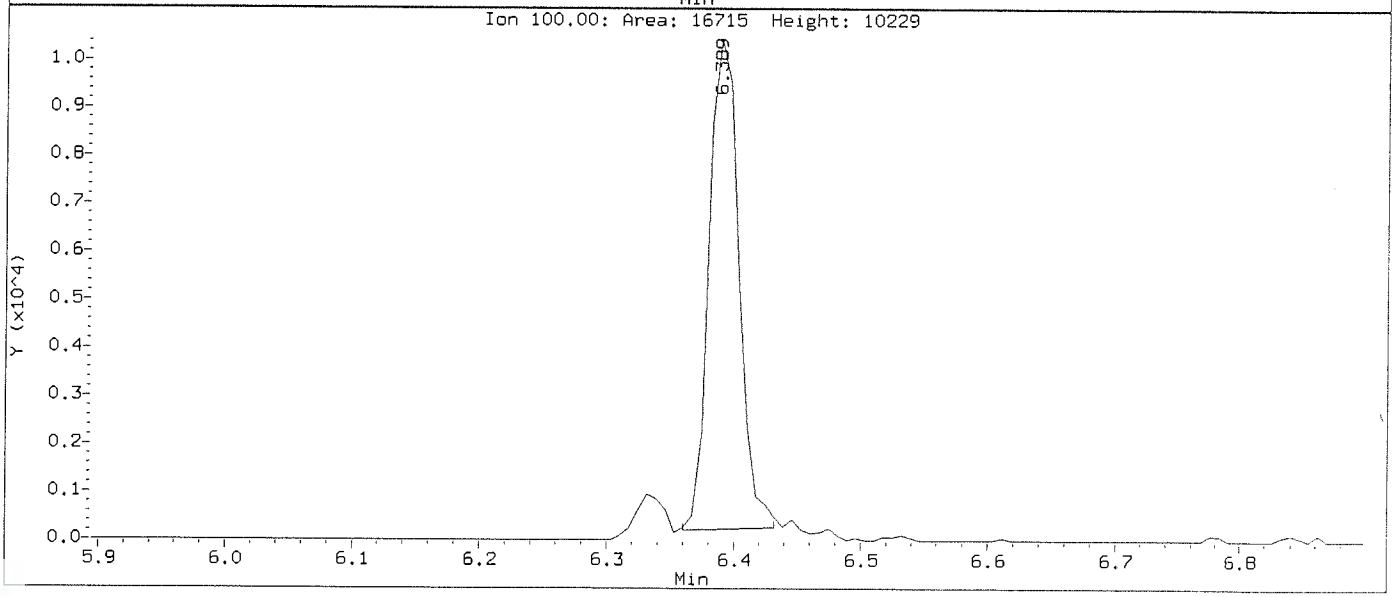


Data File: \\NAHSTWS005\Target\chem\voa6.i\X211008.b\X100805.D
Injection Date: 08-OCT-2021 14:32
Instrument: voa6.i
Client Sample ID: VSTD002

Compound: Toluene-d8
CAS Number: 2037-26-5







ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X211008.b\X100806.D
Lab Smp Id: VSTD005 Client Smp ID: VSTD005
Inj Date : 08-OCT-2021 14:53
Operator : PC Inst ID: voa6.i
Smp Info : VSTD005;VSTD005;1;5;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X211008.b\8260W.m
Meth Date : 16-Nov-2021 17:18 voa6.i Quant Type: ISTD
Cal Date : 08-OCT-2021 14:32 Cal File: X100805.D
Als bottle: 7 Calibration Sample, Level: 5
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 01474-dod.sub
Target Version: 4.14
Processing Host: NAHSTW7017

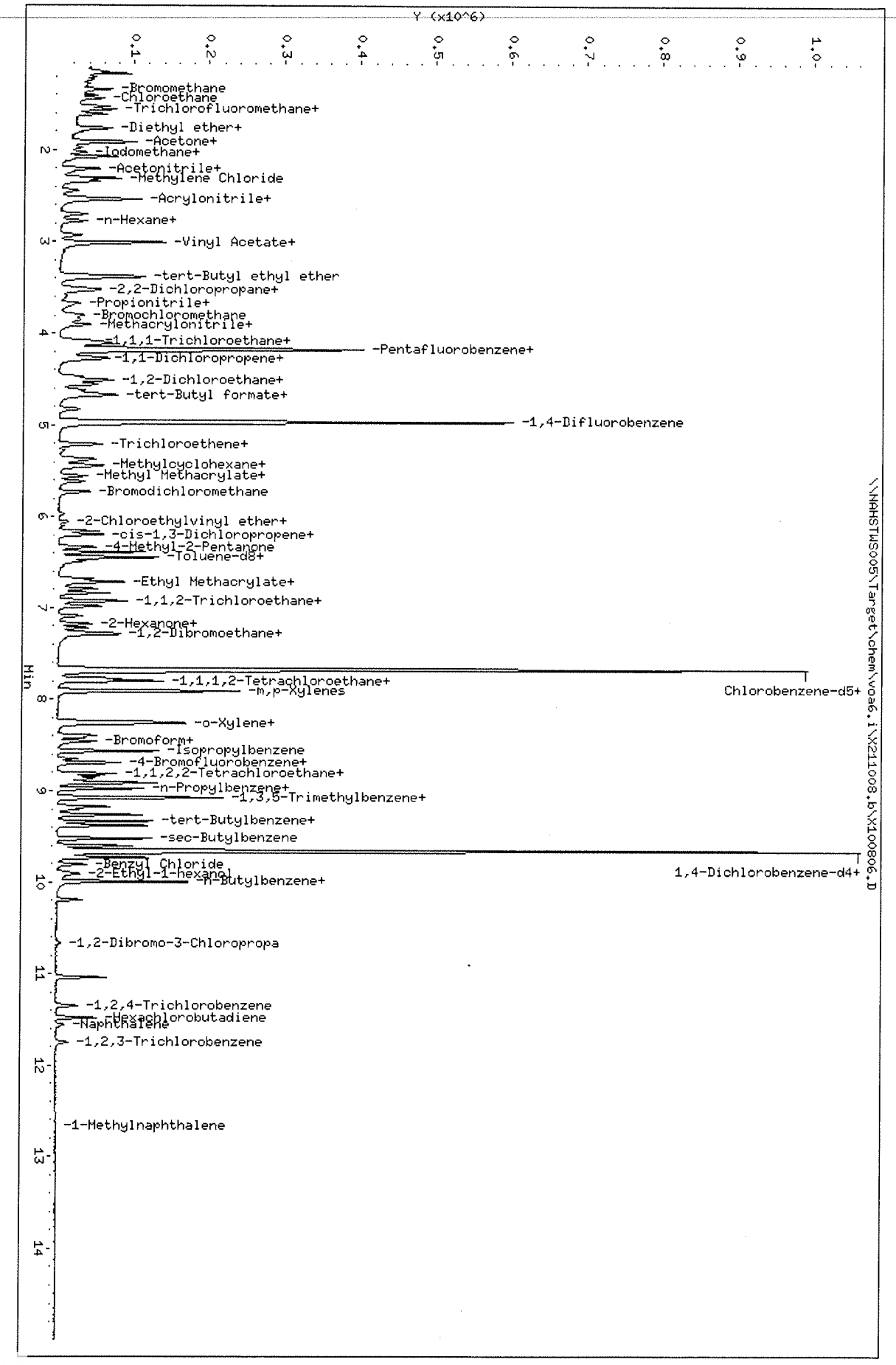
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

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

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	333400	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	20676	5.00000	5.32
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	22194	5.00000	4.92(a)
* 36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	515627	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	479811	50.0000	
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	65046	5.00000	5.34
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	24945	5.00000	4.74(a)
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	229555	50.0000	
5 Vinyl Chloride	62	1.145	1.145	(0.274)	20005	5.00000	5.72
11 1,1-Dichloroethene	96	1.911	1.911	(0.457)	16670	5.00000	5.60
17 Methylene Chloride	84	2.305	2.305	(0.551)	19276	5.00000	5.52
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	19489	5.00000	5.62
33 1,2-Dichloroethane	62	4.562	4.562	(0.919)	23534	5.00000	5.44
38 Trichloroethene	130	5.206	5.206	(1.049)	20177	5.00000	5.17
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	14434	5.00000	5.63

QC Flag Legend

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



Data File: \\NAHSTWS005\Target\chem\voa6.i\X211008.b\X100806.D
Date : 08-OCT-2021 14:53
Client ID: VSTD005
Sample Info: VSTD005;VSTD005;1;5;;
Purge Volume: 5.0
Column phase: DB624

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

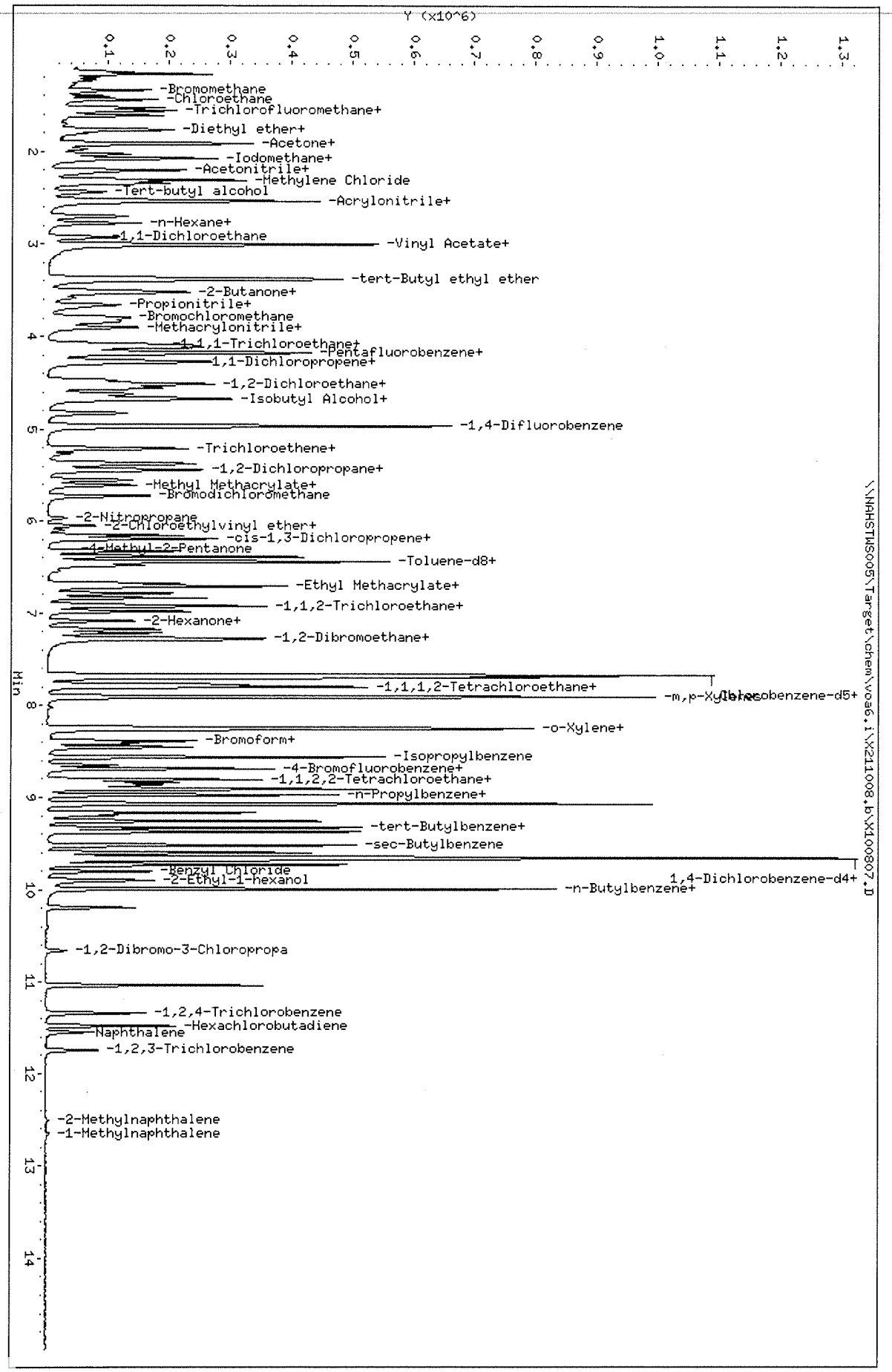
ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X211008.b\X100807.D
Lab Smp Id: VSTD020 Client Smp ID: VSTD020
Inj Date : 08-OCT-2021 15:14
Operator : PC Inst ID: voa6.i
Smp Info : VSTD020;VSTD020;1;6;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X211008.b\8260W.m
Meth Date : 16-Nov-2021 17:18 voa6.i Quant Type: ISTD
Cal Date : 08-OCT-2021 14:53 Cal File: X100806.D
Als bottle: 8 Calibration Sample, Level: 6
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 01474-dod.sub
Target Version: 4.14
Processing Host: NAHSTW7017

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

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

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	359250	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	78657	20.0000	21.67
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	84053	20.0000	22.43
* 36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	552025	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	521772	50.0000	
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	248228	20.0000	18.74
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	96265	20.0000	20.33
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	270684	50.0000	
5 Vinyl Chloride	62	1.145	1.145	(0.274)	73837	20.0000	19.60
11 1,1-Dichloroethene	96	1.912	1.912	(0.457)	63174	20.0000	19.71
17 Methylene Chloride	84	2.306	2.306	(0.551)	70665	20.0000	21.85
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	77585	20.0000	20.77
33 1,2-Dichloroethane	62	4.555	4.555	(0.918)	94822	20.0000	20.47
38 Trichloroethene	130	5.207	5.207	(1.049)	78065	20.0000	18.69
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	53753	20.0000	19.30



Data File: \\NAHSTWS005\Target\chem\voa6.i\X211008.b\X100807.D
Date : 08-OCT-2021 15:14
Client ID: VSTD020
Sample Info: VSTD020;VSTD020;1;6;;
Purge Volume: 5.0
Column phase: DB624

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

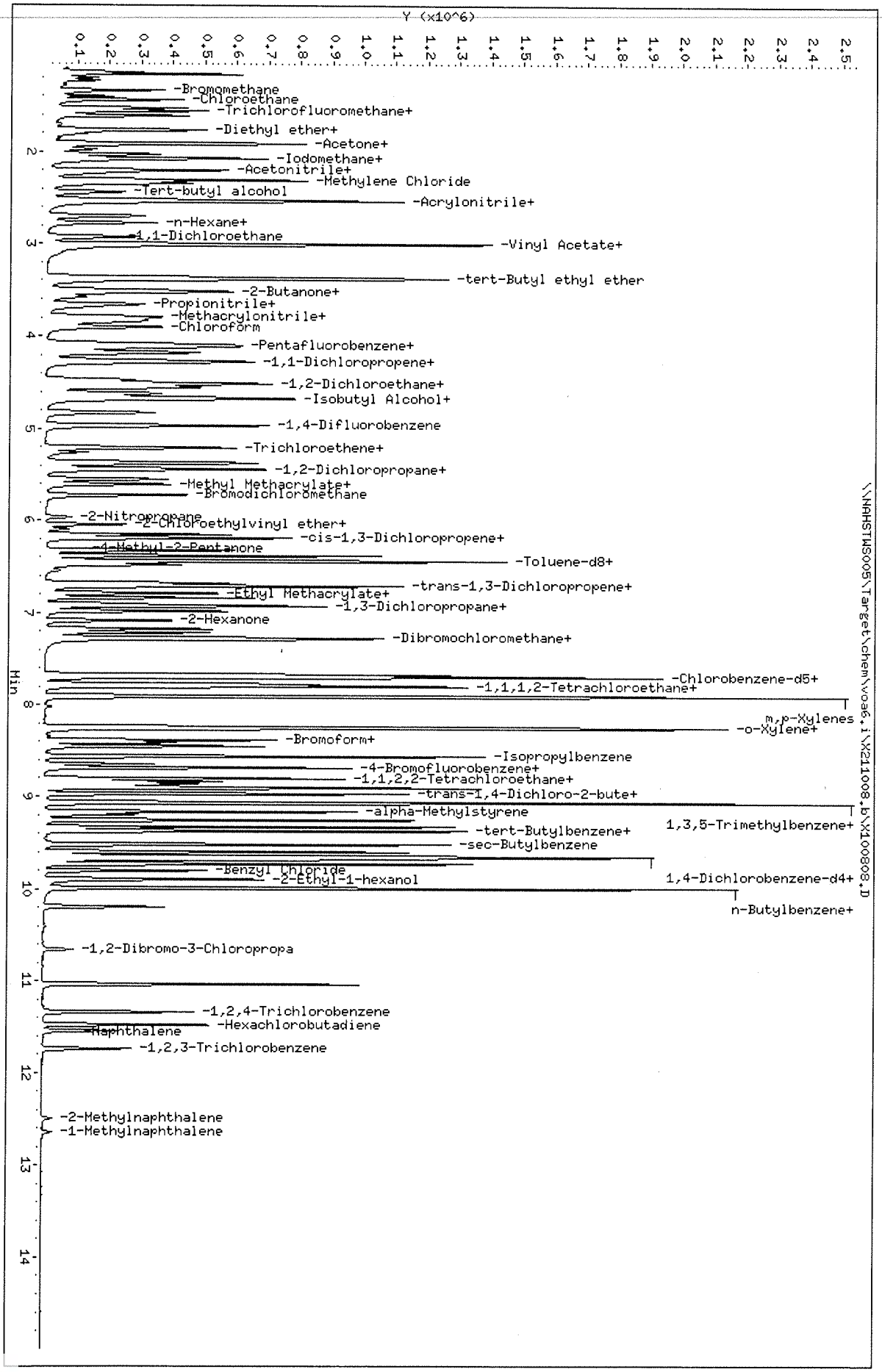
ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X211008.b\X100808.D
Lab Smp Id: VSTD050 Client Smp ID: VSTD050
Inj Date : 08-OCT-2021 15:34
Operator : PC Inst ID: voa6.i
Smp Info : VSTD050;VSTD050;1;7;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X211008.b\8260W.m
Meth Date : 16-Nov-2021 17:18 voa6.i Quant Type: ISTD
Cal Date : 08-OCT-2021 15:14 Cal File: X100807.D
Als bottle: 9 Calibration Sample, Level: 7
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 01474-dod.sub
Target Version: 4.14
Processing Host: NAHSTW7017

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

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

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	392113	50.0000	
$ 30 Dibromofluoromethane	113	4.096	4.096	(0.979)	192579	50.0000	50.03
$ 35 1,2-Dichloroethane-d4	65	4.469	4.469	(1.069)	202478	50.0000	51.97
* 36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	589876	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	564124	50.0000	
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	634808	50.0000	44.34
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	246655	50.0000	50.06
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	290705	50.0000	
5 Vinyl Chloride	62	1.145	1.145	(0.274)	182737	50.0000	44.44
11 1,1-Dichloroethene	96	1.911	1.911	(0.457)	159624	50.0000	45.63
17 Methylene Chloride	84	2.305	2.305	(0.551)	173952	50.0000	50.88
27 cis-1,2-Dichloroethene	96	3.523	3.523	(0.842)	196461	50.0000	48.19
33 1,2-Dichloroethane	62	4.555	4.555	(0.918)	236990	50.0000	47.89
38 Trichloroethene	130	5.206	5.206	(1.049)	197218	50.0000	44.20
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	140168	50.0000	46.56



Data File: \\NAHSTWS005\Target\chem\voa6.i\X211008.b\X100808.D
Date : 08-OCT-2021 15:34
Client ID: VSTD050
Sample Info: VSTD050;VSTD050;1;7;;
Purge Volume: 5.0
Column phase: DB624

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

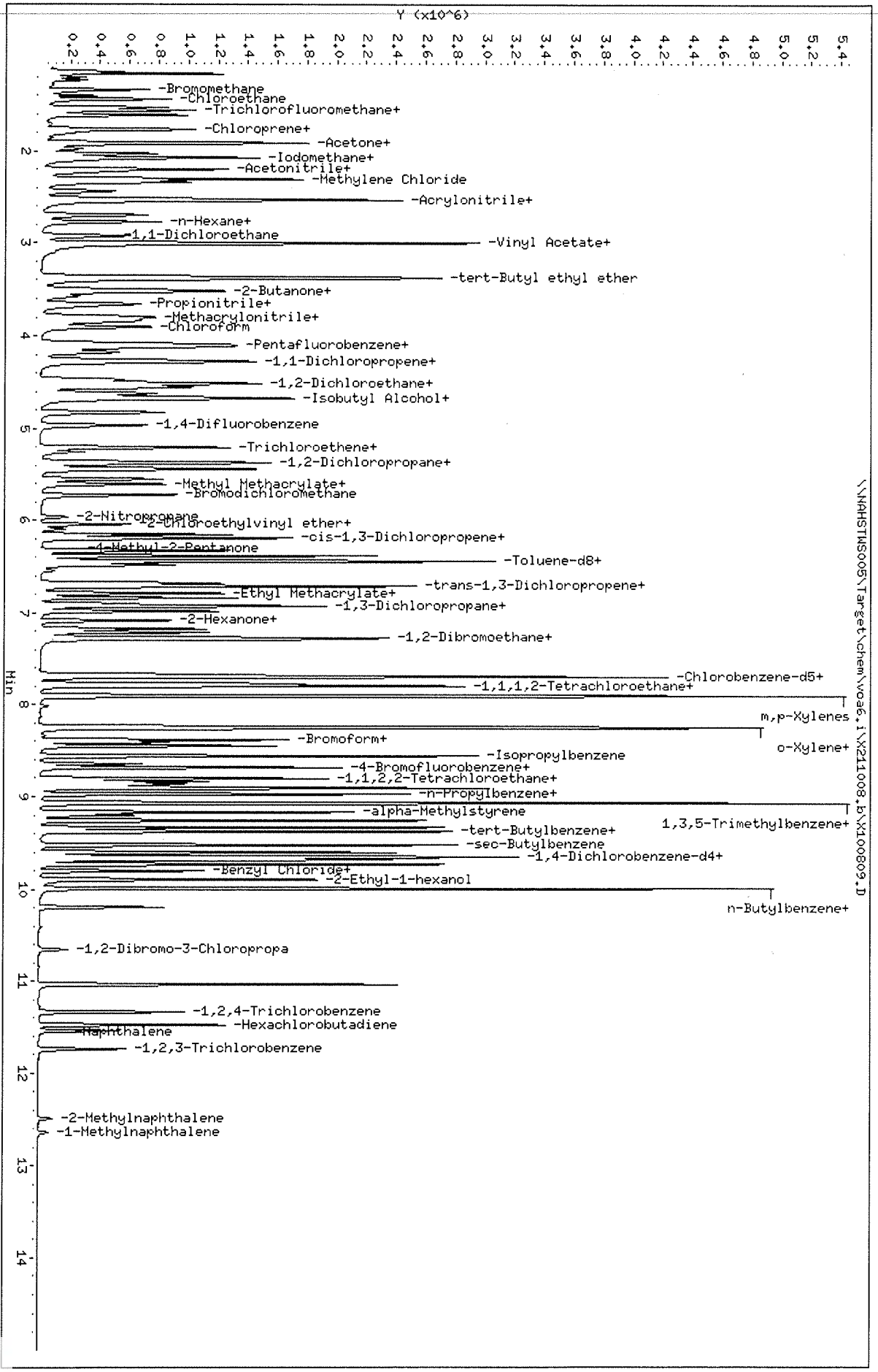
ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X211008.b\X100809.D
Lab Smp Id: VSTD100 Client Smp ID: VSTD100
Inj Date : 08-OCT-2021 15:55
Operator : PC Inst ID: voa6.i
Smp Info : VSTD100;VSTD100;1;8;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X211008.b\8260W.m
Meth Date : 16-Nov-2021 17:18 voa6.i Quant Type: ISTD
Cal Date : 08-OCT-2021 15:34 Cal File: X100808.D
Als bottle: 10 Calibration Sample, Level: 8
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 01474-dod.sub
Target Version: 4.14
Processing Host: NAHSTW7017

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

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

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	418066	50.0000	
$ 30 Dibromofluoromethane	113	4.096	4.096	(0.979)	417318	100.000	102.87
$ 35 1,2-Dichloroethane-d4	65	4.469	4.469	(1.069)	416593	100.000	102.19
* 36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	613866	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	579251	50.0000	
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	1348785	100.000	91.75
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	511094	100.000	102.41
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	297050	50.0000	
5 Vinyl Chloride	62	1.145	1.145	(0.274)	381795	100.000	87.10
11 1,1-Dichloroethene	96	1.912	1.912	(0.457)	343969	100.000	92.23
17 Methylene Chloride	84	2.305	2.305	(0.551)	361756	100.000	100.44
27 cis-1,2-Dichloroethene	96	3.523	3.523	(0.842)	413298	100.000	95.08
33 1,2-Dichloroethane	62	4.555	4.555	(0.918)	479766	100.000	93.17
38 Trichloroethene	130	5.206	5.206	(1.049)	421689	100.000	90.81
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	291528	100.000	94.31



Data File: \\NAHSTWS005\Target\chem\voa6.i\X211008.b\X100809.D
Date : 08-OCT-2021 15:55
Client ID: VSTD100
Sample Info: VSTD100;VSTD100;1;8;;
Purge Volume: 5.0
Column phase: DB624

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

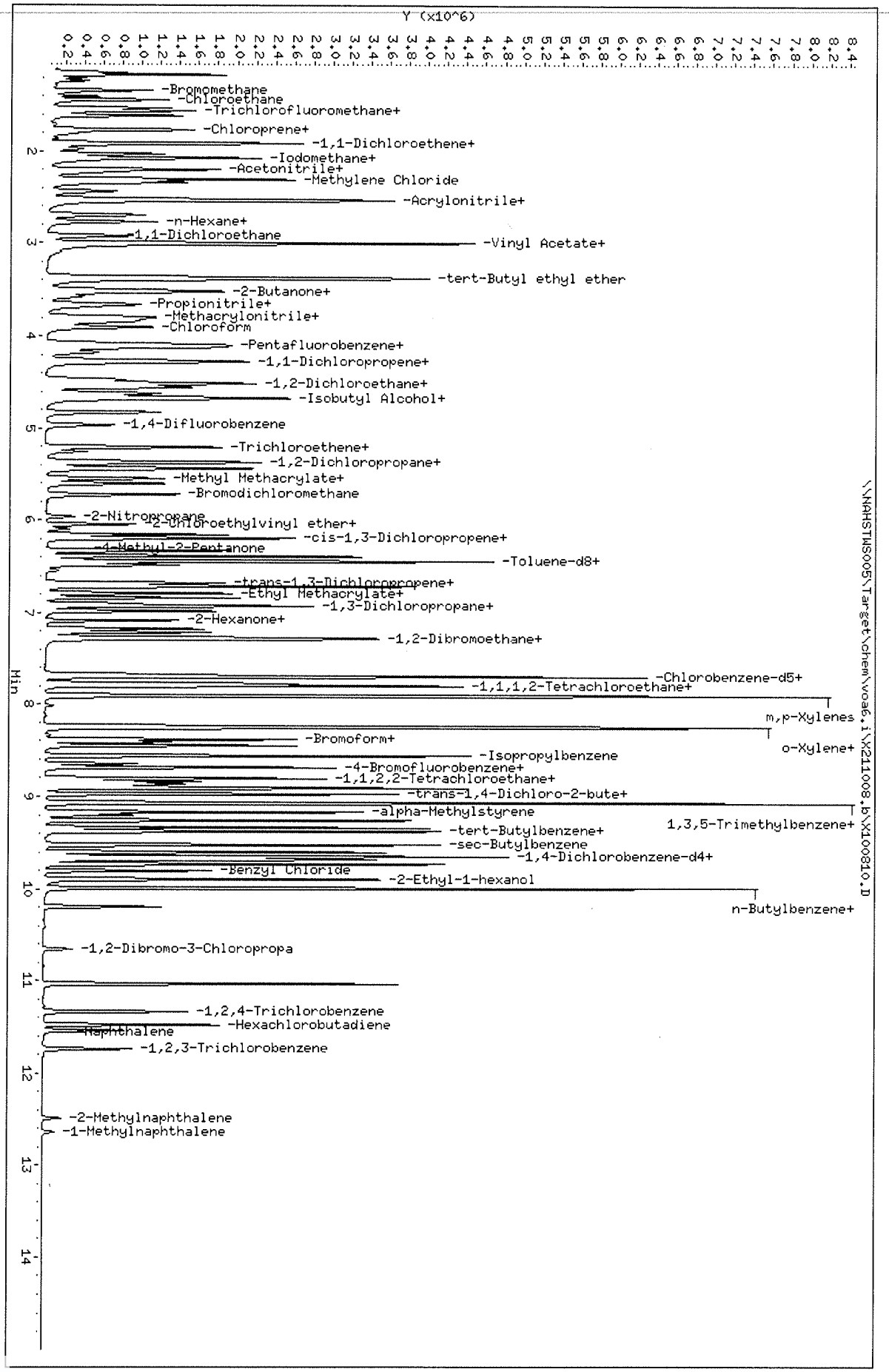
ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X211008.b\X100810.D
Lab Smp Id: VSTD150 Client Smp ID: VSTD150
Inj Date : 08-OCT-2021 16:16
Operator : PC Inst ID: voa6.i
Smp Info : VSTD150;VSTD150;1;9;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X211008.b\8260W.m
Meth Date : 16-Nov-2021 17:18 voa6.i Quant Type: ISTD
Cal Date : 08-OCT-2021 15:55 Cal File: X100809.D
Als bottle: 11 Calibration Sample, Level: 9
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 01474-dod.sub
Target Version: 4.14
Processing Host: NAHSTW7017

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

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

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	430506	50.0000	
$ 30 Dibromofluoromethane	113	4.096	4.096	(0.979)	604609	150.000	145.19
$ 35 1,2-Dichloroethane-d4	65	4.469	4.469	(1.068)	610768	150.000	146.35
* 36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	614424	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	583017	50.0000	
$ 48 Toluene-d8	98	6.389	6.389	(0.833)	1910689	150.000	129.13
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	745510	150.000	149.04
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	301016	50.0000	
5 Vinyl Chloride	62	1.145	1.145	(0.274)	580048	150.000	128.51
11 1,1-Dichloroethene	96	1.912	1.912	(0.457)	518774	150.000	135.09
17 Methylene Chloride	84	2.306	2.306	(0.551)	542343	150.000	146.81
27 cis-1,2-Dichloroethene	96	3.523	3.523	(0.842)	618894	150.000	138.27
33 1,2-Dichloroethane	62	4.555	4.555	(0.918)	711577	150.000	138.06
38 Trichloroethene	130	5.207	5.207	(1.049)	618285	150.000	133.03
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	432811	150.000	139.12



Data File: \\NAHSTWS005\Target\chem\voa6.i\X211008.b\X100810.D
Date : 08-OCT-2021 16:16
Client ID: VSTD150
Sample Info: VSTD150;VSTD150;1;9;;
Purge Volume: 5.0
Column phase: DB624

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

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X211008.b\X100811.D
Lab Smp Id: VSTD200 Client Smp ID: VSTD200
Inj Date : 08-OCT-2021 16:37
Operator : PC Inst ID: voa6.i
Smp Info : VSTD200;VSTD200;1;10;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X211008.b\8260W.m
Meth Date : 16-Nov-2021 17:18 voa6.i Quant Type: ISTD
Cal Date : 08-OCT-2021 16:16 Cal File: X100810.D
Als bottle: 12 Calibration Sample, Level: 10
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 01474-dod.sub
Target Version: 4.14
Processing Host: NAHSTW7017

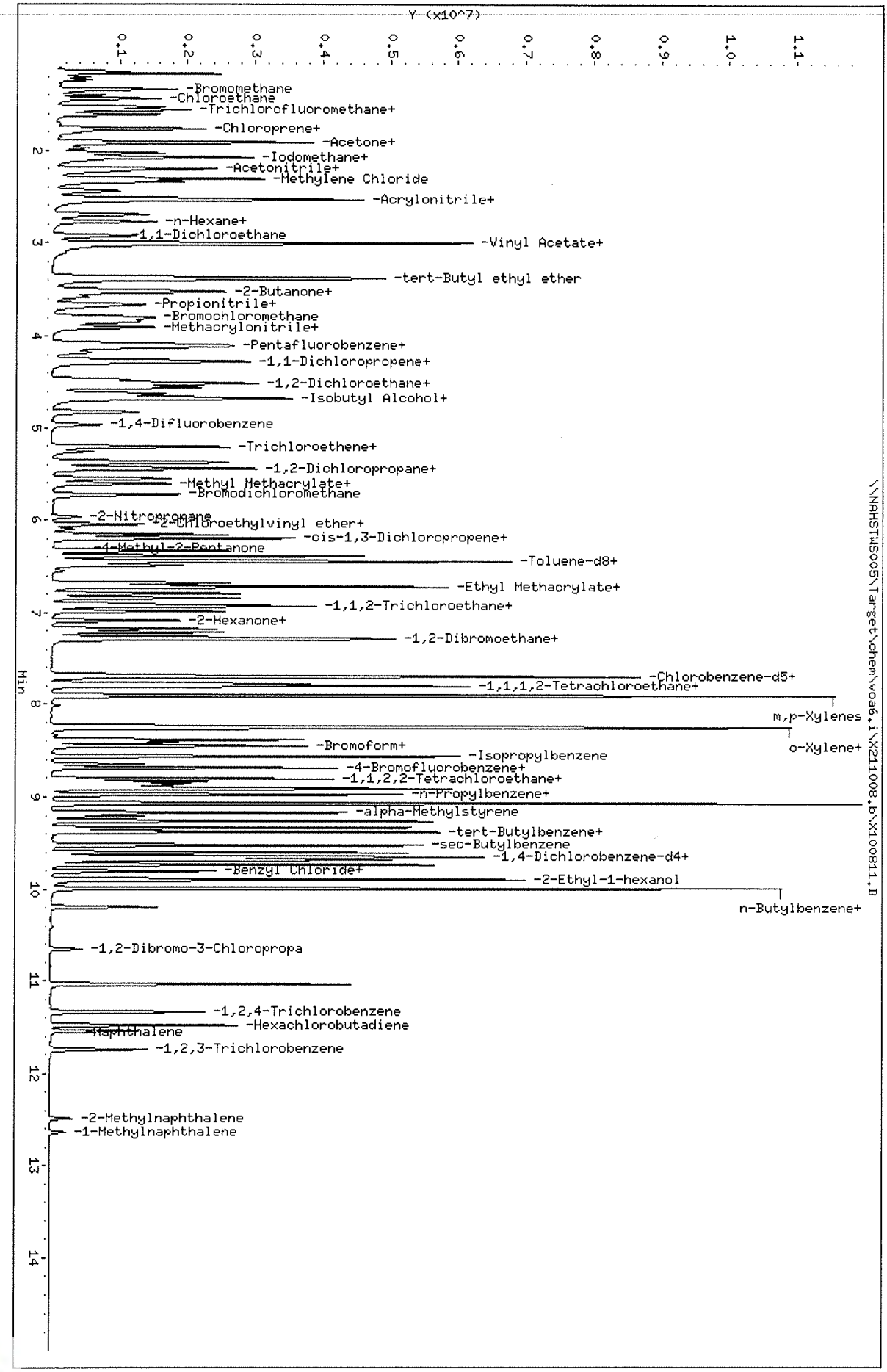
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

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

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	430833	50.0000	
$ 30 Dibromofluoromethane	113	4.096	4.096	(0.979)	839119	200.000	201.80(A)
$ 35 1,2-Dichloroethane-d4	65	4.469	4.469	(1.069)	835313	200.000	200.75(A)
* 36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	629406	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	592993	50.0000	
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	2646847	200.000	175.88
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	1012260	200.000	199.42
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	308327	50.0000	
5 Vinyl Chloride	62	1.138	1.138	(0.272)	811647	200.000	179.68
11 1,1-Dichloroethene	96	1.911	1.911	(0.457)	737348	200.000	191.86
17 Methylene Chloride	84	2.298	2.298	(0.550)	743741	200.000	201.65(A)
27 cis-1,2-Dichloroethene	96	3.523	3.523	(0.842)	867147	200.000	193.59
33 1,2-Dichloroethane	62	4.555	4.555	(0.918)	971365	200.000	183.98
38 Trichloroethene	130	5.206	5.206	(1.049)	867502	200.000	182.21
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	595829	200.000	188.30

QC Flag Legend

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



Data File: \\NAHSTWS005\Target\chem\voa6.i\X211008.b\X100811.D
Date : 08-OCT-2021 16:37
Client ID: VSTD200
Sample Info: VSTD200;VSTD200;1;10;;
Purge Volume: 5.0
Column phase: DB624

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

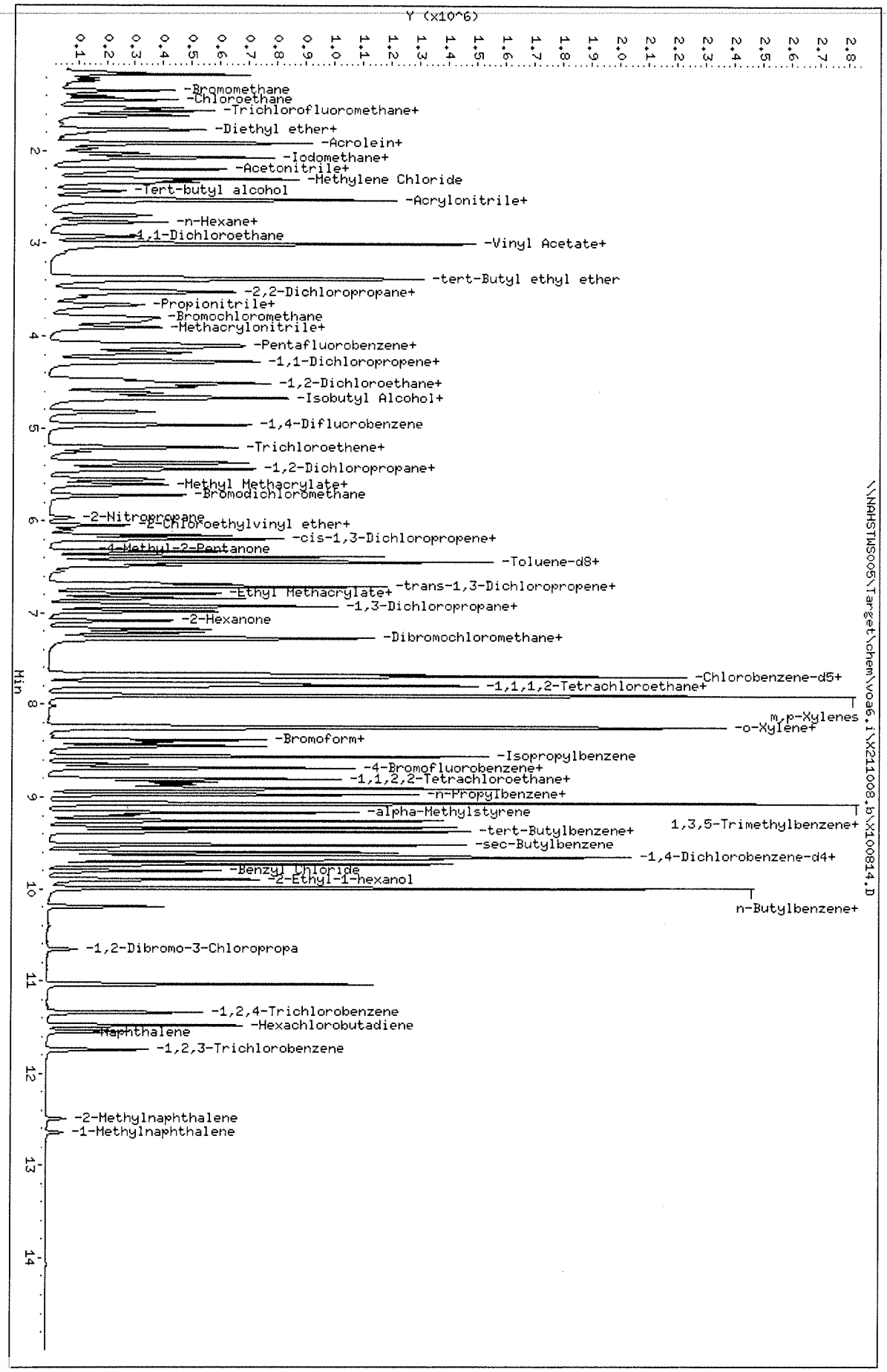
ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X211008.b\X100814.D
Lab Smp Id: ICV Client Smp ID: ICV
Inj Date : 08-OCT-2021 17:40
Operator : PC Inst ID: voa6.i
Smp Info : CCV;CCV;2;;;ICV
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X211008.b\8260W.m
Meth Date : 16-Nov-2021 17:18 voa6.i Quant Type: ISTD
Cal Date : 08-OCT-2021 16:37 Cal File: X100811.D
Als bottle: 15 QC Sample: METHSPIKE
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 01474-dod.sub
Target Version: 4.14
Processing Host: NAHSTW7017

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

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

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	411437	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.096	(0.981)	220373	54.6695	54.66
$ 35 1,2-Dichloroethane-d4	65	4.476	4.469	(1.070)	220262	53.9602	53.96
* 36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	626955	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	584793	50.0000	
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	702141	47.3113	47.31
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	271877	53.3185	53.31
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	301385	50.0000	
5 Vinyl Chloride	62	1.145	1.138	(0.274)	203682	47.2176	47.21
11 1,1-Dichloroethene	96	1.911	1.911	(0.457)	177902	48.4732	48.47
17 Methylene Chloride	84	2.305	2.298	(0.551)	187907	52.4189	52.41
27 cis-1,2-Dichloroethene	96	3.523	3.523	(0.842)	217393	50.8223	50.82
33 1,2-Dichloroethane	62	4.555	4.555	(0.918)	252375	47.9879	47.98
38 Trichloroethene	130	5.206	5.206	(1.049)	219352	46.2533	46.25
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	149441	47.8902	47.89



Data File: \\NAHSTWS005\Target\chem\voa6.i\X211008.b\X100814.D
Date : 08-OCT-2021 17:40
Client ID: ICV
Sample Info: CCV;CCV;2;;;ICV
Purge Volume: 5.0
Column phase: DB624

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

MSVOA06 -Logbook

Batch: 47066
Date: 11-05-2021
Method: 8260
Comments:

Analyst: Presenta Cabascango
Reviewer:
Laboratory: Houston

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	pl
1	BFB	TUNE	11-05-2021 10:52 am	1.00	50 mL	50 mL	X110501.D	Liquid	Y	N/
2	CCV	CCV	11-05-2021 11:13 am	1.00	50 mL	50 mL	X110502a.D	Liquid	Y	N/
3	CCV	CCV	11-05-2021 11:34 am	1.00	50 mL	50 mL	X110503.D	Liquid	Y	N/
4	CCB	SAMP	11-05-2021 11:55 am	1.00	50 mL	50 mL	X110504.D	Liquid	Y	N/
5	VLCSW-211105	LCS	11-05-2021 12:16 pm	1.00	50 mL	50 mL	X110505.D	Liquid	Y	N/
6	BLANK	SAMP	11-05-2021 12:37 pm	1.00	50 mL	50 mL	X110506.D	Liquid	Y	N/
7	VBLKW-211105	MBLK	11-05-2021 12:58 pm	1.00	50 mL	50 mL	X110507.D	Liquid	Y	N/
8	HS21110164-04	SAMP	11-05-2021 01:19 pm	1.00	50 mL	50 mL	X110508.D	Liquid	Y	N/
9	HS21101493-13	SAMP	11-05-2021 01:40 pm	1.00	50 mL	50 mL	X110509.D	Liquid	Y	N/
10	HS21101451-01	SAMP	11-05-2021 02:01 pm	1.00	50 mL	50 mL	X110510.D	Liquid	Y	N/
11	HS21101451-03	SAMP	11-05-2021 02:23 pm	1.00	50 mL	50 mL	X110511.D	Liquid	Y	N/
12	HS21110164-02	SAMP	11-05-2021 02:44 pm	5.00	10 mL	50 mL	X110512.D	Liquid	Y	N/
13	HS21110164-03	SAMP	11-05-2021 03:05 pm	10.00	5 mL	50 mL	X110513.D	Liquid	Y	N/
14	HS21101451-02	SAMP	11-05-2021 03:26 pm	1.00	50 mL	50 mL	X110514.D	Liquid	Y	N/
15	HS21101451-03MS	MS	11-05-2021 03:47 pm	1.00	50 mL	50 mL	X110515.D	Liquid	Y	N/
16	HS21101451-03MSD	MSD	11-05-2021 04:08 pm	1.00	50 mL	50 mL	X110516.D	Liquid	Y	N/
17	HS21110164-03	SAMP	11-05-2021 04:29 pm	100.0(	500 µL	50 mL	X110517.D	Liquid	Y	N/
18	HS21101554-01	SAMP	11-05-2021 04:50 pm	1.00	50 mL	50 mL	X110518.D	Liquid	Y	N/
19	HS21101554-02	SAMP	11-05-2021 05:11 pm	1.00	50 mL	50 mL	X110519.D	Liquid	Y	N/
20	CCV-END	CCV	11-05-2021 05:32 pm	1.00	50 mL	50 mL	X110520.D	Liquid	Y	N/
21	BLANK	SAMP	11-05-2021 05:53 pm	1.00	50 mL	50 mL	X110521.D	Liquid	Y	N/
22	HS21101451-04	SAMP	11-05-2021 06:14 pm	1.00	50 mL	50 mL	X110522.D	Liquid	Y	N/
23	HS21101451-05	SAMP	11-05-2021 06:35 pm	1.00	50 mL	50 mL	X110523.D	Liquid	Y	N/
24	HS21101483-01	SAMP	11-05-2021 06:56 pm	1.00	50 mL	50 mL	X110524.D	Liquid	Y	N/
25	HS21101483-02	SAMP	11-05-2021 07:17 pm	1.00	50 mL	50 mL	X110525.D	Liquid	Y	N/
26	HS21101483-03	SAMP	11-05-2021 07:38 pm	1.00	50 mL	50 mL	X110526.D	Liquid	Y	N/
27	HS21101483-04	SAMP	11-05-2021 07:59 pm	1.00	50 mL	50 mL	X110527.D	Liquid	Y	N/
28	HS21101497-10	SAMP	11-05-2021 08:20 pm	1.00	50 mL	50 mL	X110528.D	Liquid	Y	N/
29	HS21101497-14	SAMP	11-05-2021 08:41 pm	1.00	50 mL	50 mL	X110529.D	Liquid	Y	N/
30	HS21101497-18	SAMP	11-05-2021 09:02 pm	1.00	50 mL	50 mL	X110530.D	Liquid	Y	N/
31	HS21101483-05	SAMP	11-05-2021 09:23 pm	1.00	50 mL	50 mL	X110531.D	Liquid	Y	N/
32	BFB	TUNE	11-05-2021 09:44 pm	1.00	50 mL	50 mL	Y110501.D	Liquid	Y	N/
33	CCV	CCV	11-05-2021 10:05 pm	1.00	50 mL	50 mL	Y110502.D	Liquid	Y	N/
34	CCV	CCV	11-05-2021 10:26 pm	1.00	50 mL	50 mL	Y110502A.D	Liquid	Y	N/
35	CCB	SAMP	11-05-2021 10:47 pm	1.00	50 mL	50 mL	Y110503.D	Liquid	Y	N/
36	VLCSW-211105	LCS	11-05-2021 11:08 pm	1.00	50 mL	50 mL	Y110504.D	Liquid	Y	N/
37	BLANK	SAMP	11-05-2021 11:29 pm	1.00	50 mL	50 mL	Y110505.D	Liquid	Y	N/
38	VBLKW-211105	MBLK	11-05-2021 11:50 pm	1.00	50 mL	50 mL	Y110506.D	Liquid	Y	N/
39	HS21101502-01	SAMP	11-06-2021 12:11 am	1.00	50 mL	50 mL	Y110507.D	Liquid	Y	N/
40	HS21101502-06	SAMP	11-06-2021 12:32 am	1.00	50 mL	50 mL	Y110508.D	Liquid	Y	N/
41	HS21101502-02	SAMP	11-06-2021 12:54 am	1.00	50 mL	50 mL	Y110509.D	Liquid	Y	N/

MSVOA06 -Logbook

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	p
42	HS21101502-02MS	MS	11-06-2021 01:14 am	1.00	50 mL	50 mL	Y110510.D	Liquid	Y	N
43	HS21101502-02MSD	MSD	11-06-2021 01:35 am	1.00	50 mL	50 mL	Y110511.D	Liquid	Y	N
44	BLANK	SAMP	11-06-2021 01:56 am	1.00	50 mL	50 mL	Y110512.D	Liquid	Y	N
45	HS21101553-10	SAMP	11-06-2021 02:18 am	1.00	50 mL	50 mL	Y110513.D	Liquid	Y	N
46	HS21101553-17	SAMP	11-06-2021 02:39 am	1.00	50 mL	50 mL	Y110514.D	Liquid	Y	N
47	HS21101502-07	SAMP	11-06-2021 03:00 am	1.00	50 mL	50 mL	Y110515.D	Liquid	Y	N
48	HS21101553-01	SAMP	11-06-2021 03:21 am	1.00	50 mL	50 mL	Y110516.D	Liquid	Y	N
49	HS21101553-02	SAMP	11-06-2021 03:42 am	1.00	50 mL	50 mL	Y110517.D	Liquid	Y	N
50	HS21101553-03	SAMP	11-06-2021 04:03 am	1.00	50 mL	50 mL	Y110518.D	Liquid	Y	N
51	HS21101553-04	SAMP	11-06-2021 04:24 am	1.00	50 mL	50 mL	Y110519.D	Liquid	Y	N
52	HS21101553-05	SAMP	11-06-2021 04:45 am	1.00	50 mL	50 mL	Y110520.D	Liquid	Y	N
53	HS21101553-06	SAMP	11-06-2021 05:06 am	1.00	50 mL	50 mL	Y110521.D	Liquid	Y	N
54	HS21101553-07	SAMP	11-06-2021 05:27 am	1.00	50 mL	50 mL	Y110522.D	Liquid	Y	N
55	HS21101553-08	SAMP	11-06-2021 05:48 am	1.00	50 mL	50 mL	Y110523.D	Liquid	Y	N
56	HS21101502-04	SAMP	11-06-2021 06:09 am	10.00	5 mL	50 mL	Y110524.D	Liquid	Y	N
57	HS21101502-04	SAMP	11-06-2021 06:30 am	100.0(	500 µL	50 mL	Y110525.D	Liquid	Y	N
58	HS21101502-03	SAMP	11-06-2021 06:51 am	100.0(	500 µL	50 mL	Y110526.D	Liquid	Y	N
59	HS21101502-03	SAMP	11-06-2021 07:13 am	1000.0	50 µL	50 mL	Y110527.D	Liquid	Y	N
60	HS21101502-05	SAMP	11-06-2021 07:34 am	100.0(	500 µL	50 mL	Y110528.D	Liquid	Y	N
61	HS21101502-05	SAMP	11-06-2021 07:55 am	1000.0	50 µL	50 mL	Y110529.D	Liquid	Y	N
62	BLANK	SAMP	11-06-2021 08:16 am	1.00	50 mL	50 mL	Y110550.D	Liquid	Y	N

FORM 2

WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS21101554

	CLIENT SAMPLE NO.	SMC1 #	SMC2 (DCE)#	SMC3 (TOL)#	OTHER #	TOT OUT
01	VLCSW-211105	98	96	90	102	0
02	VBLKW-211105	94	87	98	96	0
03	HS21101451-03MS	92	86	96	99	0
04	HS21101451-03MSD	91	85	95	97	0
05	HS21101554-01	95	92	97	95	0
06	HS21101554-02	94	89	94	96	0
07						
08						
09						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						

		QC LIMITS
SMC1	= Dibromofluoromethane	(70-130)
SMC2 (DCE)	= 1,2-Dichloroethane-d4	(70-130)
SMC3 (TOL)	= Toluene-d8	(70-130)
OTHER	= 4-Bromofluorobenzene	(70-130)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D System Monitoring Compound diluted out

FORM 4
VOLATILE METHOD BLANK SUMMARY

CLIENT SAMPLE NO.
VBLKW-211105

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS21101554

Lab File ID: X110507 Lab Sample ID: VBLKW-211105

Date Analyzed: 11/05/21 Time Analyzed: 1258

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

Instrument ID: VOA6

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	VLCSW-211105	VLCSW-211105	X110505	1216
02	HS21101451-03MS	HS21101451-03MS	X110515	1547
03	HS21101451-03MSD	HS21101451-03MSD	X110516	1608
04	HS21101554-01	HS21101554-01	X110518	1650
05	HS21101554-02	HS21101554-02	X110519	1711
06				
07				
08				
09				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				

COMMENTS:

FORM 5
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS21101554

Lab File ID: X110501 BFB Injection Date: 11/05/21

Instrument ID: VOA6 BFB Injection Time: 1052

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

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	18.1
75	30.0 - 60.0% of mass 95	44.3
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	7.3
173	Less than 2.0% of mass 174	1.1 (1.4)1
174	Greater than 50.0% of mass 95	77.0
175	5.0 - 9.0% of mass 174	6.7 (8.7)1
176	95.0 - 101.0% of mass 174	77.2 (100.3)1
177	5.0 - 9.0% of mass 176	5.7 (7.4)2

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

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	CCV	CCV	X110503	11/05/21	1134
02	VLCSW-211105	VLCSW-211105	X110505	11/05/21	1216
03	VBLKW-211105	VBLKW-211105	X110507	11/05/21	1258
04	HS21101451-03MS	HS21101451-03MS	X110515	11/05/21	1547
05	HS21101451-03MSD	HS21101451-03MSD	X110516	11/05/21	1608
06	HS21101554-01	HS21101554-01	X110518	11/05/21	1650
07	HS21101554-02	HS21101554-02	X110519	11/05/21	1711
08	CCV-END	CCV-END	X110520	11/05/21	1732
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

FORM 7B
VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS21101554

Instrument ID: VOA6 Calibration Date: 11/07/21 Time: 1206

Lab File ID: X110703 Init. Calib. Date(s): 10/08/21 10/08/21

Init. Calib. Times: 1308 1637

GC Column: DB624 ID: 0.18 (mm)

COMPOUND	RRF or AMOUNT	RRF50.000 or AMOUNT	CCAL RRF50.000	MIN RRF	%D or %DRIFT	MAX %D or %DRIFT	CURV TYPE
Methylene Chloride	52.080431	50.000000	0.4538297	0.1	-4.16	20.00	LINR
1,1,2-Trichloroethane	0.2670000	0.2600285	0.2600285	0.1	2.61	20.00	AVRG
Trichloroethene	0.3780000	0.3903408	0.3903408	0.2	-3.26	20.00	AVRG
Vinyl Chloride	0.5240000	0.4801828	0.4801828	0.1	8.36	20.00	AVRG
1,1-Dichloroethene	0.4460000	0.4201657	0.4201657	0.1	5.79	20.00	AVRG
1,2-Dichloroethane	0.4190000	0.3988226	0.3988226	0.1	4.82	20.00	AVRG
cis-1,2-Dichloroethene	0.5200000	0.5157699	0.5157699	0.1	0.81	20.00	AVRG
1,2-Dichloroethane-d4	46.857819	50.000000	0.4674433	0.1	6.28	20.00	LINR
Dibromofluoromethane	50.744758	50.000000	0.4979515	0.1	-1.49	20.00	LINR
4-Bromofluorobenzene	50.075045	50.000000	0.4373381	0.1	-0.15	20.00	LINR
Toluene-d8	1.2690000	1.1746018	1.1746018	0.1	7.44	20.00	AVRG

FORM VII VOA

FORM 7B
VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS21101554

Instrument ID: VOA6 Calibration Date: 11/05/21 Time: 1732

Lab File ID: X110520 Init. Calib. Date(s): 10/08/21 10/08/21

Init. Calib. Times: 1308 1637

GC Column: DB624 ID: 0.18 (mm)

COMPOUND	RRF or AMOUNT	RRF50.000 or AMOUNT	CCAL RRF50.000	MIN RRF	%D or %DRIFT	MAX %D or %DRIFT	CURV TYPE
Methylene Chloride	49.725397	50.000000	0.4337953	0.1	0.55	50.00	LINR
1,1,2-Trichloroethane	0.2670000	0.2458267	0.2458267	0.1	7.93	50.00	AVRG
Trichloroethene	0.3780000	0.3670471	0.3670471	0.2	2.90	50.00	AVRG
Vinyl Chloride	0.5240000	0.4534129	0.4534129	0.1	13.47	50.00	AVRG
1,1-Dichloroethene	0.4460000	0.3902647	0.3902647	0.1	12.50	50.00	AVRG
1,2-Dichloroethane	0.4190000	0.3849462	0.3849462	0.1	8.13	50.00	AVRG
cis-1,2-Dichloroethene	0.5200000	0.4938321	0.4938321	0.1	5.03	50.00	AVRG
1,2-Dichloroethane-d4	49.327954	50.000000	0.4910598	0.1	1.34	50.00	LINR
Dibromofluoromethane	51.911756	50.000000	0.5091514	0.1	-3.82	50.00	LINR
4-Bromofluorobenzene	50.423453	50.000000	0.4403001	0.1	-0.85	50.00	LINR
Toluene-d8	1.2690000	1.1933771	1.1933771	0.1	5.96	50.00	AVRG

FORM VII VOA

FORM 8
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS21101554

Lab File ID (Standard): X110503 Date Analyzed: 11/05/21

Instrument ID: VOA6 Time Analyzed: 1134

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

		IS1(DCB) AREA #	RT #	IS2(CBZ) AREA #	RT #	IS3(DFB) AREA #	RT #
	12 HOUR STD	248814	9.66	472634	7.67	504041	4.96
	UPPER LIMIT	497628	10.16	945268	8.17	1008082	5.46
	LOWER LIMIT	124407	9.16	236317	7.17	252021	4.46
	CLIENT SAMPLE NO.						
01	VLCSW-211105	237177	9.66	458454	7.67	485033	4.96
02	VBLKW-211105	227942	9.66	475858	7.67	541187	4.96
03	HS21101451-03MS	249318	9.66	507018	7.67	567646	4.96
04	HS21101451-03MSD	253116	9.66	514314	7.67	569333	4.96
05	HS21101554-01	222736	9.66	478719	7.67	543400	4.96
06	HS21101554-02	242665	9.66	506243	7.67	548127	4.96
07							
08							
09							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							

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

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

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

FORM VIII VOA

FORM 8
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS21101554

Lab File ID (Standard): X110503 Date Analyzed: 11/05/21

Instrument ID: VOA6 Time Analyzed: 1134

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

		IS4 AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	351670	4.18				
	UPPER LIMIT	703340	4.68				
	LOWER LIMIT	175835	3.68				
	CLIENT SAMPLE NO.						
01	VLCSW-211105	343845	4.18				
02	VBLKW-211105	400277	4.18				
03	HS21101451-03MS	414434	4.18				
04	HS21101451-03MSD	422397	4.18				
05	HS21101554-01	390445	4.18				
06	HS21101554-02	400776	4.18				
07							
08							
09							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							

IS4 = Pentafluorobenzene

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

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

FORM VIII VOA

Data File: \\NAHSTWS005\Target\chem\voa6.i\X211105.b\X110501.D

Date : 05-NOV-2021 10:52

Client ID: BFB

Instrument: voa6.i

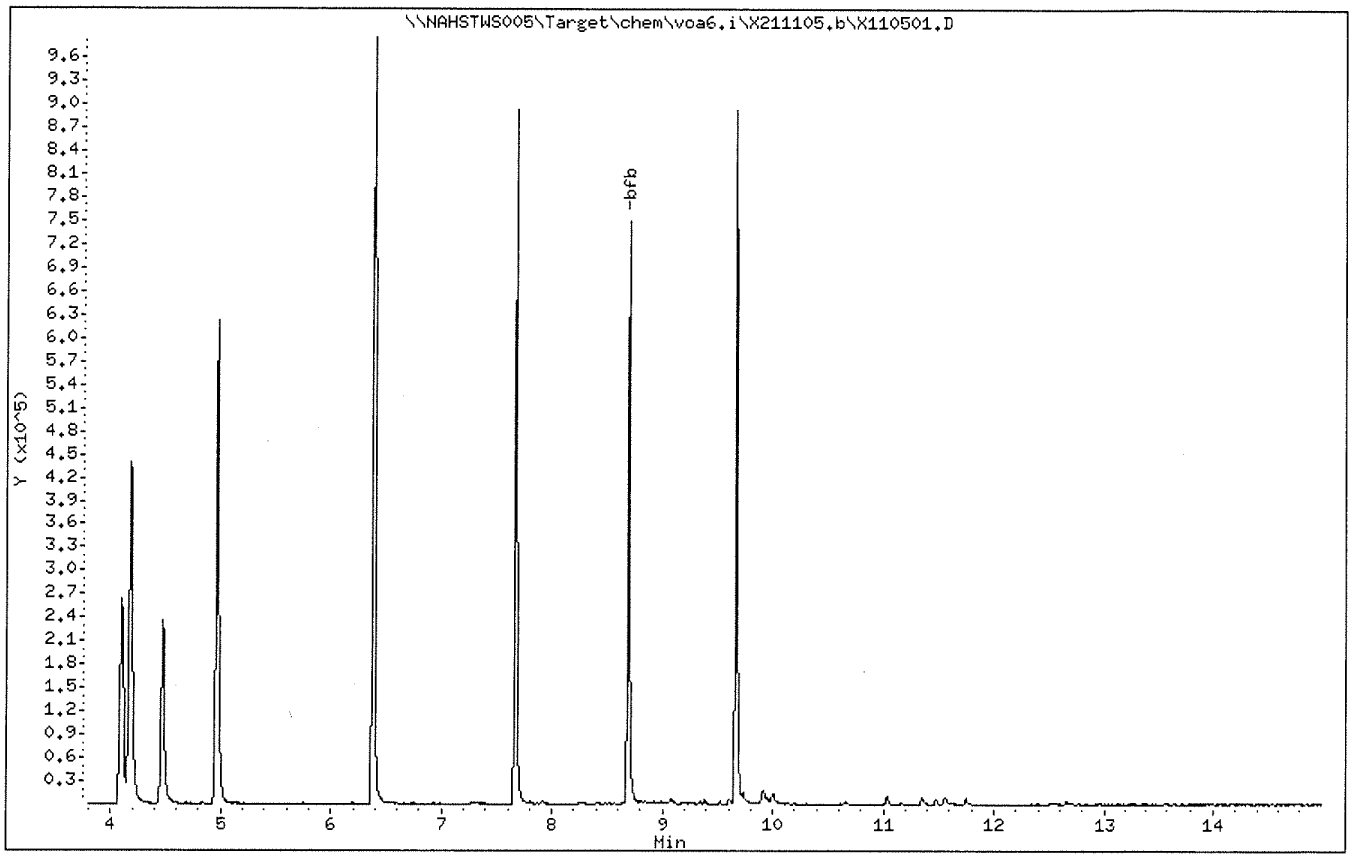
Sample Info: BFB;BFB;3;;BFB

Volume Injected (uL): 2.0

Operator: PC

Column phase: DB624

Column diameter: 0.25



Data File: \\NAHSTWS005\Target\chem\voa6.i\X211105.b\X110501.D

Date : 05-NOV-2021 10:52

Client ID: BFB

Instrument: voa6.i

Sample Info: BFB;BFB;3;;BFB

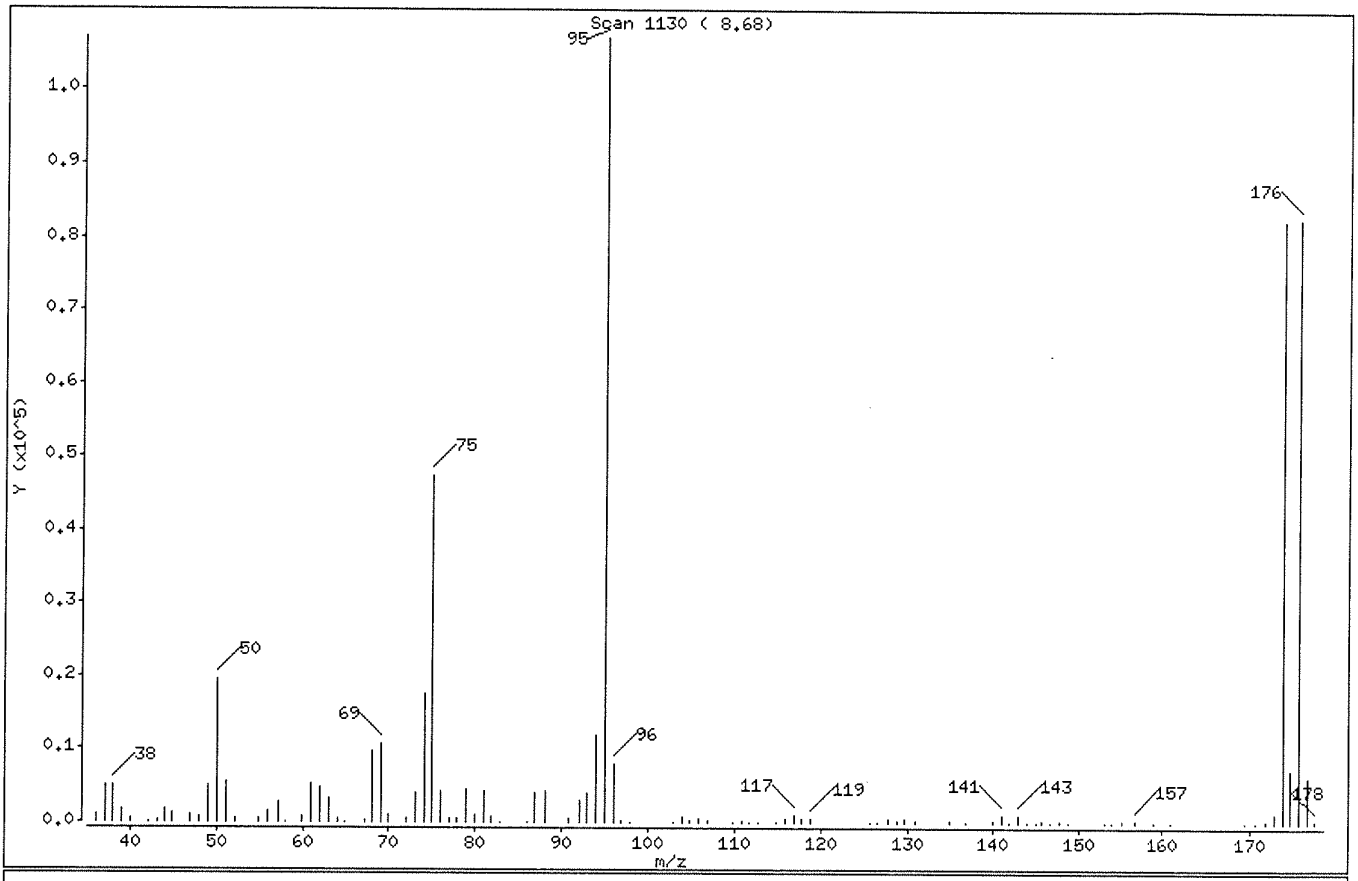
Volume Injected (uL): 2.0

Operator: PC

Column phase: DB624

Column diameter: 0.25

1 bfb



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	18.10
75	30.00 - 60.00% of mass 95	44.26
96	5.00 - 9.00% of mass 95	7.29
173	Less than 2.00% of mass 174	1.10 (1.42)
174	Greater than 50.00% of mass 95	76.97
175	5.00 - 9.00% of mass 174	6.71 (8.71)
176	95.00 - 101.00% of mass 174	77.17 (100.26)
177	5.00 - 9.00% of mass 176	5.68 (7.36)

Data File: \\NAHSTWS005\Target\chem\voa6.i\X211105.b\X110501.D

Date : 05-NOV-2021 10:52

Client ID: BFB

Instrument: voa6.i

Sample Info: BFB;BFB;3;;BFB

Volume Injected (uL): 2.0

Operator: PC

Column phase: DB624

Column diameter: 0.25

Data File: X110501.D
Spectrum: Scan 1130 (8.68)
Location of Maximum: 95.00
Number of points: 99

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	885	67.10	292	96.90	306	140.90	1090
37.00	4835	68.00	9623	98.00	52	141.80	85
38.00	4914	69.00	10528	103.00	60	142.80	1090
39.00	1817	69.90	923	103.90	641	143.80	114
40.00	486	71.90	566	104.90	158	145.00	95
42.10	55	73.00	4023	105.80	555	145.60	168
43.10	167	74.00	17592	107.00	136	146.70	62
44.00	1631	75.00	47368	109.80	108	147.70	177
44.90	1167	76.00	4094	110.80	138	148.80	102
47.00	1063	77.00	409	111.70	50	152.80	122
47.90	660	77.80	508	112.80	90	153.70	105
49.00	5036	78.90	4436	114.80	54	155.00	156
50.00	19368	79.90	878	115.90	480	156.70	257
51.00	5508	80.90	4251	116.90	873	158.90	78
52.10	374	81.90	863	117.80	585	161.10	116
54.80	412	82.80	79	118.80	548	169.40	97
55.90	1471	85.90	94	125.80	76	170.70	83
57.10	2755	86.90	4033	126.60	84	171.90	320
57.90	106	88.00	4232	127.90	465	172.90	1173
59.90	779	90.80	442	128.90	243	173.90	82376
61.00	5237	92.00	2969	129.70	396	174.90	7176
62.00	4735	93.00	4015	131.00	155	175.90	82592
63.00	3088	94.00	11854	135.00	163	176.90	6079
64.10	588	95.00	107024	136.70	101	177.80	170
64.80	53	96.00	7800	140.00	152		

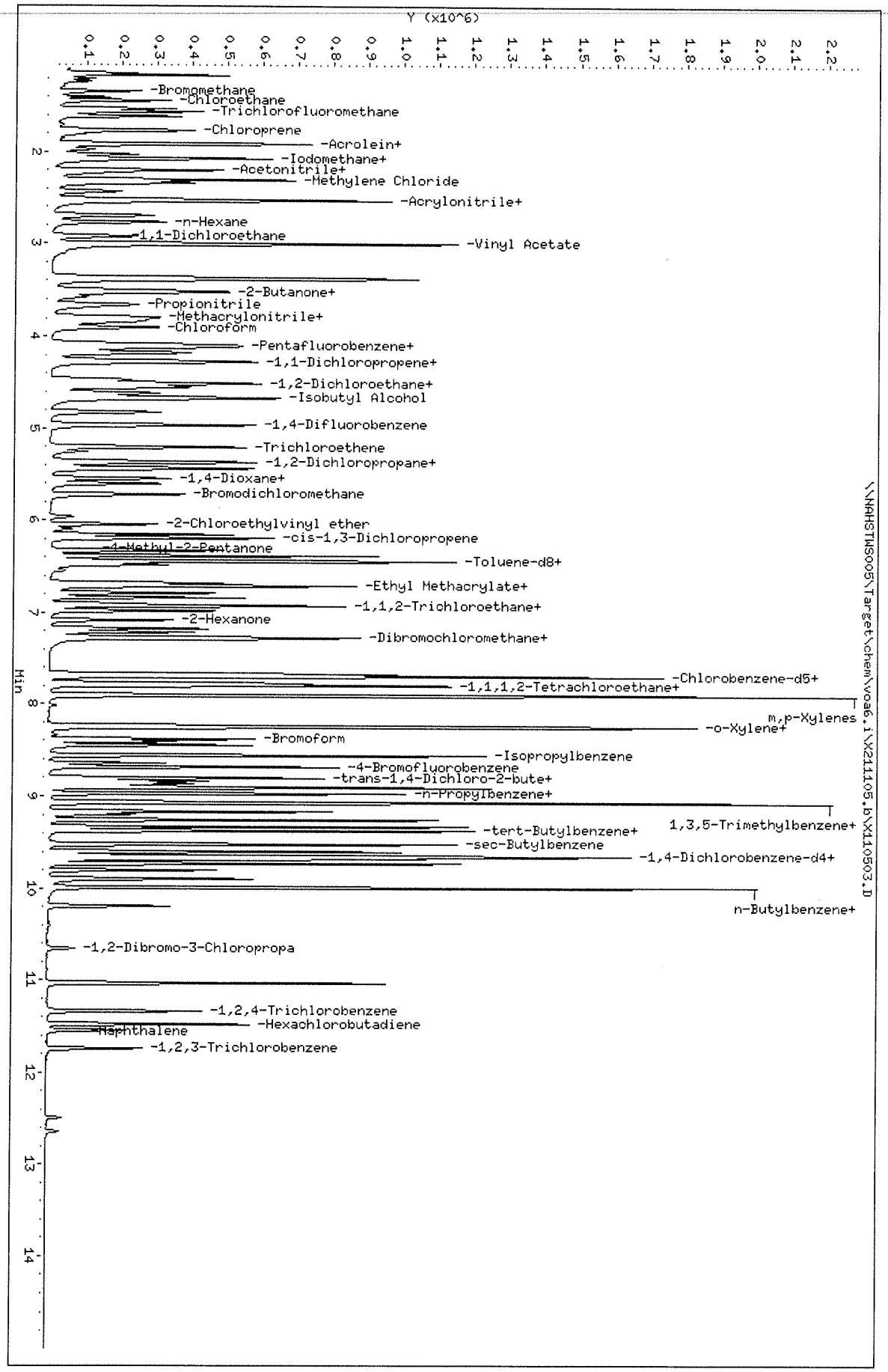
ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X211105.b\X110503.D
Lab Smp Id: CCV Client Smp ID: CCV
Inj Date : 05-NOV-2021 11:34
Operator : PC Inst ID: voa6.i
Smp Info : CCV;CCV;2;;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X211105.b\8260W.m
Meth Date : 16-Nov-2021 16:58 voa6.i Quant Type: ISTD
Cal Date : 08-OCT-2021 15:34 Cal File: X100808.D
Als bottle: 3 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 01474-dod.sub
Target Version: 4.14
Processing Host: NAHSTW7017

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

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

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	351670	50.0000	
$ 30 Dibromofluoromethane	113	4.096	4.096	(0.979)	168988	50.0000	48.92
$ 35 1,2-Dichloroethane-d4	65	4.469	4.469	(1.069)	164247	50.0000	46.81
* 36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	504041	50.0000	
* 47 Chlorobenzene-d5	117	7.670	7.670	(1.000)	472634	50.0000	
$ 48 Toluene-d8	98	6.381	6.381	(0.832)	552474	50.0000	46.06
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	206567	50.0000	50.04
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	248814	50.0000	
5 Vinyl Chloride	62	1.145	1.145	(0.274)	158409	50.0000	42.96
11 1,1-Dichloroethene	96	1.911	1.911	(0.457)	138339	50.0000	44.09
17 Methylene Chloride	84	2.305	2.305	(0.551)	153790	50.0000	50.13
27 cis-1,2-Dichloroethene	96	3.523	3.523	(0.842)	173984	50.0000	47.58
33 1,2-Dichloroethane	62	4.555	4.555	(0.918)	190620	50.0000	45.08
38 Trichloroethene	130	5.206	5.206	(1.049)	191620	50.0000	50.25
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	119844	50.0000	47.51



Data File: \\NAHSTWS005\Target\chem\voa6.i\X211105.b\X110503.D
Date : 05-NOV-2021 11:34
Client ID: CCV
Sample Info: CCV;CCV;2;;;
Purge Volume: 5.0
Column phase: DB624

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

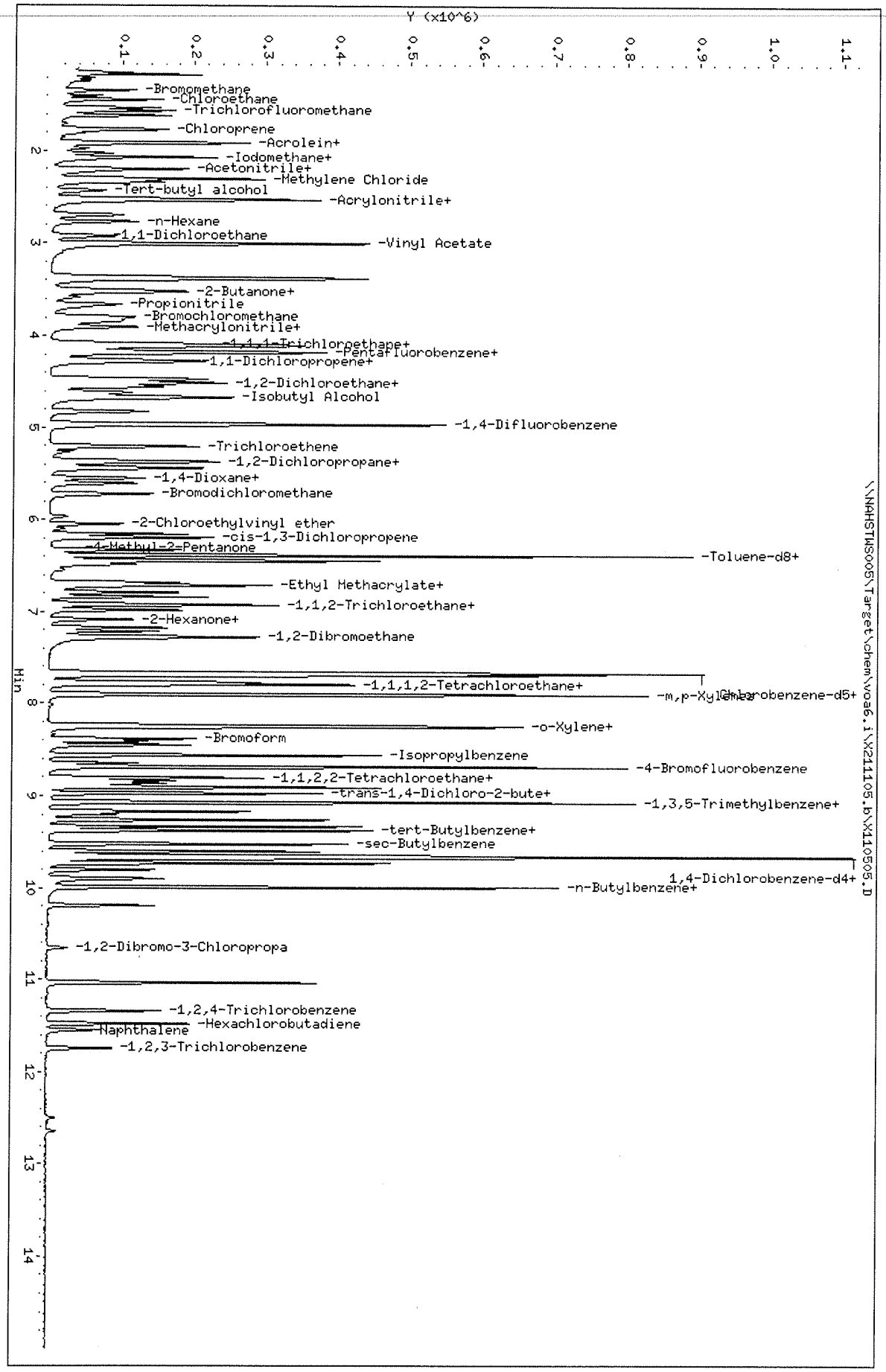
ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X211105.b\X110505.D
Lab Smp Id: VLCSW-211105 Client Smp ID: VLCSW-211105
Inj Date : 05-NOV-2021 12:16
Operator : PC Inst ID: voa6.i
Smp Info : VLCSW-211105;VLCSW-211105;3;;LCS
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X211105.b\8260W.m
Meth Date : 16-Nov-2021 16:58 voa6.i Quant Type: ISTD
Cal Date : 08-OCT-2021 15:34 Cal File: X100808.D
Als bottle: 5 QC Sample: LCS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 01474-dod.sub
Target Version: 4.14
Processing Host: NAHSTW7017

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

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

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	343845	50.0000	
$ 30 Dibromofluoromethane	113	4.096	4.096	(0.979)	164762	48.7883	48.78
$ 35 1,2-Dichloroethane-d4	65	4.469	4.469	(1.069)	164966	48.1470	48.14
* 36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	485033	50.0000	
* 47 Chlorobenzene-d5	117	7.670	7.670	(1.000)	458454	50.0000	
$ 48 Toluene-d8	98	6.381	6.381	(0.832)	526616	45.2627	45.26
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	203192	50.7659	50.76
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	237177	50.0000	
5 Vinyl Chloride	62	1.145	1.145	(0.274)	60795	16.8640	16.86
11 1,1-Dichloroethene	96	1.918	1.911	(0.459)	52339	17.0642	17.06
17 Methylene Chloride	84	2.305	2.305	(0.551)	63187	20.3346	20.33
27 cis-1,2-Dichloroethene	96	3.530	3.523	(0.844)	66031	18.4713	18.47
33 1,2-Dichloroethane	62	4.554	4.555	(0.918)	78236	19.2290	19.22
38 Trichloroethene	130	5.206	5.206	(1.049)	71057	19.3675	19.36
53 1,1,2-Trichloroethane	83	6.839	6.840	(0.892)	46922	19.1805	19.18



Data File: \\NAHSTWS005\Target\chem\voa6.i\X211105.b\X110505.D
Date : 05-NOV-2021 12:16
Client ID: VLCSW-211105
Sample Info: VLCSW-211105;VLCSW-211105;3;;LCS
Purge Volume: 5.0
Column phase: DB624

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

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X211105.b\X110507.D
Lab Smp Id: VBLKW-211105 Client Smp ID: VBLKW-211105
Inj Date : 05-NOV-2021 12:58
Operator : PC Inst ID: voa6.i
Smp Info : VBLKW-211105;VBLKW-211105;3;;BLANK
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X211105.b\8260W.m
Meth Date : 16-Nov-2021 16:58 voa6.i Quant Type: ISTD
Cal Date : 08-OCT-2021 15:34 Cal File: X100808.D
Als bottle: 7 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 01474-dod.sub
Target Version: 4.14
Processing Host: NAHSTW7017

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

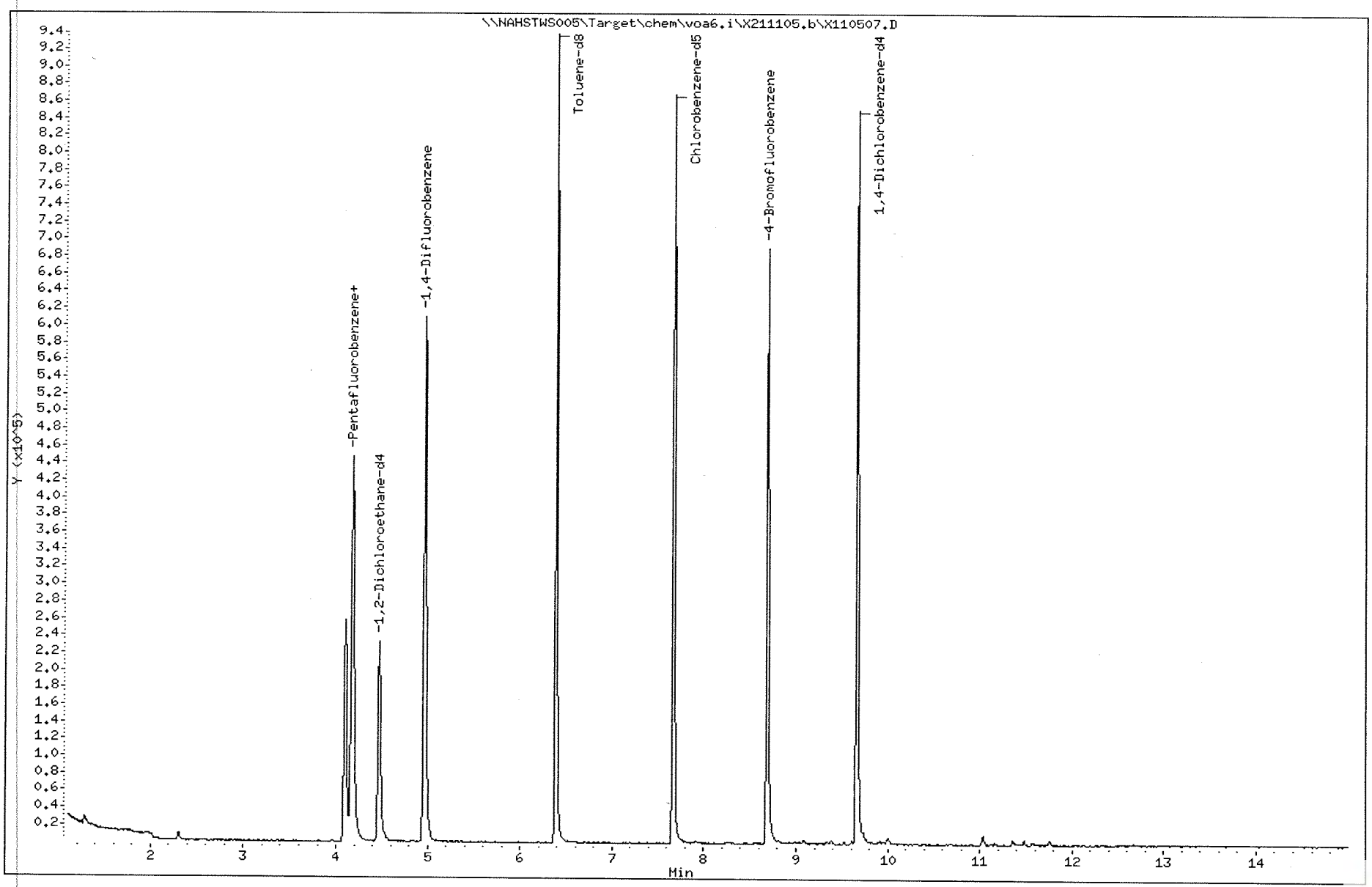
Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	400277	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.096	(0.981)	185472	47.1403	47.14
$ 35 1,2-Dichloroethane-d4	65	4.469	4.469	(1.069)	173731	43.3627	43.36
* 36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	541187	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.670	(1.000)	475858	50.0000	
$ 48 Toluene-d8	98	6.388	6.381	(0.833)	595016	49.2713	49.27
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	200220	48.1245	48.12
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	227942	50.0000	

Data File: \\NAHSTWS005\Target\chem\voa6.i\X211105.b\X110507.D
Date : 05-NOV-2021 12:58
Client ID: VBLKW-211105
Sample Info: VBLKW-211105;VBLKW-211105;3;;BLANK
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i

Operator: PC
Column diameter: 0.18



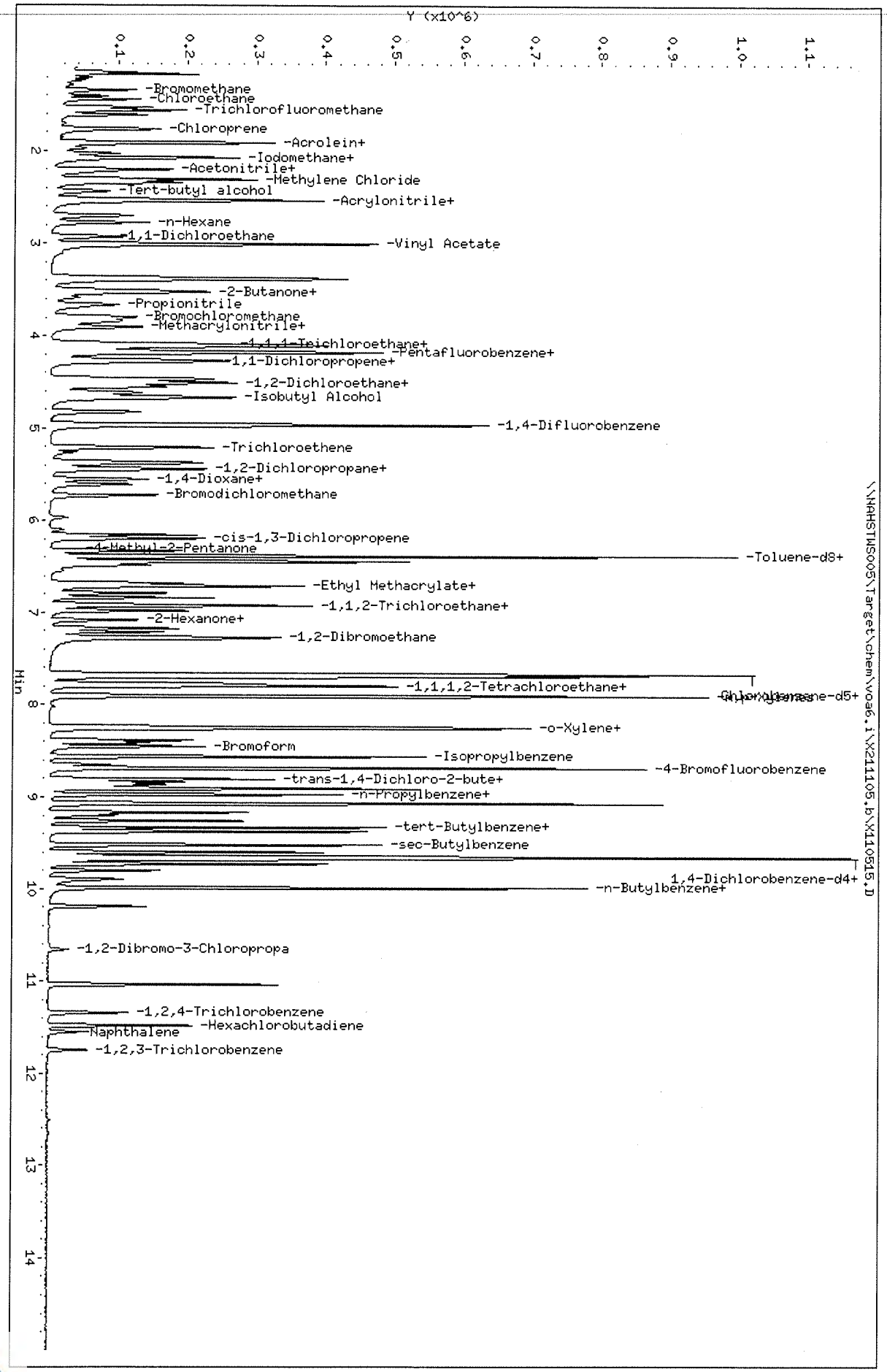
ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X211105.b\X110515.D
Lab Smp Id: HS21101451-03MS Client Smp ID: HS21101451-03MS
Inj Date : 05-NOV-2021 15:47
Operator : PC Inst ID: voa6.i
Smp Info : HS21101451-03MS;HS21101451-03MS;3;;MS
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X211105.b\8260W.m
Meth Date : 16-Nov-2021 16:58 voa6.i Quant Type: ISTD
Cal Date : 08-OCT-2021 15:34 Cal File: X100808.D
Als bottle: 15 QC Sample: MS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 01474-dod.sub
Target Version: 4.14
Processing Host: NAHSTW7017

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

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

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	414434	50.0000	
$ 30 Dibromofluoromethane	113	4.096	4.096	(0.979)	187131	45.9082	45.90
$ 35 1,2-Dichloroethane-d4	65	4.469	4.469	(1.069)	178645	43.0521	43.05
* 36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	567646	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.670	(1.000)	507018	50.0000	
$ 48 Toluene-d8	98	6.388	6.381	(0.833)	618522	48.0700	48.07
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	218608	49.3488	49.34
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	249318	50.0000	
5 Vinyl Chloride	62	1.145	1.145	(0.274)	67697	15.5800	15.58
11 1,1-Dichloroethene	96	1.919	1.911	(0.459)	62315	16.8563	16.85
17 Methylene Chloride	84	2.305	2.305	(0.551)	68371	18.1256	18.12
27 cis-1,2-Dichloroethene	96	3.530	3.523	(0.844)	80401	18.6603	18.66
33 1,2-Dichloroethane	62	4.555	4.555	(0.918)	82642	17.3558	17.35
38 Trichloroethene	130	5.206	5.206	(1.049)	80868	18.8338	18.83
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	51545	19.0521	19.05



Data File: \\NAHSTWS005\Target\chem\voa6.i\X211105.b\X110515.D
Date : 05-NOV-2021 15:47
Client ID: HS21101451-03MS
Sample Info: HS21101451-03MS;HS21101451-03MS;3;MS
Purge Volume: 5.0
Column phase: DB624

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

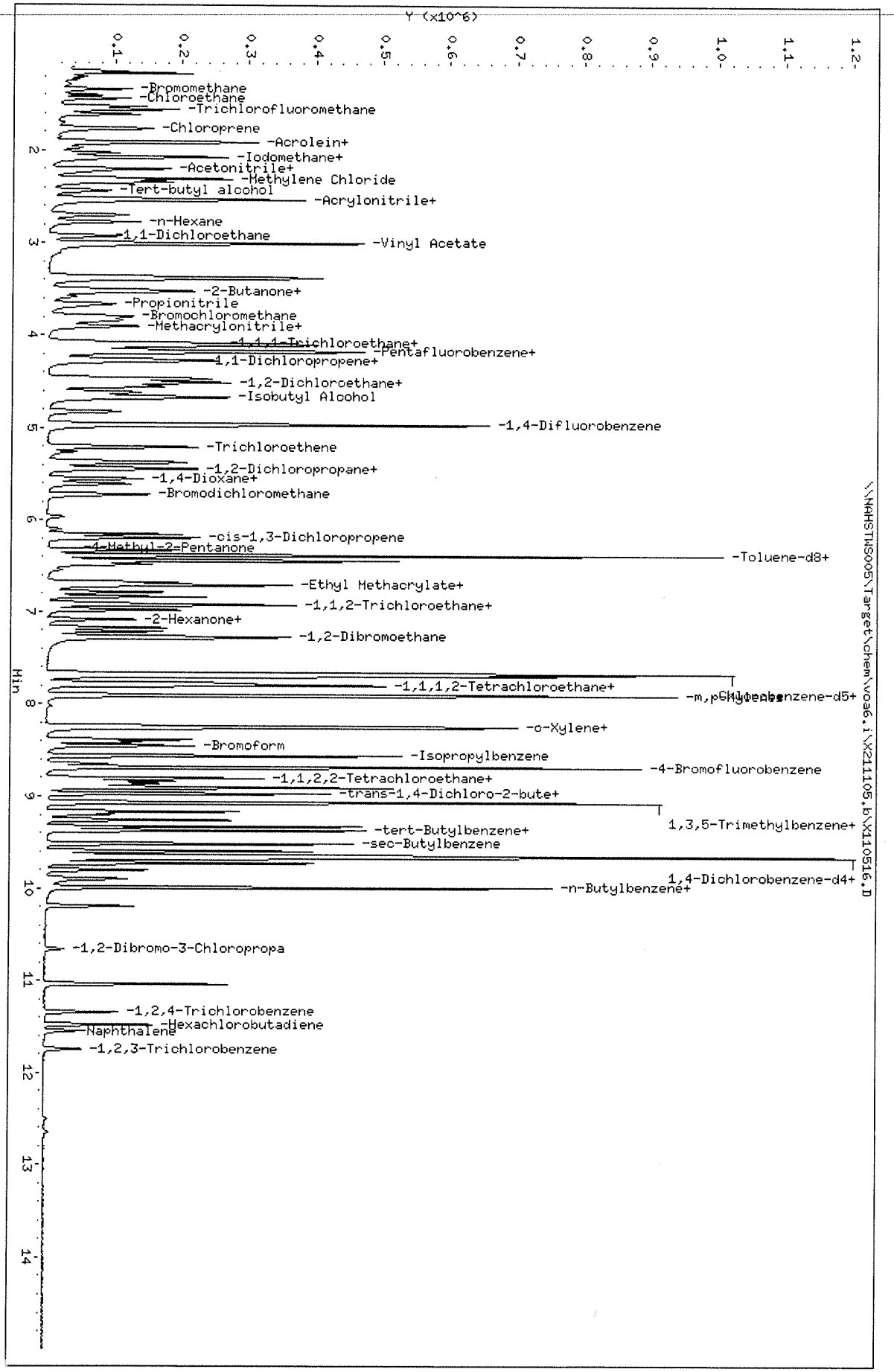
ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X211105.b\X110516.D
Lab Smp Id: HS21101451-03MSD Client Smp ID: HS21101451-03MSD
Inj Date : 05-NOV-2021 16:08
Operator : PC Inst ID: voa6.i
Smp Info : HS21101451-03MSD;HS21101451-03MSD;3;;MSD
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X211105.b\8260W.m
Meth Date : 16-Nov-2021 16:58 voa6.i Quant Type: ISTD
Cal Date : 08-OCT-2021 15:34 Cal File: X100808.D
Als bottle: 15 QC Sample: MSD
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 01474-dod.sub
Target Version: 4.14
Processing Host: NAHSTW7017

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

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

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	422397	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.096	(0.981)	188406	45.3357	45.33
$ 35 1,2-Dichloroethane-d4	65	4.469	4.469	(1.069)	179326	42.3708	42.37
* 36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	569333	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.670	(1.000)	514314	50.0000	
$ 48 Toluene-d8	98	6.381	6.381	(0.832)	622386	47.6842	47.68
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	219038	48.7277	48.72
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	253116	50.0000	
5 Vinyl Chloride	62	1.145	1.145	(0.274)	65934	14.8882	14.88
11 1,1-Dichloroethene	96	1.911	1.911	(0.457)	59859	15.8867	15.88
17 Methylene Chloride	84	2.305	2.305	(0.551)	66920	17.3563	17.35
27 cis-1,2-Dichloroethene	96	3.530	3.523	(0.844)	76335	17.3826	17.38
33 1,2-Dichloroethane	62	4.555	4.555	(0.918)	82572	17.2897	17.28
38 Trichloroethene	130	5.206	5.206	(1.049)	80272	18.6396	18.63
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	50499	18.4007	18.40



Data File: \\NAHSTWS005\Target\chem\voa6.i\X211105.b\X110516.D
Date : 05-NOV-2021 16:08
Client ID: HS21104451-03MSD
Sample Info: HS21104451-03MSD;HS21104451-03MSD;3;;MSD
Purge Volume: 5.0
Column phase: DB624

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

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X211105.b\X110518.D
Lab Smp Id: HS21101554-01 Client Smp ID: HS21101554-01
Inj Date : 05-NOV-2021 16:50
Operator : PC Inst ID: voa6.i
Smp Info : HS21101554-01;HS21101554-01;;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X211105.b\8260W.m
Meth Date : 16-Nov-2021 16:50 kori.bagsb Quant Type: ISTD
Cal Date : 08-OCT-2021 15:34 Cal File: X100808.D
Als bottle: 17
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 01474-dod.sub
Target Version: 4.14
Processing Host: NAHSTW7017

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

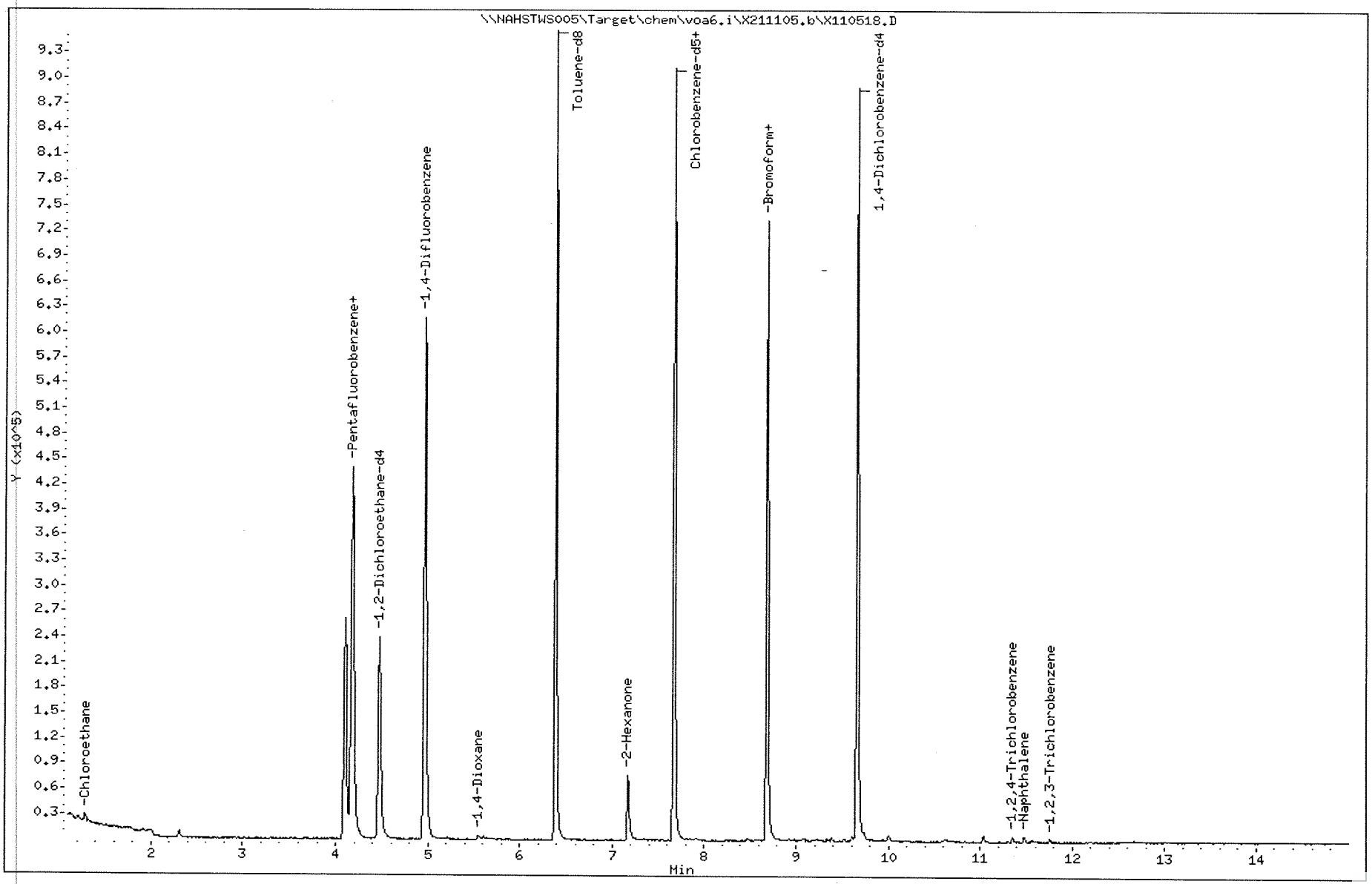
Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	390445	50.0000	
$ 30 Dibromofluoromethane	113	4.096	4.096	(0.979)	183024	47.7028	47.70
$ 35 1,2-Dichloroethane-d4	65	4.469	4.469	(1.069)	178544	45.7952	45.79
* 36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	543400	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.670	(1.000)	478719	50.0000	
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	587767	48.3801	48.38
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	199766	47.7171	47.71
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	222736	50.0000	

Data File: \\NAHSTWS005\Target\chem\voa6.i\X211105.b\X110518.D
Date : 05-NOV-2021 16:50
Client ID: HS21101554-01
Sample Info: HS21101554-01;HS21101554-01;;;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i

Operator: PC
Column diameter: 0.18



Data File: \\NAHSTWS005\Target\chem\voa6.i\X211105.b\X110519.D Page 1
Report Date: 16-Nov-2021 16:56

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X211105.b\X110519.D
Lab Smp Id: HS21101554-02 Client Smp ID: HS21101554-02
Inj Date : 05-NOV-2021 17:11
Operator : PC Inst ID: voa6.i
Smp Info : HS21101554-02;HS21101554-02;;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X211105.b\8260W.m
Meth Date : 16-Nov-2021 16:50 kori.bagsb Quant Type: ISTD
Cal Date : 08-OCT-2021 15:34 Cal File: X100808.D
Als bottle: 18
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 01474-dod.sub
Target Version: 4.14
Processing Host: NAHSTW7017

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

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

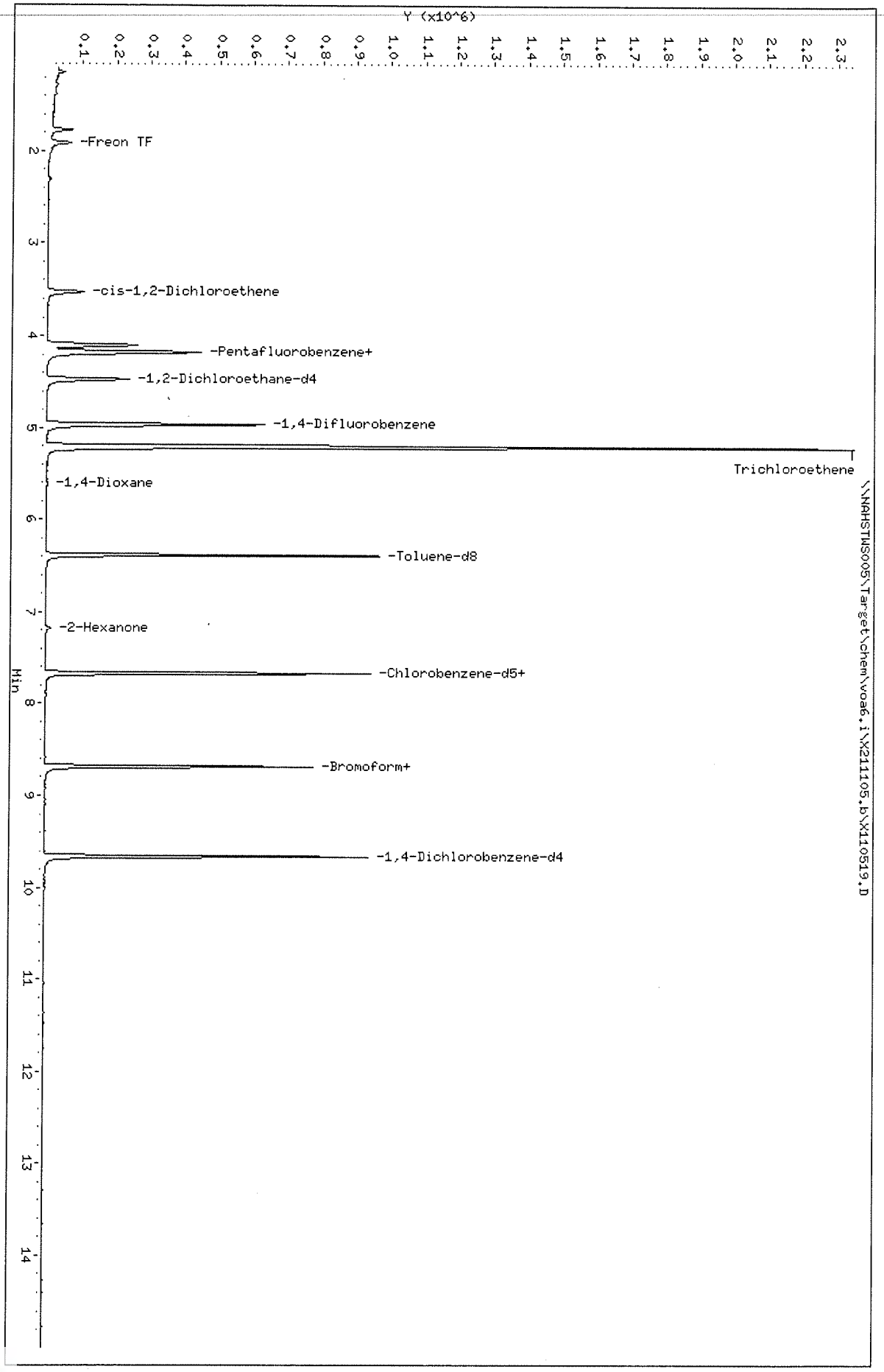
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	400776	50.0000	
$ 30 Dibromofluoromethane	113	4.096	4.096	(0.979)	184706	46.8811	46.88
$ 35 1,2-Dichloroethane-d4	65	4.469	4.469	(1.068)	178194	44.4709	44.47
* 36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	548127	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.670	(1.000)	506243	50.0000	
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	602317	46.8823	46.88
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	211804	47.8455	47.84
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	242665	50.0000	
5 Vinyl Chloride	62	1.145	1.145	(0.274)	17688	4.20951	4.20(a)
27 cis-1,2-Dichloroethene	96	3.530	3.523	(0.844)	60564	14.5353	14.53
38 Trichloroethene	130	5.207	5.206	(1.049)	799628	192.861	192.86

QC Flag Legend

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

Data File: \\NAHSTWS005\Target\chem\voa6.i\X211105.b\X110519.D
Date : 05-NOV-2021 17:11
Client ID: HS21101554-02
Sample Info: HS21101554-02;HS21101554-02;;;
Purge Volume: 5.0
Column phase: DB624

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



Data File: \\NAHSTWS005\Target\chem\voa6.i\X211105.b\X110519.D

Date : 05-NOV-2021 17:11

Client ID: HS21101554-02

Instrument: voa6.i

Sample Info: HS21101554-02;HS21101554-02;;;

Purge Volume: 5.0

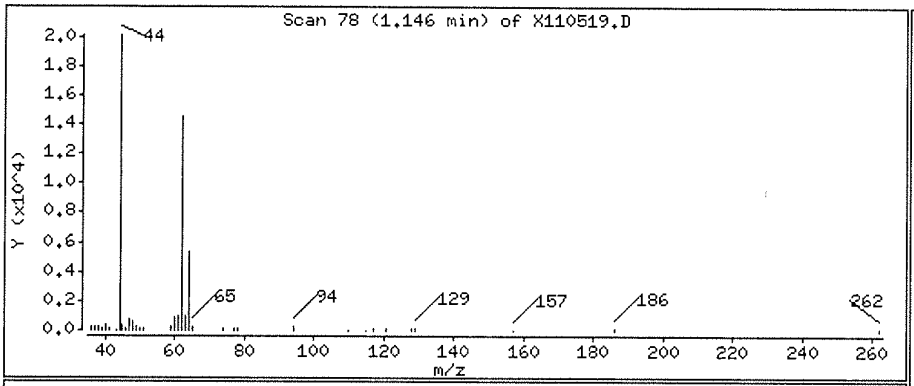
Operator: PC

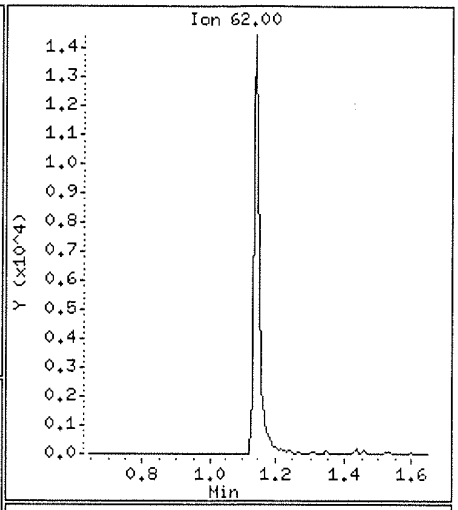
Column phase: DB624

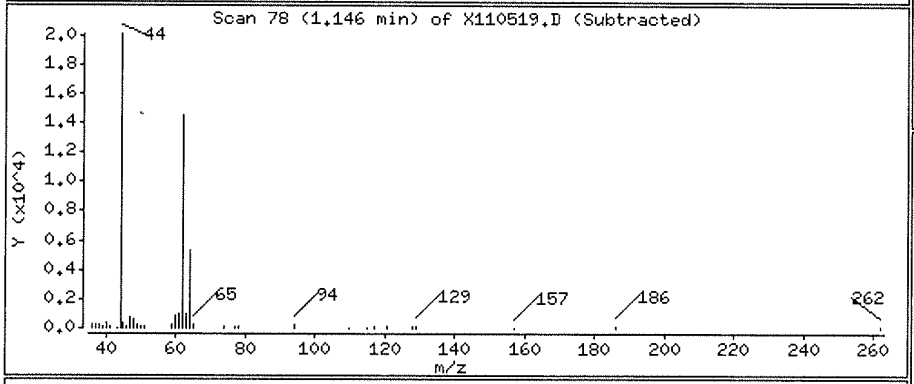
Column diameter: 0.18

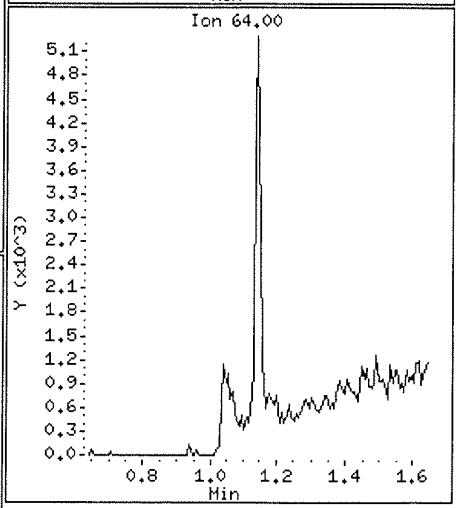
5 Vinyl Chloride

Concentration: 4.20 ug/l









Data File: \\NAHSTWS005\Target\chem\voa6.i\X211105.b\X110519.D

Date : 05-NOV-2021 17:11

Client ID: HS21101554-02

Instrument: voa6.i

Sample Info: HS21101554-02;HS21101554-02;;;

Purge Volume: 5.0

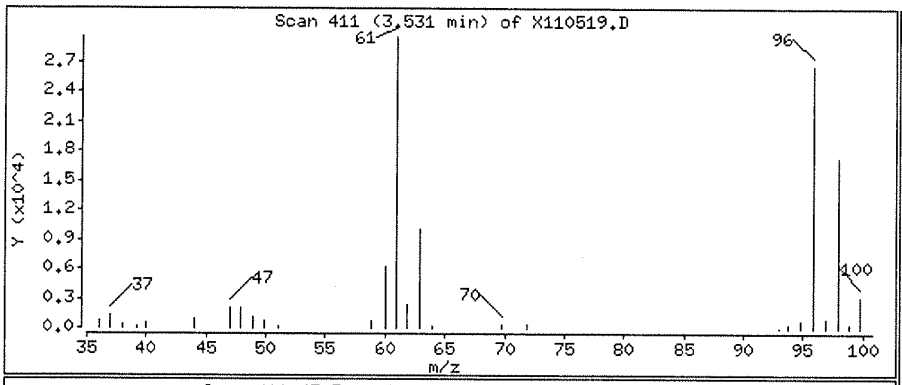
Operator: PC

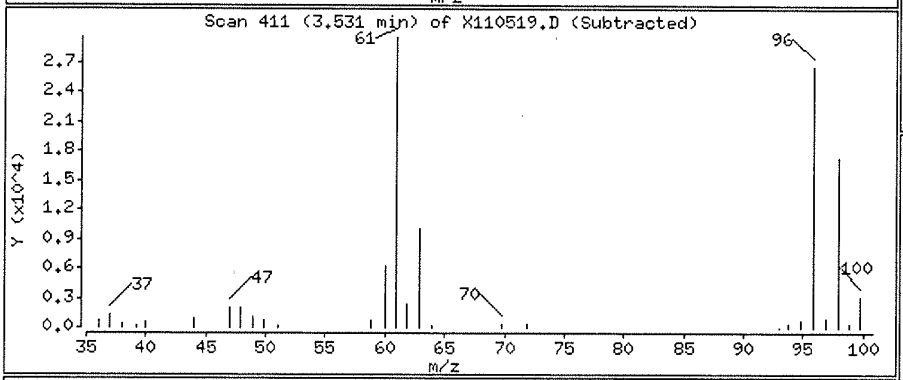
Column phase: DB624

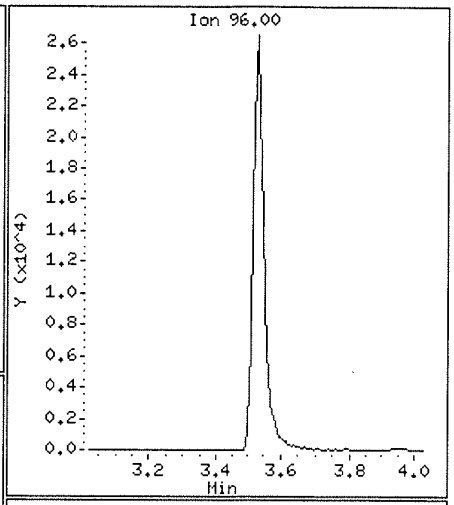
Column diameter: 0.18

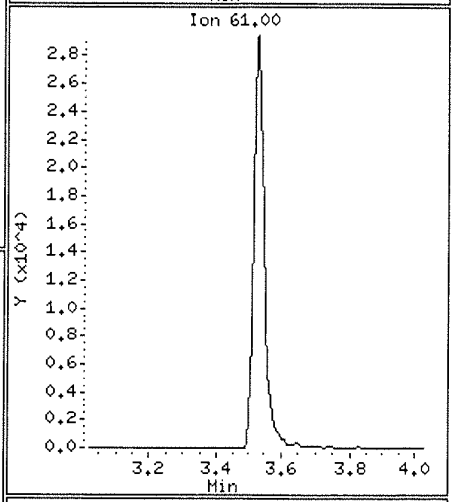
27 cis-1,2-Dichloroethene

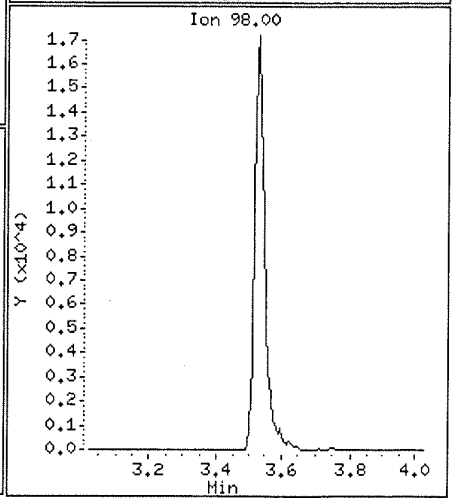
Concentration: 14.53 ug/l











Data File: \\NAHSTWS005\Target\chem\voa6.i\X211105.b\X110519.D

Date : 05-NOV-2021 17:11

Client ID: HS21101554-02

Instrument: voa6.i

Sample Info: HS21101554-02;HS21101554-02;;;

Purge Volume: 5.0

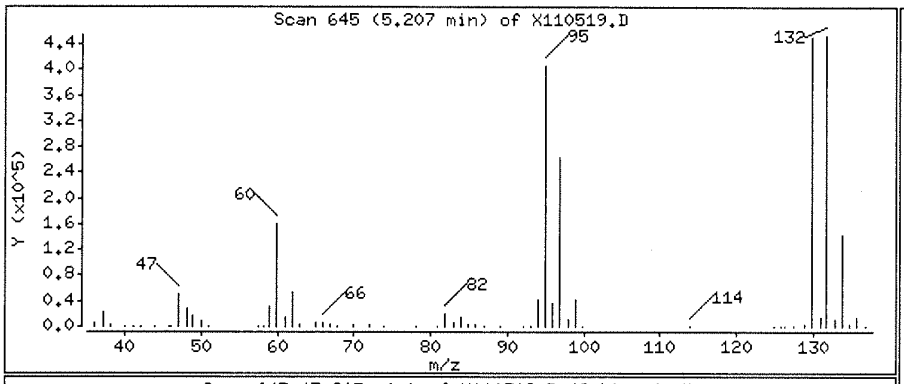
Operator: PC

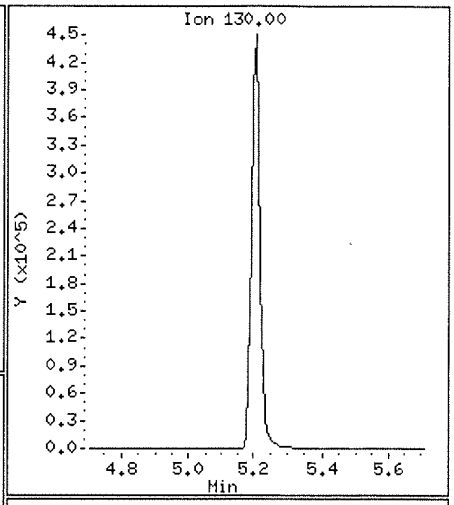
Column phase: DB624

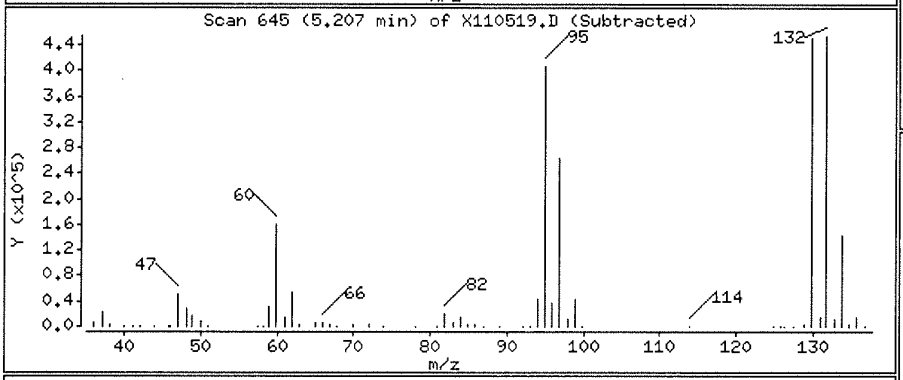
Column diameter: 0.18

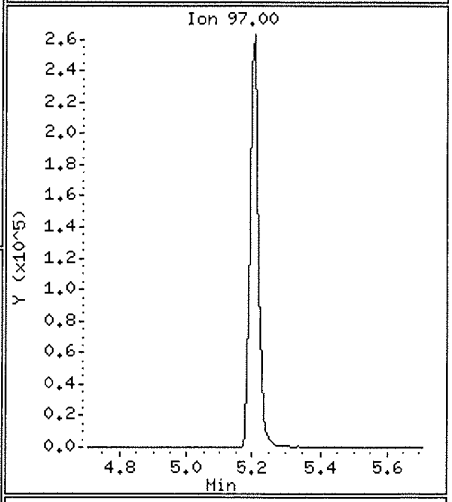
38 Trichloroethene

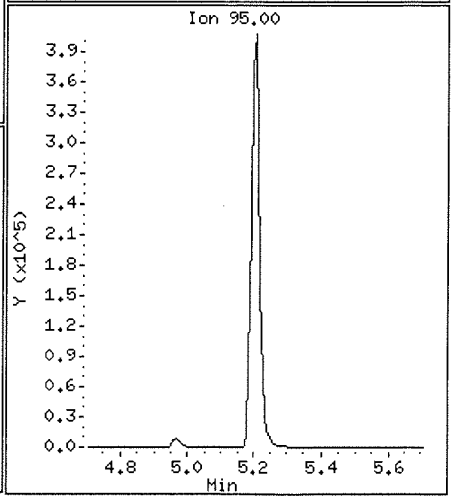
Concentration: 192.86 ug/l











Data File: \\NAHSTWS005\Target\chem\voa6.i\X211105.b\X110520.D Page 1
Report Date: 16-Nov-2021 16:58

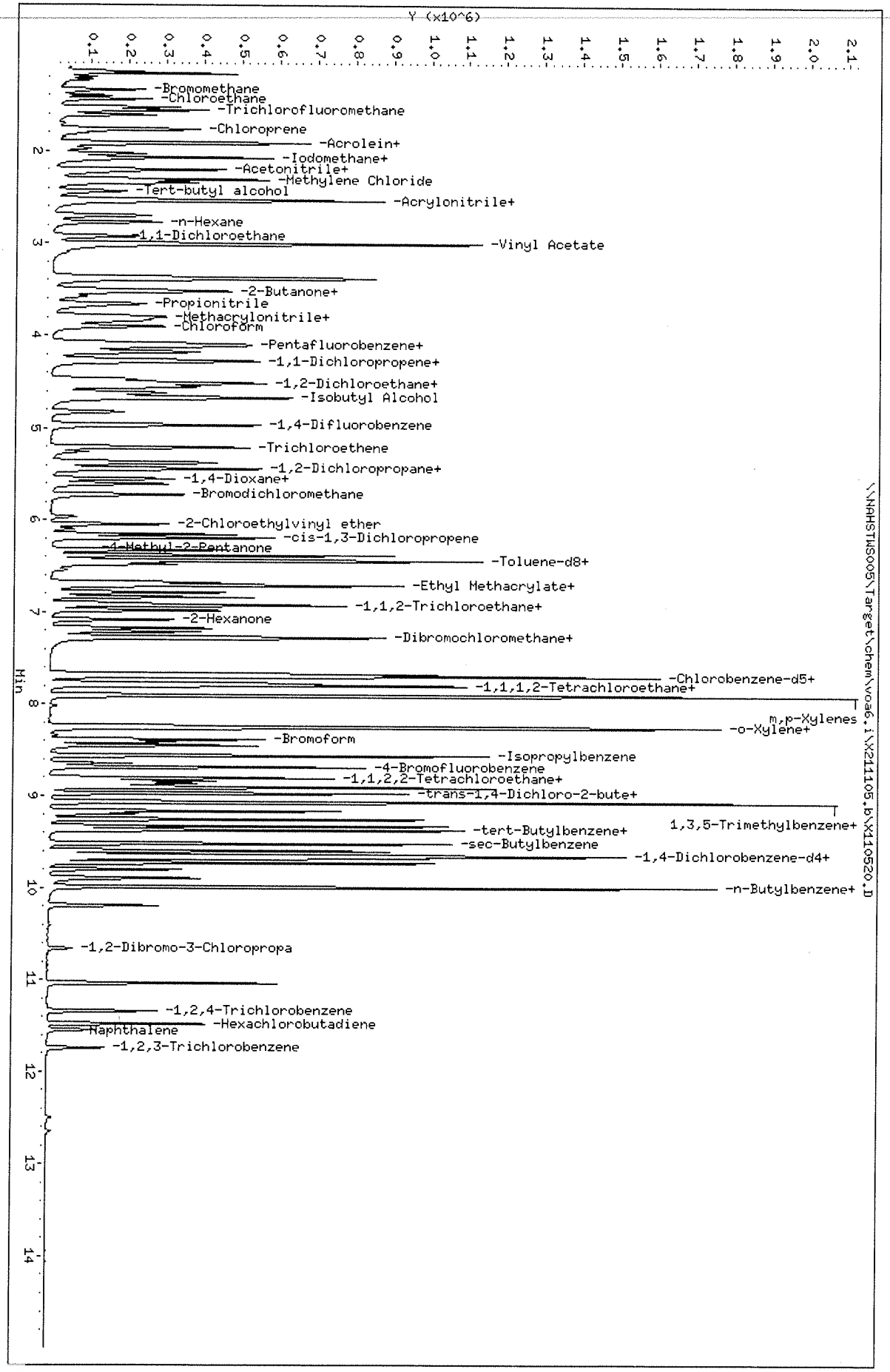
ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X211105.b\X110520.D
Lab Smp Id: CCV-END Client Smp ID: CCV-END
Inj Date : 05-NOV-2021 17:32
Operator : PC Inst ID: voa6.i
Smp Info : CCV-END;CCV-END;2;;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X211105.b\8260W.m
Meth Date : 16-Nov-2021 16:58 voa6.i Quant Type: ISTD
Cal Date : 08-OCT-2021 15:34 Cal File: X100808.D
Als bottle: 19 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 01474-dod.sub
Target Version: 4.14
Processing Host: NAHSTW7017

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

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

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	336177	50.0000	
$ 30 Dibromofluoromethane	113	4.096	4.096	(0.979)	171165	50.0000	51.91
$ 35 1,2-Dichloroethane-d4	65	4.469	4.469	(1.069)	165083	50.0000	49.32
* 36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	486003	50.0000	
* 47 Chlorobenzene-d5	117	7.670	7.670	(1.000)	463359	50.0000	
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	552962	50.0000	47.02
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	204017	50.0000	50.42
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	240693	50.0000	
5 Vinyl Chloride	62	1.145	1.145	(0.274)	152427	50.0000	43.24
11 1,1-Dichloroethene	96	1.919	1.919	(0.459)	131198	50.0000	43.75
17 Methylene Chloride	84	2.305	2.305	(0.551)	145832	50.0000	49.72
27 cis-1,2-Dichloroethene	96	3.523	3.523	(0.842)	166015	50.0000	47.49
33 1,2-Dichloroethane	62	4.555	4.555	(0.918)	187085	50.0000	45.89
38 Trichloroethene	130	5.206	5.206	(1.049)	178386	50.0000	48.52
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	113906	50.0000	46.06



Data File: \\NAHSTWS005\Target\chem\voa6.i\X211105.b\X110520.D
Date : 05-NOV-2021 17:32
Client ID: CCV-END
Sample Info: CCV-END;CCV-END;2;;;
Purge Volume: 5.0
Column phase: DB624

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

MSVOA06 -Logbook

Batch: 47080
Date: 11-07-2021
Method: 8260
Comments:

Analyst: Presenta Cabascango
Reviewer:
Laboratory: Houston

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	I
1	BFB	TUNE	11-07-2021 11:24 am	1.00	50 mL	50 mL	X110701.D	Liquid	Y	N
2	CCV	CCV	11-07-2021 11:45 am	1.00	50 mL	50 mL	X110702a.D	Liquid	Y	N
3	CCV	CCV	11-07-2021 12:06 pm	1.00	50 mL	50 mL	X110703.D	Liquid	Y	N
4	CCB	SAMP	11-07-2021 12:27 pm	1.00	50 mL	50 mL	X110704.D	Liquid	Y	N
5	VLCSW-211107	LCS	11-07-2021 12:48 pm	1.00	50 mL	50 mL	X110705.D	Liquid	Y	N
6	BLANK	SAMP	11-07-2021 01:09 pm	1.00	50 mL	50 mL	X110706.D	Liquid	Y	N
7	VBLKW-211107	MBLK	11-07-2021 01:30 pm	1.00	50 mL	50 mL	X110707.D	Liquid	Y	N
8	HS21101554-19	SAMP	11-07-2021 01:51 pm	1.00	50 mL	50 mL	X110708.D	Liquid	Y	N
9	HS21110377-01	SAMP	11-07-2021 02:12 pm	1.00	50 mL	50 mL	X110709.D	Liquid	Y	N
10	HS21110377-02	SAMP	11-07-2021 02:33 pm	1.00	50 mL	50 mL	X110710.D	Liquid	Y	N
11	HS21101554-04	SAMP	11-07-2021 02:54 pm	1.00	50 mL	50 mL	X110711.D	Liquid	Y	N
12	HS21101554-05	SAMP	11-07-2021 03:16 pm	1.00	50 mL	50 mL	X110712.D	Liquid	Y	N
13	HS21101554-03	SAMP	11-07-2021 03:37 pm	5.00	10 mL	50 mL	X110713.D	Liquid	Y	N
14	HS21101554-03	SAMP	11-07-2021 03:58 pm	25.00	2 mL	50 mL	X110714.D	Liquid	Y	N
15	HS21101554-07	SAMP	11-07-2021 04:19 pm	1.00	50 mL	50 mL	X110715.D	Liquid	Y	N
16	HS21101554-03MS	MS	11-07-2021 04:40 pm	25.00	2 mL	50 mL	X110716.D	Liquid	Y	N
17	HS21101554-03MSD	MSD	11-07-2021 05:01 pm	25.00	2 mL	50 mL	X110717.D	Liquid	Y	N
18	BLANK	SAMP	11-07-2021 05:22 pm	1.00	50 mL	50 mL	X110718.D	Liquid	Y	N
19	HS21101554-06	SAMP	11-07-2021 05:43 pm	5.00	10 mL	50 mL	X110719.D	Liquid	Y	N
20	HS21101554-06n/r	SAMP	11-07-2021 06:04 pm	25.00	2 mL	50 mL	X110720.D	Liquid	Y	N
21	HS21101554-11	SAMP	11-07-2021 06:25 pm	5.00	10 mL	50 mL	X110721.D	Liquid	Y	N
22	HS21101554-11n/r	SAMP	11-07-2021 06:46 pm	25.00	2 mL	50 mL	X110722.D	Liquid	Y	N
23	HS21101554-12	SAMP	11-07-2021 07:07 pm	5.00	10 mL	50 mL	X110723.D	Liquid	Y	N
24	HS21101554-12n/r	SAMP	11-07-2021 07:28 pm	25.00	2 mL	50 mL	X110724.D	Liquid	Y	N
25	HS21101554-09	SAMP	11-07-2021 07:49 pm	10.00	5 mL	50 mL	X110725.D	Liquid	Y	N
26	HS21101554-09	SAMP	11-07-2021 08:10 pm	100.0(	500 µL	50 mL	X110726.D	Liquid	Y	N
27	HS21101554-10	SAMP	11-07-2021 08:31 pm	10.00	5 mL	50 mL	X110727.D	Liquid	Y	N
28	HS21101554-10	SAMP	11-07-2021 08:52 pm	100.0(	500 µL	50 mL	X110728.D	Liquid	Y	N
29	HS21101554-08	SAMP	11-07-2021 09:13 pm	25.00	2 mL	50 mL	X110729.D	Liquid	Y	N
30	HS21101554-08	SAMP	11-07-2021 09:34 pm	250.0(	200 µL	50 mL	X110730.D	Liquid	Y	N
31	CCV-END	CCV	11-07-2021 09:55 pm	1.00	50 mL	50 mL	X110731.D	Liquid	Y	N
32	BFB	TUNE	11-07-2021 10:17 pm	1.00	50 mL	50 mL	Y110701.D	Liquid	Y	N
33	CCV	CCV	11-07-2021 10:37 pm	1.00	50 mL	50 mL	Y110702a.D	Liquid	Y	N
34	CCV	CCV	11-07-2021 10:58 pm	1.00	50 mL	50 mL	Y110703.D	Liquid	Y	N
35	CCB	SAMP	11-07-2021 11:19 pm	1.00	50 mL	50 mL	Y110704.D	Liquid	Y	N
36	VLCSW-211107	LCS	11-07-2021 11:40 pm	1.00	50 mL	50 mL	Y110705.D	Liquid	Y	N
37	BLANK	SAMP	11-08-2021 12:01 am	1.00	50 mL	50 mL	Y110706.D	Liquid	Y	N
38	VBLKW-211107	MBLK	11-08-2021 12:23 am	1.00	50 mL	50 mL	Y110707.D	Liquid	Y	N
39	HS21101535-06	SAMP	11-08-2021 12:44 am	250.0(	200 µL	50 mL	Y110708.D	Liquid	Y	N
40	HS21110384-07	SAMP	11-08-2021 01:05 am	1.00	50 mL	50 mL	Y110709.D	Liquid	Y	N
41	HS21110384-01	SAMP	11-08-2021 01:26 am	1.00	50 mL	50 mL	Y110710.D	Liquid	Y	N

MSVOA06 -Logbook

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	E
42	HS21110384-05	SAMP	11-08-2021 01:47 am	1.00	50 mL	50 mL	Y110711.D	Liquid	Y	N
43	HS21110384-02	SAMP	11-08-2021 02:08 am	1.00	50 mL	50 mL	Y110712.D	Liquid	Y	N
44	HS21110384-03	SAMP	11-08-2021 02:29 am	1.00	50 mL	50 mL	Y110713.D	Liquid	Y	N
45	HS21110384-04	SAMP	11-08-2021 02:50 am	1.00	50 mL	50 mL	Y110714.D	Liquid	Y	N
46	HS21110384-06	SAMP	11-08-2021 03:11 am	20.00	2.5 mL	50 mL	Y110715.D	Liquid	Y	N
47	HS21101535-06MS	MS	11-08-2021 03:32 am	250.0(	200 µL	50 mL	Y110716.D	Liquid	Y	N
48	HS21101535-06MS	MSD	11-08-2021 03:53 am	250.0(	200 µL	50 mL	Y110717.D	Liquid	Y	N
49	HS21101535-11	SAMP	11-08-2021 04:14 am	5.00	10 mL	50 mL	Y110718.D	Liquid	Y	N
50	HS21101609-22	SAMP	11-08-2021 04:35 am	50.00	1 mL	50 mL	Y110719.D	Liquid	Y	N
51	HS21101609-22	SAMP	11-08-2021 04:56 am	250.0(	200 µL	50 mL	Y110720.D	Liquid	Y	N
52	HS21101609-23	SAMP	11-08-2021 05:17 am	50.00	1 mL	50 mL	Y110721.D	Liquid	Y	N
53	HS21101609-24	SAMP	11-08-2021 05:39 am	10.00	5 mL	50 mL	Y110722.D	Liquid	Y	N
54	HS21110251-01	SAMP	11-08-2021 06:00 am	1.00	50 mL	50 mL	Y110723.D	Liquid	Y	N
55	HS21110127-07	SAMP	11-08-2021 06:21 am	1.00	50 mL	50 mL	Y110724.D	Liquid	Y	N
56	HS21110131-40	SAMP	11-08-2021 06:42 am	1.00	50 mL	50 mL	Y110725.D	Liquid	Y	N
57	HS21110253-16	SAMP	11-08-2021 07:03 am	1.00	50 mL	50 mL	Y110726.D	Liquid	Y	N
58	HS21110300-40	SAMP	11-08-2021 07:24 am	1.00	50 mL	50 mL	Y110727.D	Liquid	Y	N
59	HS21110219-40	SAMP	11-08-2021 07:45 am	1.00	50 mL	50 mL	Y110728.D	Liquid	Y	N
60	HS21110222-40	SAMP	11-08-2021 08:06 am	1.00	50 mL	50 mL	Y110729.D	Liquid	Y	N
61	BLANK	SAMP	11-08-2021 08:27 am	1.00	50 mL	50 mL	Y110730.D	Liquid	Y	N

FORM 2

WATER VOLATILE SURROGATE RECOVERY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS21101554

	CLIENT SAMPLE NO.	S1 #	S2 (DCE)#	S3 (TOL)#	S4 #	S5 #	S6 #	S7 #	S8 #	TOT OUT
01	VLCSW-211107	102	95	92	100					0
02	VBLKW-211107	92	87	98	95					0
03	HS21101554-19	92	83	94	96					0
04	HS21101554-04	92	86	94	97					0
05	HS21101554-05	89	84	95	94					0
06	HS21101554-03	90	84	97	91					0
07	HS21101554-03	90	83	96	96					0
08	HS21101554-07	92	85	94	93					0
09	HS21101554-03MS	90	83	96	97					0
10	HS21101554-03MSD	88	82	95	99					0
11	HS21101554-06	91	84	97	95					0
12	HS21101554-11	91	86	97	95					0
13	HS21101554-12	93	86	98	96					0
14	HS21101554-09	90	84	96	92					0
15	HS21101554-09	90	87	97	98					0
16	HS21101554-10	93	86	96	95					0
17	HS21101554-10	92	86	96	94					0
18	HS21101554-08	92	86	96	96					0
19	HS21101554-08	93	87	95	94					0
20										
21										
22										
23										
24										
25										
26										
27										
28										

		QC LIMITS
S1	= Dibromofluoromethane	(70-130)
S2 (DCE)	= 1,2-Dichloroethane-d4	(70-130)
S3 (TOL)	= Toluene-d8	(70-130)
S4	= 4-Bromofluorobenzene	(70-130)

\# Column to be used to flag recovery values

* Values outside of contract required QC limits

D Surrogate diluted out

FORM 4
VOLATILE METHOD BLANK SUMMARY

CLIENT SAMPLE NO.
VBLKW-211107

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS21101554

Lab File ID: X110707 Lab Sample ID: VBLKW-211107

Date Analyzed: 11/07/21 Time Analyzed: 1330

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

Instrument ID: VOA6

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	VLCSW-211107	VLCSW-211107	X110705	1248
02	HS21101554-19	HS21101554-19	X110708	1351
03	HS21101554-04	HS21101554-04	X110711	1454
04	HS21101554-05	HS21101554-05	X110712	1516
05	HS21101554-03	HS21101554-03	X110713	1537
06	HS21101554-03	HS21101554-03	X110714	1558
07	HS21101554-07	HS21101554-07	X110715	1619
08	HS21101554-03MS	HS21101554-03MS	X110716	1640
09	HS21101554-03MSD	HS21101554-03MSD	X110717	1701
10	HS21101554-06	HS21101554-06	X110719	1743
11	HS21101554-11	HS21101554-11	X110721	1825
12	HS21101554-12	HS21101554-12	X110723	1907
13	HS21101554-09	HS21101554-09	X110725	1949
14	HS21101554-09	HS21101554-09	X110726	2010
15	HS21101554-10	HS21101554-10	X110727	2031
16	HS21101554-10	HS21101554-10	X110728	2052
17	HS21101554-08	HS21101554-08	X110729	2113
18	HS21101554-08	HS21101554-08	X110730	2134
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				

COMMENTS:

FORM IV VOA

FORM 5
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS21101554

Lab File ID: X110701 BFB Injection Date: 11/07/21

Instrument ID: VOA6 BFB Injection Time: 1124

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

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	15.5
75	30.0 - 60.0% of mass 95	42.5
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.5
173	Less than 2.0% of mass 174	1.0 (1.0)1
174	Greater than 50.0% of mass 95	105.9
175	5.0 - 9.0% of mass 174	8.1 (7.6)1
176	95.0 - 101.0% of mass 174	102.0 (96.3)1
177	5.0 - 9.0% of mass 176	7.0 (6.9)2

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

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	CCV	CCV	X110703	11/07/21	1206
02	VLCSW-211107	VLCSW-211107	X110705	11/07/21	1248
03	VBLKW-211107	VBLKW-211107	X110707	11/07/21	1330
04	HS21101554-19	HS21101554-19	X110708	11/07/21	1351
05	HS21101554-04	HS21101554-04	X110711	11/07/21	1454
06	HS21101554-05	HS21101554-05	X110712	11/07/21	1516
07	HS21101554-03	HS21101554-03	X110713	11/07/21	1537
08	HS21101554-03	HS21101554-03	X110714	11/07/21	1558
09	HS21101554-07	HS21101554-07	X110715	11/07/21	1619
10	HS21101554-03MS	HS21101554-03MS	X110716	11/07/21	1640
11	HS21101554-03MSD	HS21101554-03MSD	X110717	11/07/21	1701
12	HS21101554-06	HS21101554-06	X110719	11/07/21	1743
13	HS21101554-11	HS21101554-11	X110721	11/07/21	1825
14	HS21101554-12	HS21101554-12	X110723	11/07/21	1907
15	HS21101554-09	HS21101554-09	X110725	11/07/21	1949
16	HS21101554-09	HS21101554-09	X110726	11/07/21	2010
17	HS21101554-10	HS21101554-10	X110727	11/07/21	2031
18	HS21101554-10	HS21101554-10	X110728	11/07/21	2052
19	HS21101554-08	HS21101554-08	X110729	11/07/21	2113
20	HS21101554-08	HS21101554-08	X110730	11/07/21	2134
21	CCV-END	CCV-END	X110731	11/07/21	2155
22					

FORM V VOA

FORM 7B
VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS21101554

Instrument ID: VOA6 Calibration Date: 11/07/21 Time: 1206

Lab File ID: X110703 Init. Calib. Date(s): 10/08/21 10/08/21

Init. Calib. Times: 1308 1637

GC Column: DB624 ID: 0.18 (mm)

COMPOUND	RRF or AMOUNT	RRF50.000 or AMOUNT	CCAL RRF50.000	MIN RRF	%D or %DRIFT	MAX %D or %DRIFT	CURV TYPE
Methylene Chloride	52.080431	50.000000	0.4538297	0.1	-4.16	20.00	LINR
1,1,2-Trichloroethane	0.2670000	0.2600285	0.2600285	0.1	2.61	20.00	AVRG
Trichloroethene	0.3780000	0.3903408	0.3903408	0.2	-3.26	20.00	AVRG
Vinyl Chloride	0.5240000	0.4801828	0.4801828	0.1	8.36	20.00	AVRG
1,1-Dichloroethene	0.4460000	0.4201657	0.4201657	0.1	5.79	20.00	AVRG
1,2-Dichloroethane	0.4190000	0.3988226	0.3988226	0.1	4.82	20.00	AVRG
cis-1,2-Dichloroethene	0.5200000	0.5157699	0.5157699	0.1	0.81	20.00	AVRG
1,2-Dichloroethane-d4	46.857819	50.000000	0.4674433	0.1	6.28	20.00	LINR
Dibromofluoromethane	50.744758	50.000000	0.4979515	0.1	-1.49	20.00	LINR
4-Bromofluorobenzene	50.075045	50.000000	0.4373381	0.1	-0.15	20.00	LINR
Toluene-d8	1.2690000	1.1746018	1.1746018	0.1	7.44	20.00	AVRG

FORM VII VOA

FORM 7B
VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS21101554

Instrument ID: VOA6 Calibration Date: 11/07/21 Time: 2155

Lab File ID: X110731 Init. Calib. Date(s): 10/08/21 10/08/21

Init. Calib. Times: 1308 1637

GC Column: DB624 ID: 0.18 (mm)

COMPOUND	RRF or AMOUNT	RRF50.000 or AMOUNT	CCAL RRF50.000	MIN RRF	%D or %DRIFT	MAX %D or %DRIFT	CURV TYPE
Methylene Chloride	48.500134	50.000000	0.4233719	0.1	3.00	50.00	LINR
1,1,2-Trichloroethane	0.2670000	0.2422852	0.2422852	0.1	9.26	50.00	AVRG
Trichloroethene	0.3780000	0.3774624	0.3774624	0.2	0.14	50.00	AVRG
Vinyl Chloride	0.5240000	0.4348415	0.4348415	0.1	17.01	50.00	AVRG
1,1-Dichloroethene	0.4460000	0.3953703	0.3953703	0.1	11.35	50.00	AVRG
1,2-Dichloroethane	0.4190000	0.3760659	0.3760659	0.1	10.25	50.00	AVRG
cis-1,2-Dichloroethene	0.5200000	0.4920466	0.4920466	0.1	5.38	50.00	AVRG
1,2-Dichloroethane-d4	46.961406	50.000000	0.4684337	0.1	6.08	50.00	LINR
Dibromofluoromethane	52.060164	50.000000	0.5105757	0.1	-4.12	50.00	LINR
4-Bromofluorobenzene	49.470869	50.000000	0.4322018	0.1	1.06	50.00	LINR
Toluene-d8	1.2690000	1.1552919	1.1552919	0.1	8.96	50.00	AVRG

FORM VII VOA

FORM 8

VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS21101554

Lab File ID (Standard): X110703 Date Analyzed: 11/07/21

Instrument ID: VOA6 Time Analyzed: 1206

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

		IS1 AREA #	IS1 RT #	IS2(DFB) AREA #	IS2(DFB) RT #	IS3(CBZ) AREA #	IS3(CBZ) RT #
	12 HOUR STD	343186	4.18	487866	4.96	466049	7.67
	UPPER LIMIT	686372	4.68	975732	5.46	932098	8.17
	LOWER LIMIT	171593	3.68	243933	4.46	233025	7.17
	CLIENT SAMPLE NO.						
01	VLCSW-211107	340935	4.18	483544	4.96	460241	7.67
02	VBLKW-211107	408355	4.18	552328	4.96	479627	7.67
03	HS21101554-19	423760	4.18	565836	4.96	509841	7.67
04	HS21101554-04	421497	4.18	571792	4.96	519535	7.67
05	HS21101554-05	421237	4.18	567486	4.96	507225	7.67
06	HS21101554-03	419387	4.18	568043	4.96	493613	7.67
07	HS21101554-03	420165	4.18	557986	4.96	501743	7.67
08	HS21101554-07	413920	4.18	563346	4.96	505483	7.67
09	HS21101554-03MS	429352	4.18	574107	4.96	515702	7.67
10	HS21101554-03MSD	434544	4.18	578719	4.96	522987	7.67
11	HS21101554-06	409319	4.18	548983	4.96	474742	7.67
12	HS21101554-11	409286	4.18	550534	4.96	487241	7.67
13	HS21101554-12	406465	4.18	545278	4.96	482201	7.67
14	HS21101554-09	415104	4.18	555226	4.96	493254	7.67
15	HS21101554-09	412293	4.18	551568	4.96	488313	7.67
16	HS21101554-10	407213	4.18	550182	4.96	492617	7.67
17	HS21101554-10	406187	4.18	548184	4.96	488439	7.67
18	HS21101554-08	407570	4.18	546638	4.96	484827	7.67
19	HS21101554-08	396377	4.18	542073	4.96	482919	7.67
20							

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

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

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

FORM VIII VOA

FORM 8
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS21101554

Lab File ID (Standard): X110703 Date Analyzed: 11/07/21

Instrument ID: VOA6 Time Analyzed: 1206

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

		IS4(DCB) AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	245509	9.66				
	UPPER LIMIT	491018	10.16				
	LOWER LIMIT	122755	9.16				
	CLIENT SAMPLE NO.						
01	VLCSW-211107	236307	9.66				
02	VBLKW-211107	230787	9.66				
03	HS21101554-19	248747	9.66				
04	HS21101554-04	250178	9.66				
05	HS21101554-05	240186	9.66				
06	HS21101554-03	220506	9.66				
07	HS21101554-03	231752	9.66				
08	HS21101554-07	231968	9.66				
09	HS21101554-03MS	257862	9.66				
10	HS21101554-03MSD	264795	9.66				
11	HS21101554-06	226626	9.66				
12	HS21101554-11	228248	9.66				
13	HS21101554-12	234141	9.66				
14	HS21101554-09	223953	9.66				
15	HS21101554-09	239487	9.66				
16	HS21101554-10	245651	9.66				
17	HS21101554-10	231227	9.66				
18	HS21101554-08	233128	9.66				
19	HS21101554-08	225215	9.66				
20							

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

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

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

FORM VIII VOA

Data File: \\NAHSTWS005\Target\chem\voa6.i\X211107.b\X110701.D

Date : 07-NOV-2021 11:24

Client ID: BFB

Instrument: voa6.i

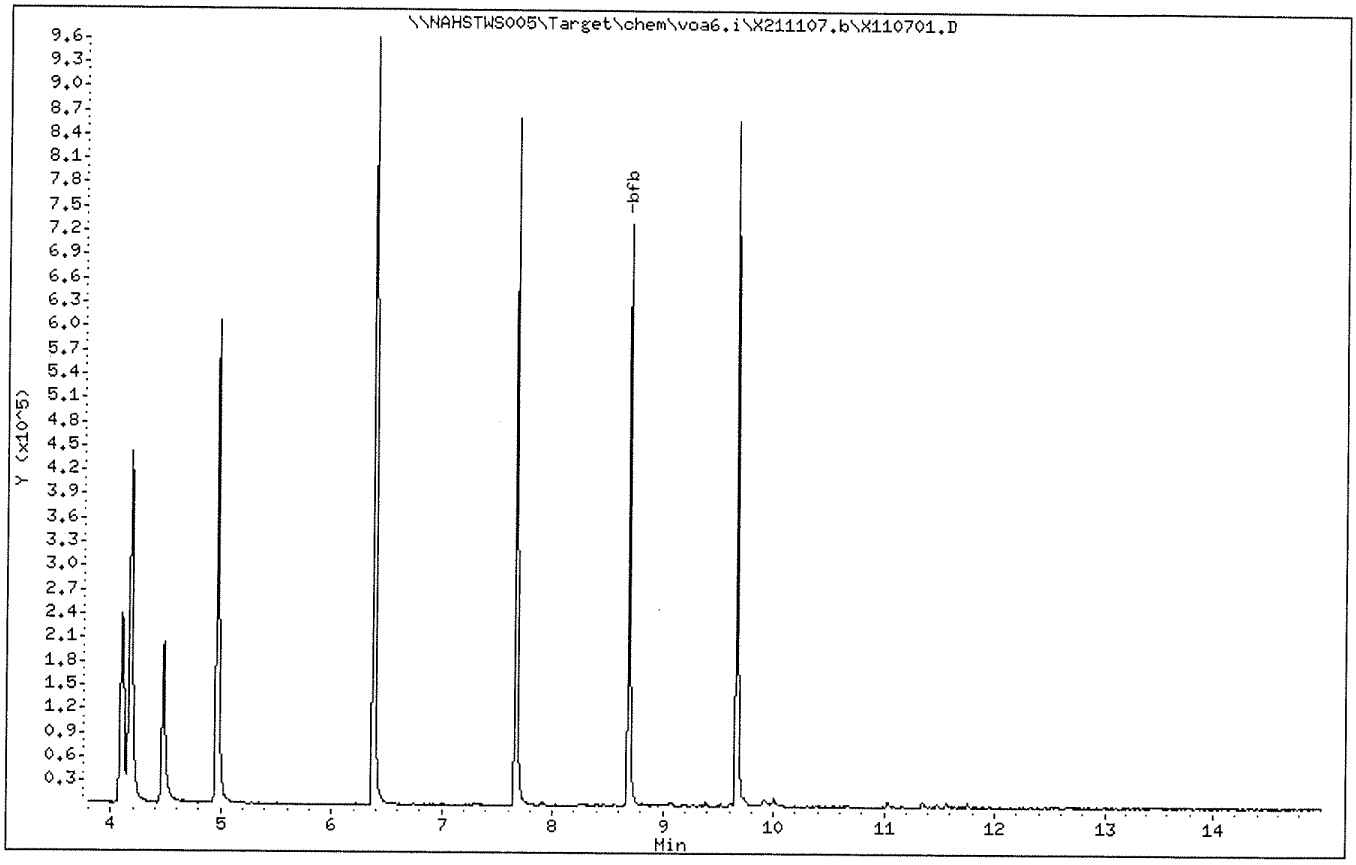
Sample Info: BFB;BFB;3;;BFB

Volume Injected (uL): 2.0

Operator: PC

Column phase: DB624

Column diameter: 0.25



Data File: \\NAHSTWS005\Target\chem\voa6.i\X211107.b\X110701.D

Date : 07-NOV-2021 11:24

Client ID: BFB

Instrument: voa6.i

Sample Info: BFB;BFB;3;;BFB

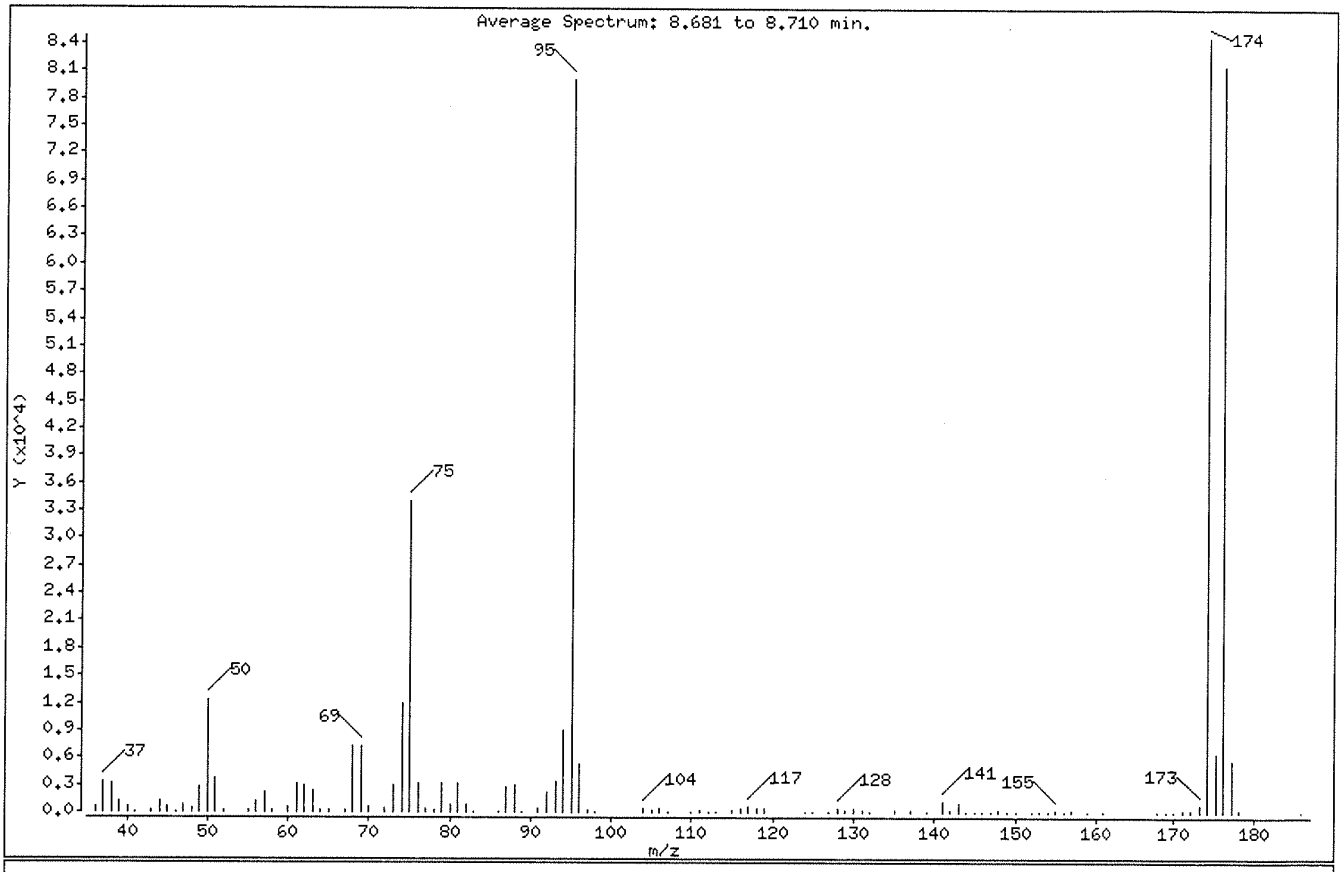
Volume Injected (uL): 2.0

Operator: PC

Column phase: DB624

Column diameter: 0.25

1 bfb



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	15.48
75	30.00 - 60.00% of mass 95	42.46
96	5.00 - 9.00% of mass 95	6.55
173	Less than 2.00% of mass 174	1.02 (0.96)
174	Greater than 50.00% of mass 95	105.90
175	5.00 - 9.00% of mass 174	8.06 (7.61)
176	95.00 - 101.00% of mass 174	102.00 (96.31)
177	5.00 - 9.00% of mass 176	6.99 (6.85)

Data File: \\NAHSTWS005\Target\chem\voa6.i\X211107.b\X110701.D

Date : 07-NOV-2021 11:24

Client ID: BFB

Instrument: voa6.i

Sample Info: BFB;BFB;3;;BFB

Volume Injected (uL): 2.0

Operator: PC

Column phase: DB624

Column diameter: 0.25

Data File: X110701.D
Spectrum: Average Spectrum: 8.681 to 8.710 min.
Location of Maximum: 174.00
Number of points: 108

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	599	69.00	7215	106.00	363	147.00	79
37.00	3374	70.00	627	107.00	46	148.00	246
38.00	3067	72.00	390	110.00	66	149.00	23
39.00	1219	73.00	2905	111.00	150	150.00	88
40.00	541	74.00	11976	112.00	33	152.00	51
41.00	54	75.00	33984	113.00	88	153.00	13
43.00	126	76.00	3048	115.00	129	154.00	25
44.00	1099	77.00	460	116.00	343	155.00	204
45.00	558	78.00	274	117.00	577	156.00	36
46.00	52	79.00	3042	118.00	295	157.00	161
47.00	838	80.00	836	119.00	431	159.00	93
48.00	401	81.00	3161	124.00	84	161.00	79
49.00	2695	82.00	687	125.00	22	168.00	31
50.00	12391	83.00	70	127.00	12	169.00	53
51.00	3802	86.00	42	128.00	386	170.00	18
52.00	128	87.00	2812	129.00	221	171.00	175
55.00	257	88.00	2867	130.00	332	172.00	234
56.00	1093	89.00	21	131.00	147	173.00	815
57.00	2176	91.00	298	132.00	10	174.00	84768
58.00	112	92.00	2185	135.00	185	175.00	6452
60.00	620	93.00	3266	137.00	190	176.00	81640
61.00	3143	94.00	8962	139.00	16	177.00	5595
62.00	2963	95.00	80048	141.00	1107	178.00	161
63.00	2381	96.00	5241	142.00	145	186.00	58
64.00	234	97.00	155	143.00	1024		
65.00	156	98.00	19	144.00	73		
67.00	199	104.00	404	145.00	58		
68.00	7132	105.00	138	146.00	97		

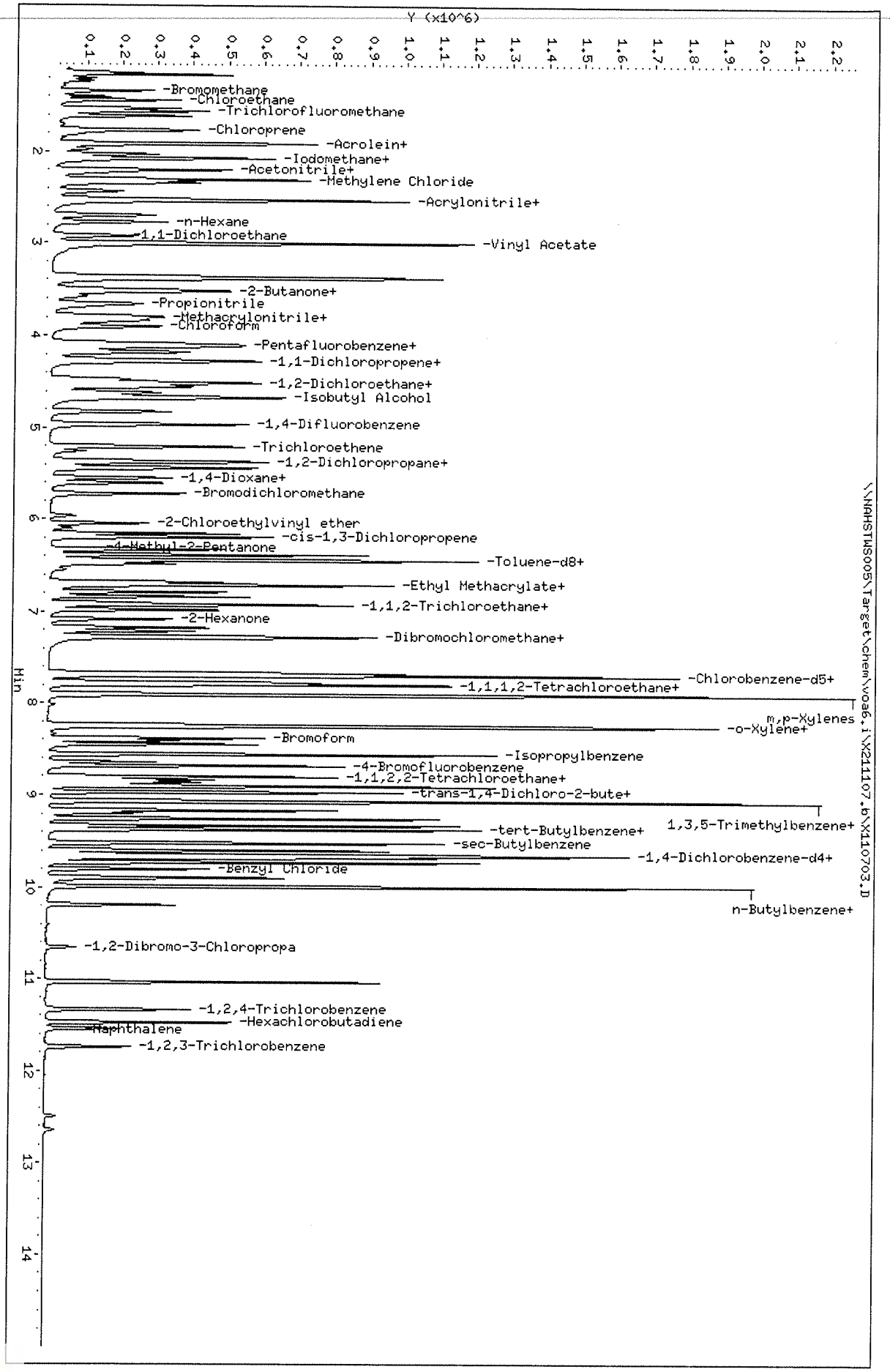
ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X211107.b\X110703.D
Lab Smp Id: CCV Client Smp ID: CCV
Inj Date : 07-NOV-2021 12:06
Operator : PC Inst ID: voa6.i
Smp Info : CCV;CCV;2;;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X211107.b\8260W.m
Meth Date : 16-Nov-2021 17:12 voa6.i Quant Type: ISTD
Cal Date : 08-OCT-2021 15:34 Cal File: X100808.D
Als bottle: 3 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 01474-dod.sub
Target Version: 4.14
Processing Host: NAHSTW7017

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

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

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	343186	50.0000	
$ 30 Dibromofluoromethane	113	4.096	4.096	(0.979)	170890	50.0000	50.74
$ 35 1,2-Dichloroethane-d4	65	4.469	4.469	(1.069)	160420	50.0000	46.85
* 36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	487866	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	466049	50.0000	
$ 48 Toluene-d8	98	6.381	6.381	(0.832)	547422	50.0000	46.28
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	203821	50.0000	50.07
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	245509	50.0000	
5 Vinyl Chloride	62	1.145	1.145	(0.274)	164792	50.0000	45.79
11 1,1-Dichloroethene	96	1.911	1.911	(0.457)	144195	50.0000	47.10
17 Methylene Chloride	84	2.305	2.305	(0.551)	155748	50.0000	52.08
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	177005	50.0000	49.60
33 1,2-Dichloroethane	62	4.555	4.555	(0.918)	194572	50.0000	47.54
38 Trichloroethene	130	5.206	5.206	(1.049)	190434	50.0000	51.60
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	121186	50.0000	48.73



Data File: \\NAHSTWS005\Target\chem\voa6.i\X211107.b\X110703.D
Date : 07-NOV-2021 12:06
Client ID: CCV
Sample Info: CCV;CCV;2;;;
Purge Volume: 5.0
Column phase: DB624

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

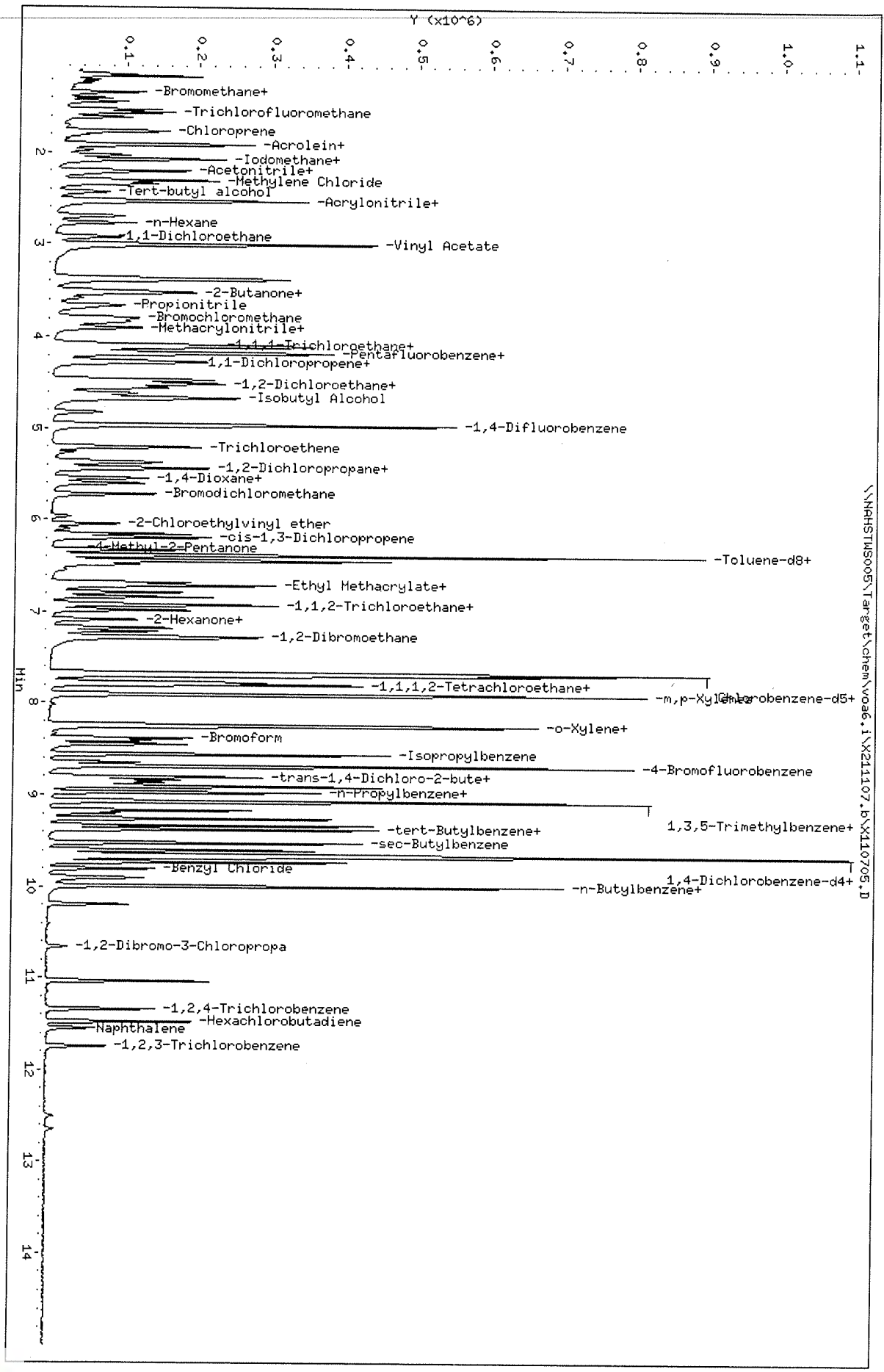
ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X211107.b\X110705.D
Lab Smp Id: VLCSW-211107 Client Smp ID: VLCSW-211107
Inj Date : 07-NOV-2021 12:48
Operator : PC Inst ID: voa6.i
Smp Info : VLCSW-211107;VLCSW-211107;3;;LCS
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X211107.b\8260W.m
Meth Date : 16-Nov-2021 17:12 voa6.i Quant Type: ISTD
Cal Date : 08-OCT-2021 15:34 Cal File: X100808.D
Als bottle: 5 QC Sample: LCS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 01474-dod.sub
Target Version: 4.14
Processing Host: NAHSTW7017

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

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

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	340935	50.0000	
$ 30 Dibromofluoromethane	113	4.096	4.096	(0.979)	170990	51.1179	51.11
$ 35 1,2-Dichloroethane-d4	65	4.469	4.469	(1.069)	162093	47.6939	47.69
* 36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	483544	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	460241	50.0000	
$ 48 Toluene-d8	98	6.381	6.381	(0.832)	536222	45.9094	45.90
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	201277	50.0740	50.07
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	236307	50.0000	
5 Vinyl Chloride	62	1.145	1.145	(0.274)	61552	17.2197	17.21
11 1,1-Dichloroethene	96	1.911	1.911	(0.457)	53328	17.5351	17.53
17 Methylene Chloride	84	2.305	2.305	(0.551)	61904	20.0766	20.07
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	68512	19.3289	19.32
33 1,2-Dichloroethane	62	4.555	4.555	(0.918)	81429	20.0754	20.07
38 Trichloroethene	130	5.206	5.206	(1.049)	71256	19.4815	19.48
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	47954	19.5262	19.52



Data File: \\NAHSTWS005\Target\chem\voa6.i\X211107.b\X110705.D
Date : 07-NOV-2021 12:48
Client ID: VLCSW-211107
Sample Info: VLCSW-211107;VLCSW-211107;3;;LCS
Purge Volume: 5.0
Column phase: DB624

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

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X211107.b\X110707.D
Lab Smp Id: VBLKW-211107 Client Smp ID: VBLKW-211107
Inj Date : 07-NOV-2021 13:30
Operator : PC Inst ID: voa6.i
Smp Info : VBLKW-211107;VBLKW-211107;3;;BLANK
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X211107.b\8260W.m
Meth Date : 16-Nov-2021 17:12 voa6.i Quant Type: ISTD
Cal Date : 08-OCT-2021 15:34 Cal File: X100808.D
Als bottle: 7 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 01474-dod.sub
Target Version: 4.14
Processing Host: NAHSTW7017

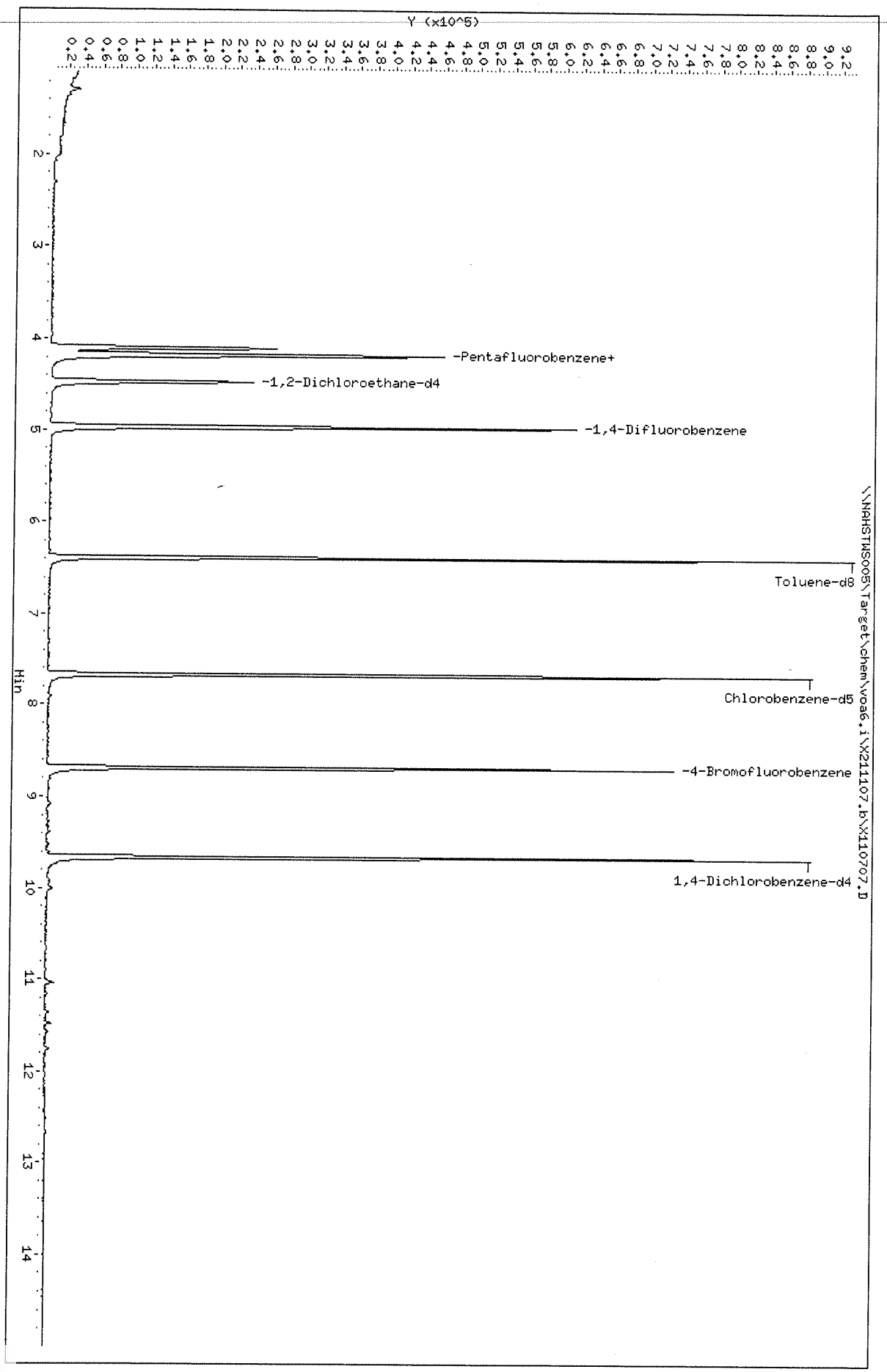
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

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

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	408355	50.0000	
$ 30 Dibromofluoromethane	113	4.096	4.096	(0.979)	184704	45.9893	45.98
$ 35 1,2-Dichloroethane-d4	65	4.469	4.469	(1.069)	178197	43.6085	43.60
* 36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	552328	50.0000	
* 47 Chlorobenzene-d5	117	7.670	7.671	(1.000)	479627	50.0000	
$ 48 Toluene-d8	98	6.388	6.381	(0.833)	594290	48.8245	48.82
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	198799	47.3871	47.38
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	230787	50.0000	

Data File: \\NAHSTWS005\Target\chem\voa6.i\X211107.b\X110707.D
Date : 07-NOV-2021 13:30
Client ID: VBLKW-211107
Sample Info: VBLKW-211107;VBLKW-211107;3;;BLANK
Purge Volume: 5.0
Column phase: DB624

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



ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X211107.b\X110708.D
Lab Smp Id: HS21101554-19 Client Smp ID: HS21101554-19
Inj Date : 07-NOV-2021 13:51
Operator : PC Inst ID: voa6.i
Smp Info : HS21101554-19;HS21101554-19;;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X211107.b\8260W.m
Meth Date : 16-Nov-2021 17:04 kori.bagsb Quant Type: ISTD
Cal Date : 08-OCT-2021 15:34 Cal File: X100808.D
Als bottle: 8
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 01474-dod.sub
Target Version: 4.14
Processing Host: NAHSTW7017

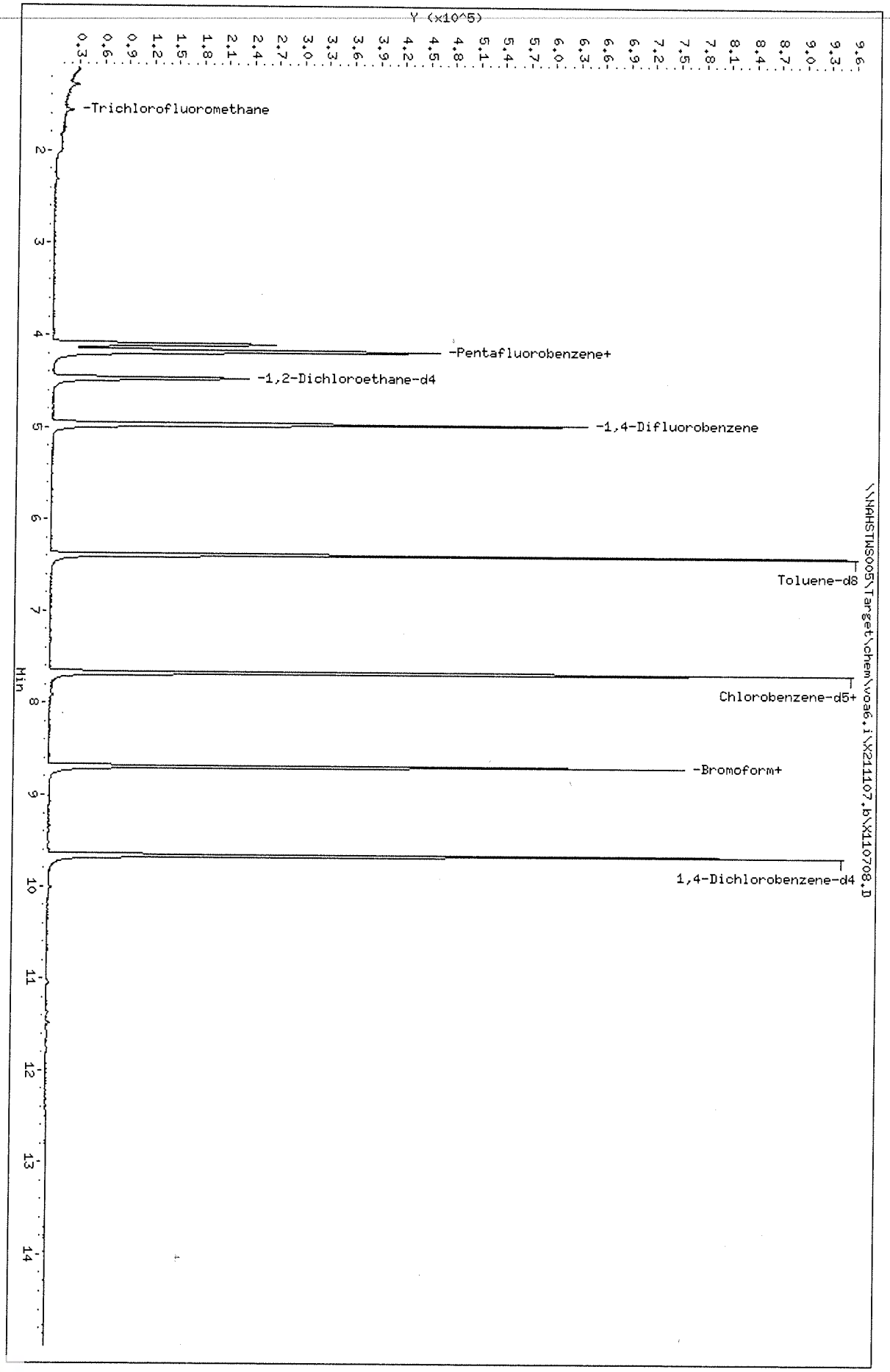
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

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

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	423760	50.0000	
$ 30 Dibromofluoromethane	113	4.096	4.096	(0.979)	192324	46.1496	46.14
$ 35 1,2-Dichloroethane-d4	65	4.469	4.469	(1.069)	175955	41.3959	41.39
* 36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	565836	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	509841	50.0000	
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	607252	46.9328	46.93
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	213773	47.9525	47.95
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	248747	50.0000	

Data File: \\NAHSTWS005\Target\chem\voa6.i\X211107.b\X110708.D
Date : 07-NOV-2021 13:51
Client ID: HS21101554-19
Sample Info: HS21101554-19;HS21101554-19;;;
Purge Volume: 5.0
Column phase: DB624

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



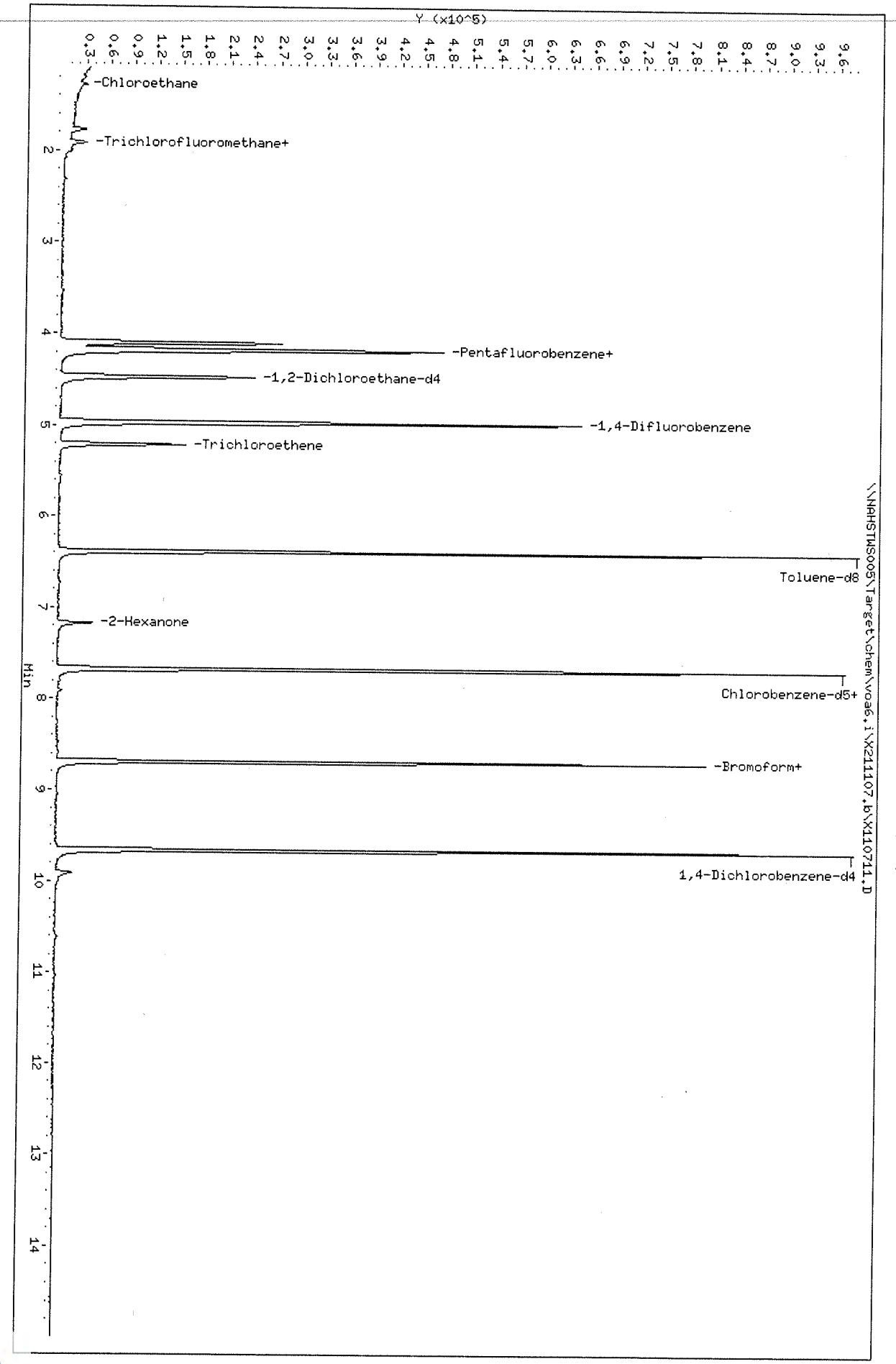
ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X211107.b\X110711.D
Lab Smp Id: HS21101554-04 Client Smp ID: HS21101554-04
Inj Date : 07-NOV-2021 14:54
Operator : PC Inst ID: voa6.i
Smp Info : HS21101554-04;HS21101554-04;;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X211107.b\8260W.m
Meth Date : 16-Nov-2021 17:04 kori.bagsb Quant Type: ISTD
Cal Date : 08-OCT-2021 15:34 Cal File: X100808.D
Als bottle: 11
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 01474-dod.sub
Target Version: 4.14
Processing Host: NAHSTW7017

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

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

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
*	1 Pentafluorobenzene	168	4.182	4.182	(1.000)	421497	50.0000	
$	30 Dibromofluoromethane	113	4.096	4.096	(0.979)	190766	46.0184	46.01
$	35 1,2-Dichloroethane-d4	65	4.469	4.469	(1.069)	180602	42.7822	42.78
*	36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	571792	50.0000	
*	47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	519535	50.0000	
$	48 Toluene-d8	98	6.388	6.388	(0.833)	623041	47.2546	47.25
$	69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	219467	48.3214	48.32
*	70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	250178	50.0000	
	38 Trichloroethene	130	5.207	5.207	(1.049)	53533	12.3772	12.37



Data File: \\NAHSTWS005\Target\chem\voa6.i\X211107.b\X110711.D
Date : 07-NOV-2021 14:54
Client ID: HS21101554-04
Sample Info: HS21101554-04;HS21101554-04;;;
Purge Volume: 5.0
Column phase: DB624

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

Data File: \\NAHSTWS005\Target\chem\voa6.i\X211107.b\X110711.D

Date : 07-NOV-2021 14:54

Client ID: HS21101554-04

Instrument: voa6.i

Sample Info: HS21101554-04;HS21101554-04;;;

Purge Volume: 5.0

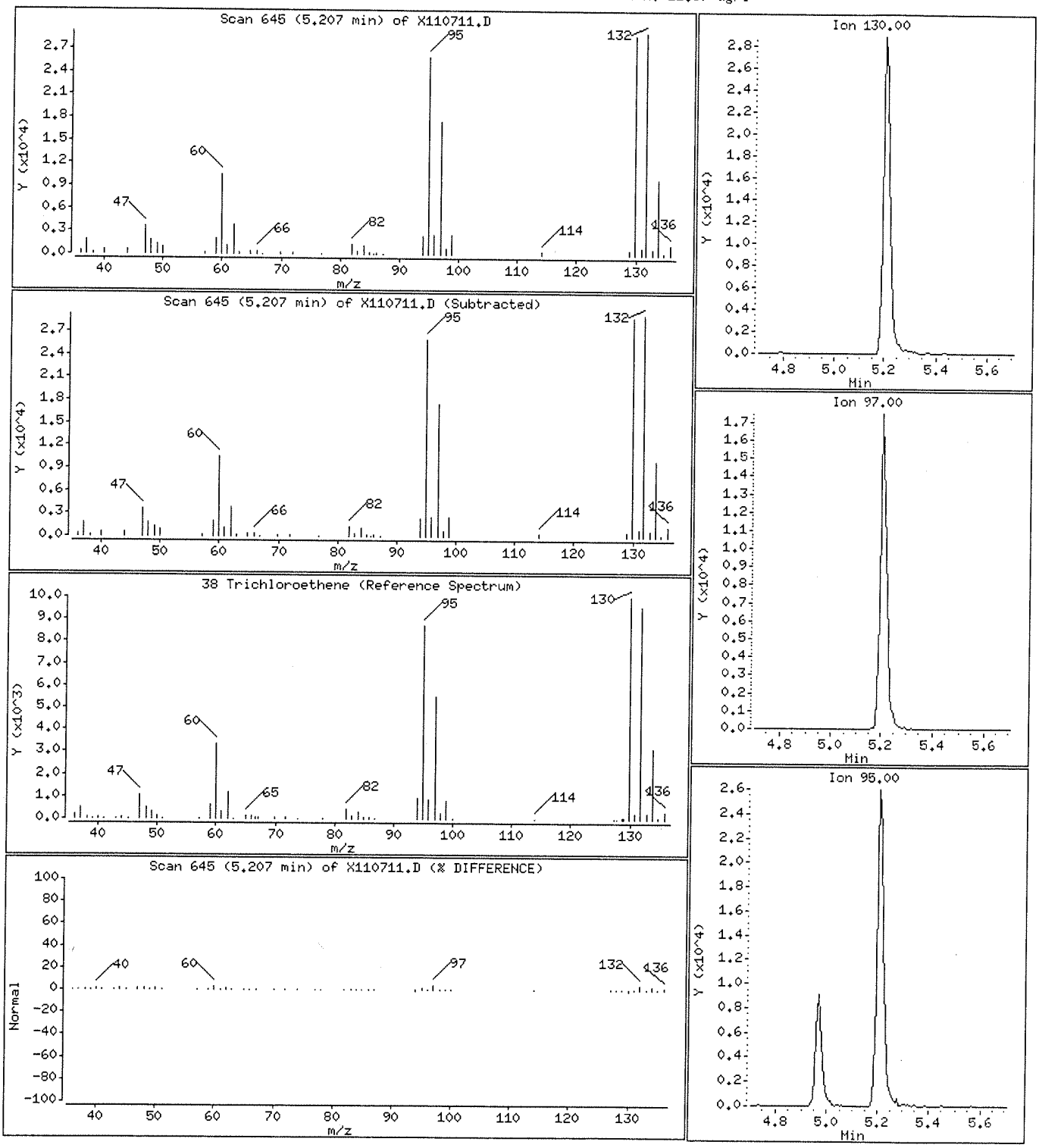
Operator: PC

Column phase: DB624

Column diameter: 0.18

38 Trichloroethene

Concentration: 12.37 ug/l



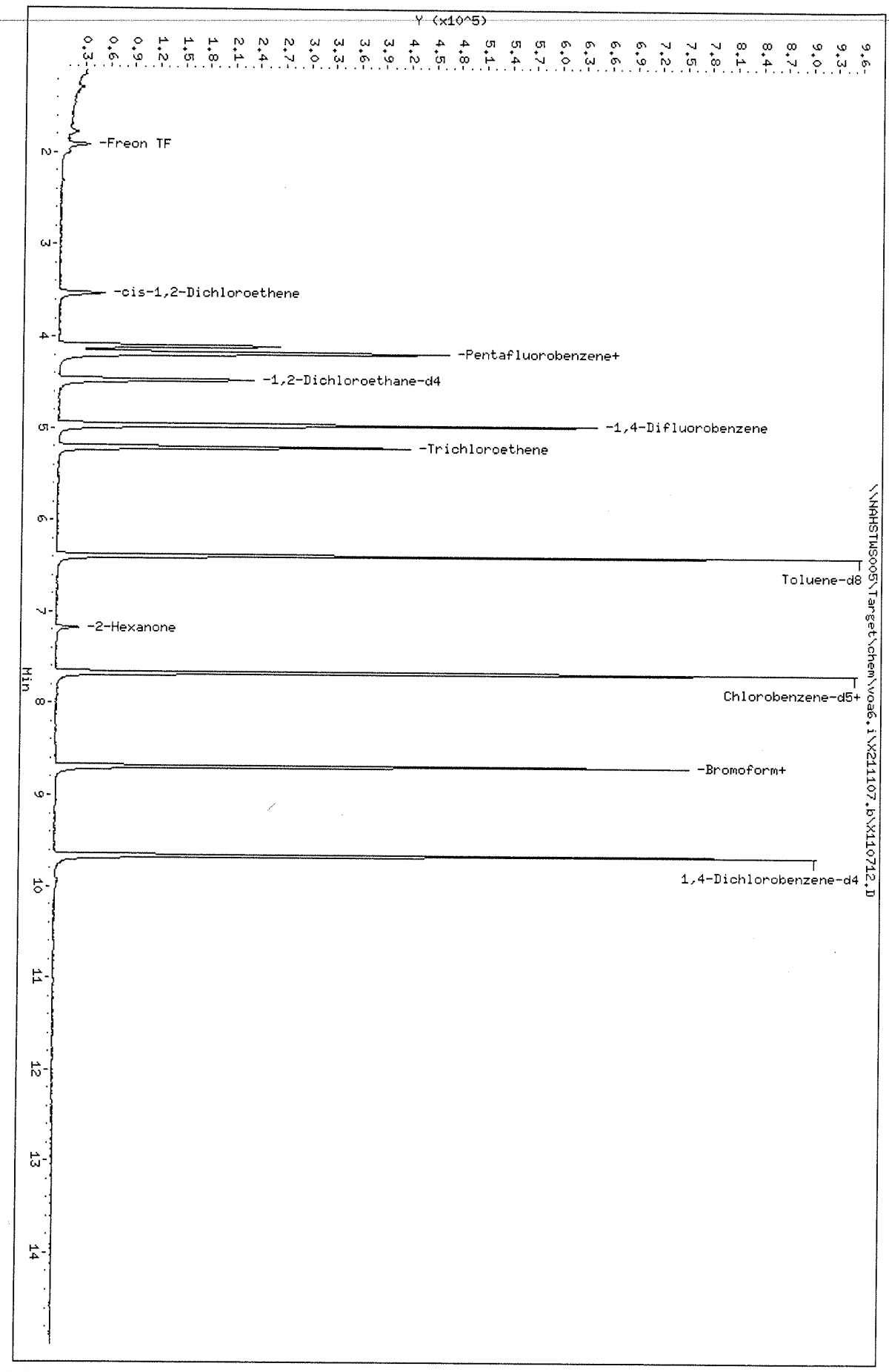
ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X211107.b\X110712.D
Lab Smp Id: HS21101554-05 Client Smp ID: HS21101554-05
Inj Date : 07-NOV-2021 15:16
Operator : PC Inst ID: voa6.i
Smp Info : HS21101554-05;HS21101554-05;;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X211107.b\8260W.m
Meth Date : 16-Nov-2021 17:04 kori.bagsb Quant Type: ISTD
Cal Date : 08-OCT-2021 15:34 Cal File: X100808.D
Als bottle: 12
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 01474-dod.sub
Target Version: 4.14
Processing Host: NAHSTW7017

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

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

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	421237	50.0000	
$ 30 Dibromofluoromethane	113	4.096	4.096	(0.979)	185376	44.7142	44.71
$ 35 1,2-Dichloroethane-d4	65	4.469	4.469	(1.069)	176954	41.9041	41.90
* 36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	567486	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	507225	50.0000	
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	612866	47.6110	47.61
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	208002	46.8685	46.86
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	240186	50.0000	
27 cis-1,2-Dichloroethene	96	3.530	3.523	(0.844)	29772	6.79820	6.79
38 Trichloroethene	130	5.207	5.207	(1.049)	144512	33.6656	33.66



Data File: \\NAHSTWS005\Target\chem\voa6.i\X211107.b\X110712.D
Date : 07-NOV-2021 15:16
Client ID: HS21101554-05
Sample Info: HS21101554-05;HS21101554-05;;;
Purge Volume: 5.0
Column phase: DB624

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

Data File: \\NAHSTWS005\Target\chem\voa6.i\X211107.b\X110712.D

Date : 07-NOV-2021 15:16

Client ID: HS21101554-05

Instrument: voa6.i

Sample Info: HS21101554-05;HS21101554-05;;;

Purge Volume: 5.0

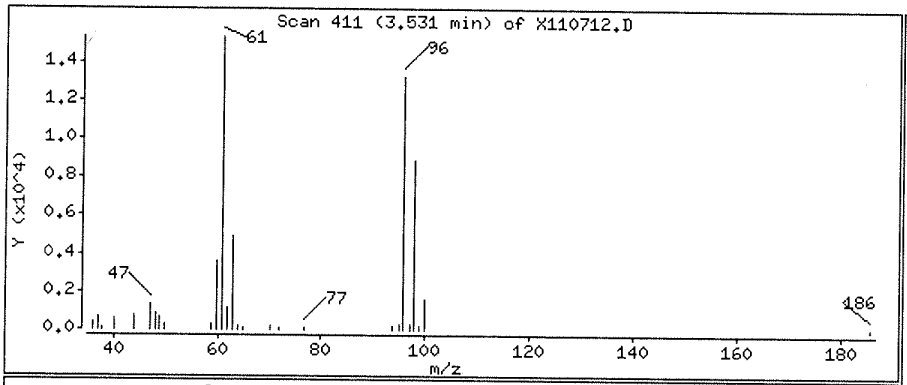
Operator: PC

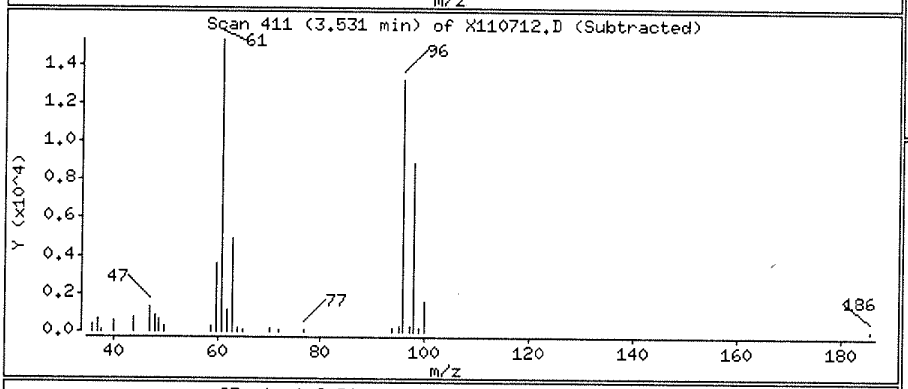
Column phase: DB624

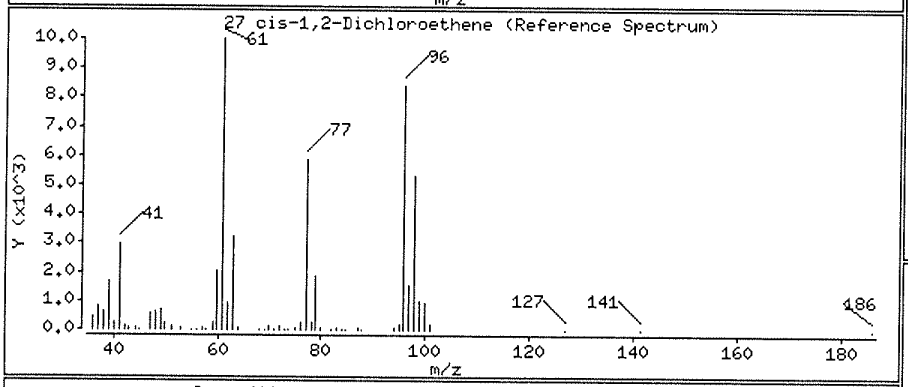
Column diameter: 0.18

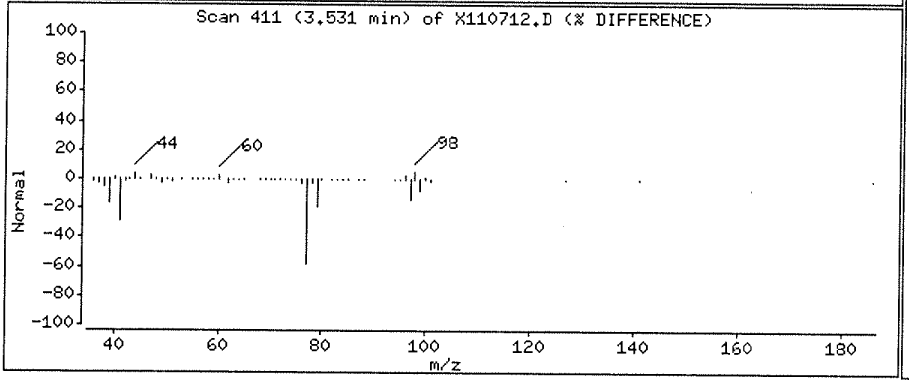
27 cis-1,2-Dichloroethene

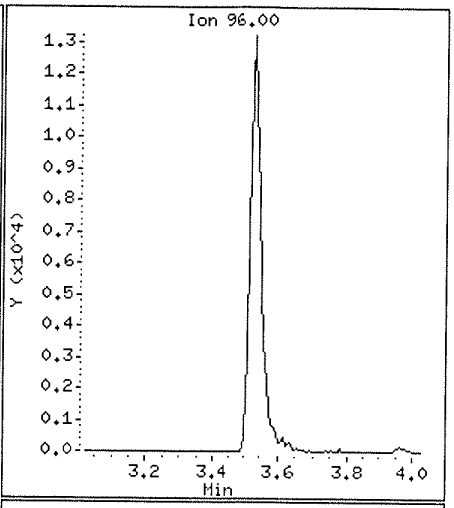
Concentration: 6.79 ug/l

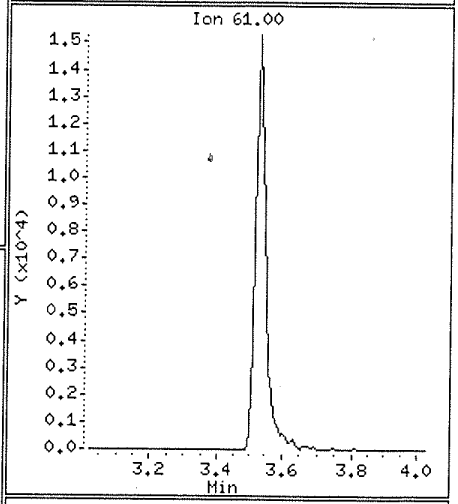


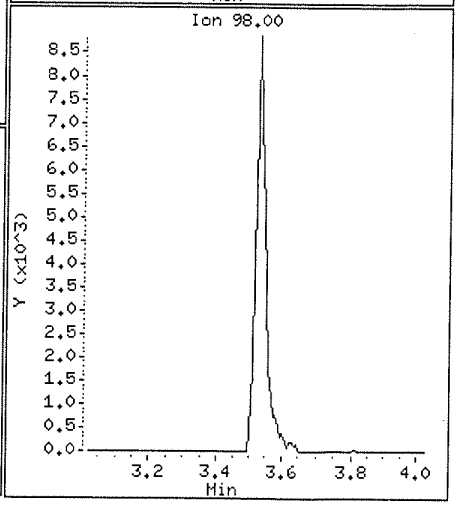












Data File: \\NAHSTWS005\Target\chem\voa6.i\X211107.b\X110712.D

Date : 07-NOV-2021 15:16

Client ID: HS21101554-05

Instrument: voa6.i

Sample Info: HS21101554-05;HS21101554-05;;;

Purge Volume: 5.0

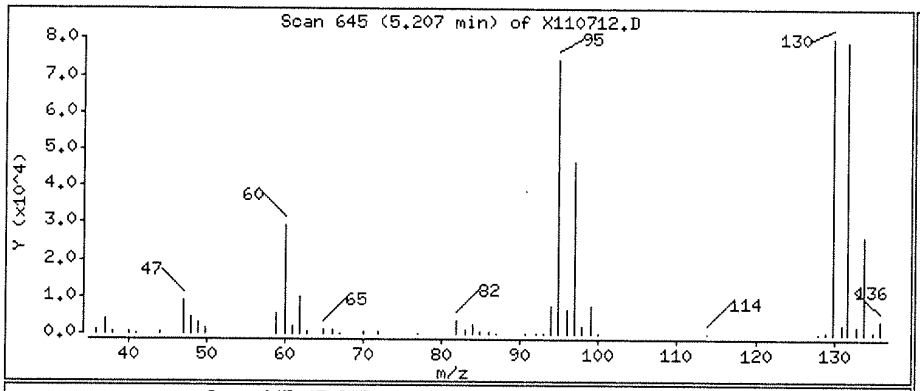
Operator: PC

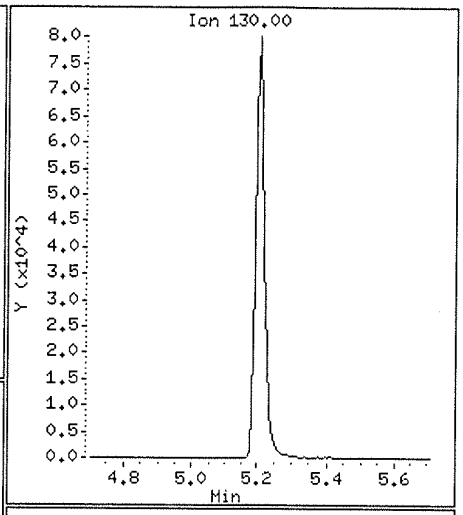
Column phase: DB624

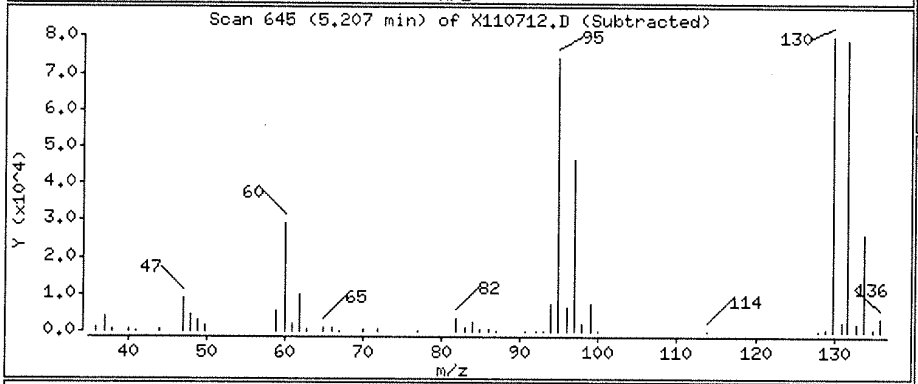
Column diameter: 0.18

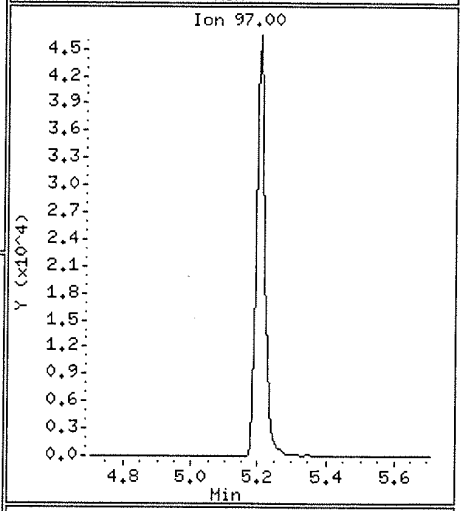
38 Trichloroethene

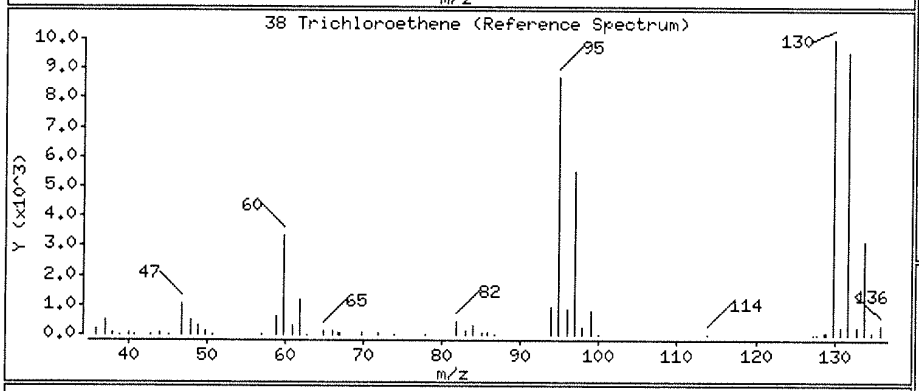
Concentration: 33.66 ug/l

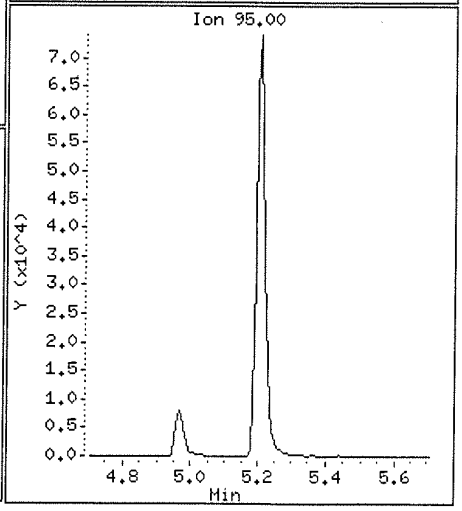


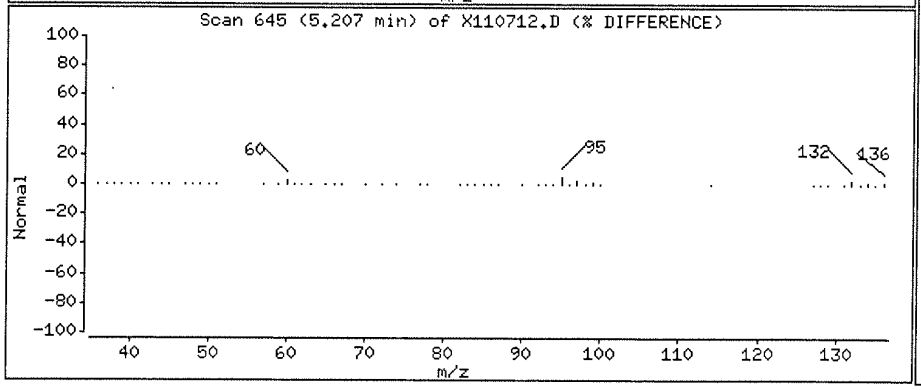












ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X211107.b\X110713.D
Lab Smp Id: HS21101554-03 Client Smp ID: HS21101554-03
Inj Date : 07-NOV-2021 15:37
Operator : PC Inst ID: voa6.i
Smp Info : HS21101554-03;HS21101554-03;;;
Misc Info : HS18090001;WATER;0;5;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X211107.b\8260W.m
Meth Date : 16-Nov-2021 17:04 kori.bagsb Quant Type: ISTD
Cal Date : 08-OCT-2021 15:34 Cal File: X100808.D
Als bottle: 13
Dil Factor: 5.00000
Integrator: HP RTE Compound Sublist: 01474-dod.sub
Target Version: 4.14
Processing Host: NAHSTW7017

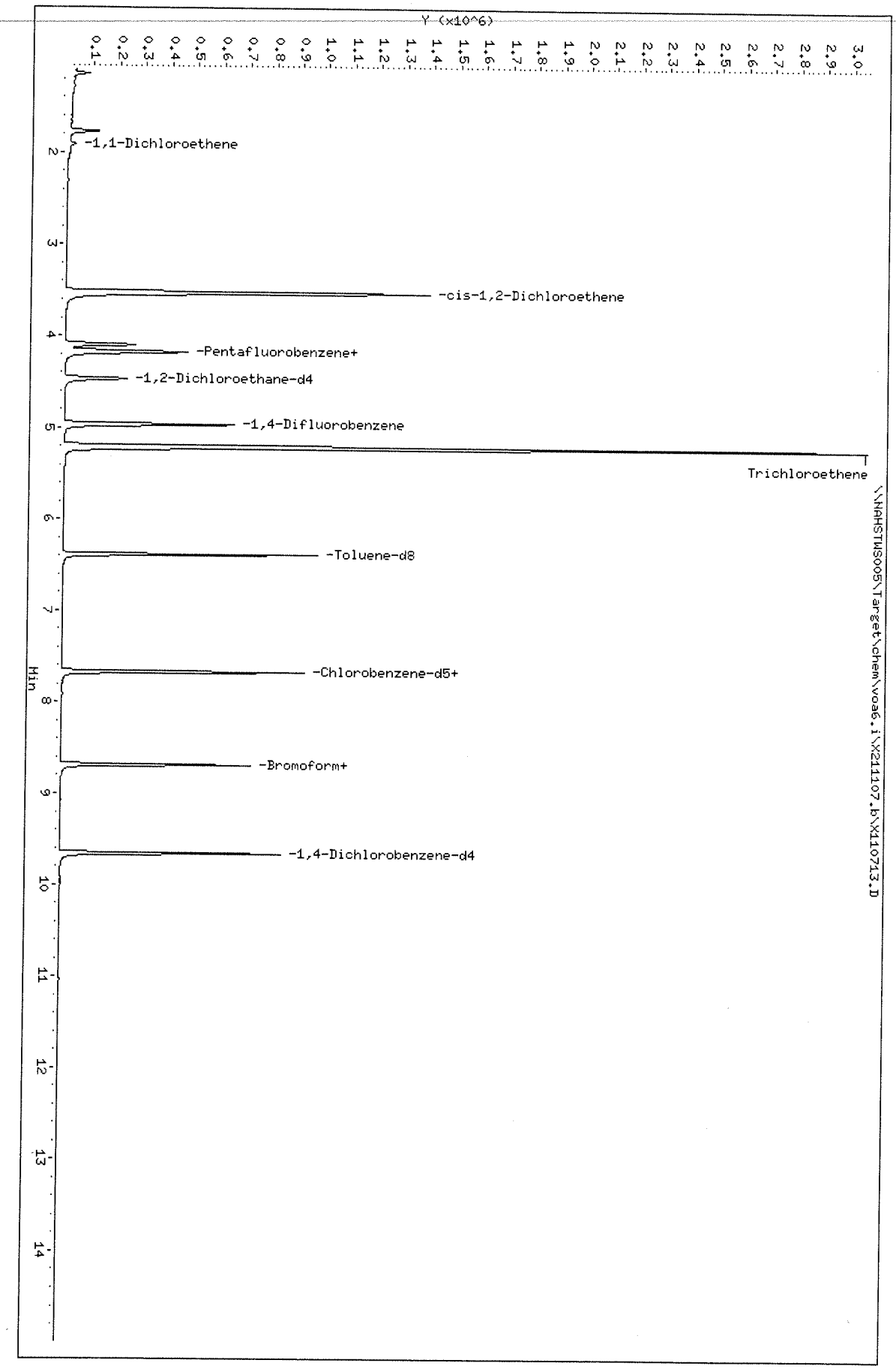
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

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

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	419387	50.0000	
$ 30 Dibromofluoromethane	113	4.096	4.096	(0.979)	185798	45.0213	45.02
$ 35 1,2-Dichloroethane-d4	65	4.476	4.469	(1.070)	177059	42.1241	42.12
* 36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	568043	50.0000	
* 47 Chlorobenzene-d5	117	7.670	7.671	(1.000)	493613	50.0000	
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	606364	48.4049	48.40
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	197607	45.7216	45.72
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	220506	50.0000	
5 Vinyl Chloride	62	1.145	1.145	(0.274)	41901	9.52936	47.64
11 1,1-Dichloroethene	96	1.919	1.912	(0.459)	7533	2.01362	10.06(a)
27 cis-1,2-Dichloroethene	96	3.523	3.523	(0.842)	760408	174.399	871.99
38 Trichloroethene	130	5.206	5.207	(1.049)	1049385	244.226	1221.12(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.



Data File: \\NAHSTWS005\Target\chem\voa6.i\X211107.b\X110713.D
Date : 07-NOV-2021 15:37
Client ID: HS21101554-03
Sample Info: HS21101554-03;HS21101554-03;;;
Purge Volume: 5.0
Column phase: DB624

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

Data File: \\NAHSTWS005\Target\chem\voa6.i\X211107.b\X110713.D

Date : 07-NOV-2021 15:37

Client ID: HS21101554-03

Instrument: voa6.i

Sample Info: HS21101554-03;HS21101554-03;;;

Purge Volume: 5.0

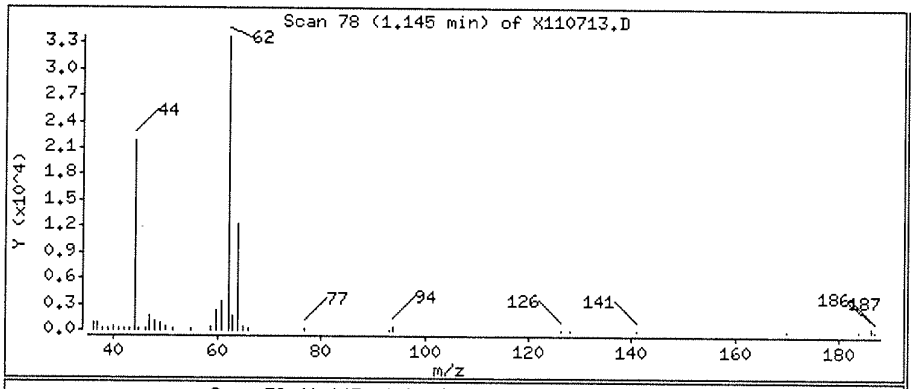
Operator: PC

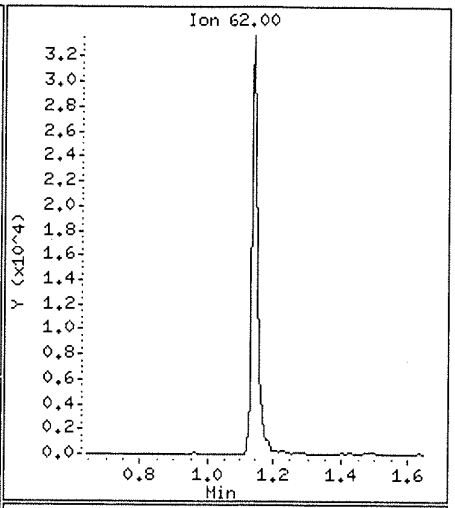
Column phase: DB624

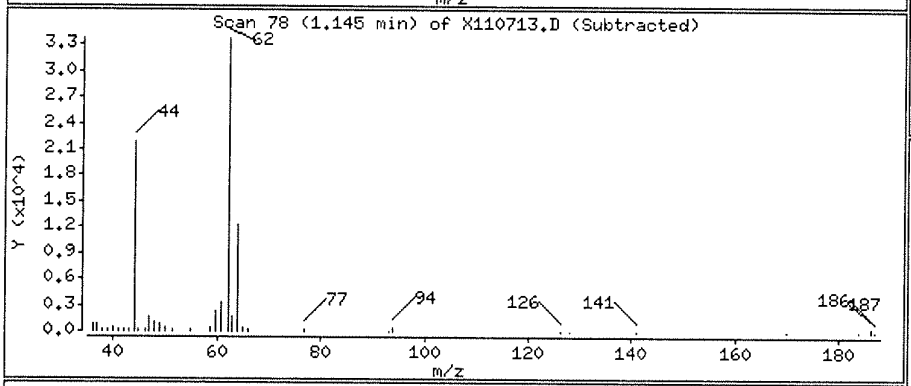
Column diameter: 0.18

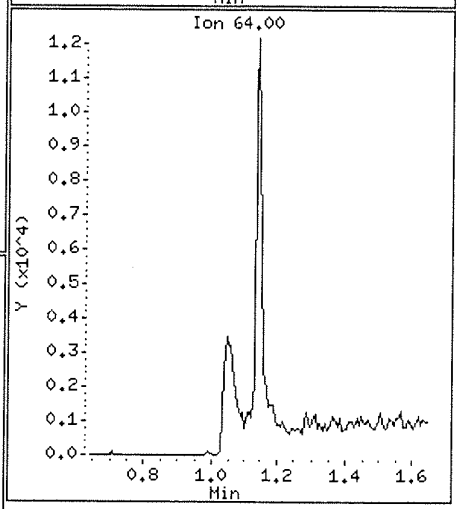
5 Vinyl Chloride

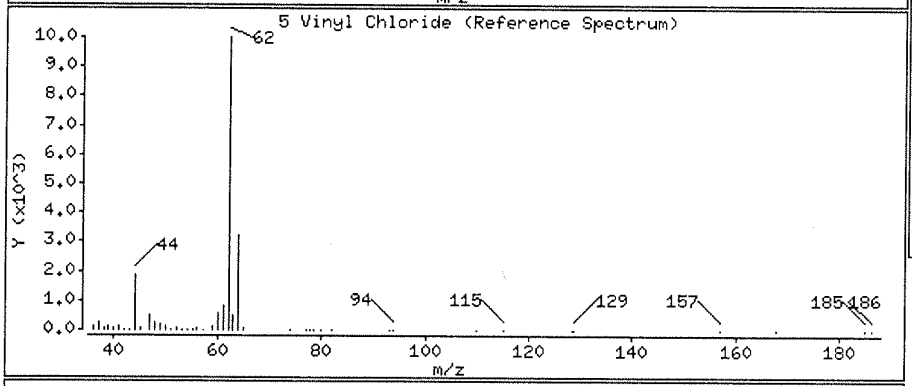
Concentration: 47.64 ug/l

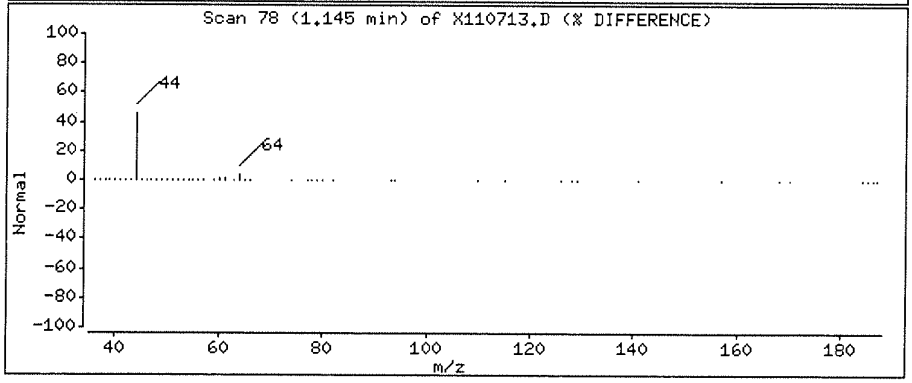












Data File: \\NAHSTWS005\Target\chem\voa6.i\X211107.b\X110713.D

Date : 07-NOV-2021 15:37

Client ID: HS21101554-03

Instrument: voa6.i

Sample Info: HS21101554-03;HS21101554-03;;;

Purge Volume: 5.0

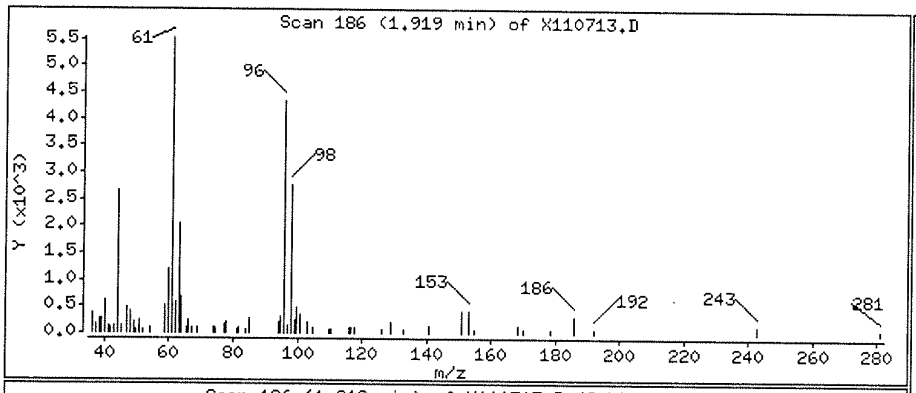
Operator: PC

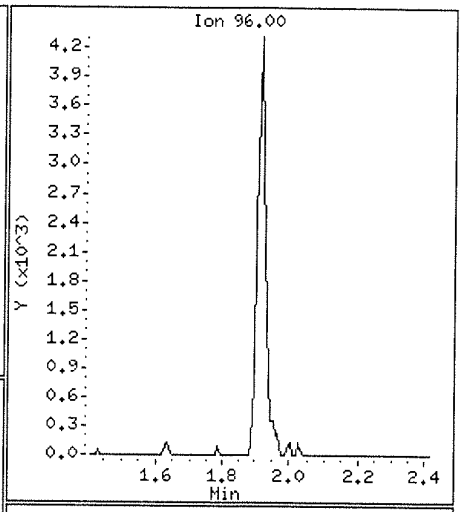
Column phase: DB624

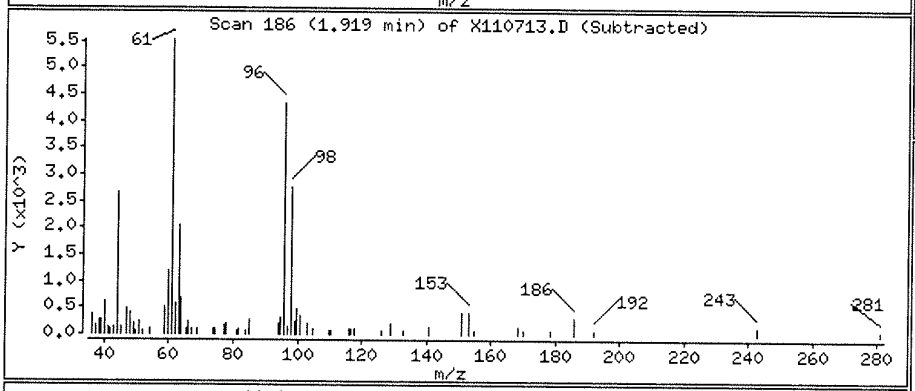
Column diameter: 0.18

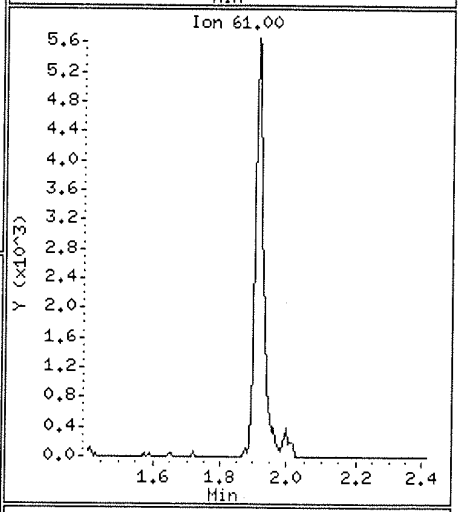
11 1,1-Dichloroethene

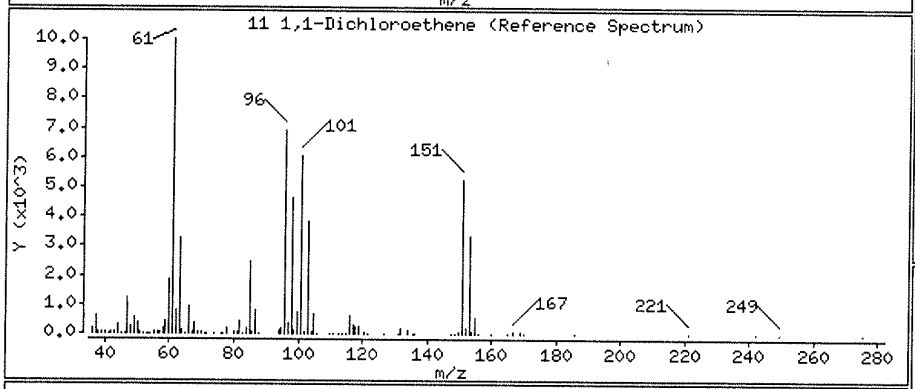
Concentration: 10.06 ug/l

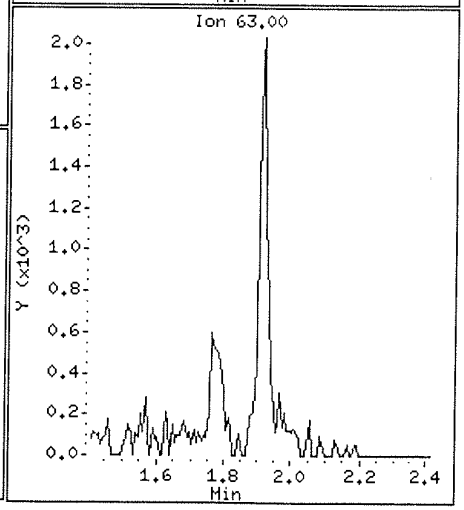


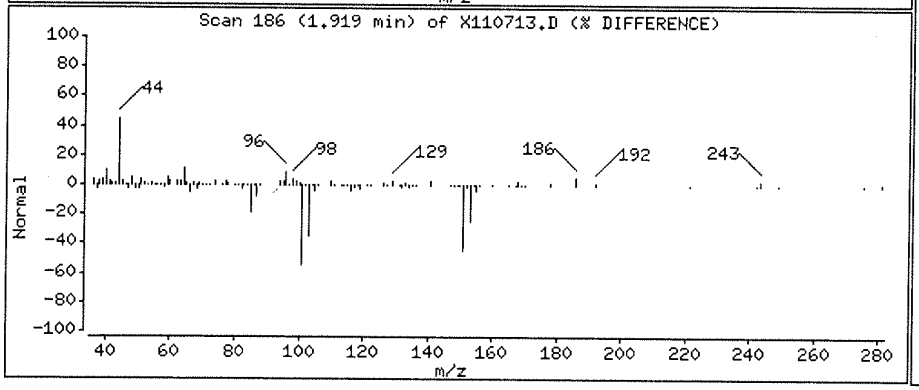












Data File: \\NAHSTWS005\Target\chem\voa6.i\X211107.b\X110713.D

Date : 07-NOV-2021 15:37

Client ID: HS21101554-03

Instrument: voa6.i

Sample Info: HS21101554-03;HS21101554-03;;;

Purge Volume: 5.0

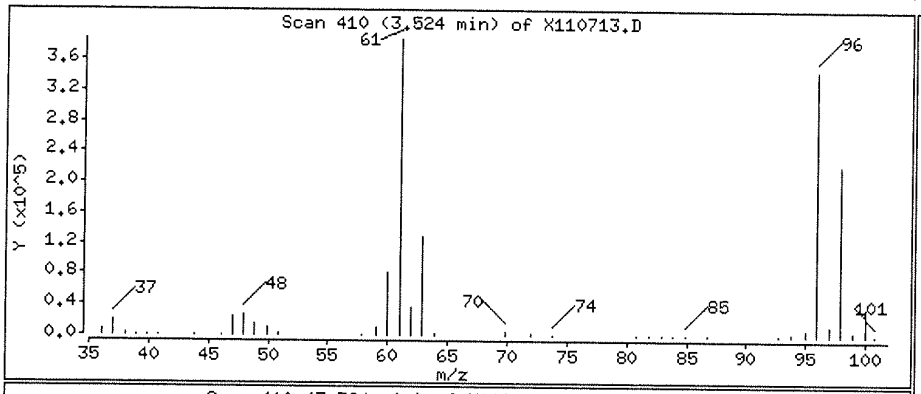
Operator: PC

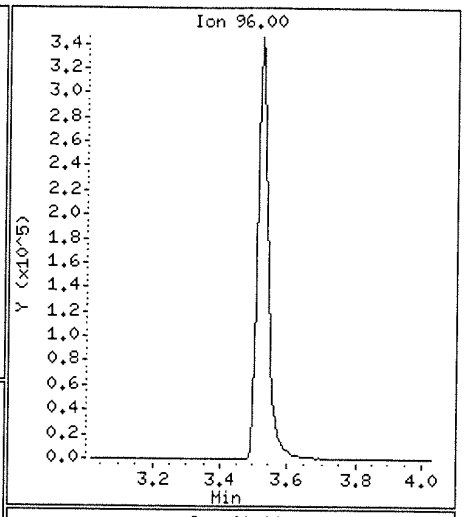
Column phase: DB624

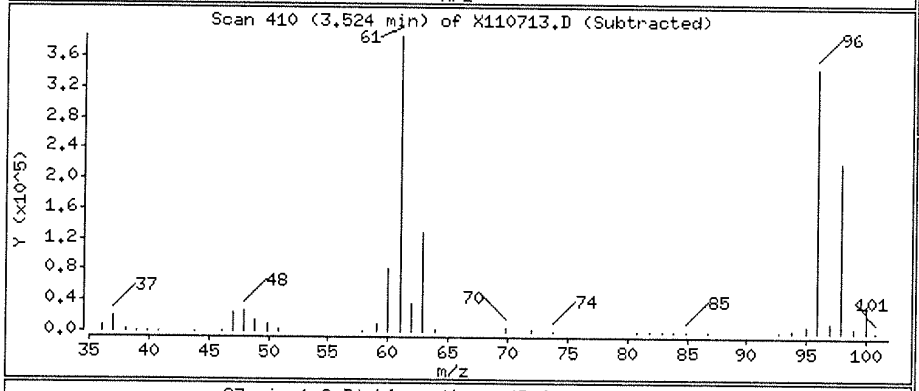
Column diameter: 0.18

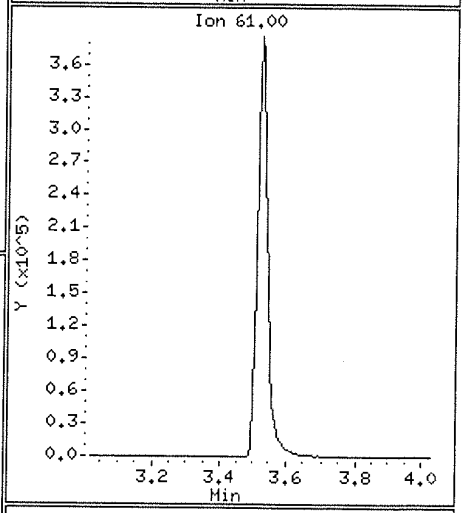
27 cis-1,2-Dichloroethene

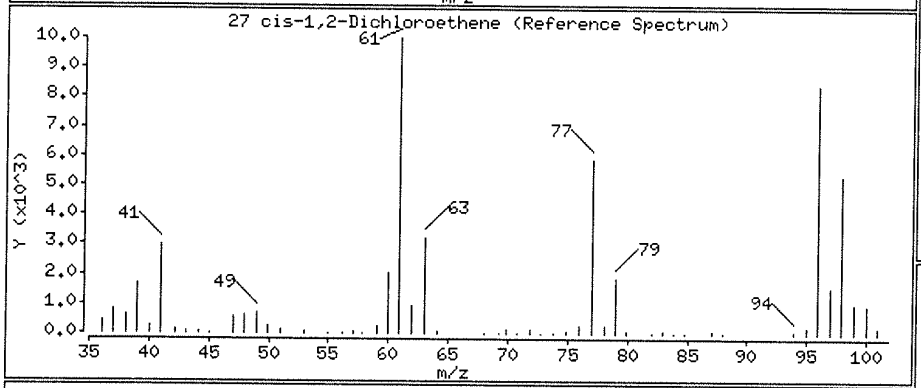
Concentration: 871.99 ug/l

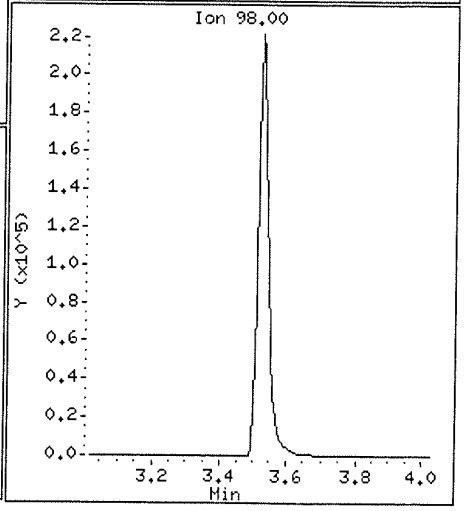


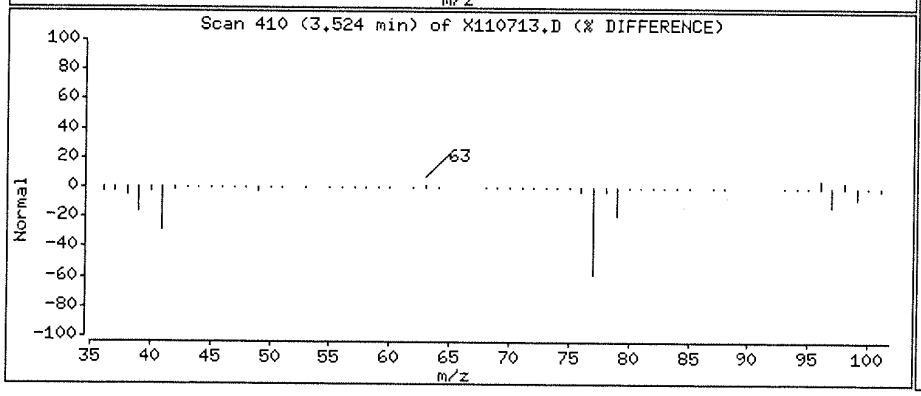












Data File: \\NAHSTWS005\Target\chem\voa6.i\X211107.b\X110713.D

Date : 07-NOV-2021 15:37

Client ID: HS21101554-03

Instrument: voa6.i

Sample Info: HS21101554-03;HS21101554-03;;;

Purge Volume: 5.0

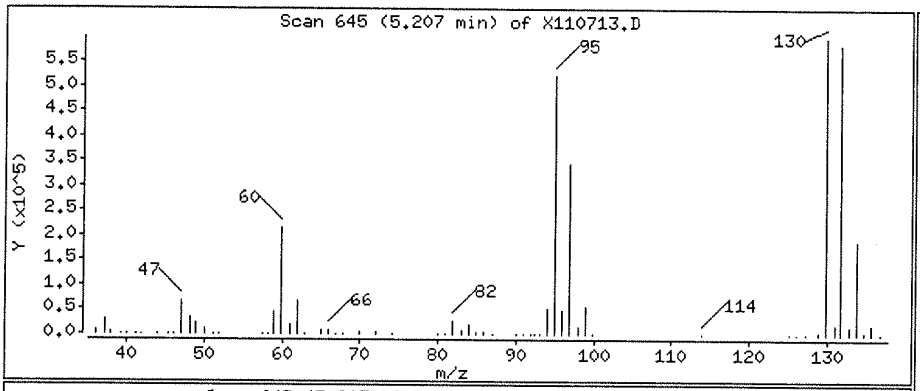
Operator: PC

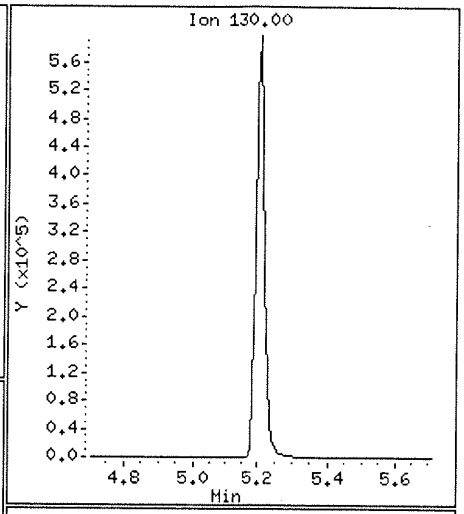
Column phase: DB624

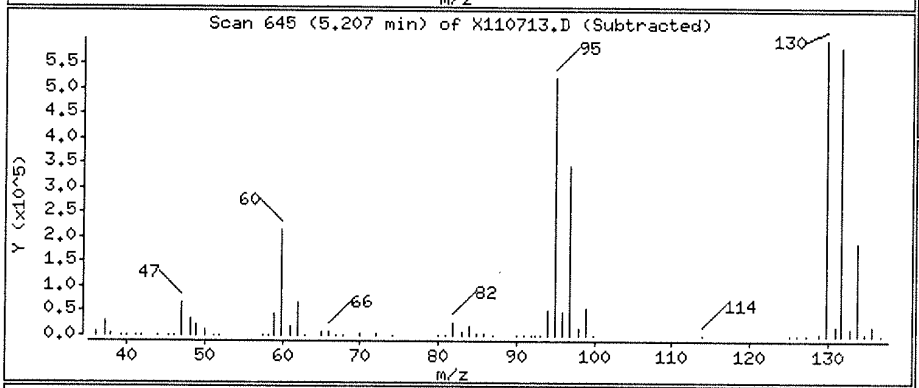
Column diameter: 0.18

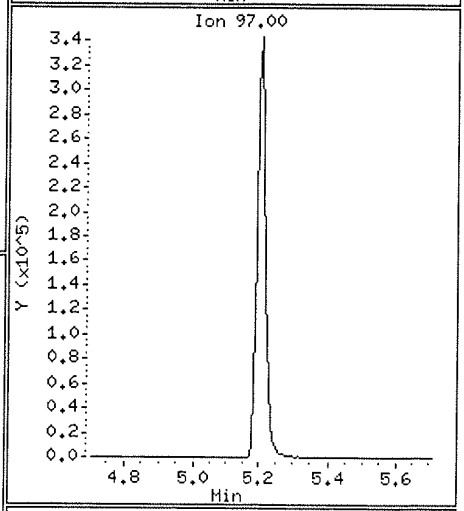
38 Trichloroethene

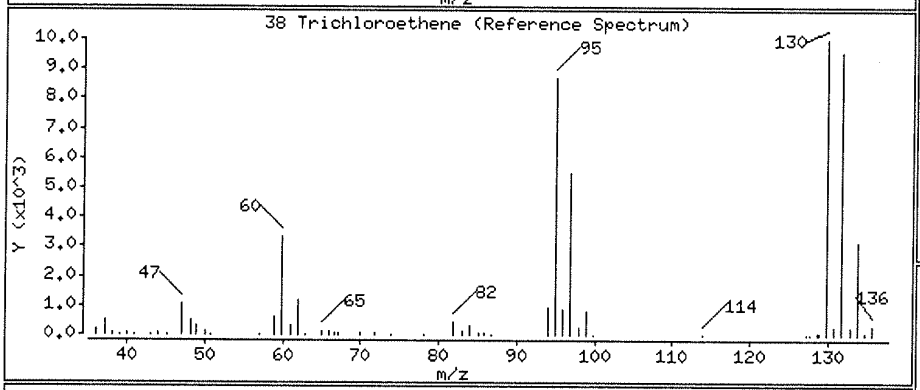
Concentration: 1221.12 ug/l

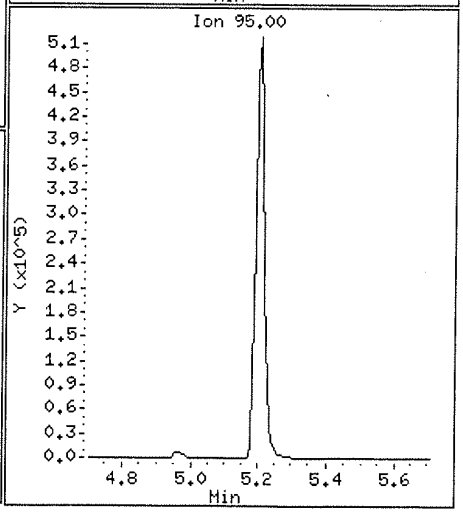


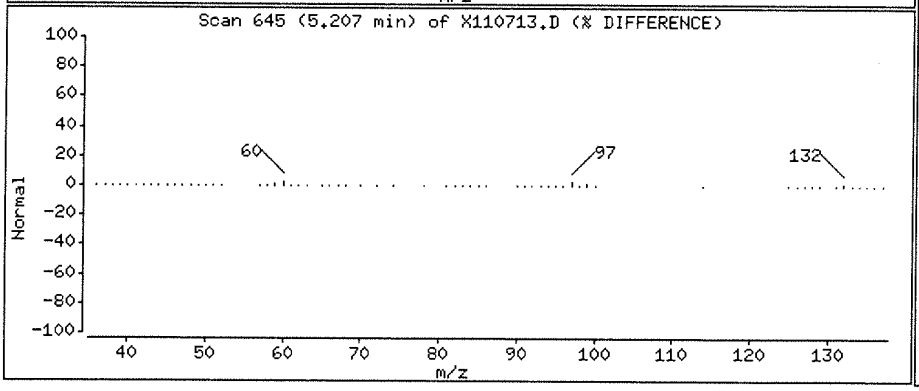












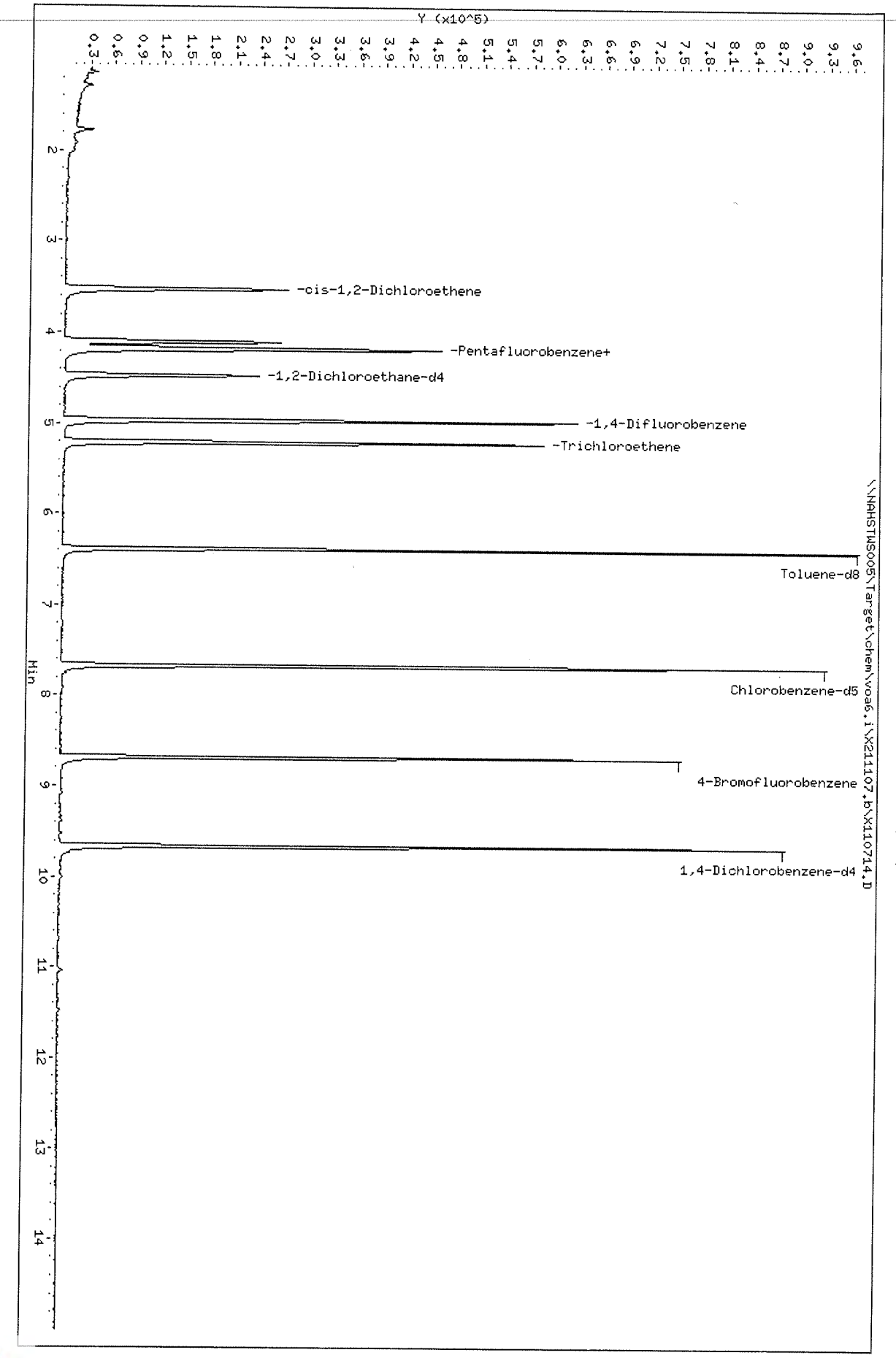
ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X211107.b\X110714.D
Lab Smp Id: HS21101554-03 Client Smp ID: HS21101554-03
Inj Date : 07-NOV-2021 15:58
Operator : PC Inst ID: voa6.i
Smp Info : HS21101554-03;HS21101554-03;;;
Misc Info : HS18090001;WATER;0;25;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X211107.b\8260W.m
Meth Date : 16-Nov-2021 17:04 kori.bagsb Quant Type: ISTD
Cal Date : 08-OCT-2021 15:34 Cal File: X100808.D
Als bottle: 14
Dil Factor: 25.00000
Integrator: HP RTE Compound Sublist: 01474-dod.sub
Target Version: 4.14
Processing Host: NAHSTW7017

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

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

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	420165	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.096	(0.981)	185864	44.9522	44.95
$ 35 1,2-Dichloroethane-d4	65	4.469	4.469	(1.068)	174953	41.5181	41.51
* 36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	557986	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	501743	50.0000	
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	611403	48.0163	48.01
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	210076	47.8818	47.88
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	231752	50.0000	
27 cis-1,2-Dichloroethene	96	3.530	3.523	(0.844)	151043	34.5775	864.43
38 Trichloroethene	130	5.207	5.207	(1.049)	204504	48.4525	1211.31



Data File: \\NAHSTWS005\Target\chem\voa6.i\X211107.b\X110714.D
Date : 07-NOV-2021 15:58
Client ID: HS21101554-03
Sample Info: HS21101554-03;HS21101554-03;;;
Purge Volume: 5.0
Column phase: DB624

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

Data File: \\NAHSTWS005\Target\chem\voa6.i\X211107.b\X110714.D

Date : 07-NOV-2021 15:58

Client ID: HS21101554-03

Instrument: voa6.i

Sample Info: HS21101554-03;HS21101554-03;;;

Purge Volume: 5.0

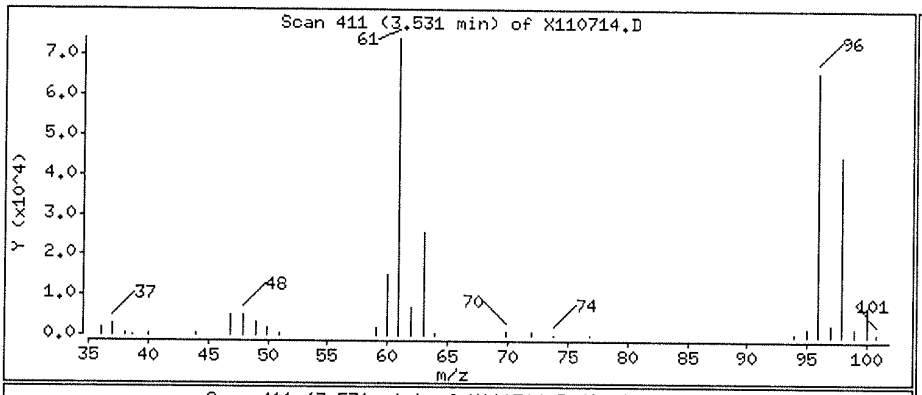
Operator: PC

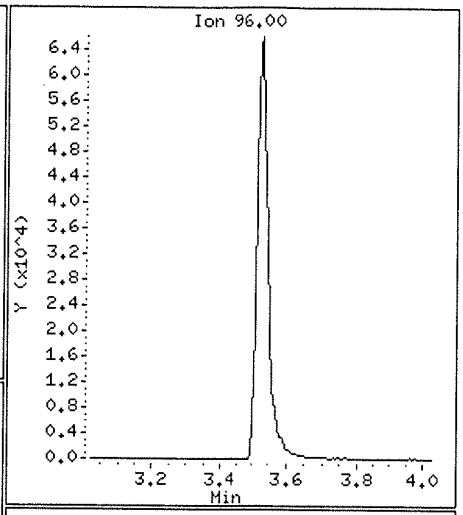
Column phase: DB624

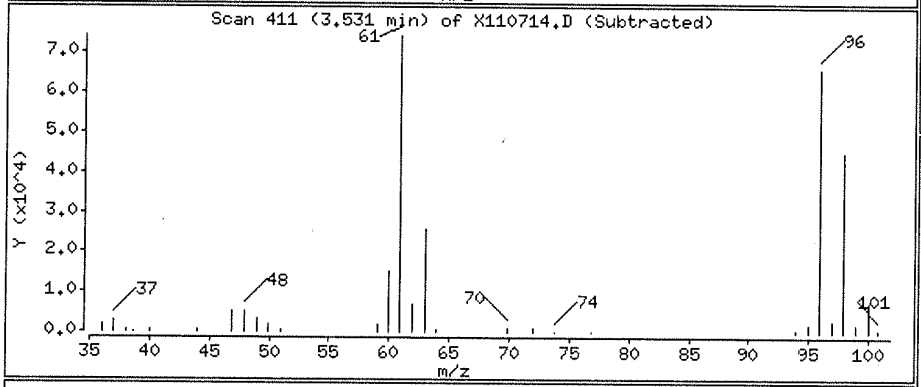
Column diameter: 0.18

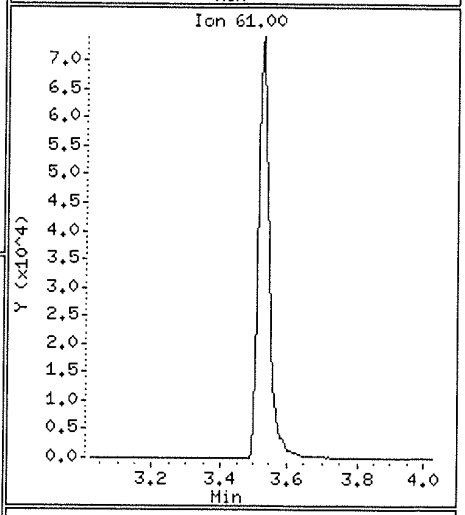
27 cis-1,2-Dichloroethene

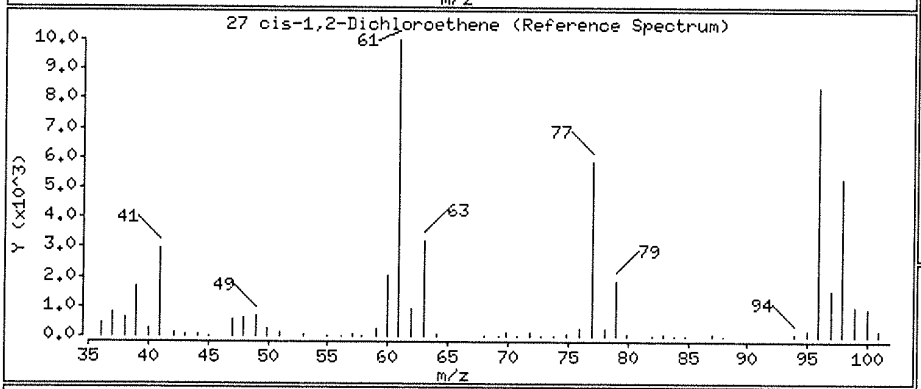
Concentration: 864.43 ug/l

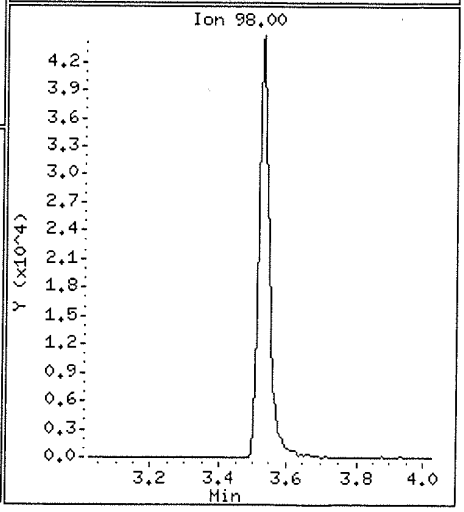


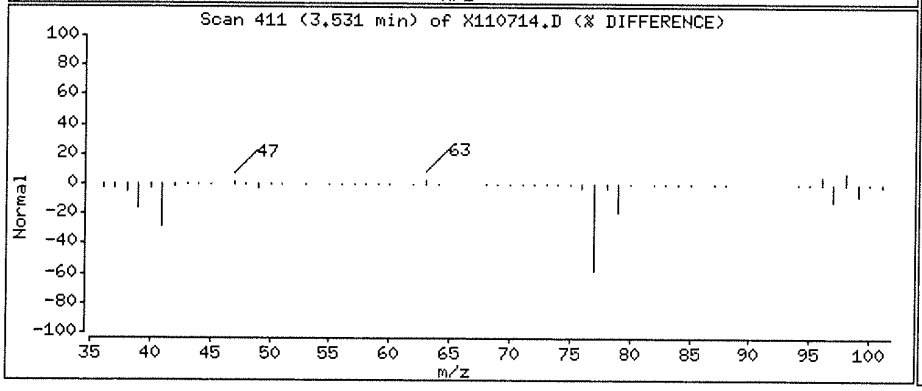












Data File: \\NAHSTWS005\Target\chem\voa6.i\X211107.b\X110714.D

Date : 07-NOV-2021 15:58

Client ID: HS21101554-03

Instrument: voa6.i

Sample Info: HS21101554-03;HS21101554-03;;;

Purge Volume: 5.0

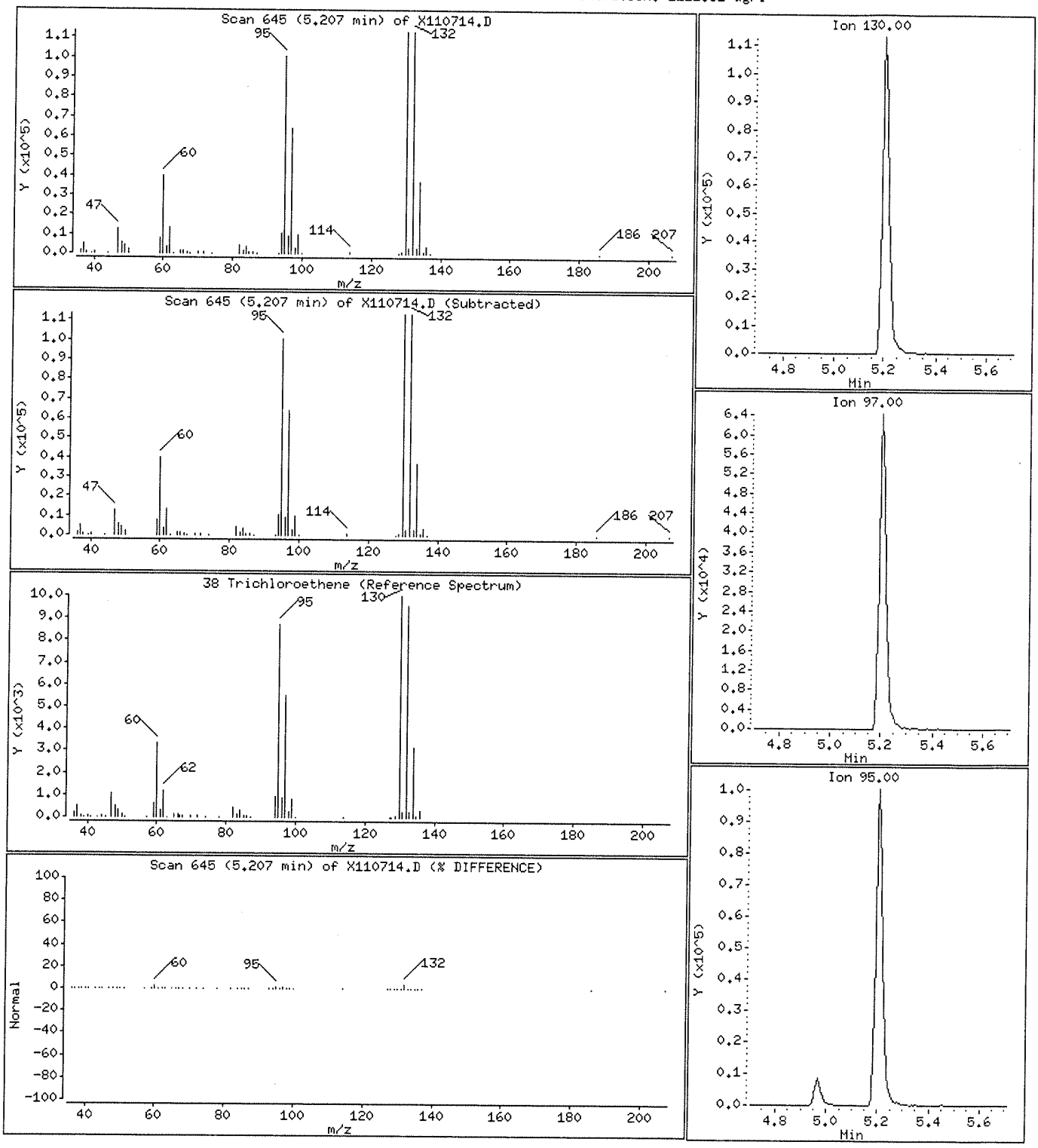
Operator: PC

Column phase: DB624

Column diameter: 0.18

38 Trichloroethene

Concentration: 1211.31 ug/l



ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X211107.b\X110715.D
Lab Smp Id: HS21101554-07 Client Smp ID: HS21101554-07
Inj Date : 07-NOV-2021 16:19
Operator : PC Inst ID: voa6.i
Smp Info : HS21101554-07;HS21101554-07;;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X211107.b\8260W.m
Meth Date : 16-Nov-2021 17:04 kori.bagsb Quant Type: ISTD
Cal Date : 08-OCT-2021 15:34 Cal File: X100808.D
Als bottle: 15
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 01474-dod.sub
Target Version: 4.14
Processing Host: NAHSTW7017

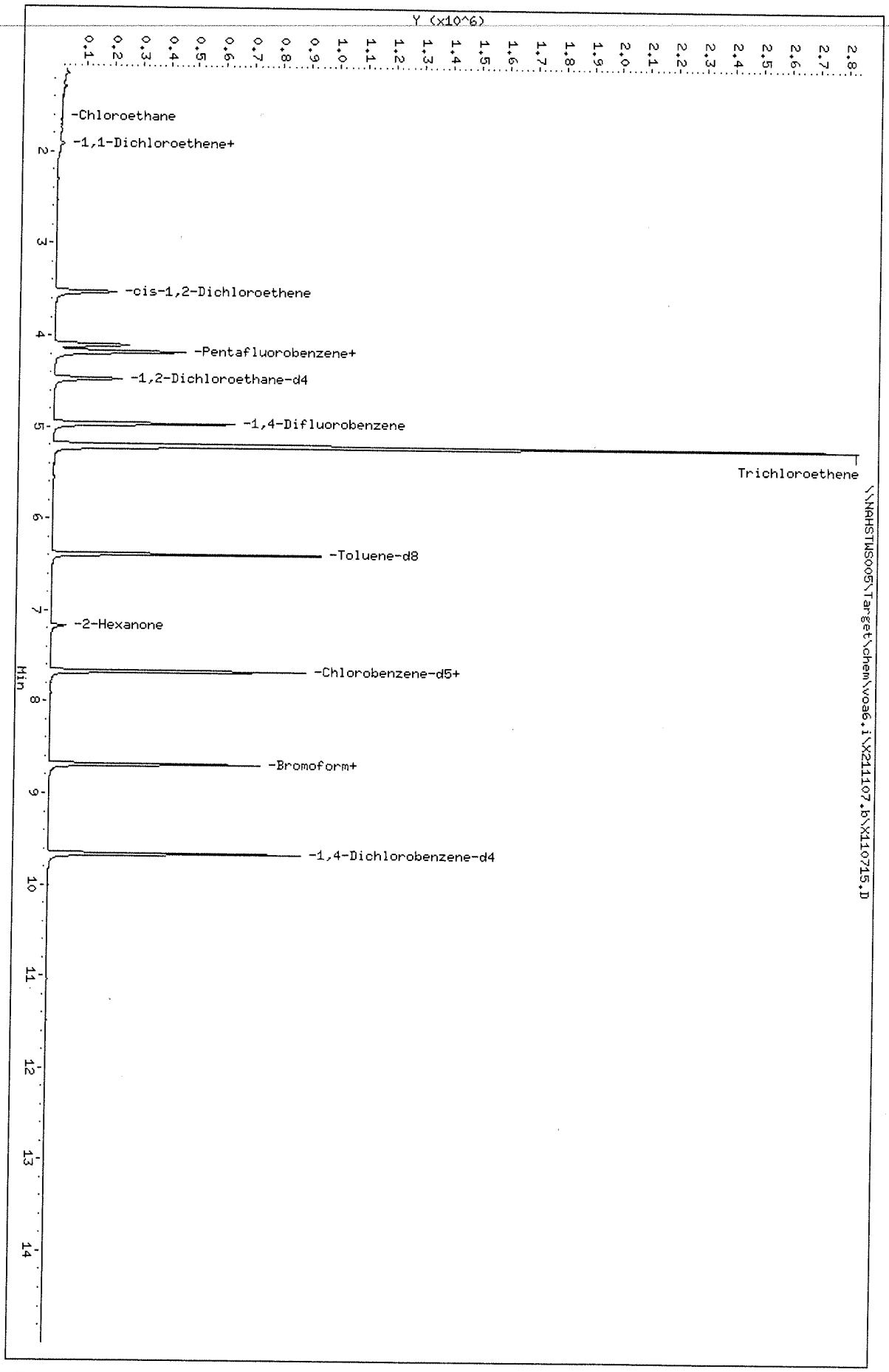
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

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

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	413920	50.0000	
$ 30 Dibromofluoromethane	113	4.096	4.096	(0.979)	186346	45.7690	45.76
$ 35 1,2-Dichloroethane-d4	65	4.469	4.469	(1.068)	177185	42.7392	42.73
* 36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	563346	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	505483	50.0000	
$ 48 Toluene-d8	98	6.389	6.388	(0.833)	602685	46.9814	46.98
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	206155	46.6049	46.60
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	231968	50.0000	
5 Vinyl Chloride	62	1.145	1.145	(0.274)	7706	1.77569	1.77(a)
11 1,1-Dichloroethene	96	1.912	1.912	(0.457)	2260	0.61209	0.61(a)
27 cis-1,2-Dichloroethene	96	3.530	3.523	(0.844)	122383	28.4392	28.43
38 Trichloroethene	130	5.207	5.207	(1.049)	988956	232.081	232.08(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.



Data File: \\NAHSTWSOO5\Target\chem\voa6.i\X211107.b\X110715.D
Date : 07-NOV-2021 16:19
Client ID: HS21101554-07
Sample Info: HS21101554-07;HS21101554-07;;;
Purge Volume: 5.0
Column phase: DB624

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

Data File: \\NAHSTWS005\Target\chem\voa6.i\X211107.b\X110715.D

Date : 07-NOV-2021 16:19

Client ID: HS21101554-07

Instrument: voa6.i

Sample Info: HS21101554-07;HS21101554-07;;;

Purge Volume: 5.0

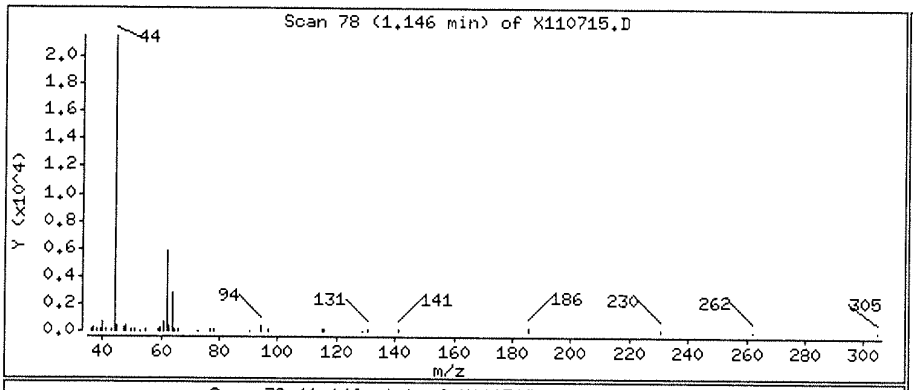
Operator: PC

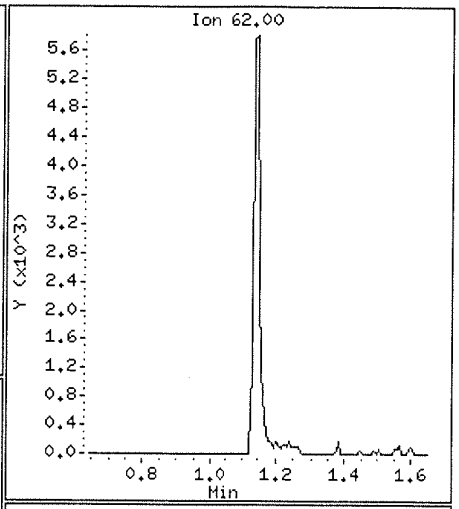
Column phase: DB624

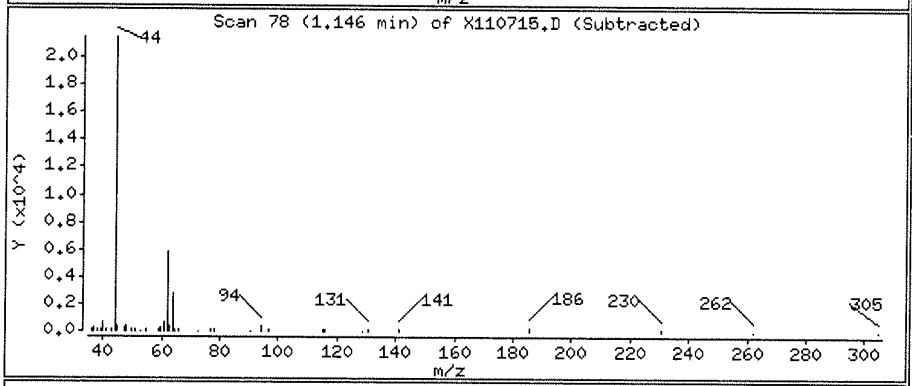
Column diameter: 0.18

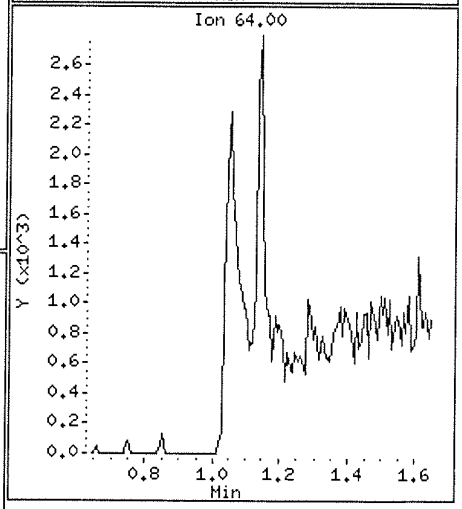
5 Vinyl Chloride

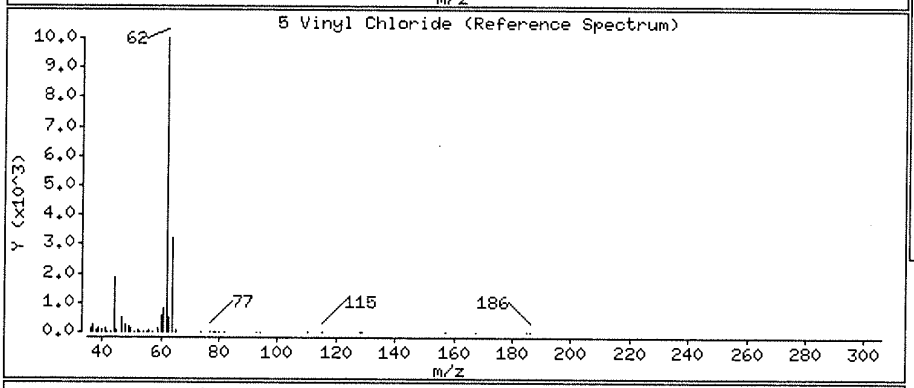
Concentration: 1.77 ug/l

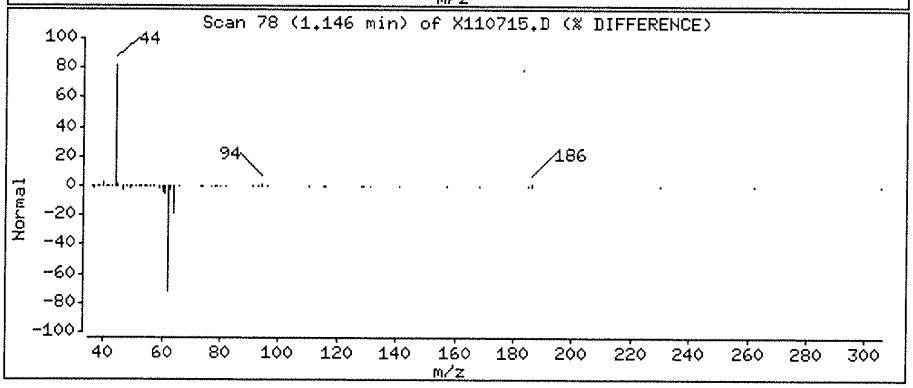












Data File: \\NAHSTWS005\Target\chem\voa6.i\X211107.b\X110715.D

Date : 07-NOV-2021 16:19

Client ID: HS21101554-07

Instrument: voa6.i

Sample Info: HS21101554-07;HS21101554-07;;;

Purge Volume: 5.0

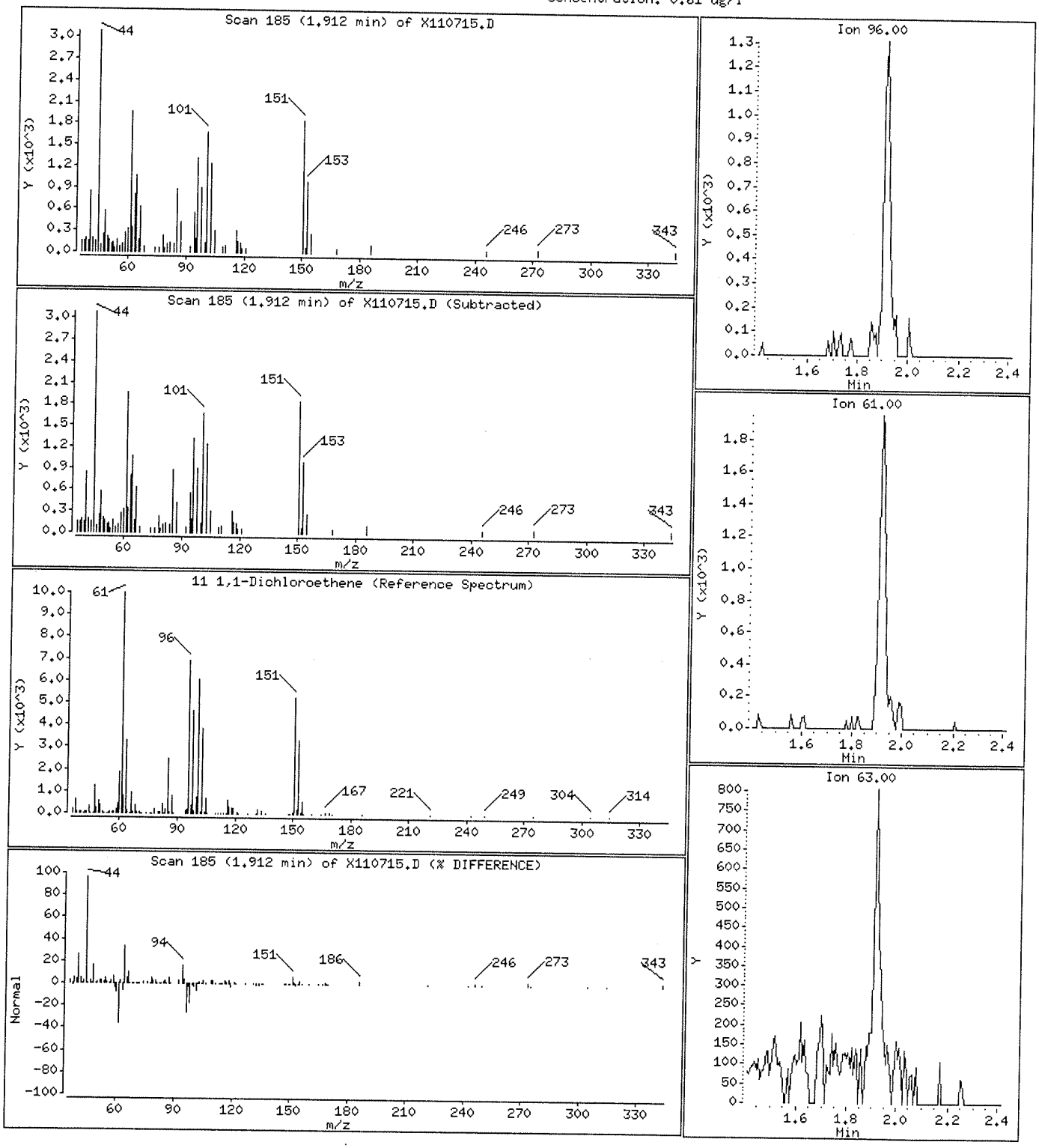
Operator: PC

Column phase: DB624

Column diameter: 0.18

11 1,1-Dichloroethene

Concentration: 0.61 ug/l



Data File: \\NAHSTWS005\Target\chem\voa6.i\X211107.b\X110715.D

Date : 07-NOV-2021 16:19

Client ID: HS21101554-07

Instrument: voa6.i

Sample Info: HS21101554-07;HS21101554-07;;;

Purge Volume: 5.0

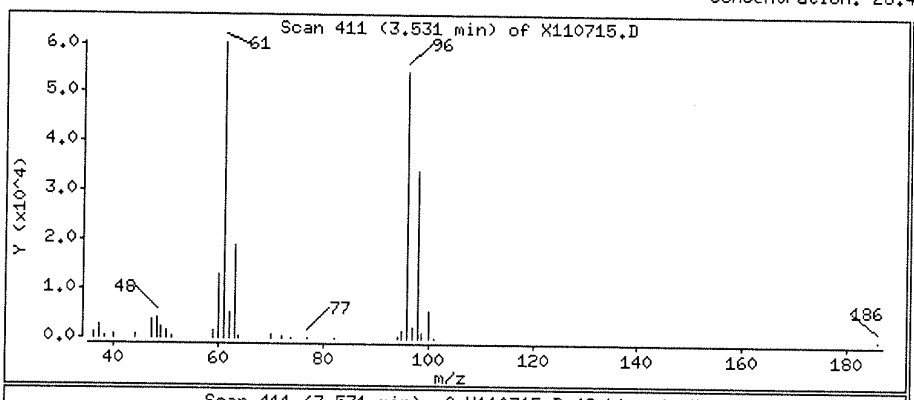
Operator: PC

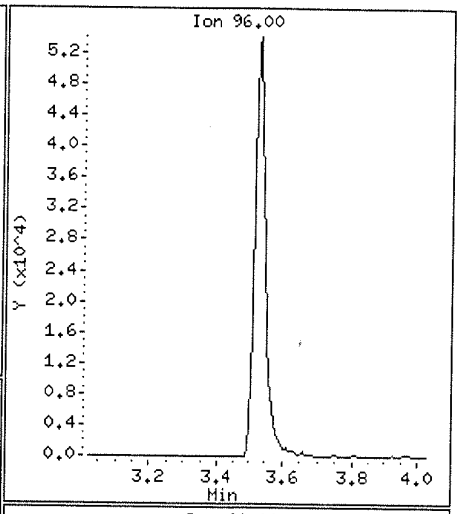
Column phase: DB624

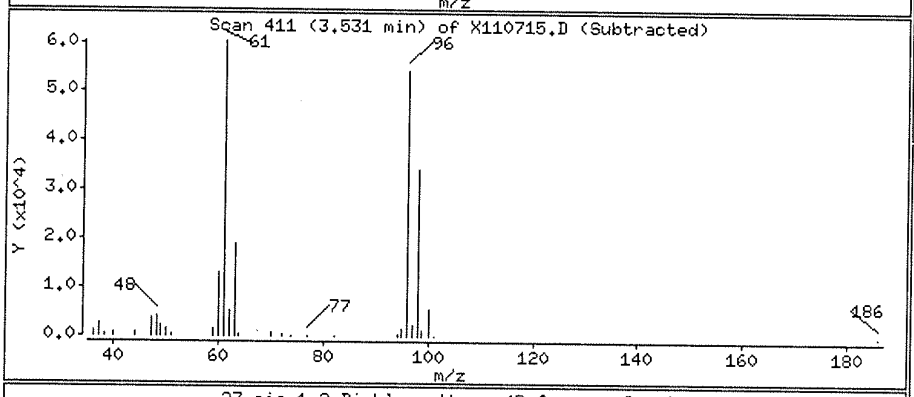
Column diameter: 0.18

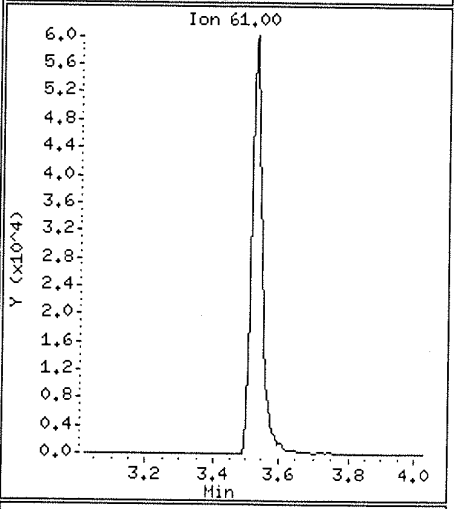
27 cis-1,2-Dichloroethene

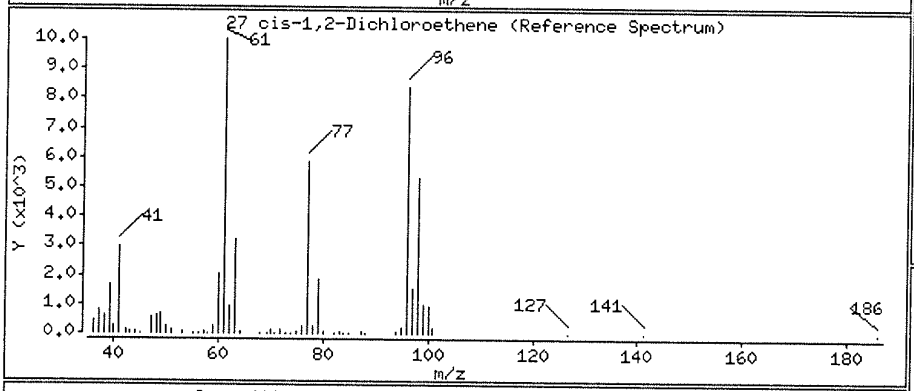
Concentration: 28.43 ug/l

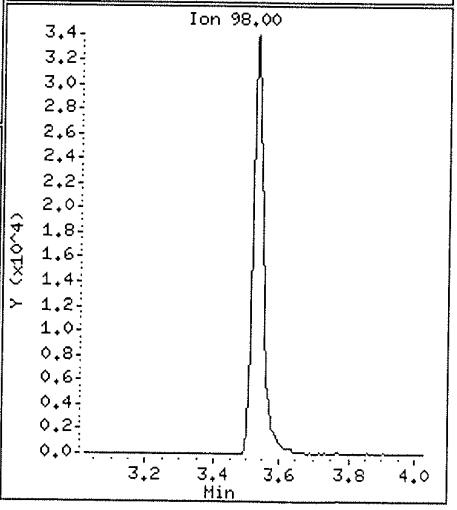


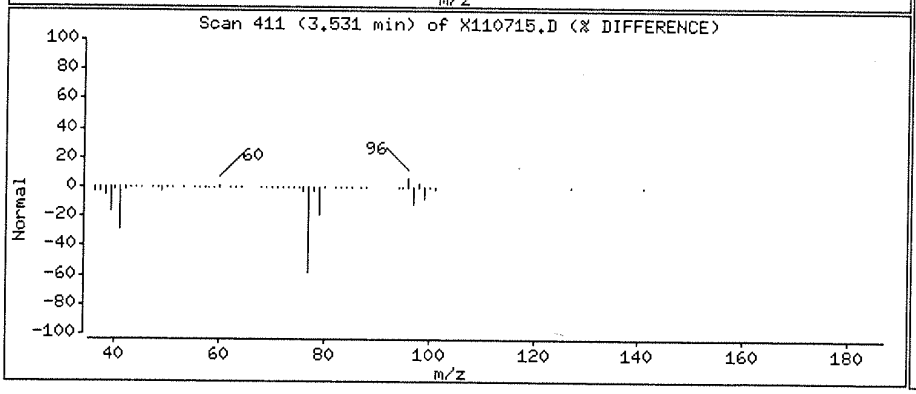












Data File: \\NAHSTWS005\Target\chem\voa6.i\X211107.b\X110715.D

Date : 07-NOV-2021 16:19

Client ID: HS21101554-07

Instrument: voa6.i

Sample Info: HS21101554-07;HS21101554-07;;;

Purge Volume: 5.0

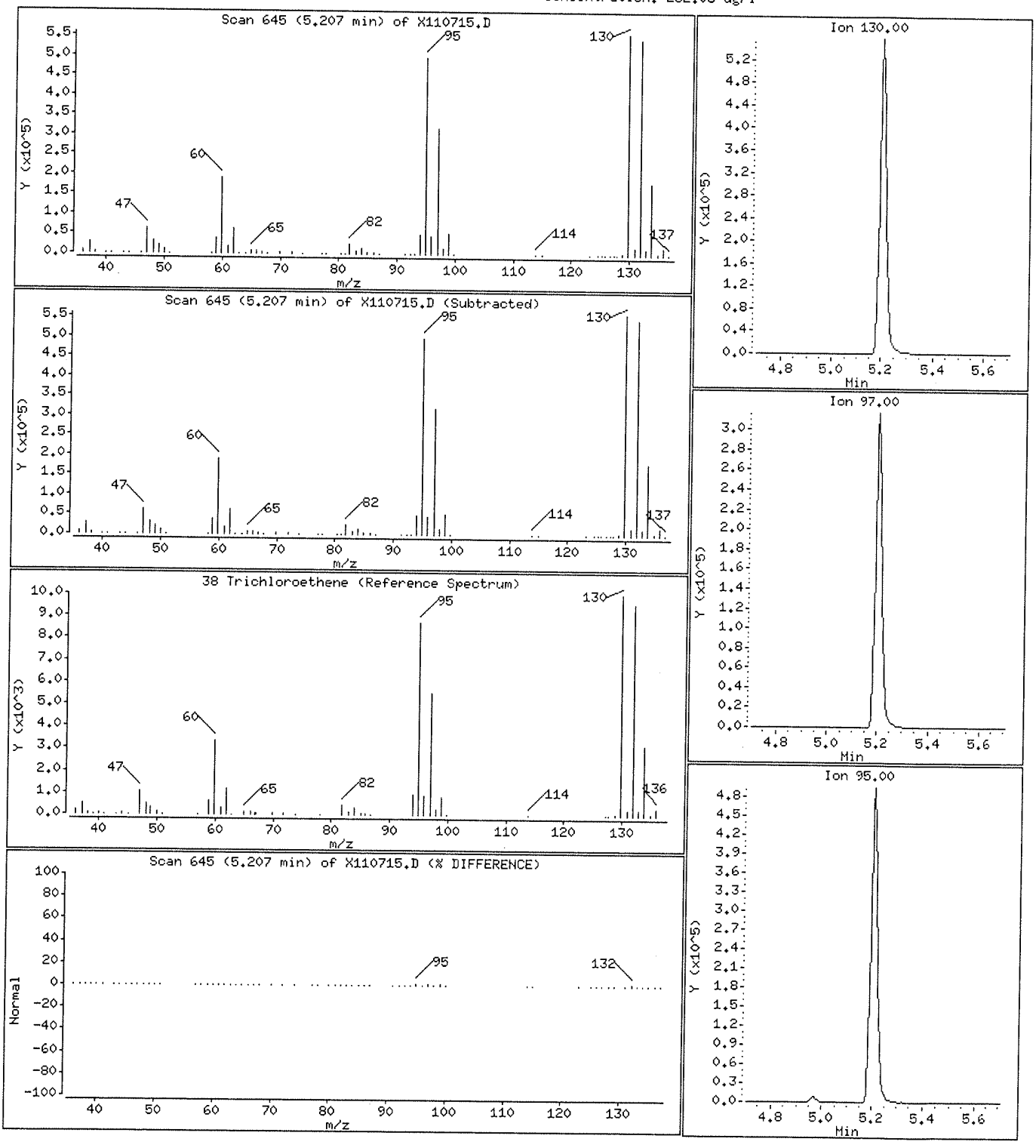
Operator: PC

Column phase: DB624

Column diameter: 0.18

38 Trichloroethene

Concentration: 232.08 ug/l



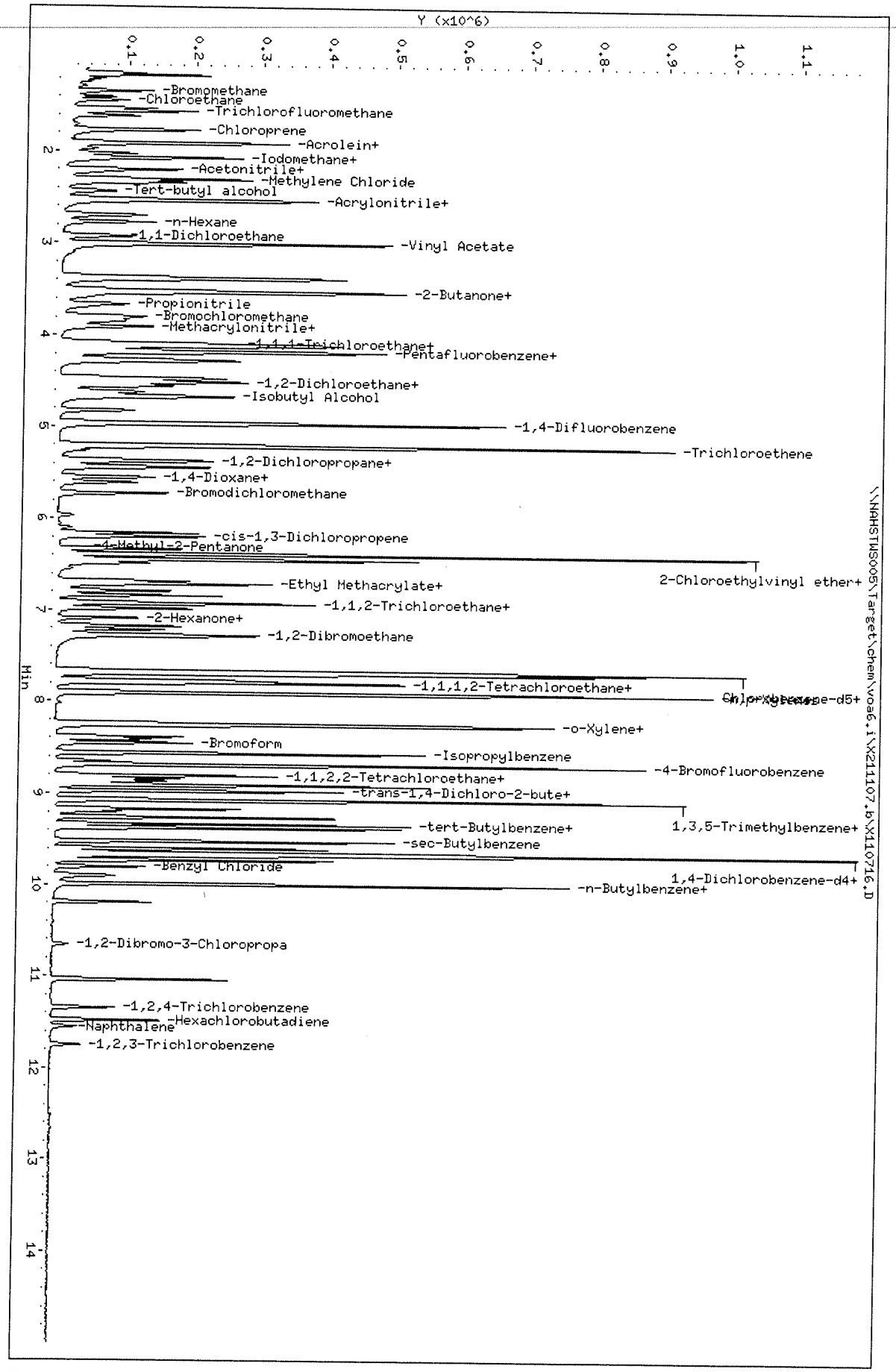
ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X211107.b\X110716.D
Lab Smp Id: HS21101554-03MS Client Smp ID: HS21101554-03MS
Inj Date : 07-NOV-2021 16:40
Operator : PC Inst ID: voa6.i
Smp Info : HS21101554-03MS;HS21101554-03MS;3;;MS
Misc Info : HS18090001;WATER;0;25;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X211107.b\8260W.m
Meth Date : 16-Nov-2021 17:12 voa6.i Quant Type: ISTD
Cal Date : 08-OCT-2021 15:34 Cal File: X100808.D
Als bottle: 16 QC Sample: MS
Dil Factor: 25.00000
Integrator: HP RTE Compound Sublist: 01474-dod.sub
Target Version: 4.14
Processing Host: NAHSTW7017

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

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

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
*	1 Pentafluorobenzene	168	4.182	4.182	(1.000)	429352	50.0000	
$	30 Dibromofluoromethane	113	4.096	4.096	(0.979)	189847	44.9326	44.93
$	35 1,2-Dichloroethane-d4	65	4.469	4.469	(1.068)	179194	41.6193	41.61
*	36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	574107	50.0000	
*	47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	515702	50.0000	
$	48 Toluene-d8	98	6.389	6.381	(0.833)	628324	48.0095	48.00
$	69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	219411	48.6779	48.67
*	70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	257862	50.0000	
	5 Vinyl Chloride	62	1.145	1.145	(0.274)	73181	16.2570	406.42
	11 1,1-Dichloroethene	96	1.912	1.911	(0.457)	62911	16.4262	410.65
	17 Methylene Chloride	84	2.298	2.305	(0.550)	69786	17.8392	445.98
	27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	236765	53.0416	1326.03
	33 1,2-Dichloroethane	62	4.555	4.555	(0.918)	84023	17.4472	436.18
	38 Trichloroethene	130	5.207	5.206	(1.049)	311666	71.7686	1794.21
	53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	50968	18.5216	463.03



Data File: \\NAHSTWS005\Target\chem\voa6.i\X211107.b\X110716.D
Date : 07-NOV-2021 16:40
Client ID: HS2110155-03MS
Sample Info: HS2110155-03MS;HS2110155-03MS;3;;MS
Purge Volume: 5.0
Column phase: DB624

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

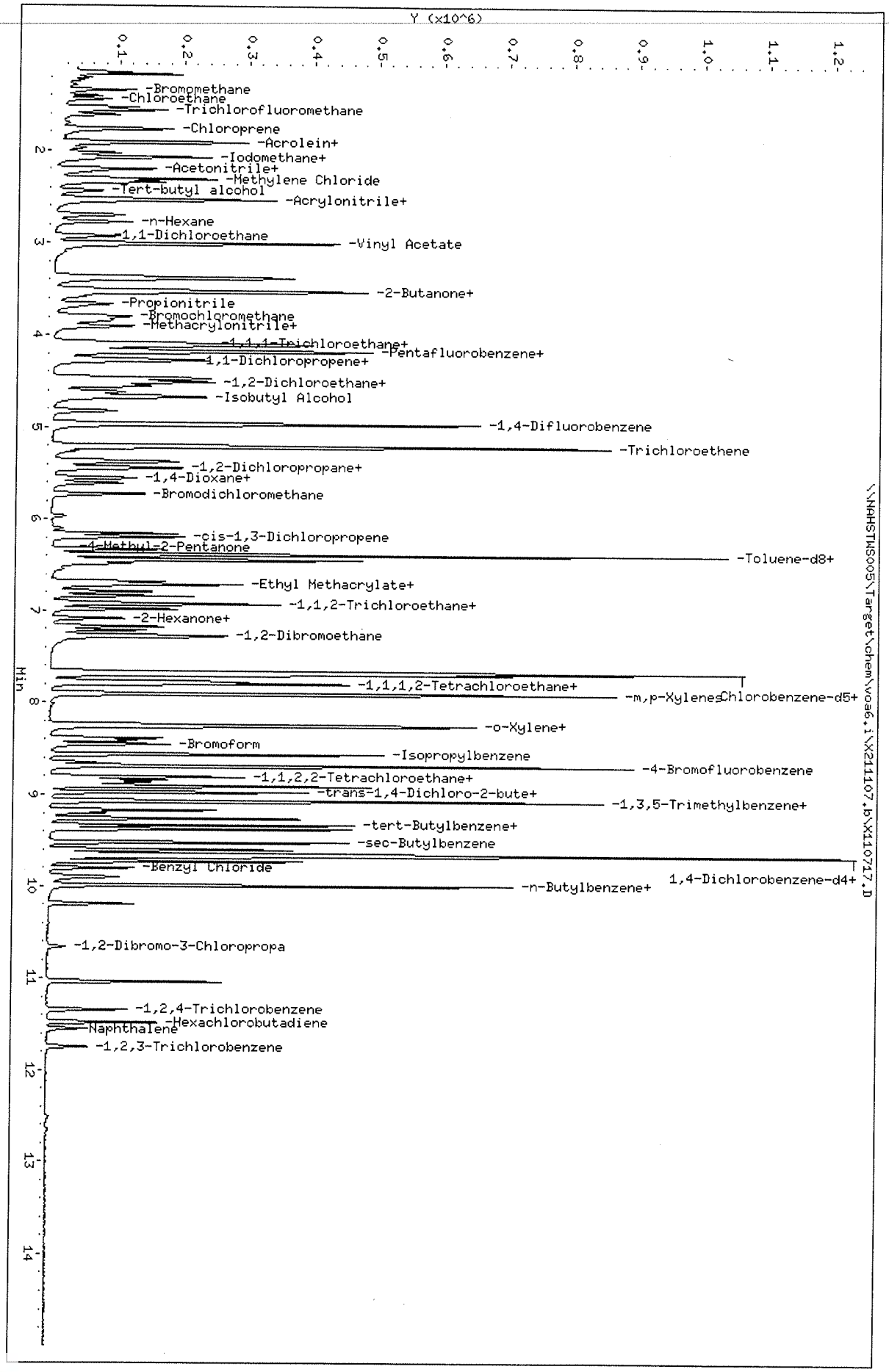
ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X211107.b\X110717.D
Lab Smp Id: HS21101554-03MSD Client Smp ID: HS21101554-03MSD
Inj Date : 07-NOV-2021 17:01
Operator : PC Inst ID: voa6.i
Smp Info : HS21101554-03MSD;HS21101554-03MSD;3;;MSD
Misc Info : HS18090001;WATER;0;25;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X211107.b\8260W.m
Meth Date : 16-Nov-2021 17:12 voa6.i Quant Type: ISTD
Cal Date : 08-OCT-2021 15:34 Cal File: X100808.D
Als bottle: 16 QC Sample: MSD
Dil Factor: 25.00000
Integrator: HP RTE Compound Sublist: 01474-dod.sub
Target Version: 4.14
Processing Host: NAHSTW7017

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

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

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	434544	50.0000	
$ 30 Dibromofluoromethane	113	4.096	4.096	(0.979)	188960	44.1694	44.16
$ 35 1,2-Dichloroethane-d4	65	4.469	4.469	(1.069)	179651	41.2078	41.20
* 36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	578719	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	522987	50.0000	
$ 48 Toluene-d8	98	6.381	6.381	(0.832)	629846	47.4554	47.45
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	225289	49.3029	49.30
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	264795	50.0000	
5 Vinyl Chloride	62	1.145	1.145	(0.274)	66243	14.5399	363.49
11 1,1-Dichloroethene	96	1.911	1.911	(0.457)	57627	14.8668	371.66
17 Methylene Chloride	84	2.305	2.305	(0.551)	61047	15.2470	381.17
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	226928	50.2304	1255.76
33 1,2-Dichloroethane	62	4.555	4.555	(0.918)	76411	15.7402	393.50
38 Trichloroethene	130	5.206	5.206	(1.049)	296053	67.6300	1690.75
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	46382	16.6202	415.50



Data File: \\NAHSTWS005\Target\chem\voa6.i\X211107.b\X110717.D
Date : 07-NOV-2021 17:01
Client ID: HS21101554-03MSD
Sample Info: HS21101554-03MSD;HS21101554-03MSD;3;;MSD
Purge Volume: 5.0
Column phase: DB624

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

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X211107.b\X110719.D
Lab Smp Id: HS21101554-06 Client Smp ID: HS21101554-06
Inj Date : 07-NOV-2021 17:43
Operator : PC Inst ID: voa6.i
Smp Info : HS21101554-06;HS21101554-06;;;
Misc Info : HS18090001;WATER;0;5;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X211107.b\8260W.m
Meth Date : 16-Nov-2021 17:04 kori.bagsb Quant Type: ISTD
Cal Date : 08-OCT-2021 15:34 Cal File: X100808.D
Als bottle: 18
Dil Factor: 5.00000
Integrator: HP RTE Compound Sublist: 01474-dod.sub
Target Version: 4.14
Processing Host: NAHSTW7017

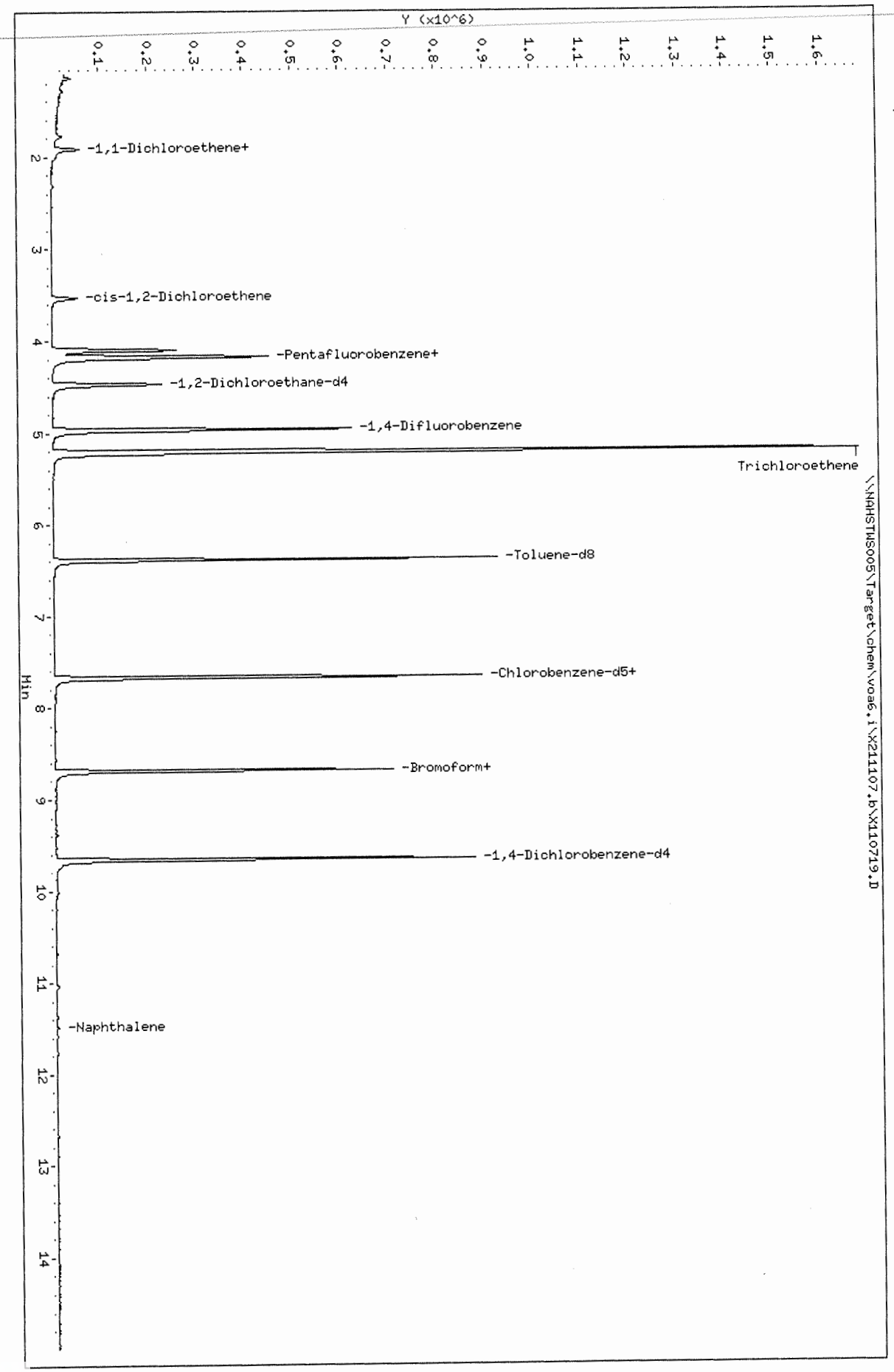
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

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

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	409319	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.096	(0.981)	183771	45.6408	45.64
$ 35 1,2-Dichloroethane-d4	65	4.469	4.469	(1.069)	171735	41.8498	41.84
* 36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	548983	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	474742	50.0000	
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	585500	48.5973	48.59
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	197831	47.6489	47.64
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	226626	50.0000	
5 Vinyl Chloride	62	1.145	1.145	(0.274)	12552	2.92486	14.62(a)
11 1,1-Dichloroethene	96	1.919	1.912	(0.459)	2999	0.82137	4.10(a)
27 cis-1,2-Dichloroethene	96	3.530	3.523	(0.844)	29569	6.94844	34.74
38 Trichloroethene	130	5.207	5.207	(1.049)	583813	140.589	702.94

QC Flag Legend

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



Data File: \\NAHSTWS005\Target\chem\voa6.i\X211107.b\X110719.D
Date : 07-NOV-2021 17:43
Client ID: HS21101554-06
Sample Info: HS21101554-06;HS21101554-06;;;
Purge Volume: 5.0
Column phase: DB624

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

Data File: \\NAHSTWS005\Target\chem\voa6.i\X211107.b\X110719.D

Date : 07-NOV-2021 17:43

Client ID: HS21101554-06

Instrument: voa6.i

Sample Info: HS21101554-06;HS21101554-06;;;

Purge Volume: 5.0

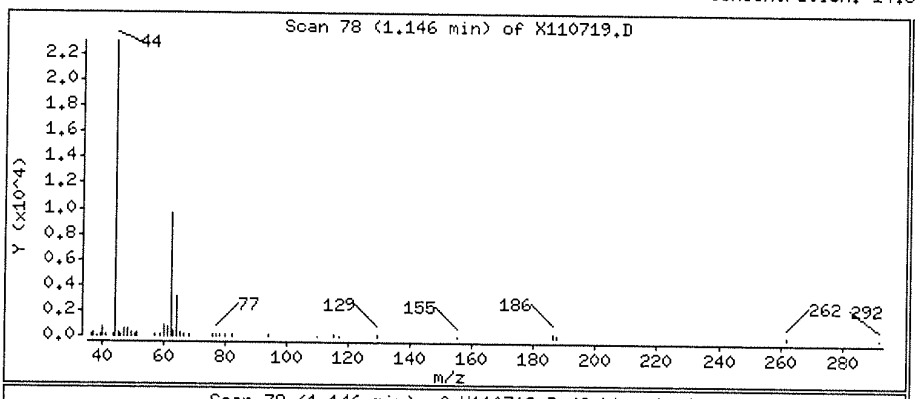
Operator: PC

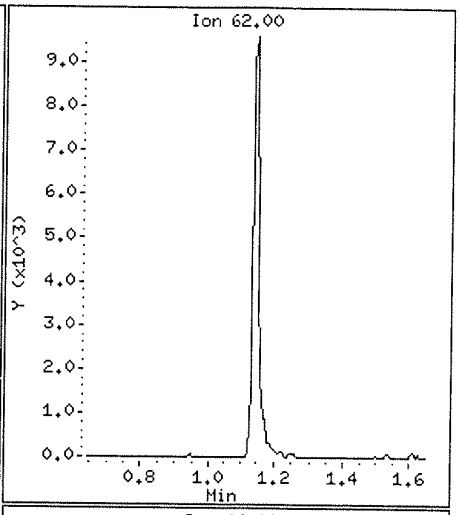
Column phase: DB624

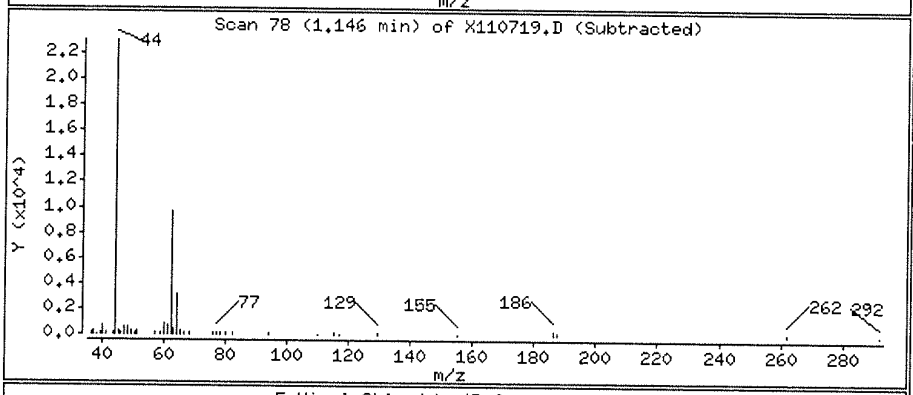
Column diameter: 0.18

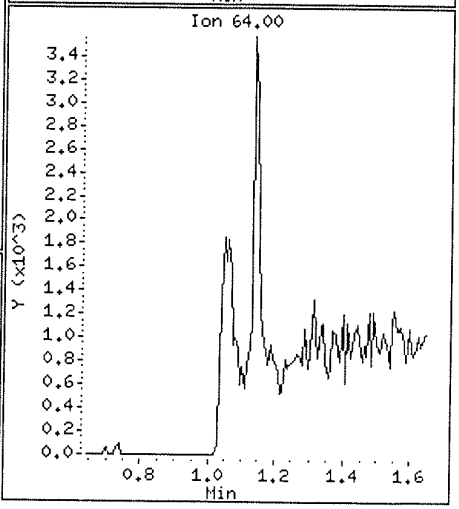
5 Vinyl Chloride

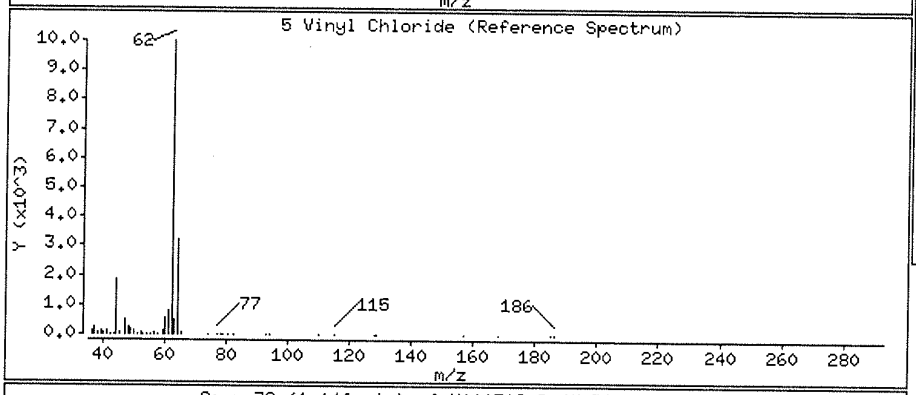
Concentration: 14.62 ug/l

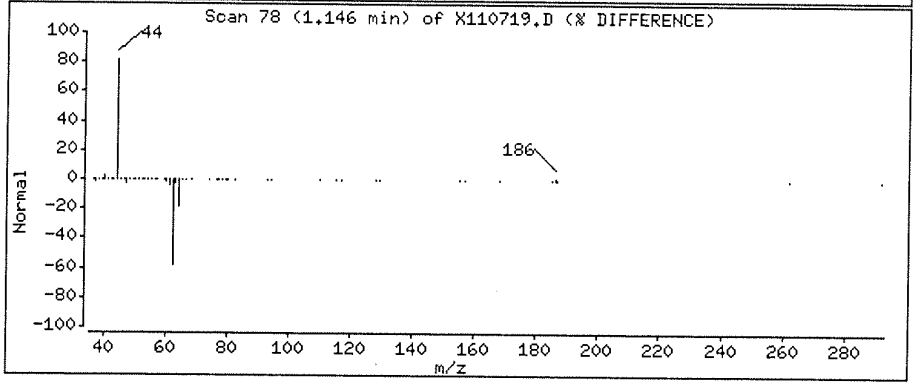












Data File: \\NAHSTWS005\Target\chem\voa6.i\X211107.b\X110719.D

Date : 07-NOV-2021 17:43

Client ID: HS21101554-06

Instrument: voa6.i

Sample Info: HS21101554-06;HS21101554-06;;;

Purge Volume: 5.0

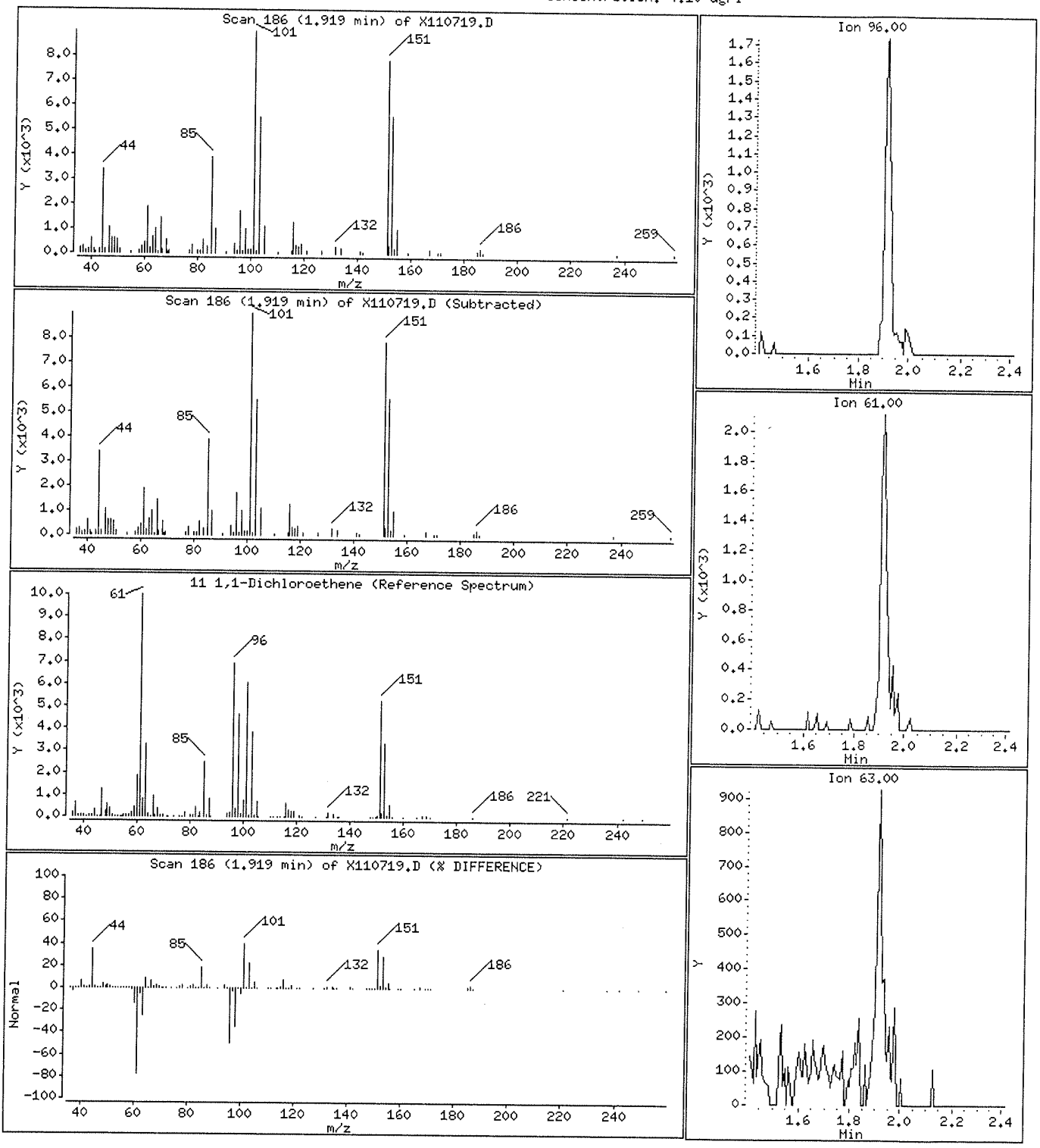
Operator: PC

Column phase: DB624

Column diameter: 0.18

11 1,1-Dichloroethene

Concentration: 4.10 ug/l



Data File: \\NAHSTWS005\Target\chem\voa6.i\X211107.b\X110719.D

Date : 07-NOV-2021 17:43

Client ID: HS21101554-06

Instrument: voa6.i

Sample Info: HS21101554-06;HS21101554-06;;;

Purge Volume: 5.0

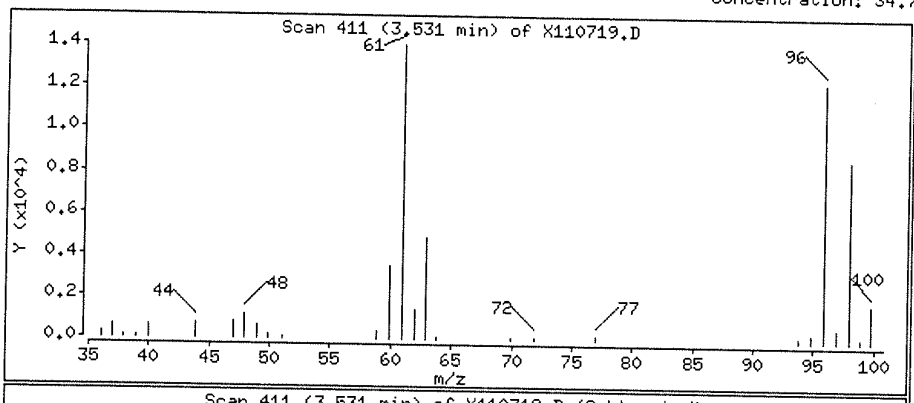
Operator: PC

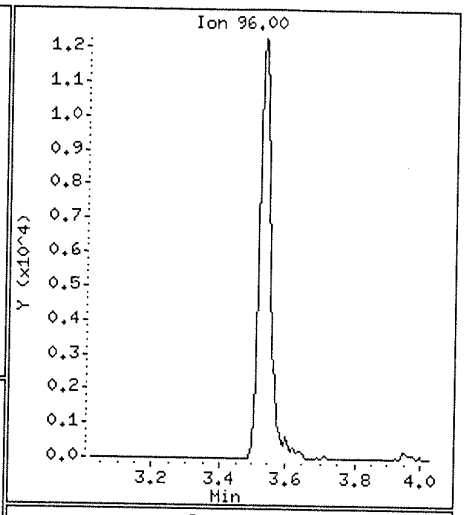
Column phase: DB624

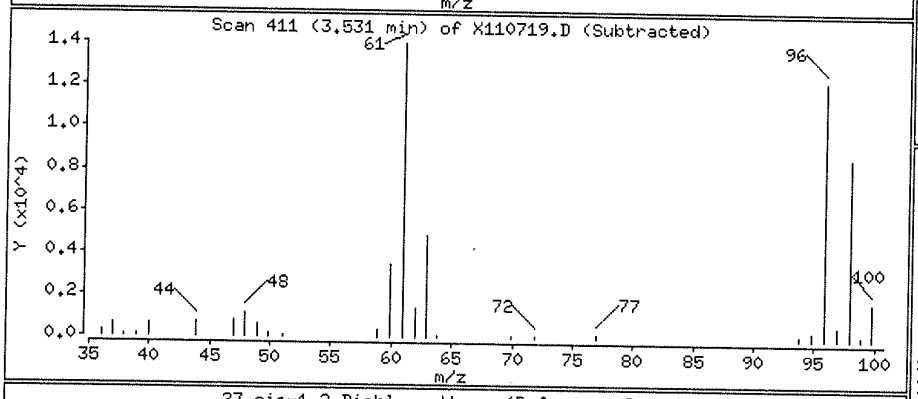
Column diameter: 0.18

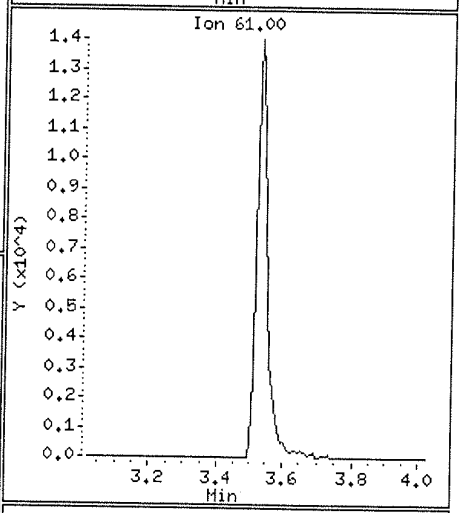
27 cis-1,2-Dichloroethene

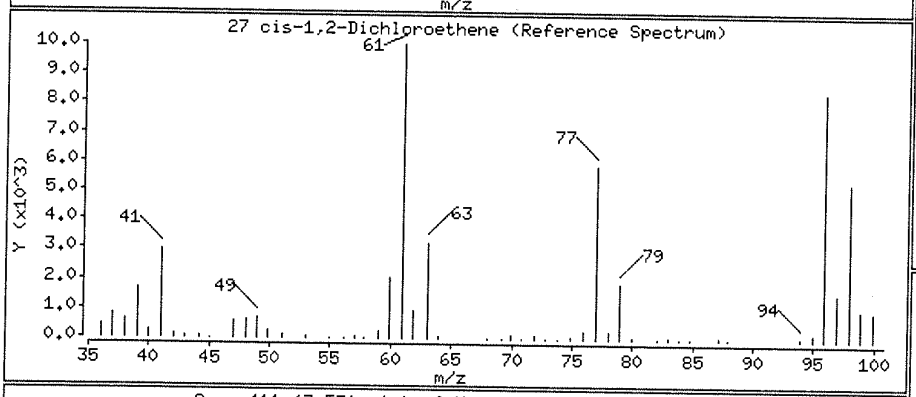
Concentration: 34.74 ug/l

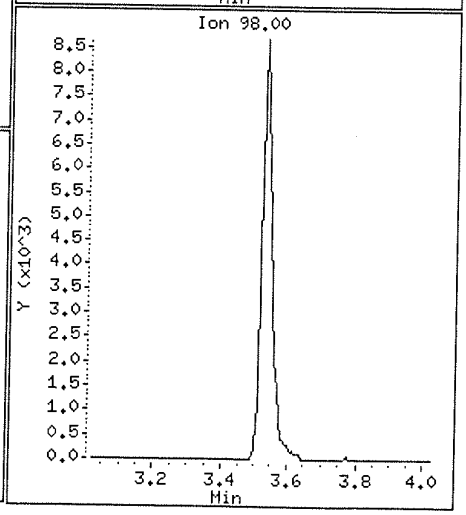


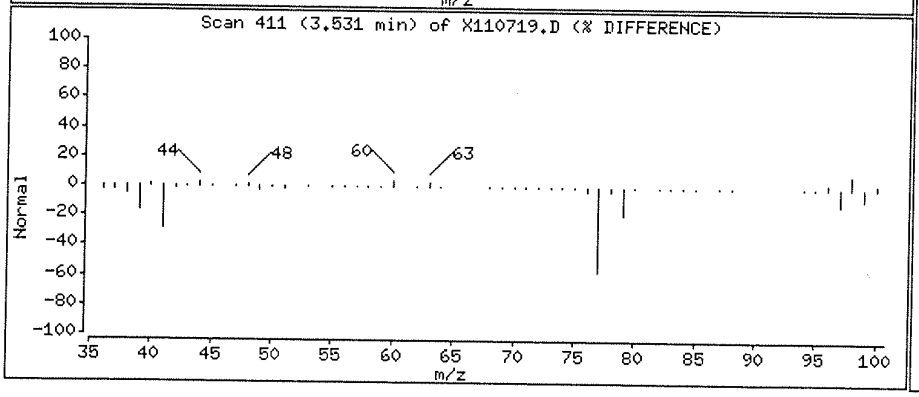












Data File: \\NAHSTWS005\Target\chem\voa6.i\X211107.b\X110719.D

Date : 07-NOV-2021 17:43

Client ID: HS21101554-06

Instrument: voa6.i

Sample Info: HS21101554-06;HS21101554-06;;;

Purge Volume: 5.0

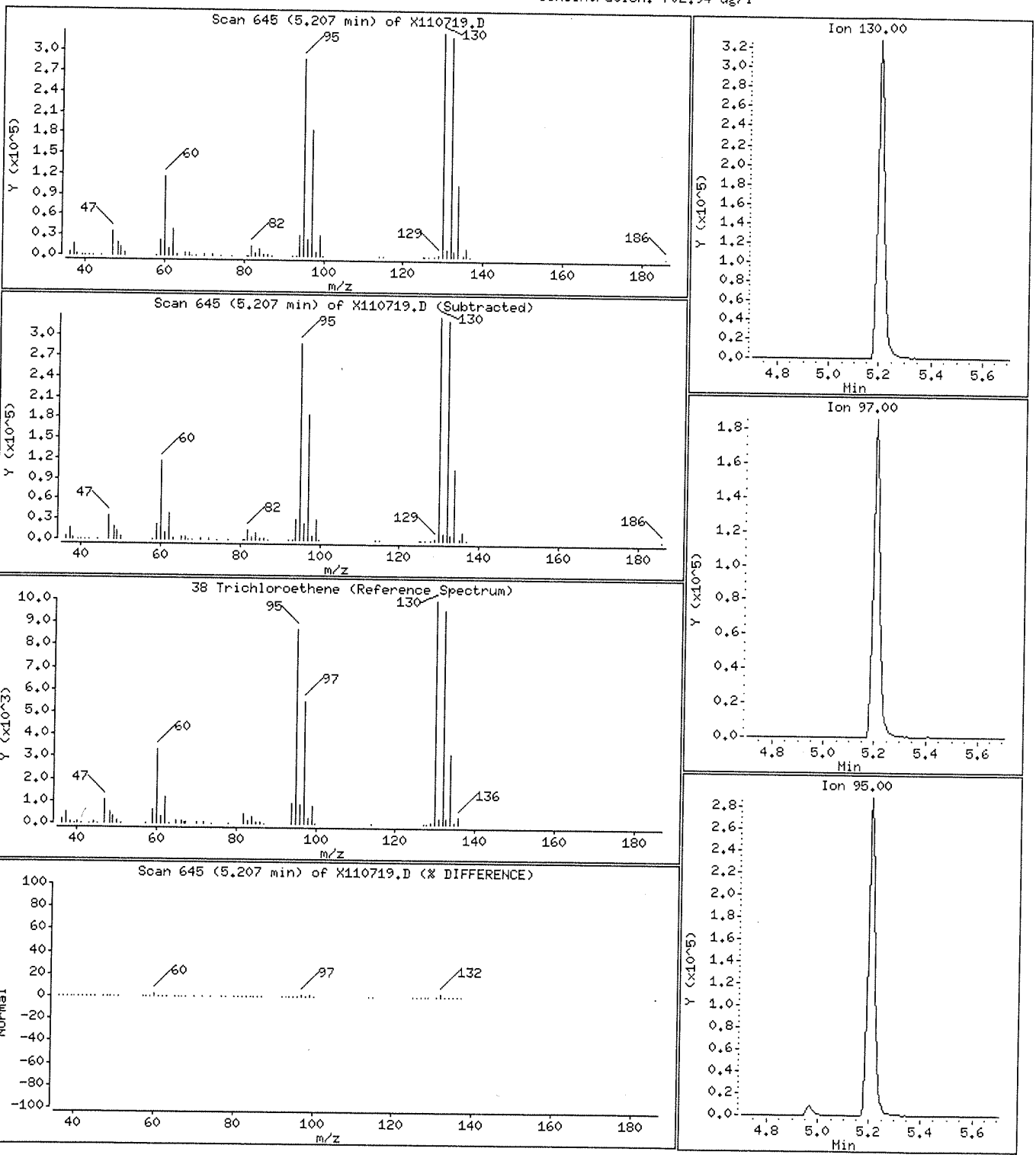
Operator: PC

Column phase: DB624

Column diameter: 0.18

38 Trichloroethene

Concentration: 702.94 ug/l



ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X211107.b\X110721.D
Lab Smp Id: HS21101554-11 Client Smp ID: HS21101554-11
Inj Date : 07-NOV-2021 18:25
Operator : PC Inst ID: voa6.i
Smp Info : HS21101554-11;HS21101554-11;;;
Misc Info : HS18090001;WATER;0;5;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X211107.b\8260W.m
Meth Date : 16-Nov-2021 17:04 kori.bagsb Quant Type: ISTD
Cal Date : 08-OCT-2021 15:34 Cal File: X100808.D
Als bottle: 20
Dil Factor: 5.00000
Integrator: HP RTE Compound Sublist: 01474-dod.sub
Target Version: 4.14
Processing Host: NAHSTW7017

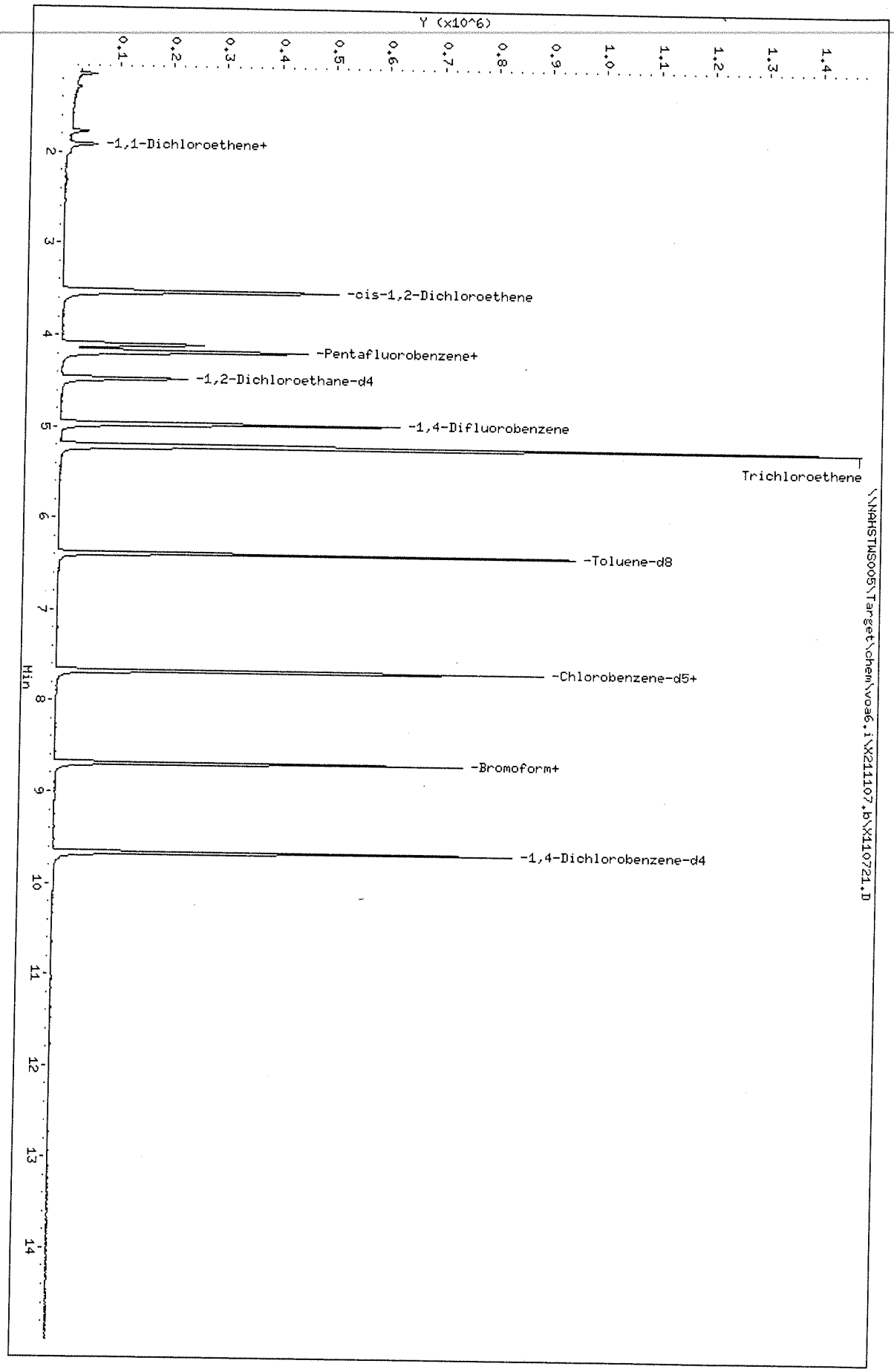
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

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

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	409286	50.0000	
$ 30 Dibromofluoromethane	113	4.096	4.096	(0.979)	182541	45.3314	45.33
$ 35 1,2-Dichloroethane-d4	65	4.469	4.469	(1.068)	176395	43.0442	43.04
* 36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	550534	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	487241	50.0000	
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	600078	48.5296	48.52
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	202406	47.4960	47.49
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	228248	50.0000	
5 Vinyl Chloride	62	1.145	1.145	(0.274)	24361	5.67705	28.38
11 1,1-Dichloroethene	96	1.912	1.912	(0.457)	3962	1.08521	5.42(a)
27 cis-1,2-Dichloroethene	96	3.523	3.523	(0.842)	287551	67.5772	337.88
38 Trichloroethene	130	5.207	5.207	(1.049)	510054	122.481	612.40

QC Flag Legend

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



Data File: \\NAHSTWS005\Target\chem\voa6.i\X211107.b\X110721.D
Date : 07-NOV-2021 18:25
Client ID: HS21101554-11
Sample Info: HS21101554-11;HS21101554-11;;;
Purge Volume: 5.0
Column phase: DB624

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

Data File: \\NAHSTWS005\Target\ohem\voa6.i\X211107.b\X110721.D

Date : 07-NOV-2021 18:25

Client ID: HS21101554-11

Instrument: voa6.i

Sample Info: HS21101554-11;HS21101554-11;;;

Purge Volume: 5.0

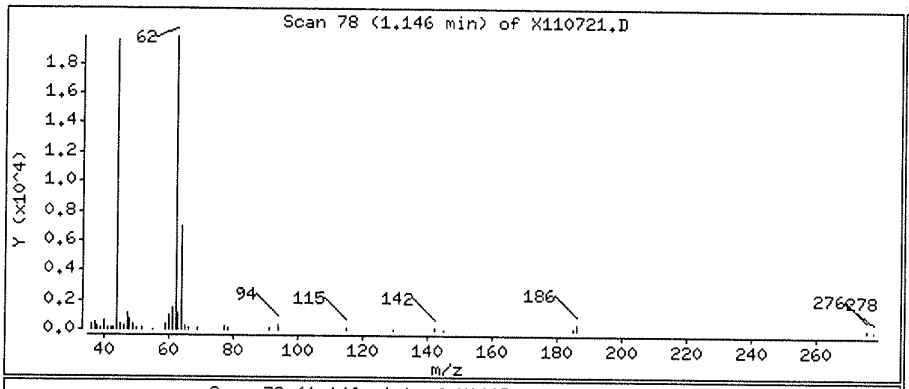
Operator: PC

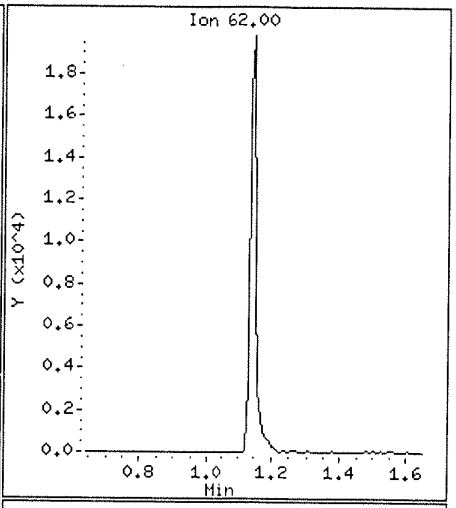
Column phase: DB624

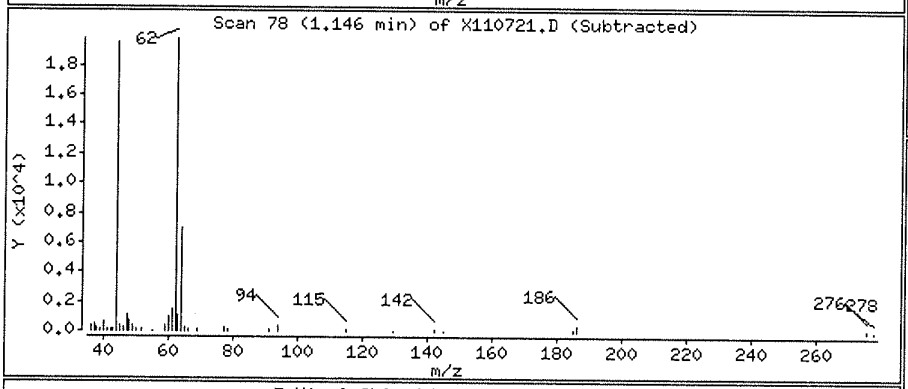
Column diameter: 0.18

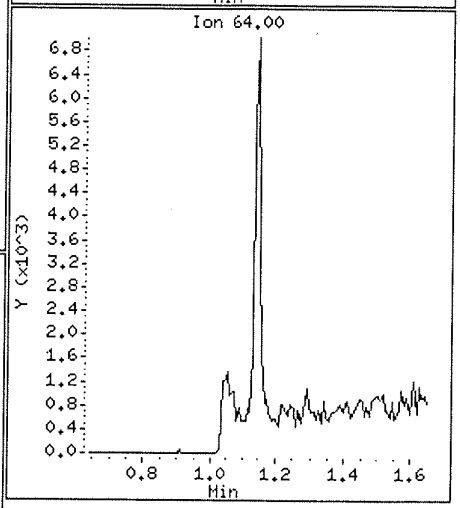
5 Vinyl Chloride

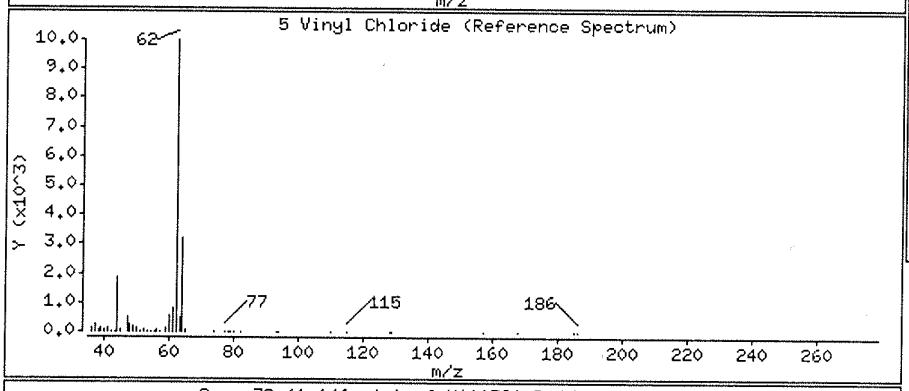
Concentration: 28.38 ug/l

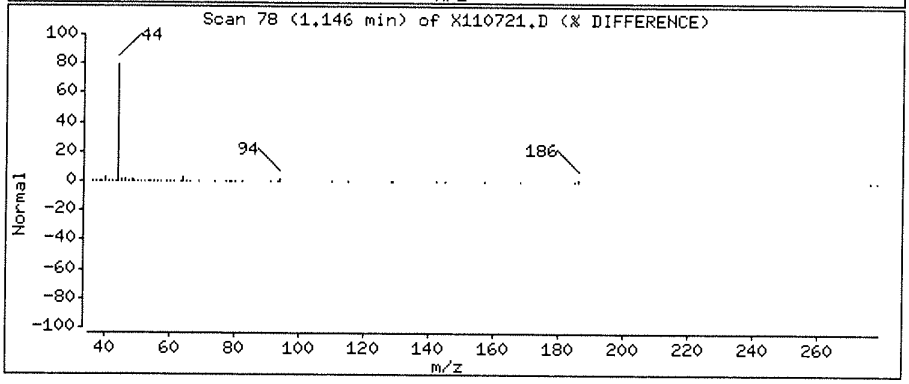












Data File: \\NAHSTWS005\Target\chem\voa6.i\X211107.b\X110721.D

Date : 07-NOV-2021 18:25

Client ID: HS21101554-11

Instrument: voa6.i

Sample Info: HS21101554-11;HS21101554-11;;;

Purge Volume: 5.0

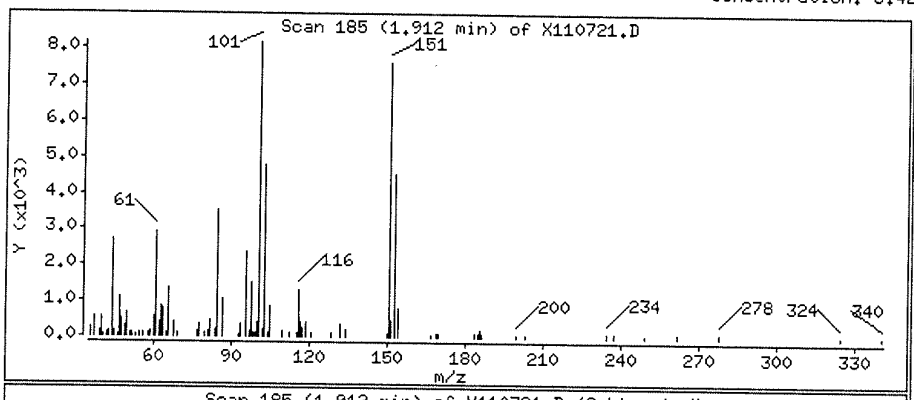
Operator: PC

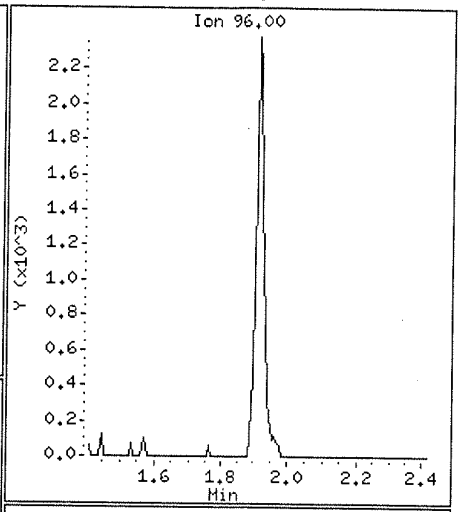
Column phase: DB624

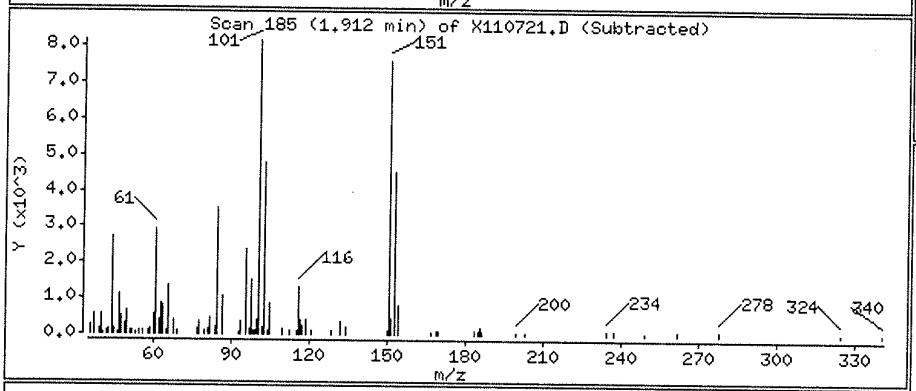
Column diameter: 0.18

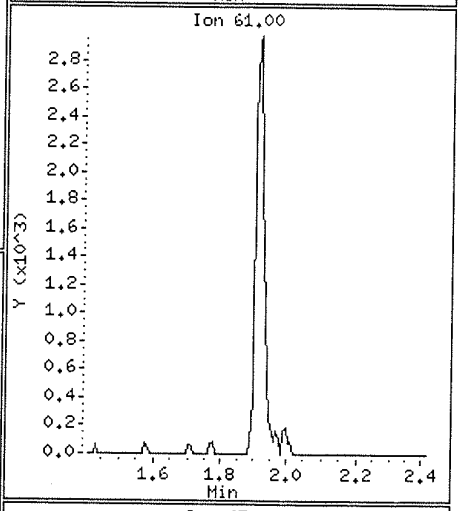
11 1,1-Dichloroethene

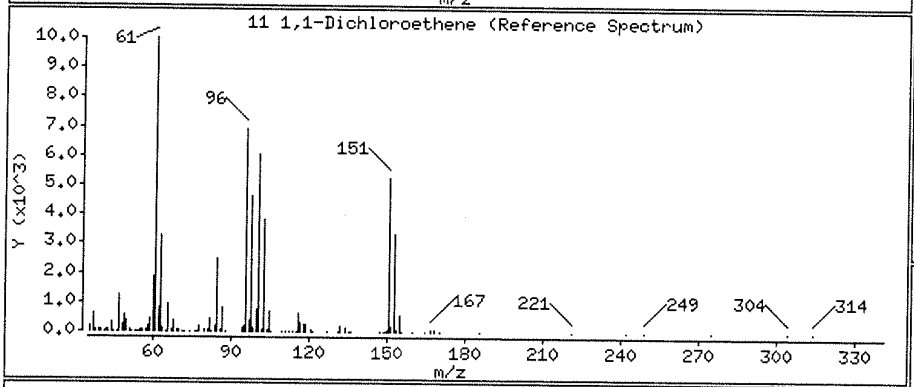
Concentration: 5.42 ug/l

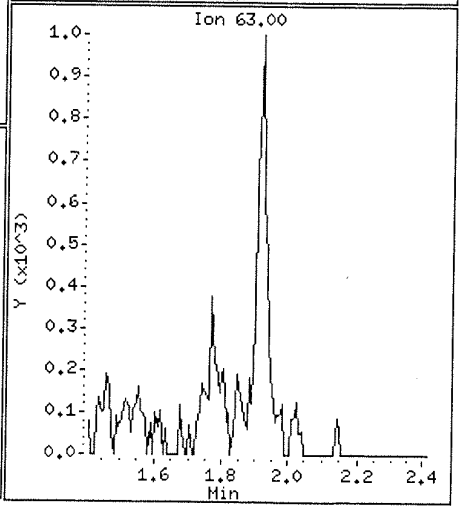


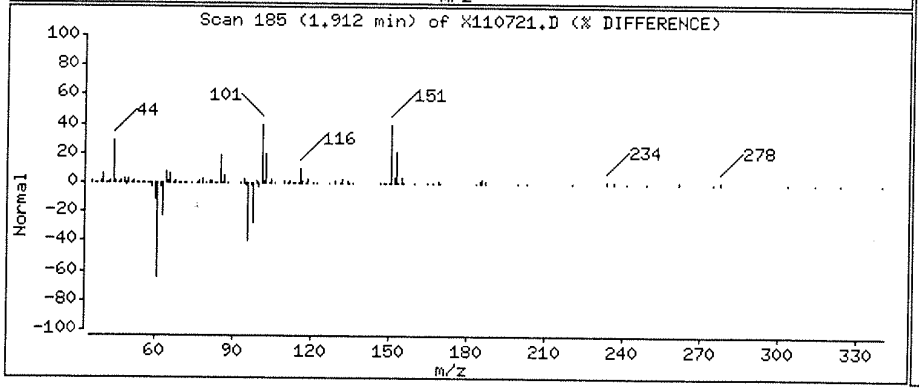












Data File: \\NAHSTWS005\Target\chem\voa6.i\X211107.b\X110721.D

Date : 07-NOV-2021 18:25

Client ID: HS21101554-11

Instrument: voa6.i

Sample Info: HS21101554-11;HS21101554-11;;;

Purge Volume: 5.0

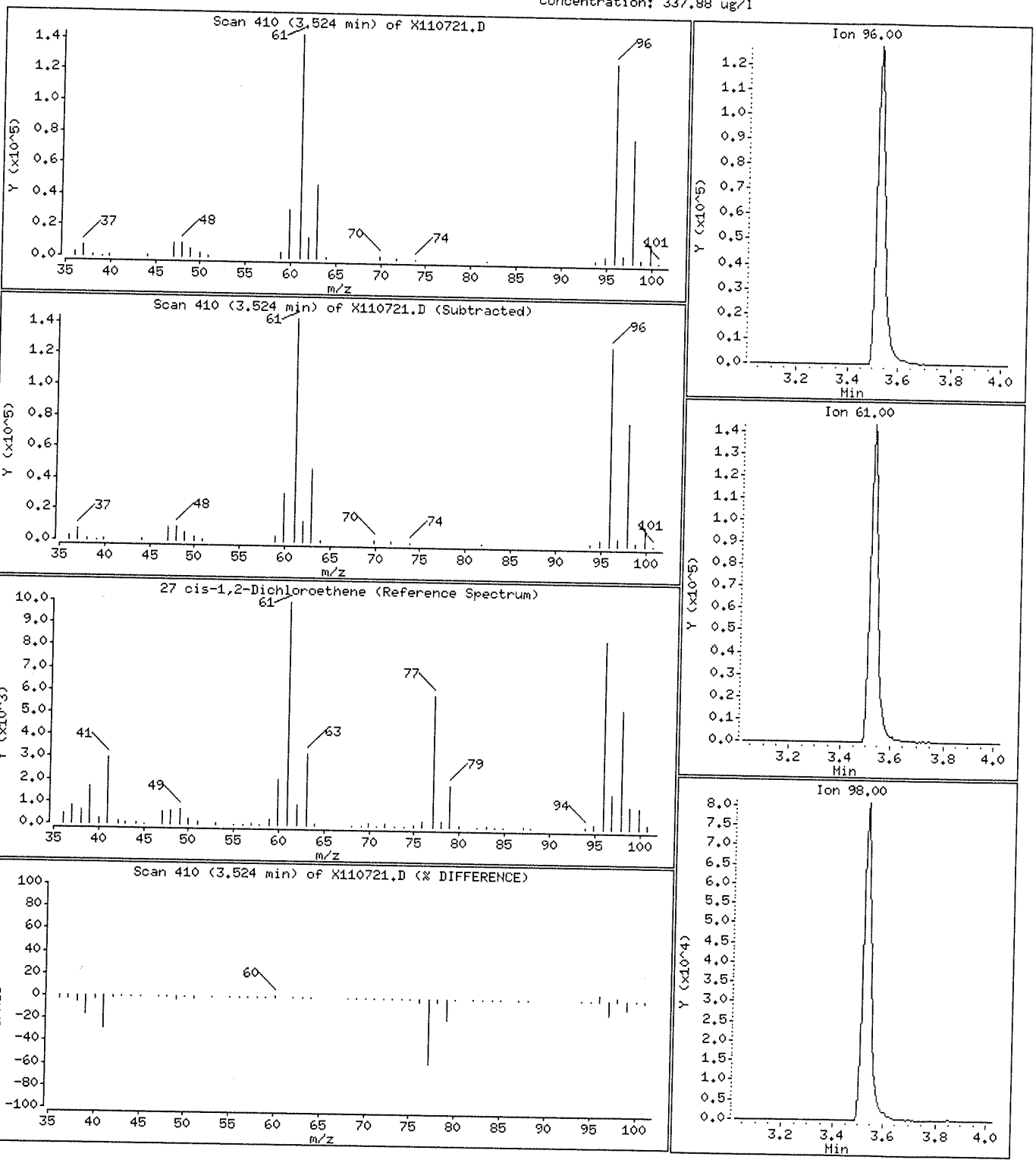
Operator: PC

Column phase: DB624

Column diameter: 0.18

27 cis-1,2-Dichloroethene

Concentration: 337.88 ug/l



Data File: \\NAHSTWS005\Target\chem\voa6.i\X211107.b\X110721.D

Date : 07-NOV-2021 18:25

Client ID: HS21101554-11

Instrument: voa6.i

Sample Info: HS21101554-11;HS21101554-11;;;

Purge Volume: 5.0

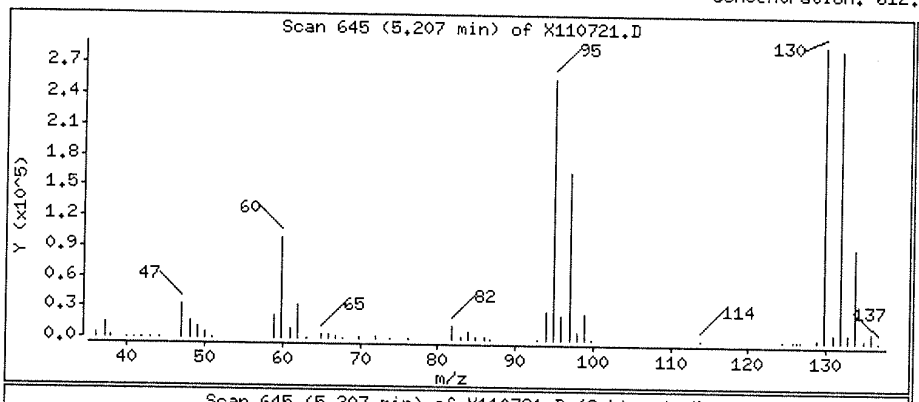
Operator: PC

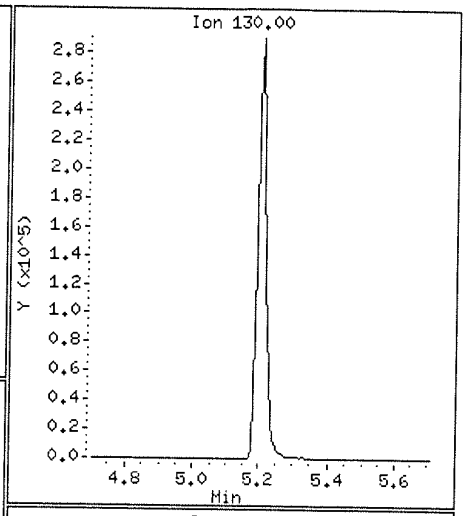
Column phase: DB624

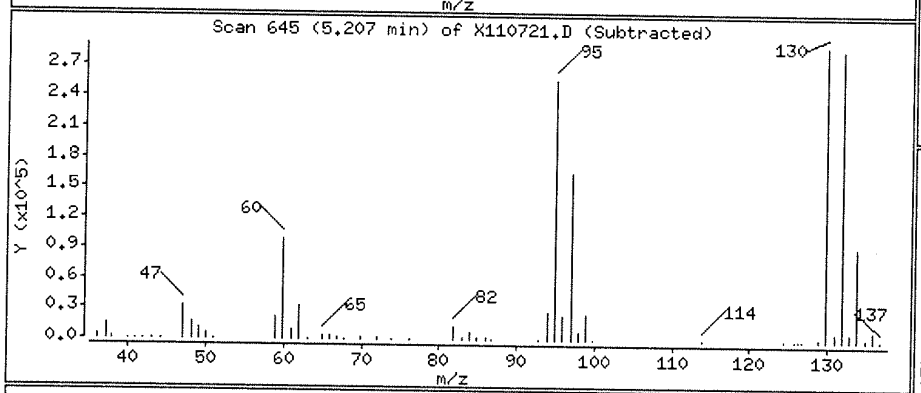
Column diameter: 0.18

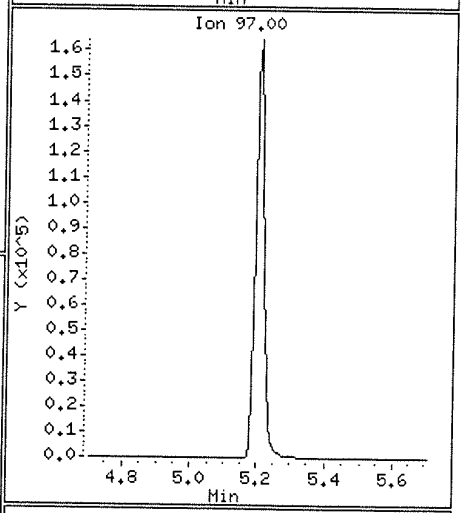
38 Trichloroethene

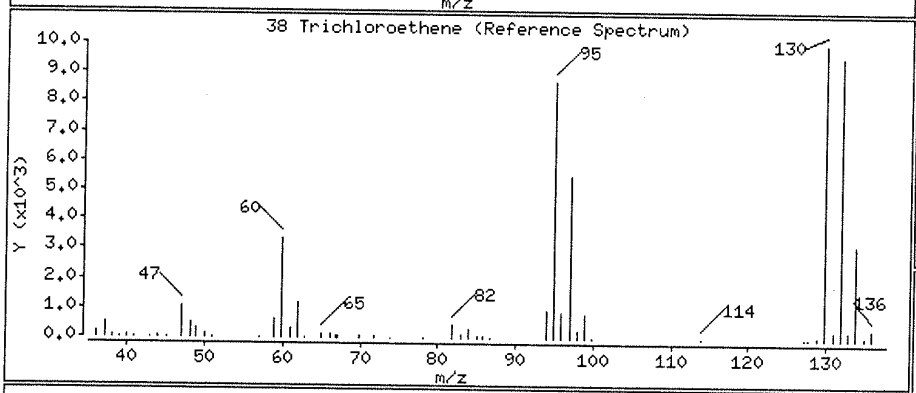
Concentration: 612.40 ug/l

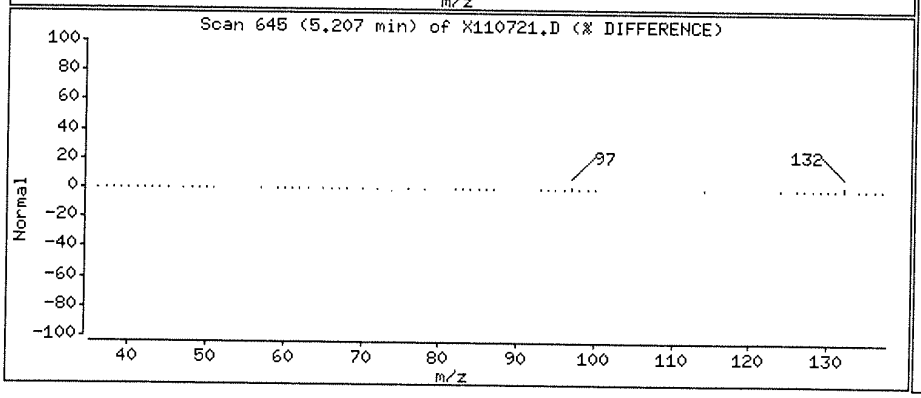


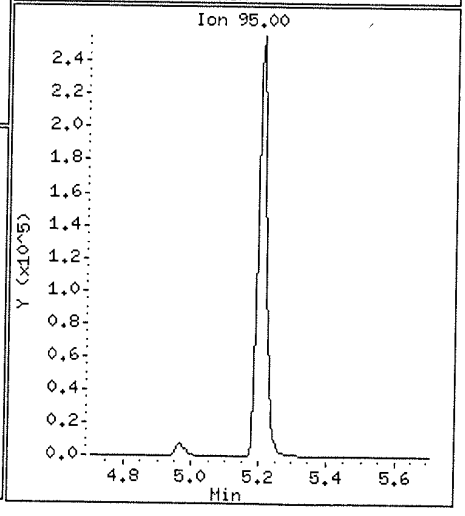












ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X211107.b\X110723.D
Lab Smp Id: HS21101554-12 Client Smp ID: HS21101554-12
Inj Date : 07-NOV-2021 19:07
Operator : PC Inst ID: voa6.i
Smp Info : HS21101554-12;HS21101554-12;;;
Misc Info : HS18090001;WATER;0;5;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X211107.b\8260W.m
Meth Date : 16-Nov-2021 17:04 kori.bagsb Quant Type: ISTD
Cal Date : 08-OCT-2021 15:34 Cal File: X100808.D
Als bottle: 22
Dil Factor: 5.00000
Integrator: HP RTE Compound Sublist: 01474-dod.sub
Target Version: 4.14
Processing Host: NAHSTW7017

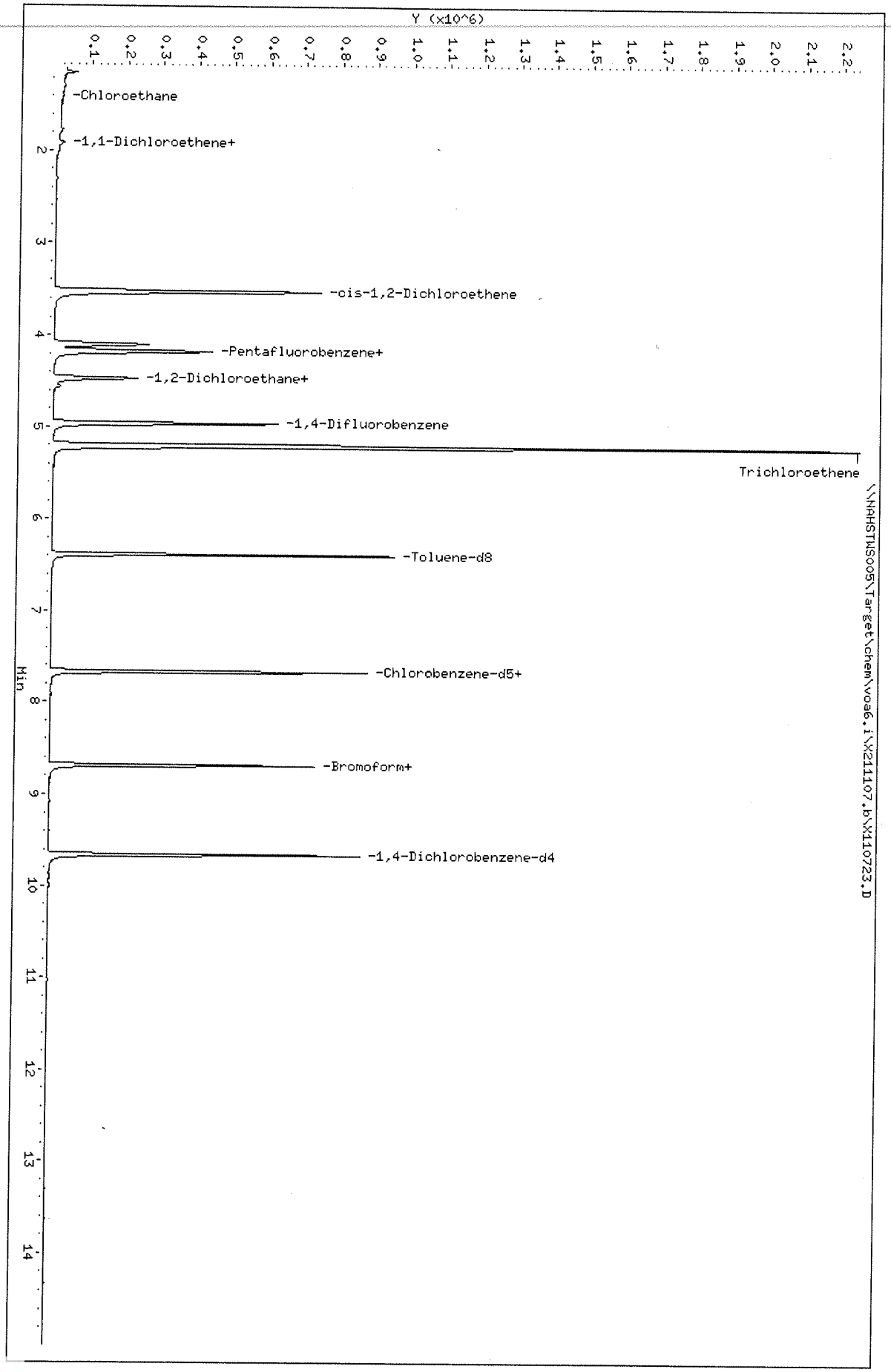
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

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

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	406465	50.0000	
$ 30 Dibromofluoromethane	113	4.096	4.096	(0.979)	186743	46.7311	46.73
$ 35 1,2-Dichloroethane-d4	65	4.469	4.469	(1.069)	176102	43.2817	43.28
* 36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	545278	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	482201	50.0000	
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	598823	48.9343	48.93
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	201962	47.8984	47.89
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	234141	50.0000	
5 Vinyl Chloride	62	1.145	1.145	(0.274)	21701	5.09226	25.46
11 1,1-Dichloroethene	96	1.919	1.912	(0.459)	2860	0.78880	3.94(a)
27 cis-1,2-Dichloroethene	96	3.530	3.523	(0.844)	419850	99.3536	496.76
33 1,2-Dichloroethane	62	4.562	4.555	(0.919)	13541	2.96043	14.80(a)
38 Trichloroethene	130	5.207	5.207	(1.049)	781807	189.548	947.74

QC Flag Legend

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



Data File: \\NAHSTWS005\Target\chem\voa6.i\X211107.b\X110723.D
Date : 07-NOV-2021 19:07
Client ID: HS21101554-12
Sample Info: HS21101554-12;HS21101554-12;;;
Purge Volume: 5.0
Column phase: DB624

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

Data File: \\NAHSTWS005\Target\chem\voa6.i\X211107.b\X110723.D

Date : 07-NOV-2021 19:07

Client ID: HS21101554-12

Instrument: voa6.i

Sample Info: HS21101554-12;HS21101554-12;;;

Purge Volume: 5.0

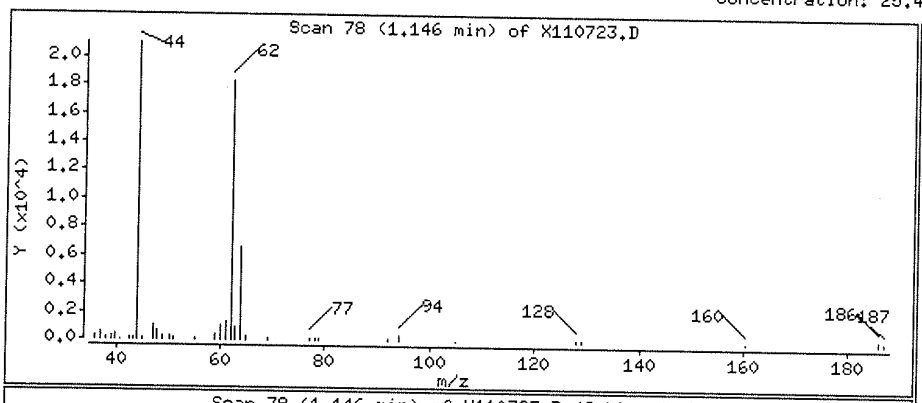
Operator: PC

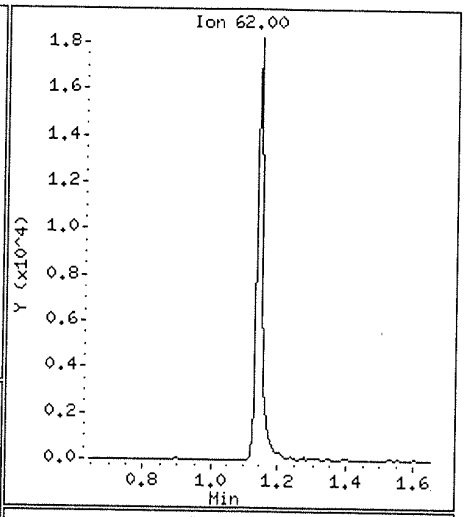
Column phase: DB624

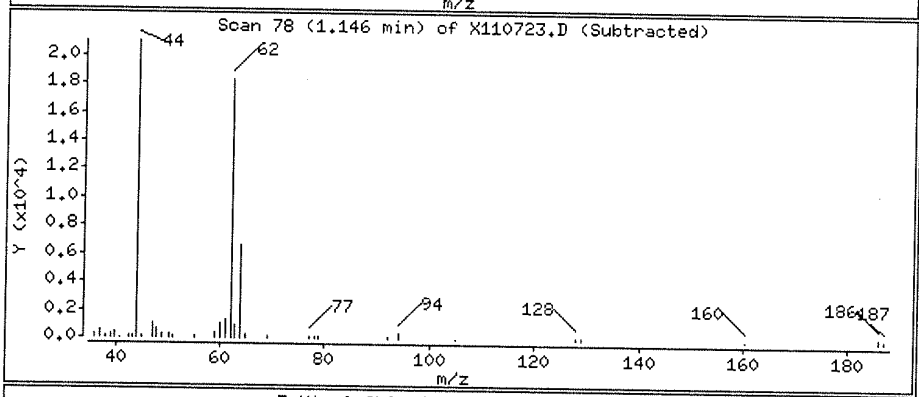
Column diameter: 0.18

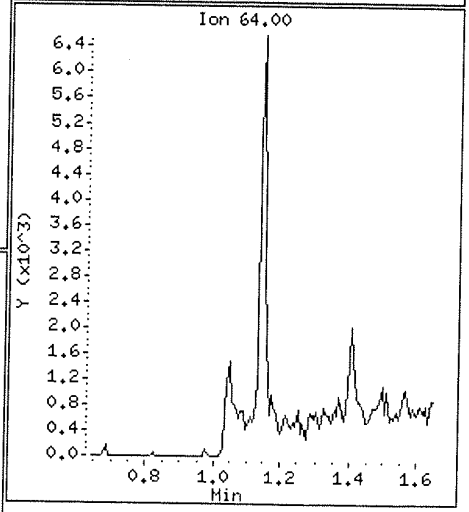
5 Vinyl Chloride

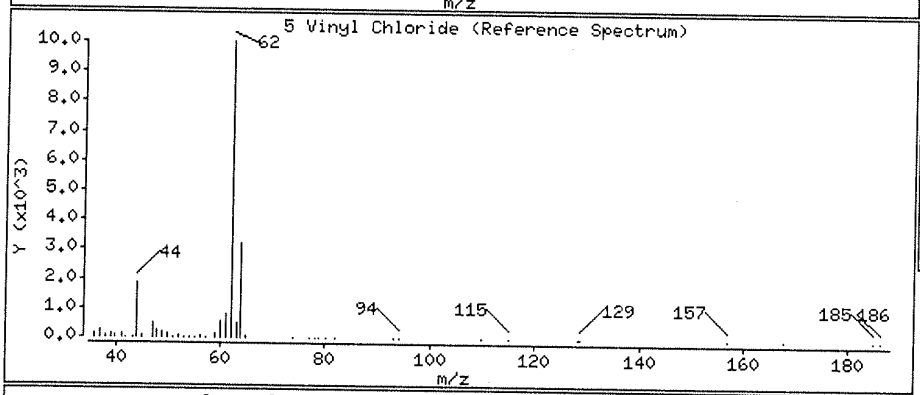
Concentration: 25.46 ug/l

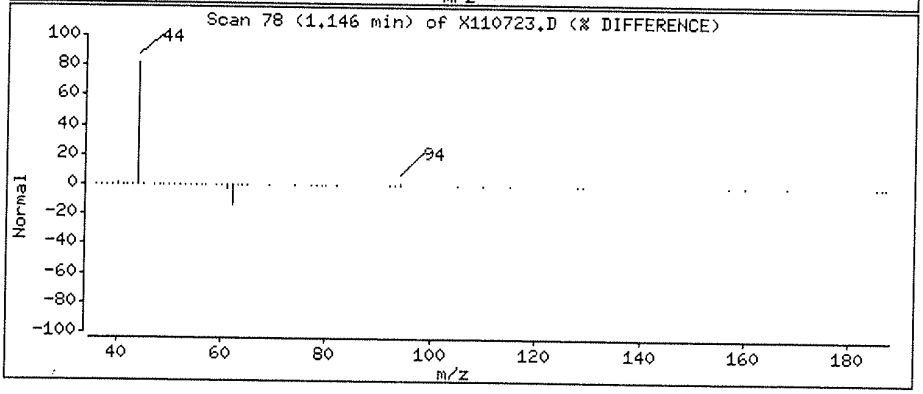












Data File: \\NAHSTWS005\Target\chem\voa6.i\X211107.b\X110723.D

Date : 07-NOV-2021 19:07

Client ID: HS21101554-12

Instrument: voa6.i

Sample Info: HS21101554-12;HS21101554-12;;;

Purge Volume: 5.0

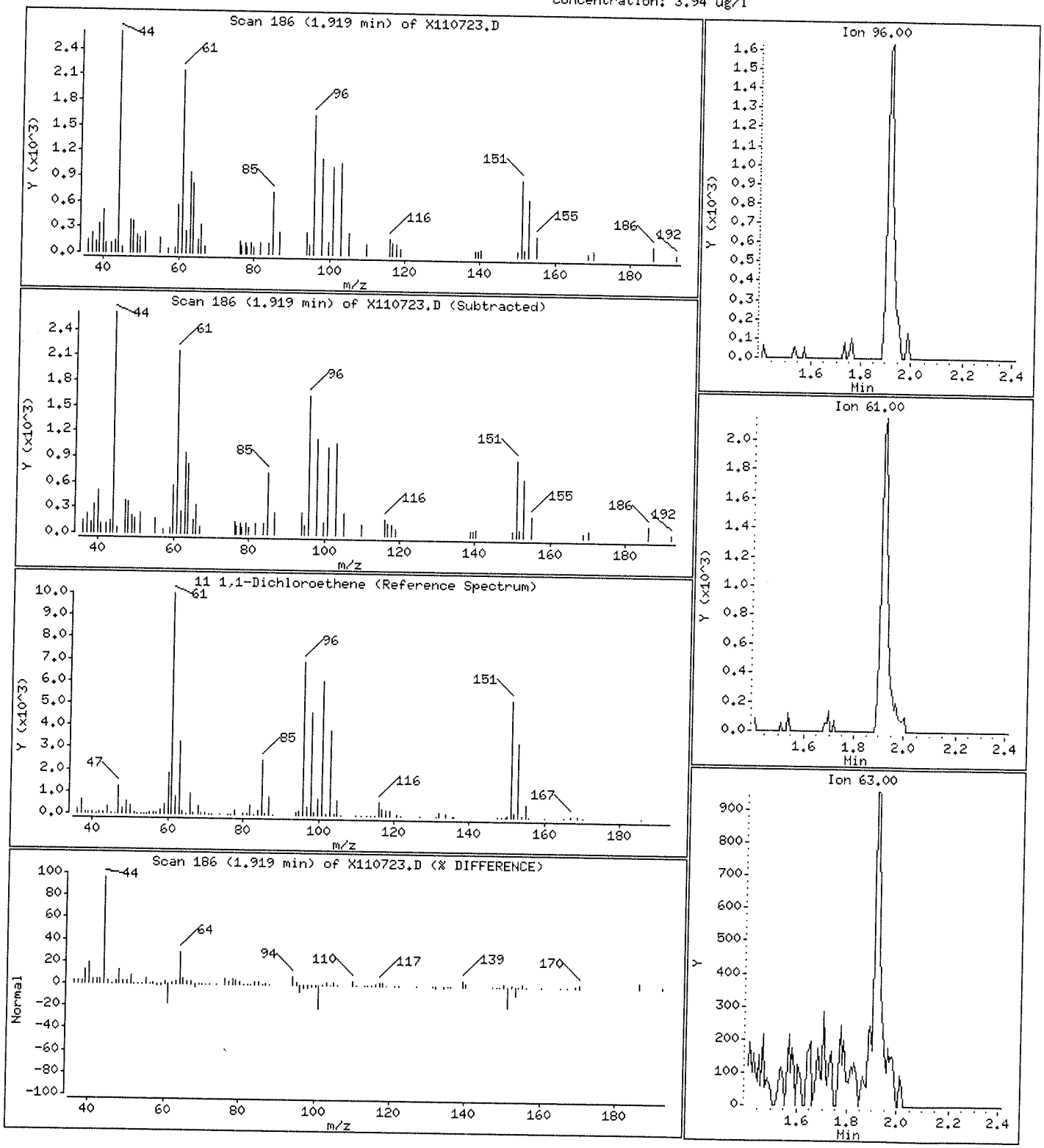
Operator: PC

Column phase: DB624

Column diameter: 0.18

11 1,1-Dichloroethene

Concentration: 3.94 ug/l



Data File: \\NAHSTWS005\Target\chem\voa6.i\X211107.b\X110723.D

Date : 07-NOV-2021 19:07

Client ID: HS21101554-12

Instrument: voa6.i

Sample Info: HS21101554-12;HS21101554-12;;;

Purge Volume: 5.0

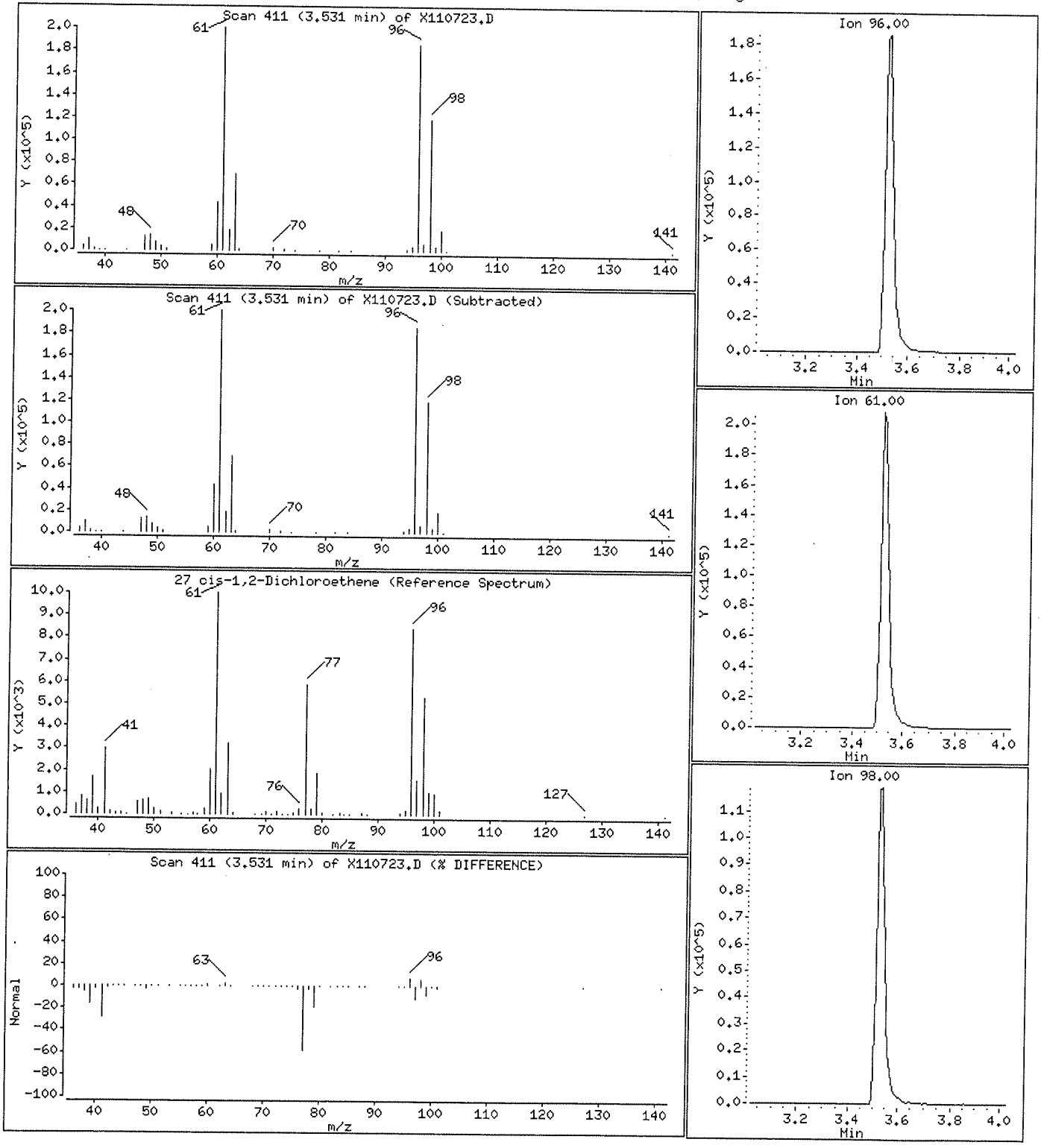
Operator: PC

Column phase: DB624

Column diameter: 0.18

27 cis-1,2-Dichloroethene

Concentration: 496.76 ug/l



Data File: \\NAHSTWS005\Target\chem\voa6.i\X211107.b\X110723.D

Date : 07-NOV-2021 19:07

Client ID: HS21101554-12

Instrument: voa6.i

Sample Info: HS21101554-12;HS21101554-12;;;

Purge Volume: 5.0

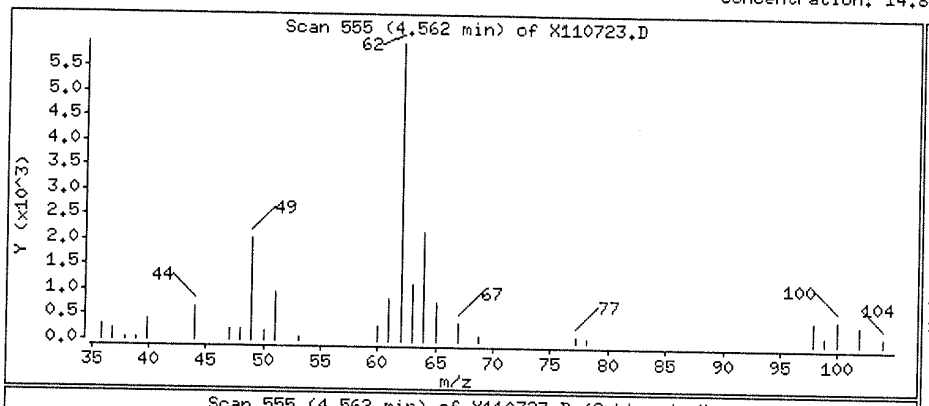
Operator: PC

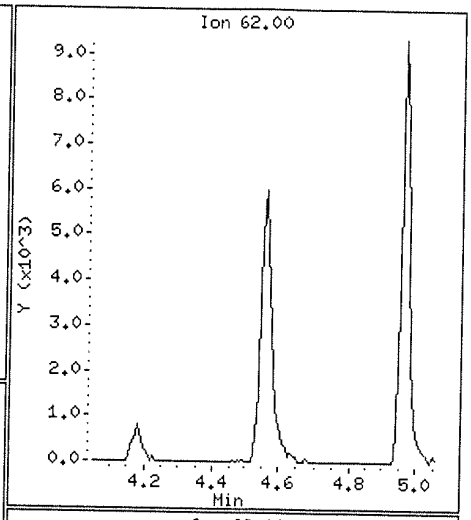
Column phase: DB624

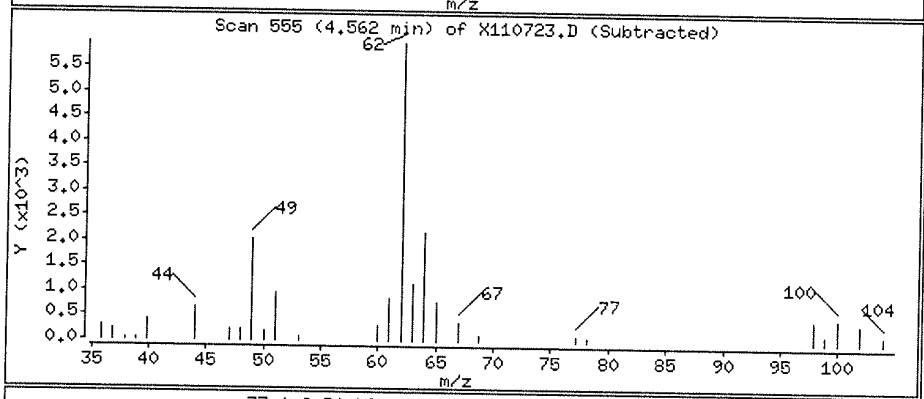
Column diameter: 0.18

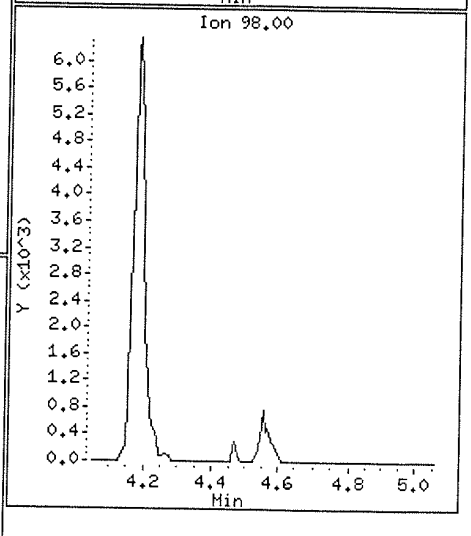
33 1,2-Dichloroethane

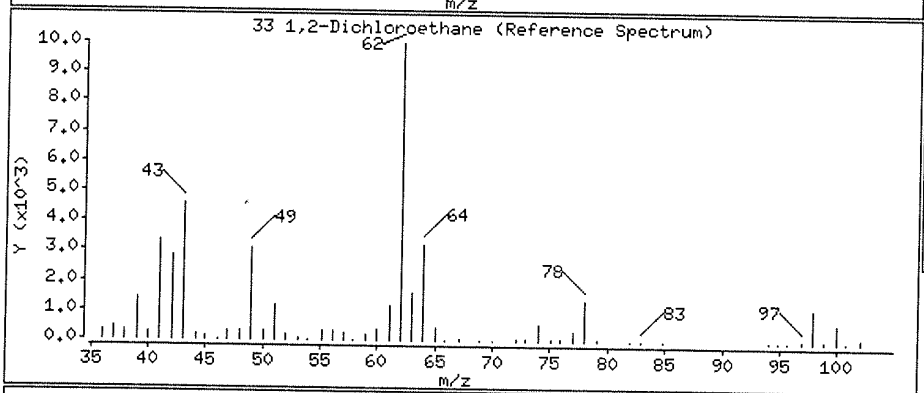
Concentration: 14.80 ug/l

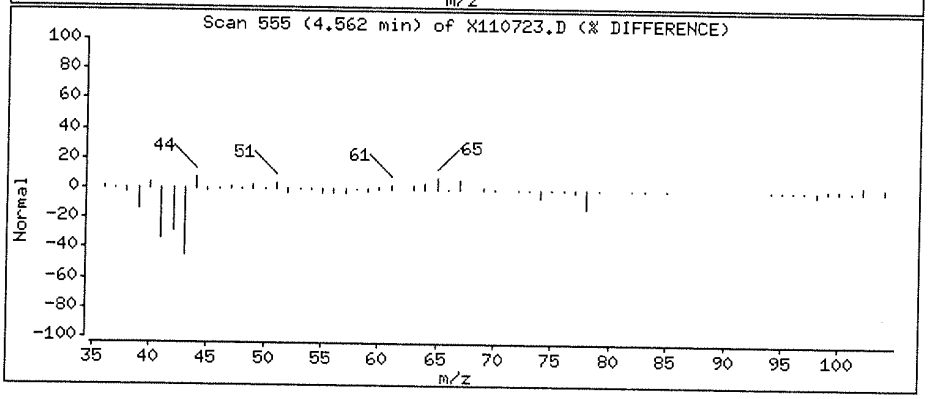












Data File: \\NAHSTWS005\Target\chem\voa6.i\X211107.b\X110723.D

Date : 07-NOV-2021 19:07

Client ID: HS21101554-12

Instrument: voa6.i

Sample Info: HS21101554-12;HS21101554-12;;;

Purge Volume: 5.0

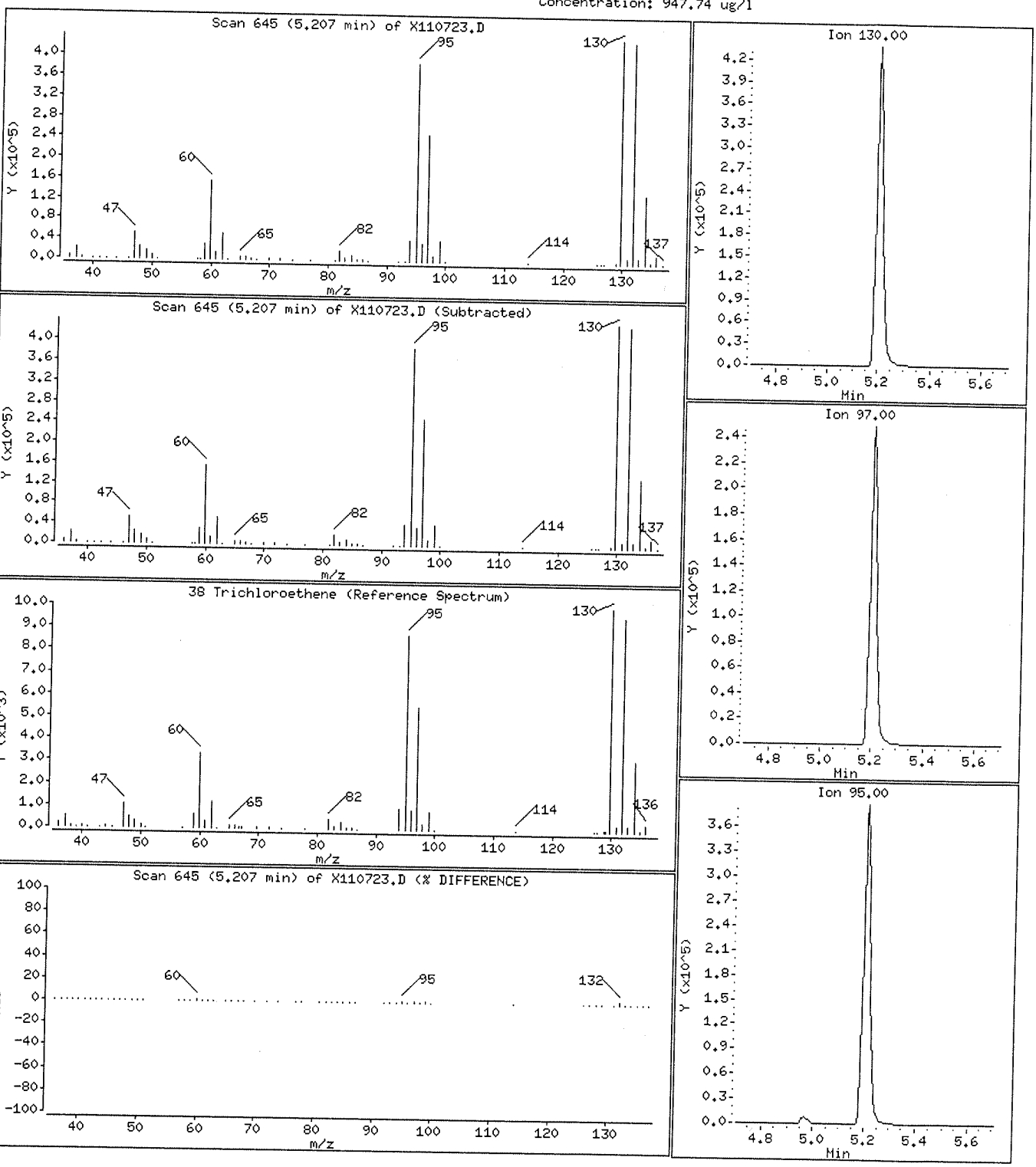
Operator: PC

Column phase: DB624

Column diameter: 0.18

38 Trichloroethene

Concentration: 947.74 ug/l



ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X211107.b\X110725.D
Lab Smp Id: HS21101554-09 Client Smp ID: HS21101554-09
Inj Date : 07-NOV-2021 19:49
Operator : PC Inst ID: voa6.i
Smp Info : HS21101554-09;HS21101554-09;;;
Misc Info : HS18090001;WATER;0;10;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X211107.b\8260W.m
Meth Date : 16-Nov-2021 17:04 kori.bagsb Quant Type: ISTD
Cal Date : 08-OCT-2021 15:34 Cal File: X100808.D
Als bottle: 24
Dil Factor: 10.00000
Integrator: HP RTE Compound Sublist: 01474-dod.sub
Target Version: 4.14
Processing Host: NAHSTW7017

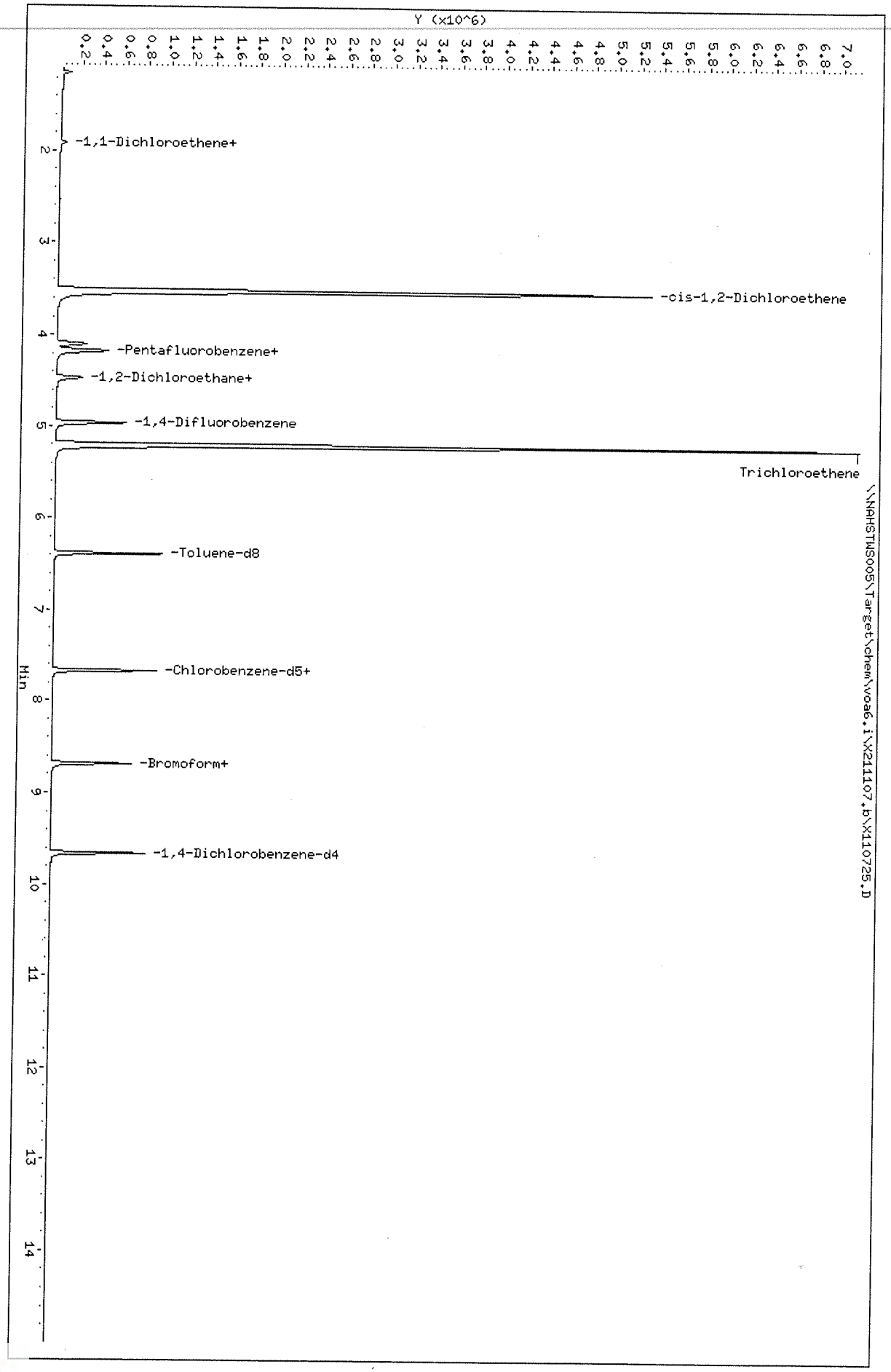
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

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

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	415104	50.0000	
$ 30 Dibromofluoromethane	113	4.096	4.096	(0.979)	183862	45.0117	45.01
$ 35 1,2-Dichloroethane-d4	65	4.469	4.469	(1.068)	174241	41.8697	41.86
* 36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	555226	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	493254	50.0000	
$ 48 Toluene-d8	98	6.381	6.388	(0.832)	603810	48.2361	48.23
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	197895	45.8245	45.82
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	223953	50.0000	
5 Vinyl Chloride	62	1.145	1.145	(0.274)	51273	11.7811	117.81
11 1,1-Dichloroethene	96	1.912	1.912	(0.457)	7736	2.08922	20.89(a)
27 cis-1,2-Dichloroethene	96	3.523	3.523	(0.842)	2837803	657.564	6575.63(A)
33 1,2-Dichloroethane	62	4.555	4.555	(0.918)	9557	2.05198	20.51(a)
38 Trichloroethene	130	5.207	5.207	(1.049)	2416206	575.310	5753.10(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.



Data File: \\NAHSTWS005\Target\chem\voa6.i\X211107.b\X110725.D
Date : 07-NOV-2021 19:49
Client ID: HS21101554-09
Sample Info: HS21101554-09;HS21101554-09;;;
Purge Volume: 5.0
Column phase: DB624

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

Data File: \\NAHSTWS005\Target\chem\voa6.i\X211107.b\X110725.D

Date : 07-NOV-2021 19:49

Client ID: HS21101554-09

Instrument: voa6.i

Sample Info: HS21101554-09;HS21101554-09;;;

Purge Volume: 5.0

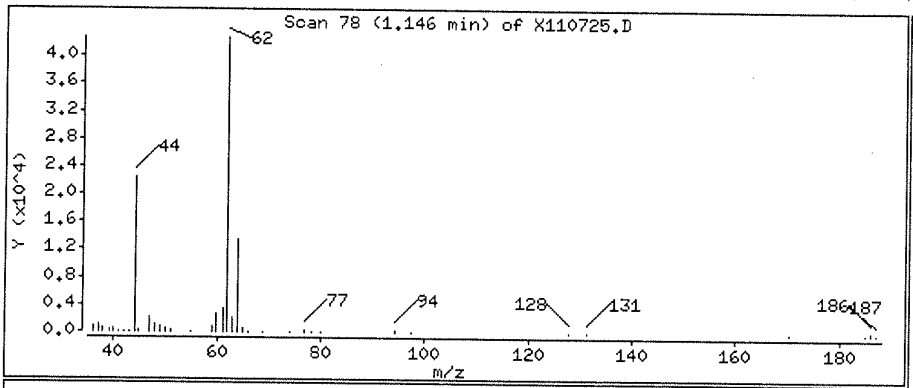
Operator: PC

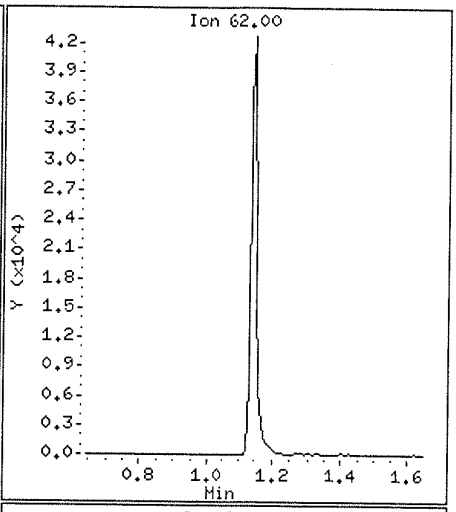
Column phase: DB624

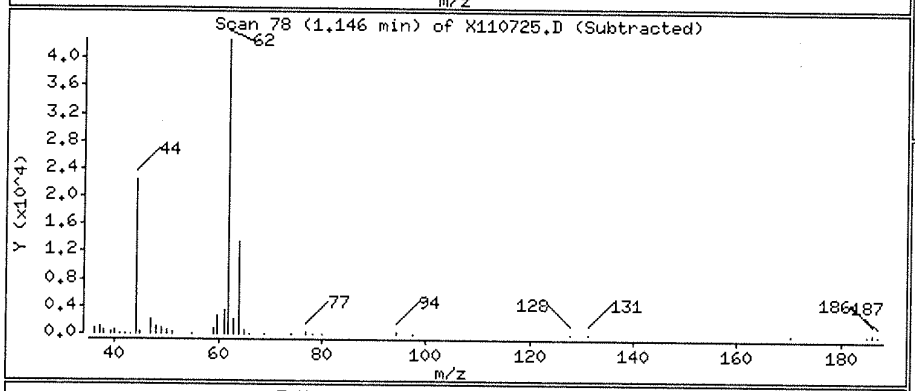
Column diameter: 0.18

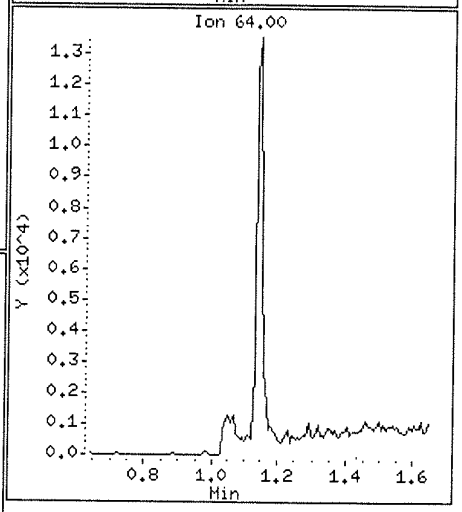
5 Vinyl Chloride

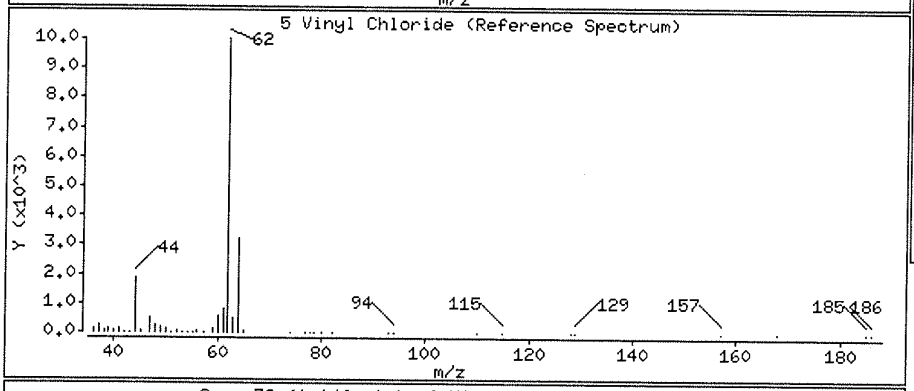
Concentration: 117.81 ug/l

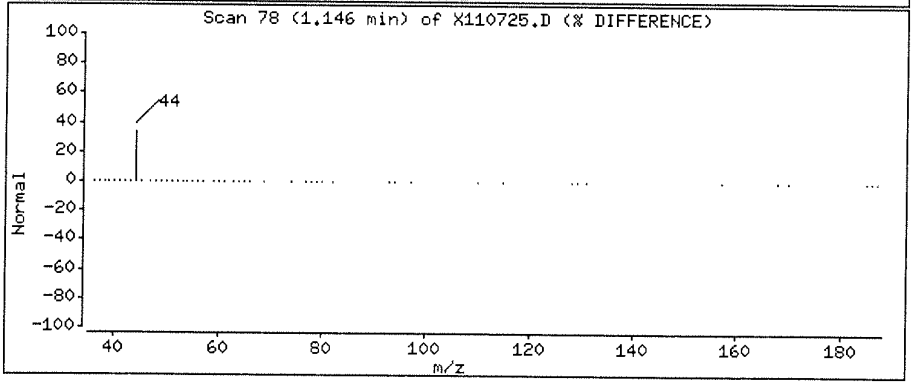












Data File: \\NAHSTWS005\Target\chem\voa6.i\X211107.b\X110725.D

Date : 07-NOV-2021 19:49

Client ID: HS21101554-09

Instrument: voa6.i

Sample Info: HS21101554-09;HS21101554-09;;;

Purge Volume: 5.0

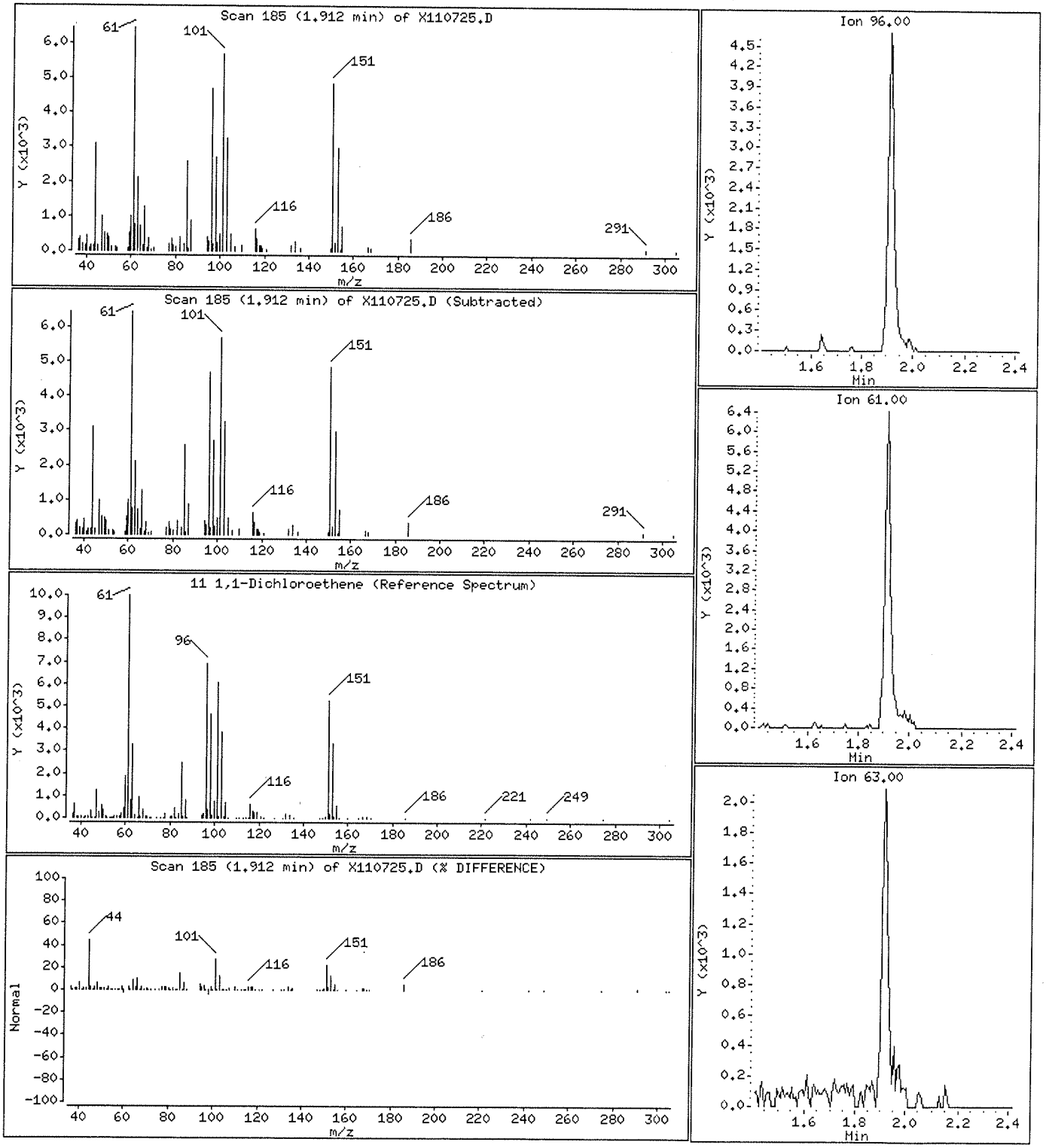
Operator: PC

Column phase: DB624

Column diameter: 0.18

11 1,1-Dichloroethene

Concentration: 20.89 ug/l



Data File: \\NAHSTWS005\Target\chem\voa6.i\X211107.b\X110725.D

Date : 07-NOV-2021 19:49

Client ID: HS21101554-09

Instrument: voa6.i

Sample Info: HS21101554-09;HS21101554-09;;;

Purge Volume: 5.0

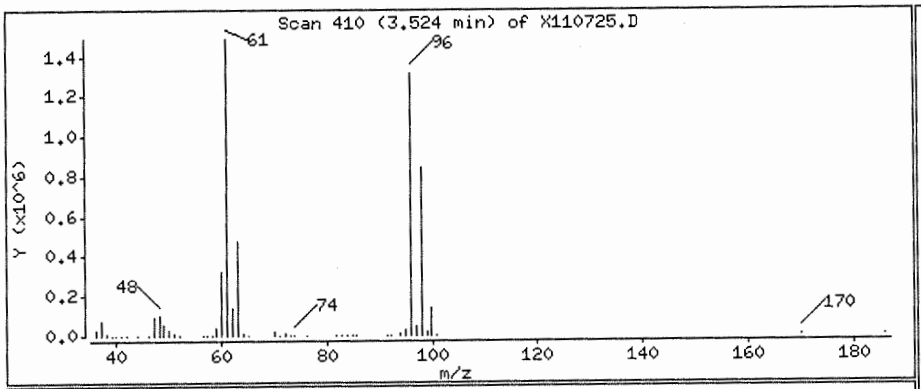
Operator: PC

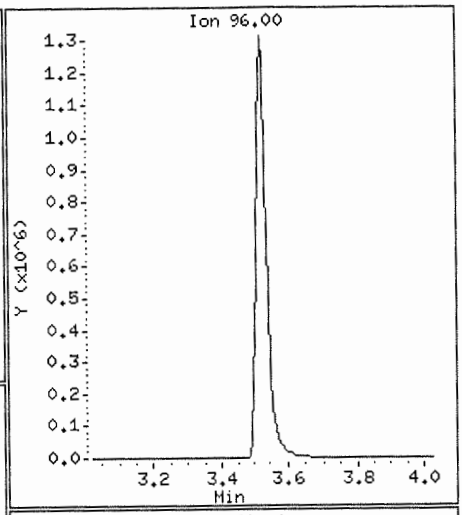
Column phase: DB624

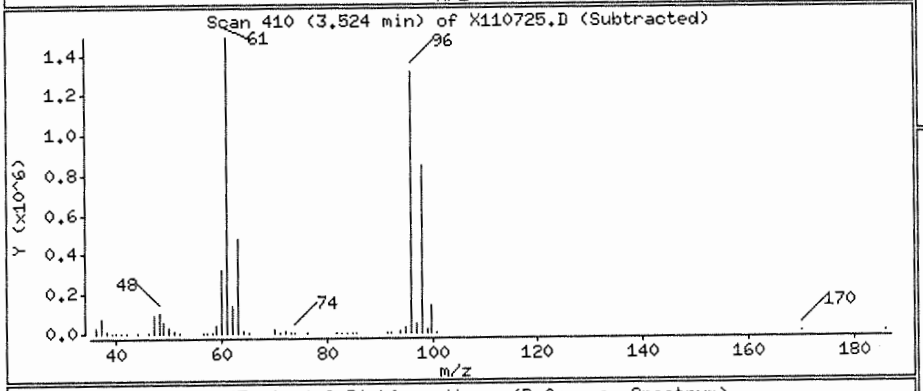
Column diameter: 0.18

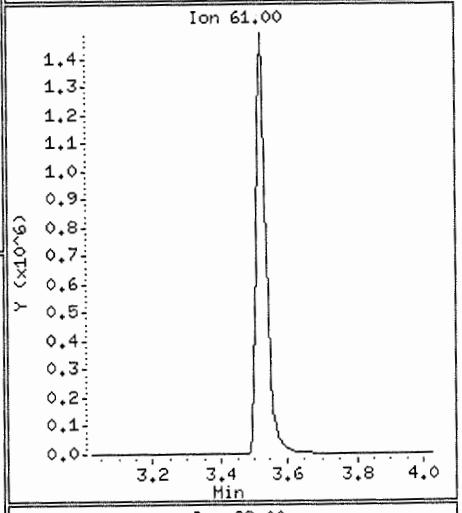
27 cis-1,2-Dichloroethene

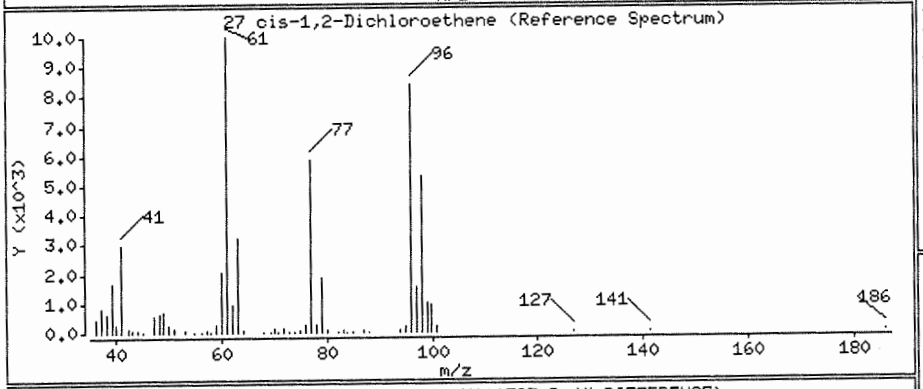
Concentration: 6575.63 ug/l

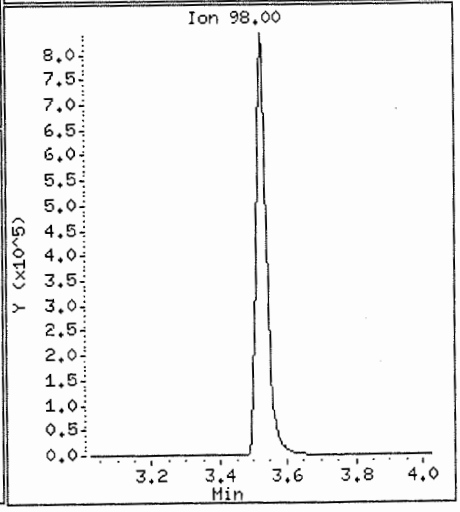


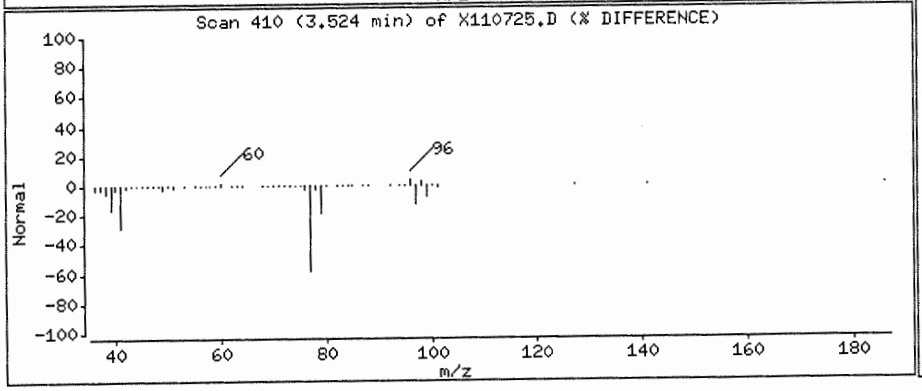












Data File: \\NAHSTWS005\Target\chem\voa6.i\X211107.b\X110725.D

Date : 07-NOV-2021 19:49

Client ID: HS21101554-09

Instrument: voa6.i

Sample Info: HS21101554-09;HS21101554-09;;;

Purge Volume: 5.0

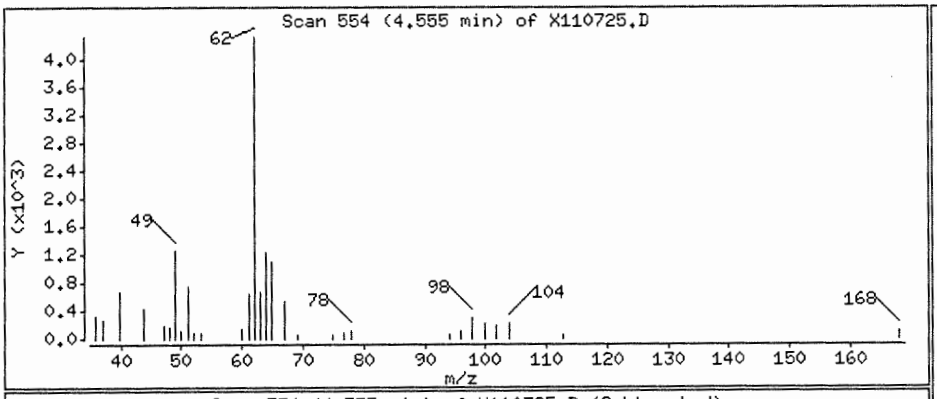
Operator: PC

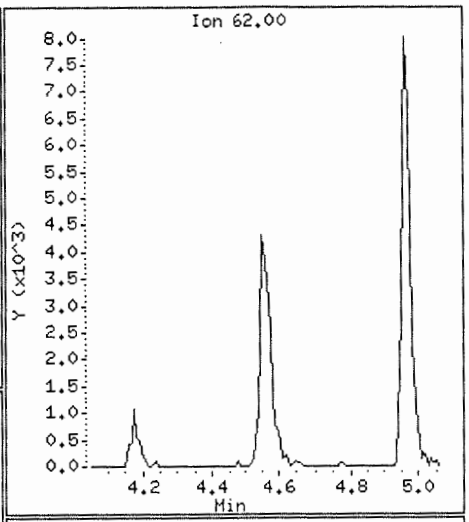
Column phase: DB624

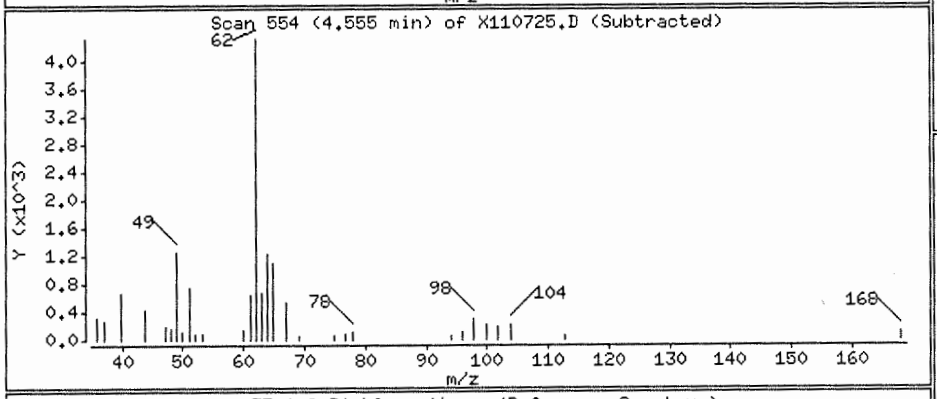
Column diameter: 0.18

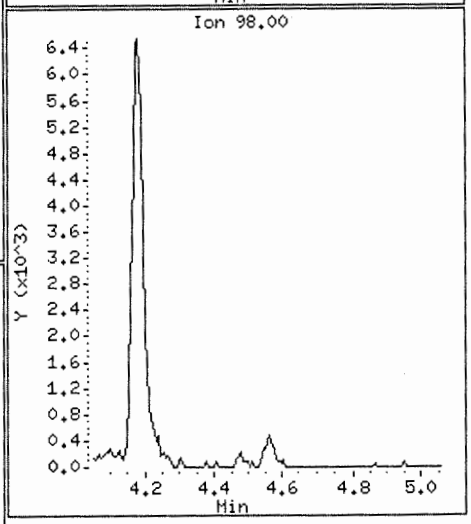
33 1,2-Dichloroethane

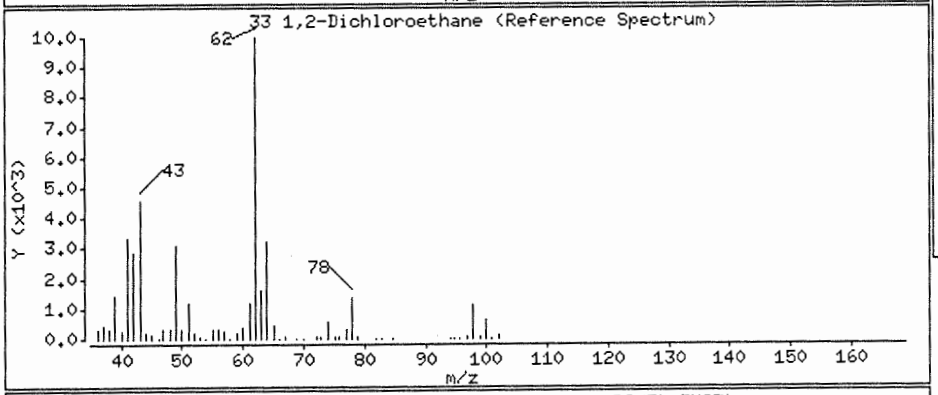
Concentration: 20.51 ug/l

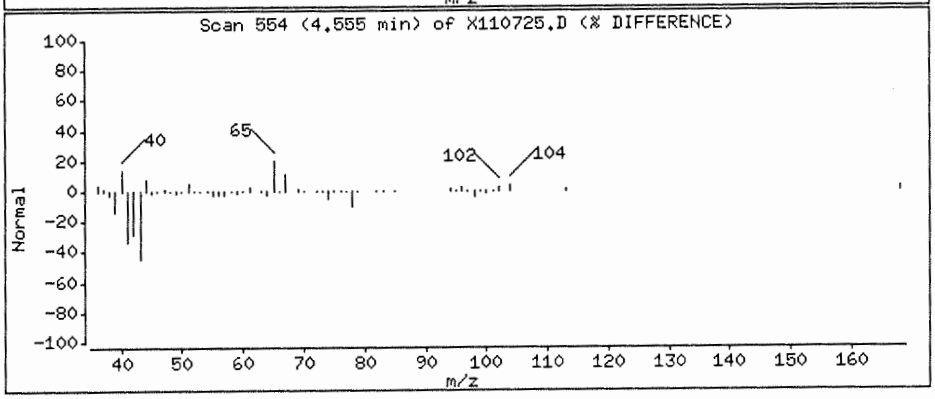












Data File: \\NAHSTWS005\Target\chem\voa6.i\X211107.b\X110725.D

Date : 07-NOV-2021 19:49

Client ID: HS21101554-09

Instrument: voa6.i

Sample Info: HS21101554-09;HS21101554-09;;;

Purge Volume: 5.0

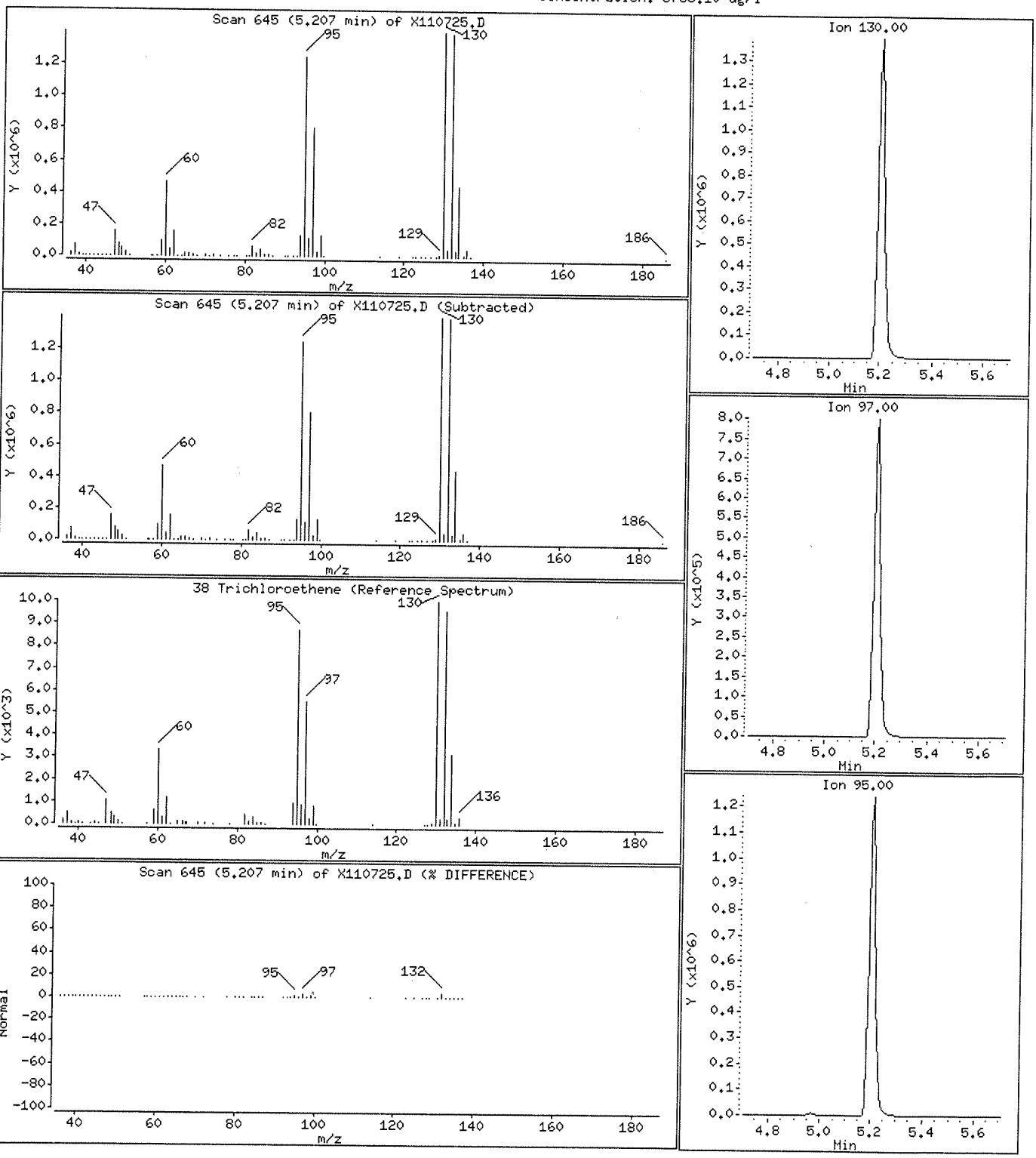
Operator: PC

Column phase: DB624

Column diameter: 0.18

38 Trichloroethene

Concentration: 5753.10 ug/l



ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X211107.b\X110726.D
Lab Smp Id: HS21101554-09 Client Smp ID: HS21101554-09
Inj Date : 07-NOV-2021 20:10
Operator : PC Inst ID: voa6.i
Smp Info : HS21101554-09;HS21101554-09;;;
Misc Info : HS18090001;WATER;0;100;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X211107.b\8260W.m
Meth Date : 16-Nov-2021 17:04 kori.bagsb Quant Type: ISTD
Cal Date : 08-OCT-2021 15:34 Cal File: X100808.D
Als bottle: 25
Dil Factor: 100.00000
Integrator: HP RTE Compound Sublist: 01474-dod.sub
Target Version: 4.14
Processing Host: NAHSTW7017

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

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

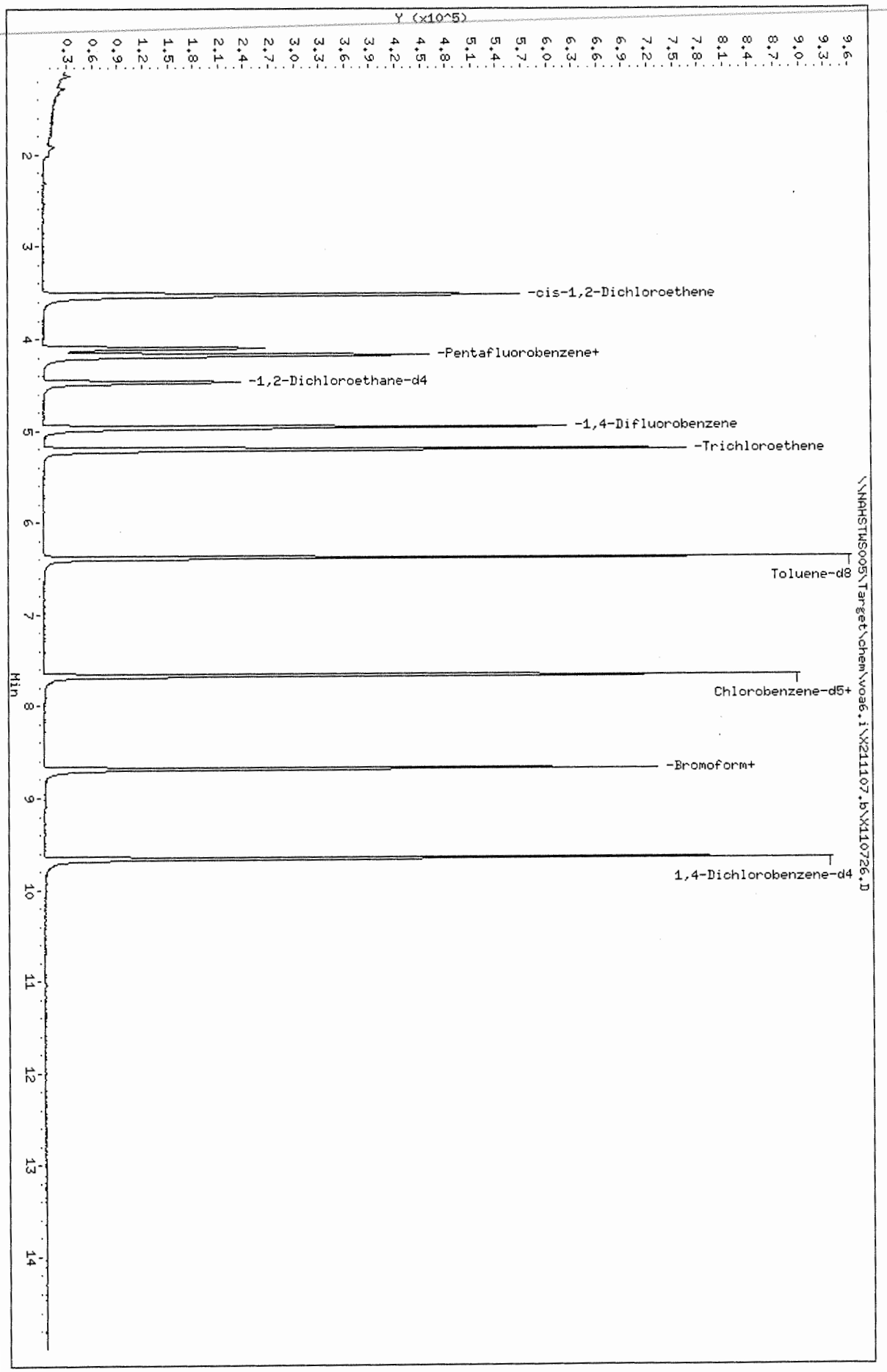
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	412293	50.0000	
$ 30 Dibromofluoromethane	113	4.096	4.096	(0.979)	183733	45.2937	45.29
$ 35 1,2-Dichloroethane-d4	65	4.469	4.469	(1.069)	179151	43.4146	43.41
* 36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	551568	50.0000	
* 47 Chlorobenzene-d5	117	7.670	7.671	(1.000)	488313	50.0000	
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	602656	48.6311	48.63
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	208677	48.8993	48.89
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	239487	50.0000	
5 Vinyl Chloride	62	1.145	1.145	(0.274)	6402	1.48103	148.10(a)
27 cis-1,2-Dichloroethene	96	3.523	3.523	(0.842)	318438	74.2902	7429.01
38 Trichloroethene	130	5.206	5.207	(1.049)	264225	63.3305	6333.04

QC Flag Legend

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

Data File: \\NAHSTWS005\Target\chem\voa6.i\X211107.b\X110726.D
Date : 07-NOV-2021 20:10
Client ID: HS21101554-09
Sample Info: HS21101554-09;HS21101554-09;;;
Purge Volume: 5.0
Column phase: DB624

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



Data File: \\NAHSTWS005\Target\chem\voa6.i\X211107.b\X110726.D

Date : 07-NOV-2021 20:10

Client ID: HS21101554-09

Instrument: voa6.i

Sample Info: HS21101554-09;HS21101554-09;;;

Purge Volume: 5.0

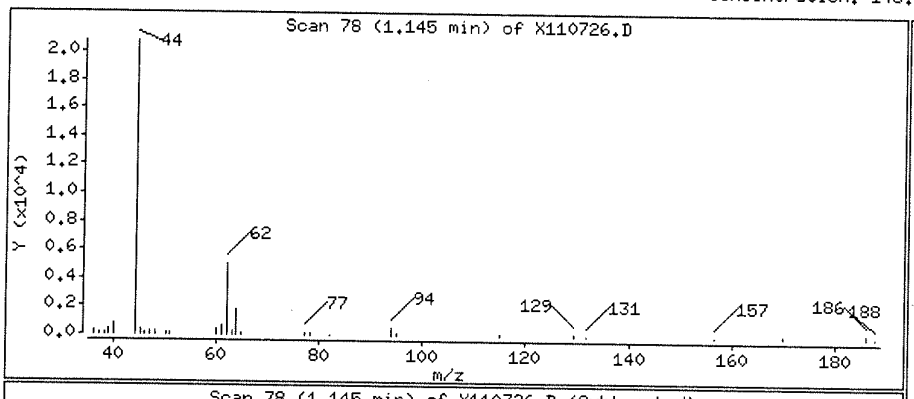
Operator: PC

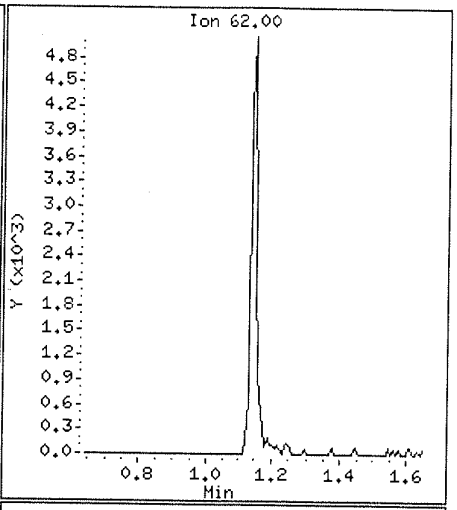
Column phase: DB624

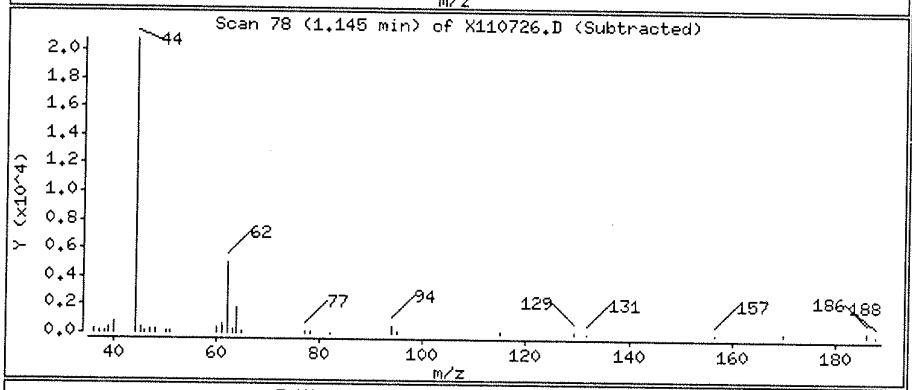
Column diameter: 0.18

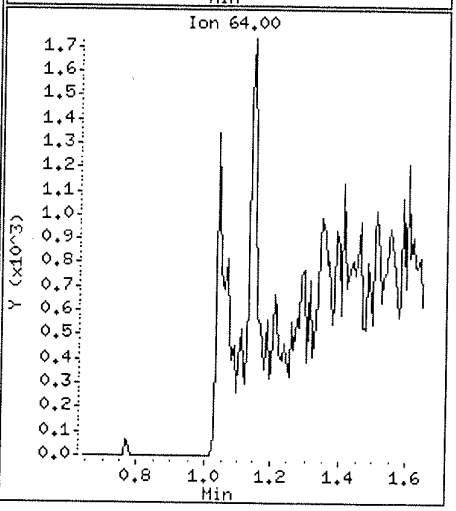
5 Vinyl Chloride

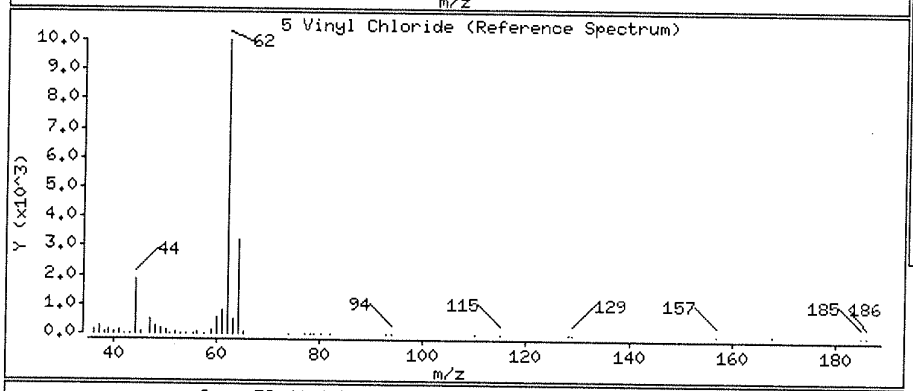
Concentration: 148.10 ug/l

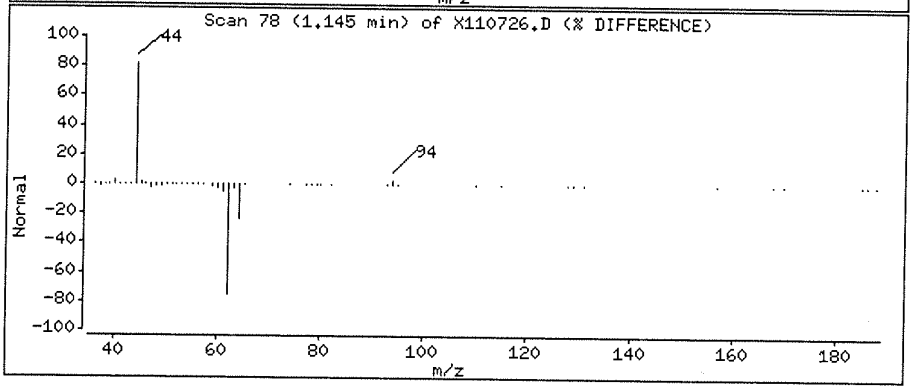












Data File: \\NAHSTWS005\Target\chem\voa6.i\X211107.b\X110726.D

Date : 07-NOV-2021 20:10

Client ID: HS21101554-09

Instrument: voa6.i

Sample Info: HS21101554-09;HS21101554-09;;;

Purge Volume: 5.0

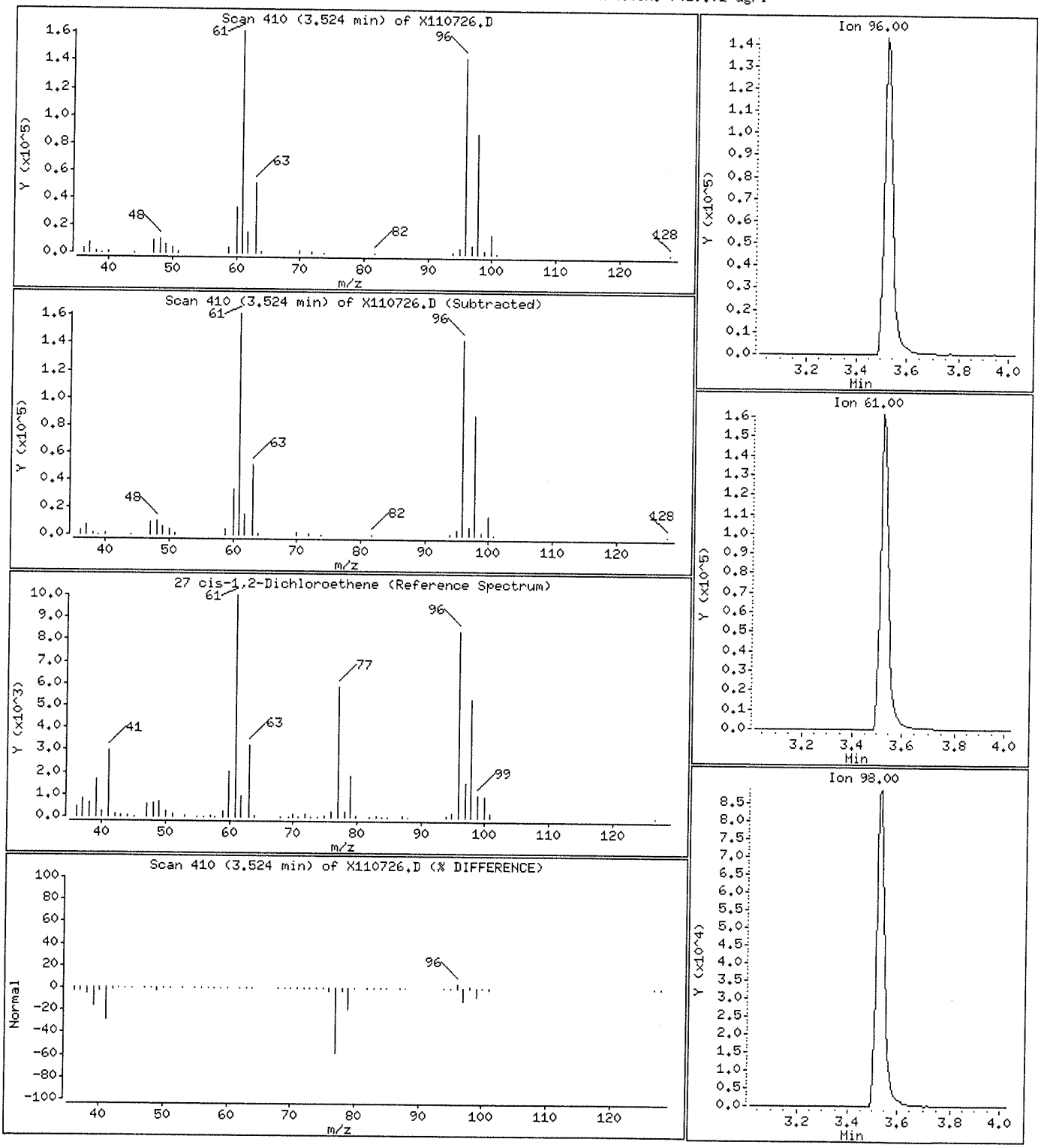
Operator: PC

Column phase: DB624

Column diameter: 0.18

27 cis-1,2-Dichloroethene

Concentration: 7429.01 ug/l



Data File: \\NAHSTWS005\Target\chem\voa6.i\X211107.b\X110726.D

Date : 07-NOV-2021 20:10

Client ID: HS21101554-09

Instrument: voa6.i

Sample Info: HS21101554-09;HS21101554-09;;;

Purge Volume: 5.0

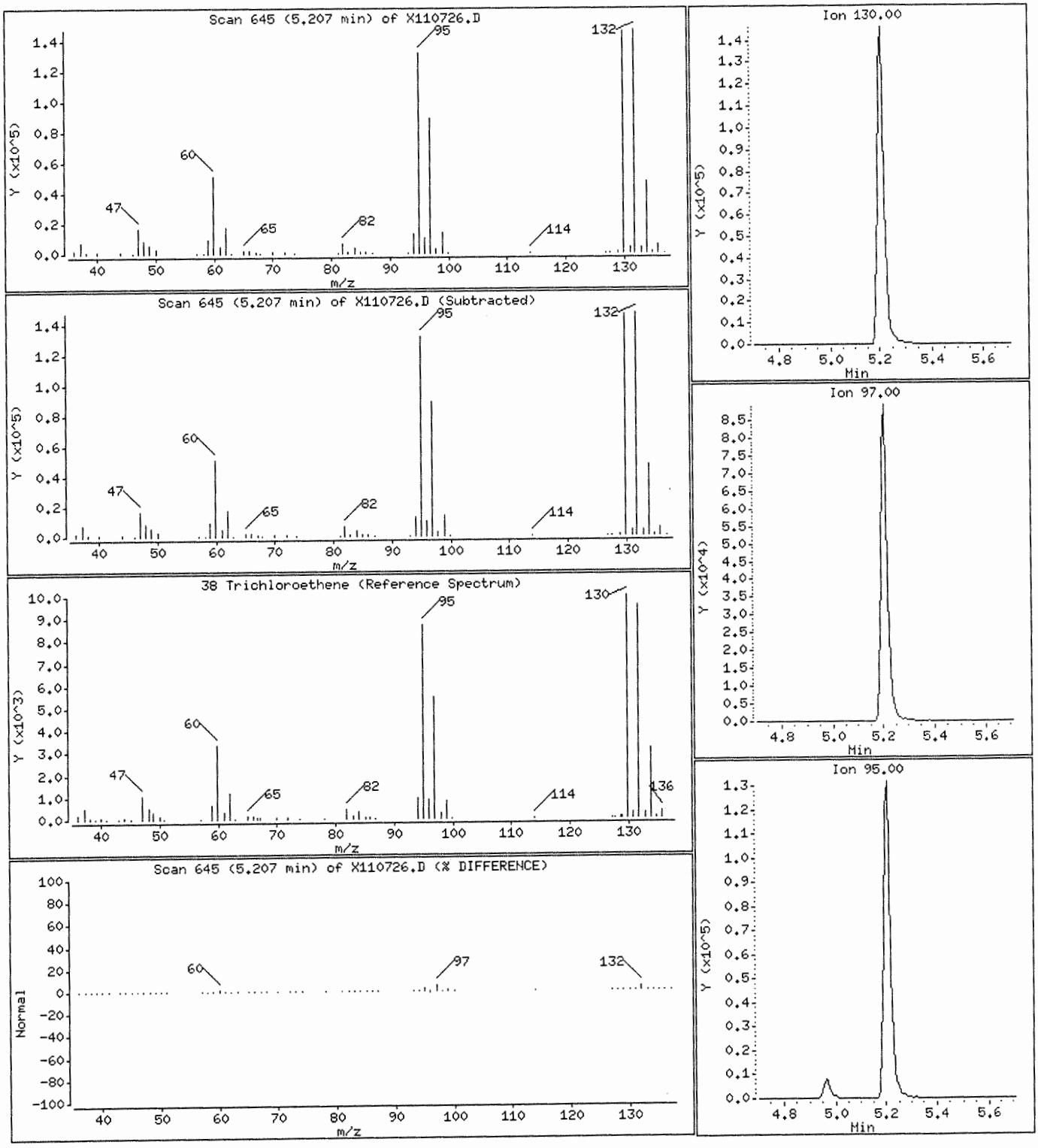
Operator: PC

Column phase: DB624

Column diameter: 0.18

38 Trichloroethene

Concentration: 6333.04 ug/l



ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X211107.b\X110727.D
Lab Smp Id: HS21101554-10 Client Smp ID: HS21101554-10
Inj Date : 07-NOV-2021 20:31
Operator : PC Inst ID: voa6.i
Smp Info : HS21101554-10;HS21101554-10;;;
Misc Info : HS18090001;WATER;0;10;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X211107.b\8260W.m
Meth Date : 16-Nov-2021 17:04 kori.bagsb Quant Type: ISTD
Cal Date : 08-OCT-2021 15:34 Cal File: X100808.D
Als bottle: 26
Dil Factor: 10.00000
Integrator: HP RTE Compound Sublist: 01474-dod.sub
Target Version: 4.14
Processing Host: NAHSTW7017

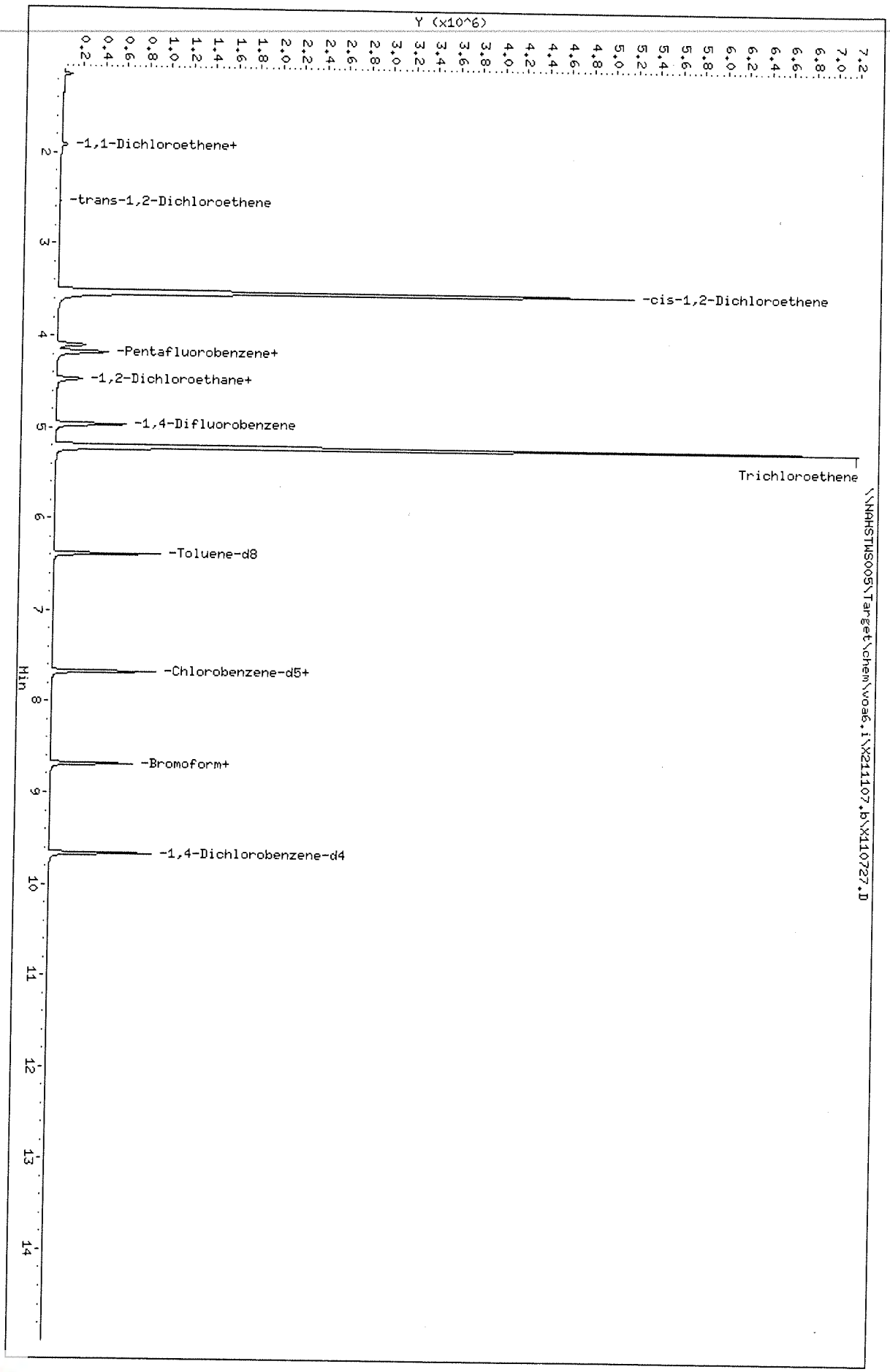
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

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

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
*	1 Pentafluorobenzene	168	4.182	4.182	(1.000)	407213	50.0000	
$	30 Dibromofluoromethane	113	4.103	4.096	(0.981)	186269	46.5219	46.52
$	35 1,2-Dichloroethane-d4	65	4.469	4.469	(1.069)	176485	43.2968	43.29
*	36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	550182	50.0000	
*	47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	492617	50.0000	
$	48 Toluene-d8	98	6.388	6.388	(0.833)	601047	48.0775	48.07
$	69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	204283	47.4109	47.41
*	70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	245651	50.0000	
	5 Vinyl Chloride	62	1.145	1.145	(0.274)	52538	12.3057	123.05
	11 1,1-Dichloroethene	96	1.911	1.912	(0.457)	7744	2.13191	21.31(a)
	27 cis-1,2-Dichloroethene	96	3.523	3.523	(0.842)	2790648	659.168	6591.67(A)
	33 1,2-Dichloroethane	62	4.555	4.555	(0.918)	9682	2.09788	20.97(a)
	38 Trichloroethene	130	5.206	5.207	(1.049)	2420371	581.585	5815.85(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.



Data File: \\NAHSTWS005\Target\chem\voa6.i\X211107.b\X110727.D
Date : 07-NOV-2021 20:31
Client ID: HS21101554-10
Sample Info: HS21101554-10;HS21101554-10;;;
Purge Volume: 5.0
Column phase: DB624

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

Data File: \\NAHSTWS005\Target\chem\voa6.i\X211107.b\X110727.D

Date : 07-NOV-2021 20:31

Client ID: HS21101554-10

Instrument: voa6.i

Sample Info: HS21101554-10;HS21101554-10;;;

Purge Volume: 5.0

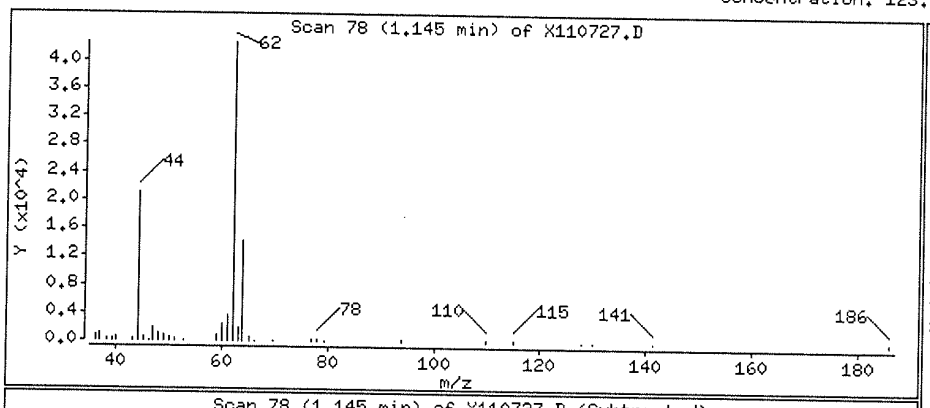
Operator: PC

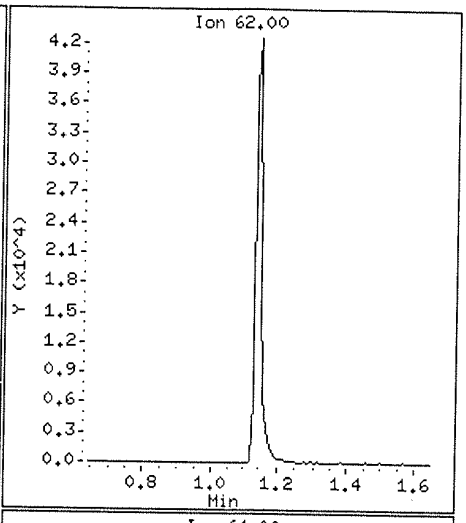
Column phase: DB624

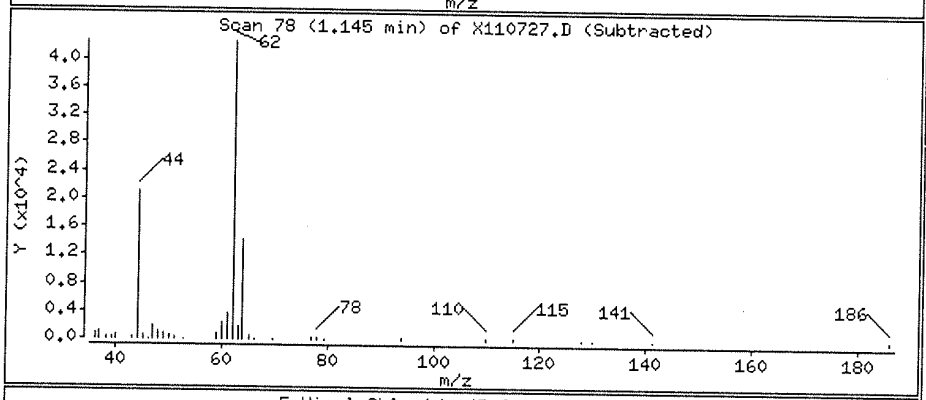
Column diameter: 0.18

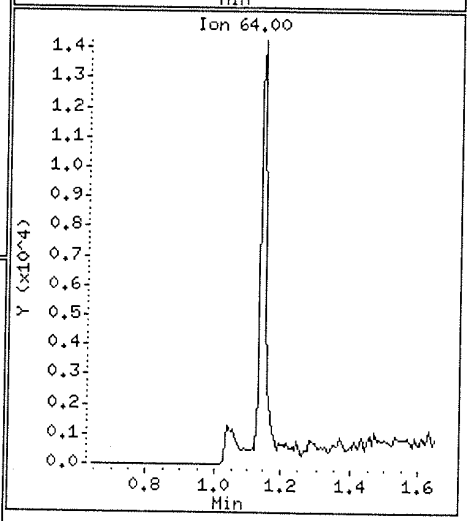
5 Vinyl Chloride

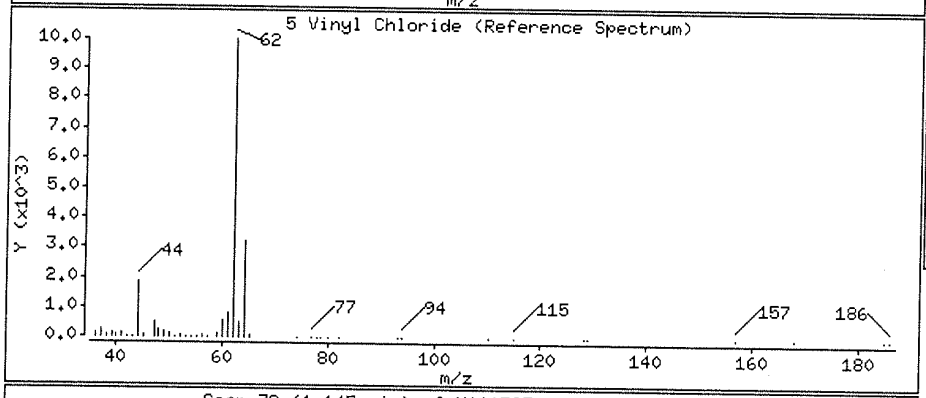
Concentration: 123.05 ug/l

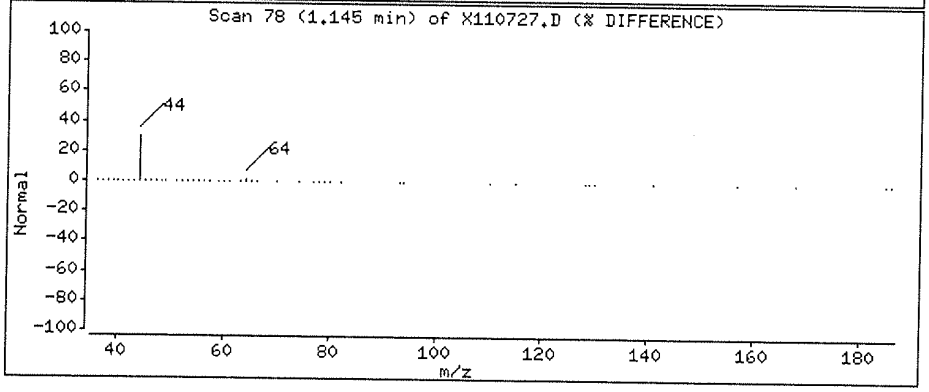












Data File: \\NAHSTWS005\Target\chem\voa6.i\X211107.b\X110727.D

Date : 07-NOV-2021 20:31

Client ID: HS21101554-10

Instrument: voa6.i

Sample Info: HS21101554-10;HS21101554-10;;;

Purge Volume: 5.0

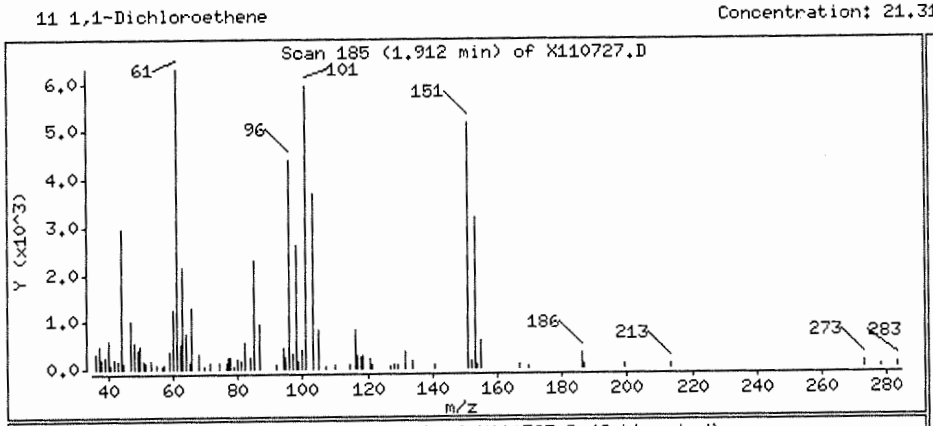
Operator: PC

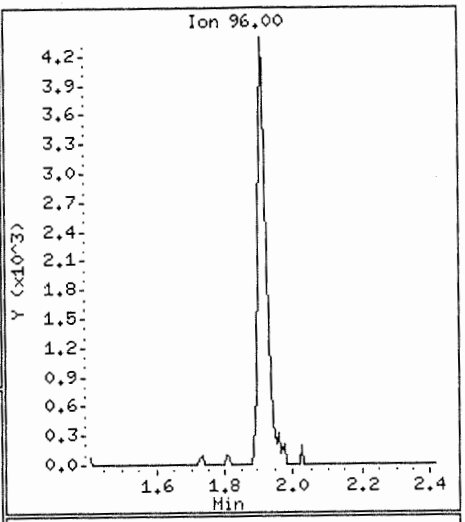
Column phase: DB624

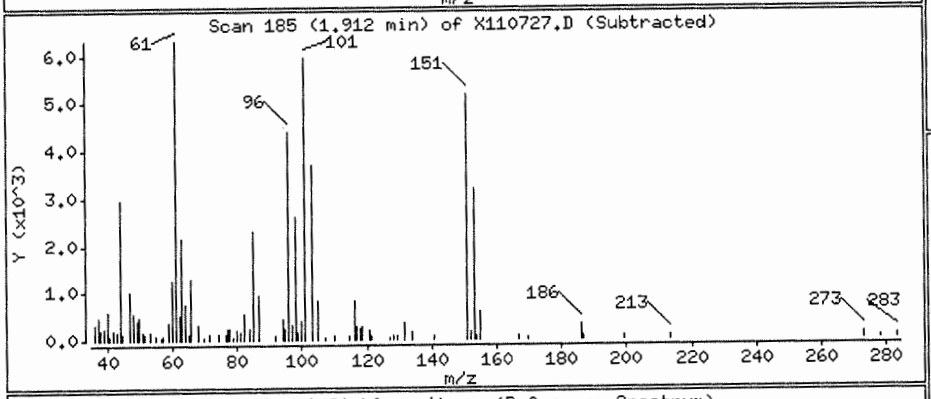
Column diameter: 0.18

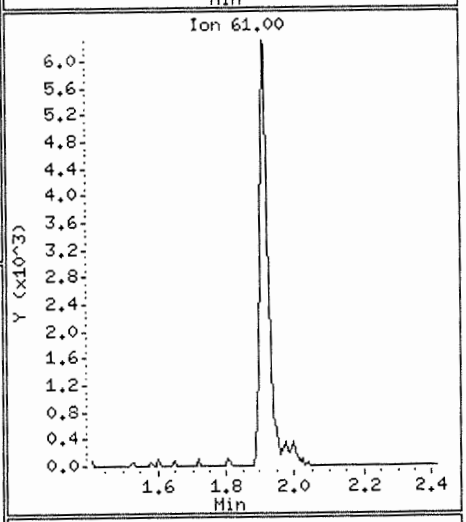
11 1,1-Dichloroethene

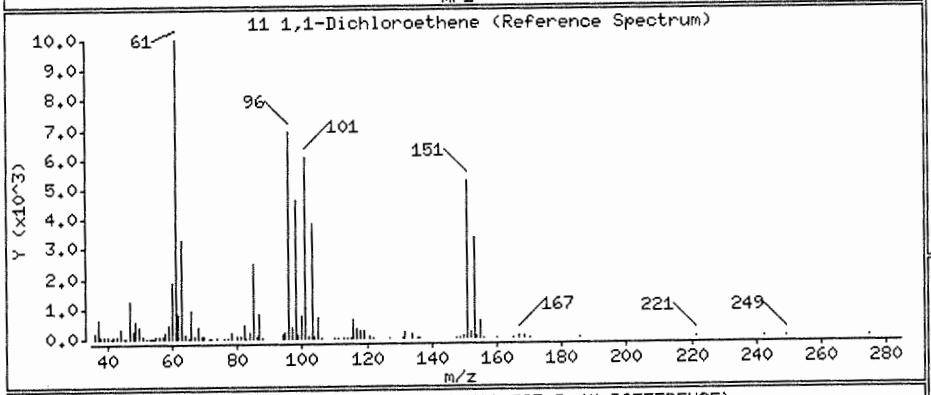
Concentration: 21.31 ug/l

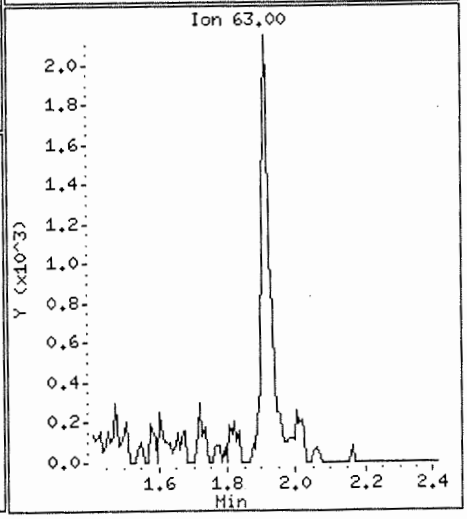


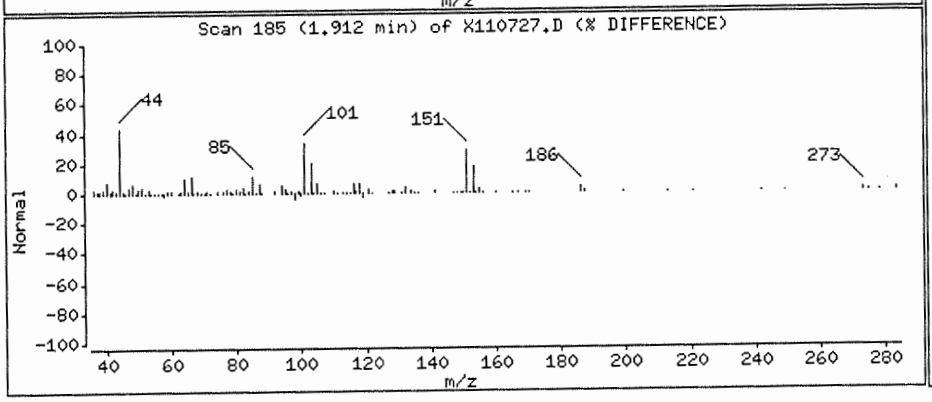












Data File: \\NAHSTWS005\Target\chem\voa6.i\X211107.b\X110727.D

Date : 07-NOV-2021 20:31

Client ID: HS21101554-10

Instrument: voa6.i

Sample Info: HS21101554-10;HS21101554-10;;;

Purge Volume: 5.0

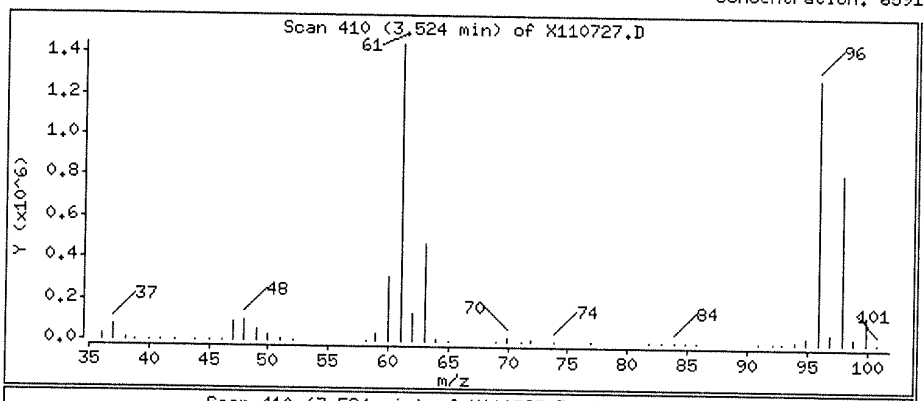
Operator: PC

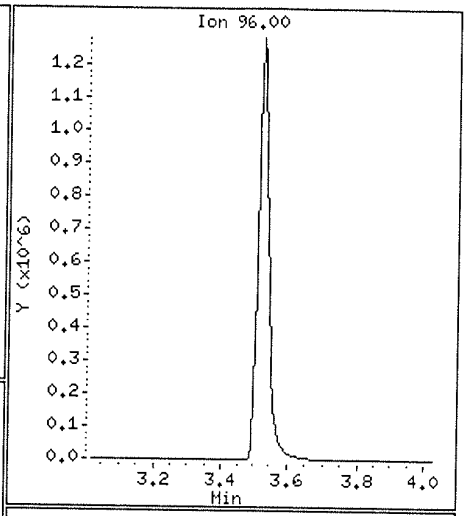
Column phase: DB624

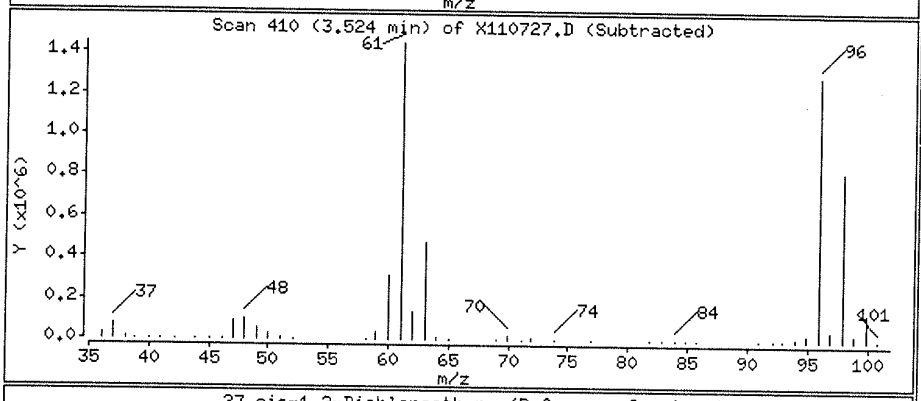
Column diameter: 0.18

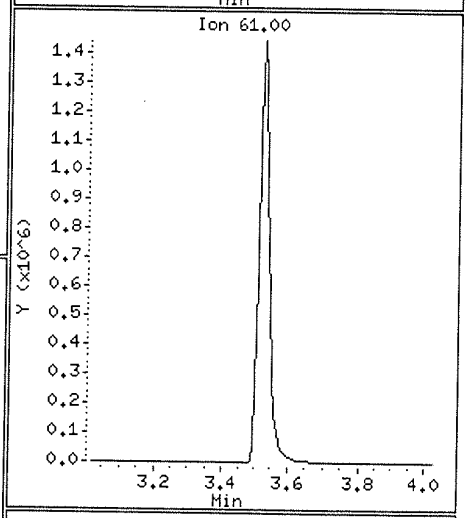
27 cis-1,2-Dichloroethene

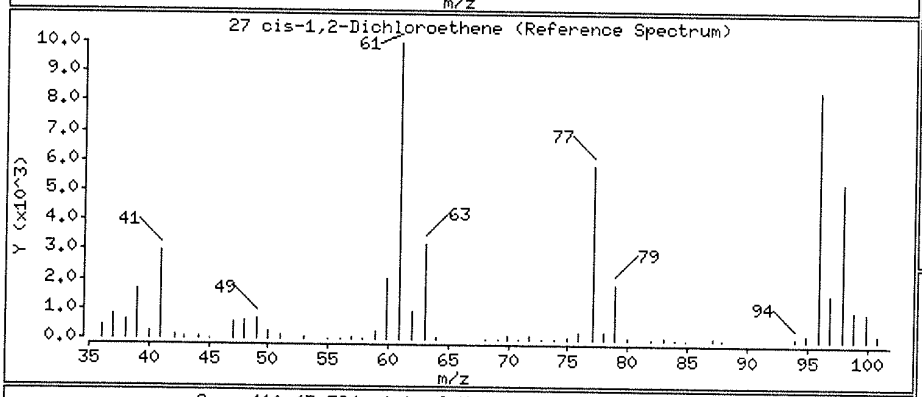
Concentration: 6591.67 ug/l

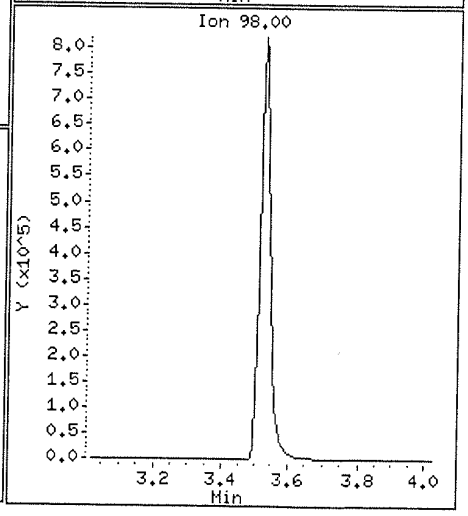


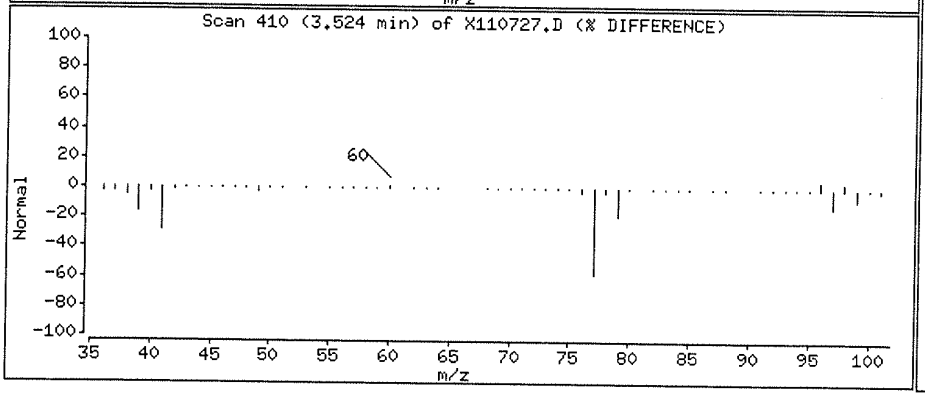












Data File: \\NAHSTWS005\Target\chem\voa6.i\X211107.b\X110727.D

Date : 07-NOV-2021 20:31

Client ID: HS21101554-10

Instrument: voa6.i

Sample Info: HS21101554-10;HS21101554-10;;;

Purge Volume: 5.0

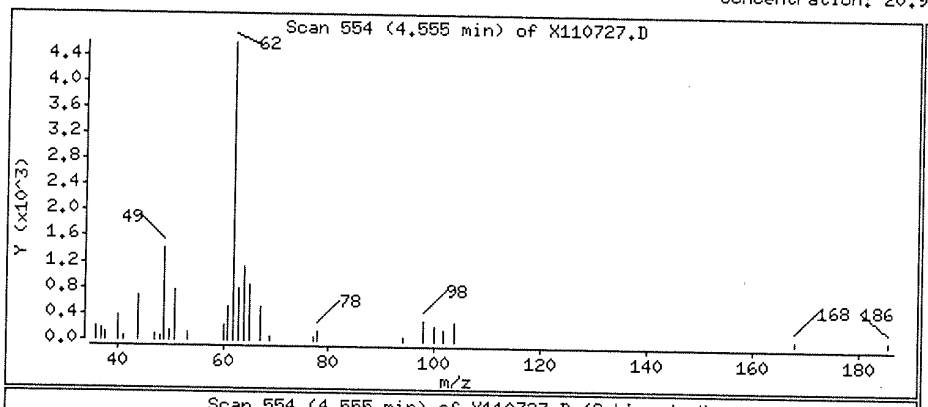
Operator: PC

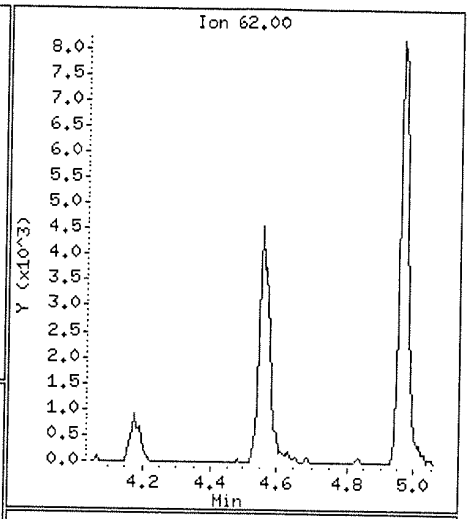
Column phase: DB624

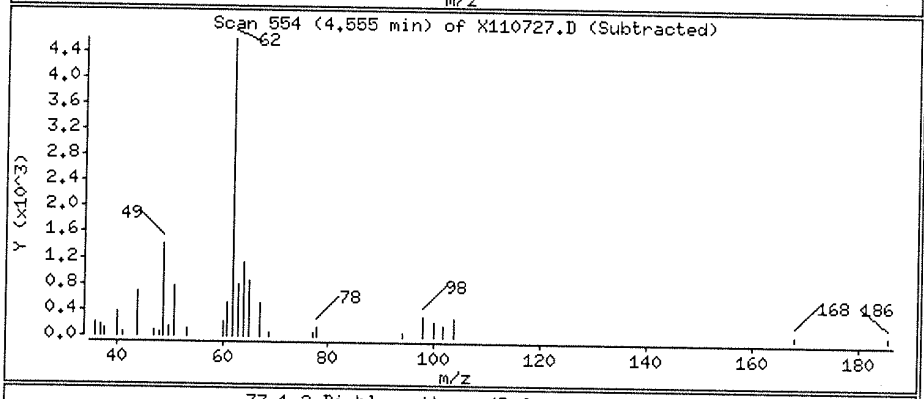
Column diameter: 0.18

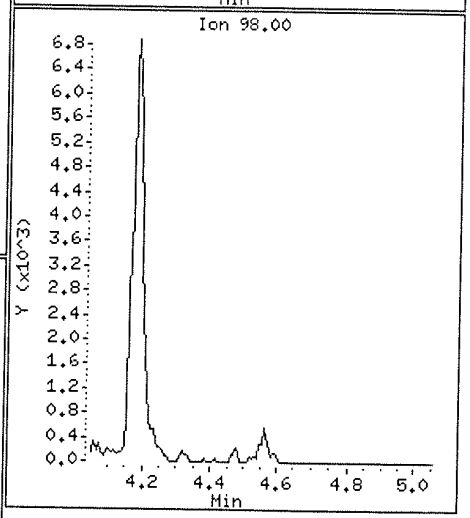
33 1,2-Dichloroethane

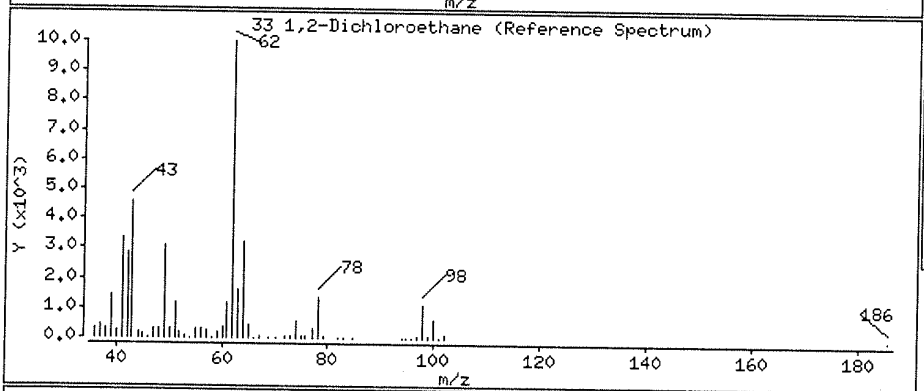
Concentration: 20.97 ug/l

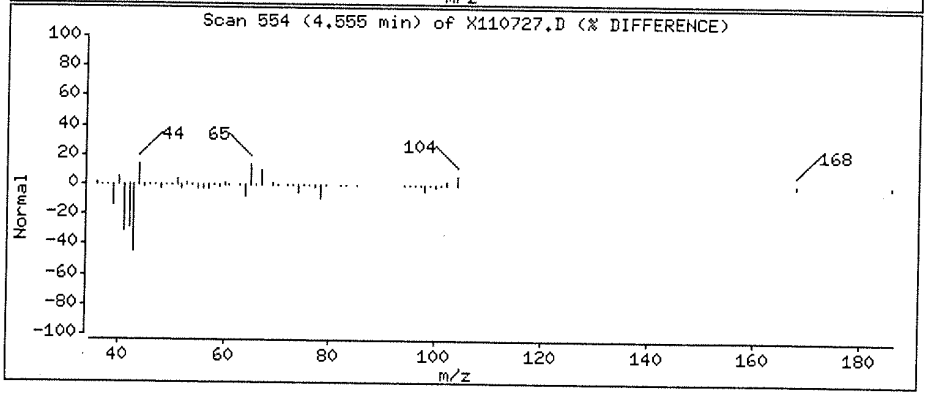












Data File: \\NAHSTWS005\Target\chem\voa6.i\X211107.b\X110727.D

Date : 07-NOV-2021 20:31

Client ID: HS21101554-10

Instrument: voa6.i

Sample Info: HS21101554-10;HS21101554-10;;;

Purge Volume: 5.0

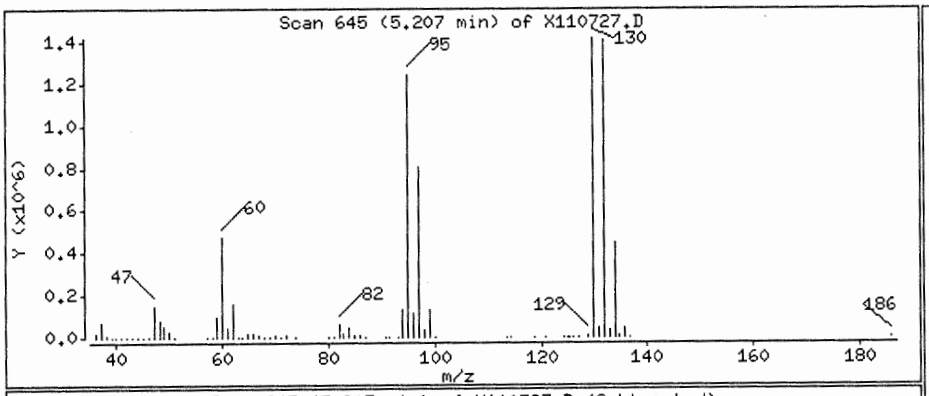
Operator: PC

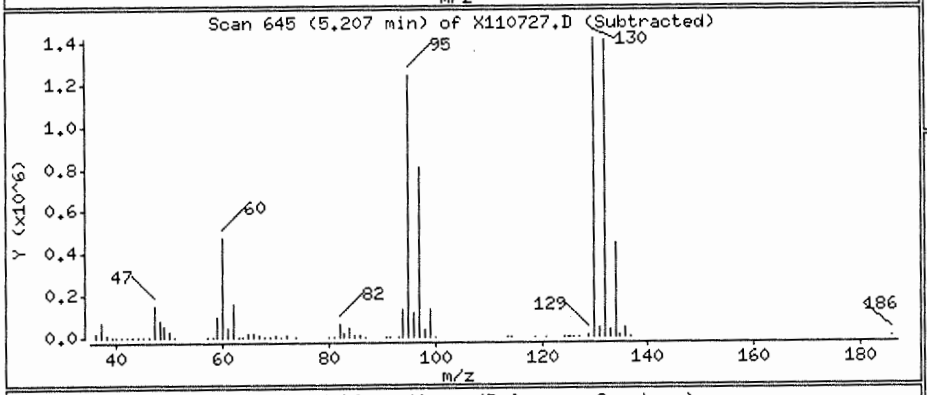
Column phase: DB624

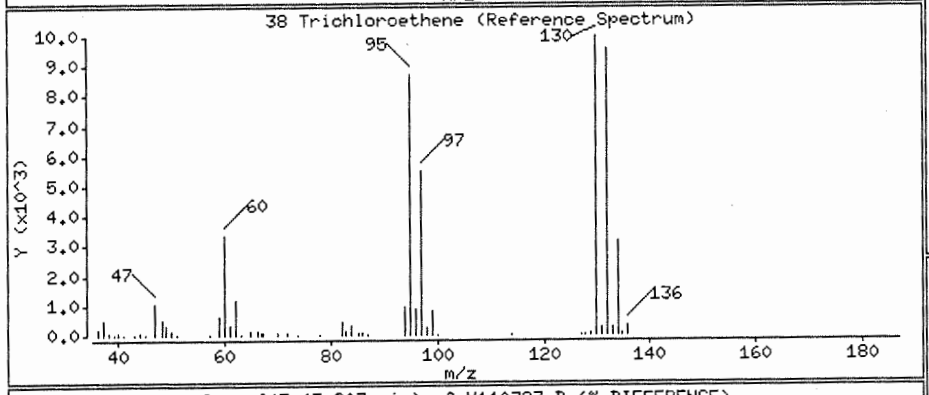
Column diameter: 0.18

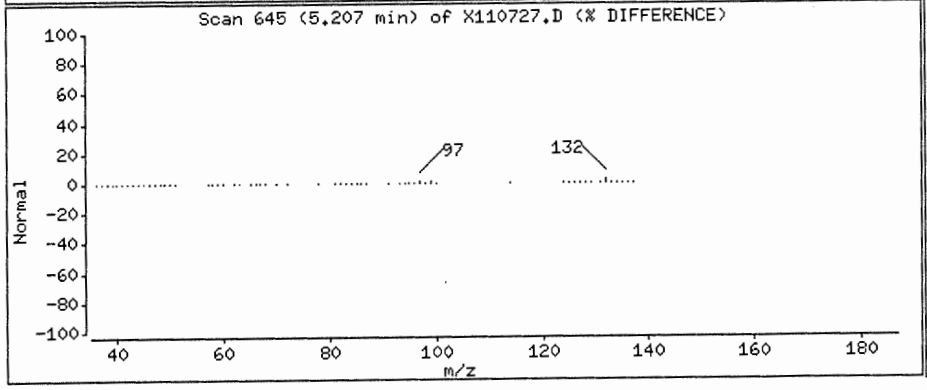
38 Trichloroethene

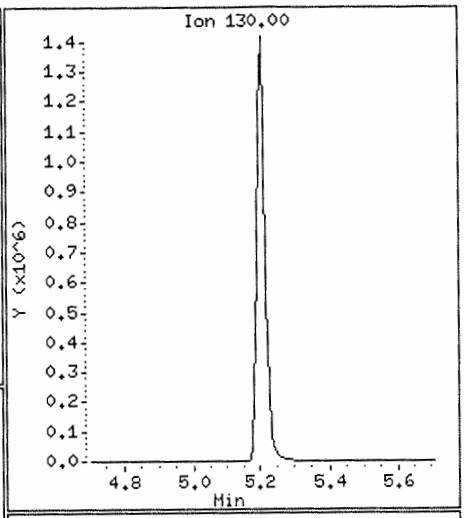
Concentration: 5815.85 ug/l

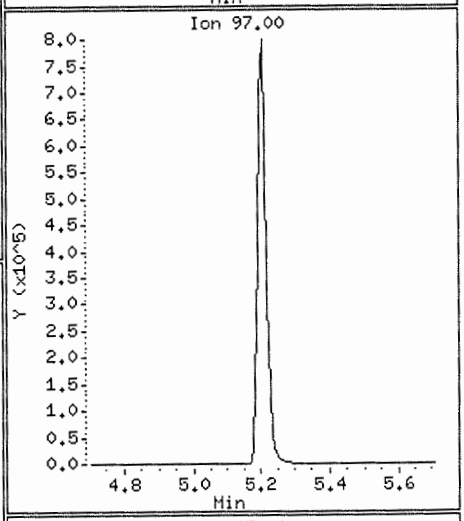


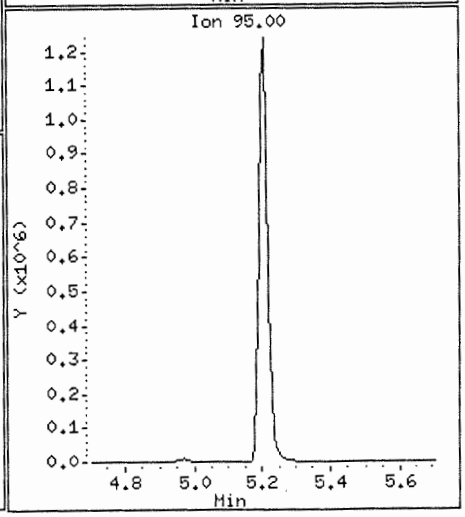












ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X211107.b\X110728.D
Lab Smp Id: HS21101554-10 Client Smp ID: HS21101554-10
Inj Date : 07-NOV-2021 20:52
Operator : PC Inst ID: voa6.i
Smp Info : HS21101554-10;HS21101554-10;;;
Misc Info : HS18090001;WATER;0;100;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X211107.b\8260W.m
Meth Date : 16-Nov-2021 17:04 kori.bagsb Quant Type: ISTD
Cal Date : 08-OCT-2021 15:34 Cal File: X100808.D
Als bottle: 27
Dil Factor: 100.00000
Integrator: HP RTE Compound Sublist: 01474-dod.sub
Target Version: 4.14
Processing Host: NAHSTW7017

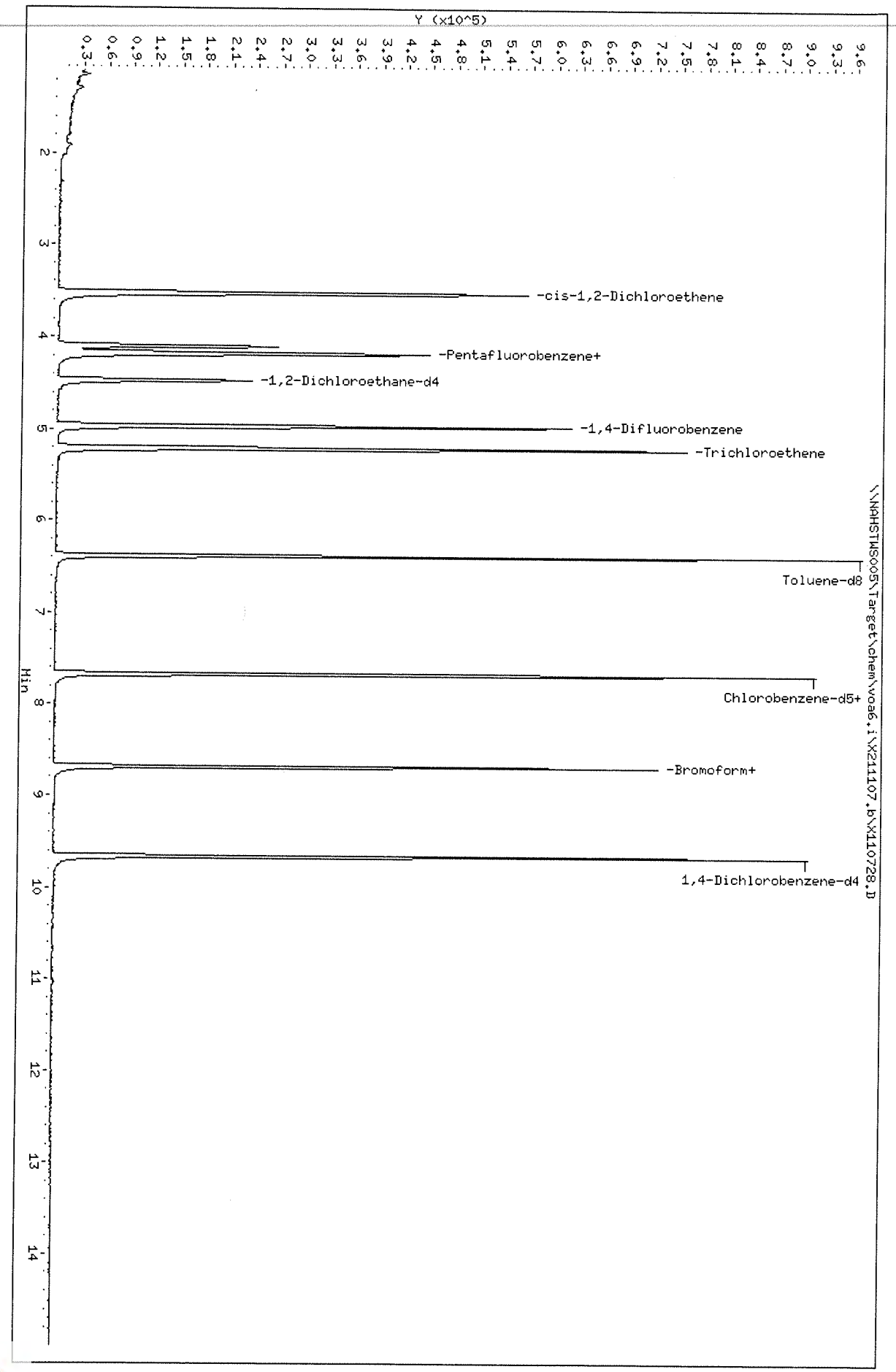
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

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

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	406187	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.096	(0.981)	182967	45.7952	45.79
$ 35 1,2-Dichloroethane-d4	65	4.469	4.469	(1.069)	175207	43.0822	43.08
* 36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	548184	50.0000	
* 47 Chlorobenzene-d5	117	7.670	7.671	(1.000)	488439	50.0000	
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	598196	48.2587	48.25
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	201806	47.2316	47.23
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	231227	50.0000	
5 Vinyl Chloride	62	1.145	1.145	(0.274)	6485	1.52278	152.27(a)
27 cis-1,2-Dichloroethene	96	3.523	3.523	(0.842)	315563	74.7261	7472.61
38 Trichloroethene	130	5.206	5.207	(1.049)	260624	62.8530	6285.29

QC Flag Legend

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



Data File: \\NAHSTWS005\Target\chem\voa6.i\X211107.b\X110728.D
Date : 07-NOV-2021 20:52
Client ID: HS21101554-10
Sample Info: HS21101554-10;HS21101554-10;;;
Purge Volume: 5.0
Column phase: DB624

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

Data File: \\NAHSTWS005\Target\chem\voa6.i\X211107.b\X110728.D Page 3

Date : 07-NOV-2021 20:52

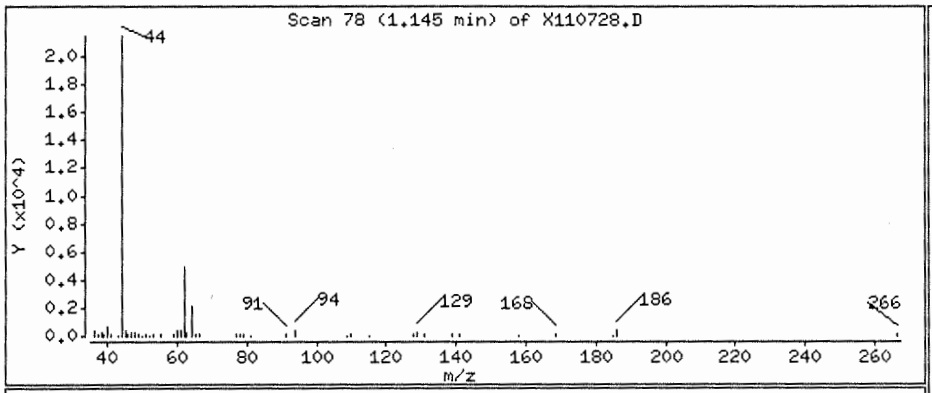
Client ID: HS21101554-10 Instrument: voa6.i

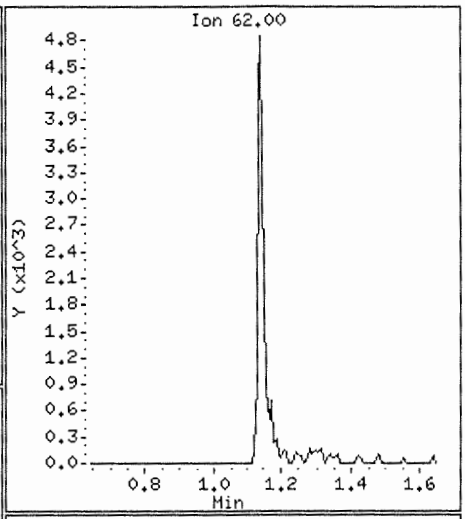
Sample Info: HS21101554-10;HS21101554-10;;;

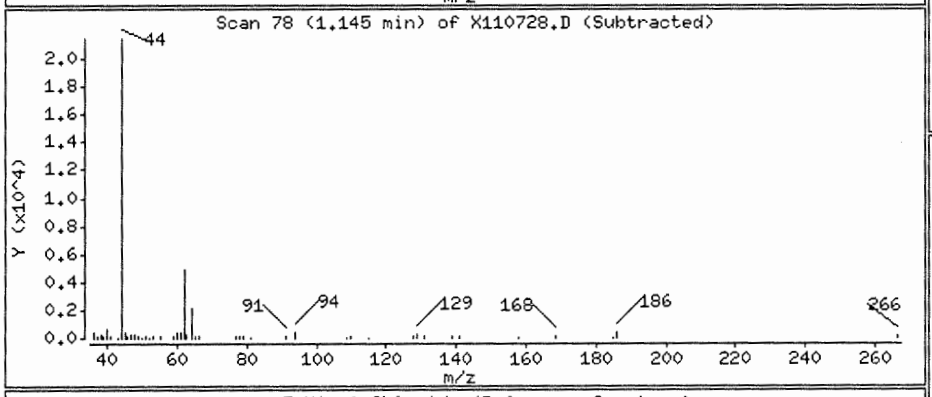
Purge Volume: 5.0 Operator: PC

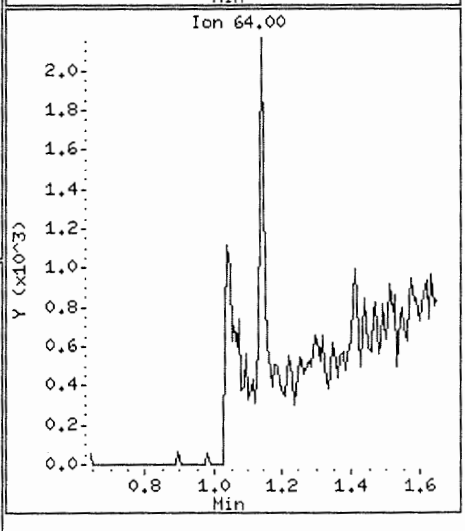
Column phase: DB624 Column diameter: 0.18

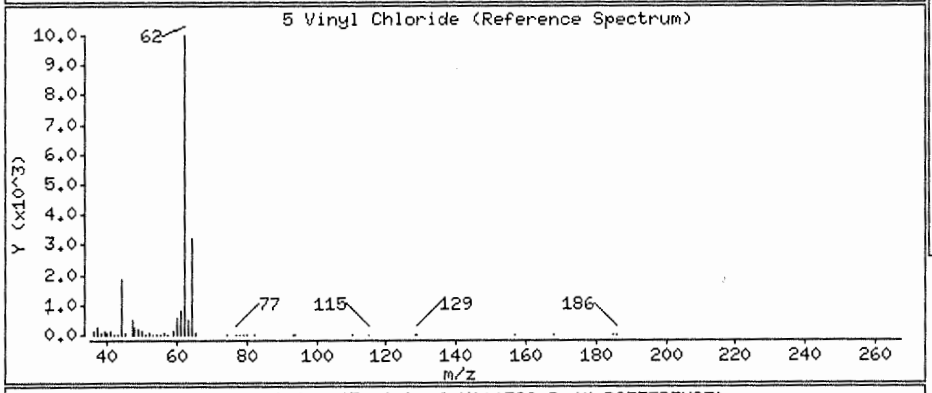
5 Vinyl Chloride Concentration: 152.27 ug/l

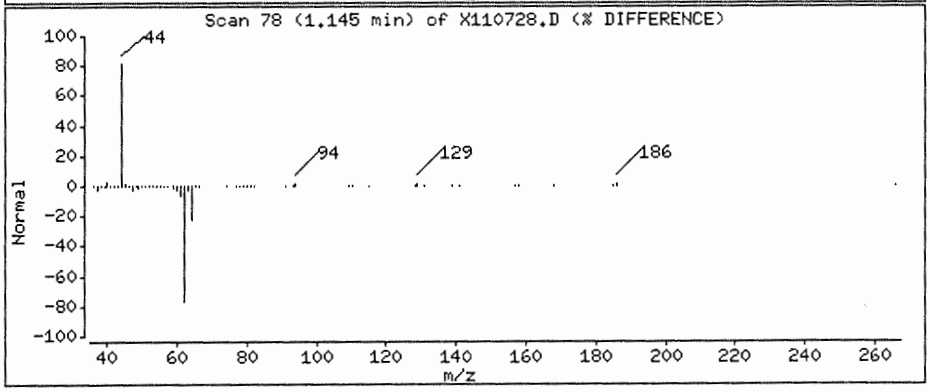












Data File: \\NAHSTWS005\Target\chem\voa6.i\X211107.b\X110728.D

Date : 07-NOV-2021 20:52

Client ID: HS21101554-10

Instrument: voa6.i

Sample Info: HS21101554-10;HS21101554-10;;;

Purge Volume: 5.0

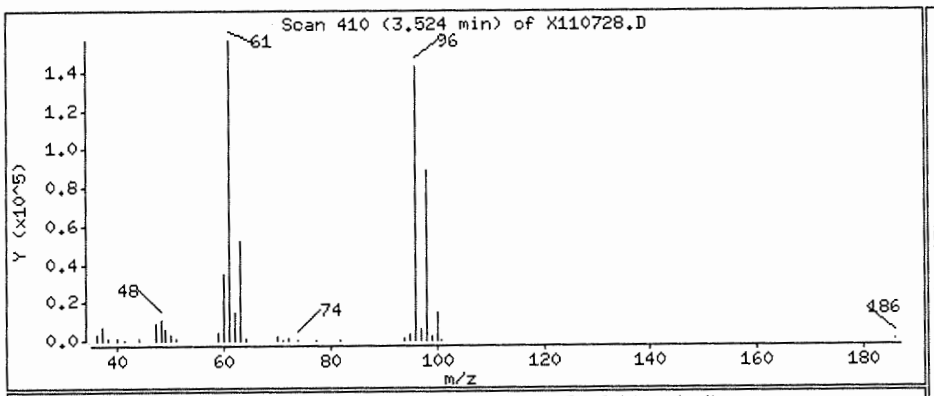
Operator: PC

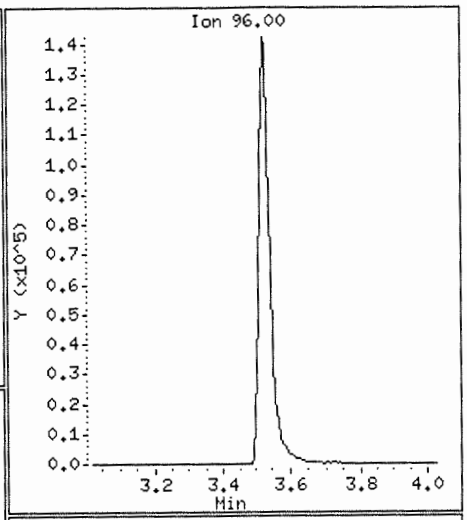
Column phase: DB624

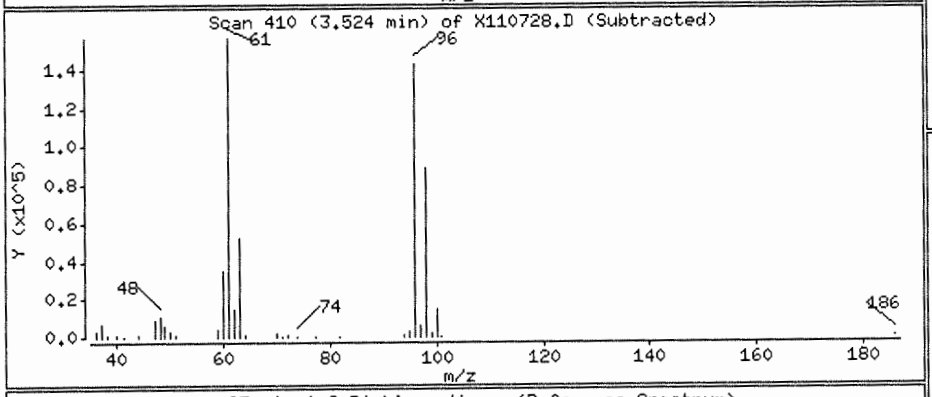
Column diameter: 0.18

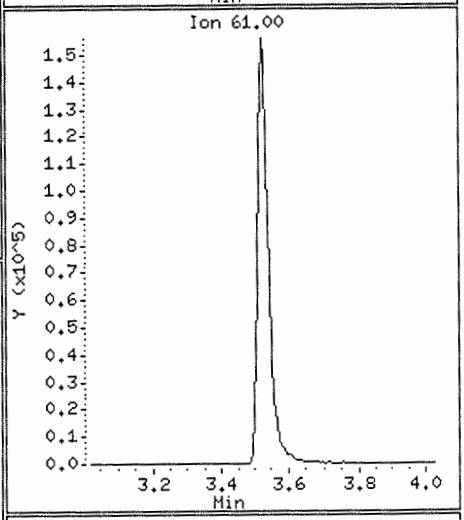
27 cis-1,2-Dichloroethene

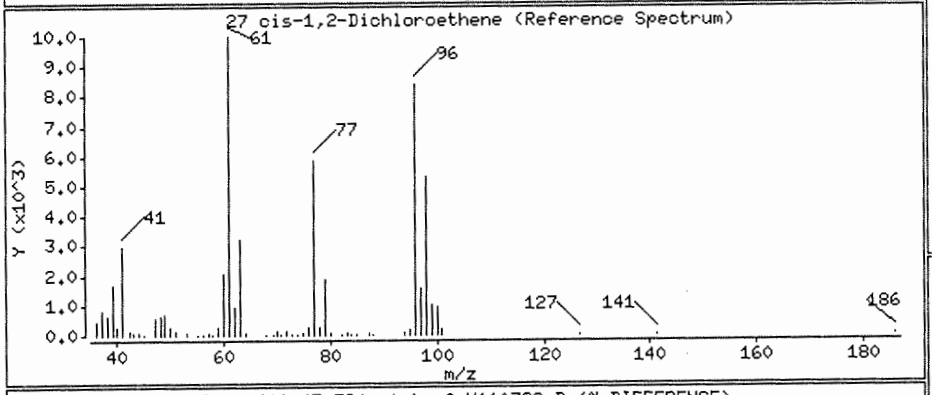
Concentration: 7472.61 ug/l

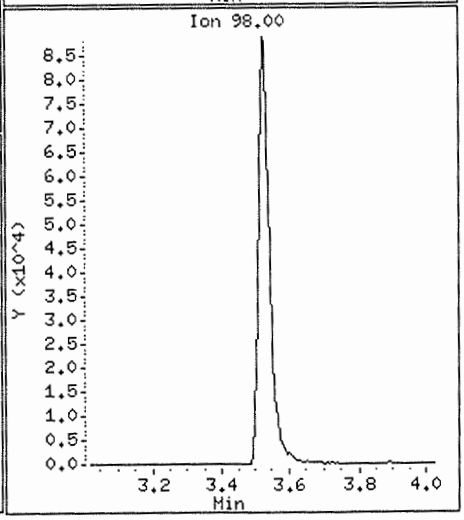


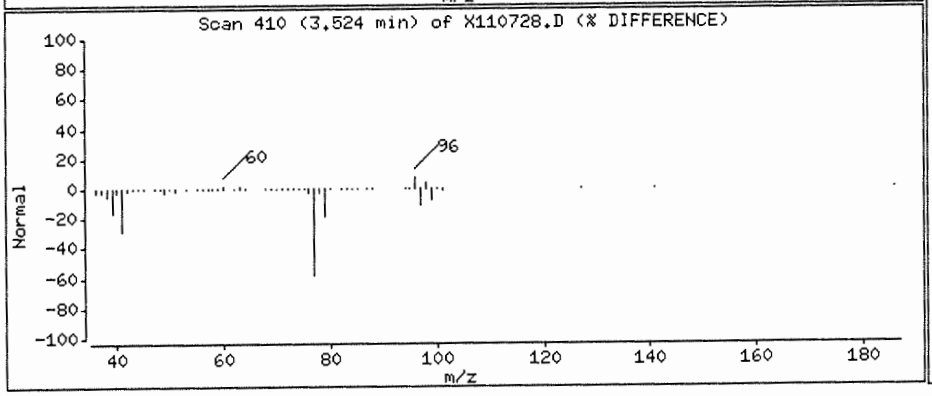












Data File: \\NAHSTWS005\Target\chem\voa6.i\X211107.b\X110728.D

Date : 07-NOV-2021 20:52

Client ID: HS21101554-10

Instrument: voa6.i

Sample Info: HS21101554-10;HS21101554-10;;;

Purge Volume: 5.0

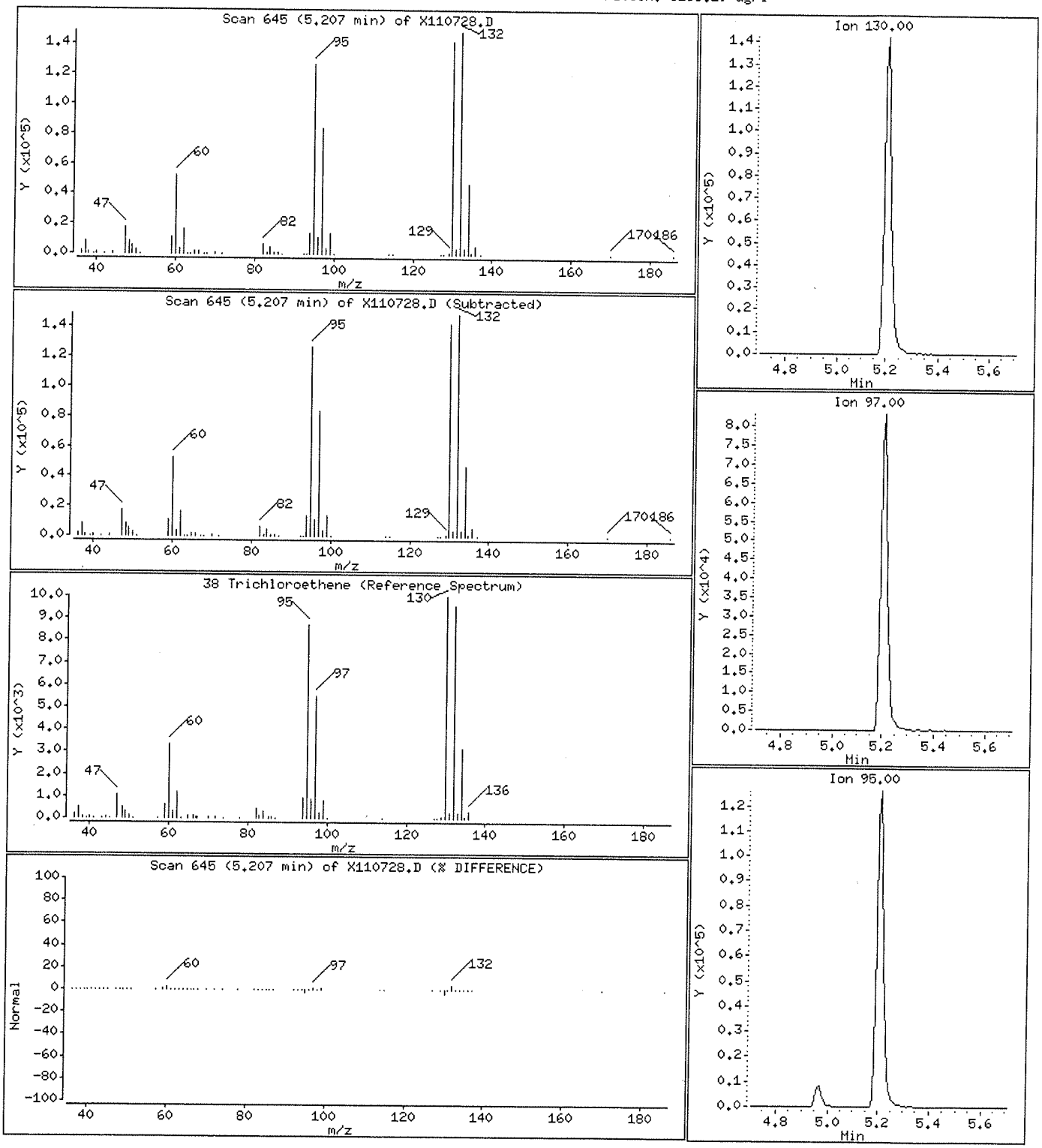
Operator: PC

Column phase: DB624

Column diameter: 0.18

38 Trichloroethene

Concentration: 6285.29 ug/l



Data File: \\NAHSTWS005\Target\chem\voa6.i\X211107.b\X110729.D Page 1
Report Date: 16-Nov-2021 17:10

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X211107.b\X110729.D
Lab Smp Id: HS21101554-08 Client Smp ID: HS21101554-08
Inj Date : 07-NOV-2021 21:13
Operator : PC Inst ID: voa6.i
Smp Info : HS21101554-08;HS21101554-08;;;
Misc Info : HS18090001;WATER;0;25;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X211107.b\8260W.m
Meth Date : 16-Nov-2021 17:04 kori.bagsb Quant Type: ISTD
Cal Date : 08-OCT-2021 15:34 Cal File: X100808.D
Als bottle: 28
Dil Factor: 25.00000
Integrator: HP RTE Compound Sublist: 01474-dod.sub
Target Version: 4.14
Processing Host: NAHSTW7017

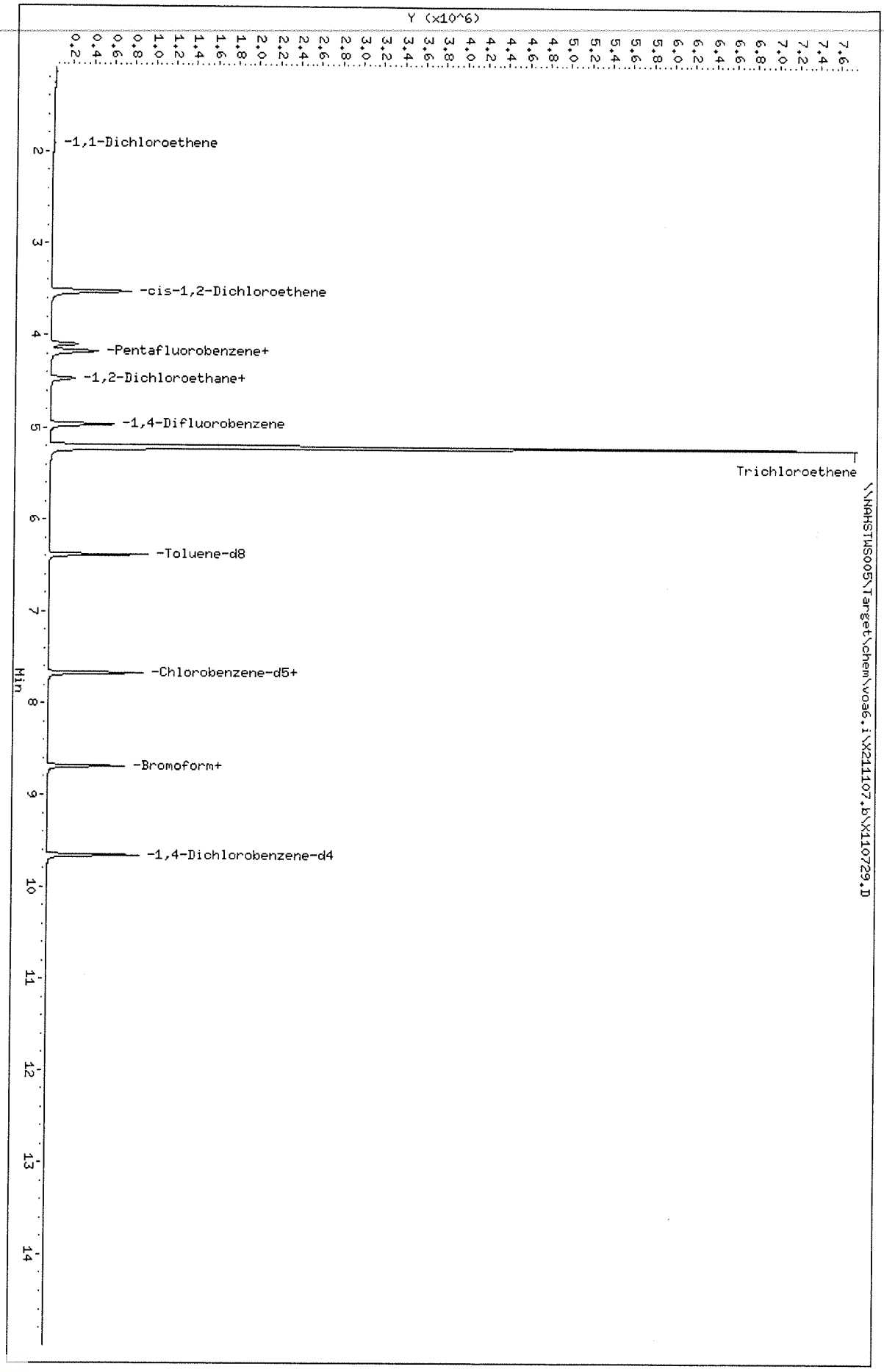
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

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

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	407570	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.096	(0.981)	184176	45.9451	45.94
$ 35 1,2-Dichloroethane-d4	65	4.469	4.469	(1.069)	175439	42.9887	42.98
* 36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	546638	50.0000	
* 47 Chlorobenzene-d5	117	7.670	7.671	(1.000)	484827	50.0000	
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	590680	48.0074	48.00
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	204368	48.2153	48.21
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	233128	50.0000	
5 Vinyl Chloride	62	1.145	1.145	(0.274)	5954	1.39335	34.83(a)
11 1,1-Dichloroethene	96	1.911	1.912	(0.457)	3008	0.82737	20.68(a)
27 cis-1,2-Dichloroethene	96	3.523	3.523	(0.842)	430625	101.627	2540.67
33 1,2-Dichloroethane	62	4.562	4.555	(0.919)	2900	0.63244	15.81(a)
38 Trichloroethene	130	5.206	5.207	(1.049)	2567919	621.040	15525.99(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.



Data File: \\NAHSTWS005\Target\chem\voa6.i\X211107.b\X110729.D
Date : 07-NOV-2021 21:13
Client ID: HS21101554-08
Sample Info: HS21101554-08;HS21101554-08;;;
Purge Volume: 5.0
Column phase: DB624

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

Data File: \\NAHSTWS005\Target\chem\voa6.i\X211107.b\X110729.D

Date : 07-NOV-2021 21:13

Client ID: HS21101554-08

Instrument: voa6.i

Sample Info: HS21101554-08;HS21101554-08;;;

Purge Volume: 5.0

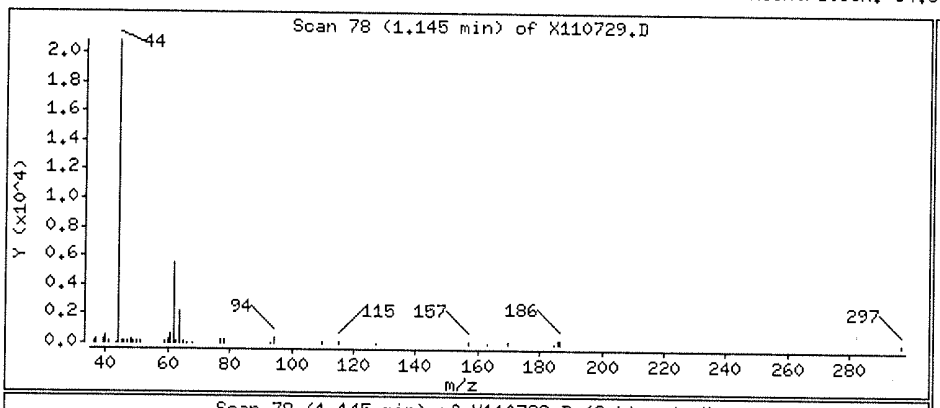
Operator: PC

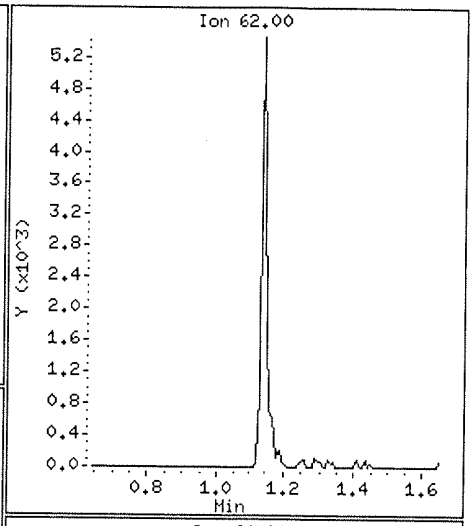
Column phase: DB624

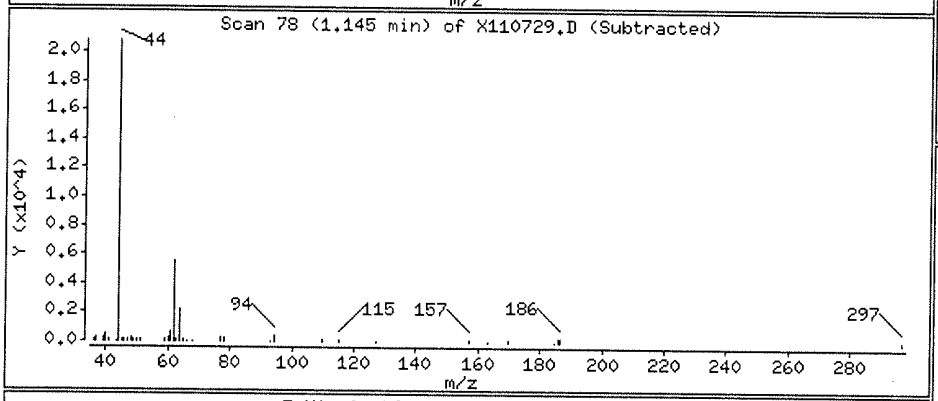
Column diameter: 0.18

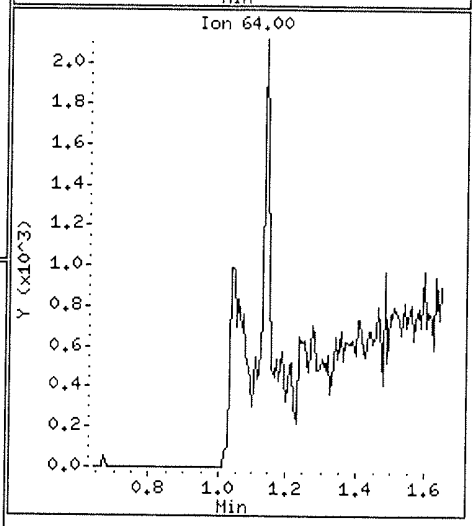
5 Vinyl Chloride

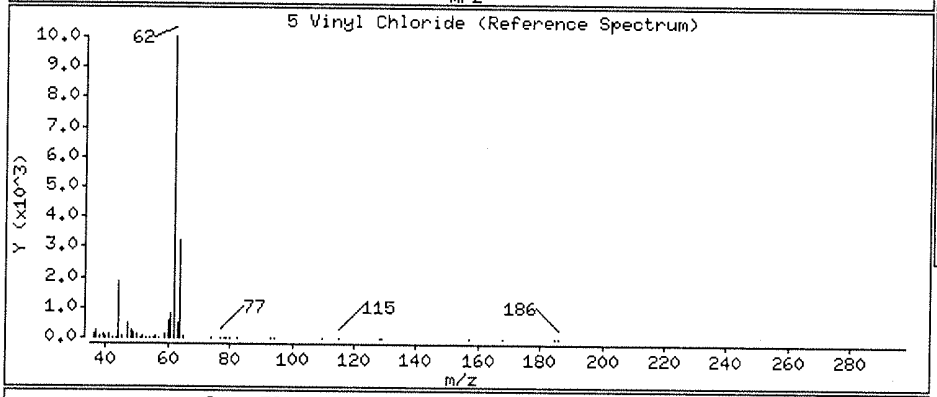
Concentration: 34.83 ug/l

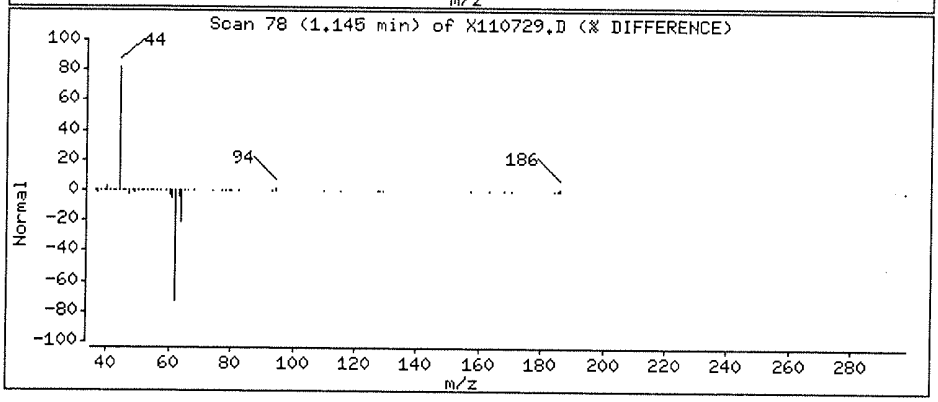












Data File: \\NAHSTWS005\Target\chem\voa6.i\X211107.b\X110729.D

Date : 07-NOV-2021 21:13

Client ID: HS21101554-08

Instrument: voa6.i

Sample Info: HS21101554-08;HS21101554-08;;;

Purge Volume: 5.0

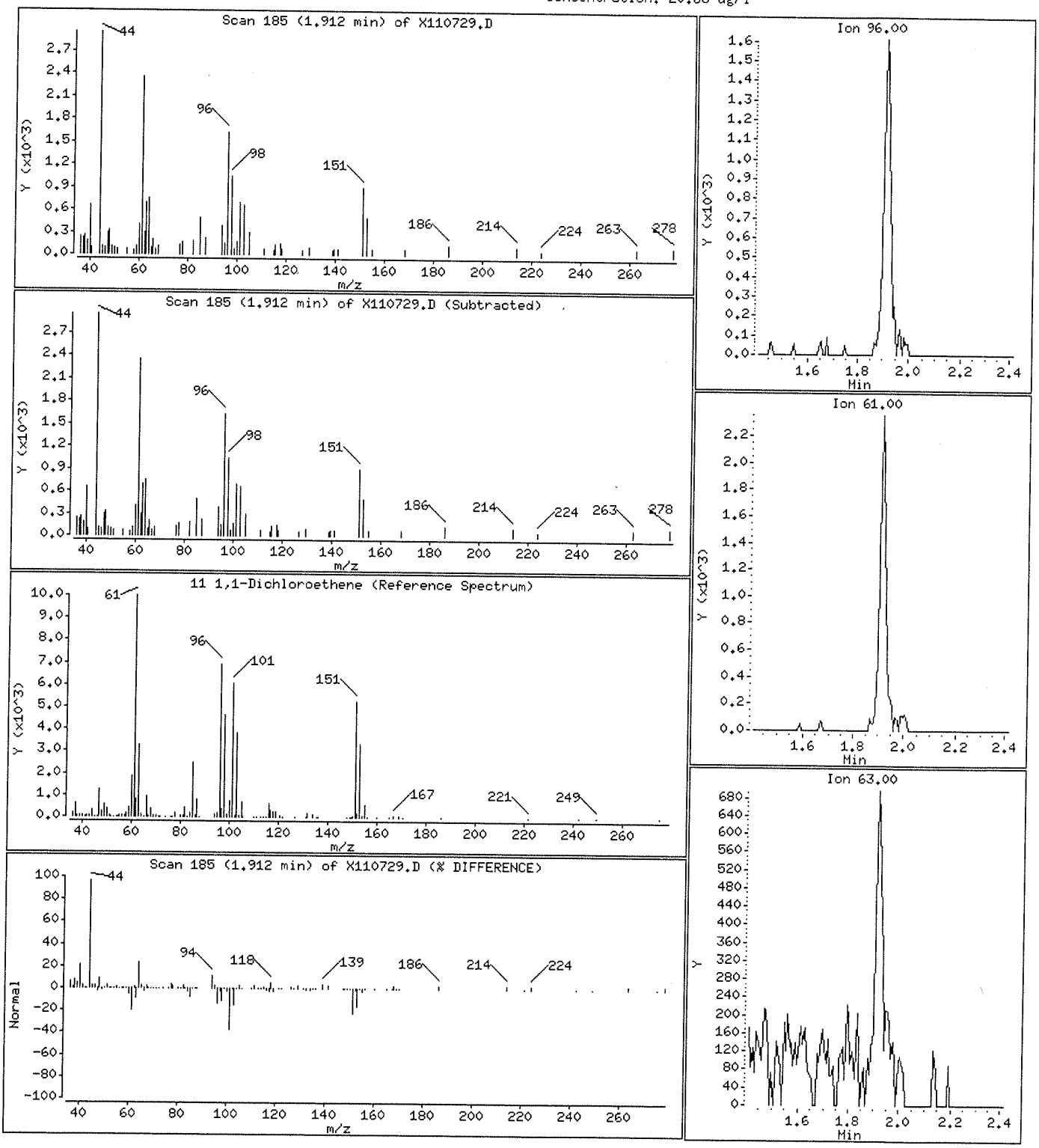
Operator: PC

Column phase: DB624

Column diameter: 0.18

11 1,1-Dichloroethene

Concentration: 20.68 ug/l



Data File: \\NAHSTWS005\Target\chem\voa6.i\X211107.b\X110729.D

Date : 07-NOV-2021 21:13

Client ID: HS21101554-08

Instrument: voa6.i

Sample Info: HS21101554-08;HS21101554-08;;;

Purge Volume: 5.0

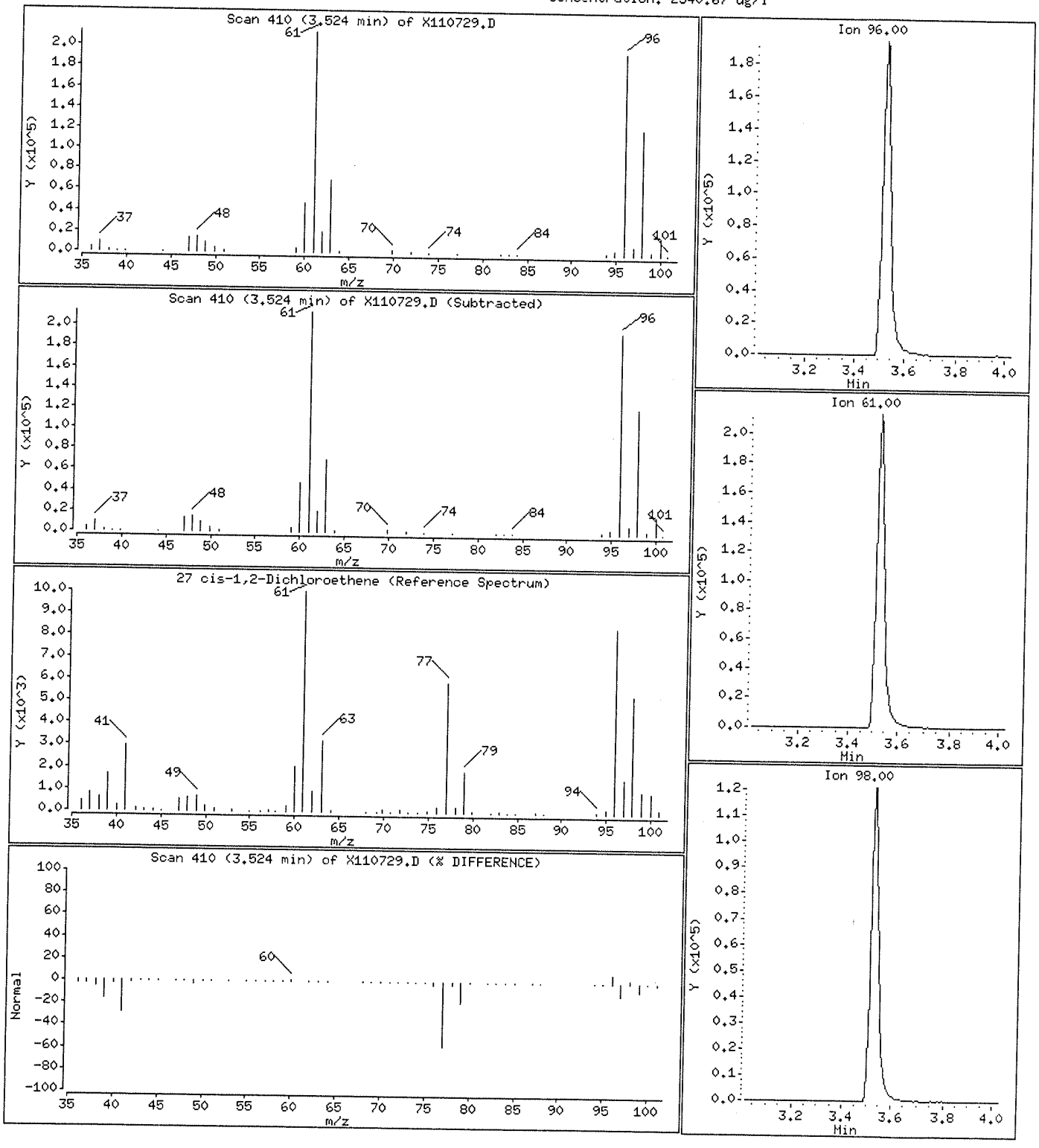
Operator: PC

Column phase: DB624

Column diameter: 0.18

27 cis-1,2-Dichloroethene

Concentration: 2540.67 ug/l



Data File: \\NAHSTWS005\Target\chem\voa6.i\X211107.b\X110729.D

Date : 07-NOV-2021 21:13

Client ID: HS21101554-08

Instrument: voa6.i

Sample Info: HS21101554-08;HS21101554-08;;;

Purge Volume: 5.0

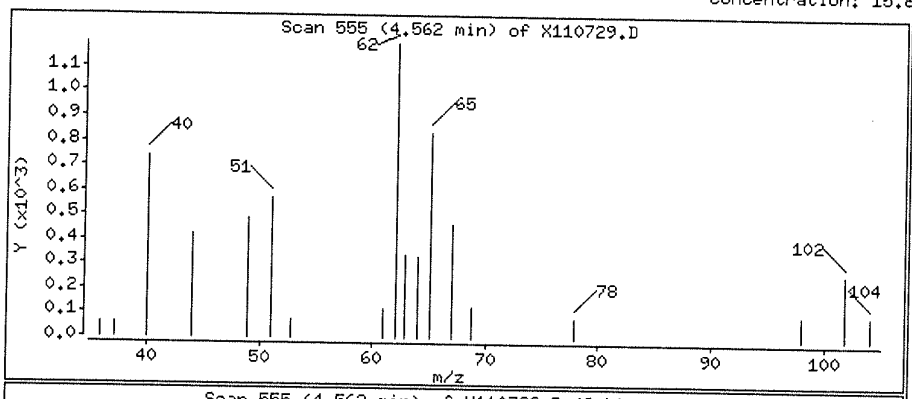
Operator: PC

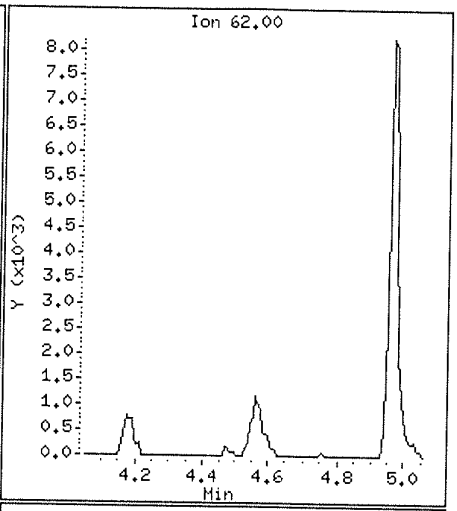
Column phase: DB624

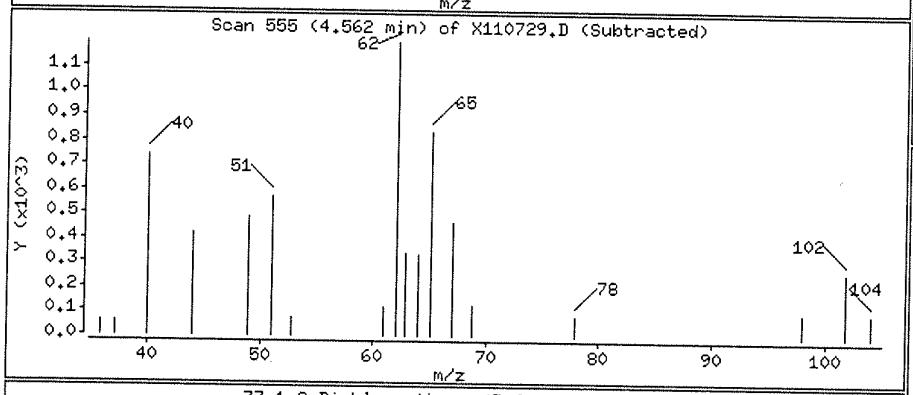
Column diameter: 0.18

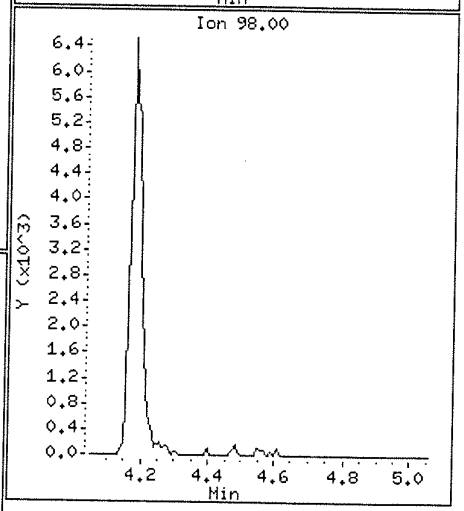
33 1,2-Dichloroethane

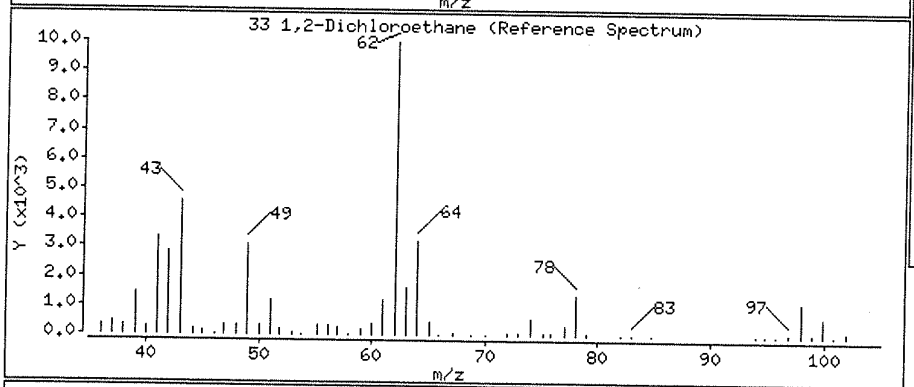
Concentration: 15.81 ug/l

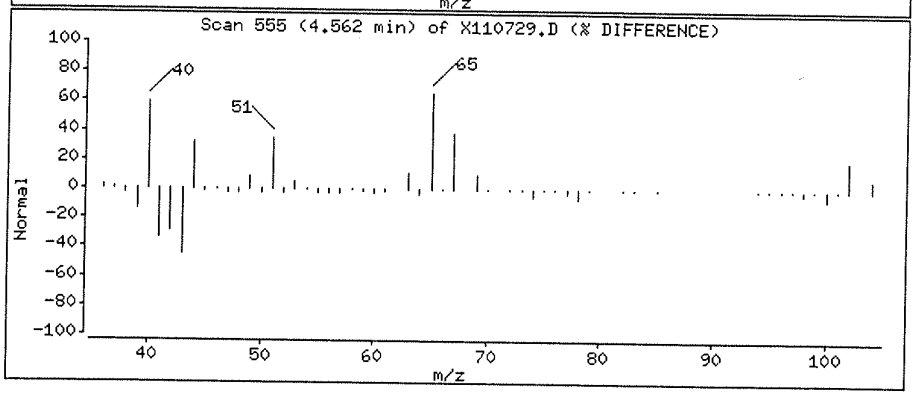












Data File: \\NAHSTWS005\Target\chem\voa6.i\X211107.b\X110729.D

Date : 07-NOV-2021 21:13

Client ID: HS21101554-08

Instrument: voa6.i

Sample Info: HS21101554-08;HS21101554-08;;;

Purge Volume: 5.0

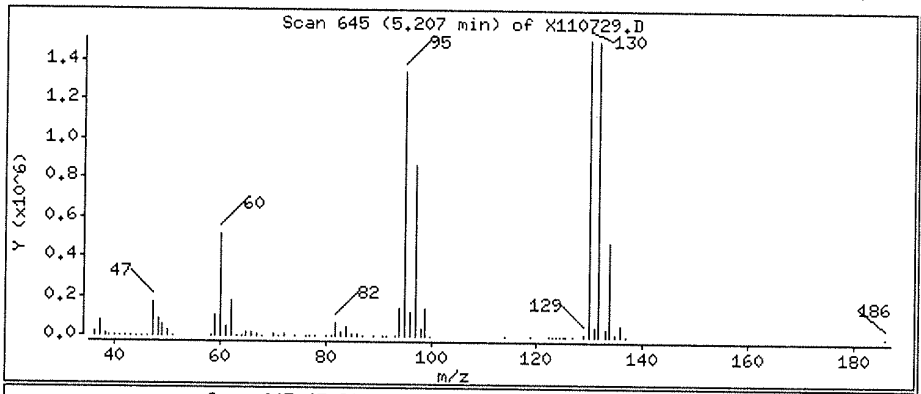
Operator: PC

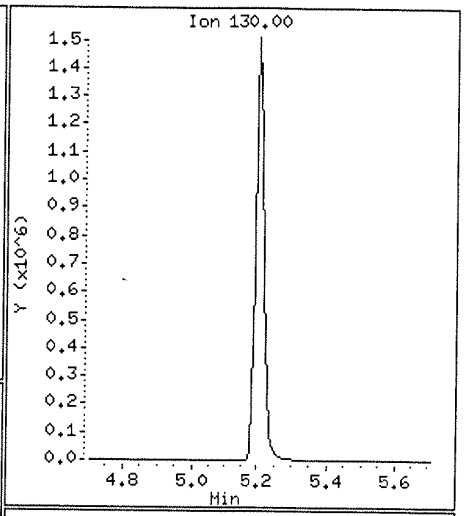
Column phase: DB624

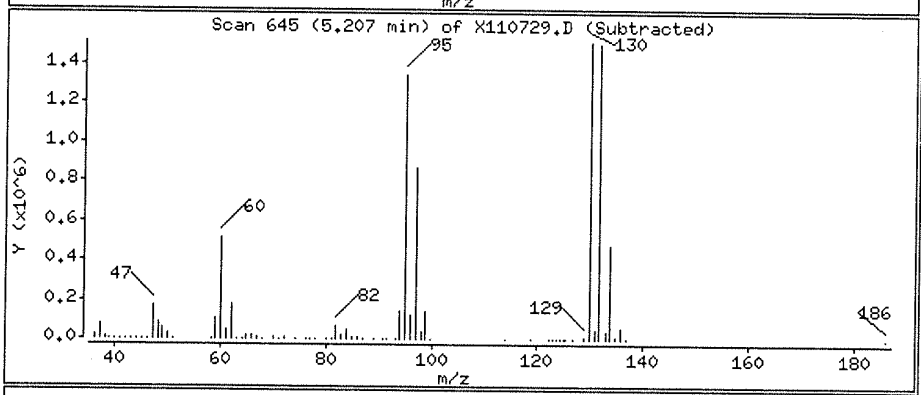
Column diameter: 0.18

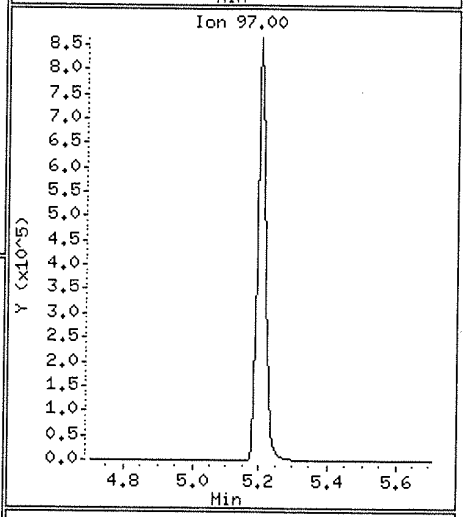
38 Trichloroethene

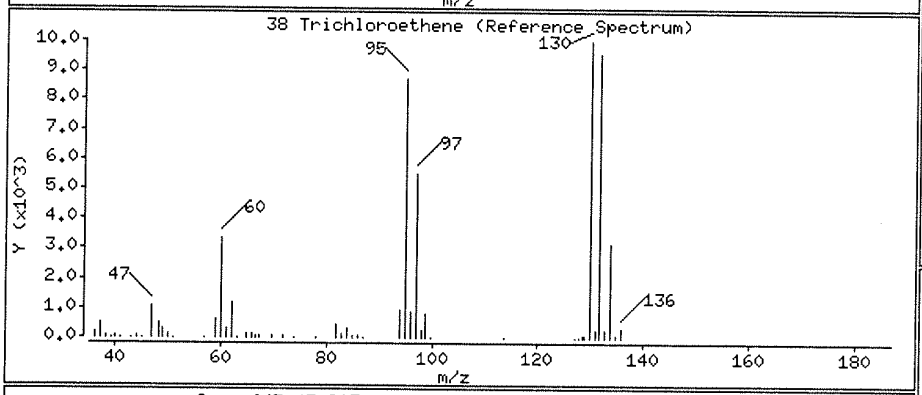
Concentration: 15525.99 ug/l

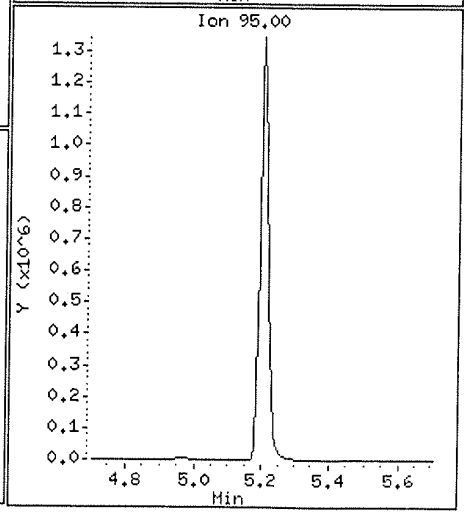


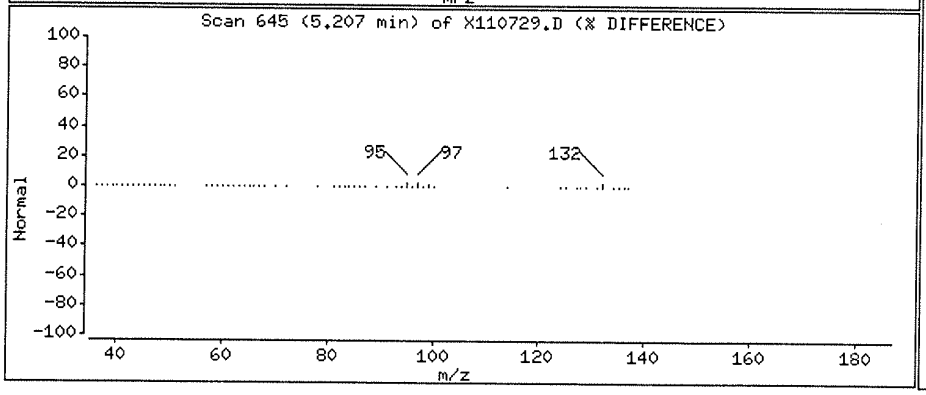












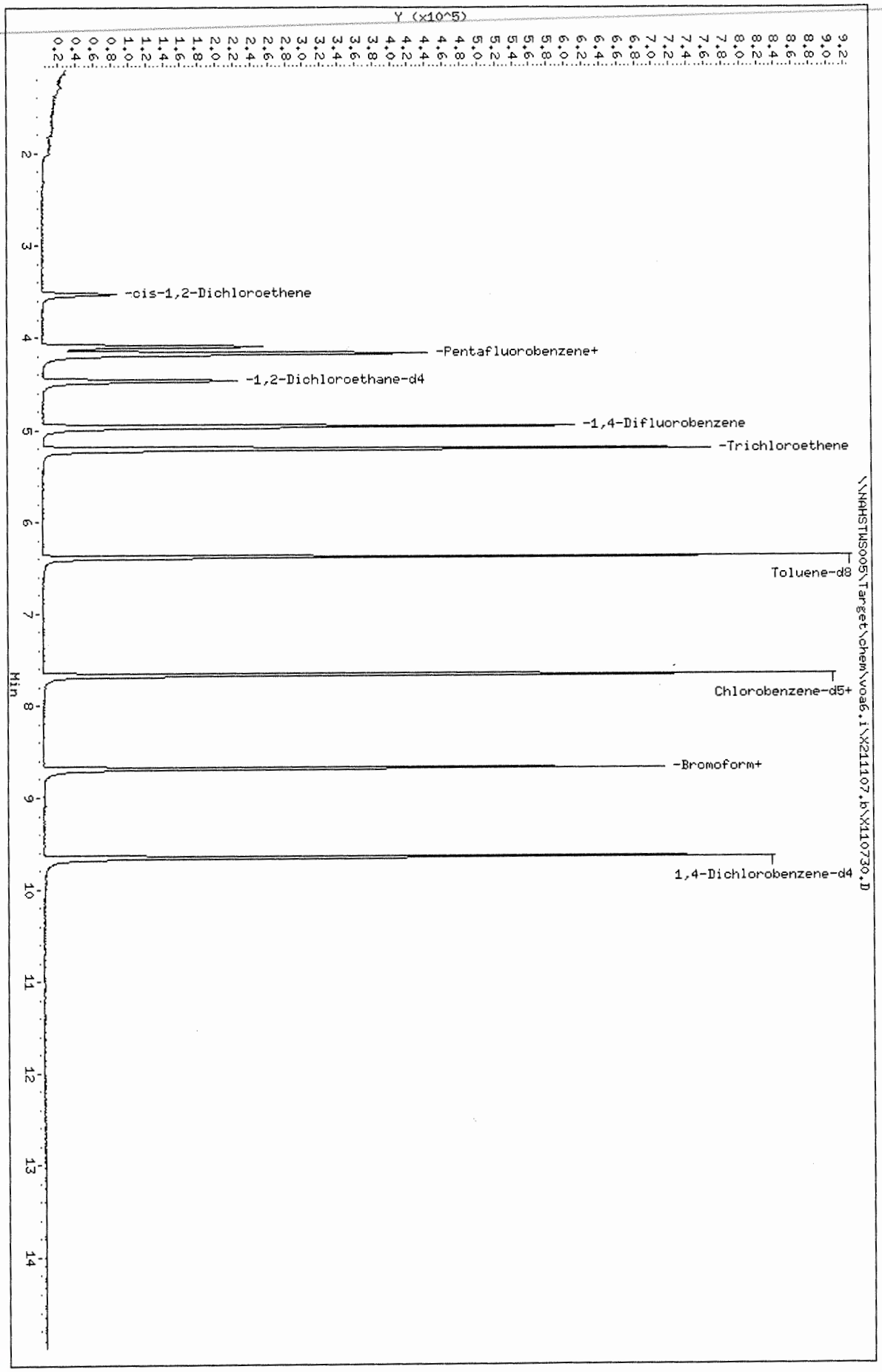
ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X211107.b\X110730.D
Lab Smp Id: HS21101554-08 Client Smp ID: HS21101554-08
Inj Date : 07-NOV-2021 21:34
Operator : PC Inst ID: voa6.i
Smp Info : HS21101554-08;HS21101554-08;;;
Misc Info : HS18090001;WATER;0;250;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X211107.b\8260W.m
Meth Date : 16-Nov-2021 17:04 kori.bagsb Quant Type: ISTD
Cal Date : 08-OCT-2021 15:34 Cal File: X100808.D
Als bottle: 29
Dil Factor: 250.00000
Integrator: HP RTE Compound Sublist: 01474-dod.sub
Target Version: 4.14
Processing Host: NAHSTW7017

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

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

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	396377	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.096	(0.981)	181484	46.5670	46.56
$ 35 1,2-Dichloroethane-d4	65	4.476	4.469	(1.070)	172830	43.5716	43.57
* 36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	542073	50.0000	
* 47 Chlorobenzene-d5	117	7.670	7.671	(1.000)	482919	50.0000	
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	583948	47.6478	47.64
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	199227	47.1590	47.15
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	225215	50.0000	
27 cis-1,2-Dichloroethene	96	3.530	3.523	(0.844)	47644	11.5614	2890.36
38 Trichloroethene	130	5.206	5.207	(1.049)	264460	64.4971	16124.27



Data File: \\NAHSTWS005\Target\chem\voa6.i\X211107.b\X110730.D
Date : 07-NOV-2021 21:34
Client ID: HS21101554-08
Sample Info: HS21101554-08;HS21101554-08;;;
Purge Volume: 5.0
Column phase: DB624

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

Data File: \\NAHSTWS005\Target\chem\voa6.i\X211107.b\X110730.D

Date : 07-NOV-2021 21:34

Client ID: HS21101554-08

Instrument: voa6.i

Sample Info: HS21101554-08;HS21101554-08;;;

Purge Volume: 5.0

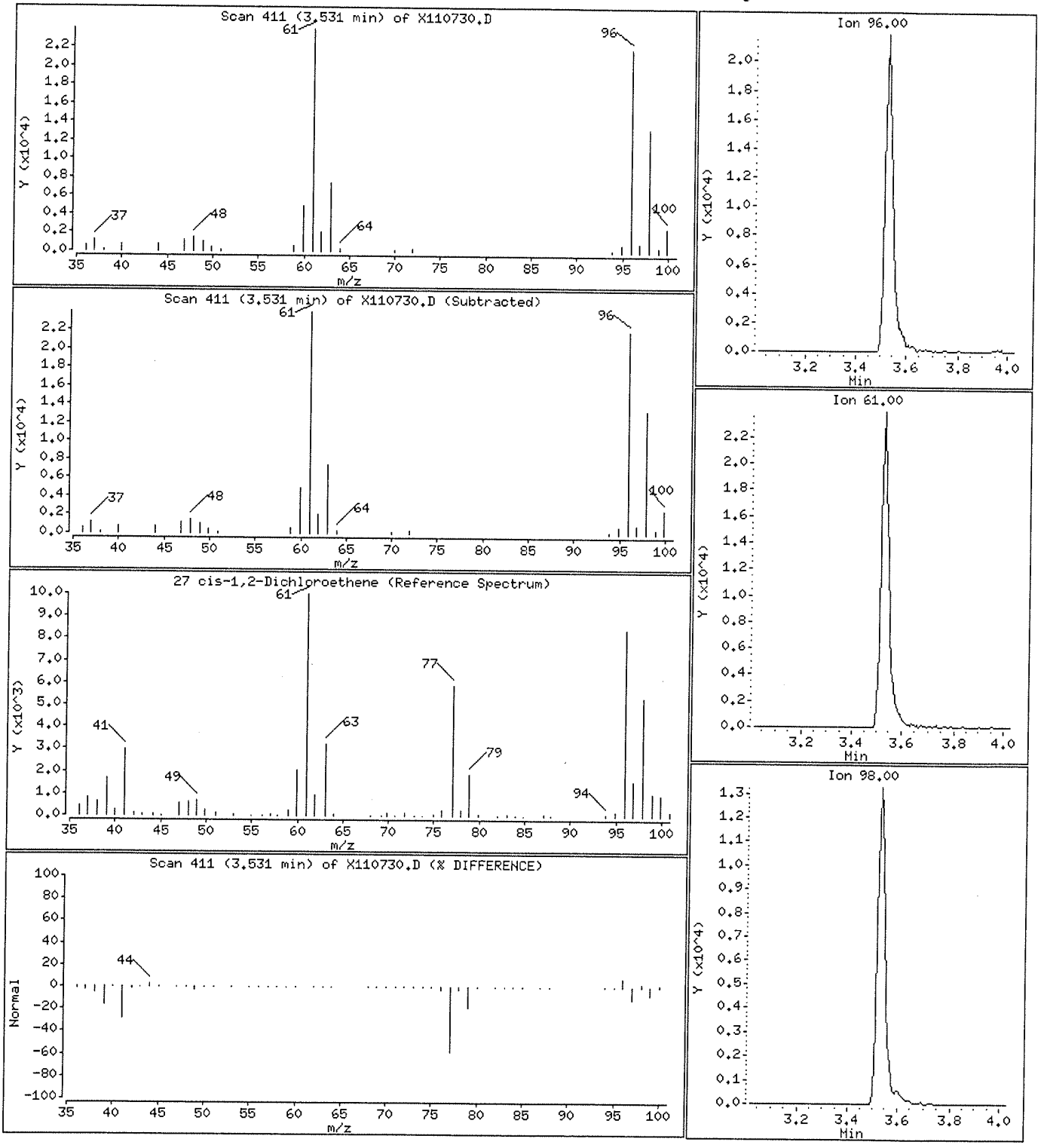
Operator: PC

Column phase: DB624

Column diameter: 0.18

27 cis-1,2-Dichloroethene

Concentration: 2890.36 ug/l



Data File: \\NAHSTWS005\Target\chem\voa6.i\X211107.b\X110730.D

Date : 07-NOV-2021 21:34

Client ID: HS21101554-08

Instrument: voa6.i

Sample Info: HS21101554-08;HS21101554-08;;;

Purge Volume: 5.0

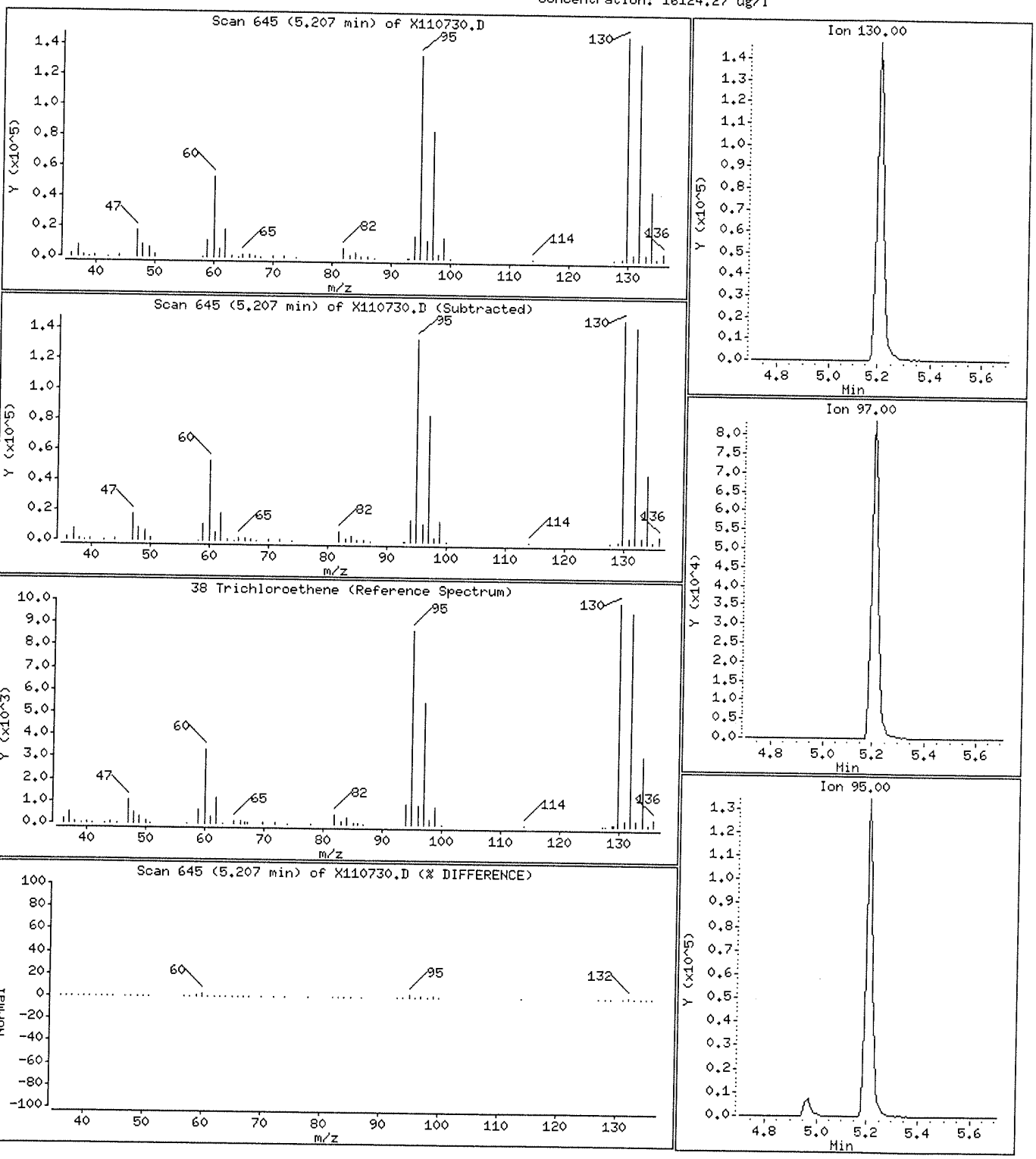
Operator: PC

Column phase: DB624

Column diameter: 0.18

38 Trichloroethene

Concentration: 16124.27 ug/l



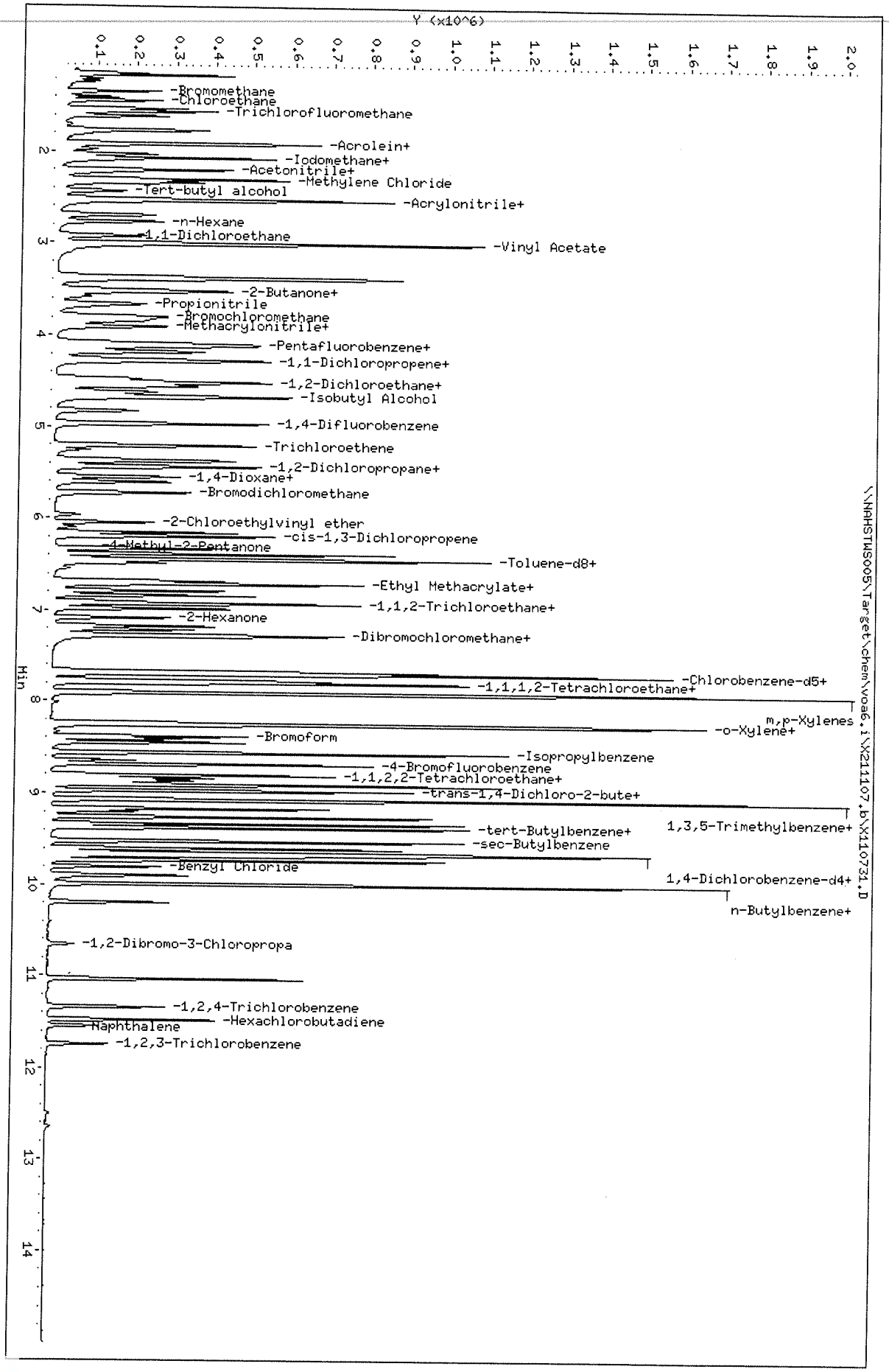
ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X211107.b\X110731.D
Lab Smp Id: CCV-END Client Smp ID: CCV-END
Inj Date : 07-NOV-2021 21:55
Operator : PC Inst ID: voa6.i
Smp Info : CCV-END;CCV-END;2;;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X211107.b\8260W.m
Meth Date : 16-Nov-2021 17:12 voa6.i Quant Type: ISTD
Cal Date : 08-OCT-2021 15:34 Cal File: X100808.D
Als bottle: 30 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 01474-dod.sub
Target Version: 4.14
Processing Host: NAHSTW7017

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

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

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	329481	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	168225	50.0000	52.06
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	154340	50.0000	46.96
* 36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	472606	50.0000	
* 47 Chlorobenzene-d5	117	7.670	7.670	(1.000)	457564	50.0000	
$ 48 Toluene-d8	98	6.381	6.381	(0.832)	528620	50.0000	45.52
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	197760	50.0000	49.47
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	235463	50.0000	
5 Vinyl Chloride	62	1.145	1.145	(0.274)	143272	50.0000	41.47
11 1,1-Dichloroethene	96	1.911	1.911	(0.457)	130267	50.0000	44.32
17 Methylene Chloride	84	2.305	2.305	(0.551)	139493	50.0000	48.50
27 cis-1,2-Dichloroethene	96	3.523	3.523	(0.842)	162120	50.0000	47.32
33 1,2-Dichloroethane	62	4.555	4.555	(0.918)	177731	50.0000	44.83
38 Trichloroethene	130	5.206	5.206	(1.049)	178391	50.0000	49.90
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	110861	50.0000	45.40



Data File: \\NAHSTWS005\Target\chem\voa6.i\X211107.b\X110731.D
Date : 07-NOV-2021 21:55
Client ID: CCV-END
Sample Info: CCV-END;CCV-END;2;;;
Purge Volume: 5.0
Column phase: DB624

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

MSVOA06 -Logbook

Batch: 47090
Date: 11-08-2021
Method: 8260
Comments:

Analyst: Presenta Cabascango
Reviewer:
Laboratory: Houston

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	pH
1	BFB	TUNE	11-08-2021 10:40 am	1.00	50 mL	50 mL	X110801.D	Liquid	Y	NA
2	CCV	CCV	11-08-2021 11:01 am	1.00	50 mL	50 mL	X110802.D	Liquid	Y	NA
3	BLANK	SAMP	11-08-2021 11:22 am	1.00	50 mL	50 mL	X110803.D	Liquid	Y	NA
4	CCB	SAMP	11-08-2021 11:43 am	1.00	50 mL	50 mL	X110804.D	Liquid	Y	NA
5	VLCSW-211108	LCS	11-08-2021 12:52 pm	1.00	50 mL	50 mL	X110805.D	Liquid	Y	NA
6	BLANK	SAMP	11-08-2021 01:13 pm	1.00	50 mL	50 mL	X110806.D	Liquid	Y	NA
7	VBLKW-211108	MBLK	11-08-2021 01:34 pm	1.00	50 mL	50 mL	X110807.D	Liquid	Y	NA
8	HS21101554-07	SAMP	11-08-2021 01:56 pm	5.00	10 mL	50 mL	X110808.D	Liquid	Y	NA
9	HS21110384-06	SAMP	11-08-2021 02:17 pm	50000.(	1 µL	50 mL	X110809.D	Liquid	Y	NA
10	HS21101554-13	SAMP	11-08-2021 02:38 pm	5.00	10 mL	50 mL	X110810.D	Liquid	Y	NA
11	HS21101554-14	SAMP	11-08-2021 02:59 pm	5.00	10 mL	50 mL	X110811.D	Liquid	Y	NA
12	HS21101554-15	SAMP	11-08-2021 03:20 pm	10.00	5 mL	50 mL	X110812.D	Liquid	Y	NA
13	HS21101554-16	SAMP	11-08-2021 03:41 pm	5.00	10 mL	50 mL	X110813.D	Liquid	Y	NA
14	HS21101554-18	SAMP	11-08-2021 04:02 pm	10.00	5 mL	50 mL	X110814.D	Liquid	Y	NA
15	HS21101554-17	SAMP	11-08-2021 04:23 pm	50.00	1 mL	50 mL	X110815.D	Liquid	Y	NA
16	HS21101554-07MS	MS	11-08-2021 04:44 pm	5.00	10 mL	50 mL	X110816.D	Liquid	Y	NA
17	HS21101554-07MSD	MSD	11-08-2021 05:05 pm	5.00	10 mL	50 mL	X110817.D	Liquid	Y	NA
18	HS21101554-13	SAMP	11-08-2021 05:26 pm	50.00	1 mL	50 mL	X110818.D	Liquid	Y	NA
19	HS21101554-14	SAMP	11-08-2021 05:47 pm	25.00	2 mL	50 mL	X110819.D	Liquid	Y	NA
20	HS21101554-18	SAMP	11-08-2021 06:08 pm	100.0(	500 µL	50 mL	X110820.D	Liquid	Y	NA
21	HS21101554-17	SAMP	11-08-2021 06:29 pm	250.0(	200 µL	50 mL	X110821.D	Liquid	Y	NA
22	CCV-END	CCV	11-08-2021 06:50 pm	1.00	50 mL	50 mL	X110822.D	Liquid	Y	NA
23	HS21110192-03	SAMP	11-08-2021 07:11 pm	1.00	50 mL	50 mL	X110823.D	Liquid	Y	NA
24	HS21110192-04	SAMP	11-08-2021 07:32 pm	1.00	50 mL	50 mL	X110824.D	Liquid	Y	NA
25	HS21110192-02	SAMP	11-08-2021 07:53 pm	50.00	1 mL	50 mL	X110825.D	Liquid	Y	NA
26	HS21110192-02	SAMP	11-08-2021 08:14 pm	500.0(	100 µL	50 mL	X110826.D	Liquid	Y	NA
27	HS21101683-01	SAMP	11-08-2021 08:35 pm	1.00	50 mL	50 mL	X110827.D	Liquid	Y	NA
28	HS21101583-01	SAMP	11-08-2021 08:56 pm	1.00	50 mL	50 mL	X110828.D	Liquid	Y	NA
29	HS21110191-01	SAMP	11-08-2021 09:18 pm	1.00	50 mL	50 mL	X110829.D	Liquid	Y	NA
30	HS21110004-01	SAMP	11-08-2021 09:39 pm	1.00	50 mL	50 mL	X110830.D	Liquid	Y	NA
31	BFB	TUNE	11-08-2021 10:00 pm	1.00	50 mL	50 mL	Y110801.D	Liquid	Y	NA
32	CCV	CCV	11-08-2021 10:20 pm	1.00	50 mL	50 mL	Y110802a.D	Liquid	Y	NA
33	CCV	CCV	11-08-2021 10:41 pm	1.00	50 mL	50 mL	Y110803.D	Liquid	Y	NA
34	CCB	SAMP	11-08-2021 11:02 pm	1.00	50 mL	50 mL	Y110804.D	Liquid	Y	NA
35	VLCSW-211108	LCS	11-08-2021 11:23 pm	1.00	50 mL	50 mL	Y110805.D	Liquid	Y	NA
36	BLANK	SAMP	11-08-2021 11:44 pm	1.00	50 mL	50 mL	Y110806.D	Liquid	Y	NA
37	VBLKW-211108	MBLK	11-09-2021 12:05 am	1.00	50 mL	50 mL	Y110807.D	Liquid	Y	NA
38	MBLK-171822	MBLK	11-09-2021 12:26 am	20.00	2.5 mL	50 mL	Y110808.D	Liquid	Y	NA
39	HS21101493-02	SAMP	11-09-2021 12:48 am	20.00	2.5 mL	50 mL	Y110809.D	Liquid	Y	NA
40	HS21101493-02MS	MS	11-09-2021 01:09 am	20.00	2.5 mL	50 mL	Y110810.D	Liquid	Y	NA
41	MBLK-171972	MBLK	11-09-2021 01:30 am	20.00	2.5 mL	50 mL	Y110811.D	Liquid	Y	NA

MSVOA06 -Logbook

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	p
42	HS21101672-01	SAMP	11-09-2021 01:51 am	20.00	2.5 mL	50 mL	Y110812.D	Liquid	Y	N
43	HS21101763-01	SAMP	11-09-2021 02:12 am	20.00	2.5 mL	50 mL	Y110813.D	Liquid	Y	N
44	HS21101688-01	SAMP	11-09-2021 02:33 am	20.00	2.5 mL	50 mL	Y110814.D	Liquid	Y	N
45	HS21101744-01	SAMP	11-09-2021 02:54 am	20.00	2.5 mL	50 mL	Y110815.D	Liquid	Y	N
46	MBLK-171773	MBLK	11-09-2021 03:15 am	20.00	2.5 mL	50 mL	Y110816.D	Liquid	Y	N
47	HS21101400-01	SAMP	11-09-2021 03:36 am	20.00	2.5 mL	50 mL	Y110817.D	Liquid	Y	N
48	MBLK-171862	MBLK	11-09-2021 03:57 am	20.00	2.5 mL	50 mL	Y110818.D	Liquid	Y	N
49	HS21101566-01	SAMP	11-09-2021 04:18 am	20.00	2.5 mL	50 mL	Y110819.D	Liquid	Y	N
50	HS21101557-01	SAMP	11-09-2021 04:39 am	20.00	2.5 mL	50 mL	Y110820.D	Liquid	Y	N
51	MBLK-171973	MBLK	11-09-2021 05:00 am	1.00	50 mL	50 mL	Y110821.D	Liquid	Y	N
52	HS21101217-04	SAMP	11-09-2021 05:21 am	1.00	50 mL	50 mL	Y110822.D	Liquid	Y	N
53	HS21101546-01	SAMP	11-09-2021 05:42 am	20.00	2.5 mL	50 mL	Y110823.D	Liquid	Y	N
54	HS21101585-01	SAMP	11-09-2021 06:03 am	20.00	2.5 mL	50 mL	Y110824.D	Liquid	Y	N
55	HS21101536-01	SAMP	11-09-2021 06:25 am	20.00	2.5 mL	50 mL	Y110825.D	Liquid	Y	N
56	HS21101598-01	SAMP	11-09-2021 06:46 am	250.0(	200 µL	50 mL	Y110826.D	Liquid	Y	N
57	HS21101598-02	SAMP	11-09-2021 07:07 am	500.0(	100 µL	50 mL	Y110827.D	Liquid	Y	N
58	HS21101598-04	SAMP	11-09-2021 07:28 am	250.0(	200 µL	50 mL	Y110828.D	Liquid	Y	N
59	HS21101598-05	SAMP	11-09-2021 07:49 am	500.0(	100 µL	50 mL	Y110829.D	Liquid	Y	N
60	HS21101598-06	SAMP	11-09-2021 08:10 am	250.0(	200 µL	50 mL	Y110830.D	Liquid	Y	N
61	HS21101598-07	SAMP	11-09-2021 08:31 am	2500.0	20 µL	50 mL	Y110831.D	Liquid	Y	N
62	BLANK	SAMP	11-09-2021 08:52 am	1.00	50 mL	50 mL	Y110840.D	Liquid	Y	N
63	BLANK	SAMP	11-09-2021 09:13 am	1.00	50 mL	50 mL	Y110841.D	Liquid	Y	N

FORM 2
WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS21101554

	CLIENT SAMPLE NO.	SMC1 #	SMC2 (DCE)#	SMC3 (TOL)#	OTHER #	TOT OUT
01	VLCSW-211108	101	96	90	96	0
02	VBLKW-211108	91	82	96	96	0
03	HS21101554-07	90	85	96	97	0
04	HS21101554-13	92	86	96	94	0
05	HS21101554-14	91	85	95	93	0
06	HS21101554-15	92	85	97	95	0
07	HS21101554-16	92	84	97	94	0
08	HS21101554-18	89	85	98	94	0
09	HS21101554-17	92	87	99	99	0
10	HS21101554-07MS	90	83	93	99	0
11	HS21101554-07MSD	90	84	95	97	0
12	HS21101554-13	89	82	96	93	0
13	HS21101554-14	90	84	97	97	0
14	HS21101554-18	90	82	99	98	0
15	HS21101554-17	91	84	96	95	0
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						

		QC LIMITS
SMC1	= Dibromofluoromethane	(70-130)
SMC2 (DCE)	= 1,2-Dichloroethane-d4	(70-130)
SMC3 (TOL)	= Toluene-d8	(70-130)
OTHER	= 4-Bromofluorobenzene	(70-130)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D System Monitoring Compound diluted out

FORM 4
VOLATILE METHOD BLANK SUMMARY

CLIENT SAMPLE NO.

VBLKW-211108

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS21101554

Lab File ID: X110807 Lab Sample ID: VBLKW-211108

Date Analyzed: 11/08/21 Time Analyzed: 1334

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

Instrument ID: VOA6

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	VLCSW-211108	VLCSW-211108	X110805	1252
02	HS21101554-07	HS21101554-07	X110808	1356
03	HS21101554-13	HS21101554-13	X110810	1438
04	HS21101554-14	HS21101554-14	X110811	1459
05	HS21101554-15	HS21101554-15	X110812	1520
06	HS21101554-16	HS21101554-16	X110813	1541
07	HS21101554-18	HS21101554-18	X110814	1602
08	HS21101554-17	HS21101554-17	X110815	1623
09	HS21101554-07MS	HS21101554-07MS	X110816	1644
10	HS21101554-07MSD	HS21101554-07MSD	X110817	1705
11	HS21101554-13	HS21101554-13	X110818	1726
12	HS21101554-14	HS21101554-14	X110819	1747
13	HS21101554-18	HS21101554-18	X110820	1808
14	HS21101554-17	HS21101554-17	X110821	1829
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				

COMMENTS:

FORM 5
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS21101554

Lab File ID: X110801 BFB Injection Date: 11/08/21

Instrument ID: VOA6 BFB Injection Time: 1040

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

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	15.8
75	30.0 - 60.0% of mass 95	44.0
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.3
173	Less than 2.0% of mass 174	1.0 (0.9)1
174	Greater than 50.0% of mass 95	112.5
175	5.0 - 9.0% of mass 174	8.2 (7.3)1
176	95.0 - 101.0% of mass 174	108.3 (96.2)1
177	5.0 - 9.0% of mass 176	7.5 (6.9)2

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

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	CCV	CCV	X110802	11/08/21	1101
02	VLCSW-211108	VLCSW-211108	X110805	11/08/21	1252
03	VBLKW-211108	VBLKW-211108	X110807	11/08/21	1334
04	HS21101554-07	HS21101554-07	X110808	11/08/21	1356
05	HS21101554-13	HS21101554-13	X110810	11/08/21	1438
06	HS21101554-14	HS21101554-14	X110811	11/08/21	1459
07	HS21101554-15	HS21101554-15	X110812	11/08/21	1520
08	HS21101554-16	HS21101554-16	X110813	11/08/21	1541
09	HS21101554-18	HS21101554-18	X110814	11/08/21	1602
10	HS21101554-17	HS21101554-17	X110815	11/08/21	1623
11	HS21101554-07MS	HS21101554-07MS	X110816	11/08/21	1644
12	HS21101554-07MSD	HS21101554-07MSD	X110817	11/08/21	1705
13	HS21101554-13	HS21101554-13	X110818	11/08/21	1726
14	HS21101554-14	HS21101554-14	X110819	11/08/21	1747
15	HS21101554-18	HS21101554-18	X110820	11/08/21	1808
16	HS21101554-17	HS21101554-17	X110821	11/08/21	1829
17	CCV-END	CCV-END	X110822	11/08/21	1850
18					
19					
20					
21					
22					

FORM V VOA

FORM 7B
VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS21101554

Instrument ID: VOA6 Calibration Date: 11/08/21 Time: 1101

Lab File ID: X110802 Init. Calib. Date(s): 10/08/21 10/08/21

Init. Calib. Times: 1308 1637

GC Column: DB624 ID: 0.18 (mm)

COMPOUND	RRF or AMOUNT	RRF50.000 or AMOUNT	CCAL RRF50.000	MIN RRF	%D or %DRIFT	MAX %D or %DRIFT	CURV TYPE
Methylene Chloride	48.067563	50.000000	0.4196920	0.1	3.86	20.00	LINR
1,1,2-Trichloroethane	0.2670000	0.2513220	0.2513220	0.1	5.87	20.00	AVRG
Trichloroethene	0.3780000	0.3735542	0.3735542	0.2	1.18	20.00	AVRG
Vinyl Chloride	0.5240000	0.4252086	0.4252086	0.1	18.85	20.00	AVRG
1,1-Dichloroethene	0.4460000	0.3842463	0.3842463	0.1	13.85	20.00	AVRG
1,2-Dichloroethane	0.4190000	0.3812528	0.3812528	0.1	9.01	20.00	AVRG
cis-1,2-Dichloroethene	0.5200000	0.4746031	0.4746031	0.1	8.73	20.00	AVRG
1,2-Dichloroethane-d4	45.949314	50.000000	0.4587573	0.1	8.10	20.00	LINR
Dibromofluoromethane	49.522958	50.000000	0.4862257	0.1	0.95	20.00	LINR
4-Bromofluorobenzene	50.182825	50.000000	0.4382544	0.1	-0.36	20.00	LINR
Toluene-d8	1.2690000	1.1712568	1.1712568	0.1	7.70	20.00	AVRG

FORM VII VOA

FORM 7B
VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS21101554

Instrument ID: VOA6 Calibration Date: 11/08/21 Time: 1850

Lab File ID: X110822 Init. Calib. Date(s): 10/08/21 10/08/21

Init. Calib. Times: 1308 1637

GC Column: DB624 ID: 0.18 (mm)

COMPOUND	RRF or AMOUNT	RRF50.000 or AMOUNT	CCAL RRF50.000	MIN RRF	%D or %DRIFT	MAX %D or %DRIFT	CURV TYPE
Methylene Chloride	45.689006	50.000000	0.3994575	0.1	8.62	50.00	LINR
1,1,2-Trichloroethane	0.2670000	0.2303699	0.2303699	0.1	13.72	50.00	AVRG
Trichloroethene	0.3780000	0.3563811	0.3563811	0.2	5.72	50.00	AVRG
Vinyl Chloride	0.5240000	0.4107712	0.4107712	0.1	21.61	50.00	AVRG
1,1-Dichloroethene	0.4460000	0.3635231	0.3635231	0.1	18.49	50.00	AVRG
1,2-Dichloroethane	0.4190000	0.3652328	0.3652328	0.1	12.83	50.00	AVRG
cis-1,2-Dichloroethene	0.5200000	0.4681018	0.4681018	0.1	9.98	50.00	AVRG
1,2-Dichloroethane-d4	44.271528	50.000000	0.4427163	0.1	11.46	50.00	LINR
Dibromofluoromethane	49.086810	50.000000	0.4820399	0.1	1.83	50.00	LINR
4-Bromofluorobenzene	47.522745	50.000000	0.4156402	0.1	4.95	50.00	LINR
Toluene-d8	1.2690000	1.1263957	1.1263957	0.1	11.24	50.00	AVRG

FORM VII VOA

FORM 8
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS21101554

Lab File ID (Standard): X110802 Date Analyzed: 11/08/21

Instrument ID: VOA6 Time Analyzed: 1101

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

		IS1 AREA #	IS1 RT #	IS2(DFB) AREA #	IS2(DFB) RT #	IS3(CBZ) AREA #	IS3(CBZ) RT #
	12 HOUR STD	349492	4.18	486580	4.96	462948	7.67
	UPPER LIMIT	698984	4.68	973160	5.46	925896	8.17
	LOWER LIMIT	174746	3.68	243290	4.46	231474	7.17
	CLIENT SAMPLE NO.						
01	VLCSW-211108	329315	4.18	470524	4.96	446917	7.67
02	VBLKW-211108	421492	4.18	569420	4.96	503369	7.67
03	HS21101554-07	413844	4.18	552535	4.96	498646	7.67
04	HS21101554-13	404564	4.18	561510	4.96	493942	7.67
05	HS21101554-14	412436	4.18	557520	4.96	502796	7.67
06	HS21101554-15	407893	4.18	543322	4.96	485803	7.67
07	HS21101554-16	406221	4.18	548610	4.96	483883	7.67
08	HS21101554-18	407531	4.18	548921	4.96	476699	7.67
09	HS21101554-17	399357	4.18	537656	4.96	464951	7.67
10	HS21101554-07MS	423235	4.18	568580	4.96	519052	7.67
11	HS21101554-07MSD	426500	4.18	571521	4.96	509091	7.67
12	HS21101554-13	417170	4.18	548845	4.96	492855	7.67
13	HS21101554-14	417789	4.18	553153	4.96	493148	7.67
14	HS21101554-18	412069	4.18	544555	4.96	473293	7.67
15	HS21101554-17	403596	4.18	551774	4.96	487603	7.67
16							
17							
18							
19							
20							

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

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

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

FORM 8
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS21101554

Lab File ID (Standard): X110802 Date Analyzed: 11/08/21

Instrument ID: VOA6 Time Analyzed: 1101

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

		IS4(DCB) AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	250995	9.66				
	UPPER LIMIT	501990	10.16				
	LOWER LIMIT	125498	9.16				
	CLIENT SAMPLE NO.						
01	VLCSW-211108	199219	9.66				
02	VBLKW-211108	238406	9.66				
03	HS21101554-07	243528	9.66				
04	HS21101554-13	242692	9.66				
05	HS21101554-14	244229	9.66				
06	HS21101554-15	234764	9.66				
07	HS21101554-16	232851	9.66				
08	HS21101554-18	215415	9.66				
09	HS21101554-17	231907	9.66				
10	HS21101554-07MS	278019	9.66				
11	HS21101554-07MSD	260111	9.66				
12	HS21101554-13	241624	9.66				
13	HS21101554-14	242253	9.66				
14	HS21101554-18	227190	9.66				
15	HS21101554-17	237866	9.66				
16							
17							
18							
19							
20							

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

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

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

FORM VIII VOA

Data File: \\NAHSTWS005\Target\chem\voa6.i\X211108.b\X110801.D

Date : 08-NOV-2021 10:40

Client ID: BFB

Instrument: voa6.i

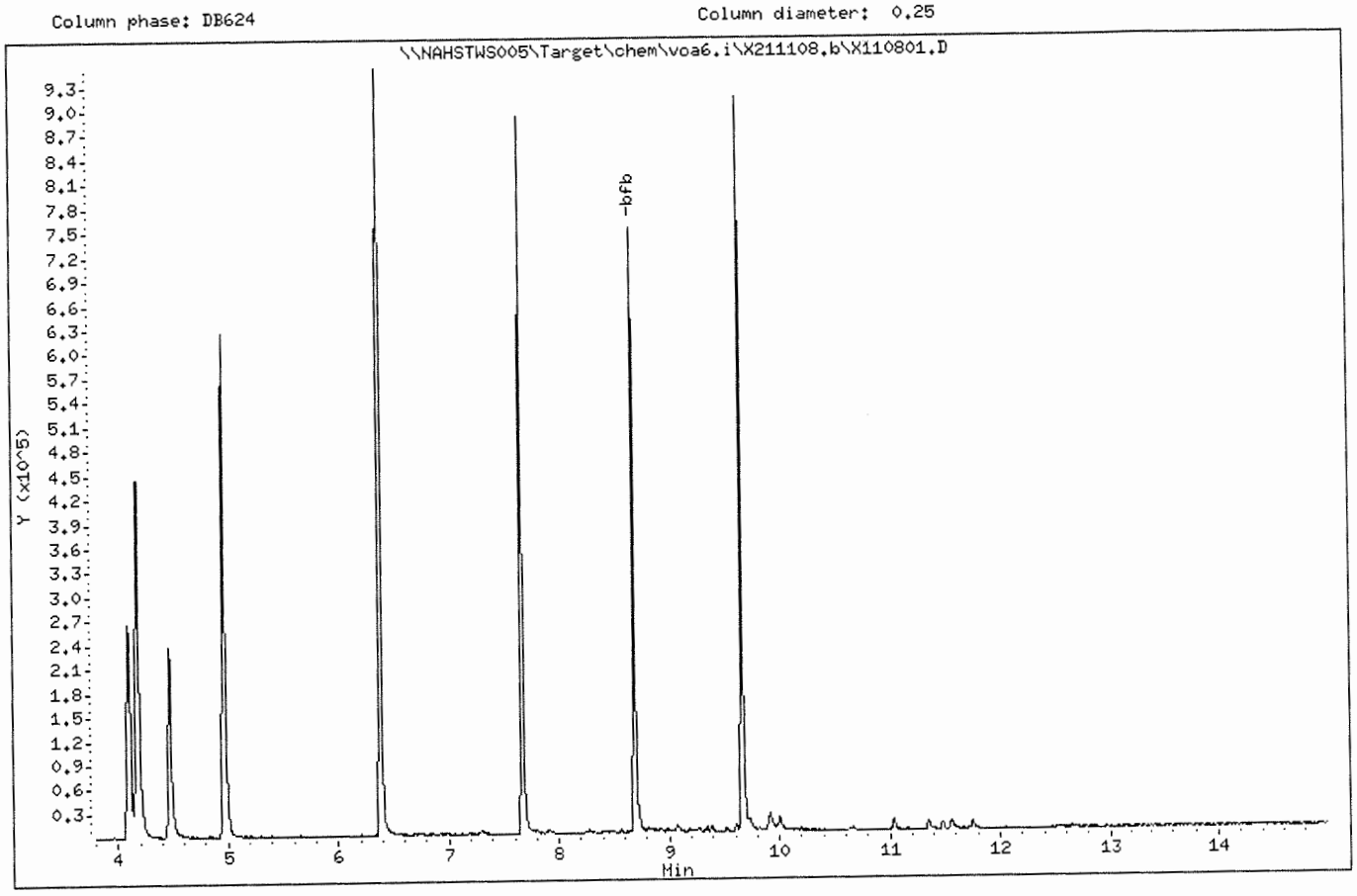
Sample Info: BFB;BFB;3;;BFB

Volume Injected (uL): 2.0

Operator: PC

Column phase: DB624

Column diameter: 0.25



Data File: \\NAHSTWS005\Target\chem\voa6.i\X211108.b\X110801.D

Date : 08-NOV-2021 10:40

Client ID: BFB

Instrument: voa6.i

Sample Info: BFB;BFB;3;;BFB

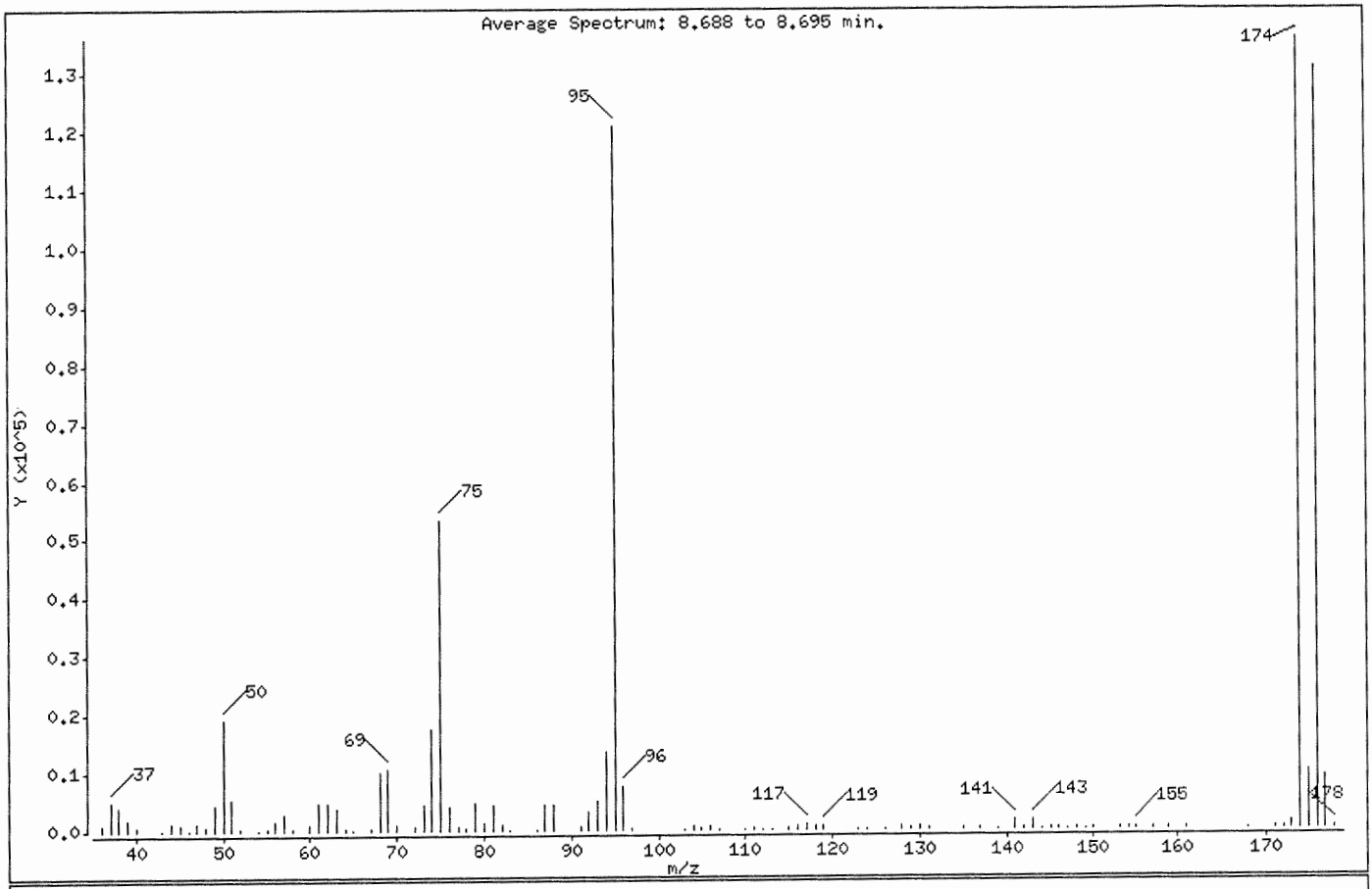
Volume Injected (uL): 2.0

Operator: PC

Column phase: DB624

Column diameter: 0.25

1 bfb



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	15.80
75	30.00 - 60.00% of mass 95	44.01
96	5.00 - 9.00% of mass 95	6.33
173	Less than 2.00% of mass 174	1.00 (0.89)
174	Greater than 50.00% of mass 95	112.53
175	5.00 - 9.00% of mass 174	8.17 (7.26)
176	95.00 - 101.00% of mass 174	108.29 (96.23)
177	5.00 - 9.00% of mass 176	7.47 (6.90)

Data File: \\NAHSTWS005\Target\chem\voa6.i\X211108.b\X110801.D

Date : 08-NOV-2021 10:40

Client ID: BFB

Instrument: voa6.i

Sample Info: BFB;BFB;3;;BFB

Volume Injected (uL): 2.0

Operator: PC

Column phase: DB624

Column diameter: 0.25

Data File: X110801.D

Spectrum: Average Spectrum: 8.688 to 8.695 min.

Location of Maximum: 174.00

Number of points: 101

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	839	67.00	306	103.00	110	143.00	1668
37.00	5137	68.00	10103	104.00	578	144.00	65
38.00	4011	69.00	10706	105.00	215	145.00	163
39.00	1801	70.00	961	106.00	626	146.00	201
40.00	556	72.00	729	107.00	146	147.00	85
43.00	115	73.00	4528	110.00	37	148.00	316
44.00	1276	74.00	17680	111.00	181	149.00	99
45.00	1002	75.00	53200	112.00	32	150.00	234
46.00	74	76.00	3973	113.00	102	153.00	162
47.00	1140	77.00	574	115.00	165	154.00	203
48.00	754	78.00	379	116.00	524	155.00	373
49.00	4439	79.00	4760	117.00	919	157.00	373
50.00	19096	80.00	1151	118.00	635	159.00	292
51.00	5438	81.00	4457	119.00	710	161.00	286
52.00	304	82.00	1006	123.00	39	168.00	31
54.00	29	83.00	89	124.00	25	171.00	255
55.00	389	86.00	142	126.00	39	172.00	204
56.00	1720	87.00	4490	128.00	579	173.00	1209
57.00	2817	88.00	4428	129.00	270	174.00	136000
58.00	172	91.00	574	130.00	620	175.00	9881
60.00	886	92.00	3126	131.00	168	176.00	130888
61.00	4604	93.00	4990	135.00	222	177.00	9033
62.00	4639	94.00	13410	137.00	299	178.00	198
63.00	3653	95.00	120872	139.00	30		
64.00	278	96.00	7650	141.00	1586		
65.00	49	97.00	271	142.00	178		

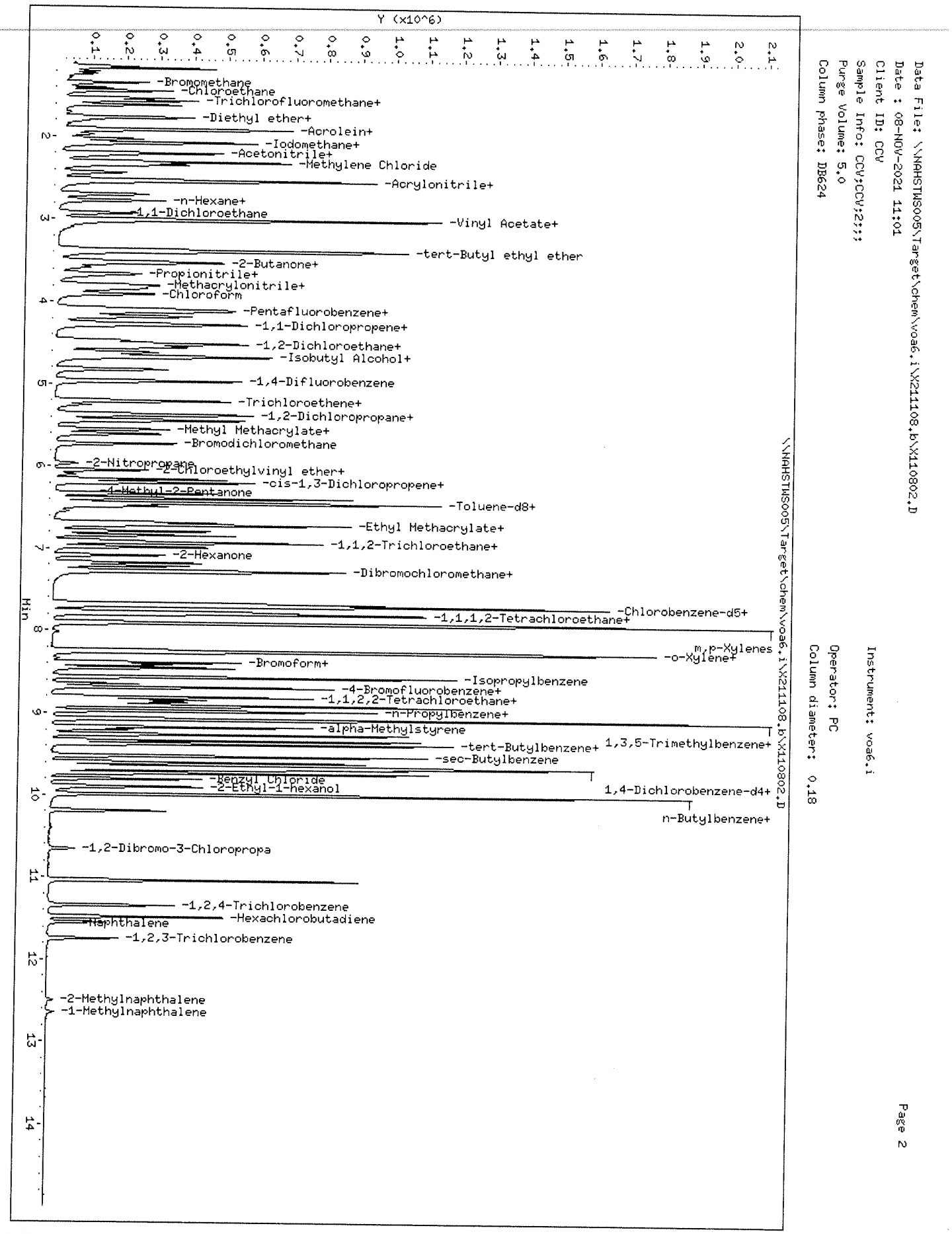
ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X211108.b\X110802.D
Lab Smp Id: CCV Client Smp ID: CCV
Inj Date : 08-NOV-2021 11:01
Operator : PC Inst ID: voa6.i
Smp Info : CCV;CCV;2;;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X211108.b\8260W.m
Meth Date : 18-Nov-2021 15:44 voa6.i Quant Type: ISTD
Cal Date : 08-OCT-2021 15:34 Cal File: X100808.D
Als bottle: 2 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 01474-dod.sub
Target Version: 4.14
Processing Host: NAHSTW7017

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

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

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	349492	50.0000	
$ 30 Dibromofluoromethane	113	4.096	4.096	(0.979)	169932	50.0000	49.52
$ 35 1,2-Dichloroethane-d4	65	4.469	4.469	(1.069)	160332	50.0000	45.94
* 36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	486580	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	462948	50.0000	
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	542231	50.0000	46.15
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	202889	50.0000	50.18
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	250995	50.0000	
5 Vinyl Chloride	62	1.145	1.145	(0.274)	148607	50.0000	40.55
11 1,1-Dichloroethene	96	1.912	1.912	(0.457)	134291	50.0000	43.07
17 Methylene Chloride	84	2.305	2.305	(0.551)	146679	50.0000	48.06
27 cis-1,2-Dichloroethene	96	3.523	3.523	(0.842)	165870	50.0000	45.65
33 1,2-Dichloroethane	62	4.555	4.555	(0.918)	185510	50.0000	45.45
38 Trichloroethene	130	5.207	5.207	(1.049)	181764	50.0000	49.38
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	116349	50.0000	47.09



Data File: \\NAHSTWS005\Target\chem\voa6.i\X211108.b\X110802.D
Date : 08-NOV-2021 11:01
Client ID: CCV
Sample Info: CCV;CCV;2;;;
Purge Volume: 5.0
Column phase: DB624

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

Report Date: 18-Nov-2021 15:44

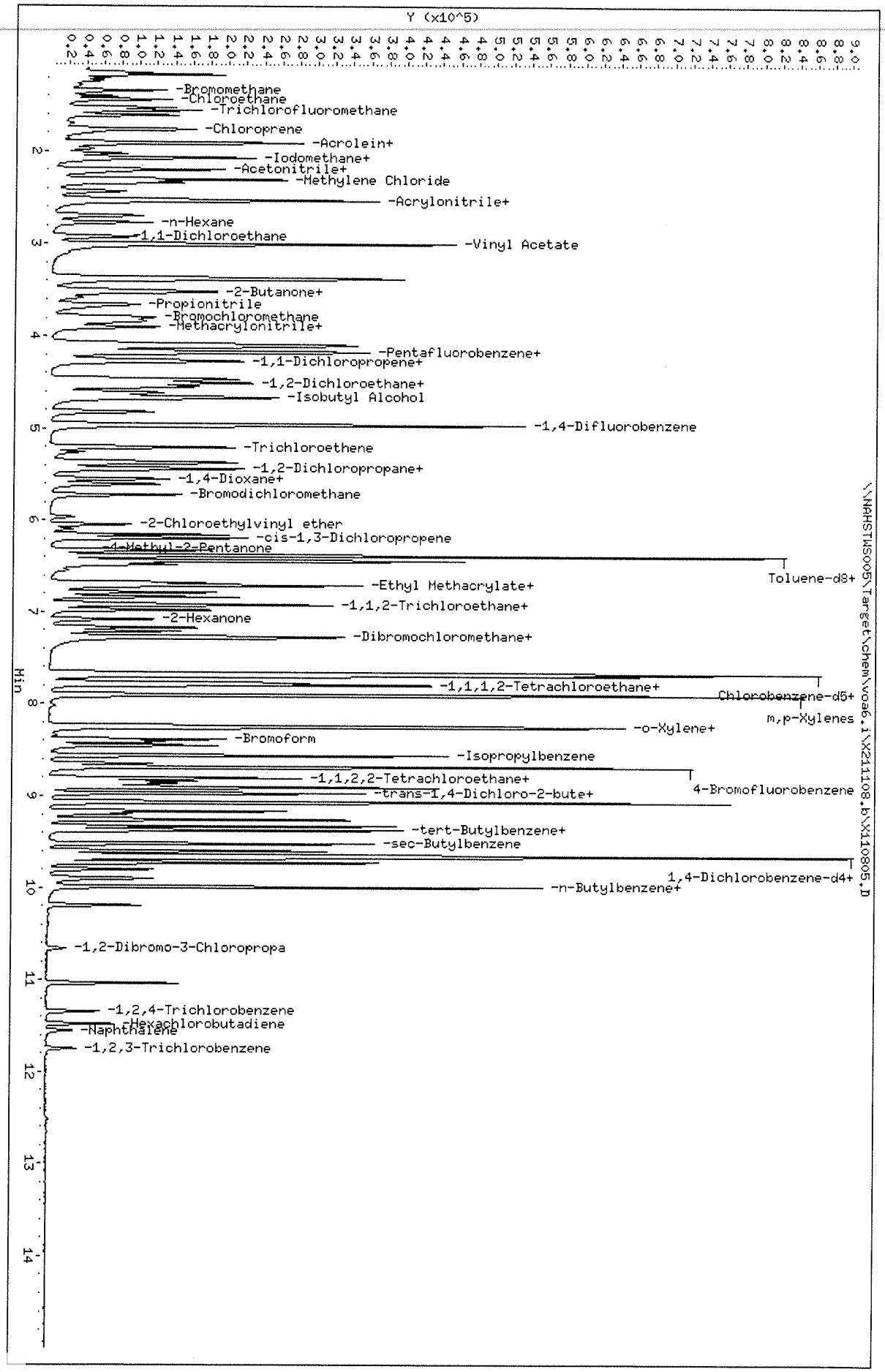
ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X211108.b\X110805.D
Lab Smp Id: VLCSW-211108 Client Smp ID: VLCSW-211108
Inj Date : 08-NOV-2021 12:52
Operator : PC Inst ID: voa6.i
Smp Info : VLCSW-211108;VLCSW-211108;3;;LCS
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X211108.b\8260W.m
Meth Date : 18-Nov-2021 15:44 voa6.i Quant Type: ISTD
Cal Date : 08-OCT-2021 15:34 Cal File: X100808.D
Als bottle: 5 QC Sample: LCS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 01474-dod.sub
Target Version: 4.14
Processing Host: NAHSTW7017

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

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

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	329315	50.0000	
$ 30 Dibromofluoromethane	113	4.096	4.096	(0.979)	163060	50.4527	50.45
$ 35 1,2-Dichloroethane-d4	65	4.469	4.469	(1.068)	157321	47.9329	47.93
* 36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	470524	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	446917	50.0000	
$ 48 Toluene-d8	98	6.381	6.388	(0.832)	511792	45.1242	45.12
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	187647	48.0203	48.02
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	199219	50.0000	
5 Vinyl Chloride	62	1.145	1.145	(0.274)	59396	17.2028	17.20
11 1,1-Dichloroethene	96	1.912	1.912	(0.457)	51360	17.4839	17.48
17 Methylene Chloride	84	2.306	2.305	(0.551)	61533	20.6973	20.69
27 cis-1,2-Dichloroethene	96	3.523	3.523	(0.842)	67726	19.7814	19.78
33 1,2-Dichloroethane	62	4.555	4.555	(0.918)	76439	19.3667	19.36
38 Trichloroethene	130	5.207	5.207	(1.049)	72428	20.3499	20.34
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	46336	19.4299	19.42



Data File: \\NAHSTWS005\Target\chem\voa6.i\X211108.b\X110805.D
Date : 08-NOV-2021 12:52
Client ID: VLCSW-211108
Sample Info: VLCSW-211108;VLCSW-211108;3;;LCS
Purge Volume: 5.0
Column phase: DB624

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

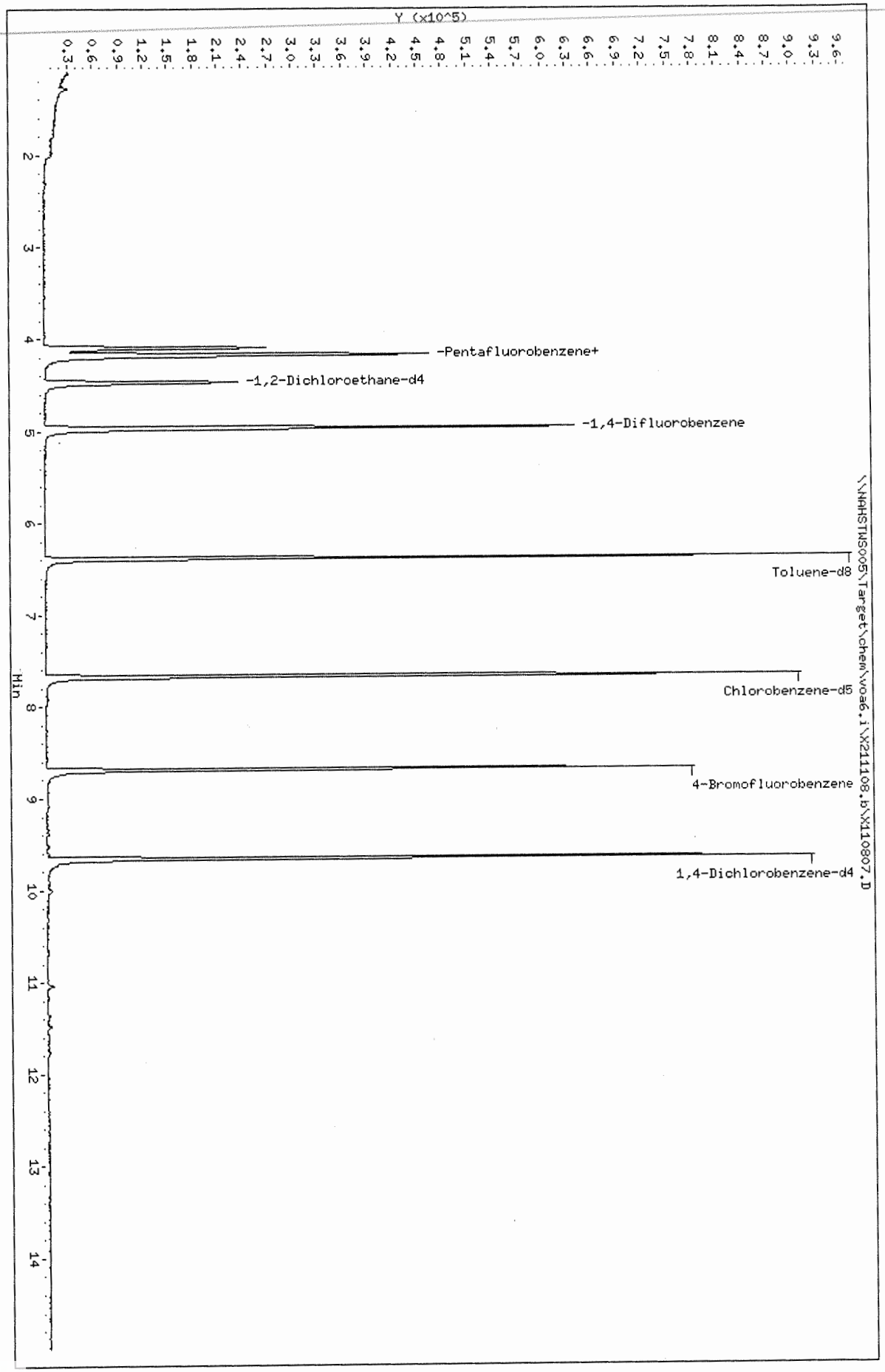
ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X211108.b\X110807.D
Lab Smp Id: VBLKW-211108 Client Smp ID: VBLKW-211108
Inj Date : 08-NOV-2021 13:34
Operator : PC Inst ID: voa6.i
Smp Info : VBLKW-211108;VBLKW-211108;3;;BLANK
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X211108.b\8260W.m
Meth Date : 18-Nov-2021 15:44 voa6.i Quant Type: ISTD
Cal Date : 08-OCT-2021 15:34 Cal File: X100808.D
Als bottle: 7 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 01474-dod.sub
Target Version: 4.14
Processing Host: NAHSTW7017

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

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

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	421492	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.096	(0.981)	189362	45.6718	45.67
$ 35 1,2-Dichloroethane-d4	65	4.469	4.469	(1.069)	172849	40.8589	40.85
* 36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	569420	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	503369	50.0000	
$ 48 Toluene-d8	98	6.381	6.388	(0.832)	614324	48.0899	48.08
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	210724	47.8741	47.87
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	238406	50.0000	


Data File: \\NAHSTWS005\Target\chem\voa6.i\X211108.b\X110807.D
Date : 08-NOV-2021 13:34
Client ID: VBLKW-211108
Sample Info: VBLKW-211108;VBLKW-211108;3;;BLANK
Purge Volume: 5.0
Column phase: DB624
Instrument: voa6.i
Operator: PC
Column diameter: 0.18
Y (x10^5)
Min
-Pentafluorobenzene+
-1,2-Dichloroethane-d4
-1,4-Difluorobenzene
Toluene-d8
Chlorobenzene-d5
4-Bromofluorobenzene
1,4-Dichlorobenzene-d4
\\NAHSTWS005\Target\chem\voa6.i\X211108.b\X110807.D

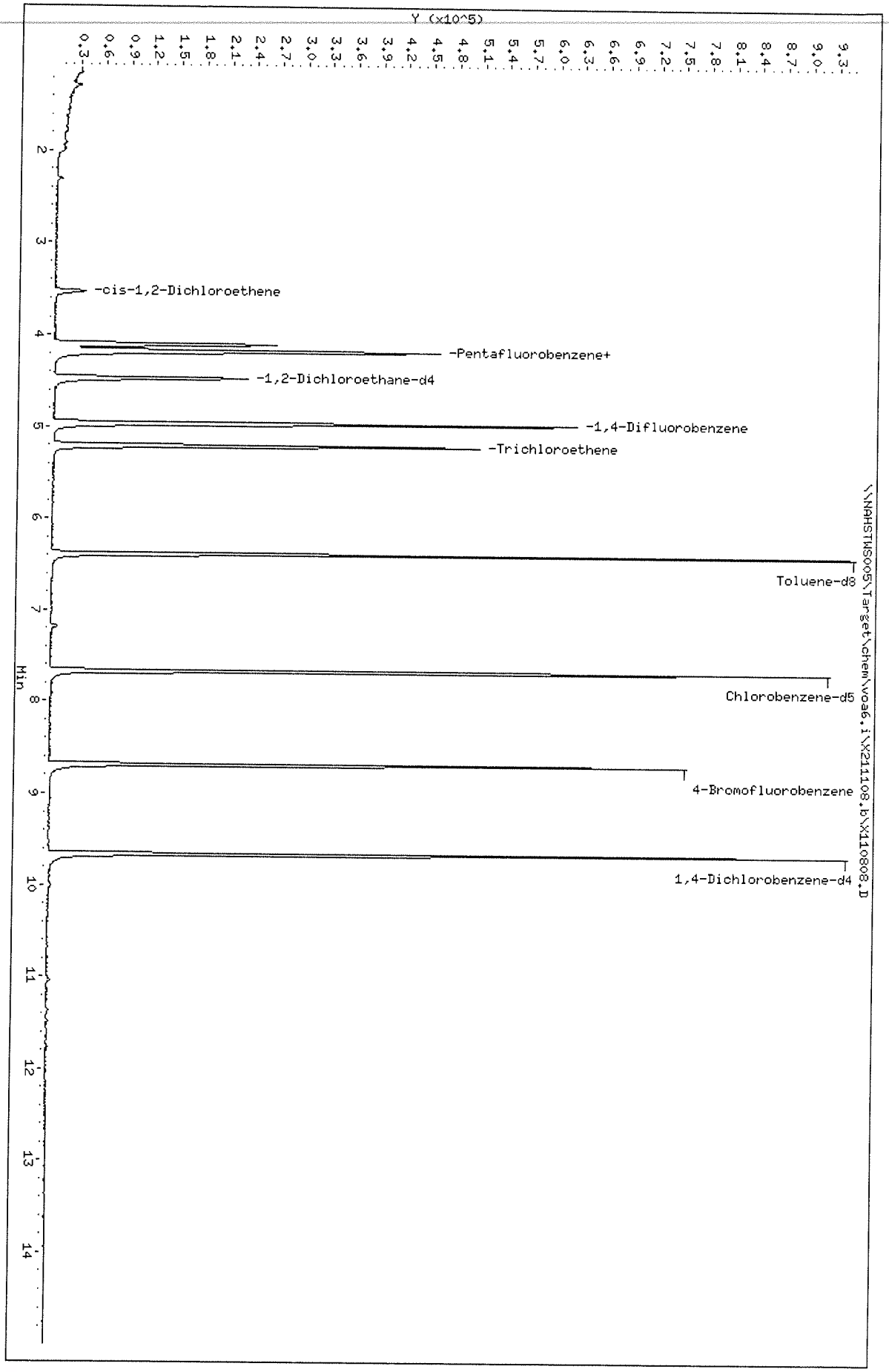
ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X211108.b\X110808.D
Lab Smp Id: HS21101554-07 Client Smp ID: HS21101554-07
Inj Date : 08-NOV-2021 13:56
Operator : PC Inst ID: voa6.i
Smp Info : HS21101554-07;HS21101554-07;;;
Misc Info : HS18090001;WATER;0;5;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X211108.b\8260W.m
Meth Date : 18-Nov-2021 15:36 kori.bagsb Quant Type: ISTD
Cal Date : 08-OCT-2021 15:34 Cal File: X100808.D
Als bottle: 8
Dil Factor: 5.00000
Integrator: HP RTE Compound Sublist: 01474-dod.sub
Target Version: 4.14
Processing Host: NAHSTW7017

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

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

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	413844	50.0000	
$ 30 Dibromofluoromethane	113	4.096	4.096	(0.979)	182650	44.8470	44.84
$ 35 1,2-Dichloroethane-d4	65	4.469	4.476	(1.068)	176968	42.6926	42.69
* 36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	552535	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	498646	50.0000	
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	605813	47.8728	47.87
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	212189	48.6861	48.68
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	243528	50.0000	
27 cis-1,2-Dichloroethene	96	3.530	3.523	(0.844)	21861	5.08096	25.40
38 Trichloroethene	130	5.207	5.206	(1.049)	177403	42.4462	212.23



Data File: \\NAHSTWS005\Target\chem\voa6,i\X211108,b\X110808,D
Date : 08-NOV-2021 13:56
Client ID: HS21101554-07
Sample Info: HS21101554-07;HS21101554-07;;;
Purge Volume: 5.0
Column phase: DB624

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

Data File: \\NAHSTWS005\Target\chem\voa6.i\X211108.b\X110808.D

Date : 08-NOV-2021 13:56

Client ID: HS21101554-07

Instrument: voa6.i

Sample Info: HS21101554-07;HS21101554-07;;;

Purge Volume: 5.0

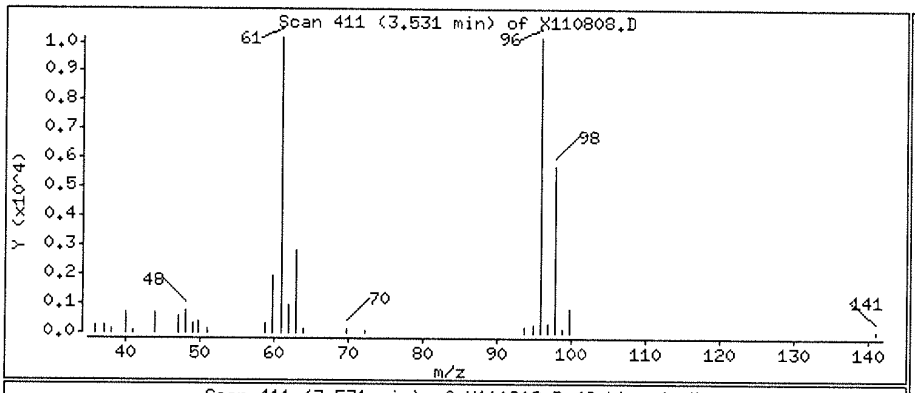
Operator: PC

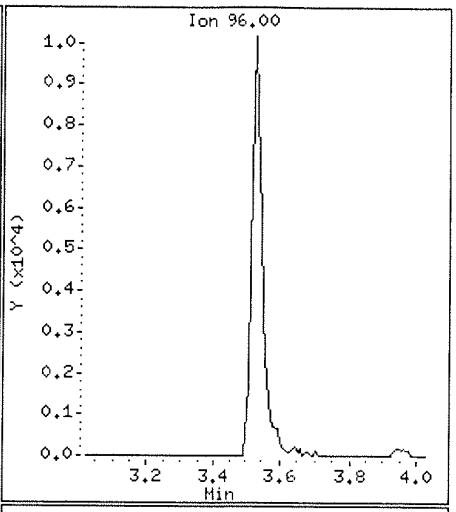
Column phase: DB624

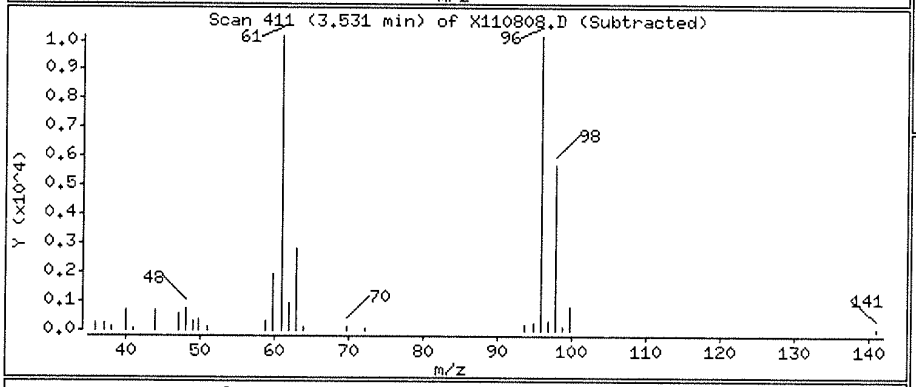
Column diameter: 0.18

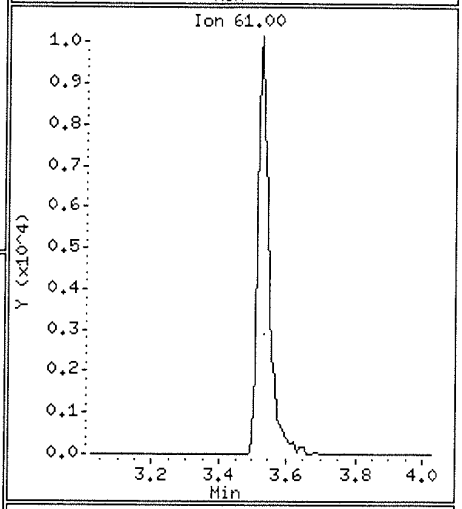
27 cis-1,2-Dichloroethene

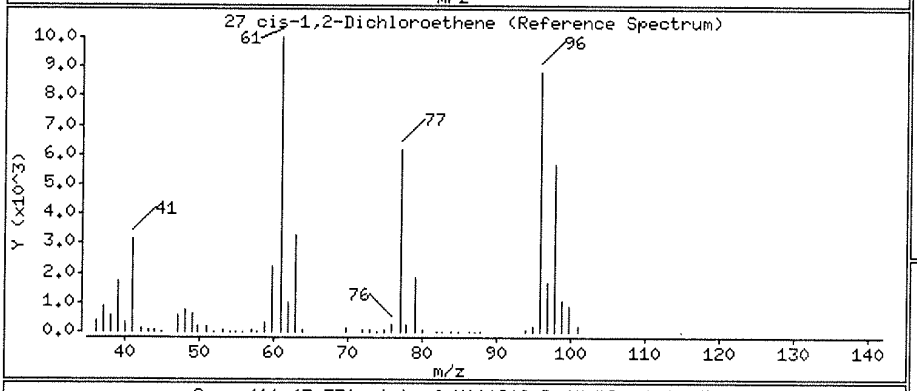
Concentration: 25.40 ug/l

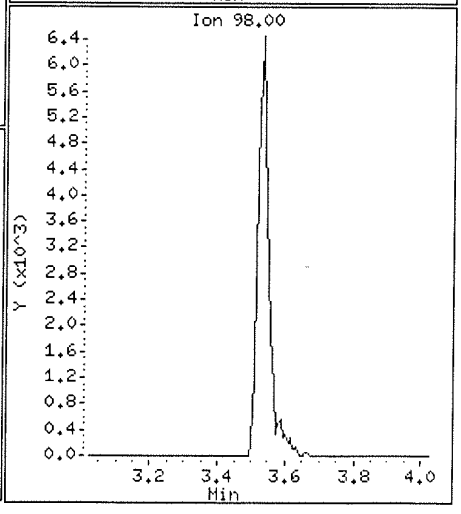


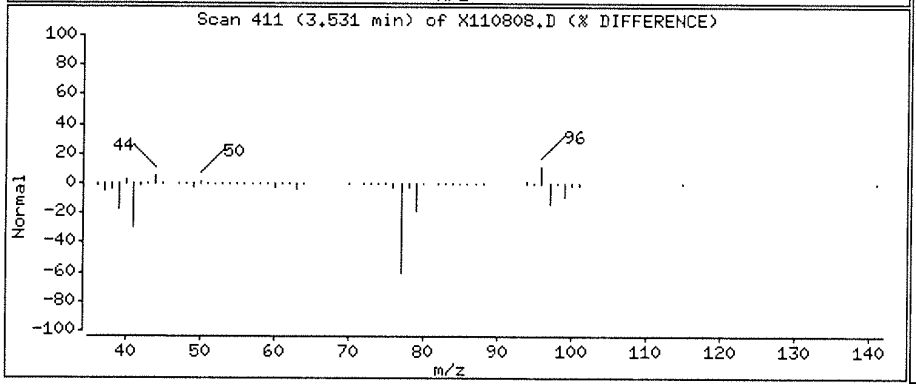












Data File: \\NAHSTWS005\Target\chem\voa6.i\X211108.b\X110808.D

Date : 08-NOV-2021 13:56

Client ID: HS21101554-07

Instrument: voa6.i

Sample Info: HS21101554-07;HS21101554-07;;;

Purge Volume: 5.0

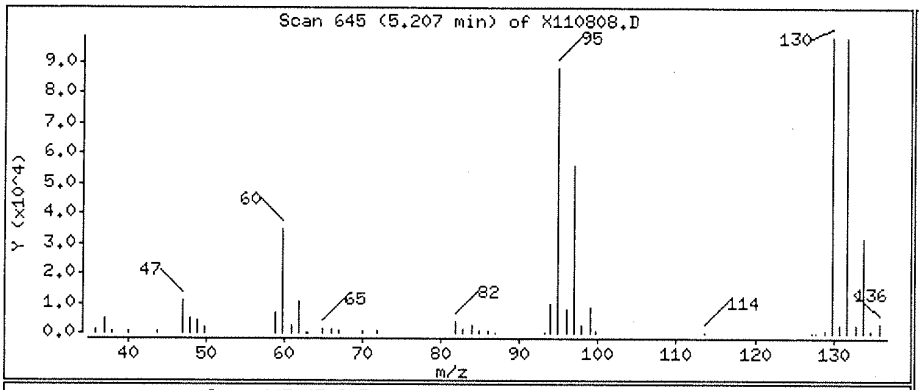
Operator: PC

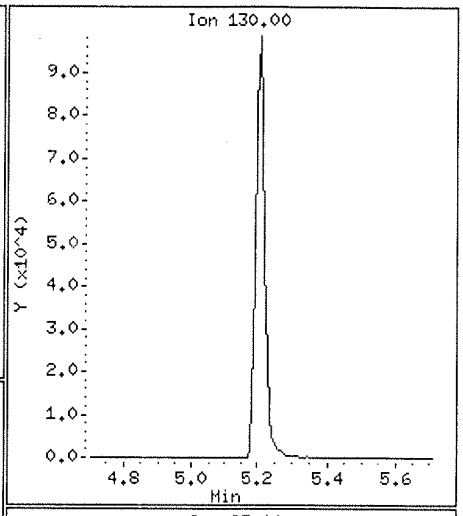
Column phase: DB624

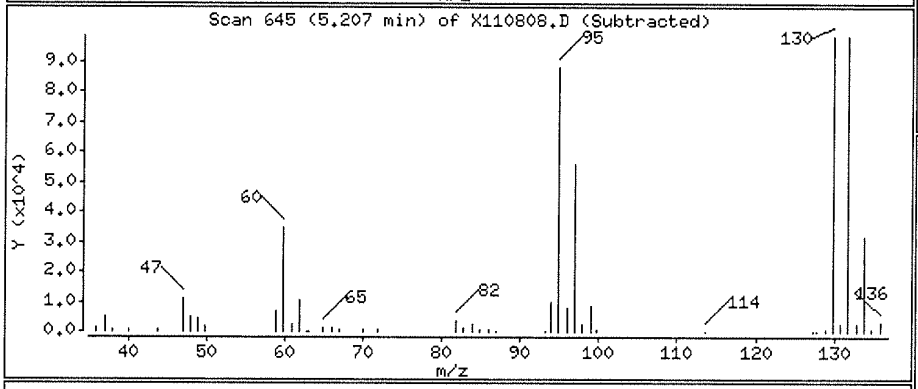
Column diameter: 0.18

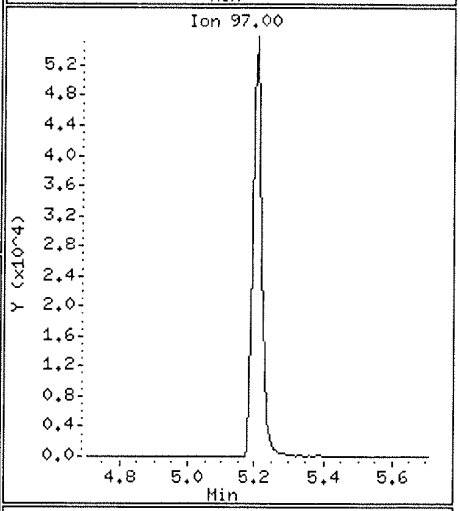
38 Trichloroethene

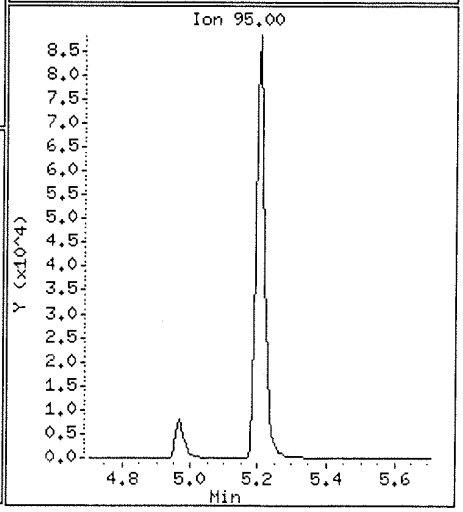
Concentration: 212.23 ug/l











ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X211108.b\X110810.D
Lab Smp Id: HS21101554-13 Client Smp ID: HS21101554-13
Inj Date : 08-NOV-2021 14:38
Operator : PC Inst ID: voa6.i
Smp Info : HS21101554-13;HS21101554-13;;;
Misc Info : HS18090001;WATER;0;5;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X211108.b\8260W.m
Meth Date : 18-Nov-2021 15:36 kori.bagsb Quant Type: ISTD
Cal Date : 08-OCT-2021 15:34 Cal File: X100808.D
Als bottle: 10
Dil Factor: 5.00000
Integrator: HP RTE Compound Sublist: 01474-dod.sub
Target Version: 4.14
Processing Host: NAHSTW7017

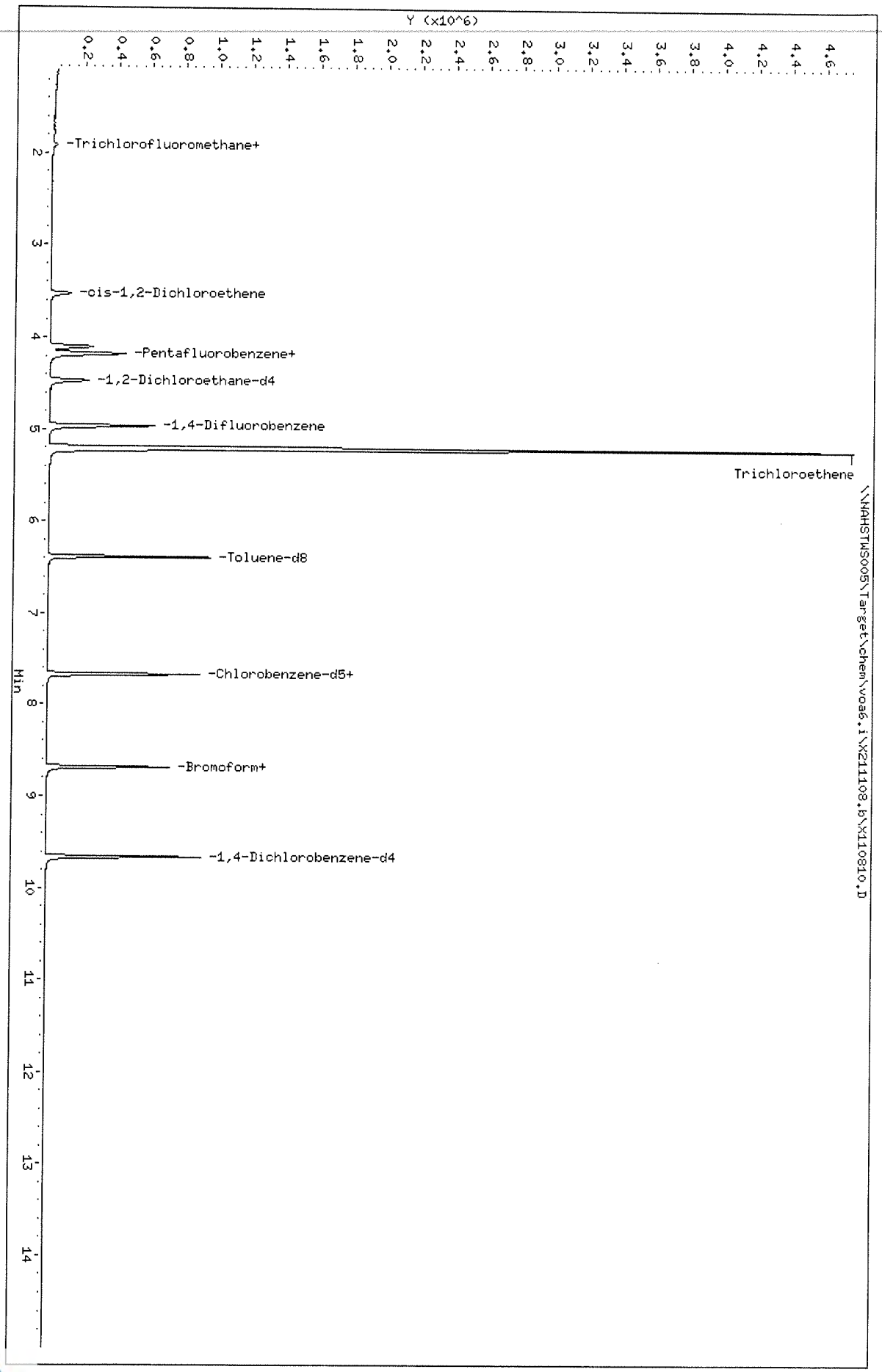
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

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

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	404564	50.0000	
$ 30 Dibromofluoromethane	113	4.096	4.096	(0.979)	183021	45.9974	45.99
$ 35 1,2-Dichloroethane-d4	65	4.469	4.476	(1.069)	174907	43.1857	43.18
* 36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	561510	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	493942	50.0000	
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	600708	47.9215	47.92
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	204320	47.2889	47.28
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	242692	50.0000	
5 Vinyl Chloride	62	1.145	1.145	(0.274)	1956	0.46114	2.30(a)
27 cis-1,2-Dichloroethene	96	3.530	3.523	(0.844)	68129	16.1978	80.98
38 Trichloroethene	130	5.207	5.206	(1.049)	1656861	390.091	1950.45(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.



Data File: \\NAHSTWS005\Target\chem\voa6.i\X211108.b\X110810.D
Date : 08-NOV-2021 14:38
Client ID: HS21101554-13
Sample Info: HS21101554-13;HS21101554-13;;;
Purge Volume: 5.0
Column phase: DB624

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

Data File: \\NAHSTWS005\Target\chem\voa6.i\X211108.b\X110810.D

Date : 08-NOV-2021 14:38

Client ID: HS21101554-13

Instrument: voa6.i

Sample Info: HS21101554-13;HS21101554-13;;;

Purge Volume: 5.0

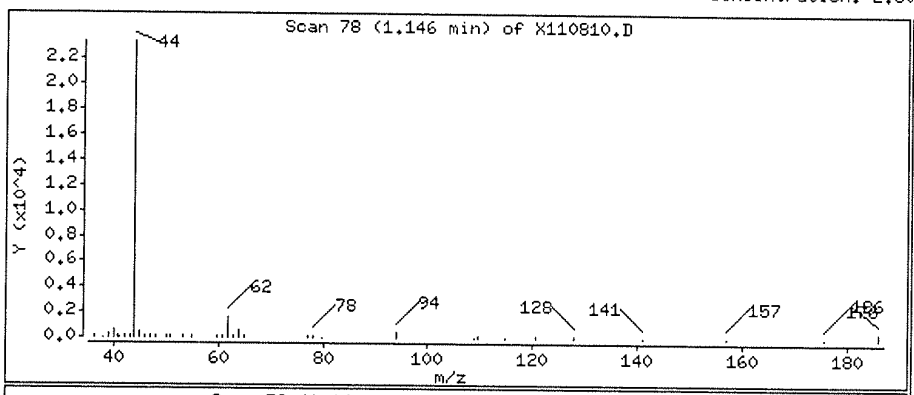
Operator: PC

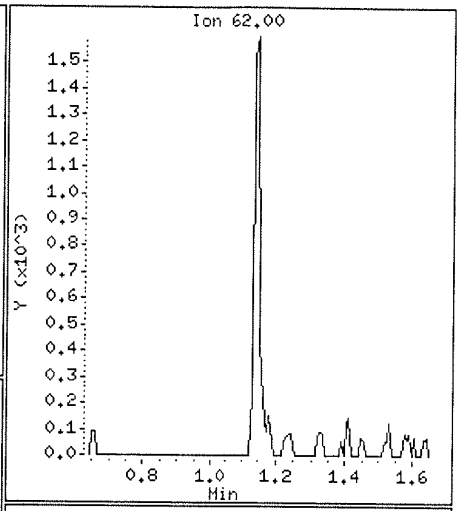
Column phase: DB624

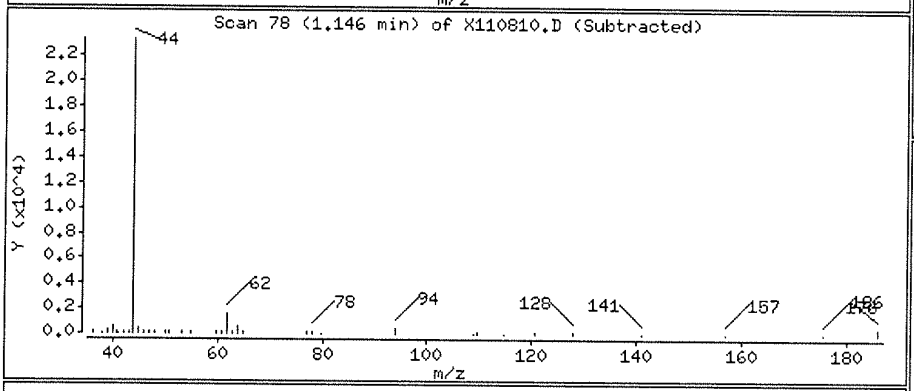
Column diameter: 0.18

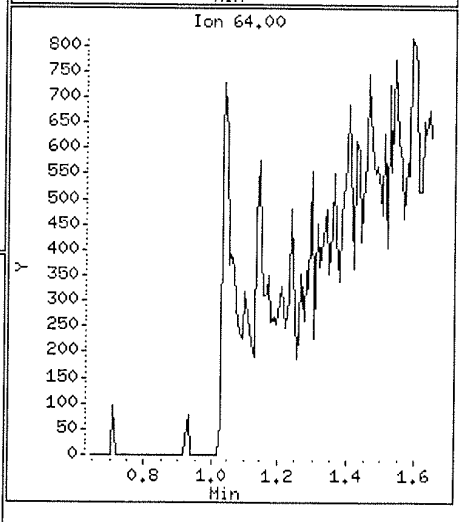
5 Vinyl Chloride

Concentration: 2.30 ug/l









Data File: \\NAHSTWS005\Target\chem\voa6.i\X211108.b\X110810.D

Date : 08-NOV-2021 14:38

Client ID: HS21101554-13

Instrument: voa6.i

Sample Info: HS21101554-13;HS21101554-13;;;

Purge Volume: 5.0

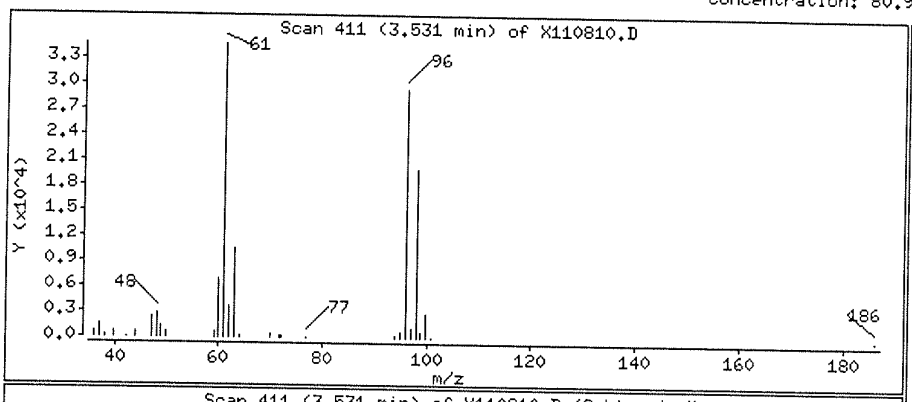
Operator: PC

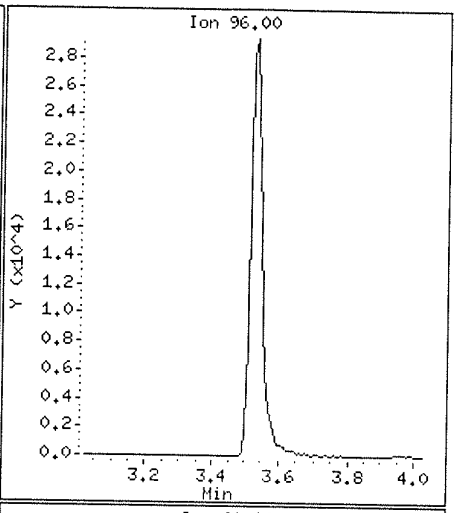
Column phase: DB624

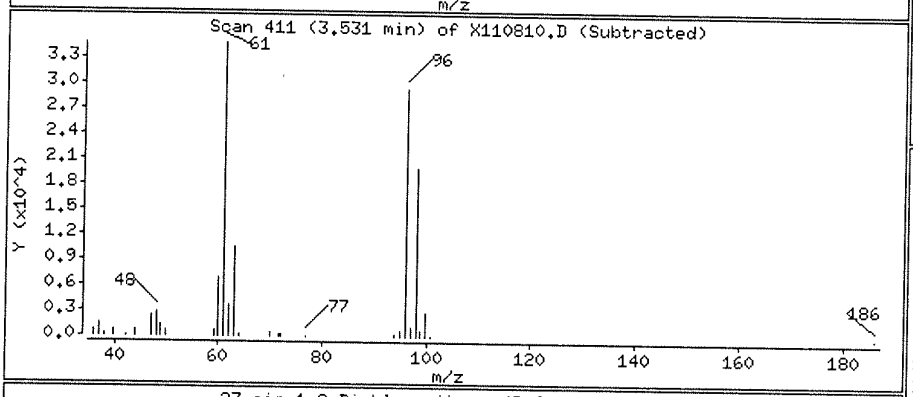
Column diameter: 0.18

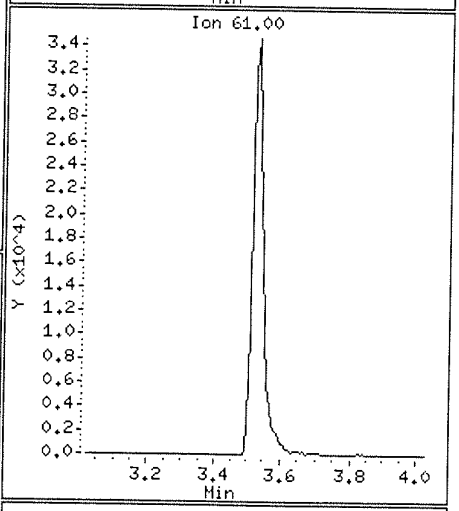
27 cis-1,2-Dichloroethene

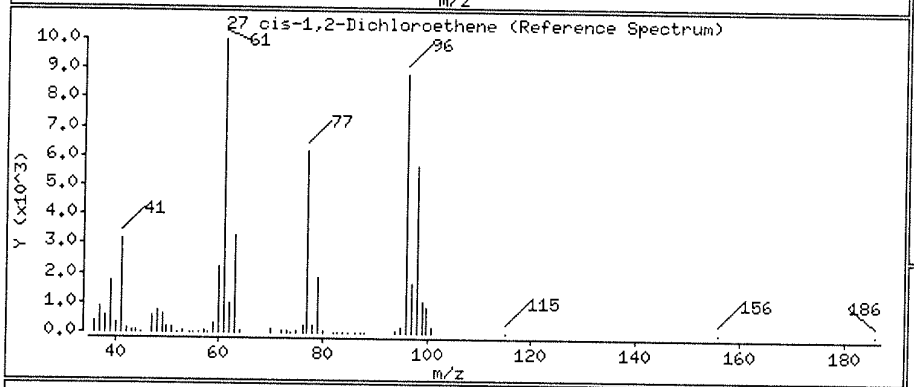
Concentration: 80.98 ug/l

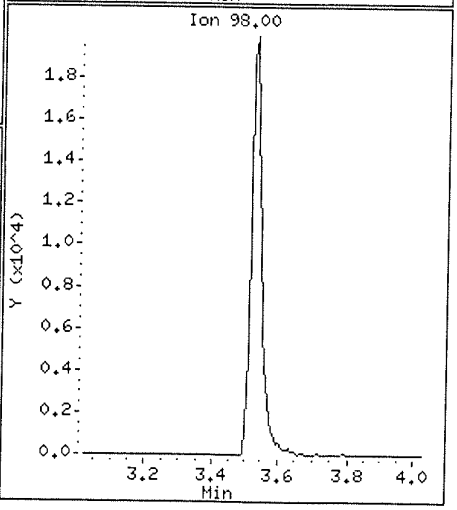


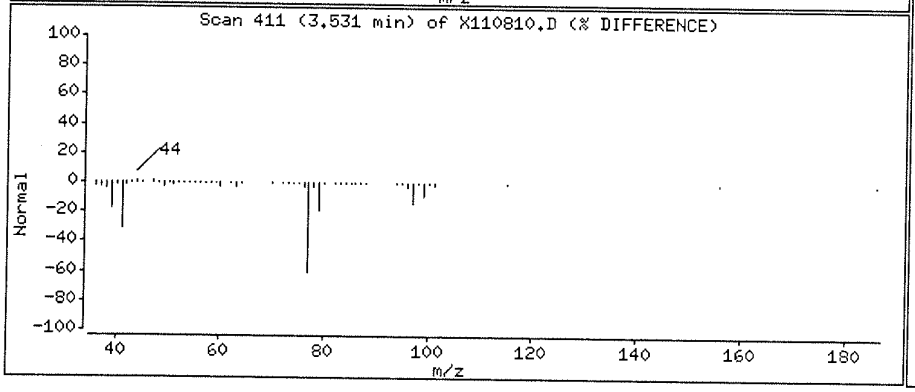












Data File: \\NAHSTWS005\Target\chem\voa6.i\X211108.b\X110810.D

Date : 08-NOV-2021 14:38

Client ID: HS21101554-13

Instrument: voa6.i

Sample Info: HS21101554-13;HS21101554-13;;;

Purge Volume: 5.0

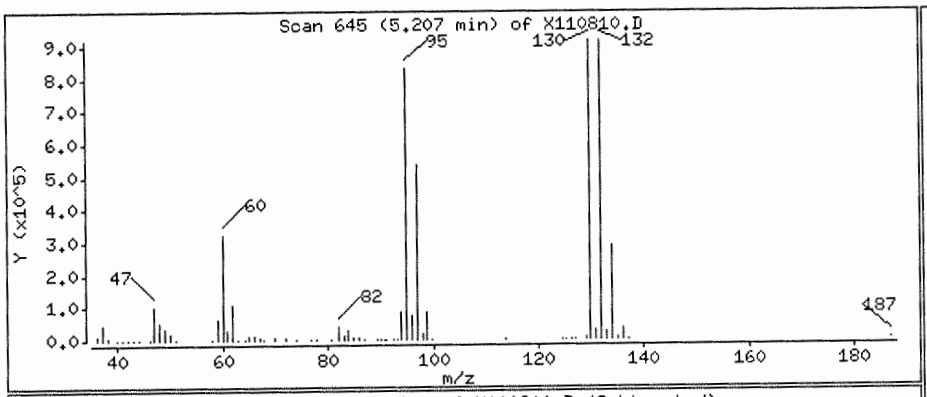
Operator: PC

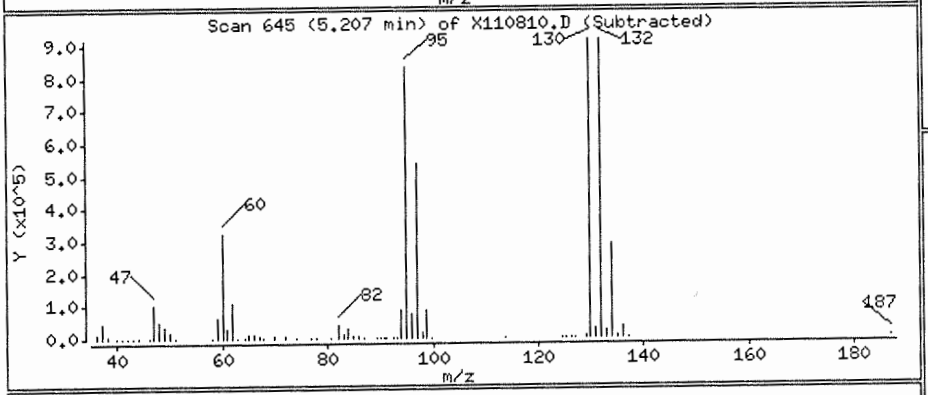
Column phase: DB624

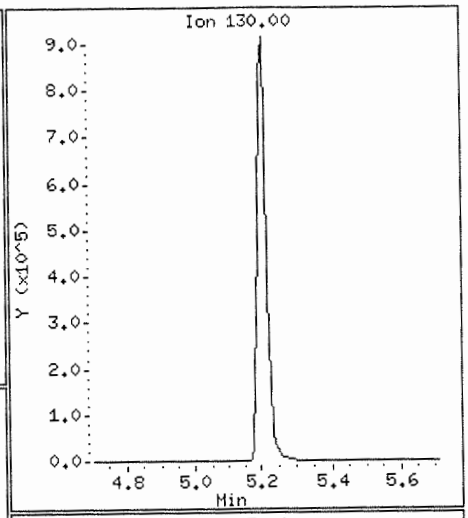
Column diameter: 0.18

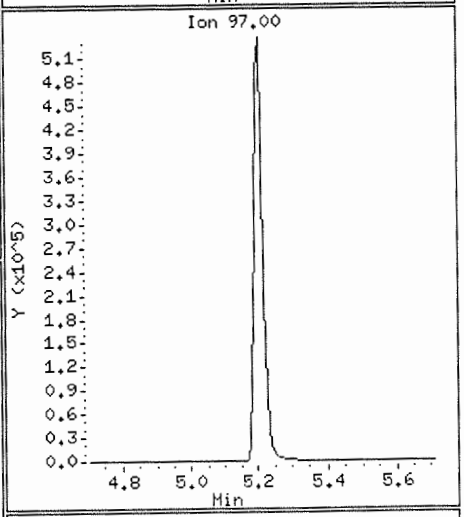
38 Trichloroethene

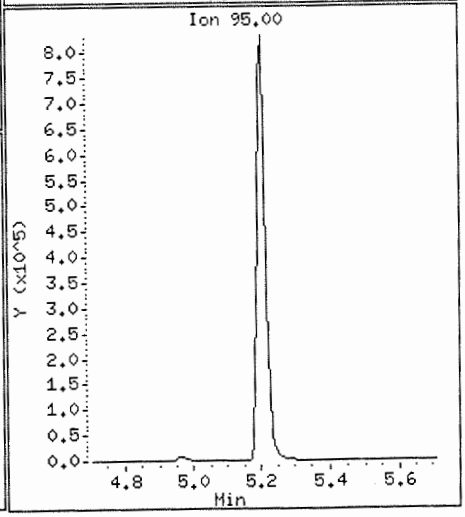
Concentration: 1950.45 ug/l











ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X211108.b\X110811.D
Lab Smp Id: HS21101554-14 Client Smp ID: HS21101554-14
Inj Date : 08-NOV-2021 14:59
Operator : PC Inst ID: voa6.i
Smp Info : HS21101554-14;HS21101554-14;;;
Misc Info : HS18090001;WATER;0;5;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X211108.b\8260W.m
Meth Date : 18-Nov-2021 15:36 kori.bagsb Quant Type: ISTD
Cal Date : 08-OCT-2021 15:34 Cal File: X100808.D
Als bottle: 11
Dil Factor: 5.00000
Integrator: HP RTE Compound Sublist: 01474-dod.sub
Target Version: 4.14
Processing Host: NAHSTW7017

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

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

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	412436	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.096	(0.981)	184623	45.5025	45.50
$ 35 1,2-Dichloroethane-d4	65	4.469	4.476	(1.069)	176081	42.6203	42.62
* 36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	557520	50.0000	
* 47 Chlorobenzene-d5	117	7.670	7.671	(1.000)	502796	50.0000	
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	604113	47.3444	47.34
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	205613	46.7345	46.73
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	244229	50.0000	
5 Vinyl Chloride	62	1.145	1.145	(0.274)	8931	2.06537	10.32(a)
27 cis-1,2-Dichloroethene	96	3.523	3.523	(0.842)	581997	135.730	678.65
38 Trichloroethene	130	5.206	5.206	(1.049)	2116385	501.848	2509.23(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.

Data File: \\NAHSTWS005\Target\chem\voa6.i\X211108.b\X110811.D

Date : 08-NOV-2021 14:59

Client ID: HS21101554-14

Instrument: voa6.i

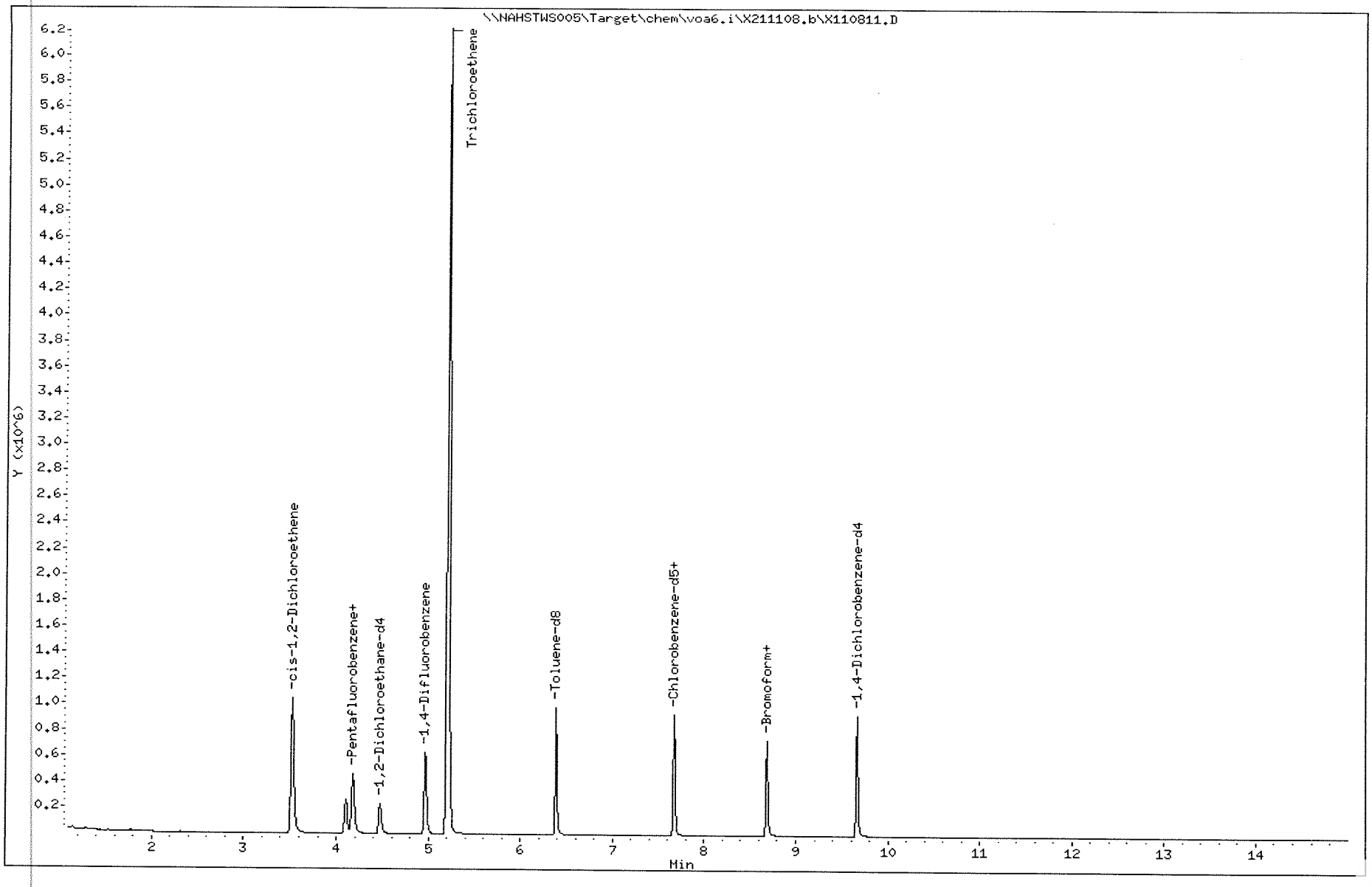
Sample Info: HS21101554-14;HS21101554-14;;;

Purge Volume: 5.0

Operator: PC

Column phase: DB624

Column diameter: 0.18



Data File: \\NAHSTWS005\Target\chem\voa6.i\X211108.b\X110811.D

Date : 08-NOV-2021 14:59

Client ID: HS21101554-14

Instrument: voa6.i

Sample Info: HS21101554-14;HS21101554-14;;;

Purge Volume: 5.0

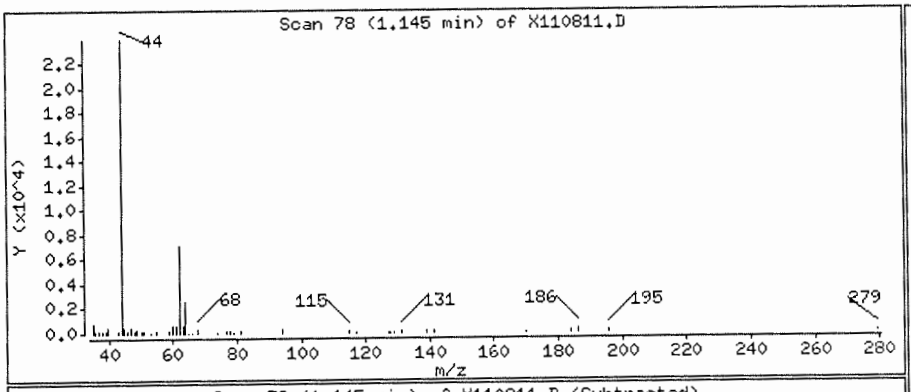
Operator: PC

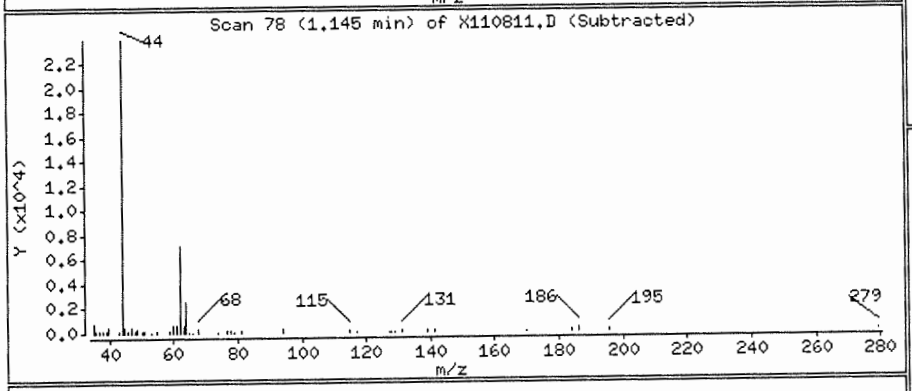
Column phase: DB624

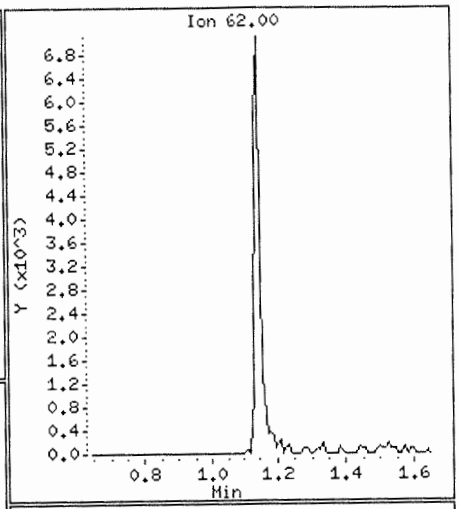
Column diameter: 0.18

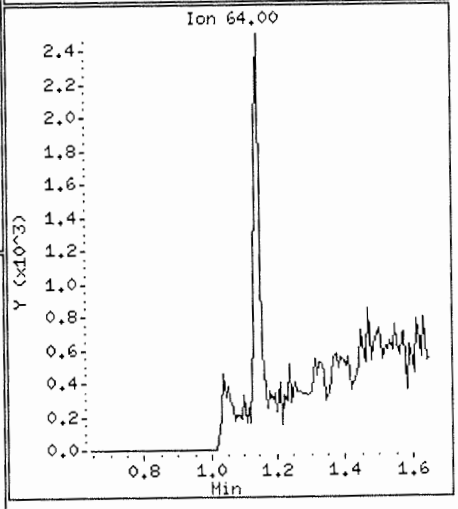
5 Vinyl Chloride

Concentration: 10.32 ug/l









Data File: \\NAHSTWS005\Target\chem\voa6.i\X211108.b\X110811.D

Date : 08-NOV-2021 14:59

Client ID: HS21101554-14

Instrument: voa6.i

Sample Info: HS21101554-14;HS21101554-14;;;

Purge Volume: 5.0

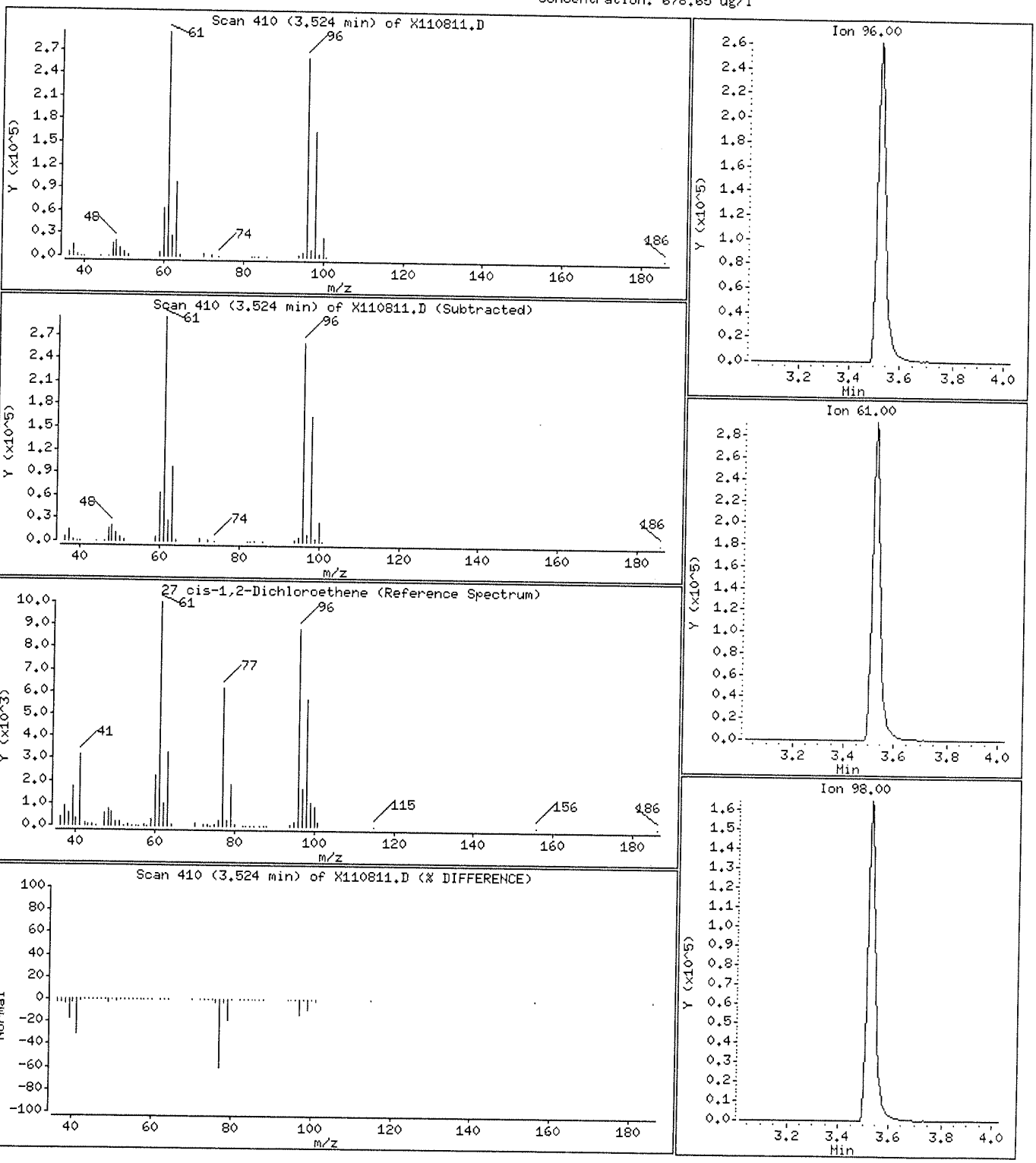
Operator: PC

Column phase: DB624

Column diameter: 0.18

27 cis-1,2-Dichloroethene

Concentration: 678.65 ug/l



Data File: \\NAHSTWS005\Target\chem\voa6.i\X211108.b\X110811.D

Date : 08-NOV-2021 14:59

Client ID: HS21101554-14

Instrument: voa6.i

Sample Info: HS21101554-14;HS21101554-14;;;

Purge Volume: 5.0

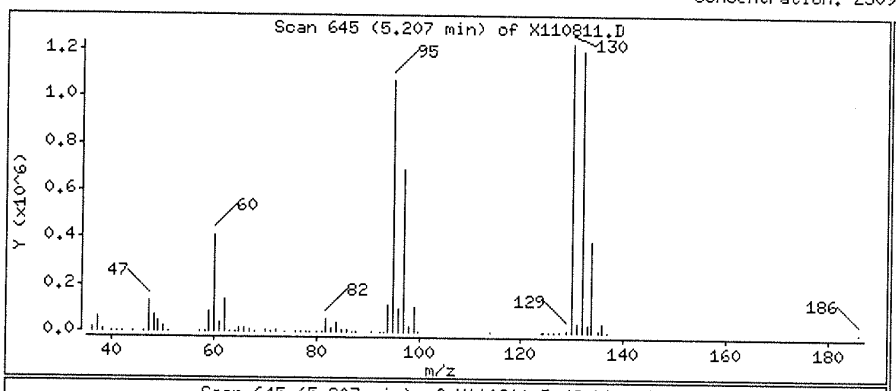
Operator: PC

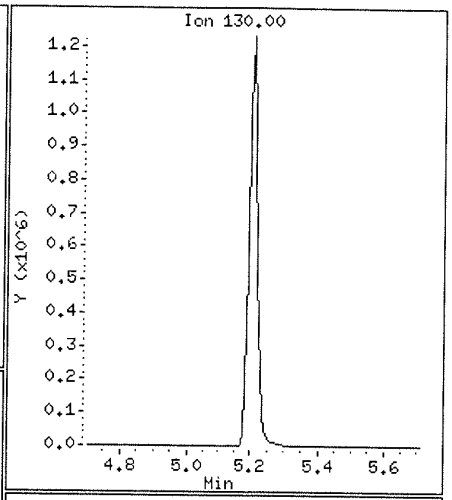
Column phase: DB624

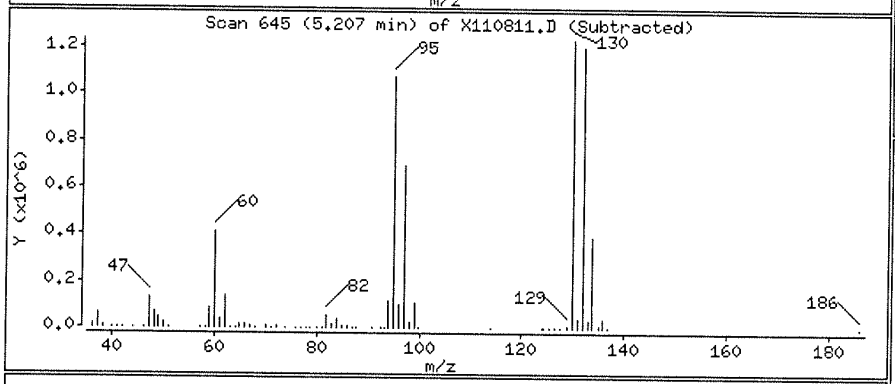
Column diameter: 0.18

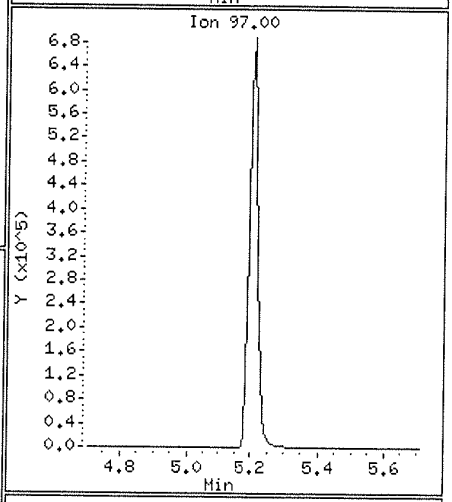
38 Trichloroethene

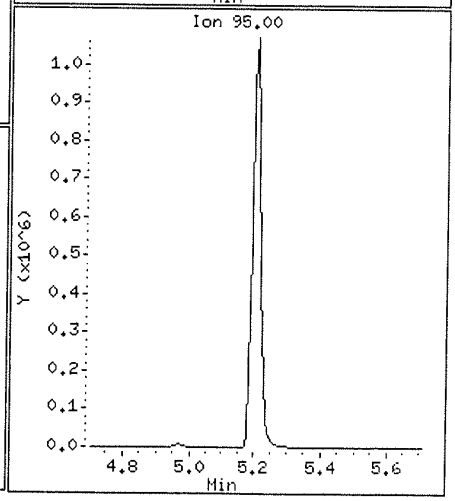
Concentration: 2509.23 ug/l











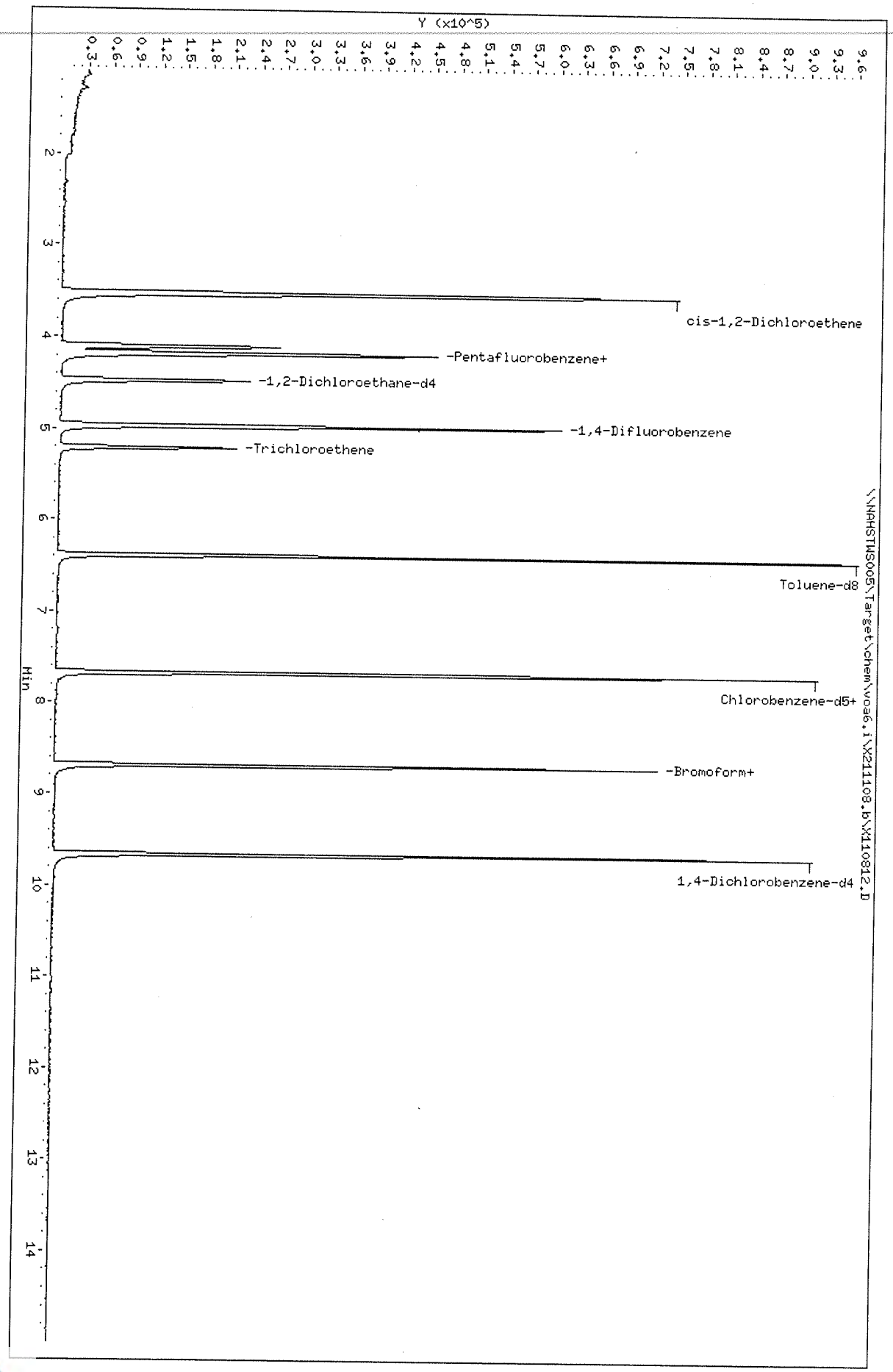
ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X211108.b\X110812.D
Lab Smp Id: HS21101554-15 Client Smp ID: HS21101554-15
Inj Date : 08-NOV-2021 15:20
Operator : PC Inst ID: voa6.i
Smp Info : HS21101554-15;HS21101554-15;;;
Misc Info : HS18090001;WATER;0;10;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X211108.b\8260W.m
Meth Date : 18-Nov-2021 15:36 kori.bagsb Quant Type: ISTD
Cal Date : 08-OCT-2021 15:34 Cal File: X100808.D
Als bottle: 12
Dil Factor: 10.00000
Integrator: HP RTE Compound Sublist: 01474-dod.sub
Target Version: 4.14
Processing Host: NAHSTW7017

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

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

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
*	1 Pentafluorobenzene	168	4.182	4.182	(1.000)	407893	50.0000	
$	30 Dibromofluoromethane	113	4.096	4.096	(0.979)	184293	45.9377	45.93
$	35 1,2-Dichloroethane-d4	65	4.469	4.476	(1.069)	173515	42.4597	42.45
*	36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	543322	50.0000	
*	47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	485803	50.0000	
$	48 Toluene-d8	98	6.388	6.388	(0.833)	599627	48.6366	48.63
$	69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	202299	47.6147	47.61
*	70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	234764	50.0000	
	27 cis-1,2-Dichloroethene	96	3.523	3.523	(0.842)	414039	97.6354	976.35
	38 Trichloroethene	130	5.207	5.206	(1.049)	74512	18.1304	181.30



Data File: \\NAHSTWS005\Target\chem\voa6.i\X211108.b\X110812.D
Date : 08-NOV-2021 15:20
Client ID: HS211101554-15
Sample Info: HS211101554-15;HS211101554-15;;;
Purge Volume: 5.0
Column phase: DB624

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

Data File: \\NAHSTWS005\Target\chem\voa6.i\X211108.b\X110812.D

Date : 08-NOV-2021 15:20

Client ID: HS21101554-15

Instrument: voa6.i

Sample Info: HS21101554-15;HS21101554-15;;;

Purge Volume: 5.0

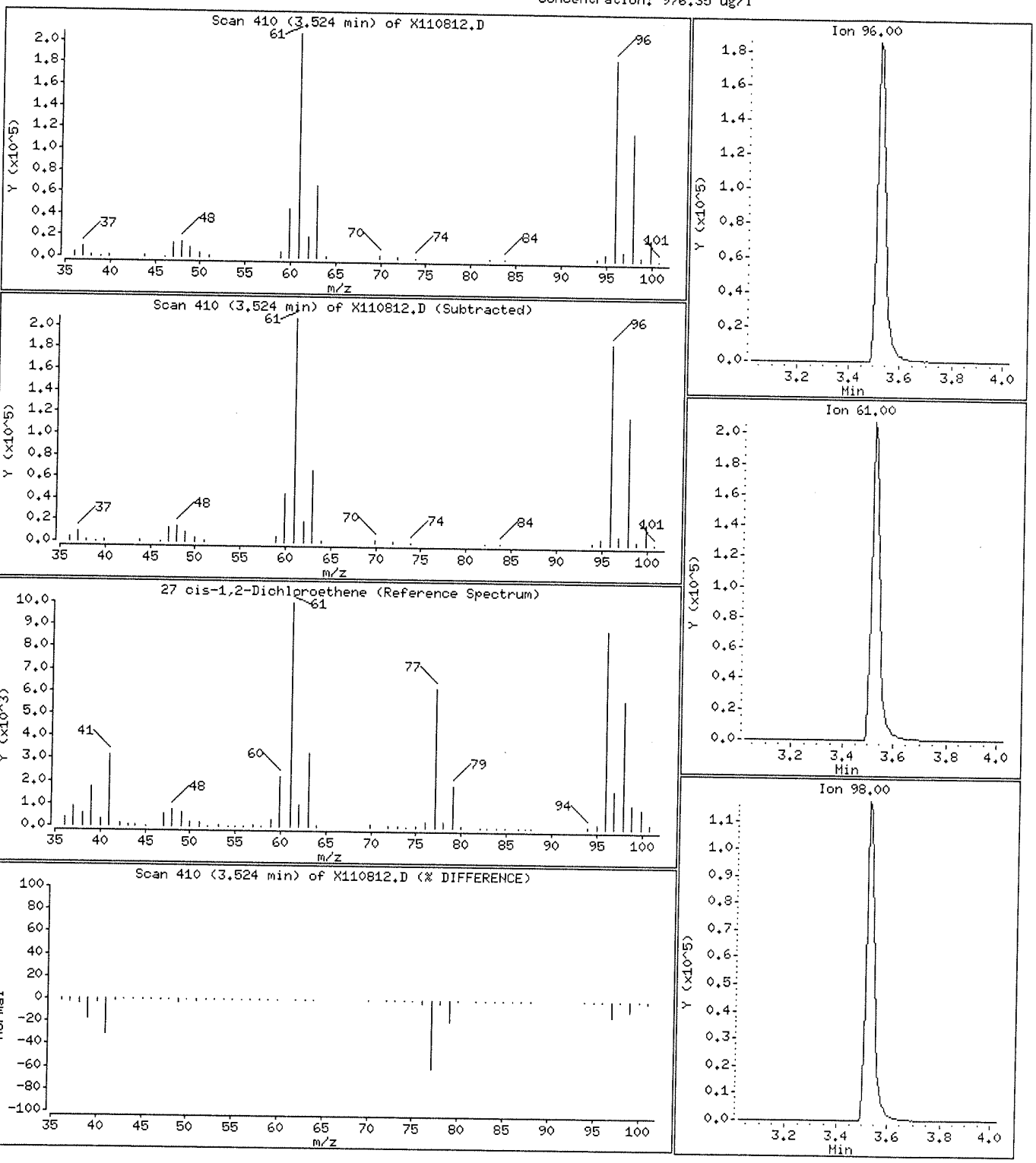
Operator: PC

Column phase: DB624

Column diameter: 0.18

27 cis-1,2-Dichloroethene

Concentration: 976.35 ug/l



Data File: \\NAHSTWS005\Target\chem\voa6.i\X211108.b\X110812.D

Date : 08-NOV-2021 15:20

Client ID: HS21101554-15

Instrument: voa6.i

Sample Info: HS21101554-15;HS21101554-15;;;

Purge Volume: 5.0

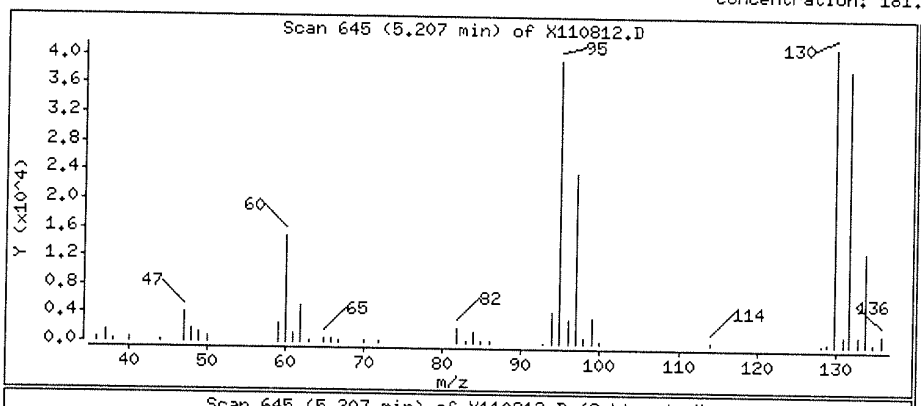
Operator: PC

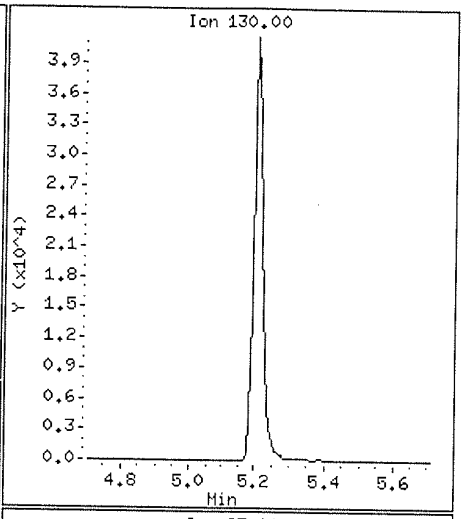
Column phase: DB624

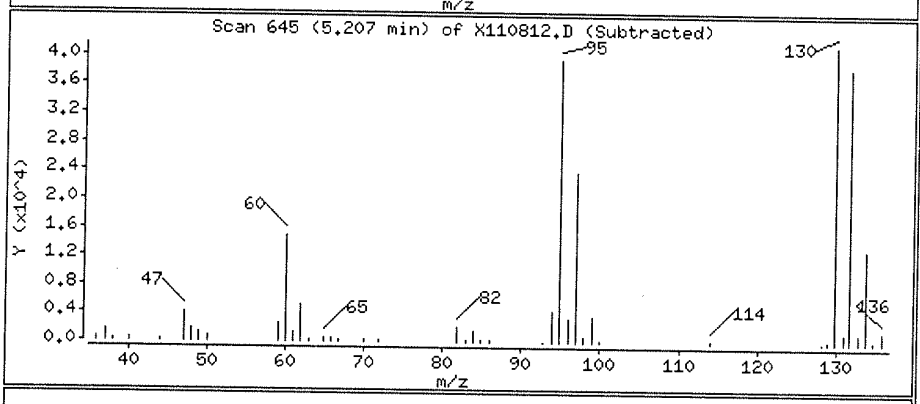
Column diameter: 0.18

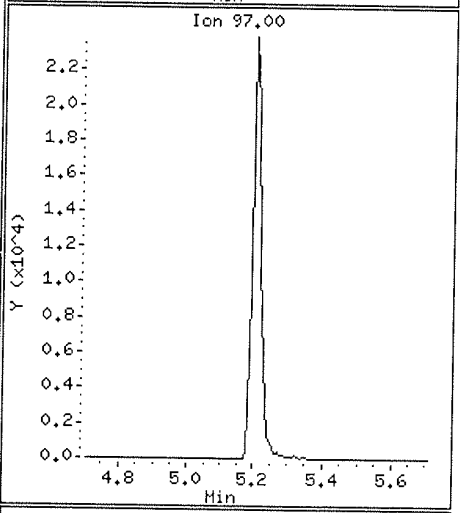
38 Trichloroethene

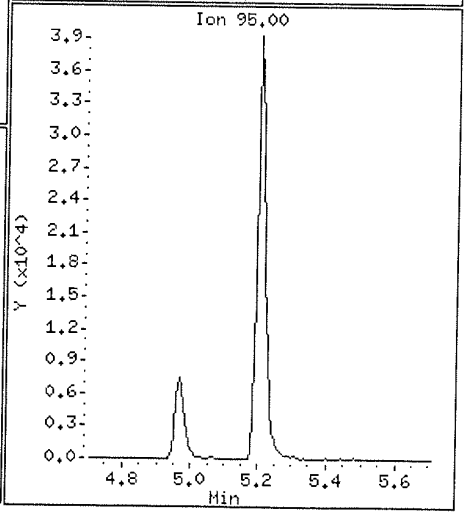
Concentration: 181.30 ug/l











ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X211108.b\X110813.D
Lab Smp Id: HS21101554-16 Client Smp ID: HS21101554-16
Inj Date : 08-NOV-2021 15:41
Operator : PC Inst ID: voa6.i
Smp Info : HS21101554-16;HS21101554-16;;;
Misc Info : HS18090001;WATER;0;5;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X211108.b\8260W.m
Meth Date : 18-Nov-2021 15:36 kori.bagsb Quant Type: ISTD
Cal Date : 08-OCT-2021 15:34 Cal File: X100808.D
Als bottle: 13
Dil Factor: 5.00000
Integrator: HP RTE Compound Sublist: 01474-dod.sub
Target Version: 4.14
Processing Host: NAHSTW7017

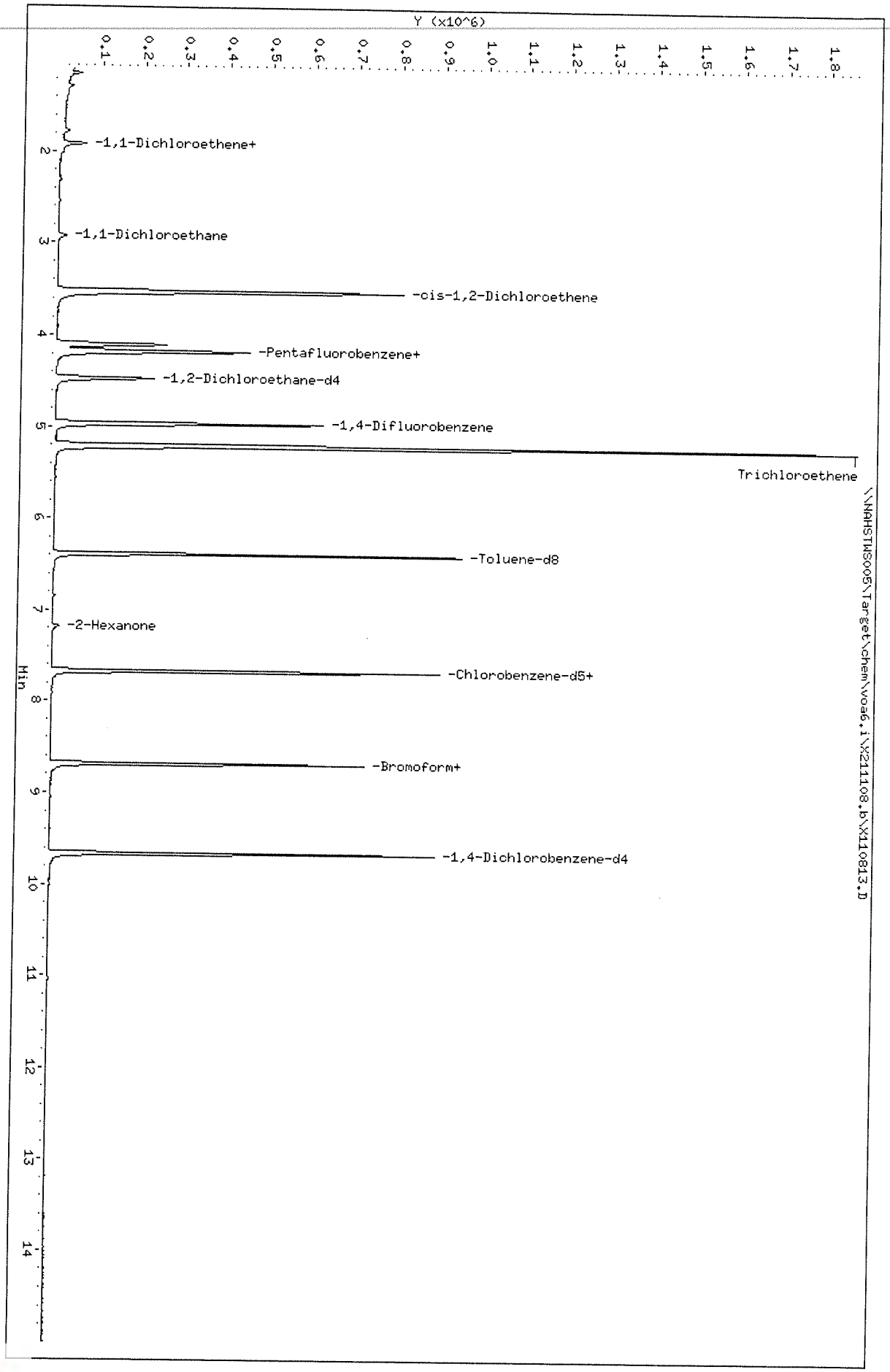
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

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

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	406221	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.096	(0.981)	183427	45.9093	45.90
$ 35 1,2-Dichloroethane-d4	65	4.469	4.476	(1.068)	171513	42.1273	42.12
* 36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	548610	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	483883	50.0000	
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	594519	48.4137	48.41
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	198842	46.9687	46.96
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	232851	50.0000	
5 Vinyl Chloride	62	1.145	1.145	(0.274)	19364	4.54660	22.73(a)
11 1,1-Dichloroethene	96	1.919	1.911	(0.459)	14718	4.06173	20.30(a)
27 cis-1,2-Dichloroethene	96	3.523	3.523	(0.842)	441095	104.444	522.21
38 Trichloroethene	130	5.207	5.206	(1.049)	637648	153.658	768.28

QC Flag Legend

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



Data File: \\NAHSTWS005\Target\chem\voa6.i\X211108.b\X110813.D
Date : 08-NOV-2021 15:41
Client ID: HS21101554-16
Sample Info: HS21101554-16;HS21101554-16;;;
Purge Volume: 5.0
Column phase: DB624

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

Data File: \\NAHSIWS005\Target\chem\voa6.i\X211108.b\X110813.D

Date : 08-NOV-2021 15:41

Client ID: HS21101554-16

Instrument: voa6.i

Sample Info: HS21101554-16;HS21101554-16;;;

Purge Volume: 5.0

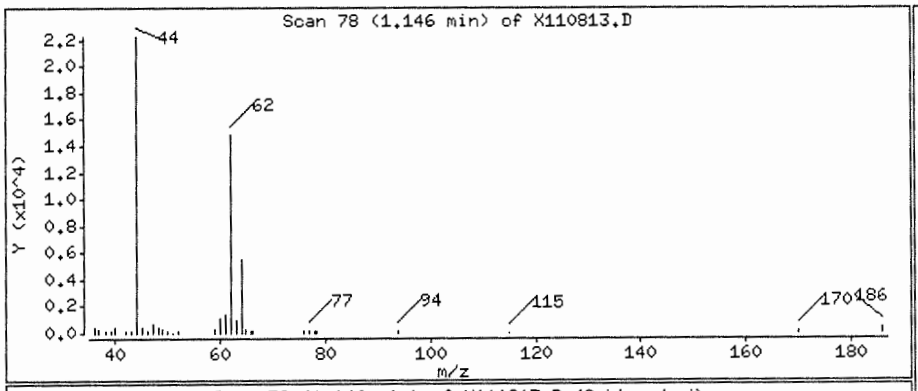
Operator: PC

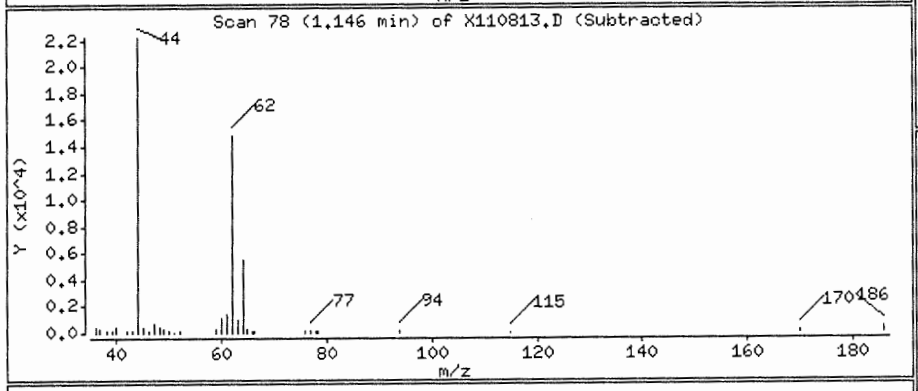
Column phase: DB624

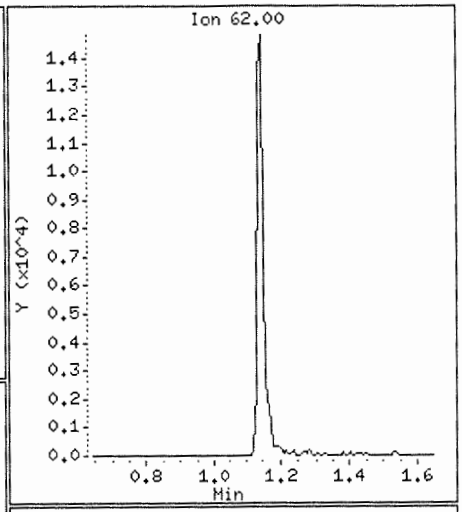
Column diameter: 0.18

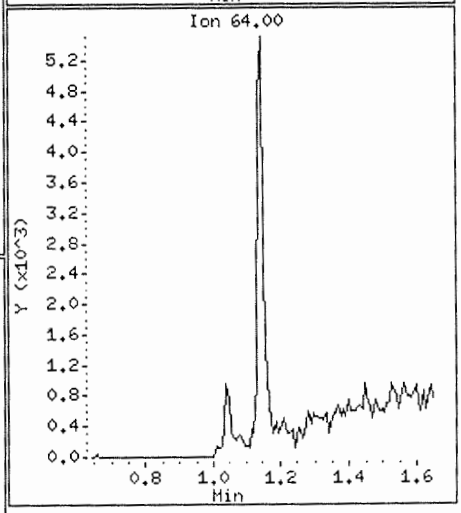
5 Vinyl Chloride

Concentration: 22.73 ug/l









Data File: \\NAHSTWS005\Target\chem\voa6.i\X211108.b\X110813.D

Date : 08-NOV-2021 15:41

Client ID: HS21101554-16

Instrument: voa6.i

Sample Info: HS21101554-16;HS21101554-16;;;

Purge Volume: 5.0

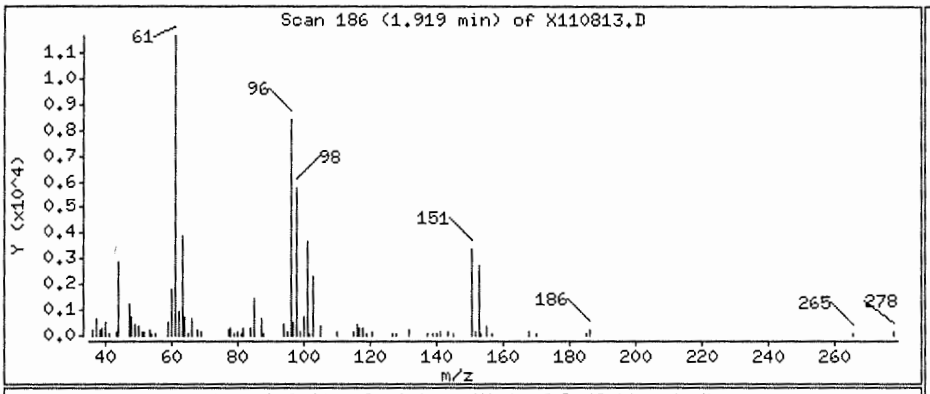
Operator: PC

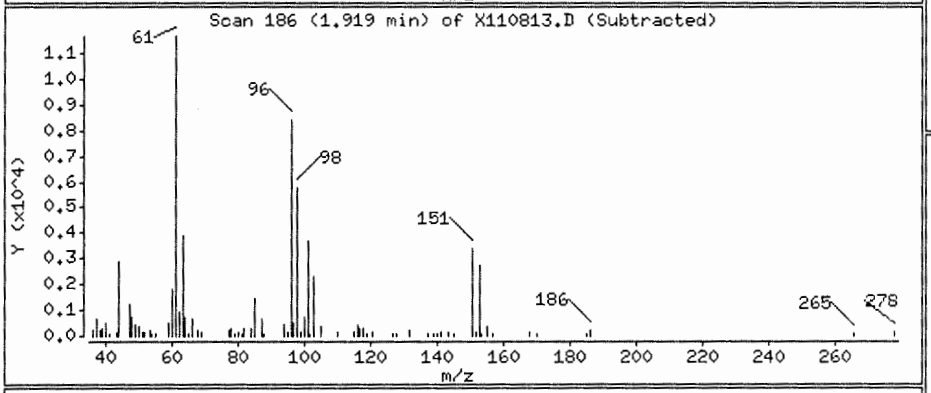
Column phase: DB624

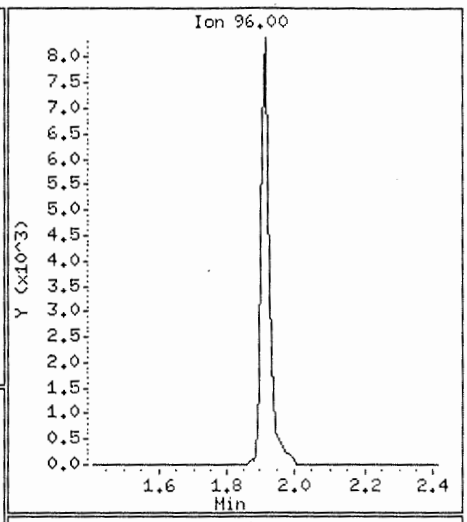
Column diameter: 0.18

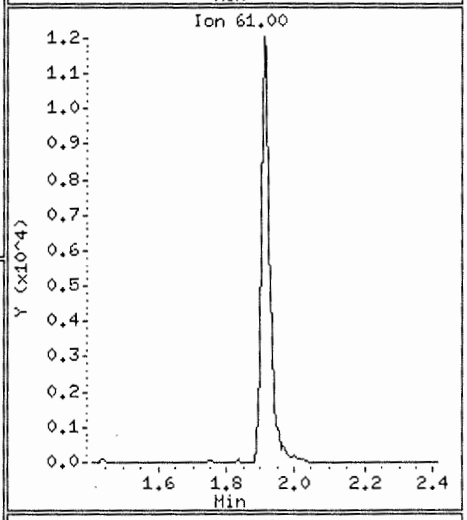
11 1,1-Dichloroethene

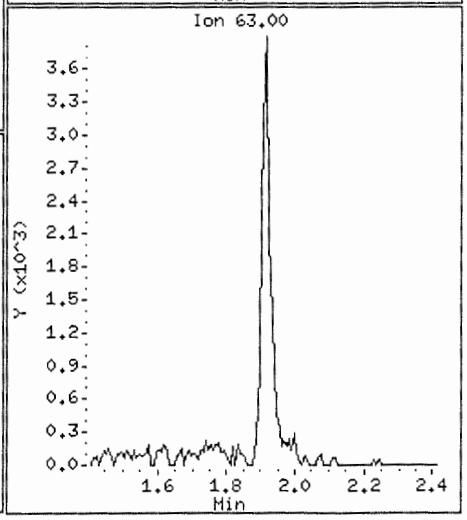
Concentration: 20.30 ug/l











Data File: \\NAHSTWS005\Target\chem\voa6.i\X211108.b\X110813.D

Date : 08-NOV-2021 15:41

Client ID: HS21101554-16

Instrument: voa6.i

Sample Info: HS21101554-16;HS21101554-16;;;

Purge Volume: 5.0

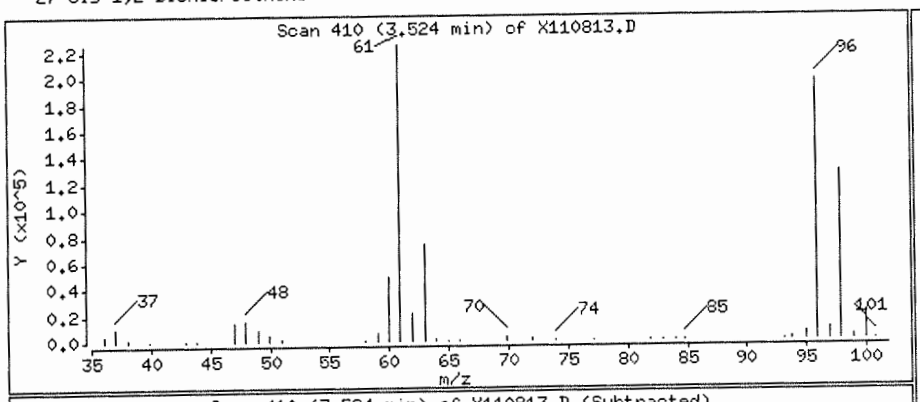
Operator: PC

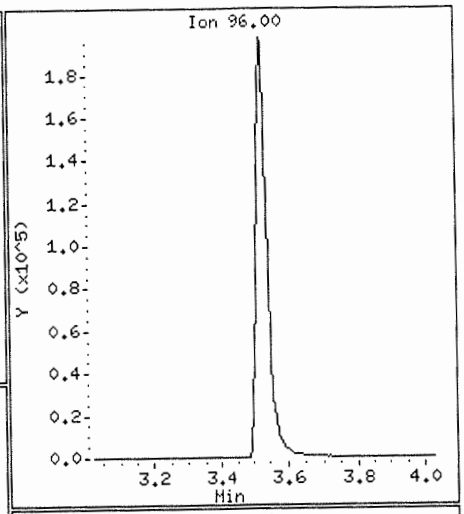
Column phase: DB624

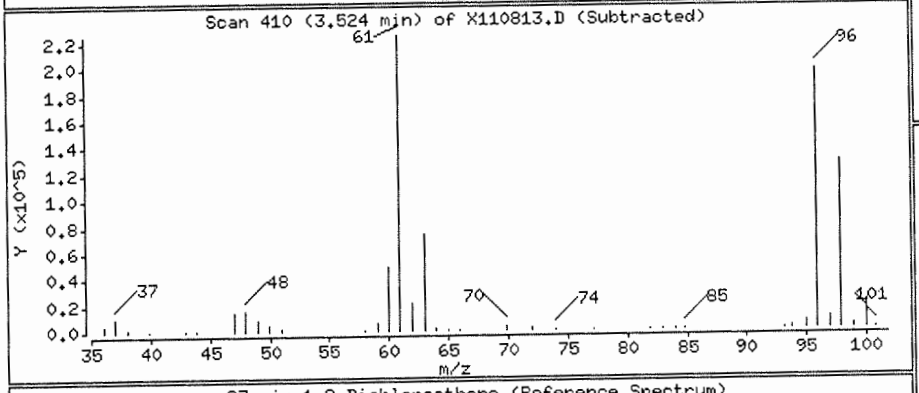
Column diameter: 0.18

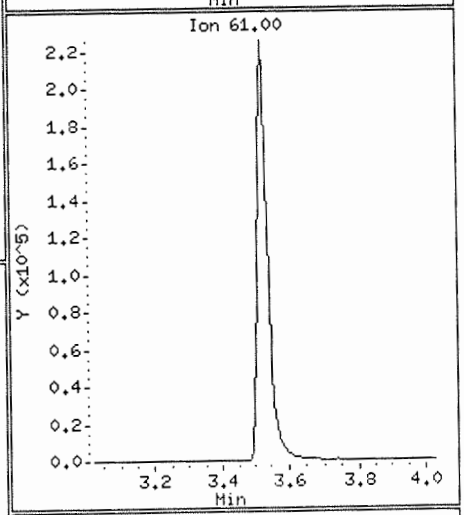
27 cis-1,2-Dichloroethene

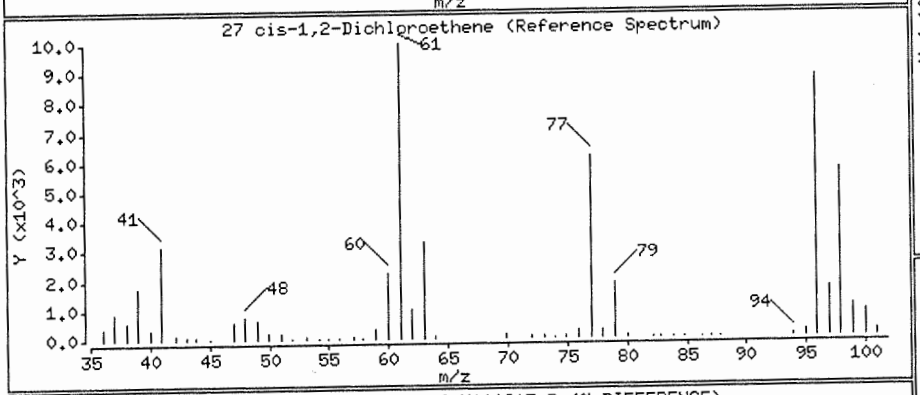
Concentration: 522.21 ug/l

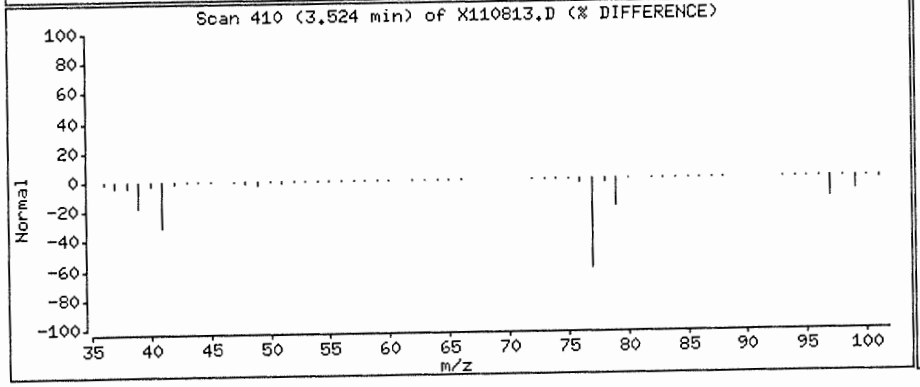


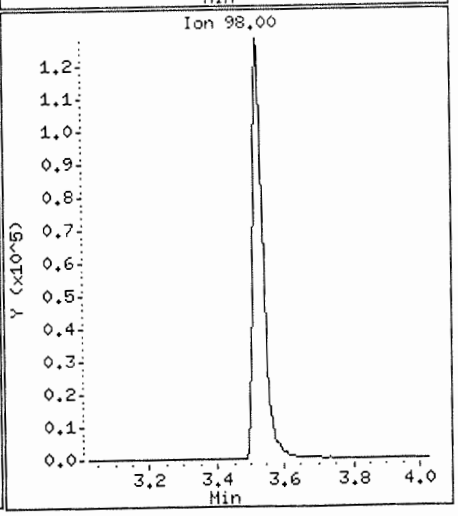












Data File: \\NAHSTWS005\Target\chem\voa6.i\X211108.b\X110813.D

Date : 08-NOV-2021 15:41

Client ID: HS21101554-16

Instrument: voa6.i

Sample Info: HS21101554-16;HS21101554-16;;;

Purge Volume: 5.0

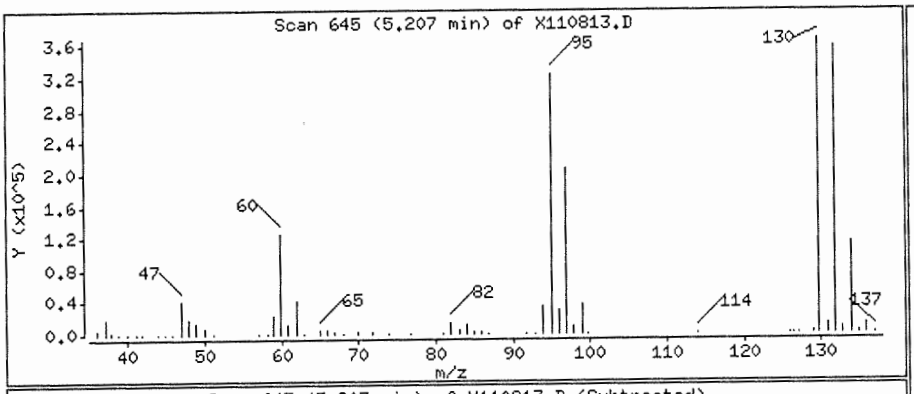
Operator: PC

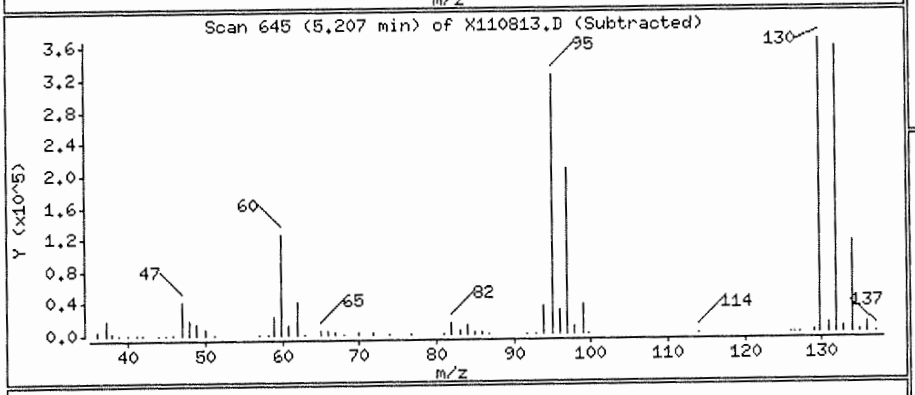
Column phase: DB624

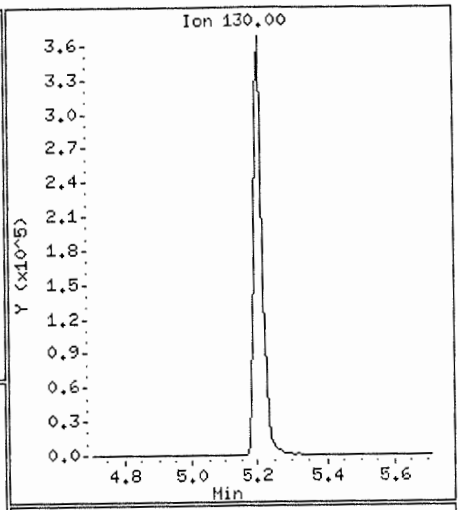
Column diameter: 0.18

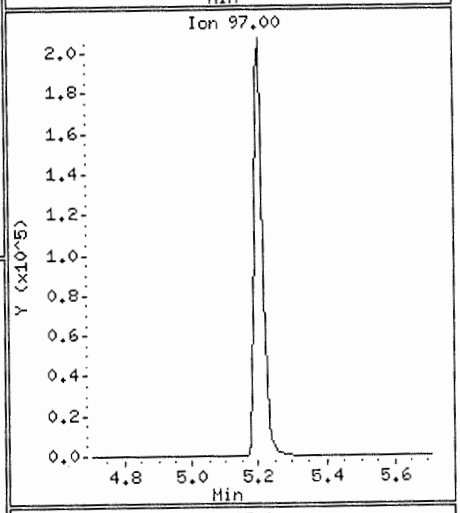
38 Trichloroethene

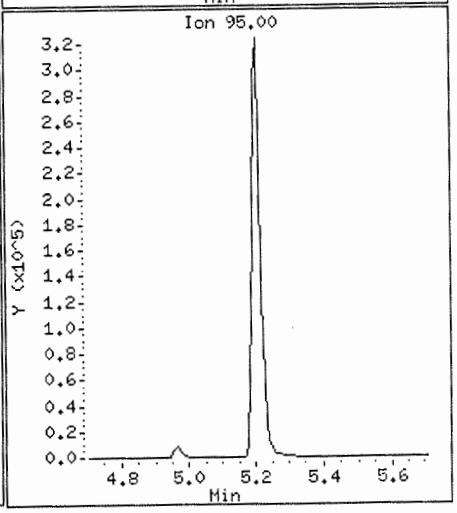
Concentration: 768.28 ug/l











ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X211108.b\X110814.D
Lab Smp Id: HS21101554-18 Client Smp ID: HS21101554-18
Inj Date : 08-NOV-2021 16:02
Operator : PC Inst ID: voa6.i
Smp Info : HS21101554-18;HS21101554-18;;;
Misc Info : HS18090001;WATER;0;10;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X211108.b\8260W.m
Meth Date : 18-Nov-2021 15:36 kori.bagsb Quant Type: ISTD
Cal Date : 08-OCT-2021 15:34 Cal File: X100808.D
Als bottle: 14
Dil Factor: 10.00000
Integrator: HP RTE Compound Sublist: 01474-dod.sub
Target Version: 4.14
Processing Host: NAHSTW7017

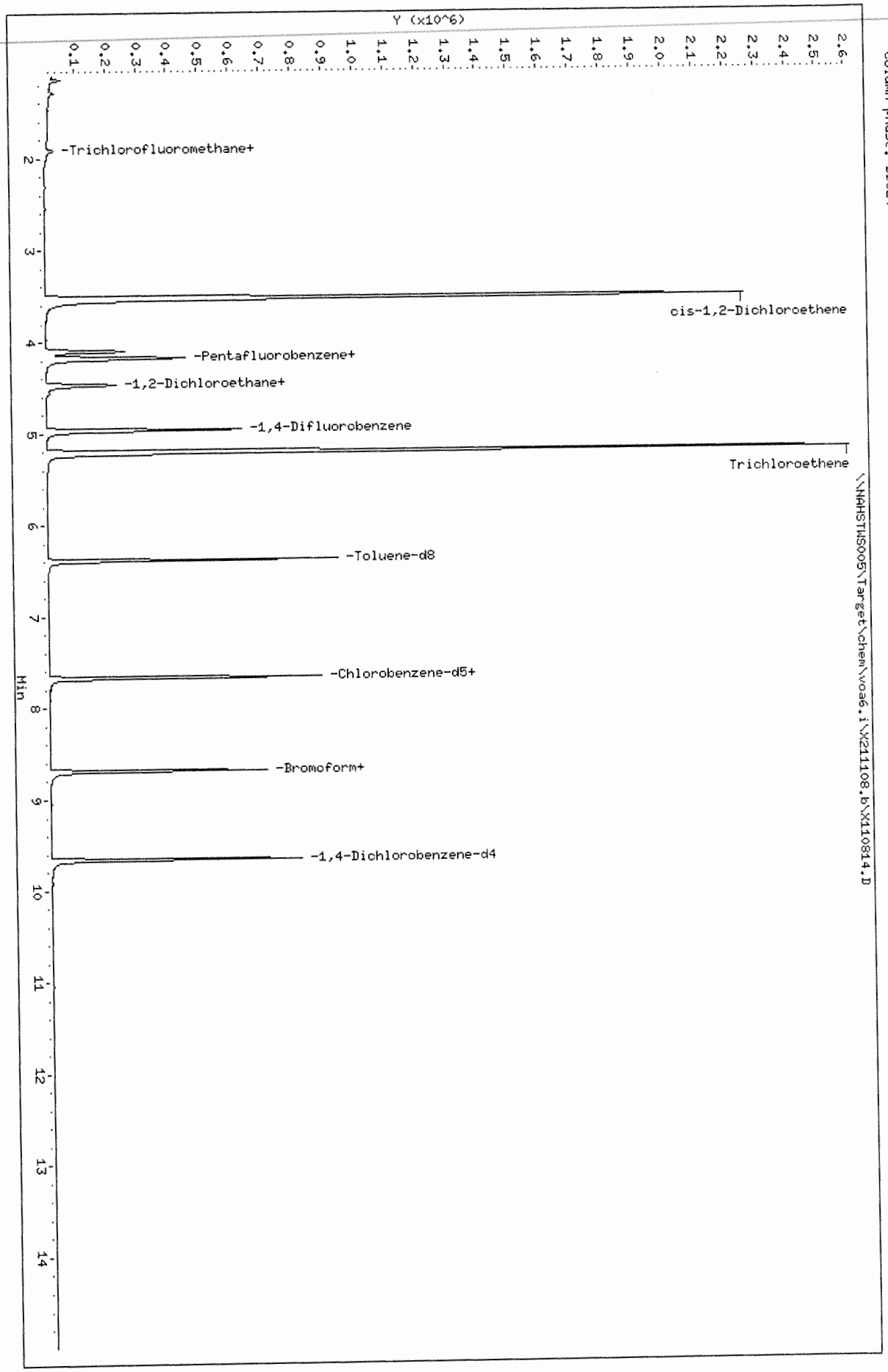
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

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

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	407531	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.096	(0.981)	178468	44.4901	44.49
$ 35 1,2-Dichloroethane-d4	65	4.469	4.476	(1.069)	172887	42.3380	42.33
* 36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	548921	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	476699	50.0000	
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	593497	49.0588	49.05
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	196564	47.1350	47.13
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	215415	50.0000	
5 Vinyl Chloride	62	1.145	1.145	(0.274)	23923	5.59899	55.98
11 1,1-Dichloroethene	96	1.911	1.911	(0.457)	3443	0.94711	9.47(a)
27 cis-1,2-Dichloroethene	96	3.523	3.523	(0.842)	1235320	291.562	2915.62(A)
33 1,2-Dichloroethane	62	4.562	4.555	(0.919)	8289	1.80017	18.00(a)
38 Trichloroethene	130	5.206	5.206	(1.049)	886008	213.386	2133.85(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.



Data File: \\NAHSTWS005\Target\chem\voa6.i\X211108.b\X110814.D
Date : 08-NOV-2021 16:02
Client ID: HS21101554-18
Sample Info: HS21101554-18;HS21101554-18;;;
Purge Volume: 5.0
Column phase: DB624

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

Data File: \\NAHSTWS005\Target\chem\voa6.i\X211108.b\X110814.D

Date : 08-NOV-2021 16:02

Client ID: HS21101554-18

Instrument: voa6.i

Sample Info: HS21101554-18;HS21101554-18;;;

Purge Volume: 5.0

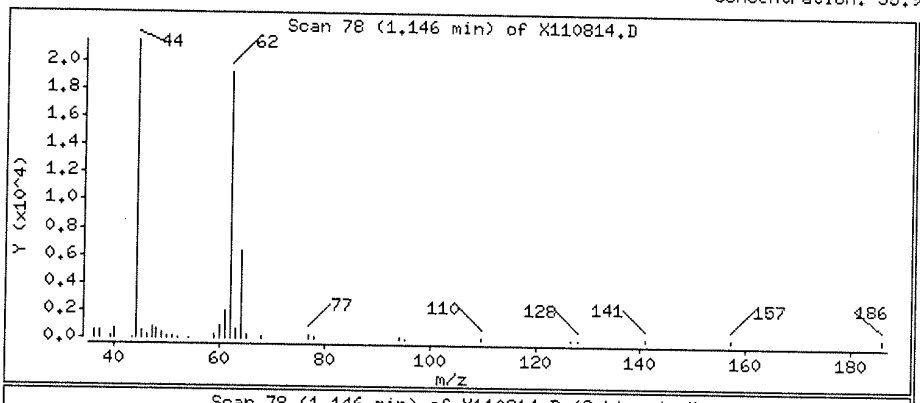
Operator: PC

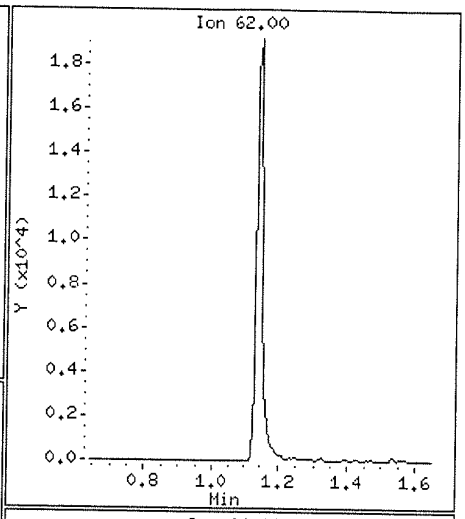
Column phase: DB624

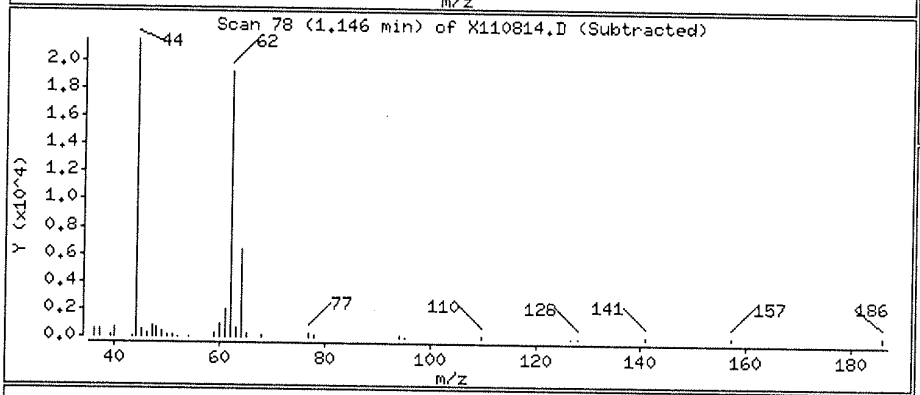
Column diameter: 0.18

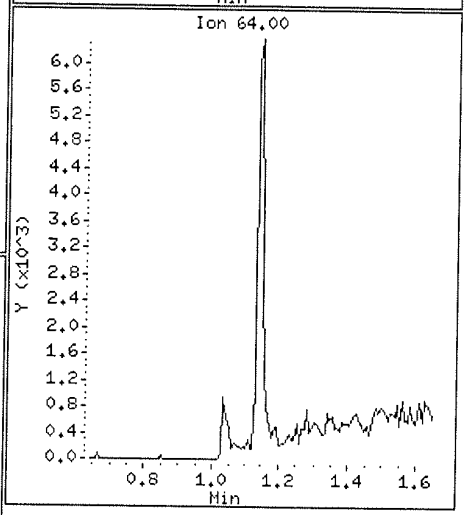
5 Vinyl Chloride

Concentration: 55.98 ug/l









Data File: \\NAHSTWS005\Target\chem\voa6.i\X211108.b\X110814.D

Date : 08-NOV-2021 16:02

Client ID: HS21101554-18

Instrument: voa6.i

Sample Info: HS21101554-18;HS21101554-18;;;

Purge Volume: 5.0

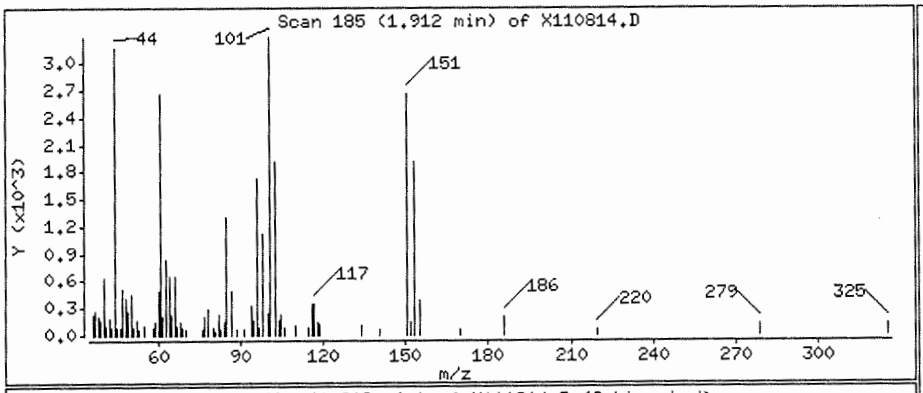
Operator: PC

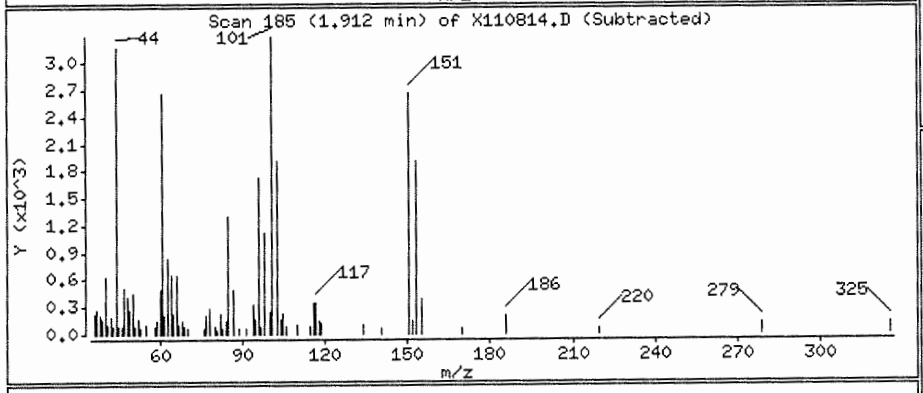
Column phase: DB624

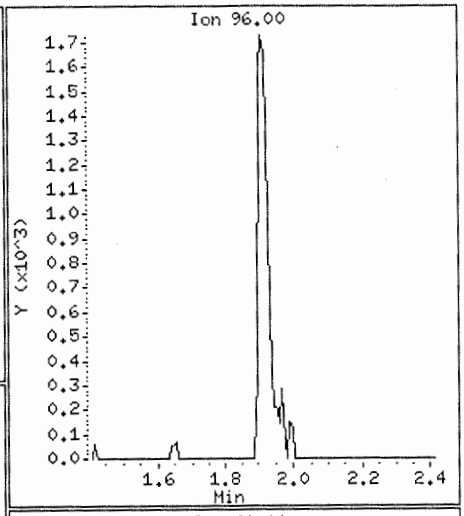
Column diameter: 0.18

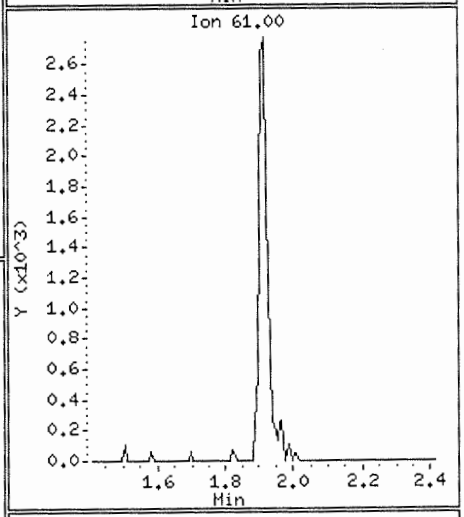
11 1,1-Dichloroethene

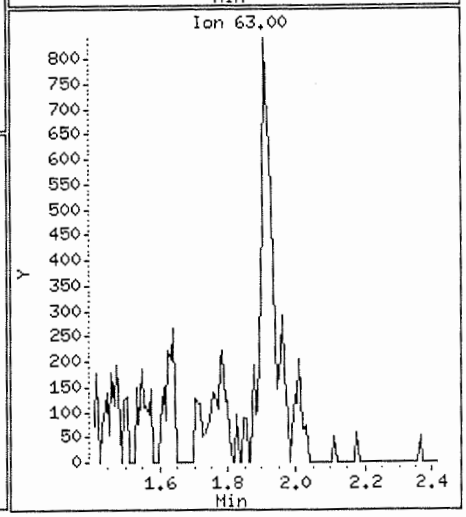
Concentration: 9.47 ug/l











Data File: \\NAHSTWS005\Target\chem\voa6.i\X211108.b\X110814.D

Date : 08-NOV-2021 16:02

Client ID: HS21101554-18

Instrument: voa6.i

Sample Info: HS21101554-18;HS21101554-18;;;

Purge Volume: 5.0

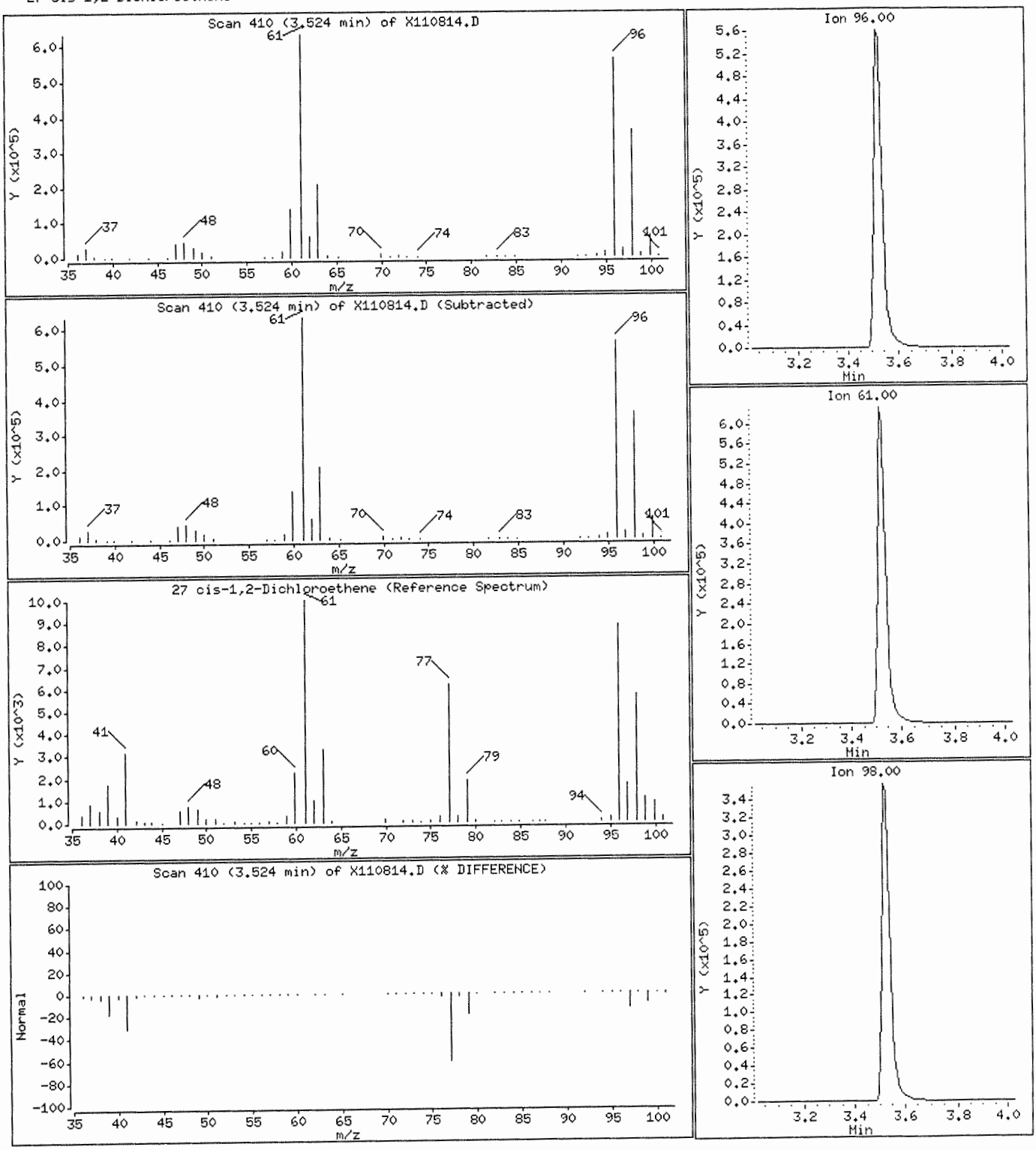
Operator: PC

Column phase: DB624

Column diameter: 0.18

27 cis-1,2-Dichloroethene

Concentration: 2915.62 ug/l



Data File: \\NAHSTWS005\Target\chem\voa6.i\X211108.b\X110814.D

Date : 08-NOV-2021 16:02

Client ID: HS21101554-18

Instrument: voa6.i

Sample Info: HS21101554-18;HS21101554-18;;;

Purge Volume: 5.0

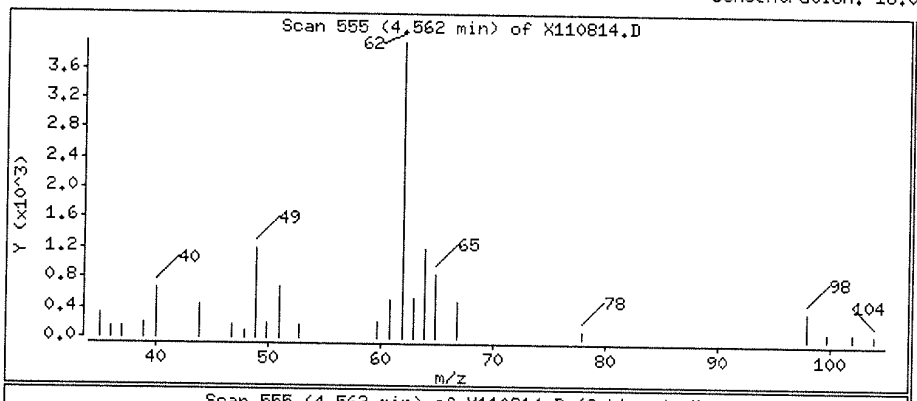
Operator: PC

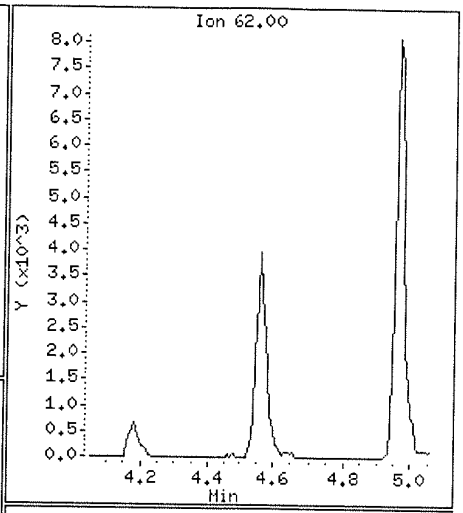
Column phase: DB624

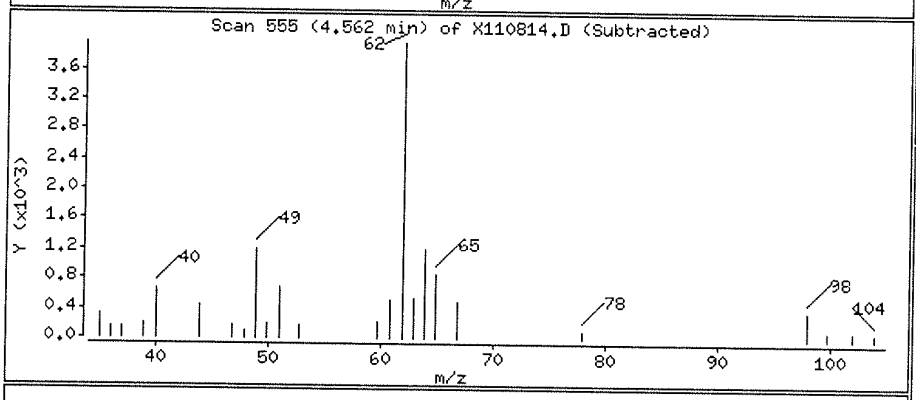
Column diameter: 0.18

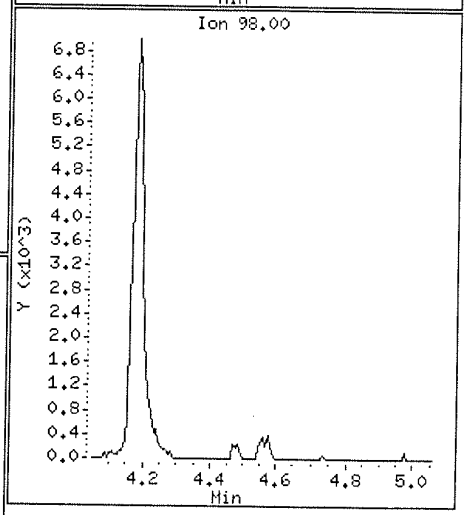
33 1,2-Dichloroethane

Concentration: 18.00 ug/l









Data File: \\NAHSTWS005\Target\chem\voa6.i\X211108.b\X110814.D

Date : 08-NOV-2021 16:02

Client ID: HS21101554-18

Instrument: voa6.i

Sample Info: HS21101554-18;HS21101554-18;;;

Purge Volume: 5.0

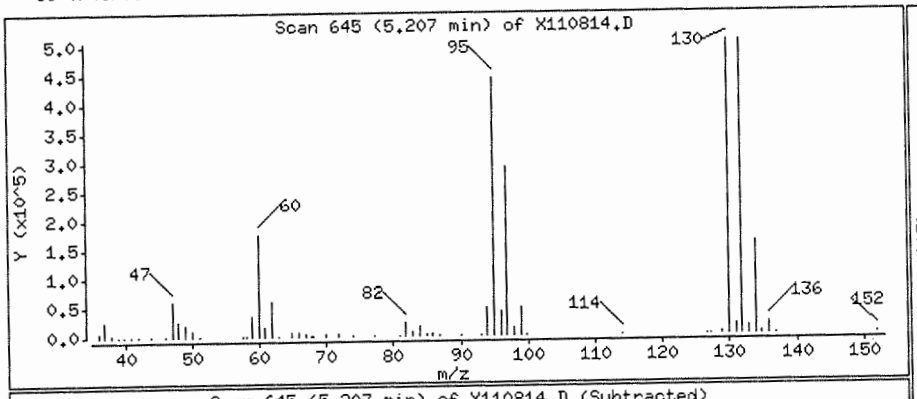
Operator: PC

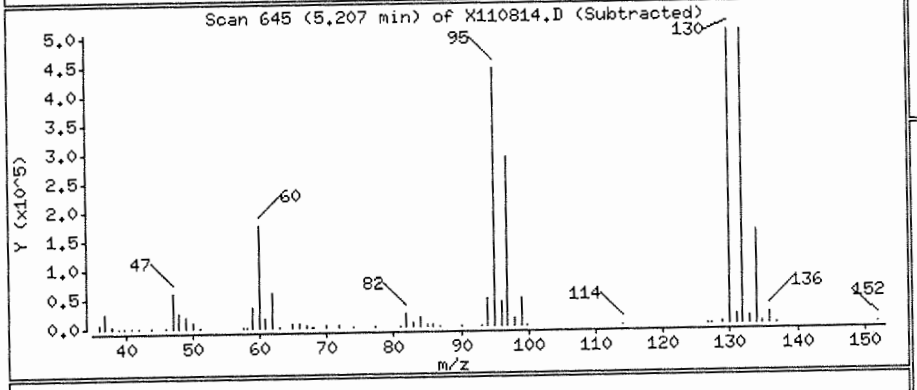
Column phase: DB624

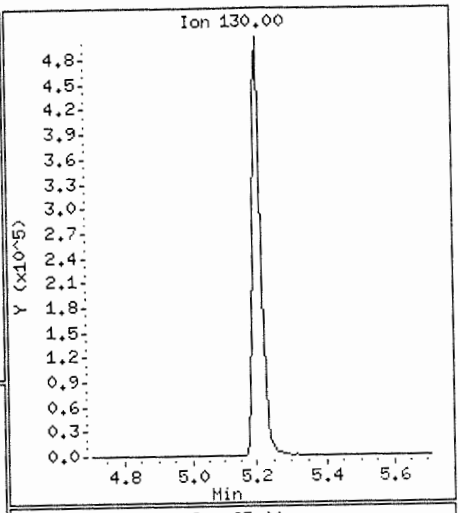
Column diameter: 0.18

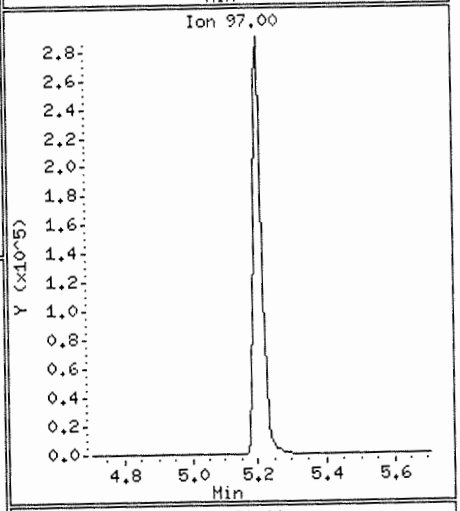
38 Trichloroethene

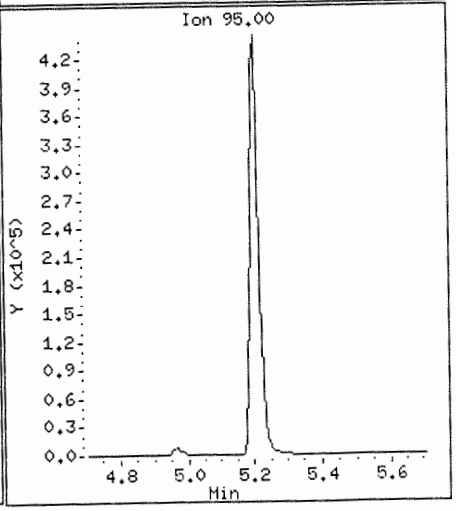
Concentration: 2133.85 ug/l











ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X211108.b\X110815.D
Lab Smp Id: HS21101554-17 Client Smp ID: HS21101554-17
Inj Date : 08-NOV-2021 16:23
Operator : PC Inst ID: voa6.i
Smp Info : HS21101554-17;HS21101554-17;;;
Misc Info : HS18090001;WATER;0;50;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X211108.b\8260W.m
Meth Date : 18-Nov-2021 15:36 kori.bagsb Quant Type: ISTD
Cal Date : 08-OCT-2021 15:34 Cal File: X100808.D
Als bottle: 15
Dil Factor: 50.00000
Integrator: HP RTE Compound Sublist: 01474-dod.sub
Target Version: 4.14
Processing Host: NAHSTW7017

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

Name	Value	Description
DF	50.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

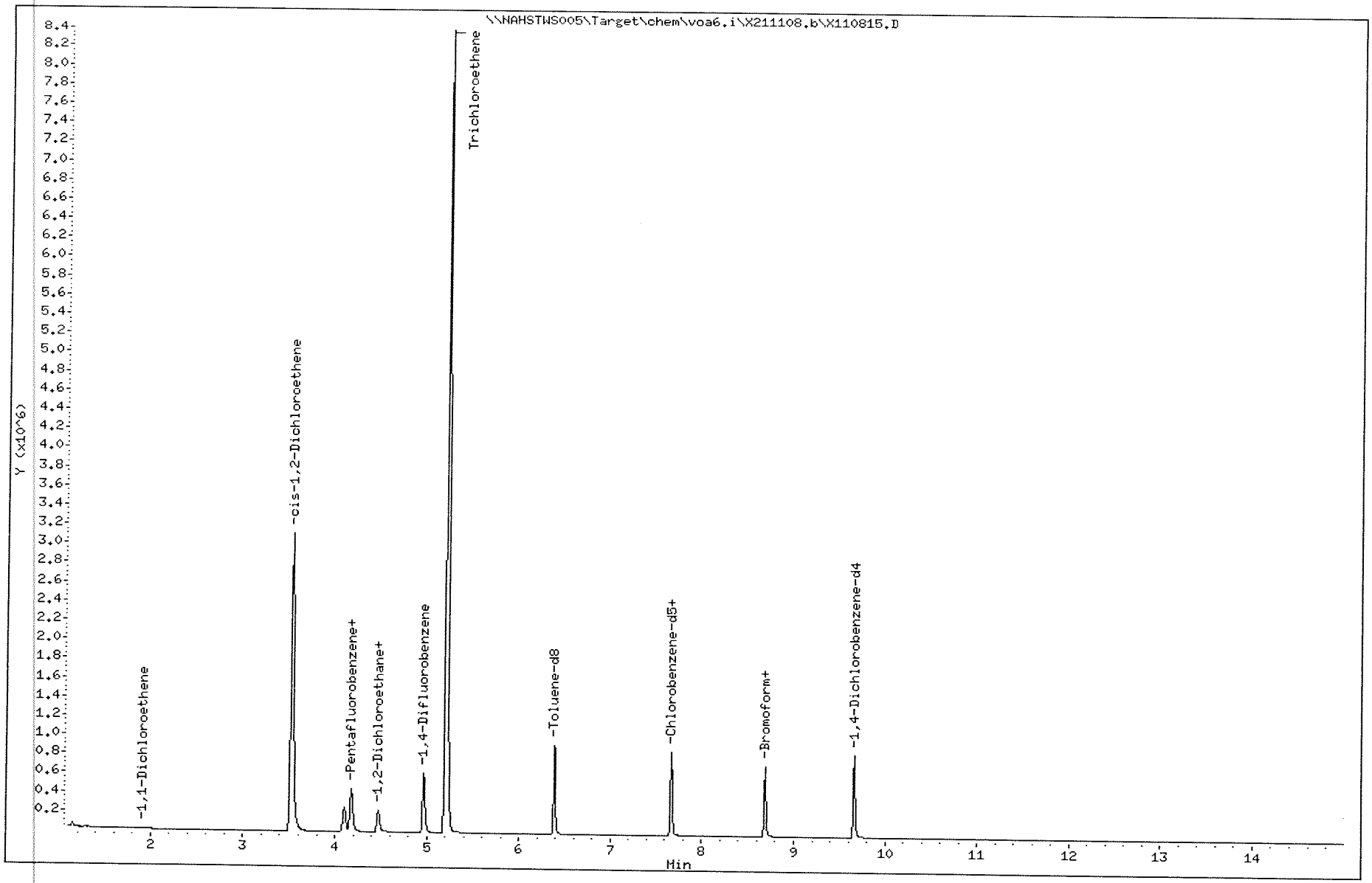
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	399357	50.0000	
$ 30 Dibromofluoromethane	113	4.096	4.096	(0.979)	179903	45.7985	45.79
$ 35 1,2-Dichloroethane-d4	65	4.469	4.476	(1.068)	173924	43.5178	43.51
* 36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	537656	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	464951	50.0000	
$ 48 Toluene-d8	98	6.381	6.388	(0.832)	582674	49.3811	49.38
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	201500	49.6093	49.60
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	231907	50.0000	
5 Vinyl Chloride	62	1.145	1.145	(0.274)	33026	7.88768	394.38
11 1,1-Dichloroethene	96	1.919	1.911	(0.459)	2572	0.72199	36.09(a)
27 cis-1,2-Dichloroethene	96	3.523	3.523	(0.842)	1686356	406.163	20308.14(A)
33 1,2-Dichloroethane	62	4.562	4.555	(0.919)	3634	0.80575	40.28(a)
38 Trichloroethene	130	5.207	5.206	(1.049)	2831319	696.181	34809.05(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.

Data File: \\NAHSTWS005\Target\chem\voa6.i\X211108.b\X110815.D
Date : 08-NOV-2021 16:23
Client ID: HS21101554-17
Sample Info: HS21101554-17;HS21101554-17;;;
Purge Volume: 5.0
Column phase: DB624

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



Data File: \\NAHSTWS005\Target\chem\voa6.i\X211108.b\X110815.D

Date : 08-NOV-2021 16:23

Client ID: HS21101554-17

Instrument: voa6.i

Sample Info: HS21101554-17;HS21101554-17;;;

Purge Volume: 5.0

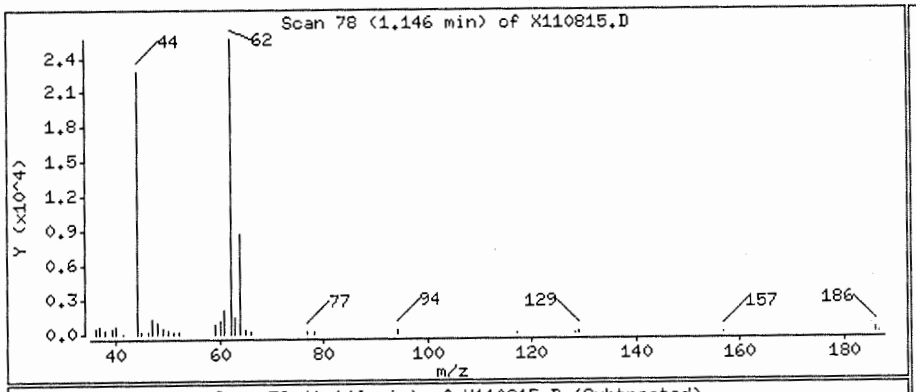
Operator: PC

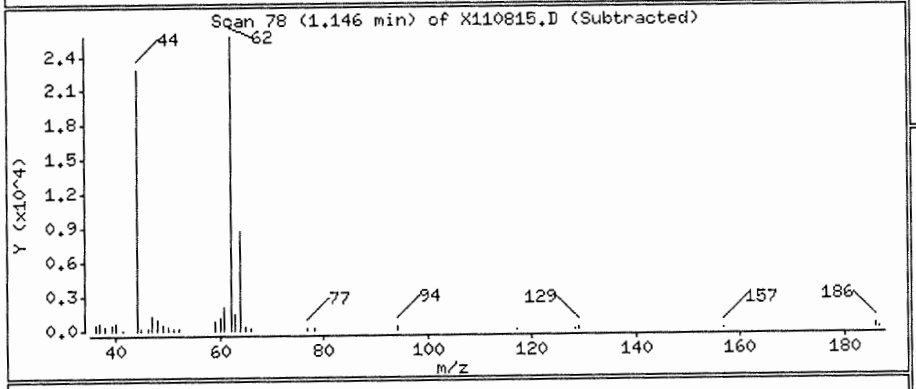
Column phase: DB624

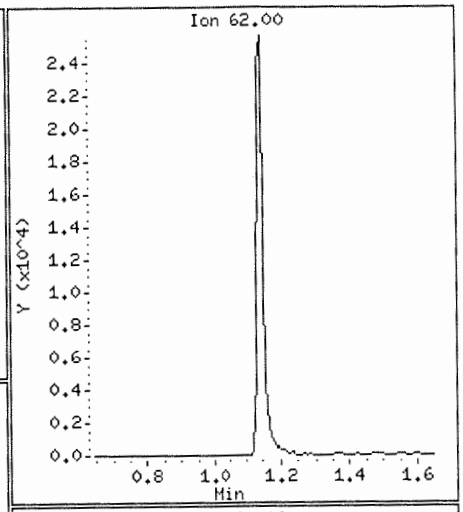
Column diameter: 0.18

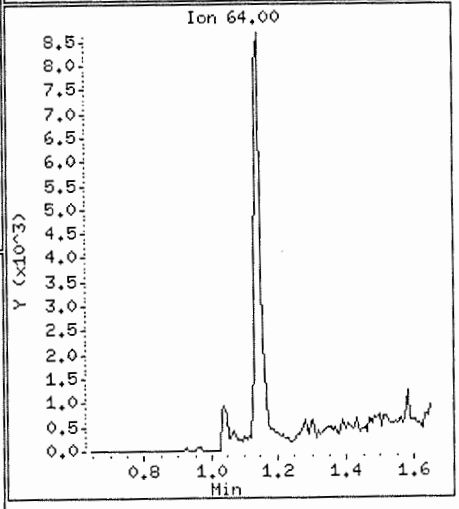
5 Vinyl Chloride

Concentration: 394.38 ug/l









Data File: \\NAHSTWS005\Target\chem\voa6.i\X211108.b\X110815.D

Date : 08-NOV-2021 16:23

Client ID: HS21101554-17

Instrument: voa6.i

Sample Info: HS21101554-17;HS21101554-17;;;

Purge Volume: 5.0

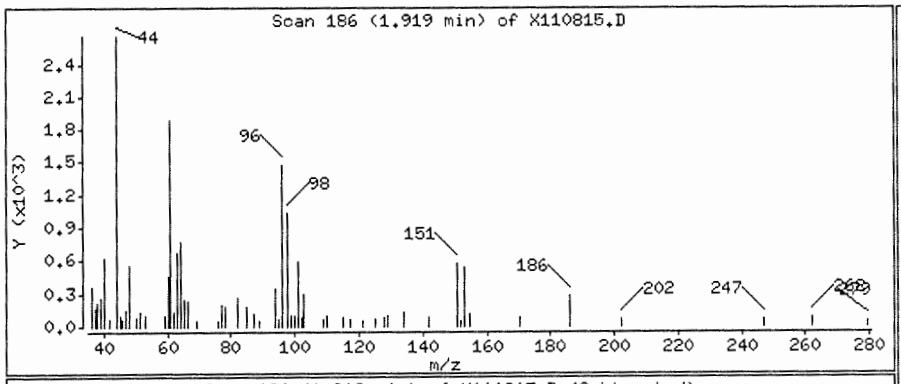
Operator: PC

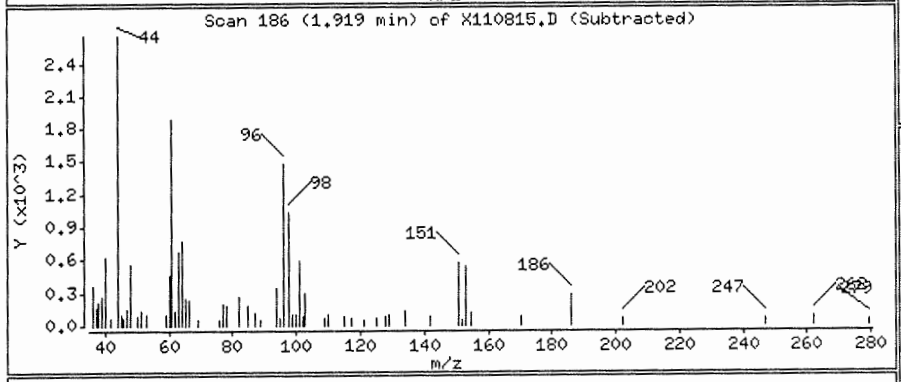
Column phase: DB624

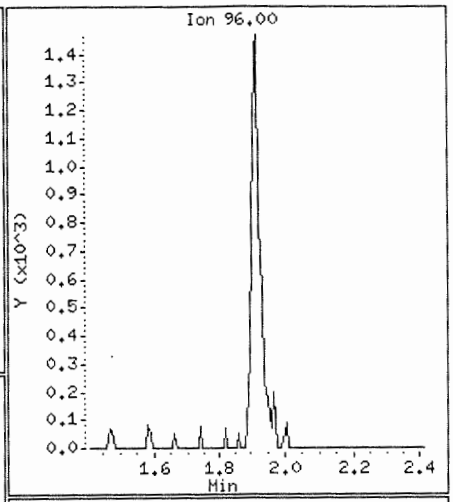
Column diameter: 0.18

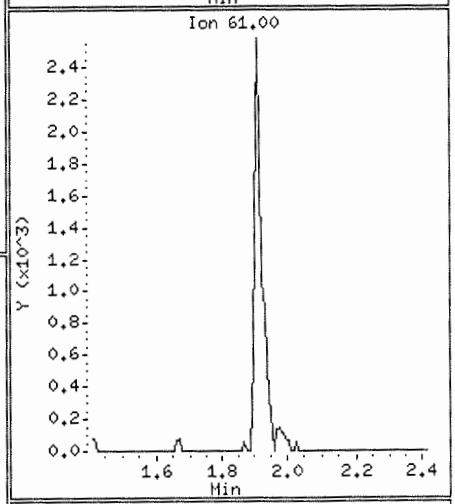
11 1,1-Dichloroethene

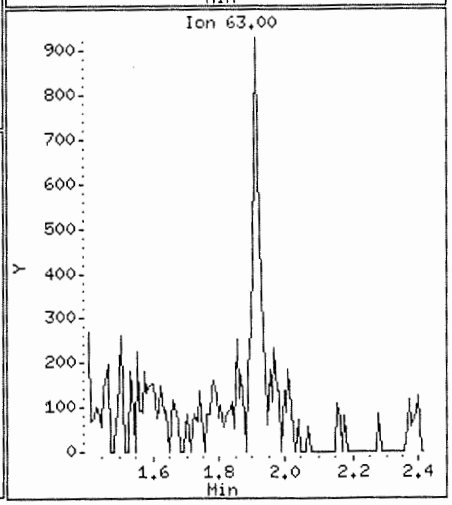
Concentration: 36.09 ug/l











Data File: \\NAHSTWS005\Target\chem\voa6.i\X211108.b\X110815.D

Date : 08-NOV-2021 16:23

Client ID: HS21101554-17

Instrument: voa6.i

Sample Info: HS21101554-17;HS21101554-17;;;

Purge Volume: 5.0

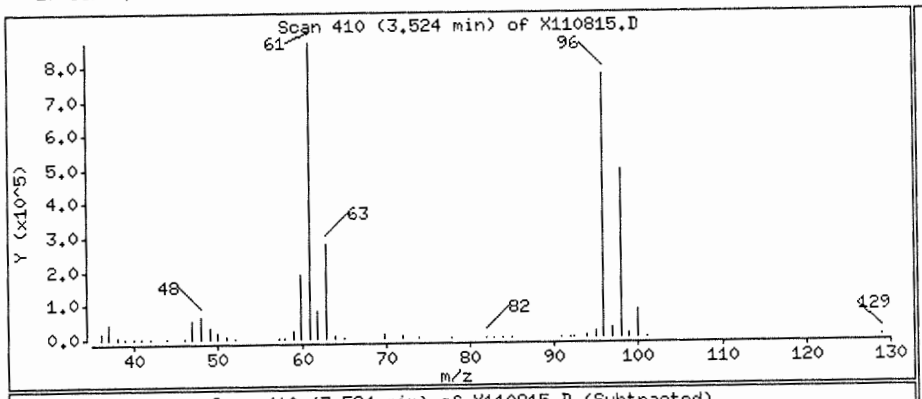
Operator: PC

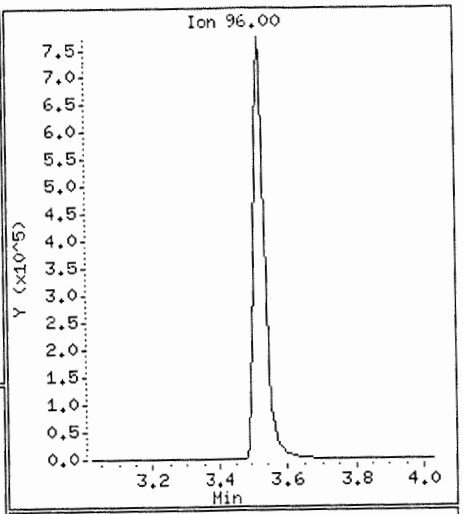
Column phase: DB624

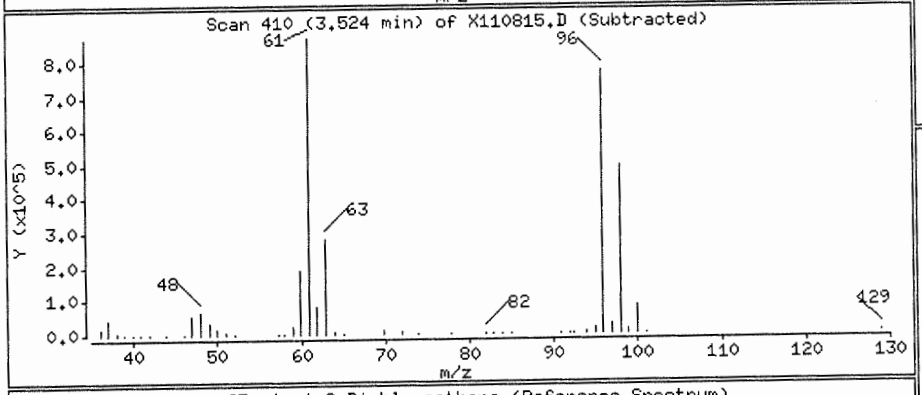
Column diameter: 0.18

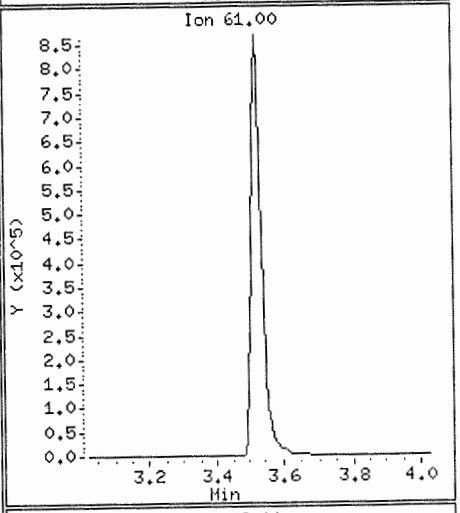
27 cis-1,2-Dichloroethene

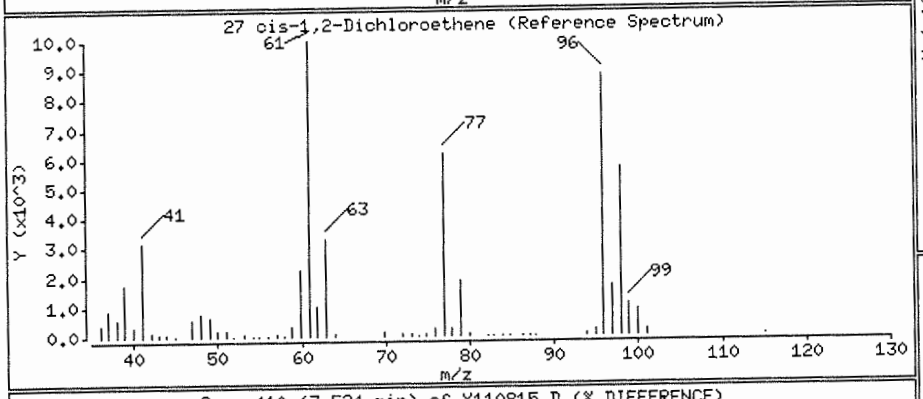
Concentration: 20308.14 ug/l

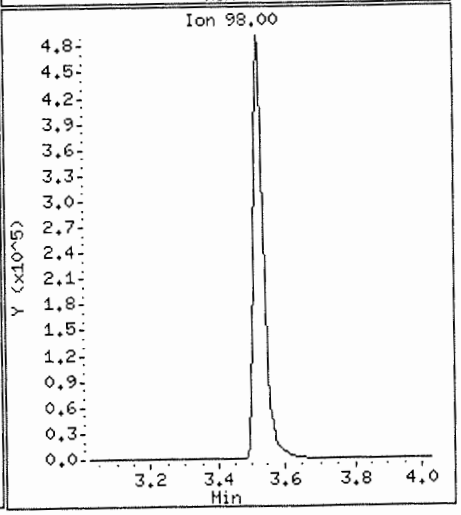


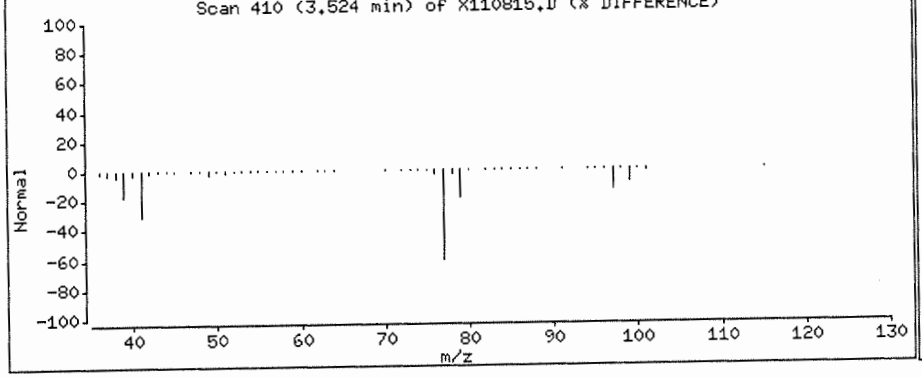












Data File: \\NAHSTWS005\Target\chem\voa6.i\X211108.b\X110815.D

Date : 08-NOV-2021 16:23

Client ID: HS21101554-17

Instrument: voa6.i

Sample Info: HS21101554-17;HS21101554-17;;;

Purge Volume: 5.0

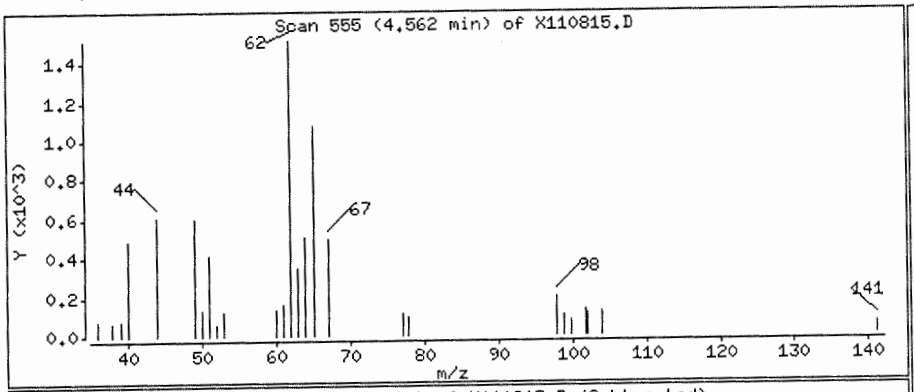
Operator: PC

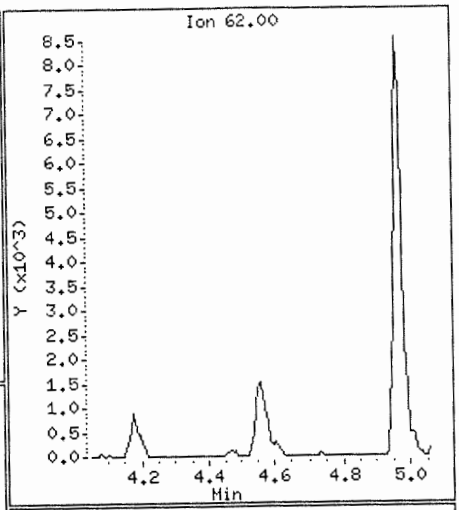
Column phase: DB624

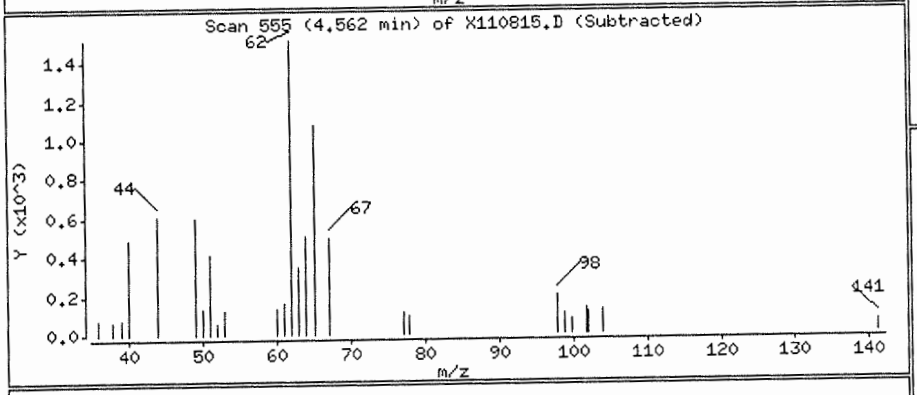
Column diameter: 0.18

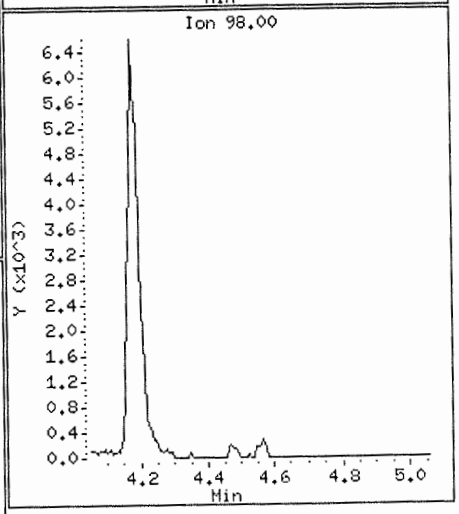
33 1,2-Dichloroethane

Concentration: 40.28 ug/l









Data File: \\NAHSTWS005\Target\chem\voa6.i\X211108.b\X110815.D

Date : 08-NOV-2021 16:23

Client ID: HS21101554-17

Instrument: voa6.i

Sample Info: HS21101554-17;HS21101554-17;;;

Purge Volume: 5.0

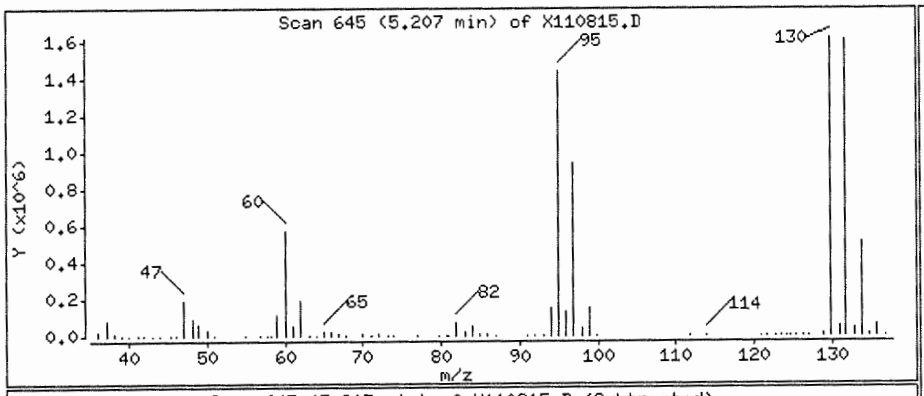
Operator: PC

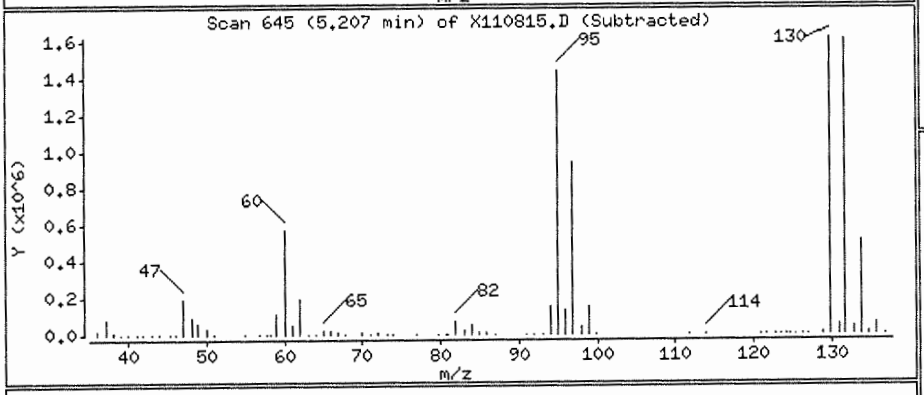
Column phase: DB624

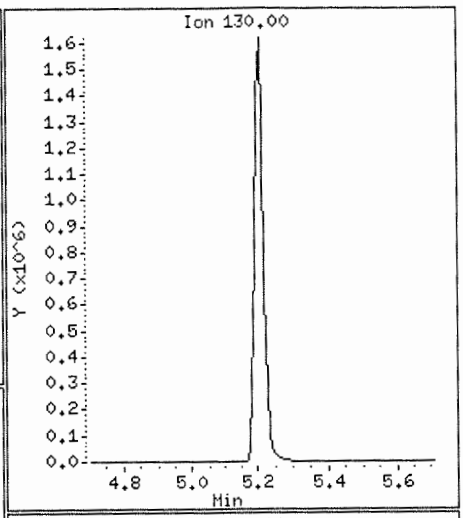
Column diameter: 0.18

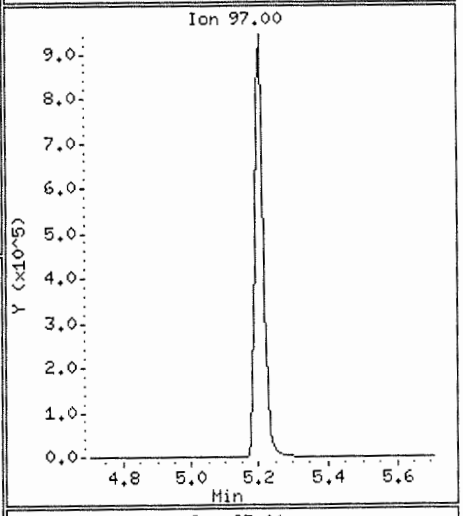
38 Trichloroethene

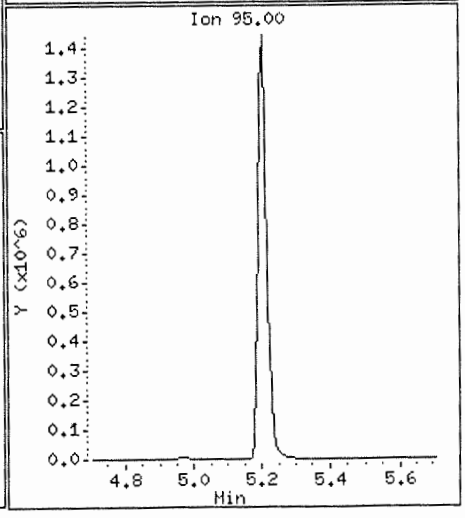
Concentration: 34809.05 ug/l











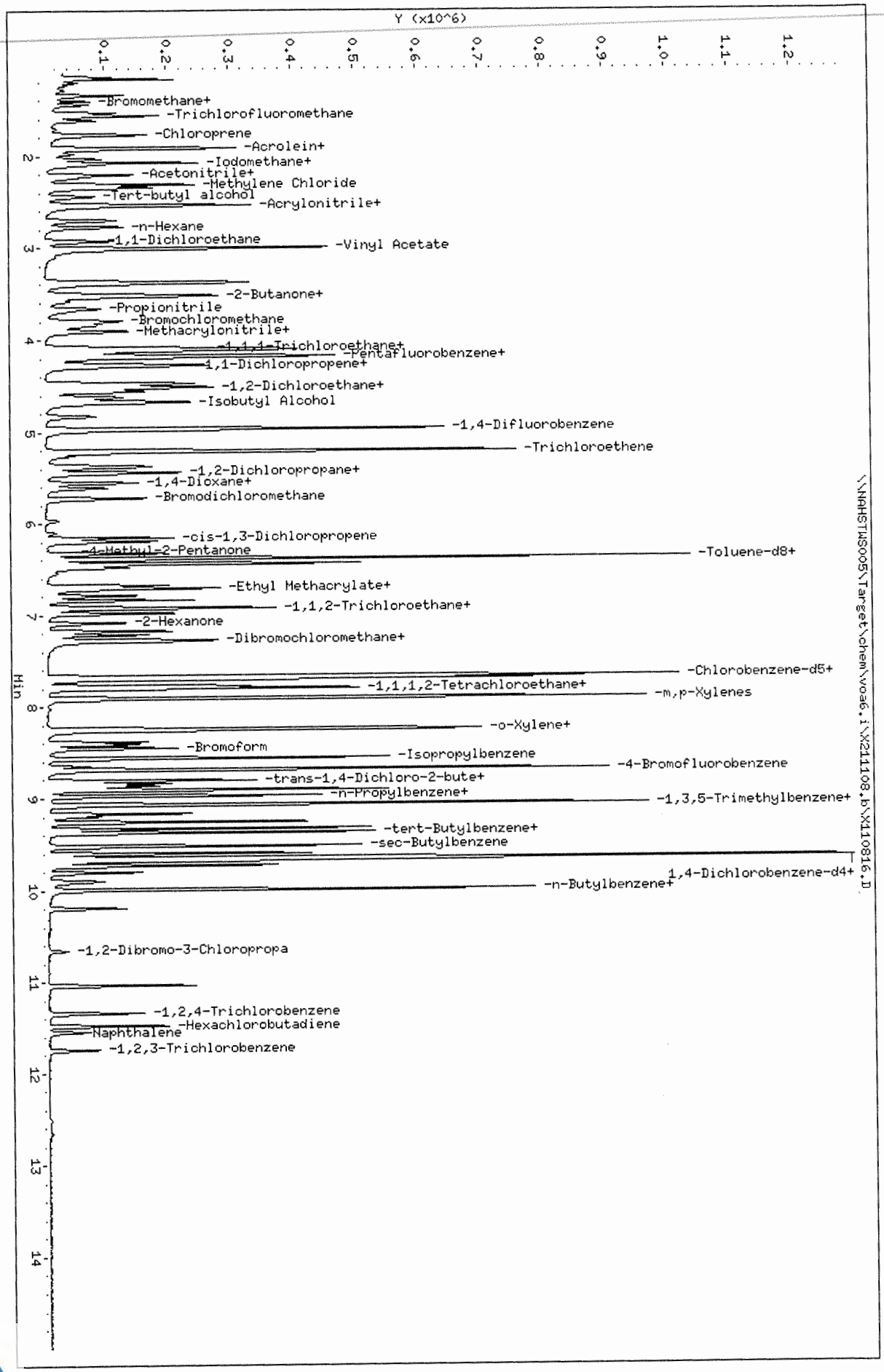
ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X211108.b\X110816.D
Lab Smp Id: HS21101554-07MS Client Smp ID: HS21101554-07MS
Inj Date : 08-NOV-2021 16:44
Operator : PC Inst ID: voa6.i
Smp Info : HS21101554-07MS;HS21101554-07MS;3;;MS
Misc Info : HS18090001;WATER;0;5;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X211108.b\8260W.m
Meth Date : 18-Nov-2021 15:44 voa6.i Quant Type: ISTD
Cal Date : 08-OCT-2021 15:34 Cal File: X100808.D
Als bottle: 16 QC Sample: MS
Dil Factor: 5.00000
Integrator: HP RTE Compound Sublist: 01474-dod.sub
Target Version: 4.14
Processing Host: NAHSTW7017

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

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

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	423235	50.0000	
$ 30 Dibromofluoromethane	113	4.096	4.096	(0.979)	186718	44.8281	44.82
$ 35 1,2-Dichloroethane-d4	65	4.469	4.469	(1.069)	177130	41.7402	41.74
* 36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	568580	50.0000	
* 47 Chlorobenzene-d5	117	7.670	7.671	(1.000)	519052	50.0000	
$ 48 Toluene-d8	98	6.381	6.388	(0.832)	611758	46.4420	46.44
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	225044	49.6315	49.63
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	278019	50.0000	
5 Vinyl Chloride	62	1.145	1.145	(0.274)	62699	14.1297	70.64
11 1,1-Dichloroethene	96	1.911	1.912	(0.457)	60456	16.0134	80.06
17 Methylene Chloride	84	2.305	2.305	(0.551)	65639	16.9636	84.81
27 cis-1,2-Dichloroethene	96	3.530	3.523	(0.844)	110797	25.1802	125.90
33 1,2-Dichloroethane	62	4.555	4.555	(0.918)	84594	17.7366	88.68
38 Trichloroethene	130	5.206	5.207	(1.049)	257604	59.8962	299.48
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	51891	18.7353	93.67



Data File: \\NAHSTWS005\Target\chem\voa6.i\X211108.b\X110816.D
Date : 08-NOV-2021 16:44
Client ID: HS21101554-07HS
Sample Info: HS21101554-07HS;HS21101554-07HS;3;;MS
Purge Volume: 5.0
Column phase: DB624

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

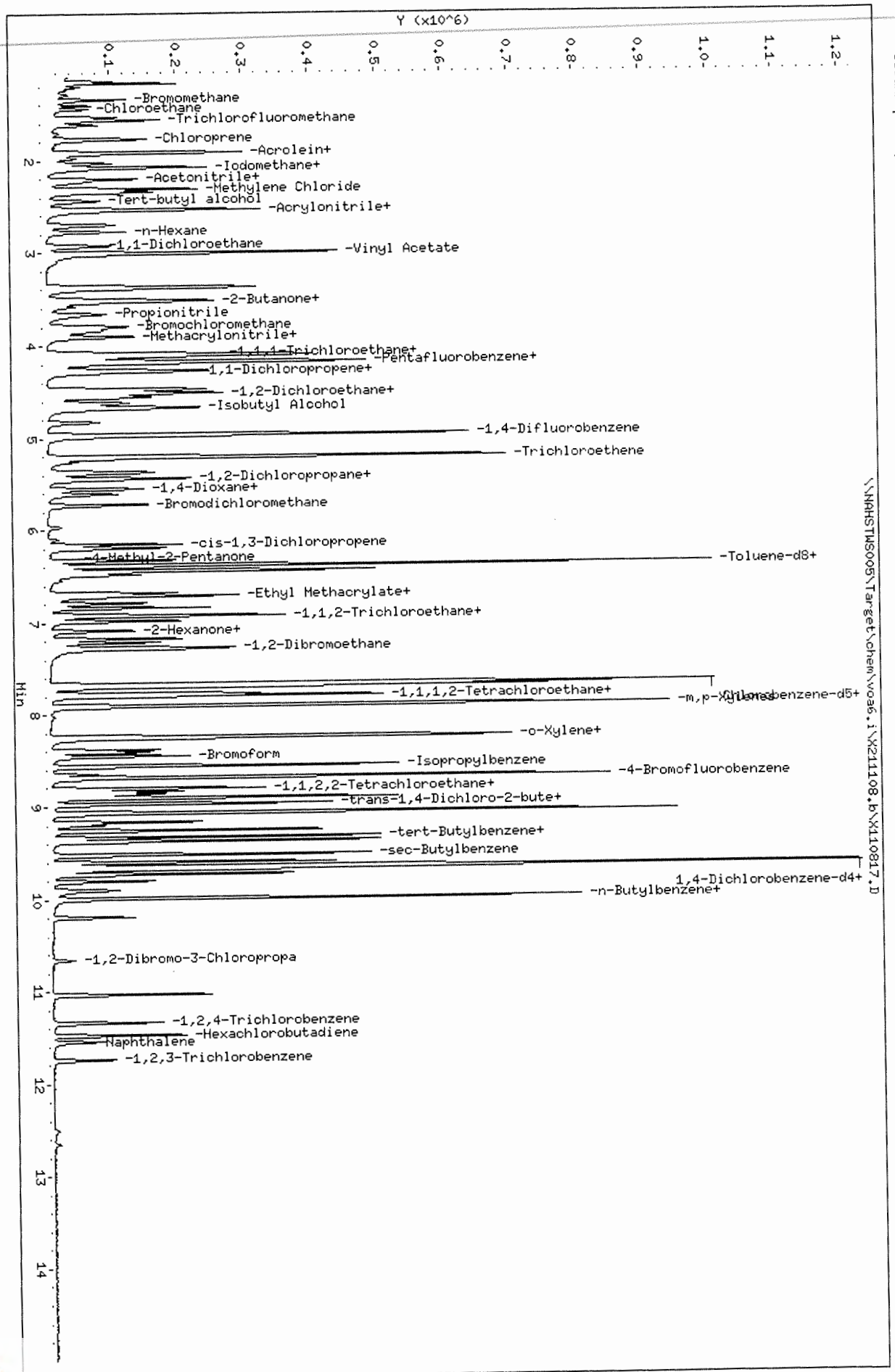
ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X211108.b\X110817.D
Lab Smp Id: HS21101554-07MSD Client Smp ID: HS21101554-07MSD
Inj Date : 08-NOV-2021 17:05
Operator : PC Inst ID: voa6.i
Smp Info : HS21101554-07MSD;HS21101554-07MSD;3;;MSD
Misc Info : HS18090001;WATER;0;5;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X211108.b\8260W.m
Meth Date : 18-Nov-2021 15:44 voa6.i Quant Type: ISTD
Cal Date : 08-OCT-2021 15:34 Cal File: X100808.D
Als bottle: 16 QC Sample: MSD
Dil Factor: 5.00000
Integrator: HP RTE Compound Sublist: 01474-dod.sub
Target Version: 4.14
Processing Host: NAHSTW7017

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

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

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	426500	50.0000	
$ 30 Dibromofluoromethane	113	4.096	4.096	(0.979)	188678	44.9551	44.95
$ 35 1,2-Dichloroethane-d4	65	4.469	4.469	(1.069)	180226	42.1643	42.16
* 36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	571521	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	509091	50.0000	
$ 48 Toluene-d8	98	6.381	6.388	(0.832)	612352	47.3967	47.39
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	215051	48.3204	48.32
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	260111	50.0000	
5 Vinyl Chloride	62	1.145	1.145	(0.274)	58906	13.1733	65.86
11 1,1-Dichloroethene	96	1.911	1.912	(0.457)	59244	15.5722	77.86
17 Methylene Chloride	84	2.305	2.305	(0.551)	66041	16.9348	84.67
27 cis-1,2-Dichloroethene	96	3.530	3.523	(0.844)	96945	21.8635	109.31
33 1,2-Dichloroethane	62	4.555	4.555	(0.918)	84485	17.6226	88.11
38 Trichloroethene	130	5.206	5.207	(1.049)	242891	56.1846	280.92
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	51352	18.9034	94.51



Data File: \\NAHSTWS005\Target\chem\voa6.i\X211108.b\X110817.D
Date : 08-NOV-2021 17:05
Client ID: HS21101554-07HSD
Sample Info: HS21101554-07HSD;HS21101554-07HSD;3;;MSD
Purge Volume: 5.0
Column phase: DB624

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

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X211108.b\X110818.D
Lab Smp Id: HS21101554-13 Client Smp ID: HS21101554-13
Inj Date : 08-NOV-2021 17:26
Operator : PC Inst ID: voa6.i
Smp Info : HS21101554-13;HS21101554-13;;;
Misc Info : HS18090001;WATER;0;50;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X211108.b\8260W.m
Meth Date : 18-Nov-2021 15:36 kori.bagsb Quant Type: ISTD
Cal Date : 08-OCT-2021 15:34 Cal File: X100808.D
Als bottle: 17
Dil Factor: 50.00000
Integrator: HP RTE Compound Sublist: 01474-dod.sub
Target Version: 4.14
Processing Host: NAHSTW7017

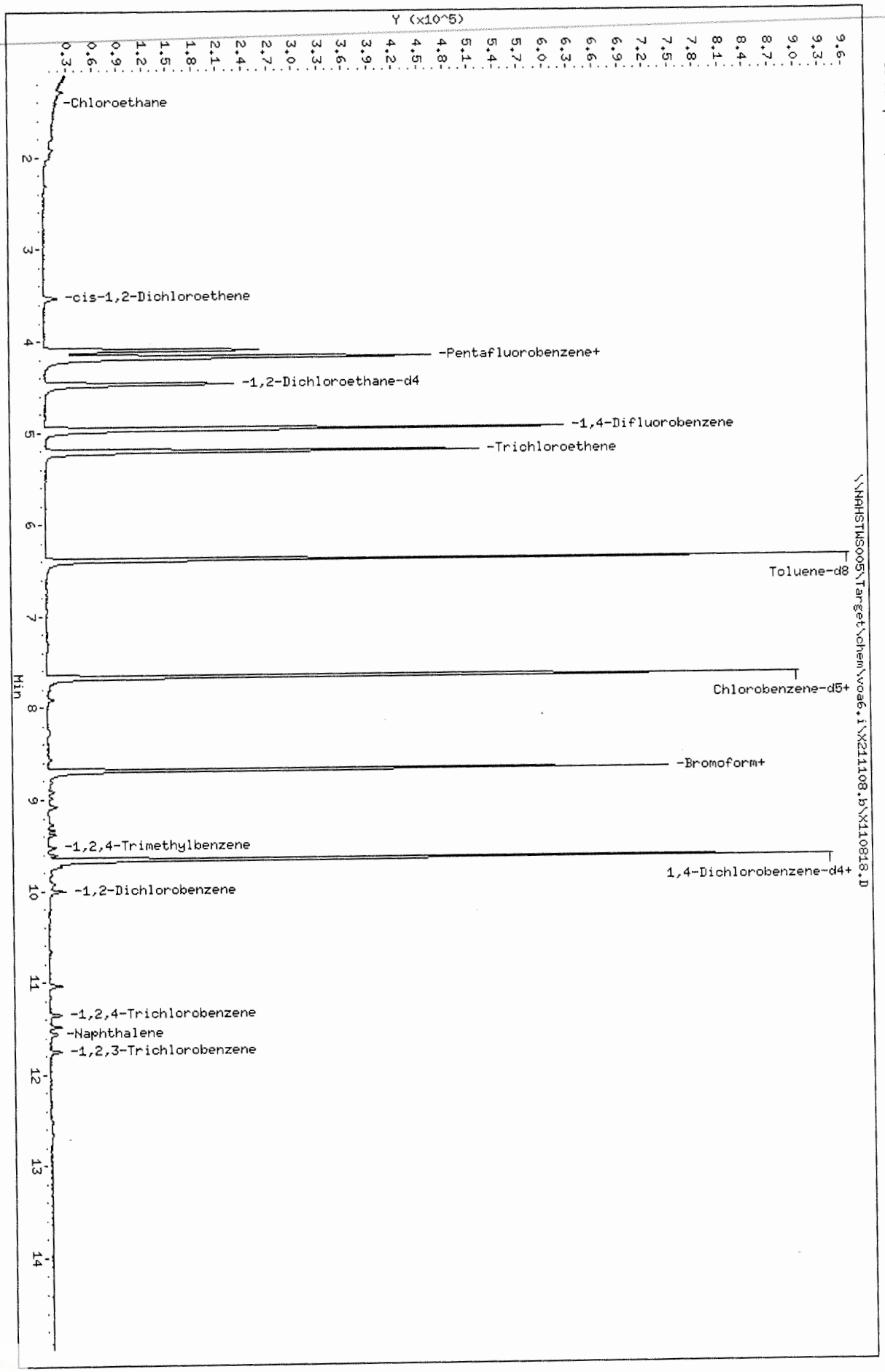
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	50.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	417170	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.096	(0.981)	182201	44.3682	44.36
$ 35 1,2-Dichloroethane-d4	65	4.469	4.476	(1.069)	171177	40.8840	40.88
* 36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	548845	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	492855	50.0000	
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	603614	48.2595	48.25
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	201466	46.7150	46.71
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	241624	50.0000	
27 cis-1,2-Dichloroethene	96	3.530	3.523	(0.844)	9310	2.14659	107.32(a)
38 Trichloroethene	130	5.207	5.206	(1.049)	180977	43.5925	2179.62

QC Flag Legend

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



Data File: \\NAHSTWS005\Target\chem\voa6.i\X211108.b\X110818.D
Date : 08-NOV-2021 17:26
Client ID: HS21101554-13
Sample Info: HS21101554-13;HS21101554-13;;;
Purge Volume: 5.0
Column phase: DB624

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

Data File: \\NAHSTWS005\Target\chem\voa6.i\X211108.b\X110818.D

Date : 08-NOV-2021 17:26

Client ID: HS21101554-13

Instrument: voa6.i

Sample Info: HS21101554-13;HS21101554-13;;;

Purge Volume: 5.0

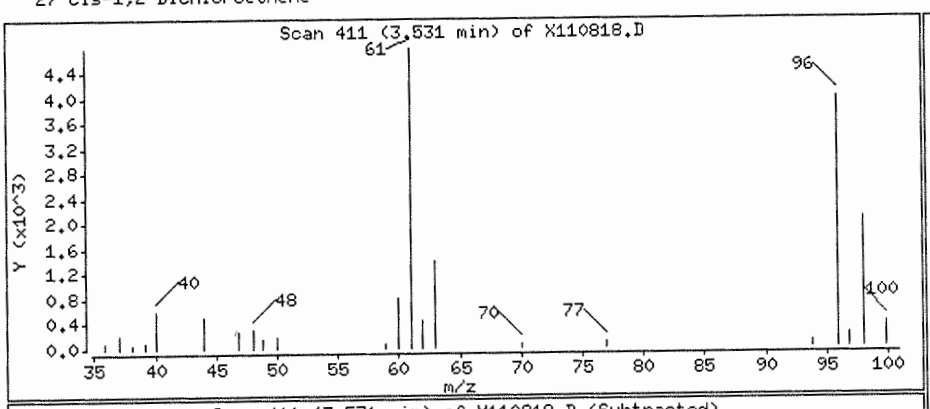
Operator: PC

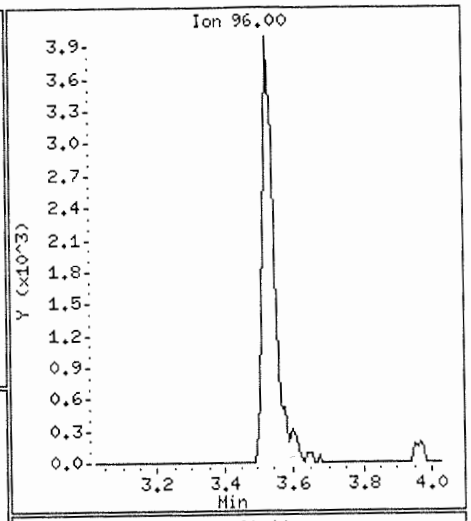
Column phase: DB624

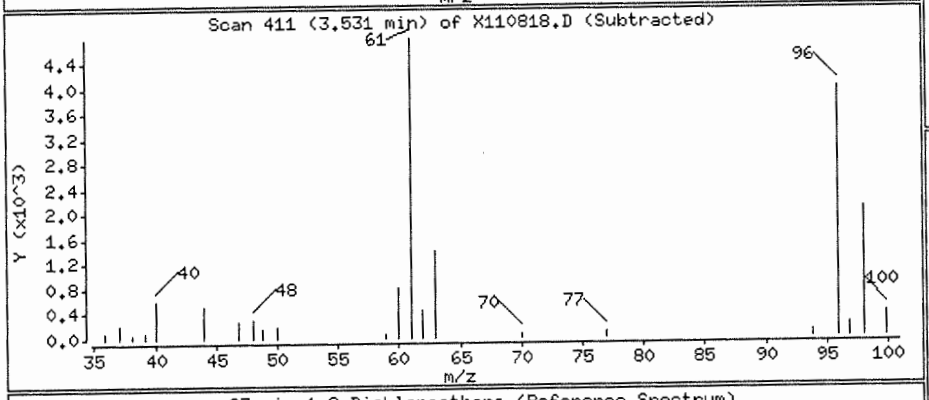
Column diameter: 0.18

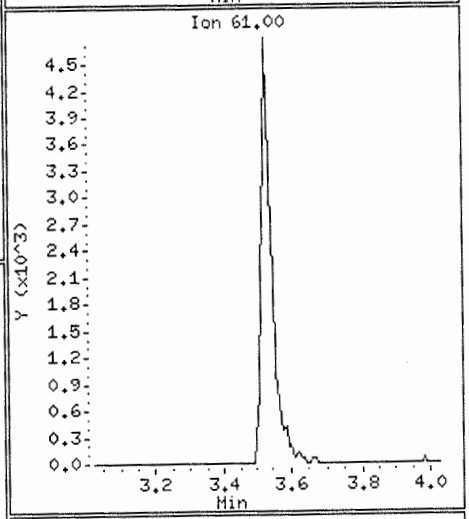
27 cis-1,2-Dichloroethene

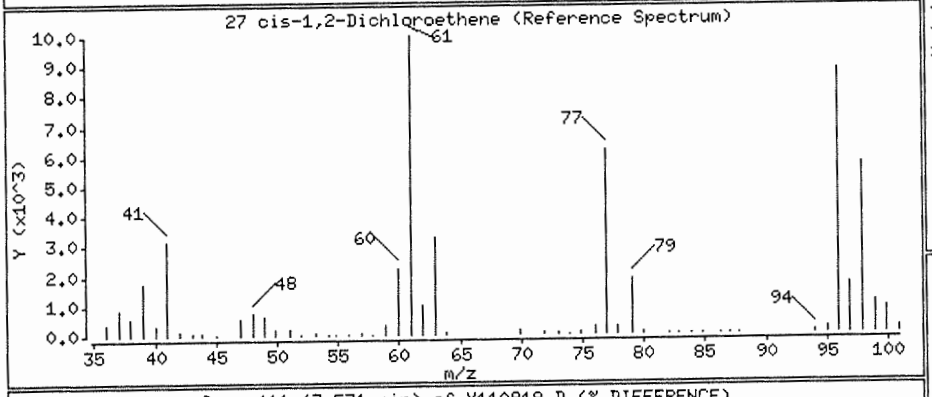
Concentration: 107.32 ug/l

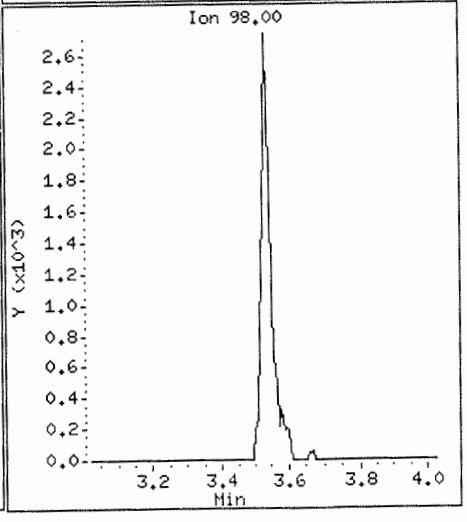


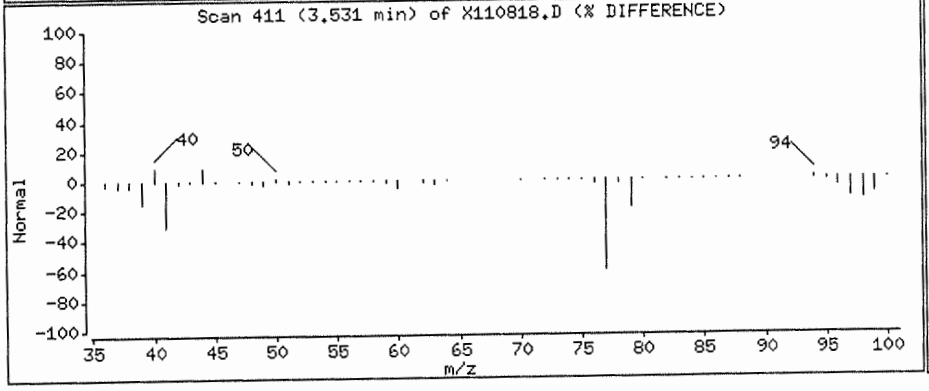












Data File: \\NAHSTWS005\Target\chem\voa6.i\X211108.b\X110818.D

Date : 08-NOV-2021 17:26

Client ID: HS21101554-13

Instrument: voa6.i

Sample Info: HS21101554-13;HS21101554-13;;;

Purge Volume: 5.0

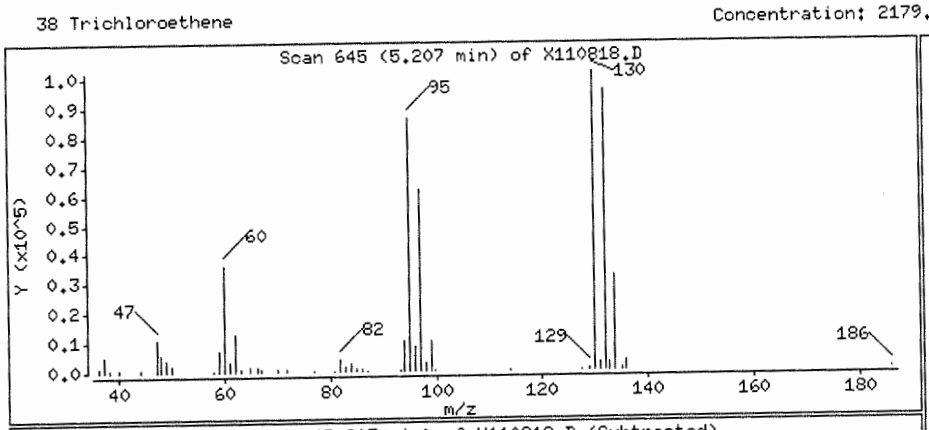
Operator: PC

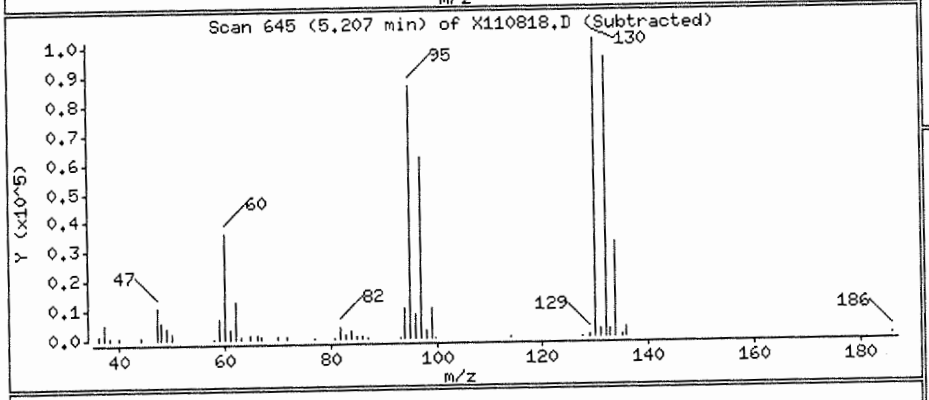
Column phase: DB624

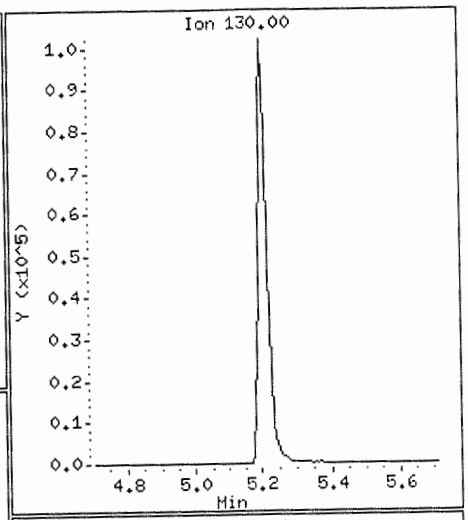
Column diameter: 0.18

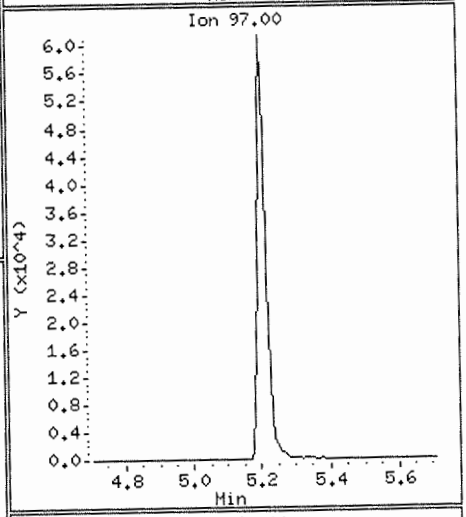
38 Trichloroethene

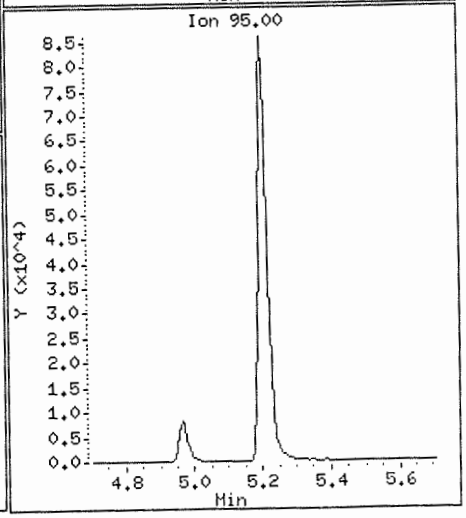
Concentration: 2179.62 ug/l











ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X211108.b\X110819.D
Lab Smp Id: HS21101554-14 Client Smp ID: HS21101554-14
Inj Date : 08-NOV-2021 17:47
Operator : PC Inst ID: voa6.i
Smp Info : HS21101554-14;HS21101554-14;;;
Misc Info : HS18090001;WATER;0;25;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X211108.b\8260W.m
Meth Date : 18-Nov-2021 15:36 kori.bagsb Quant Type: ISTD
Cal Date : 08-OCT-2021 15:34 Cal File: X100808.D
Als bottle: 18
Dil Factor: 25.00000
Integrator: HP RTE Compound Sublist: 01474-dod.sub
Target Version: 4.14
Processing Host: NAHSTW7017

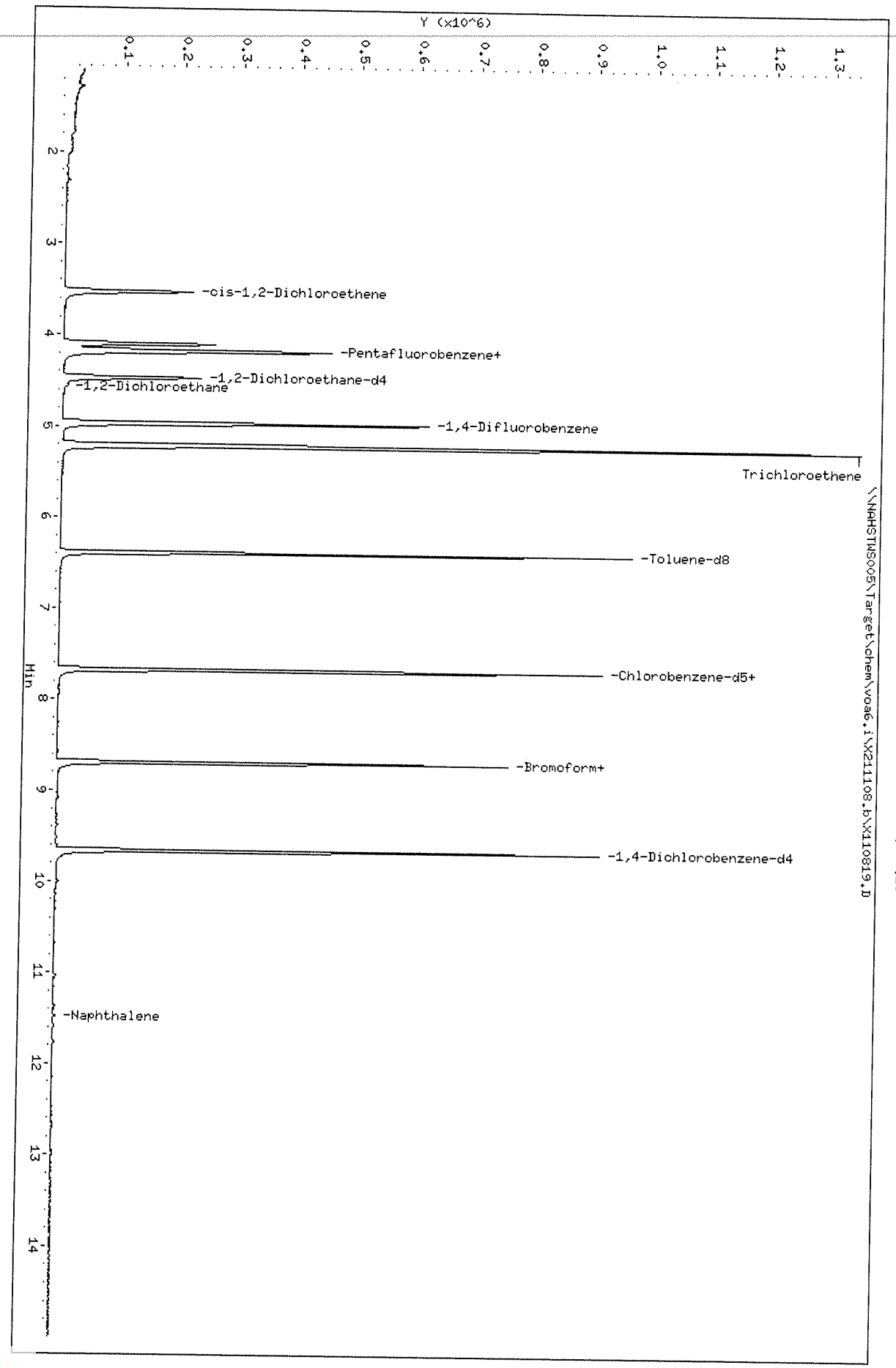
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

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

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	417789	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.096	(0.981)	185058	45.0133	45.01
$ 35 1,2-Dichloroethane-d4	65	4.469	4.476	(1.069)	175370	41.8702	41.87
* 36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	553153	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	493148	50.0000	
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	609535	48.7039	48.70
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	209285	48.5515	48.55
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	242253	50.0000	
5 Vinyl Chloride	62	1.145	1.145	(0.274)	1974	0.45066	11.26(a)
27 cis-1,2-Dichloroethene	96	3.530	3.523	(0.844)	122519	28.2071	705.17
33 1,2-Dichloroethane	62	4.569	4.555	(0.921)	5963	1.28511	32.12(a)
38 Trichloroethene	130	5.206	5.206	(1.049)	464256	110.956	2773.89

QC Flag Legend

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



Data File: \\NAHSTWS005\Target\chem\voa6.i\X211108.b\X110819.D
Date : 08-NOV-2021 17:47
Client ID: HS21101554-14
Sample Info: HS21101554-14;HS21101554-14;;;
Purge Volume: 5.0
Column phase: DB624

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

Data File: \\NAHSTWS005\Target\chem\voa6.i\X211108.b\X110819.D

Date : 08-NOV-2021 17:47

Client ID: HS21101554-14

Instrument: voa6.i

Sample Info: HS21101554-14;HS21101554-14;;;

Purge Volume: 5.0

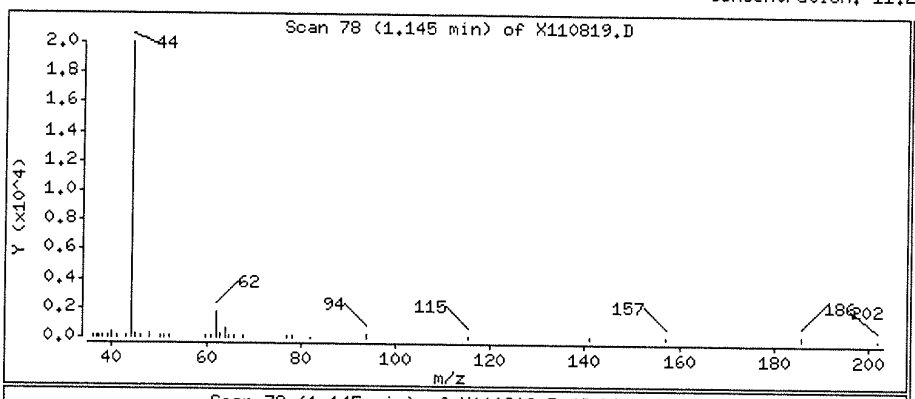
Operator: PC

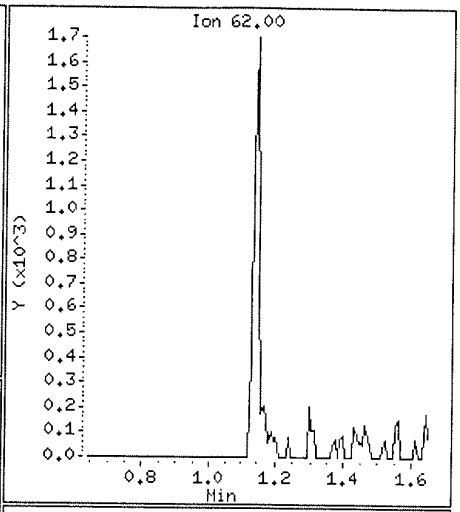
Column phase: DB624

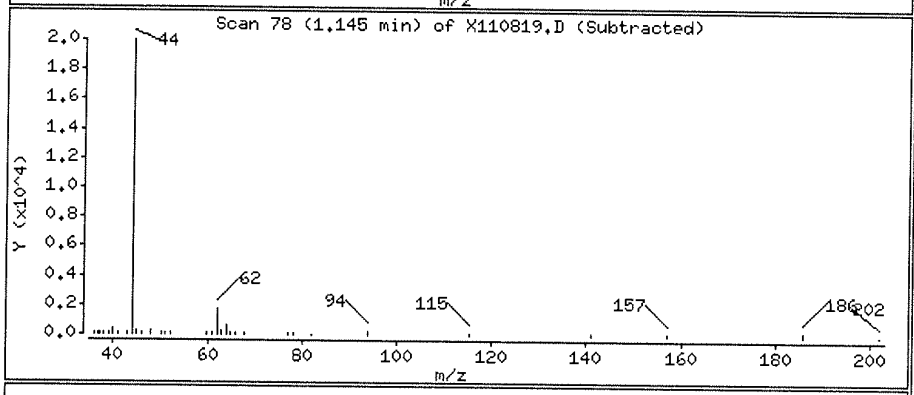
Column diameter: 0.18

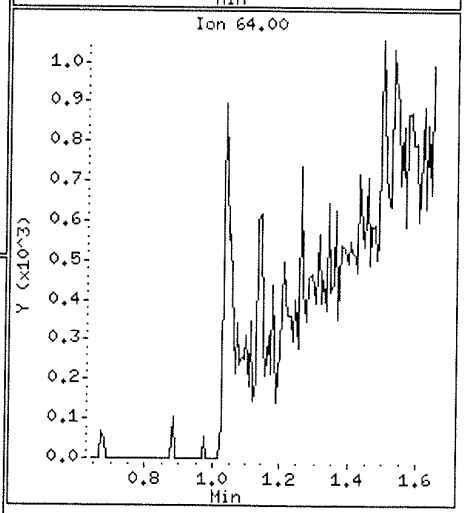
5 Vinyl Chloride

Concentration: 11.26 ug/l









Data File: \\NAHSTWS005\Target\chem\voa6.i\X211108.b\X110819.D

Date : 08-NOV-2021 17:47

Client ID: HS21101554-14

Instrument: voa6.i

Sample Info: HS21101554-14;HS21101554-14;;;

Purge Volume: 5.0

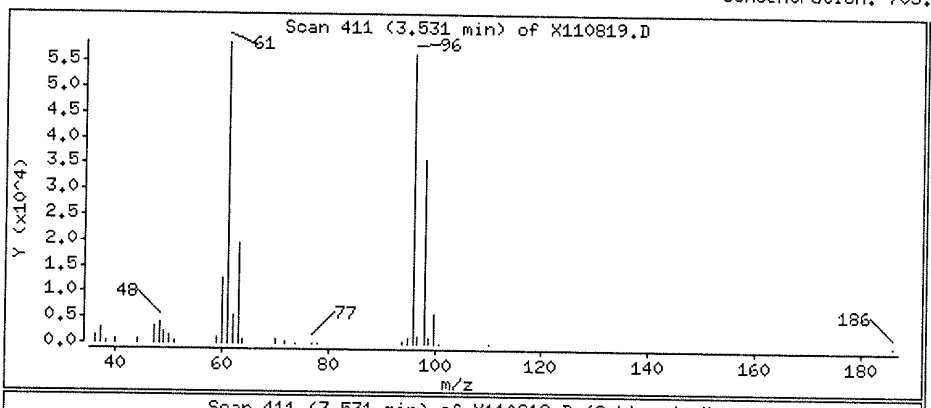
Operator: PC

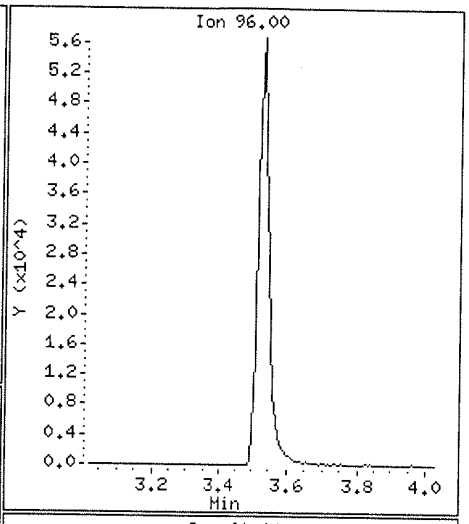
Column phase: DB624

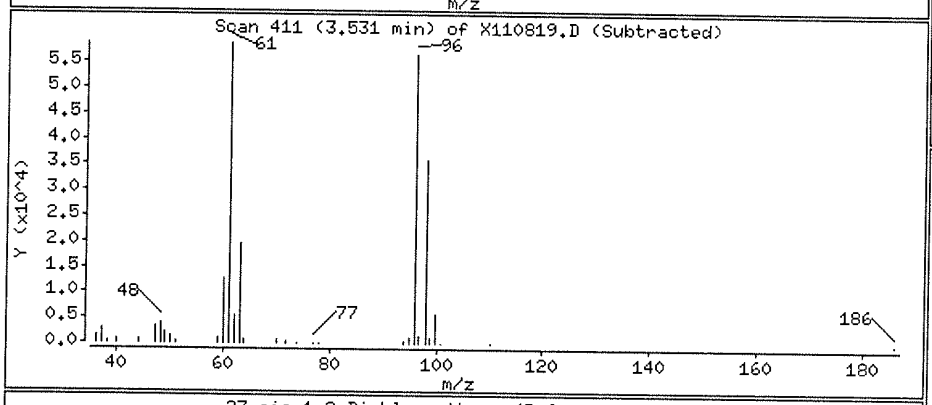
Column diameter: 0.18

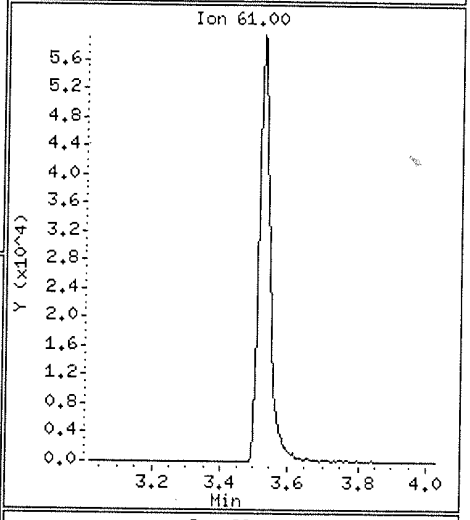
27 cis-1,2-Dichloroethene

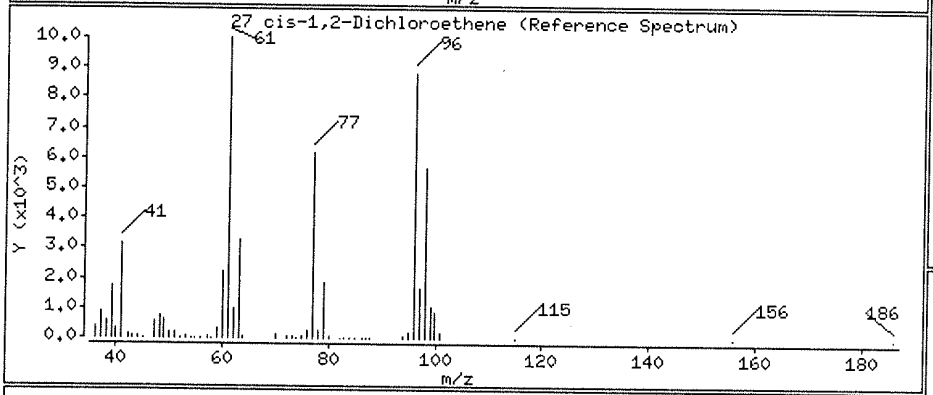
Concentration: 705.17 ug/l

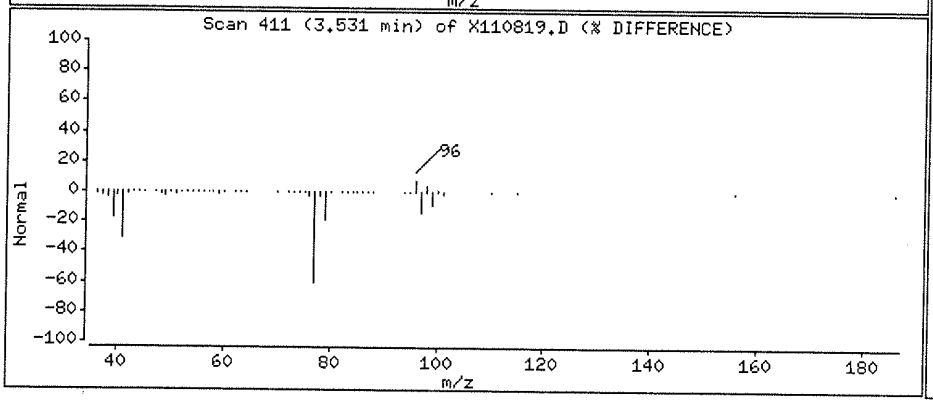


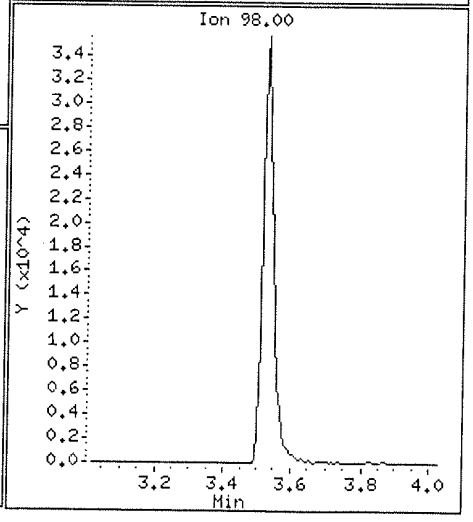












Data File: \\NAHSTWS005\Target\chem\voa6.i\X211108.b\X110819.D

Date : 08-NOV-2021 17:47

Client ID: HS21101554-14

Instrument: voa6.i

Sample Info: HS21101554-14;HS21101554-14;;;

Purge Volume: 5.0

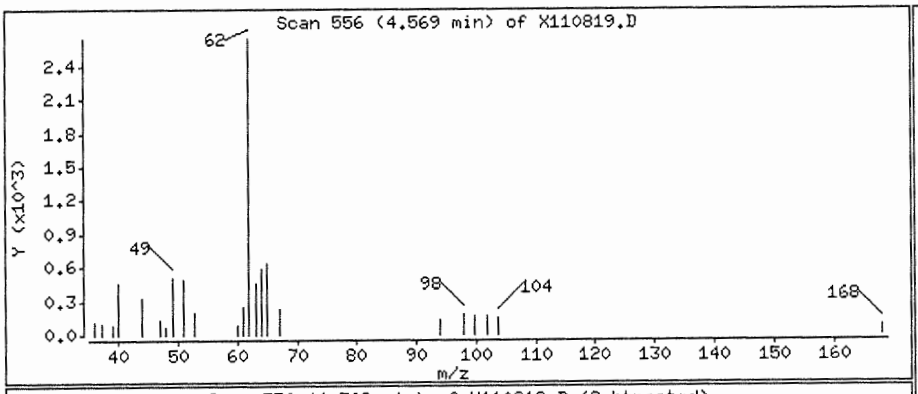
Operator: PC

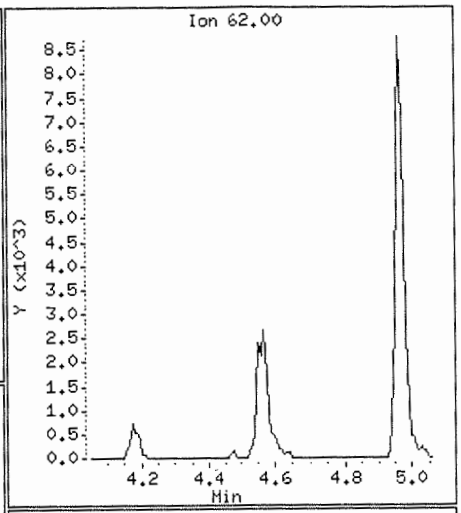
Column phase: DB624

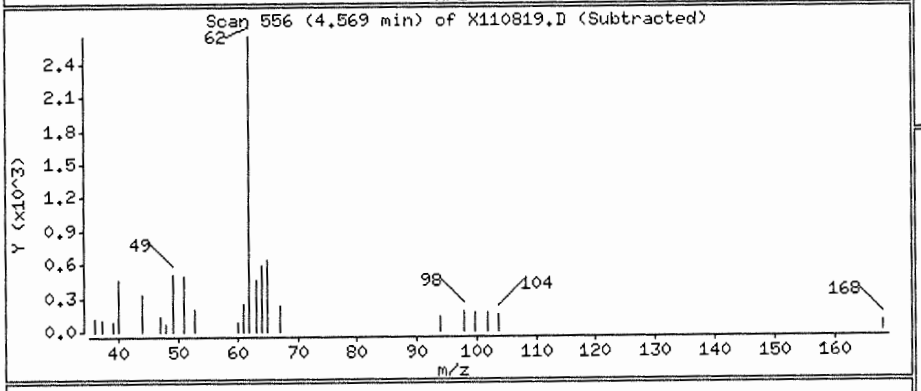
Column diameter: 0.18

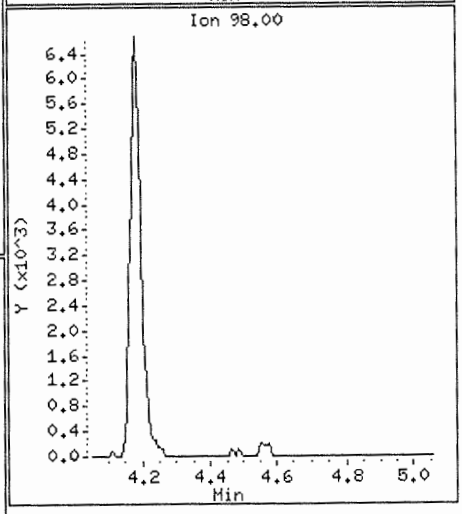
33 1,2-Dichloroethane

Concentration: 32.12 ug/l









Data File: \\NAHSTWS005\Target\ohem\voa6.i\X211108.b\X110819.D

Date : 08-NOV-2021 17:47

Client ID: HS21101554-14

Instrument: voa6.i

Sample Info: HS21101554-14;HS21101554-14;;;

Purge Volume: 5.0

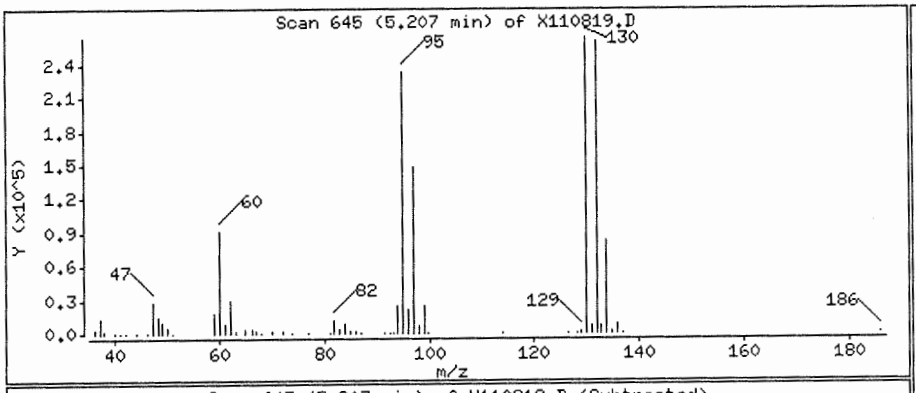
Operator: PC

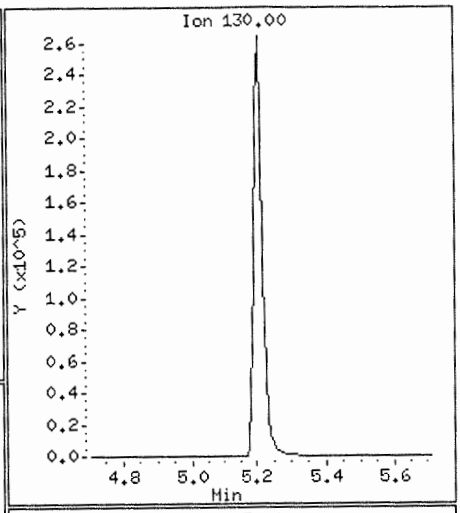
Column phase: DB624

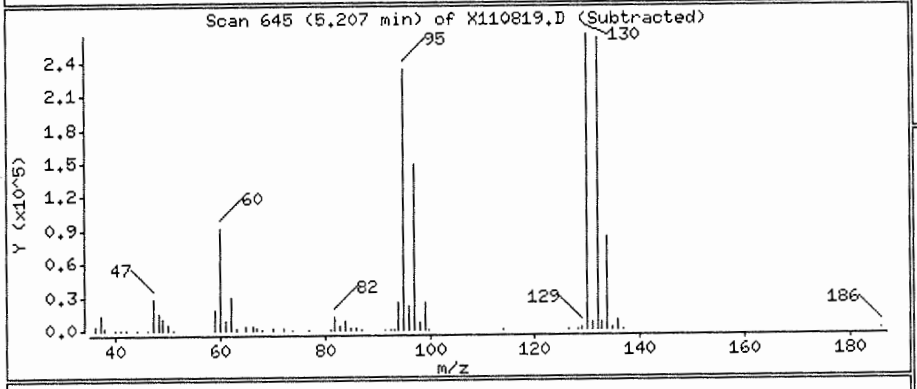
Column diameter: 0.18

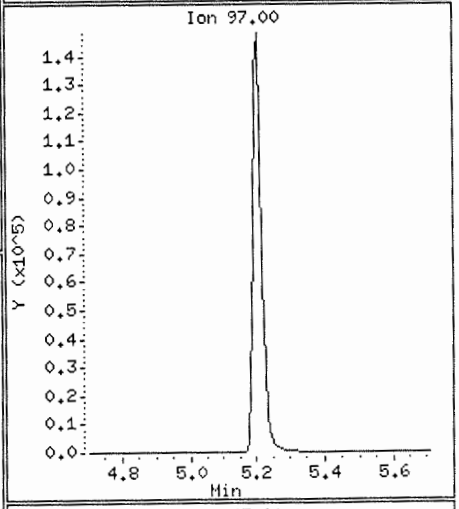
38 Trichloroethene

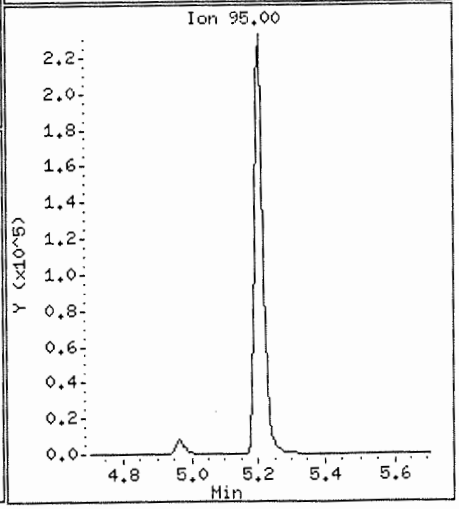
Concentration: 2773.89 ug/l











ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X211108.b\X110820.D
Lab Smp Id: HS21101554-18 Client Smp ID: HS21101554-18
Inj Date : 08-NOV-2021 18:08
Operator : PC Inst ID: voa6.i
Smp Info : HS21101554-18;HS21101554-18;;;
Misc Info : HS18090001;WATER;0;100;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X211108.b\8260W.m
Meth Date : 18-Nov-2021 15:36 kori.bagsb Quant Type: ISTD
Cal Date : 08-OCT-2021 15:34 Cal File: X100808.D
Als bottle: 19
Dil Factor: 100.00000
Integrator: HP RTE Compound Sublist: 01474-dod.sub
Target Version: 4.14
Processing Host: NAHSTW7017

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

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

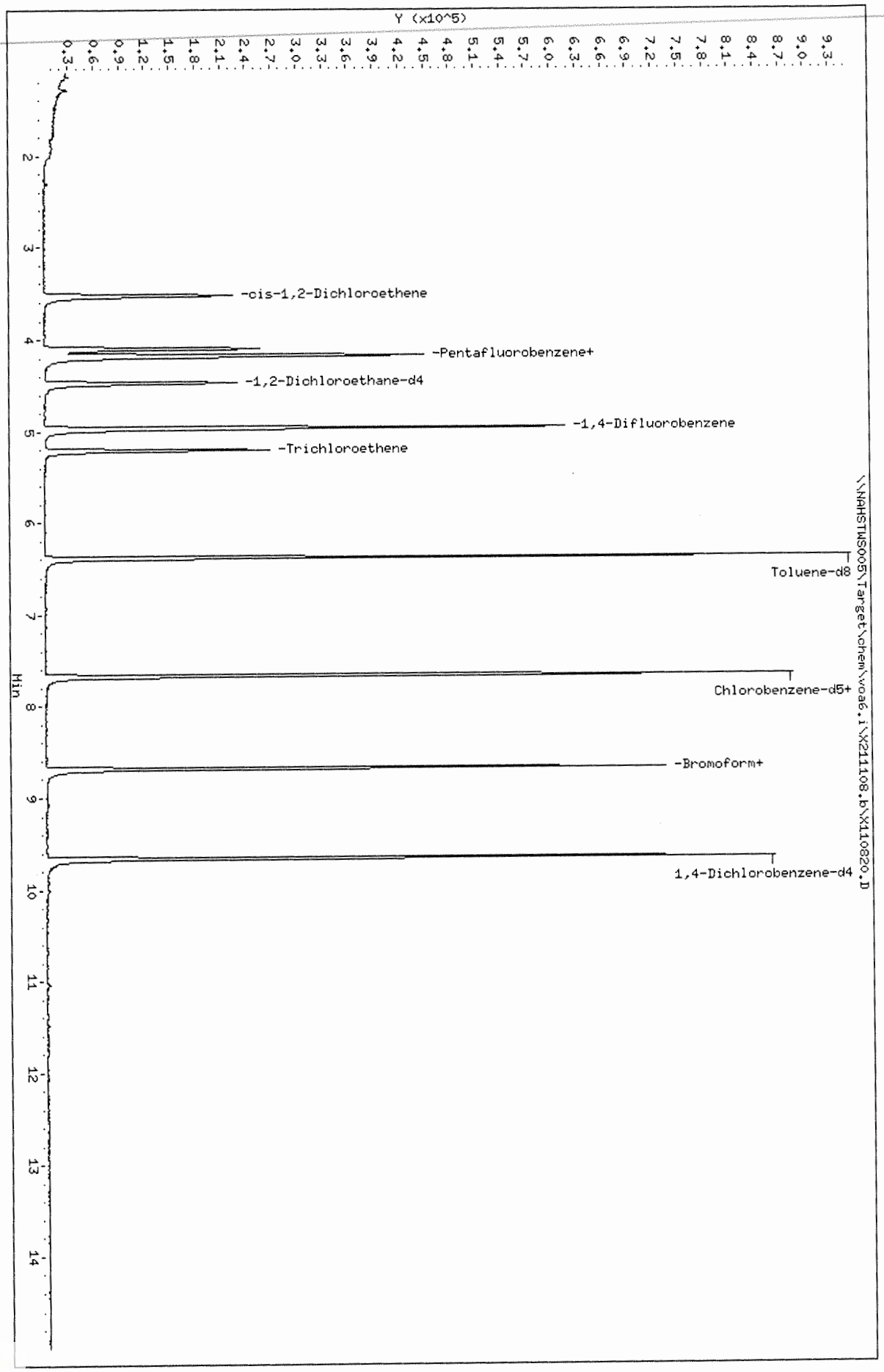
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	412069	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.096	(0.981)	181504	44.7553	44.75
$ 35 1,2-Dichloroethane-d4	65	4.469	4.476	(1.069)	168592	40.7592	40.75
* 36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	544555	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	473293	50.0000	
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	596896	49.6948	49.69
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	202376	48.9285	48.92
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	227190	50.0000	
5 Vinyl Chloride	62	1.145	1.145	(0.274)	2538	0.58746	58.74(a)
27 cis-1,2-Dichloroethene	96	3.530	3.523	(0.844)	124510	29.0634	2906.34
38 Trichloroethene	130	5.206	5.206	(1.049)	91682	22.2577	2225.76

QC Flag Legend

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

Data File: \\NAHSTWS005\Target\chem\voa6.i\X211103.b\X110820.D
Date : 08-NOV-2021 18:08
Client ID: HS21101554-18
Sample Info: HS21101554-18;HS21101554-18;;;
Purge Volume: 5.0
Column phase: DB624

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



Data File: \\NAHSTWS005\Target\chem\voa6.i\X211108.b\X110820.D

Date : 08-NOV-2021 18:08

Client ID: HS21101554-18

Instrument: voa6.i

Sample Info: HS21101554-18;HS21101554-18;;;

Operator: PC

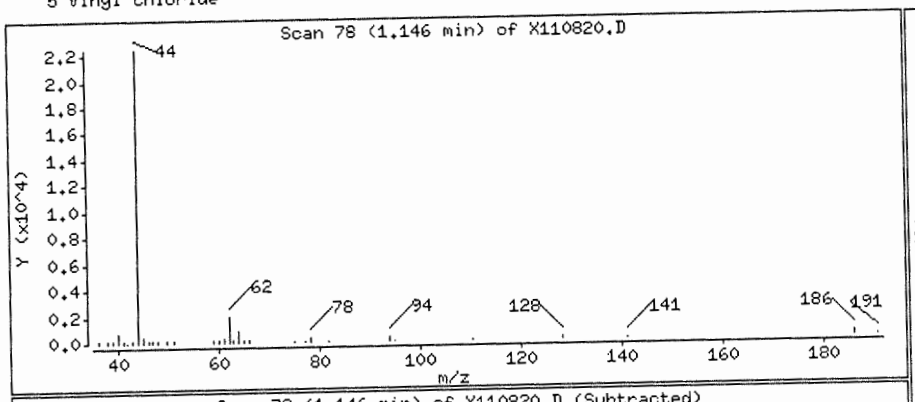
Purge Volume: 5.0

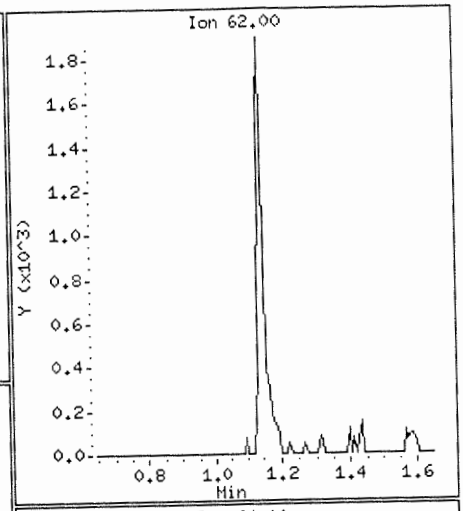
Column diameter: 0.18

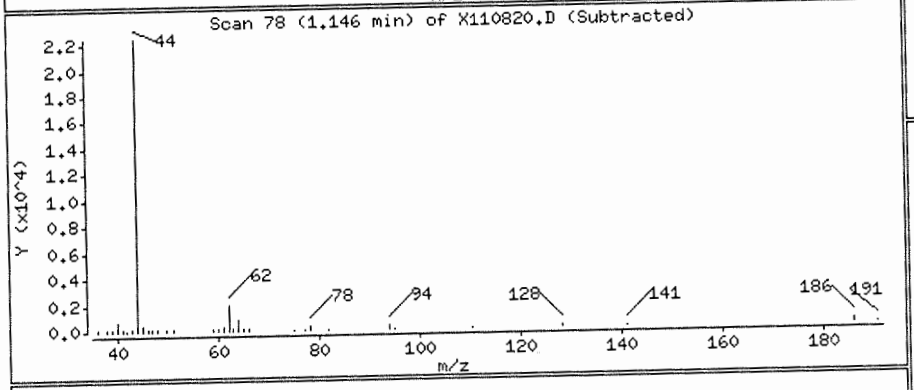
Column phase: DB624

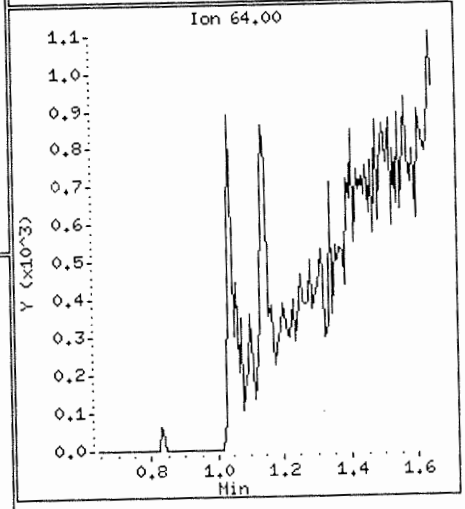
5 Vinyl Chloride

Concentration: 58.74 ug/l









Data File: \\NAHSTWS005\Target\chem\voa6.i\X211108.b\X110820.D

Date : 08-NOV-2021 18:08

Client ID: HS21101554-18

Instrument: voa6.i

Sample Info: HS21101554-18;HS21101554-18;;;

Purge Volume: 5.0

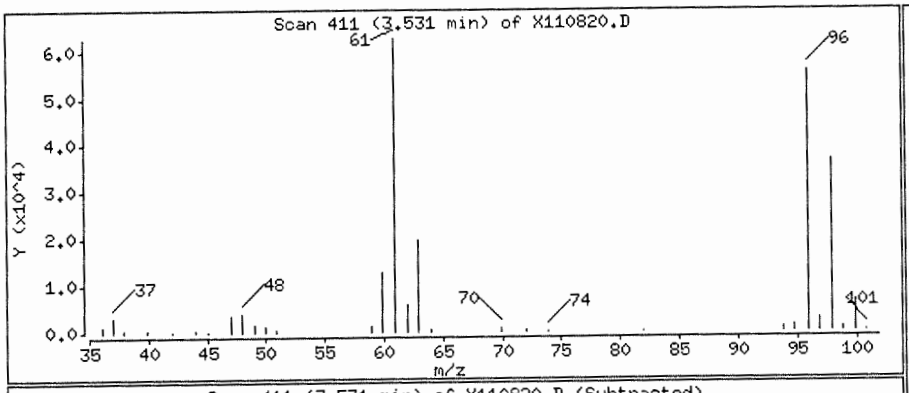
Operator: PC

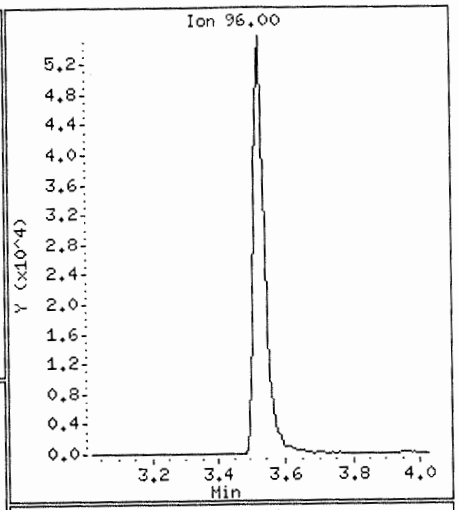
Column phase: DB624

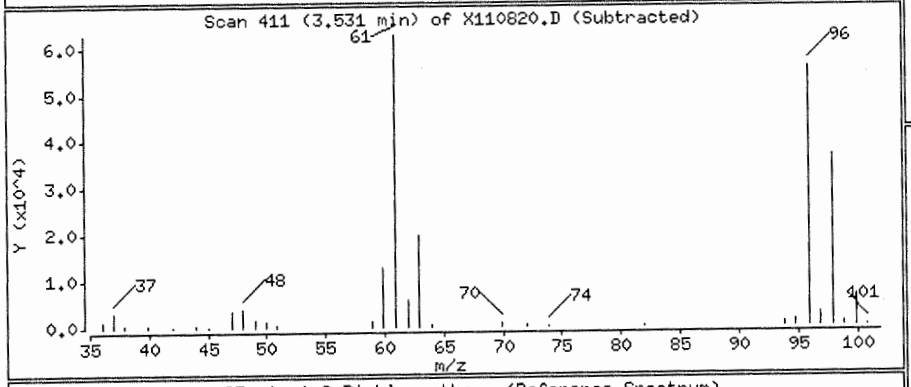
Column diameter: 0.18

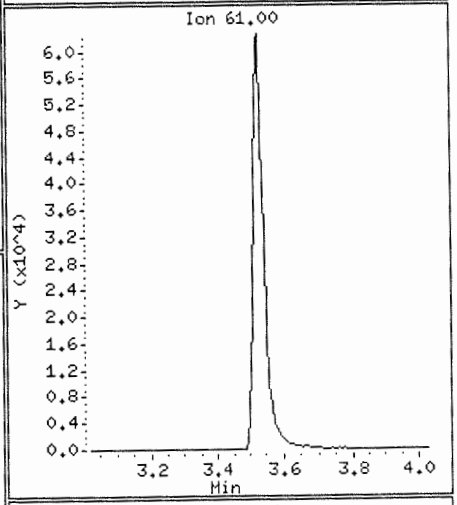
27 cis-1,2-Dichloroethene

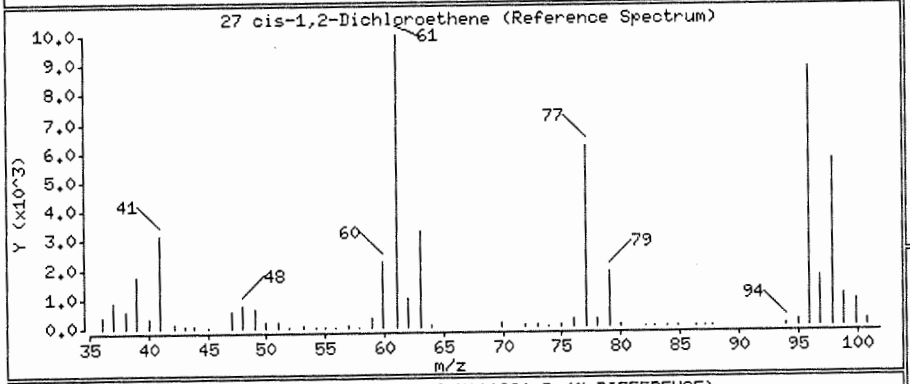
Concentration: 2906.34 ug/l

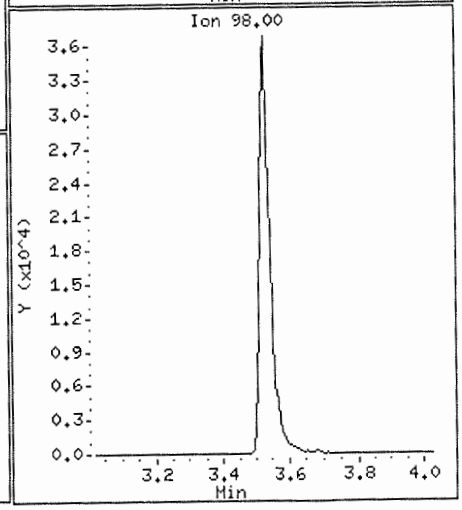


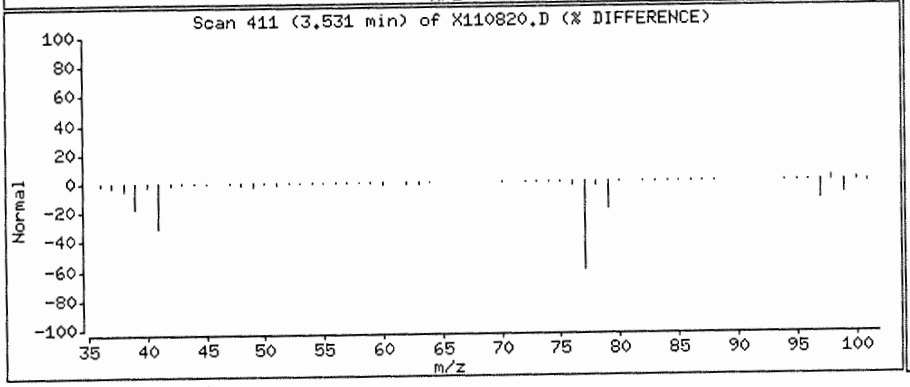












Data File: \\NAHSTWS005\Target\chem\voa6.i\X211108.b\X110820.D

Date : 08-NOV-2021 18:08

Client ID: HS21101554-18

Instrument: voa6.i

Sample Info: HS21101554-18;HS21101554-18;;;

Purge Volume: 5.0

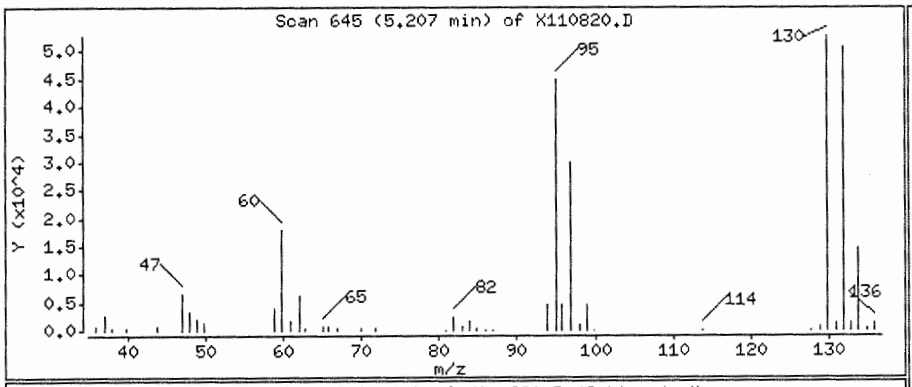
Operator: PC

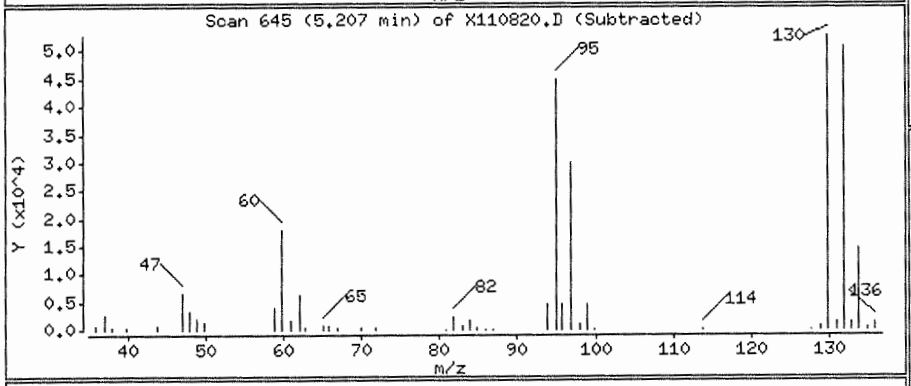
Column phase: DB624

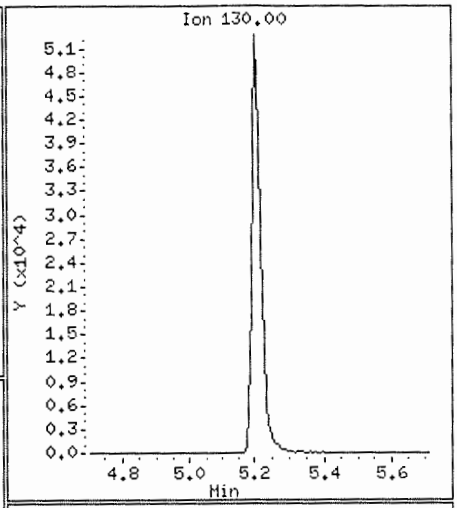
Column diameter: 0.18

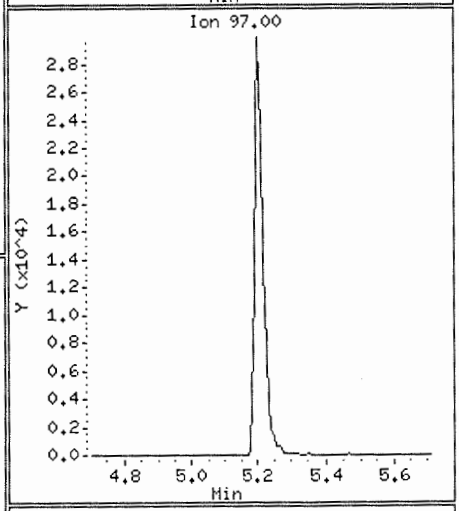
38 Trichloroethene

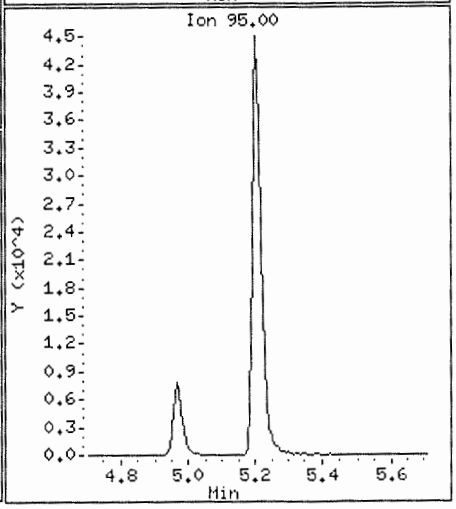
Concentration: 2225.76 ug/l











ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X211108.b\X110821.D
Lab Smp Id: HS21101554-17 Client Smp ID: HS21101554-17
Inj Date : 08-NOV-2021 18:29
Operator : PC Inst ID: voa6.i
Smp Info : HS21101554-17;HS21101554-17;;;
Misc Info : HS18090001;WATER;0;250;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X211108.b\8260W.m
Meth Date : 18-Nov-2021 15:36 kori.bagsb Quant Type: ISTD
Cal Date : 08-OCT-2021 15:34 Cal File: X100808.D
Als bottle: 20
Dil Factor: 250.00000
Integrator: HP RTE Compound Sublist: 01474-dod.sub
Target Version: 4.14
Processing Host: NAHSTW7017

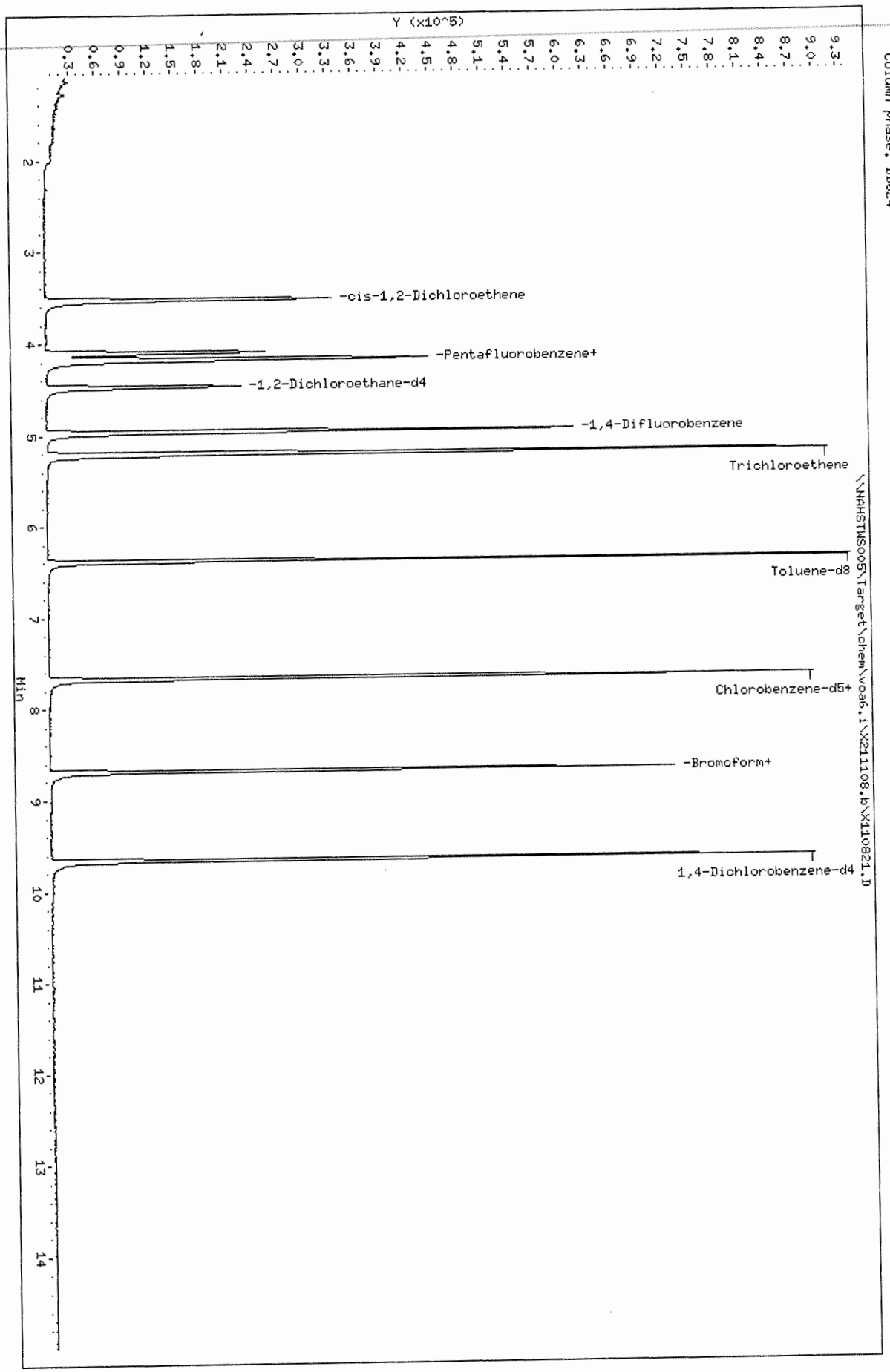
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

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

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	403596	50.0000	
$ 30 Dibromofluoromethane	113	4.096	4.096	(0.979)	181278	45.6605	45.66
$ 35 1,2-Dichloroethane-d4	65	4.469	4.476	(1.069)	170012	42.0256	42.02
* 36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	551774	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	487603	50.0000	
$ 48 Toluene-d8	98	6.381	6.388	(0.832)	593411	47.9548	47.95
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	202170	47.4028	47.40
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	237866	50.0000	
5 Vinyl Chloride	62	1.145	1.145	(0.274)	4451	1.05188	262.96(a)
27 cis-1,2-Dichloroethene	96	3.530	3.523	(0.844)	191237	45.5761	11394.03
38 Trichloroethene	130	5.207	5.206	(1.049)	315726	75.6462	18911.54

QC Flag Legend

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



Data File: \\NAHSTWS005\Target\chem\voa6.i\X211108.b\X110821.D
Date : 08-NOV-2021 18:29
Client ID: HS21101554-17
Sample Info: HS21101554-17;HS21101554-17;;;
Purge Volume: 5.0
Column phase: DB624

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

Data File: \\NAHSTWS005\Target\chem\voa6.i\X211108.b\X110821.D

Date : 08-NOV-2021 18:29

Client ID: HS21101554-17

Instrument: voa6.i

Sample Info: HS21101554-17;HS21101554-17;;;

Purge Volume: 5.0

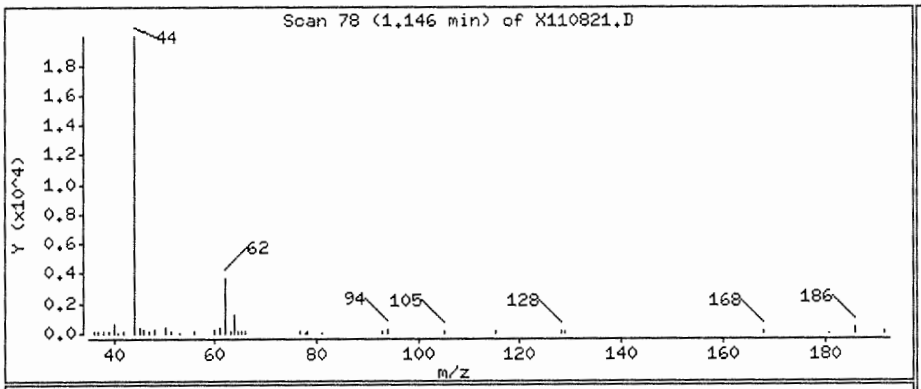
Operator: PC

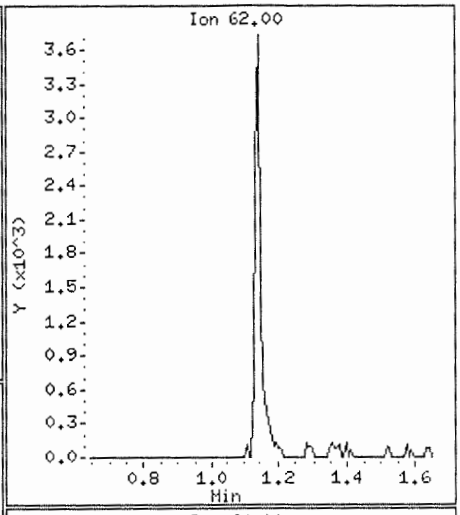
Column phase: DB624

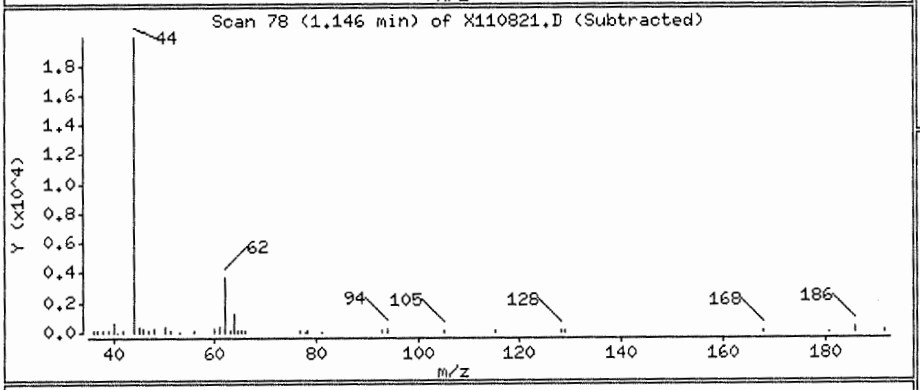
Column diameter: 0.18

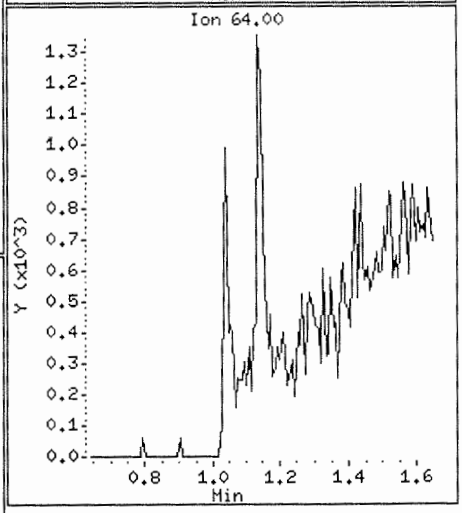
5 Vinyl Chloride

Concentration: 262.96 ug/l









Data File: \\NAHSTWS005\Target\chem\voa6.i\X211108.b\X110821.D

Date : 08-NOV-2021 18:29

Client ID: HS21101554-17

Instrument: voa6.i

Sample Info: HS21101554-17;HS21101554-17;;;

Purge Volume: 5.0

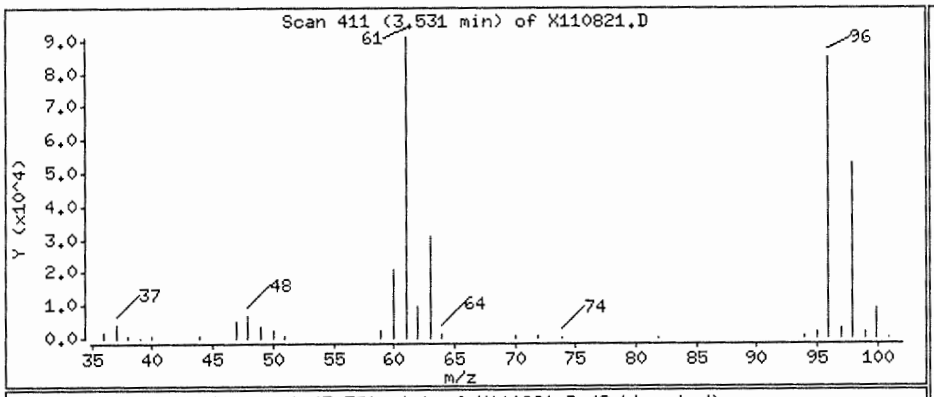
Operator: PC

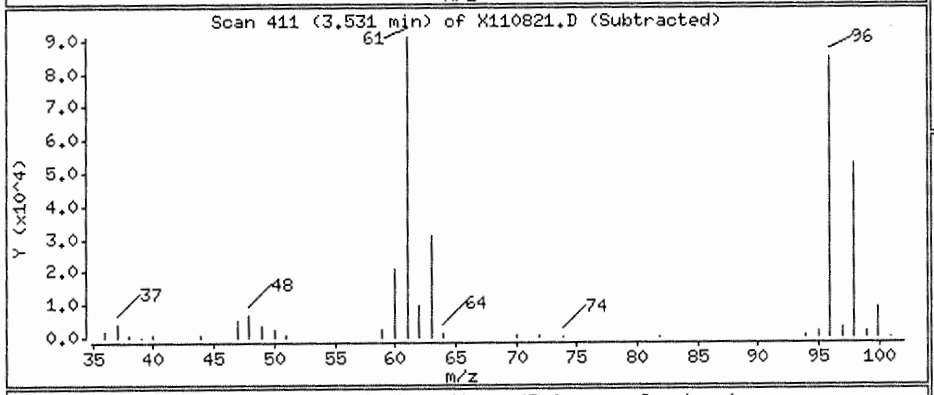
Column phase: DB624

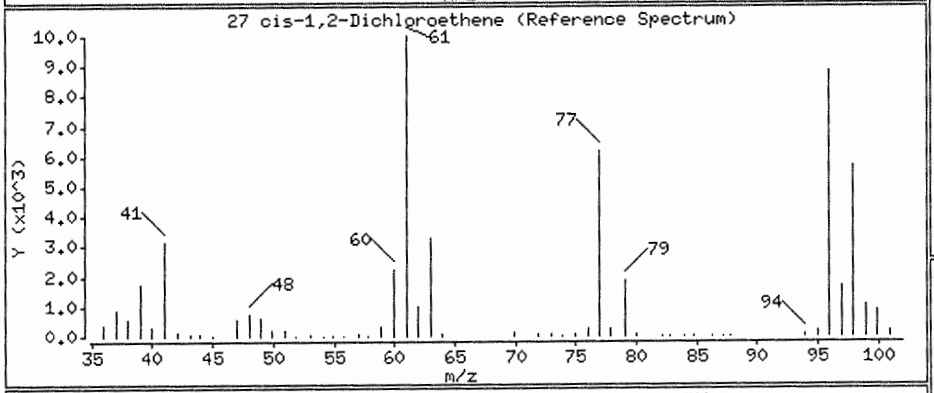
Column diameter: 0.18

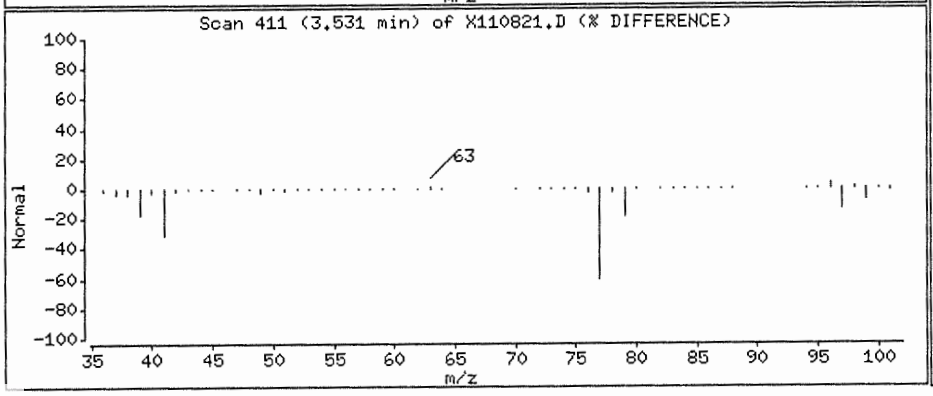
27 cis-1,2-Dichloroethene

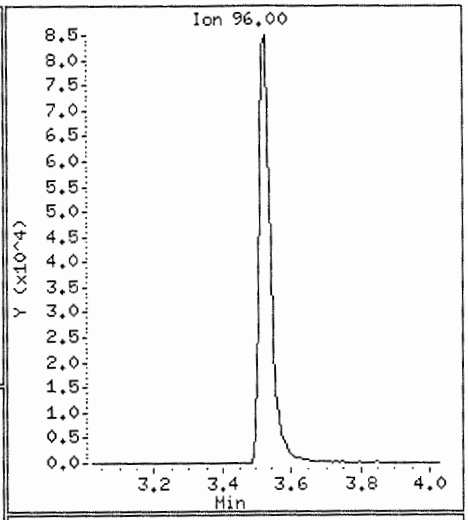
Concentration: 11394.03 ug/l

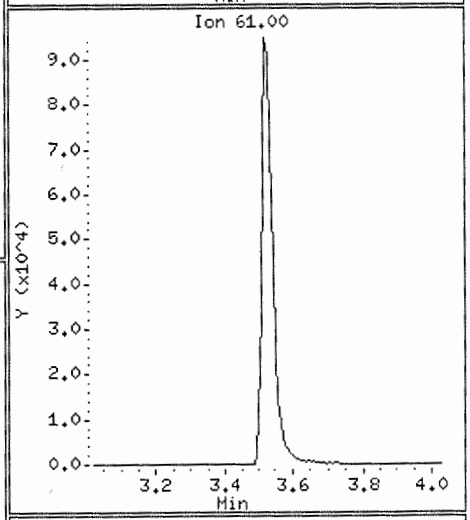


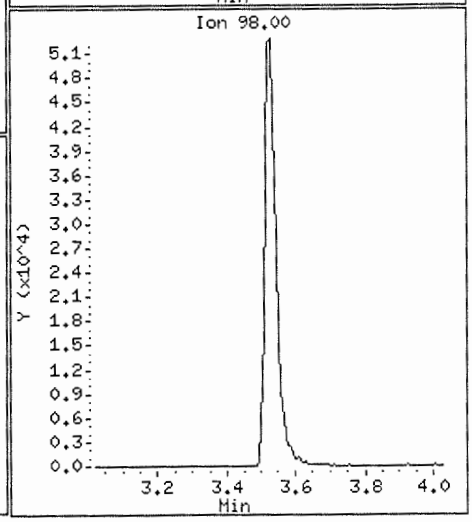












Data File: \\NAHSIWS005\Target\chem\voa6.i\X211108.b\X110821.D

Date : 08-NOV-2021 18:29

Client ID: HS21101554-17

Instrument: voa6.i

Sample Info: HS21101554-17;HS21101554-17;;;

Purge Volume: 5.0

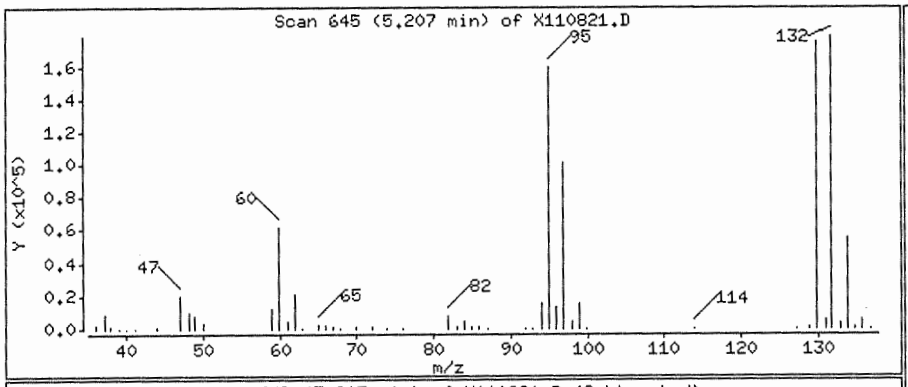
Operator: PC

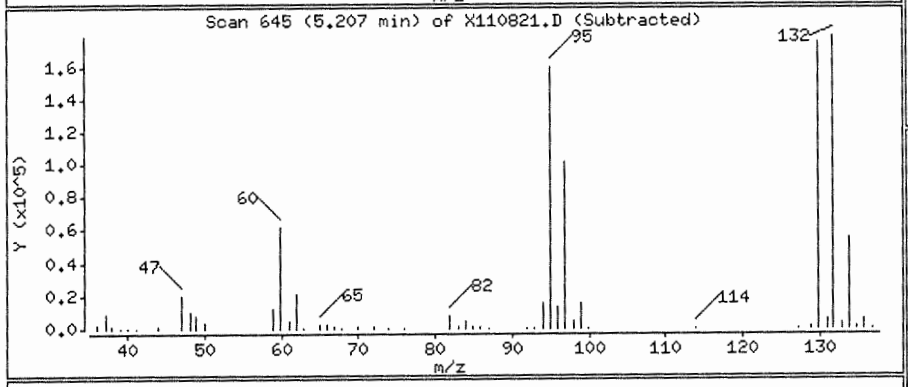
Column phase: DB624

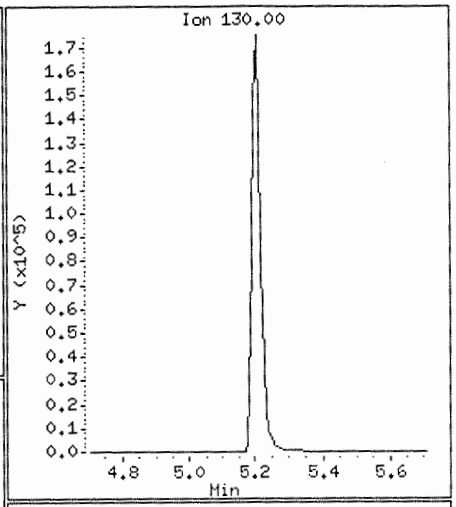
Column diameter: 0.18

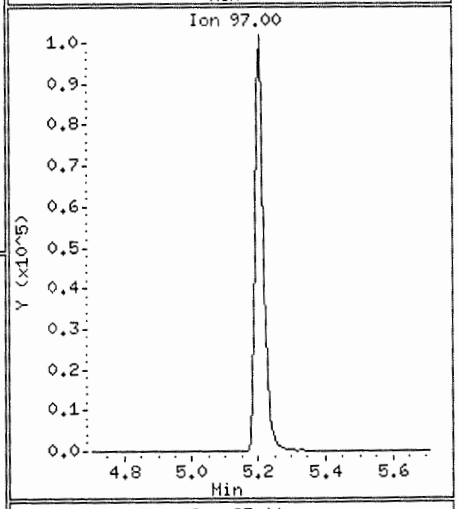
38 Trichloroethene

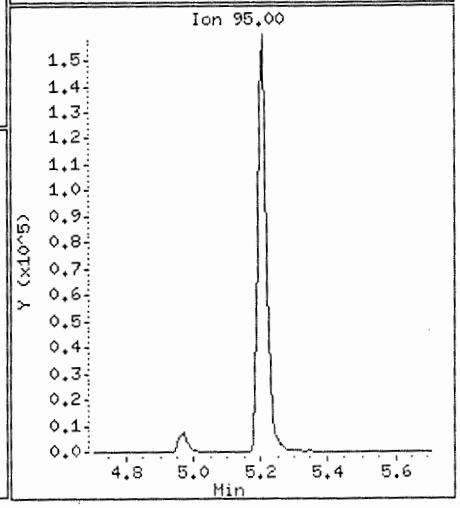
Concentration: 18911.54 ug/l











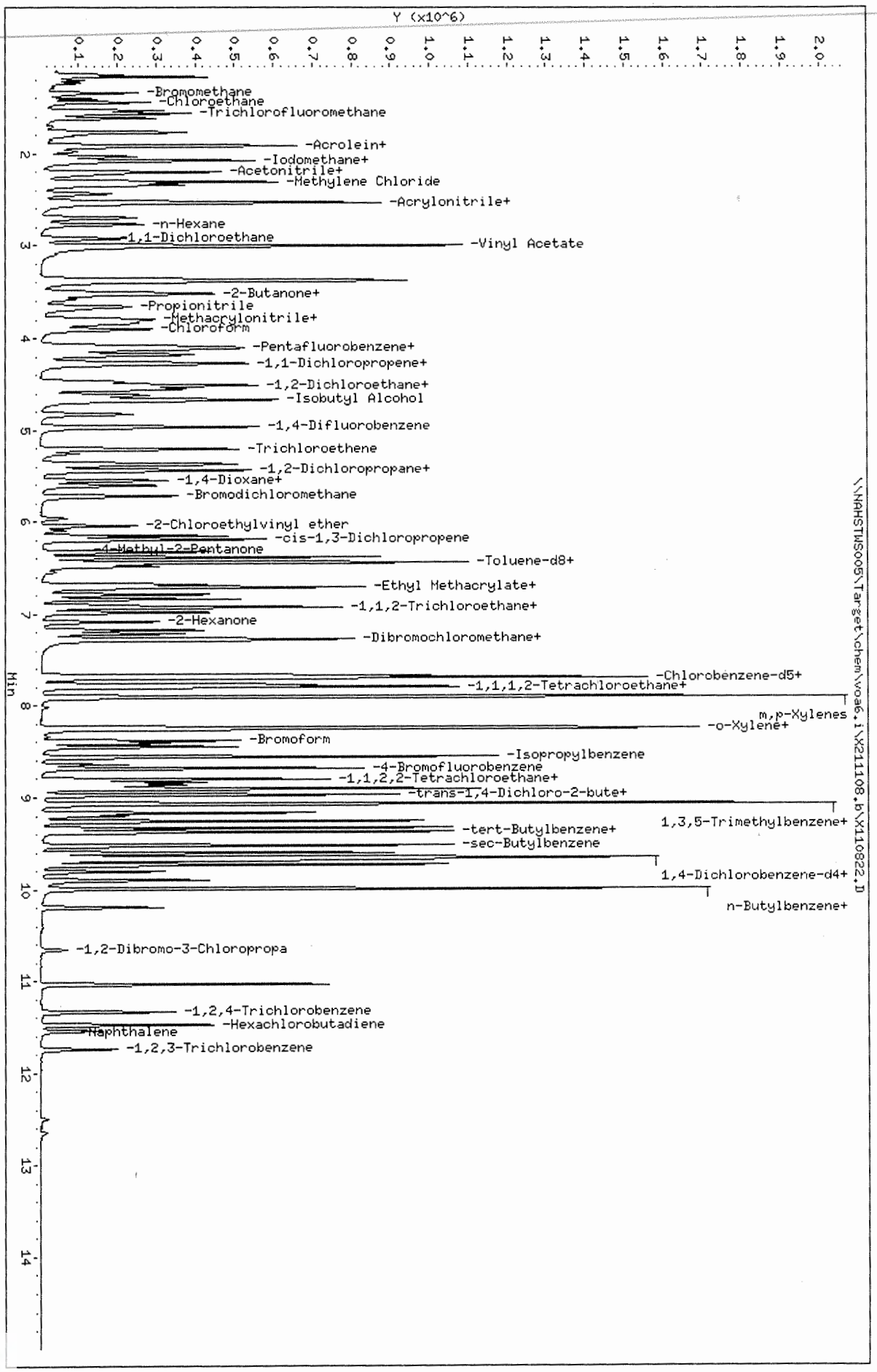
ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X211108.b\X110822.D
Lab Smp Id: CCV-END Client Smp ID: CCV-END
Inj Date : 08-NOV-2021 18:50
Operator : PC Inst ID: voa6.i
Smp Info : CCV-END;CCV-END;2;;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X211108.b\8260W.m
Meth Date : 18-Nov-2021 15:45 voa6.i Quant Type: ISTD
Cal Date : 08-OCT-2021 15:34 Cal File: X100808.D
Als bottle: 21 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 01474-dod.sub
Target Version: 4.14
Processing Host: NAHSTW7017

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

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

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	351697	50.0000	
$ 30 Dibromofluoromethane	113	4.096	4.096	(0.979)	169532	50.0000	49.08
$ 35 1,2-Dichloroethane-d4	65	4.469	4.469	(1.069)	155702	50.0000	44.27
* 36 1,4-Difluorobenzene	114	4.963	4.963	(1.000)	496968	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	475570	50.0000	
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	535680	50.0000	44.38
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	197666	50.0000	47.52
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	246211	50.0000	
5 Vinyl Chloride	62	1.145	1.145	(0.274)	144467	50.0000	39.17
11 1,1-Dichloroethene	96	1.911	1.911	(0.457)	127850	50.0000	40.75
17 Methylene Chloride	84	2.305	2.305	(0.551)	140488	50.0000	45.68
27 cis-1,2-Dichloroethene	96	3.523	3.523	(0.842)	164630	50.0000	45.02
33 1,2-Dichloroethane	62	4.555	4.555	(0.918)	181509	50.0000	43.54
38 Trichloroethene	130	5.206	5.206	(1.049)	177110	50.0000	47.11
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	109557	50.0000	43.17



Data File: \\NAHSTWS005\Target\chem\voa6.i\X211108.b\X110822.D
Date : 08-NOV-2021 18:50
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

HS21101554 RSK 175 Raw Data

ALS WO# HS21101554

FID04 -Logbook

Batch: 26730
Date: 01-24-2017
Method: RSK 175 ICAL
Comments: Target Sequence 170124

Analyst: Nosa Izekor
Reviewer:
Laboratory: Houston

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

Chemical	Value
ICAL STD ID	30010700217
ICV STD ID	30010700610

FORM 3
WATER GASES METHOD SPIKE RECOVERY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS21101554

Matrix Spike - ENG SC Sample No.: ICV

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

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

COMMENTS: _____

_____

FORM III GASES

FORM 6
GASES INITIAL CALIBRATION DATA

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS21101554

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

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

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

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

FORM VI GASES

FORM 6
GASES INITIAL CALIBRATION DATA

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS2110155

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

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

RF1000: 007

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

FORM VI GASES

Data File: \\nahstws005\Target\chem\FID-4.i\170124A.b\001.D
Report Date: 16-Nov-2021 16:08

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\170124A.b\001.D
Lab Smp Id: ICAL1 Client Smp ID: ICAL1
Inj Date : 24-JAN-2017 09:06
Operator : JA Inst ID: FID-4.i
Smp Info : ICAL1;ICAL1;;;
Misc Info :
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\170124A.b\RSKNI2.m
Meth Date : 15-Nov-2021 14:10 linh.pham Quant Type: ESTD
Cal Date : 24-JAN-2017 09:06 Cal File: 001.D
Als bottle: 1 Calibration Sample, Level: 1
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: stdNIP2.sub
Target Version: 4.14

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

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

QC Flag Legend

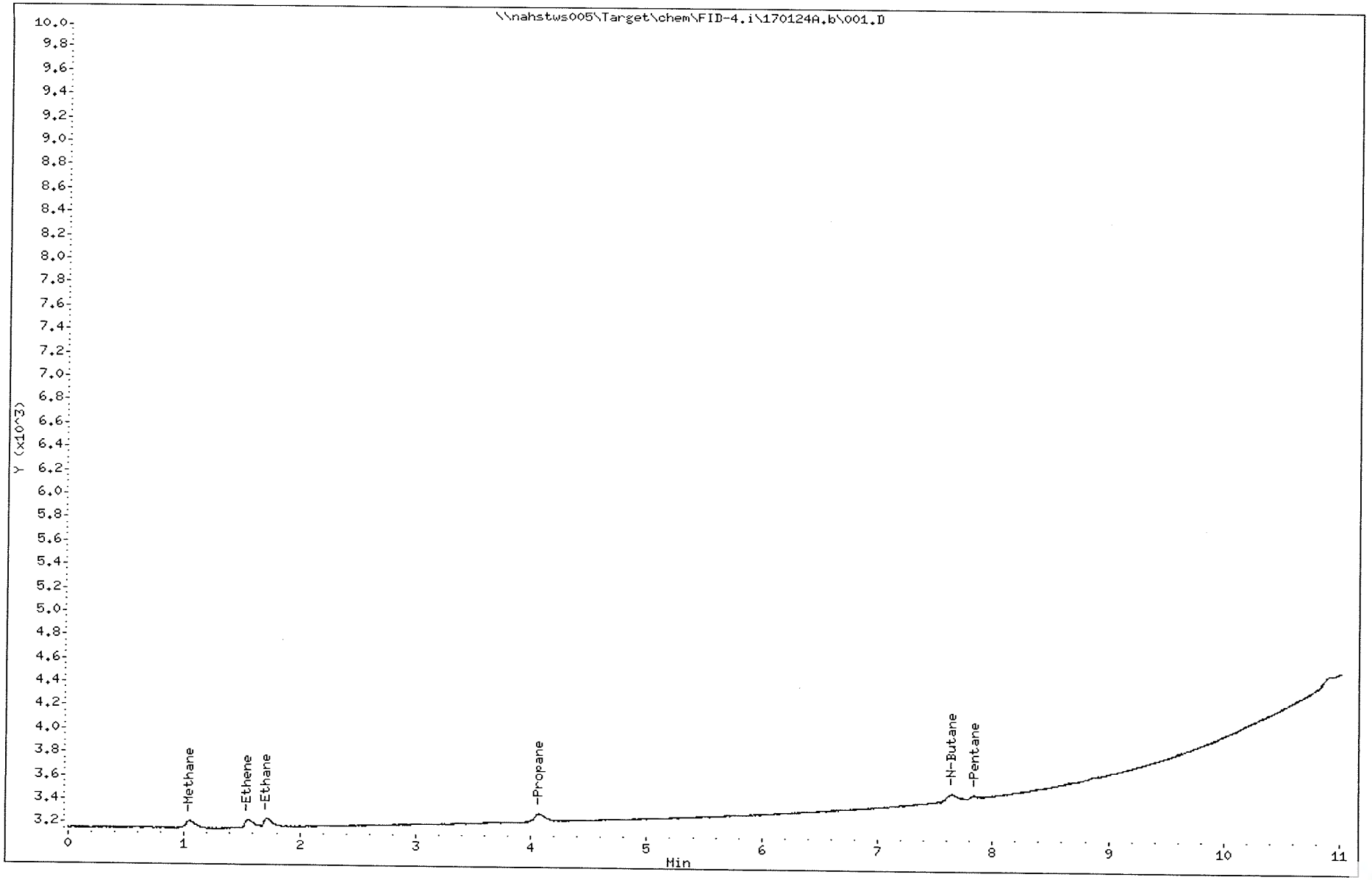
a - Target compound detected but, quantitated amount Below Limit Of Quantitation(BLOQ).

Data File: \\nahstws005\Target\chem\FID-4.i\170124A.b\001.D
Date : 24-JAN-2017 09:06
Client ID: ICAL1
Sample Info: ICAL1;ICAL1;;;

Column phase: Rtx-PLOT

Instrument: FID-4.i

Operator: JA
Column diameter: 0.53



Data File: \\nahstws005\Target\chem\FID-4.i\170124A.b\002.D Page 1
Report Date: 16-Nov-2021 16:08

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\170124A.b\002.D
Lab Smp Id: ICAL2 Client Smp ID: ICAL2
Inj Date : 24-JAN-2017 09:30
Operator : MA Inst ID: FID-4.i
Smp Info : ICAL2;ICAL2;;;
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\170124A.b\RSKNI2.m
Meth Date : 15-Nov-2021 14:10 linh.pham Quant Type: ESTD
Cal Date : 24-JAN-2017 09:59 Cal File: 003.D
Als bottle: 2 Calibration Sample, Level: 2
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: stdNIP2.sub
Target Version: 4.14

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

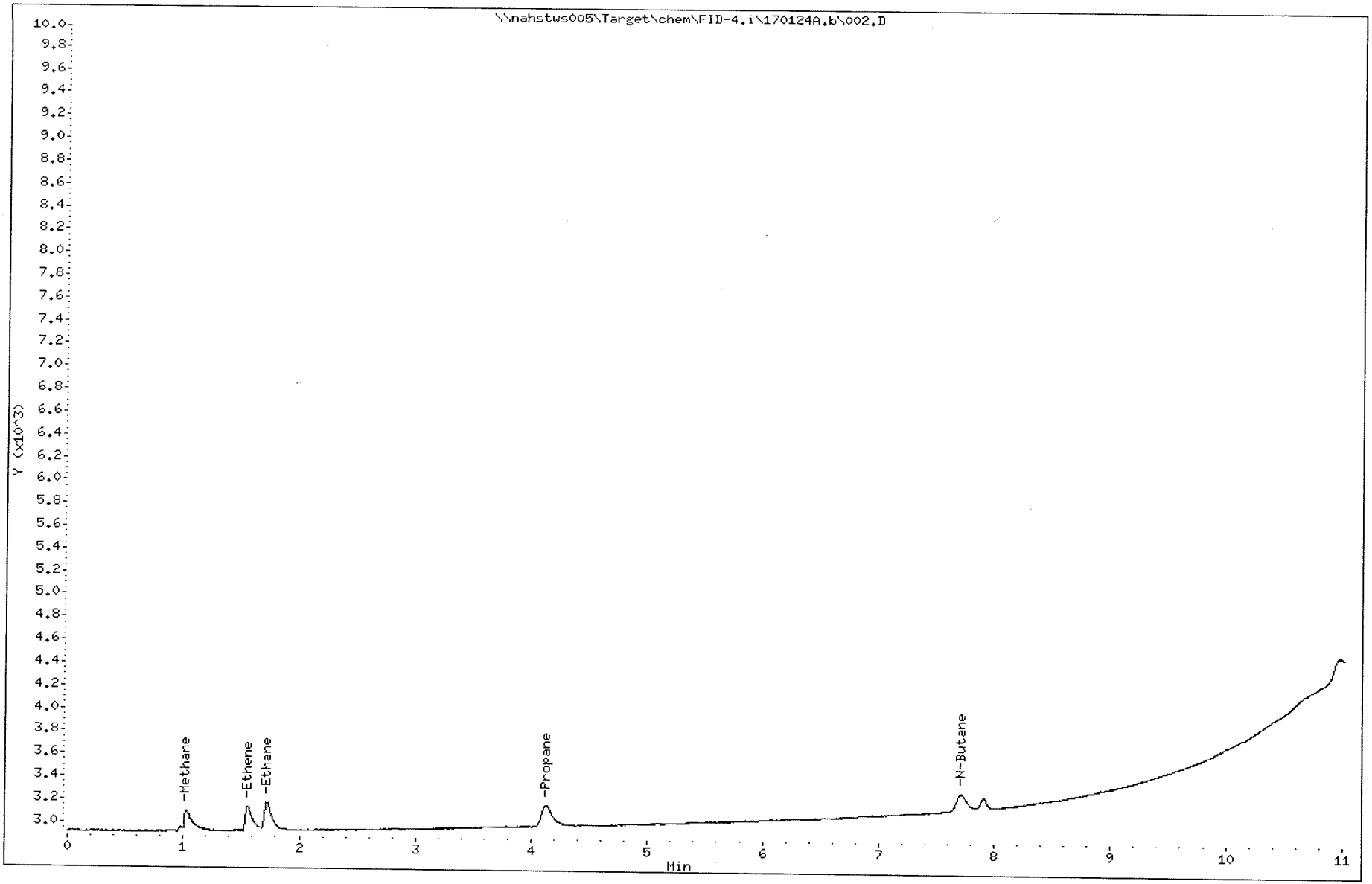
Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)
1 Methane	1.023	1.030	-0.007	944	0.96500	0.968
2 Ethene	1.560	1.556	0.004	956	1.68500	1.630
3 Ethane	1.723	1.723	0.000	1209	1.80400	1.641
4 Propane	4.123	4.113	0.010	1279	2.64600	2.927
5 N-Butane	7.716	7.690	0.026	936	3.49600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

Data File: \\nahstws005\Target\chem\FID-4.i\170124A.b\002.D
Date : 24-JAN-2017 09:30
Client ID: ICAL2
Sample Info: ICAL2;ICAL2;;;

Column phase: Rtx-PLOT

Instrument: FID-4.i

Operator: MA
Column diameter: 0.53



Data File: \\nahstws005\Target\chem\FID-4.i\170124A.b\003.D
Report Date: 16-Nov-2021 16:08

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\170124A.b\003.D
Lab Smp Id: ICAL3 Client Smp ID: ICAL3
Inj Date : 24-JAN-2017 09:59
Operator : MA Inst ID: FID-4.i
Smp Info : ICAL3;ICAL3;;;
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\170124A.b\RSKNI2.m
Meth Date : 15-Nov-2021 14:10 linh.pham Quant Type: ESTD
Cal Date : 24-JAN-2017 11:13 Cal File: 007.D
Als bottle: 3 Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: stdNIP2.sub
Target Version: 4.14

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

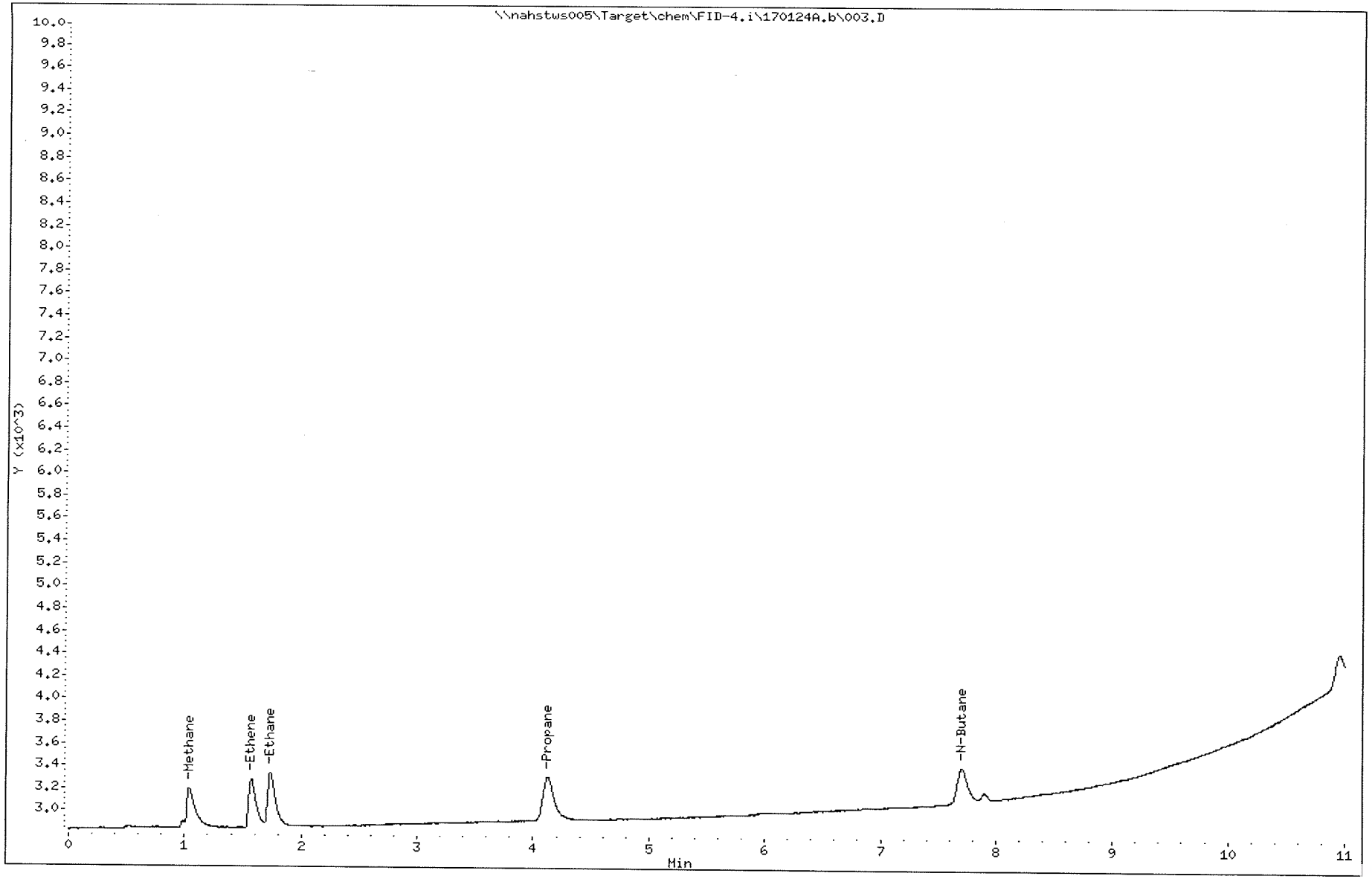
Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)
1 Methane	1.043	1.030	0.013	1967	1.92900	2.018
2 Ethene	1.570	1.556	0.014	1904	3.37000	3.247
3 Ethane	1.736	1.723	0.013	2378	3.60900	3.229
4 Propane	4.123	4.113	0.010	2602	5.29300	4.926
5 N-Butane	7.703	7.690	0.013	2034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

Data File: \\nahstws005\Target\chem\FID-4.i\170124A.b\003.D
Date : 24-JAN-2017 09:59
Client ID: ICAL3
Sample Info: ICAL3;ICAL3;;;

Column phase: Rtx-PLOT

Instrument: FID-4.i

Operator: MA
Column diameter: 0.53



Data File: \\nahstws005\Target\chem\FID-4.i\170124A.b\004.D Page 1
Report Date: 16-Nov-2021 16:08

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\170124A.b\004.D
Lab Smp Id: ICAL4 Client Smp ID: ICAL4
Inj Date : 24-JAN-2017 10:15
Operator : MA Inst ID: FID-4.i
Smp Info : ICAL4;ICAL4;;;
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\170124A.b\RSKNI2.m
Meth Date : 15-Nov-2021 14:10 linh.pham Quant Type: ESTD
Cal Date : 24-JAN-2017 09:30 Cal File: 002.D
Als bottle: 4 Calibration Sample, Level: 4
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: stdNIP2.sub
Target Version: 4.14

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

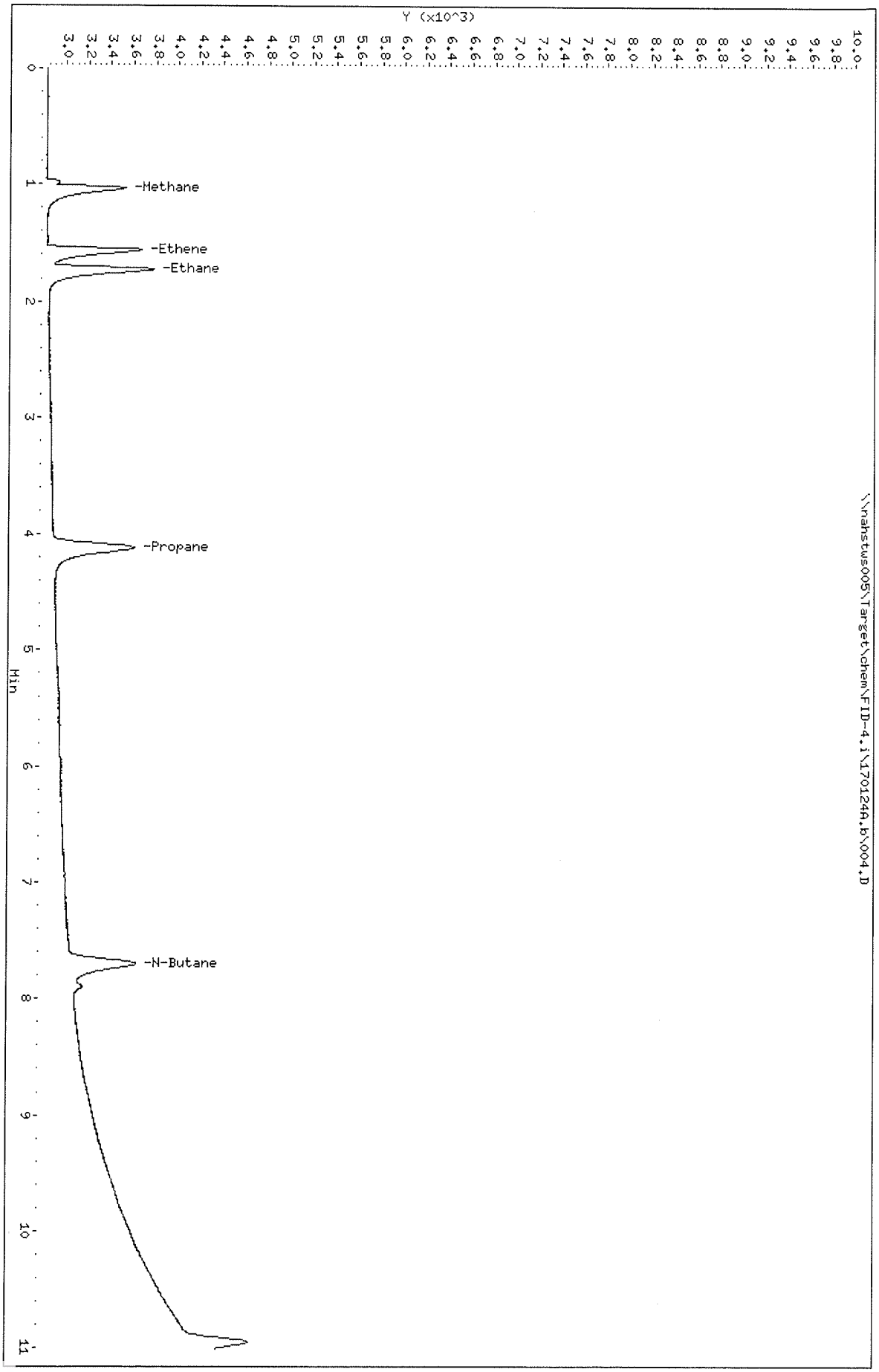
Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)
1 Methane	1.033	1.030	0.003	3399	3.85900	3.488
2 Ethene	1.563	1.556	0.007	3478	6.74000	5.932
3 Ethane	1.726	1.723	0.003	4310	7.21700	5.853
4 Propane	4.120	4.113	0.007	4785	10.5850	8.190
5 N-Butane	7.703	7.690	0.013	3864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

QC Flag Legend

M - Compound response manually integrated.

Data File: \\nahstws005\Target\chem\FID-4.i\170124A.b\004.D
Date : 24-JAN-2017 10:15
Client ID: ICAL4
Sample Info: ICAL4;ICAL4;;;
Column phase: Rtx-PLOT

Instrument: FID-4.i
Operator: MA
Column diameter: 0.53



Data File: \\nahstws005\Target\chem\FID-4.i\170124A.b\005.D Page 1
Report Date: 16-Nov-2021 16:08

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\170124A.b\005.D
Lab Smp Id: ICAL5 Client Smp ID: ICAL5
Inj Date : 24-JAN-2017 10:39
Operator : MA Inst ID: FID-4.i
Smp Info : ICAL5;ICAL5;;;
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\170124A.b\RSKNI2.m
Meth Date : 15-Nov-2021 14:10 linh.pham Quant Type: ESTD
Cal Date : 24-JAN-2017 10:39 Cal File: 005.D
Als bottle: 5 Calibration Sample, Level: 5
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: stdNIP2.sub
Target Version: 4.14

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

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

QC Flag Legend

M - Compound response manually integrated.

Data File: \\nahstws005\Target\chem\FID-4.i\170124A.b\005.D

Date : 24-JAN-2017 10:39

Client ID: ICAL5

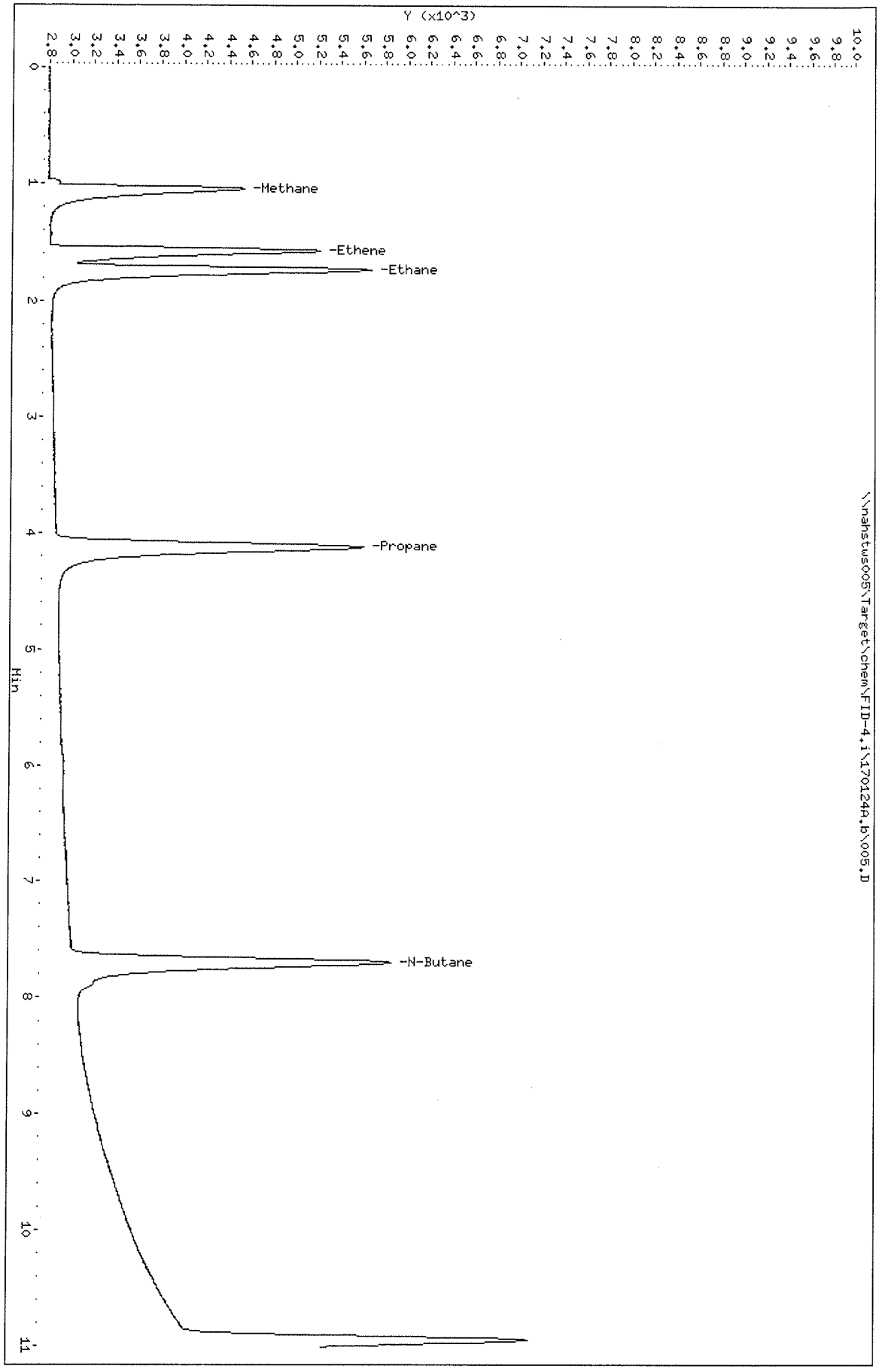
Sample Info: ICAL5;ICAL5;;;

Column phase: Rtx-PLOT

Instrument: FID-4.i

Operator: HA

Column diameter: 0.53



Data File: \\nahstws005\Target\chem\FID-4.i\170124A.b\006.D
Report Date: 16-Nov-2021 16:08

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\170124A.b\006.D
Lab Smp Id: ICAL6 Client Smp ID: ICAL6
Inj Date : 24-JAN-2017 10:57
Operator : MA Inst ID: FID-4.i
Smp Info : ICAL6;ICAL6;;;
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\170124A.b\RSKNI2.m
Meth Date : 15-Nov-2021 14:10 linh.pham Quant Type: ESTD
Cal Date : 24-JAN-2017 10:39 Cal File: 005.D
Als bottle: 6 Calibration Sample, Level: 6
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: stdNIP2.sub
Target Version: 4.14

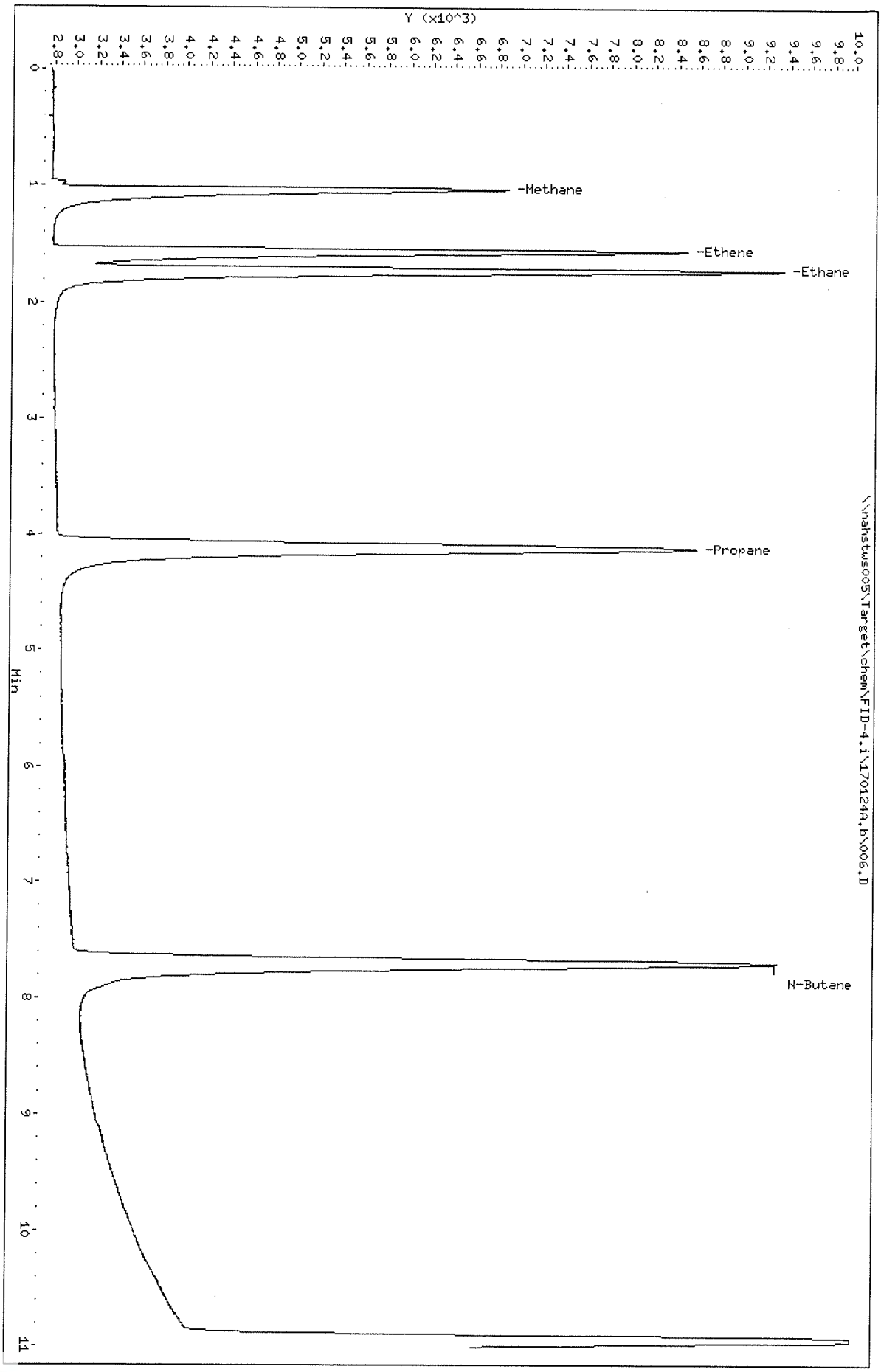
Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

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

Data File: \\nahstws005\Target\chem\FID-4.i\170124A.b\006.D
Date : 24-JAN-2017 10:57
Client ID: ICAL6
Sample Info: ICAL6;ICAL6;;;

Instrument: FID-4.i
Operator: HA
Column diameter: 0.53

Column phase: Rtx-PLOT



Data File: \\nahstws005\Target\chem\FID-4.i\170124A.b\007.D Page 1
Report Date: 16-Nov-2021 16:08

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\170124A.b\007.D
Lab Smp Id: ICAL7 Client Smp ID: ICAL7
Inj Date : 24-JAN-2017 11:13
Operator : MA Inst ID: FID-4.i
Smp Info : ICAL7;ICAL7;;;
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\170124A.b\RSKNI2.m
Meth Date : 15-Nov-2021 14:10 linh.pham Quant Type: ESTD
Cal Date : 24-JAN-2017 10:57 Cal File: 006.D
Als bottle: 7 Calibration Sample, Level: 7
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: stdNIP2.sub
Target Version: 4.14

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

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

QC Flag Legend

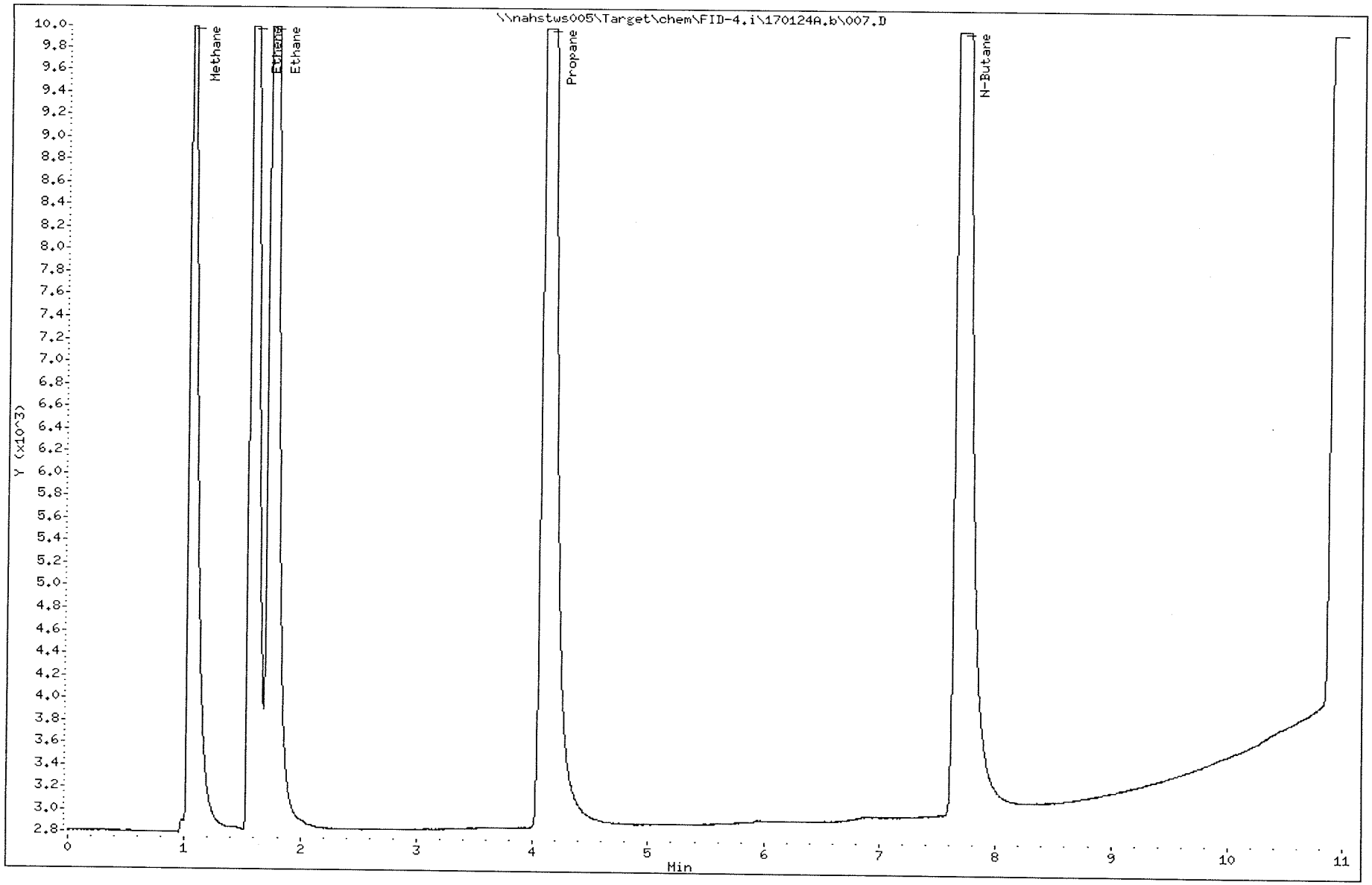
A - Target compound detected but, quantitated amount exceeded maximum amount.

Data File: \\nahstws005\Target\chem\FID-4.i\170124A.b\007.D
Date : 24-JAN-2017 11:13
Client ID: ICAL7
Sample Info: ICAL7;ICAL7;;;

Column phase: Rtx-PLOT

Instrument: FID-4.i

Operator: MA
Column diameter: 0.53



Data File: \\nahstws005\Target\chem\FID-4.i\170124A.b\008.D
Report Date: 16-Nov-2021 16:08

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\170124A.b\008.D
Lab Smp Id: ICV Client Smp ID: ICV
Inj Date : 24-JAN-2017 12:05
Operator : MA Inst ID: FID-4.i
Smp Info : ICV;ICV;;;
Misc Info : ;1;0;1
Comment :
Method : \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\RSKNI2.m
Meth Date : 15-Nov-2021 14:10 linh.pham Quant Type: ESTD
Cal Date : 24-JAN-2017 11:13 Cal File: 007.D
Als bottle: 8 QC Sample: METHSPIKE
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: stdNIP2.sub
Target Version: 4.14

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

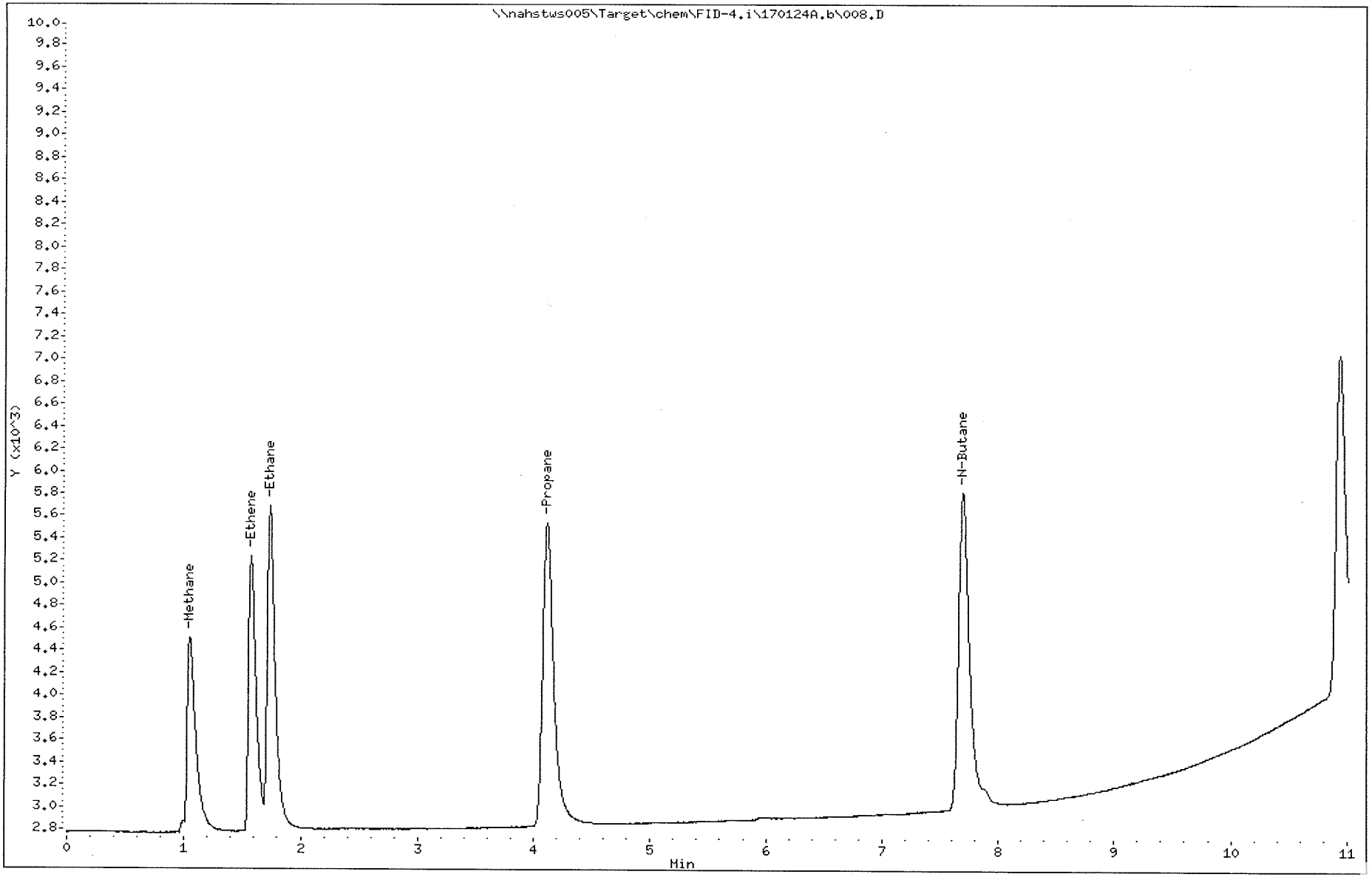
Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)
1 Methane	1.046	1.030	0.016	9352	9.59792	9.597
2 Ethene	1.573	1.556	0.017	11192	19.0906	19.090
3 Ethane	1.736	1.723	0.013	14474	19.6571	19.657
4 Propane	4.116	4.113	0.003	18164	27.2381	27.238
5 N-Butane	7.696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

Data File: \\nahstws005\Target\chem\FID-4.i\170124A.b\008.D
Date : 24-JAN-2017 12:05
Client ID: ICV
Sample Info: ICV;ICV;;;

Column phase: Rtx-PLOT

Instrument: FID-4.i

Operator: MA
Column diameter: 0.53



FID04 -Logbook

Batch: 47191
Date: 11-01-2021
Method: rsk175
Comments:

Analyst: Purvi Lad
Reviewer:
Laboratory: Houston

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	
1	RSK-CCV	CCV	11-01-2021 09:15 am	1.00	0.00 mL	0.00 mL	001.D	Liquid	Y	N
2	MBLK-211101	MBLK	11-01-2021 09:25 am	1.00	0.00 mL	0.00 mL	002.D	Liquid	Y	N
3	LCS-211101	LCS	11-01-2021 09:50 am	1.00	0.00 mL	0.00 mL	003.D	Liquid	Y	N
4	HS21101171-01	SAMP	11-01-2021 10:00 am	1.00	0.00 mL	0.00 mL	004.D	Liquid	Y	<
5	HS21101171-02	SAMP	11-01-2021 10:08 am	1.00	0.00 mL	0.00 mL	005.D	Liquid	Y	<
6	HS21101171-02MS	MS	11-01-2021 10:45 am	1.00	0.00 mL	0.00 mL	006.D	Liquid	Y	<
7	HS21101171-02MSD	MSD	11-01-2021 10:56 am	1.00	0.00 mL	0.00 mL	007.D	Liquid	Y	<
8	HS21101171-03	SAMP	11-01-2021 11:04 am	1.00	0.00 mL	0.00 mL	008.D	Liquid	Y	<
9	HS21101171-04	SAMP	11-01-2021 11:18 am	1.00	0.00 mL	0.00 mL	009.D	Liquid	Y	<
10	HS21101171-01	SAMP	11-01-2021 11:39 am	100.0(	0.00 mL	0.00 mL	010.D	Liquid	Y	<
11	RSK-CCV	CCV	11-01-2021 11:53 am	1.00	0.00 mL	0.00 mL	011.D	Liquid	Y	N
12	HS21101171-02	SAMP	11-01-2021 12:04 pm	100.0(	0.00 mL	0.00 mL	012.D	Liquid	Y	<
13	HS21101171-03	SAMP	11-01-2021 12:13 pm	10.00	0.00 mL	0.00 mL	013.D	Liquid	Y	<
14	HS21101171-04	SAMP	11-01-2021 12:21 pm	10.00	0.00 mL	0.00 mL	014.D	Liquid	Y	<
15	HS21101272-03	SAMP	11-01-2021 12:34 pm	1.00	0.00 mL	0.00 mL	015.D	Liquid	Y	<
16	HS21101272-04	SAMP	11-01-2021 12:48 pm	1.00	0.00 mL	0.00 mL	016.D	Liquid	Y	<
17	HS21101272-10	SAMP	11-01-2021 12:58 pm	1.00	0.00 mL	0.00 mL	017.D	Liquid	Y	<
18	HS21101272-03	SAMP	11-01-2021 01:10 pm	100.0(	0.00 mL	0.00 mL	018.D	Liquid	Y	<
19	HS21101272-04	SAMP	11-01-2021 01:18 pm	50.00	0.00 mL	0.00 mL	019.D	Liquid	Y	<
20	HS21101272-10	SAMP	11-01-2021 01:26 pm	100.0(	0.00 mL	0.00 mL	020.D	Liquid	Y	<
21	HS21101554-11	SAMP	11-01-2021 01:38 pm	1.00	0.00 mL	0.00 mL	021.D	Liquid	Y	<
22	RSK-CCV	CCV	11-01-2021 01:46 pm	1.00	0.00 mL	0.00 mL	022.D	Liquid	Y	N
23	HS21101554-12	SAMP	11-01-2021 01:55 pm	1.00	0.00 mL	0.00 mL	023.D	Liquid	Y	<
24	HS21101554-15	SAMP	11-01-2021 02:04 pm	1.00	0.00 mL	0.00 mL	024.D	Liquid	Y	<
25	HS21101554-11	SAMP	11-01-2021 02:15 pm	10.00	0.00 mL	0.00 mL	025.D	Liquid	Y	<
26	HS21101554-12	SAMP	11-01-2021 02:23 pm	10.00	0.00 mL	0.00 mL	026.D	Liquid	Y	<
27	RSK-CCV	CCV	11-01-2021 02:31 pm	1.00	0.00 mL	0.00 mL	027.D	Liquid	Y	N

FORM 7B
GASES CALIBRATION VERIFICATION SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS21101554

Instrument ID: FID-4 Calibration Date: 11/01/21 Time: 0915

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

Init. Calib. Times: 0906 1113

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

COMPOUND	RRF OR AMOUNT	RRF250.00 OR AMOUNT	MIN RRF	%D OR %DRIFT	MAX %D OR %DRIFT	CURV TYPE
Ethane	719.48900	703.26442	0.01	2.26	20.00	AVRG
Methane	974.99200	788.84627	0.01	19.09	20.00	AVRG
Ethene	585.76000	611.57270	0.01	-4.41	20.00	AVRG

FORM VII GASES

FORM 7B
GASES CALIBRATION VERIFICATION SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS21101554

Instrument ID: FID-4 Calibration Date: 11/01/21 Time: 1153

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

Init. Calib. Times: 0906 1113

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

COMPOUND	RRF OR AMOUNT	RRF250.00 OR AMOUNT	MIN RRF	%D OR %DRIFT	MAX %D OR %DRIFT	CURV TYPE
Ethane	719.48900	789.11489	0.01	-9.68	20.00	AVRG
Methane	974.99200	823.46844	0.01	15.54	20.00	AVRG
Ethene	585.76000	691.21662	0.01	-18.00	20.00	AVRG

FORM VII GASES

FORM 7B
GASES CALIBRATION VERIFICATION SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS21101554

Instrument ID: FID-4 Calibration Date: 11/01/21 Time: 1346

Lab File ID: 022 Init. Calib. Date(s): 01/24/17 01/24/17

Init. Calib. Times: 0906 1113

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

COMPOUND	RRF OR AMOUNT	RRF250.00 OR AMOUNT	MIN RRF	%D OR %DRIFT	MAX %D OR %DRIFT	CURV TYPE
Ethane	719.48900	755.58388	0.01	-5.02	20.00	AVRG
Methane	974.99200	881.93221	0.01	9.54	20.00	AVRG
Ethene	585.76000	692.22552	0.01	-18.18	20.00	AVRG

FORM VII GASES

FORM 7B
GASES CALIBRATION VERIFICATION SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS21101554

Instrument ID: FID-4 Calibration Date: 11/01/21 Time: 1431

Lab File ID: 027 Init. Calib. Date(s): 01/24/17 01/24/17

Init. Calib. Times: 0906 1113

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

COMPOUND	RRF OR AMOUNT	RRF250.00 OR AMOUNT	MIN RRF	%D OR %DRIFT	MAX %D OR %DRIFT	CURV TYPE
Ethane	719.48900	788.44981	0.01	-9.58	20.00	AVRG
Methane	974.99200	914.79216	0.01	6.17	20.00	AVRG
Ethene	585.76000	690.86053	0.01	-17.94	20.00	AVRG

FORM VII GASES

Data File: \\nahstws005\Target\chem\FID-4.i\211101.b\001.D Page 1
Report Date: 17-Nov-2021 09:46

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\211101.b\001.D
Lab Smp Id: RSK-CCV Client Smp ID: RSK-CCV
Inj Date : 01-NOV-2021 09:15
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\211101.b\RSKNI3.m
Meth Date : 17-Nov-2021 09:40 linh.pham 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: ALSHSW7104

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

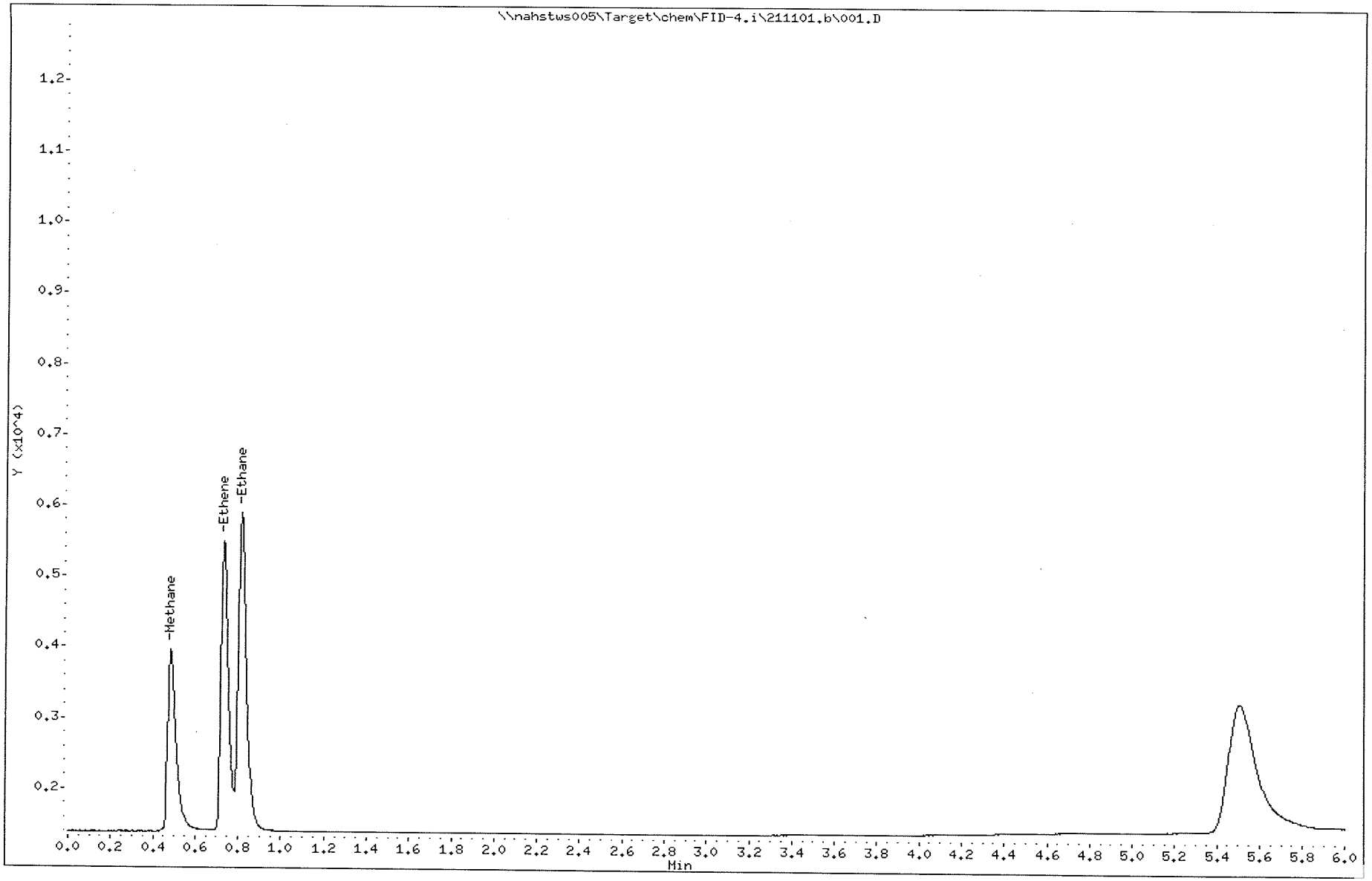
Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)
1 Methane	0.480	0.473	0.007	7610	9.64700	7.805
2 Ethene	0.730	0.726	0.004	10305	16.8500	17.592
3 Ethane	0.813	0.810	0.003	12689	18.0430	17.636

Data File: \\nahstws005\Target\chem\FID-4.i\211101.b\001.D
Date : 01-NOV-2021 09:15
Client ID: RSK-CCV
Sample Info: RSK-CCV;RSK-CCV;2;4

Column phase: Rtx-PLOT

Instrument: FID-4.i

Operator: PL
Column diameter: 0.53



ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\211101.b\Before\001.D
Lab Smp Id: RSK-CCV Client Smp ID: RSK-CCV
Inj Date : 01-NOV-2021 09:15
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\211101.b\RSKNI3.m
Meth Date : 17-Nov-2021 09:47 linh.pham Quant Type: ESTD
Cal Date : 24-JAN-2017 10:15 Cal File: 004.D
Als bottle: 1 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: RSK175.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

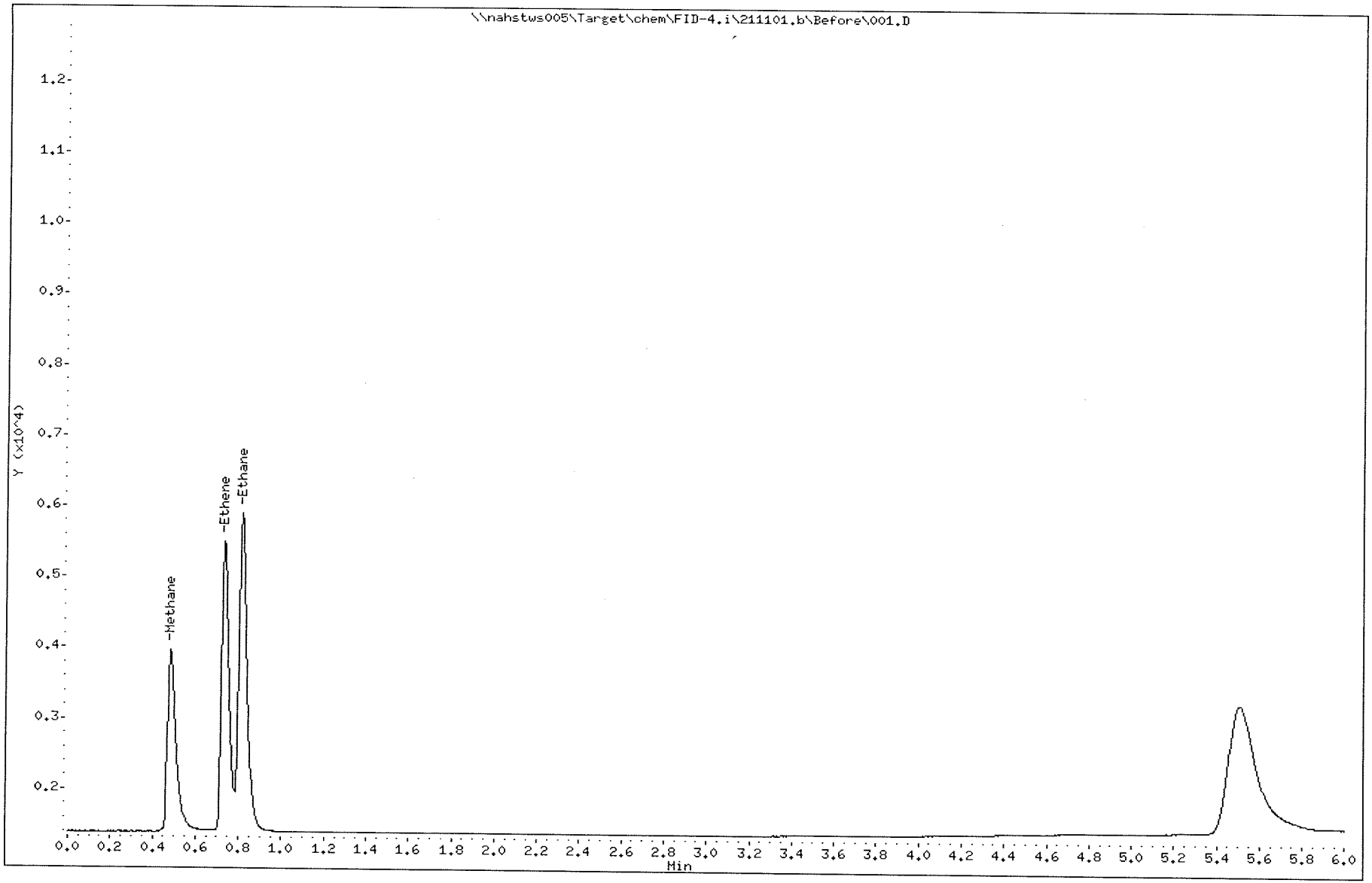
Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)
1 Methane	0.480	0.483	-0.003	7323	9.64700	7.510
2 Ethene	0.730	0.736	-0.006	10122	16.8500	17.280
3 Ethane	0.813	0.820	-0.007	12345	18.0430	17.157

Data File: \\nahstws005\Target\chem\FID-4.i\211101.b\Before\001.D
Date : 01-NOV-2021 09:15
Client ID: RSK-CCV
Sample Info: RSK-CCV;RSK-CCV;2;4

Column phase: Rtx-PLOT

Instrument: FID-4.i

Operator: PL
Column diameter: 0.53



Data File: \\nahstws005\Target\chem\FID-4.i\211101.b\002.D
Report Date: 17-Nov-2021 09:46

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\211101.b\002.D
Lab Smp Id: MBLK-211101 Client Smp ID: MBLK-211101
Inj Date : 01-NOV-2021 09:25
Operator : PL Inst ID: FID-4.i
Smp Info : MBLK-211101;MBLK-211101;3;;BLANK
Misc Info : ;1;0;1
Comment :
Method : \\NAHSTWS005\Target\chem\FID-4.i\211101.b\RSKNI3.m
Meth Date : 17-Nov-2021 09:40 linh.pham 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: ALSHSW7104

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

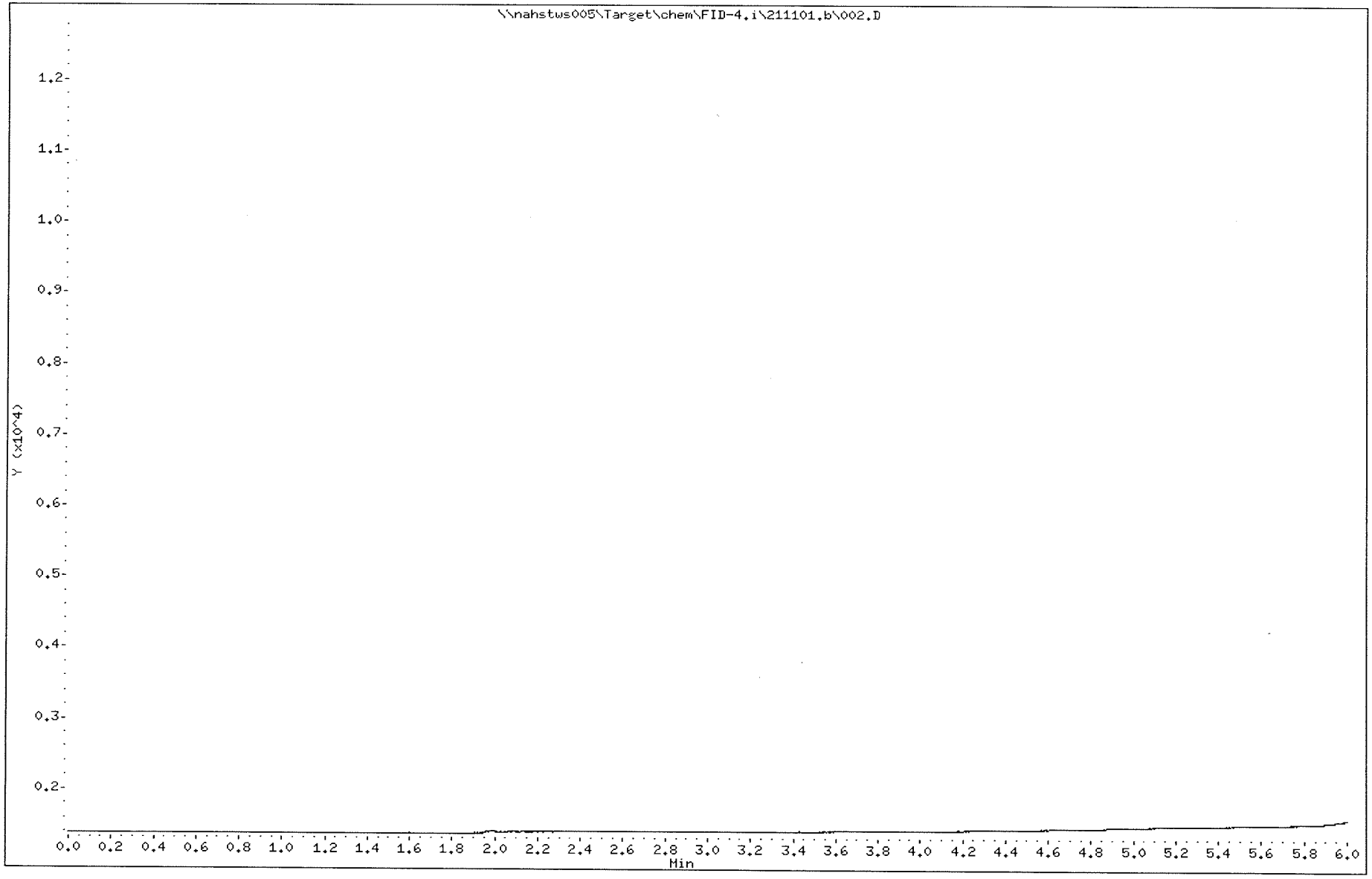
Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)
==========	====	========	========	========	========	========

Data File: \\nahstws005\Target\chem\FID-4.i\211101.b\002.D
Date : 01-NOV-2021 09:25
Client ID: MBLK-211101
Sample Info: MBLK-211101;MBLK-211101;3;;BLANK

Column phase: Rtx-PLOT

Instrument: FID-4.i

Operator: PL
Column diameter: 0.53



ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\211101.b\Before\002.D
Lab Smp Id: MBLK-211101 Client Smp ID: MBLK-211101
Inj Date : 01-NOV-2021 09:25
Operator : PL Inst ID: FID-4.i
Smp Info : MBLK-211101;MBLK-211101;3;;BLANK
Misc Info : ;1;0;1
Comment :
Method : \\NAHSTWS005\Target\chem\FID-4.i\211101.b\RSKNI3.m
Meth Date : 17-Nov-2021 09:47 linh.pham Quant Type: ESTD
Cal Date : 24-JAN-2017 10:15 Cal File: 004.D
Als bottle: 2 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: RSK175.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

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

Data File: \\nahstws005\Target\chem\FID-4.i\211101.b\Before\002.D

Date : 01-NOV-2021 09:25

Client ID: MBLK-211101

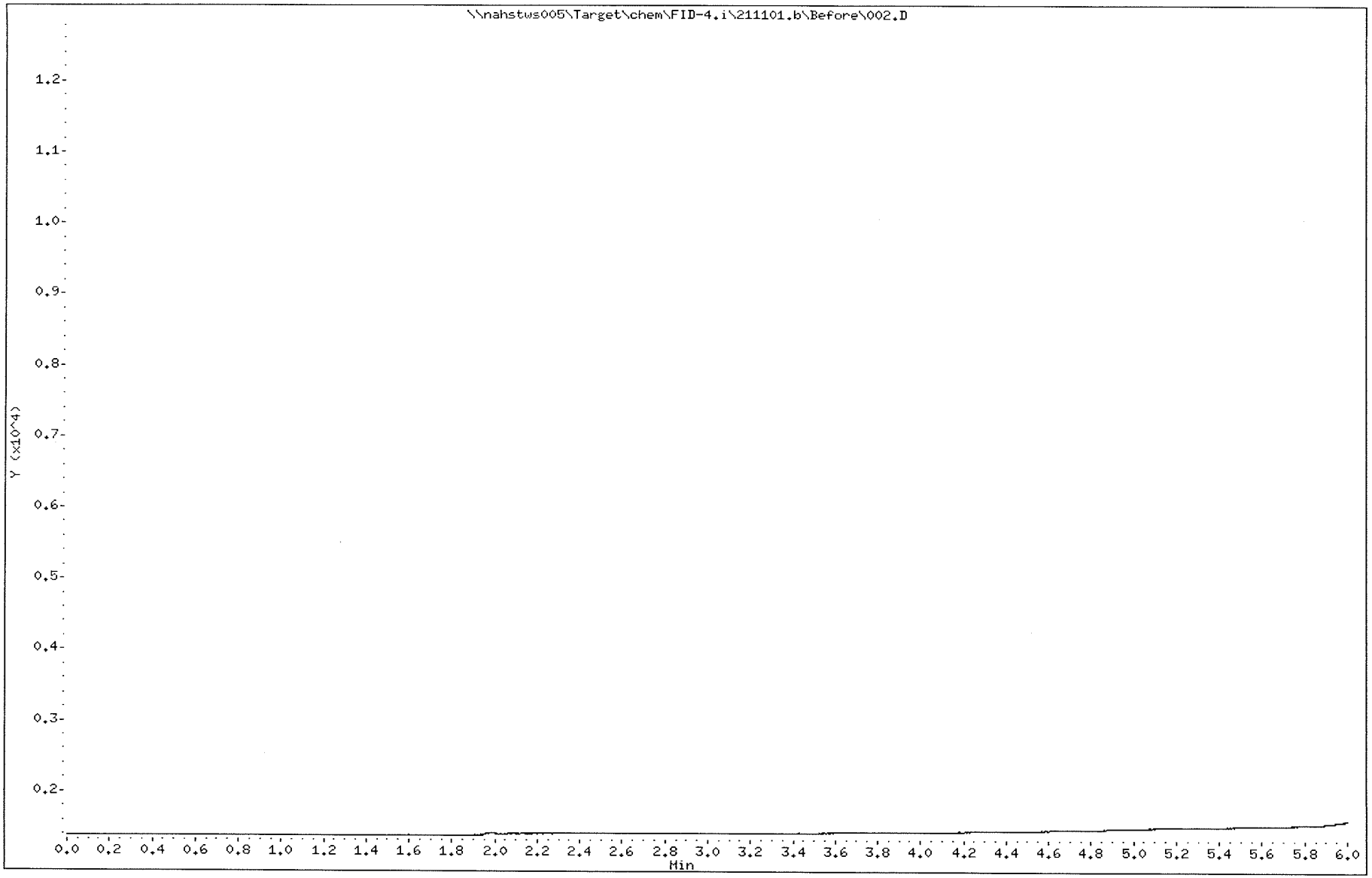
Instrument: FID-4.i

Sample Info: MBLK-211101;MBLK-211101;3;;BLANK

Operator: PL

Column phase: Rtx-PLOT

Column diameter: 0.53



Data File: \\nahstws005\Target\chem\FID-4.i\211101.b\003.D
Report Date: 17-Nov-2021 09:46

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\211101.b\003.D
Lab Smp Id: LCS-211101 Client Smp ID: LCS-211101
Inj Date : 01-NOV-2021 09:50
Operator : PL Inst ID: FID-4.i
Smp Info : LCS-211101;LCS-211101;3;;LCS
Misc Info : ;1;0;1
Comment :
Method : \\NAHSTWS005\Target\chem\FID-4.i\211101.b\RSKNI3.m
Meth Date : 17-Nov-2021 09:40 linh.pham 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: ALSHSW7104

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	0.486	0.473	0.013	9606	9.85239	9.852 (M)
2 Ethene	0.733	0.726	0.007	11255	19.2143	19.214 (M)
3 Ethane	0.816	0.810	0.006	12898	17.9266	17.926 (M)

QC Flag Legend

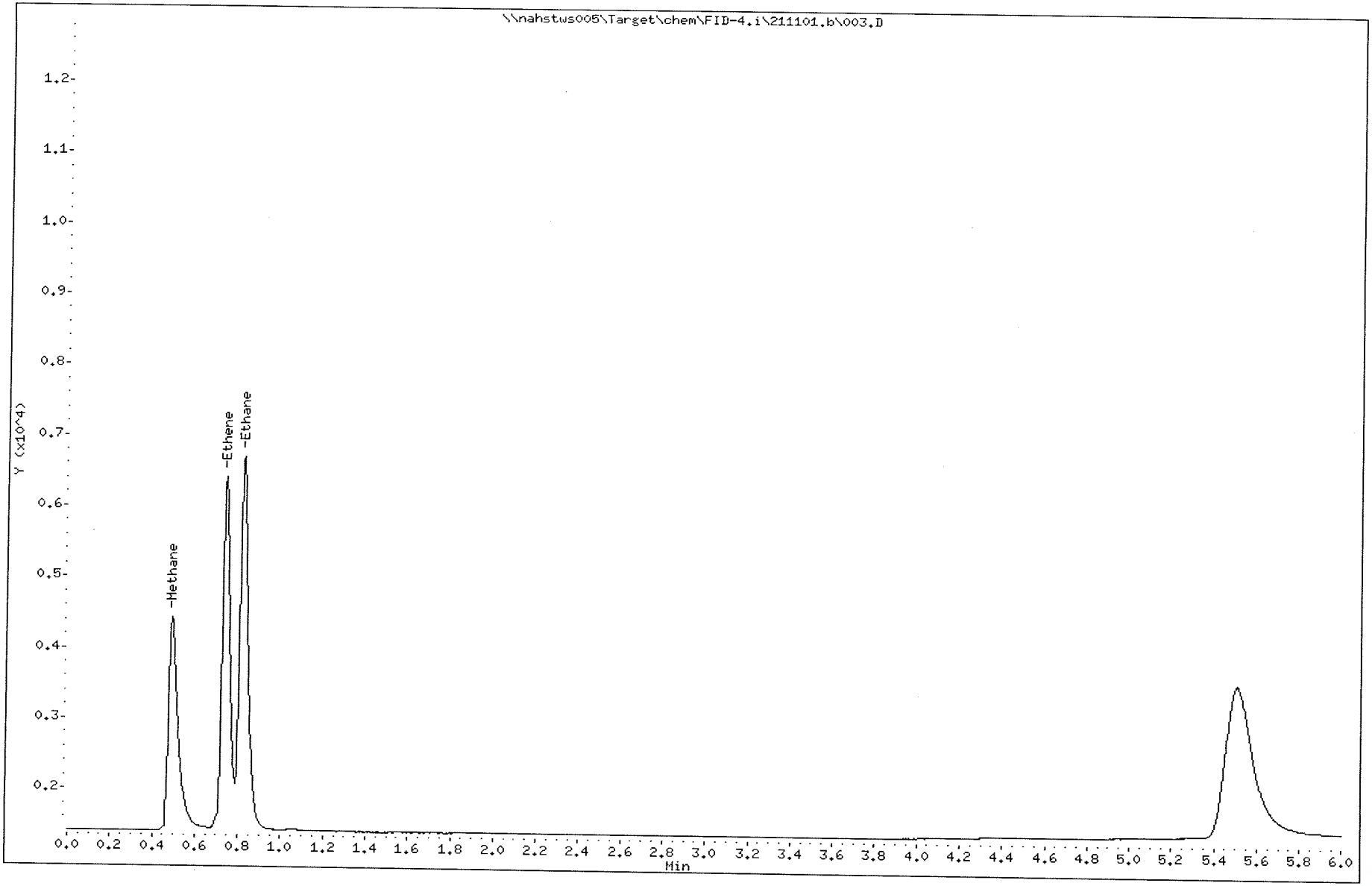
M - Compound response manually integrated.

Data File: \\nahstws005\Target\chem\FID-4.i\211101.b\003.D
Date : 01-NOV-2021 09:50
Client ID: LCS-211101
Sample Info: LCS-211101;LCS-211101;3;;LCS

Column phase: Rtx-PLOT

Instrument: FID-4.i

Operator: PL
Column diameter: 0.53



ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\211101.b\Before\003.D
Lab Smp Id: LCS-211101 Client Smp ID: LCS-211101
Inj Date : 01-NOV-2021 09:50
Operator : PL Inst ID: FID-4.i
Smp Info : LCS-211101;LCS-211101;3;;LCS
Misc Info : ;1;0;1
Comment :
Method : \\NAHSTWS005\Target\chem\FID-4.i\211101.b\RSKNI3.m
Meth Date : 17-Nov-2021 09:47 linh.pham Quant Type: ESTD
Cal Date : 24-JAN-2017 10:15 Cal File: 004.D
Als bottle: 3 QC Sample: LCS
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: RSK175.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)
1 Methane	0.486	0.483	0.003	9750	10.0001	10.000
2 Ethene	0.733	0.736	-0.003	12775	21.8093	21.809(R)
3 Ethane	0.816	0.820	-0.004	14897	20.7050	20.704

QC Flag Legend

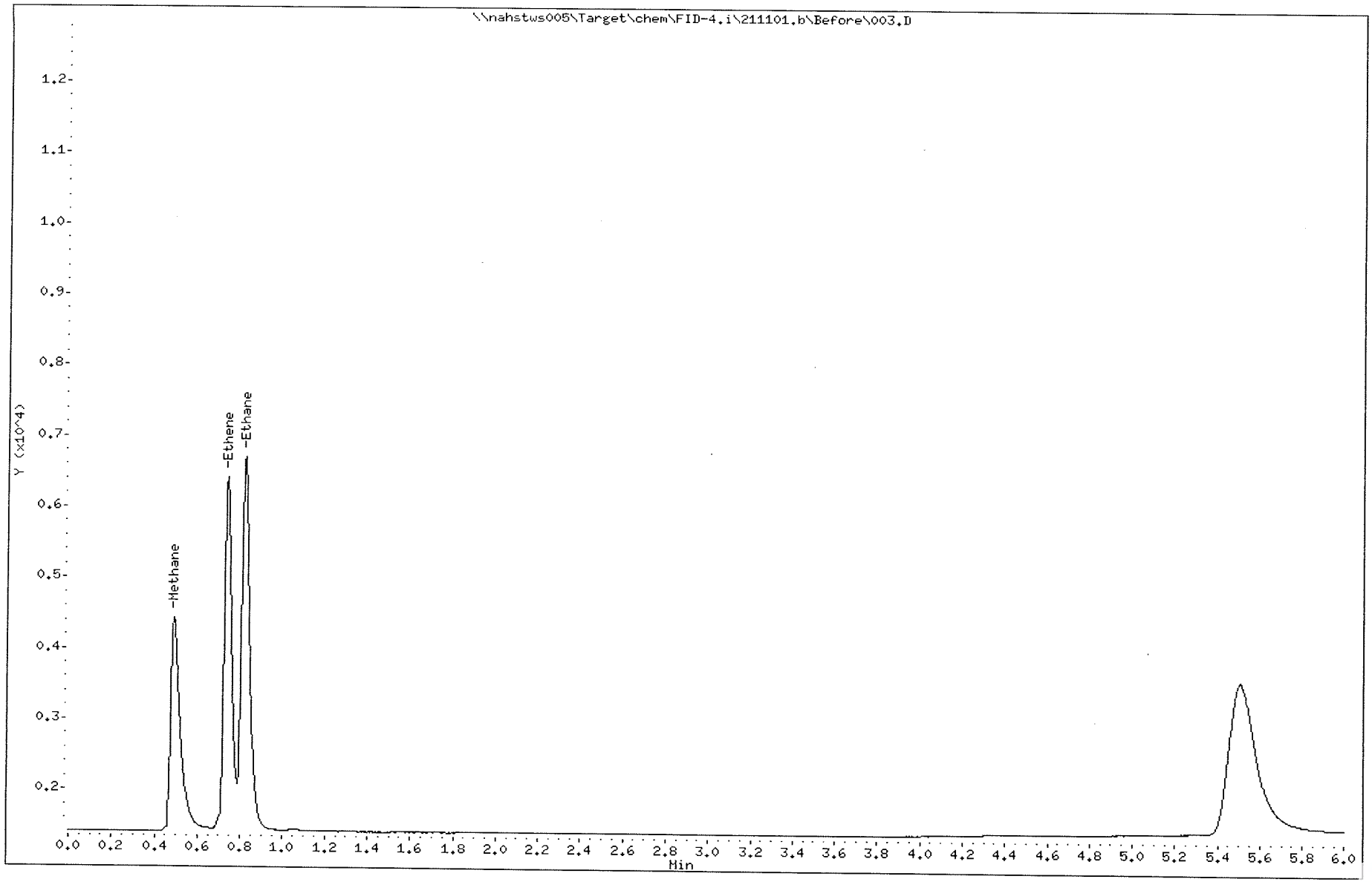
R - Spike/Surrogate failed recovery limits.

Data File: \\nahstws005\Target\chem\FID-4.i\211101.b\Before\003.D
Date : 01-NOV-2021 09:50
Client ID: LCS-211101
Sample Info: LCS-211101;LCS-211101;3;;LCS

Column phase: Rtx-PLOT

Instrument: FID-4.i

Operator: PL
Column diameter: 0.53



Data File: \\nahstws005\Target\chem\FID-4.i\211101.b\006.D Page 1
Report Date: 17-Nov-2021 09:46

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\211101.b\006.D
Lab Smp Id: HS21101171-02MS Client Smp ID: HS21101171-02MS
Inj Date : 01-NOV-2021 10:45
Operator : PL Inst ID: FID-4.i
Smp Info : HS21101171-02MS;HS21101171-02MS
Misc Info : ;1;0;1
Comment :
Method : \\NAHSTWS005\Target\chem\FID-4.i\211101.b\RSKNI3.m
Meth Date : 17-Nov-2021 09:40 linh.pham Quant Type: ESTD
Cal Date : 24-JAN-2017 10:15 Cal File: 004.D
Als bottle: 6 QC Sample: MS
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: RSK175.sub
Target Version: 4.14
Processing Host: ALSHSW7104

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	0.490	0.473	0.017	1839705	1886.89	1886.891(AR)
2 Ethene	0.730	0.726	0.004	14333	24.4690	24.469(R)
3 Ethane	0.816	0.810	0.006	10226	14.2129	14.212(M)

QC Flag Legend

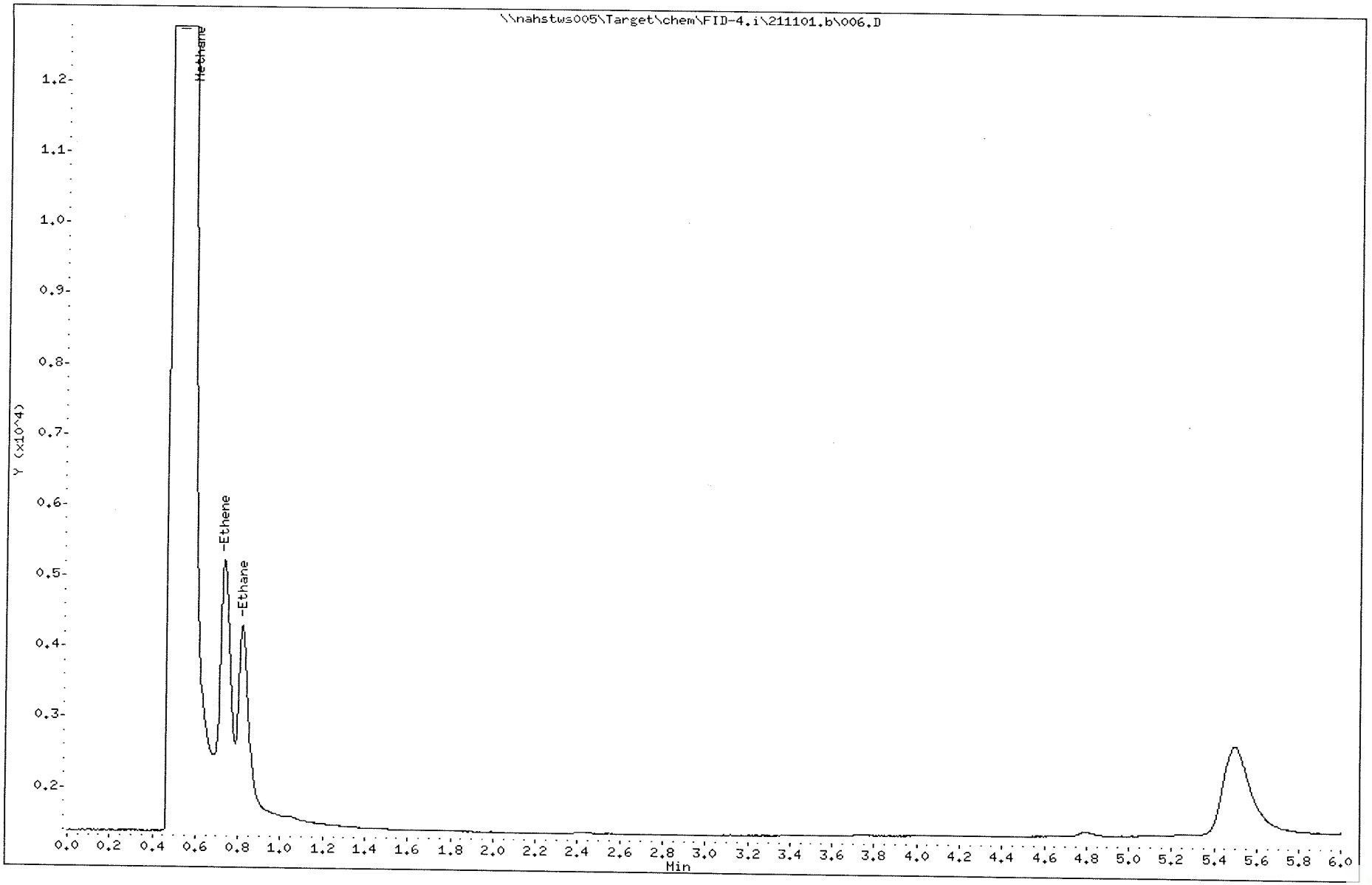
A - Target compound detected but, quantitated amount exceeded maximum amount.
R - Spike/Surrogate failed recovery limits.
M - Compound response manually integrated.

Data File: \\nahstws005\Target\chem\FID-4.i\211101.b\006.D
Date : 01-NOV-2021 10:45
Client ID: HS21101171-02MS
Sample Info: HS21101171-02MS;HS21101171-02MS

Column phase: Rtx-PLOT

Instrument: FID-4.i

Operator: PL
Column diameter: 0.53



ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\211101.b\Before\006.D
Lab Smp Id: HS21101171-02MS Client Smp ID: HS21101171-02MS
Inj Date : 01-NOV-2021 10:45
Operator : PL Inst ID: FID-4.i
Smp Info : HS21101171-02MS;HS21101171-02MS
Misc Info : ;1;0;1
Comment :
Method : \\NAHSTWS005\Target\chem\FID-4.i\211101.b\RSKNI3.m
Meth Date : 17-Nov-2021 09:47 linh.pham Quant Type: ESTD
Cal Date : 24-JAN-2017 10:15 Cal File: 004.D
Als bottle: 6 QC Sample: MS
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: RSK175.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)
1 Methane	0.490	0.483	0.007	1839705	1886.89	1886.891(AR)
2 Ethene	0.730	0.736	-0.006	14333	24.4690	24.469(R)
3 Ethane	0.816	0.820	-0.004	14163	19.6848	19.684

QC Flag Legend

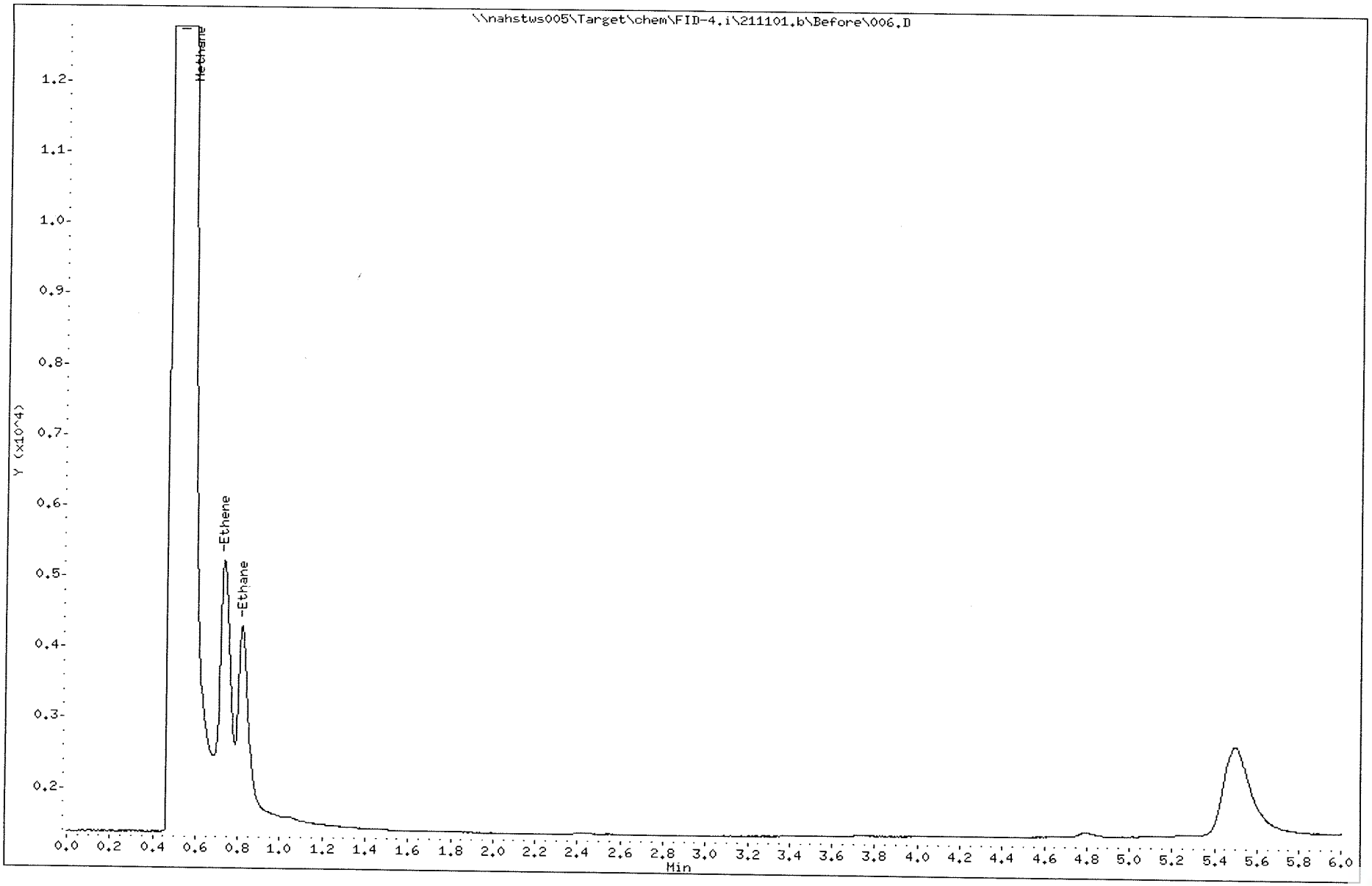
A - Target compound detected but, quantitated amount exceeded maximum amount.
R - Spike/Surrogate failed recovery limits.

Data File: \\nahstws005\Target\chem\FID-4.i\211101.b\Before\006.D
Date : 01-NOV-2021 10:45
Client ID: HS21101171-02MS
Sample Info: HS21101171-02MS;HS21101171-02MS

Column phase: Rtx-PLOT

Instrument: FID-4.i

Operator: PL
Column diameter: 0.53



Data File: \\nahstws005\Target\chem\FID-4.i\211101.b\007.D
Report Date: 17-Nov-2021 09:46

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\211101.b\007.D
Lab Smp Id: HS21101171-02MSD Client Smp ID: HS21101171-02MSD
Inj Date : 01-NOV-2021 10:56
Operator : PL Inst ID: FID-4.i
Smp Info : HS21101171-02MSD;HS21101171-02MSD
Misc Info : ;1;0;1
Comment :
Method : \\NAHSTWS005\Target\chem\FID-4.i\211101.b\RSKNI3.m
Meth Date : 17-Nov-2021 09:40 linh.pham Quant Type: ESTD
Cal Date : 24-JAN-2017 10:15 Cal File: 004.D
Als bottle: 7 QC Sample: MSD
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: RSK175.sub
Target Version: 4.14
Processing Host: ALSHSW7104

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	0.490	0.473	0.017	1916512	1965.67	1965.668(AR)
2 Ethene	0.730	0.726	0.004	13465	22.9872	22.987(RM)
3 Ethane	0.816	0.810	0.006	11529	16.0239	16.023(M)

QC Flag Legend

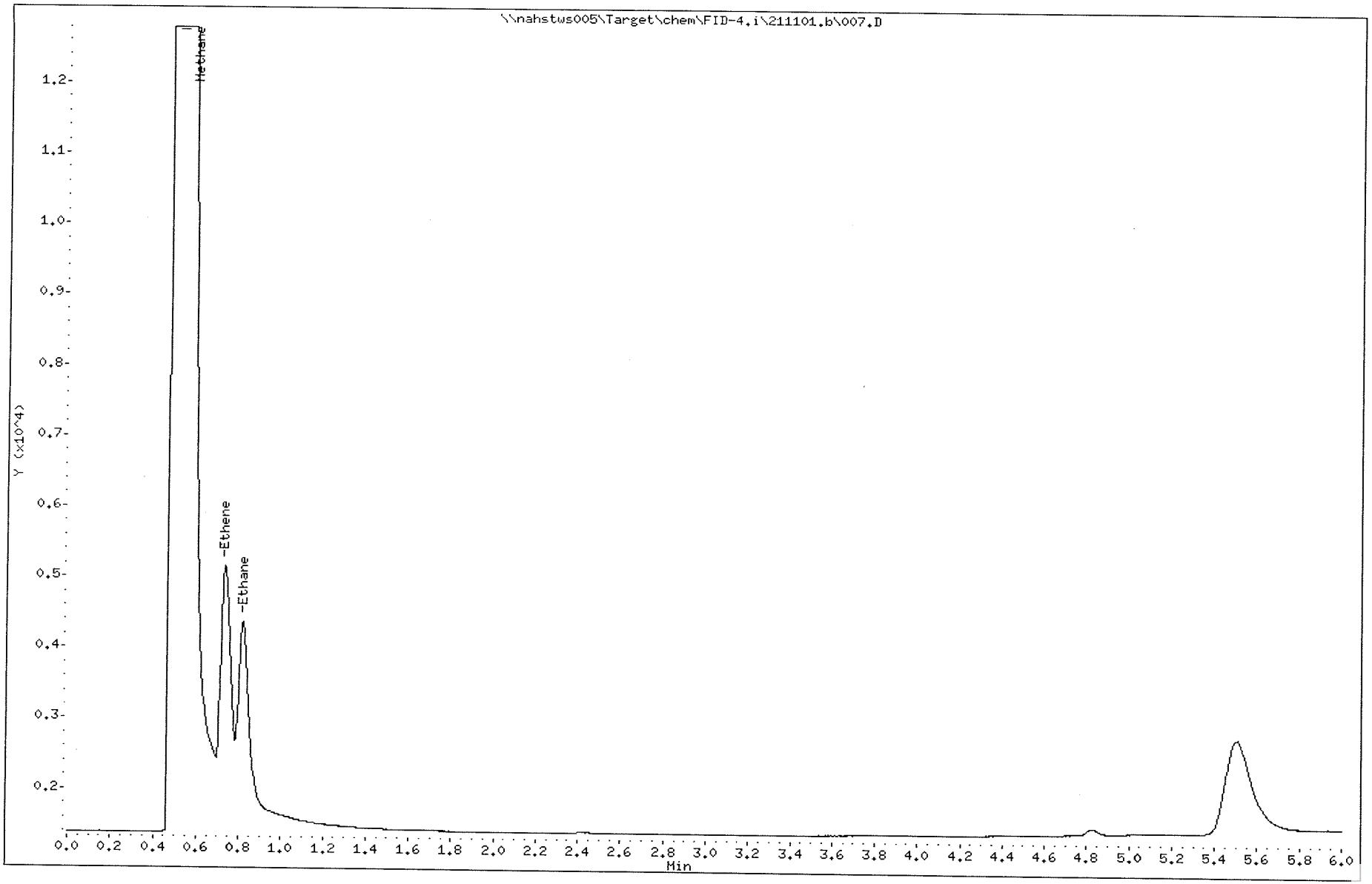
A - Target compound detected but, quantitated amount exceeded maximum amount.
R - Spike/Surrogate failed recovery limits.
M - Compound response manually integrated.

Data File: \\nahstws005\Target\chem\FID-4.i\211101.b\007.D
Date : 01-NOV-2021 10:56
Client ID: HS21101171-02MSD
Sample Info: HS21101171-02MSD;HS21101171-02MSD

Column phase: Rtx-PLOT

Instrument: FID-4.i

Operator: PL
Column diameter: 0.53



ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\211101.b\Before\007.D
Lab Smp Id: HS21101171-02MSD Client Smp ID: HS21101171-02MSD
Inj Date : 01-NOV-2021 10:56
Operator : PL Inst ID: FID-4.i
Smp Info : HS21101171-02MSD;HS21101171-02MSD
Misc Info : ;1;0;1
Comment :
Method : \\NAHSTWS005\Target\chem\FID-4.i\211101.b\RSKNI3.m
Meth Date : 17-Nov-2021 09:47 linh.pham Quant Type: ESTD
Cal Date : 24-JAN-2017 10:15 Cal File: 004.D
Als bottle: 7 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	0.490	0.483	0.007	1914712	1963.82	1963.822(AR)
2 Ethene	0.730	0.736	-0.006	21830	37.2678	37.267(R)

QC Flag Legend

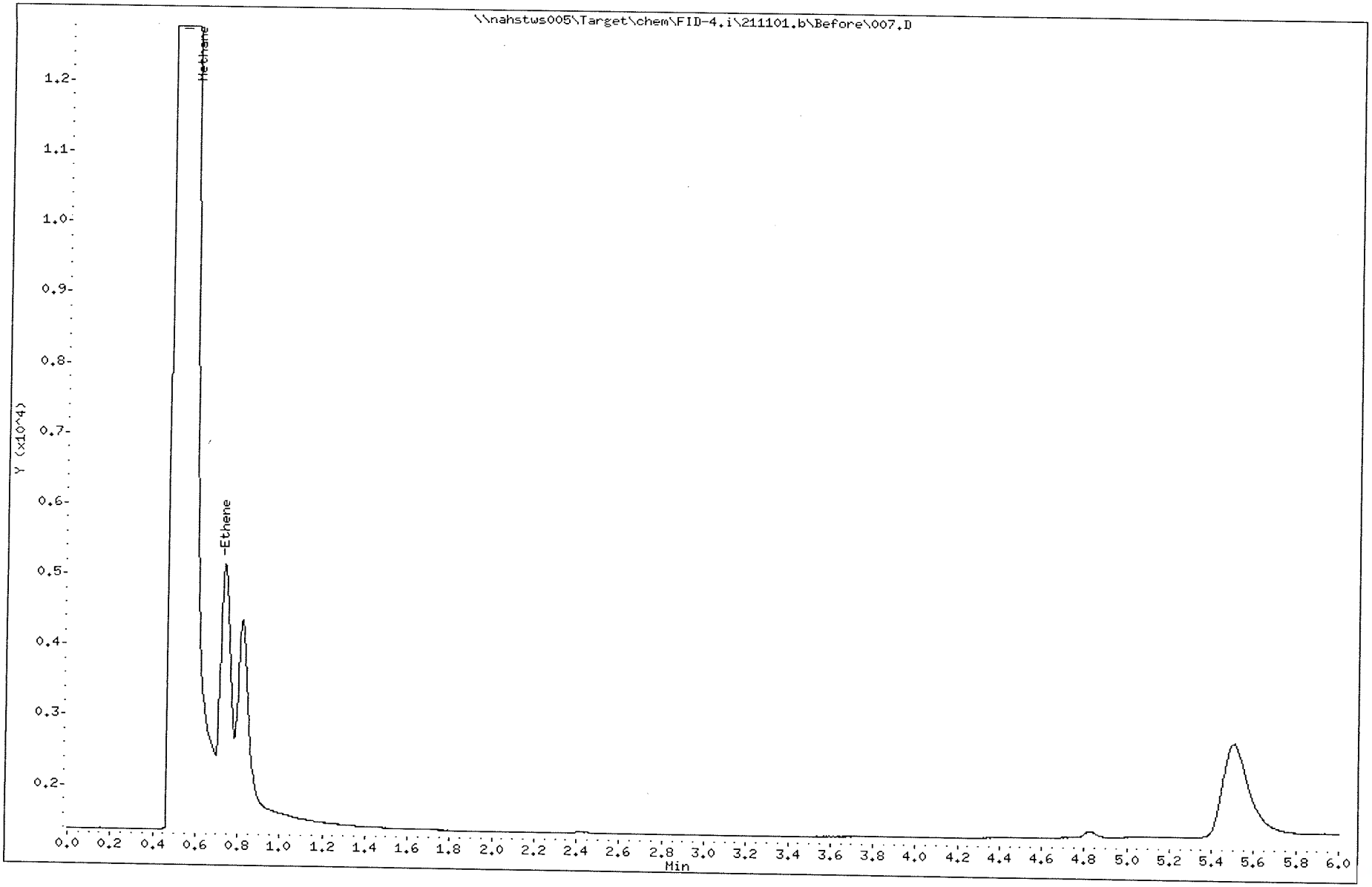
A - Target compound detected but, quantitated amount exceeded maximum amount.
R - Spike/Surrogate failed recovery limits.

Data File: \\nahstws005\Target\chem\FID-4.i\211101.b\Before\007.D
Date : 01-NOV-2021 10:56
Client ID: HS21101171-02MSD
Sample Info: HS21101171-02MSD;HS21101171-02MSD

Column phase: Rtx-PLOT

Instrument: FID-4.i

Operator: PL
Column diameter: 0.53



Data File: \\nahstws005\Target\chem\FID-4.i\211101.b\011.D Page 1
Report Date: 17-Nov-2021 09:46

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\211101.b\011.D
Lab Smp Id: RSK-CCV Client Smp ID: RSK-CCV
Inj Date : 01-NOV-2021 11:53
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\211101.b\RSKNI3.m
Meth Date : 17-Nov-2021 09:40 linh.pham 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: ALSHSW7104

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	0.480	0.473	0.007	7944	9.64700	8.147(M)
2 Ethene	0.730	0.726	0.004	11647	16.8500	19.883(M)
3 Ethane	0.810	0.810	0.000	14238	18.0430	19.789(M)

QC Flag Legend

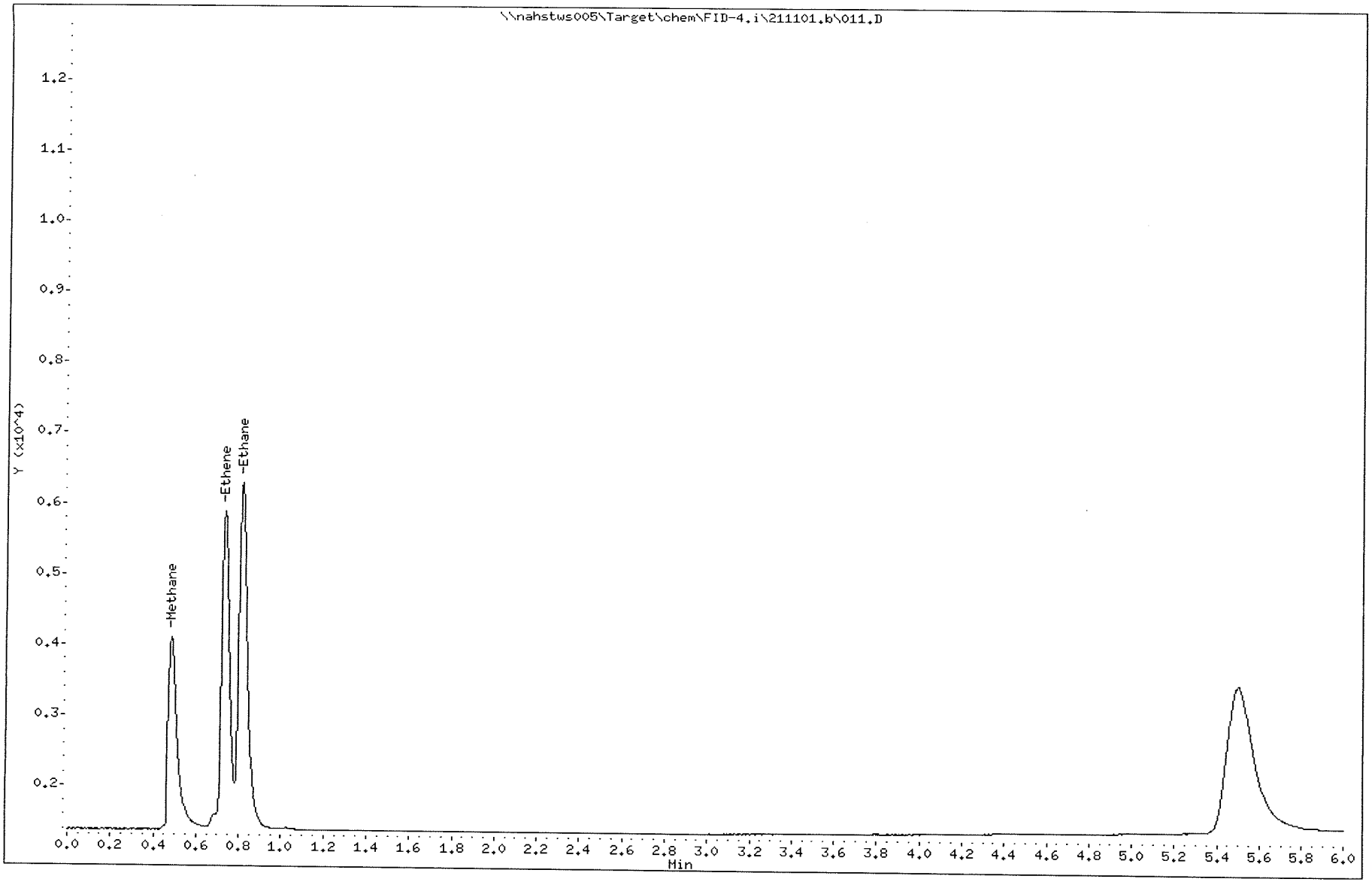
M - Compound response manually integrated.

Data File: \\nahstws005\Target\chem\FID-4.i\211101.b\011.D
Date : 01-NOV-2021 11:53
Client ID: RSK-CCV
Sample Info: RSK-CCV;RSK-CCV;2;4

Column phase: Rtx-PLOT

Instrument: FID-4.i

Operator: PL
Column diameter: 0.53



ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\211101.b\Before\011.D
Lab Smp Id: RSK-CCV
Client Smp ID: RSK-CCV
Inj Date : 01-NOV-2021 11:53
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\211101.b\RSKNI3.m
Meth Date : 17-Nov-2021 09:47 linh.pham
Quant Type: ESTD
Cal Date : 24-JAN-2017 10:15
Cal File: 004.D
Als bottle: 11
Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon
Compound Sublist: RSK175.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

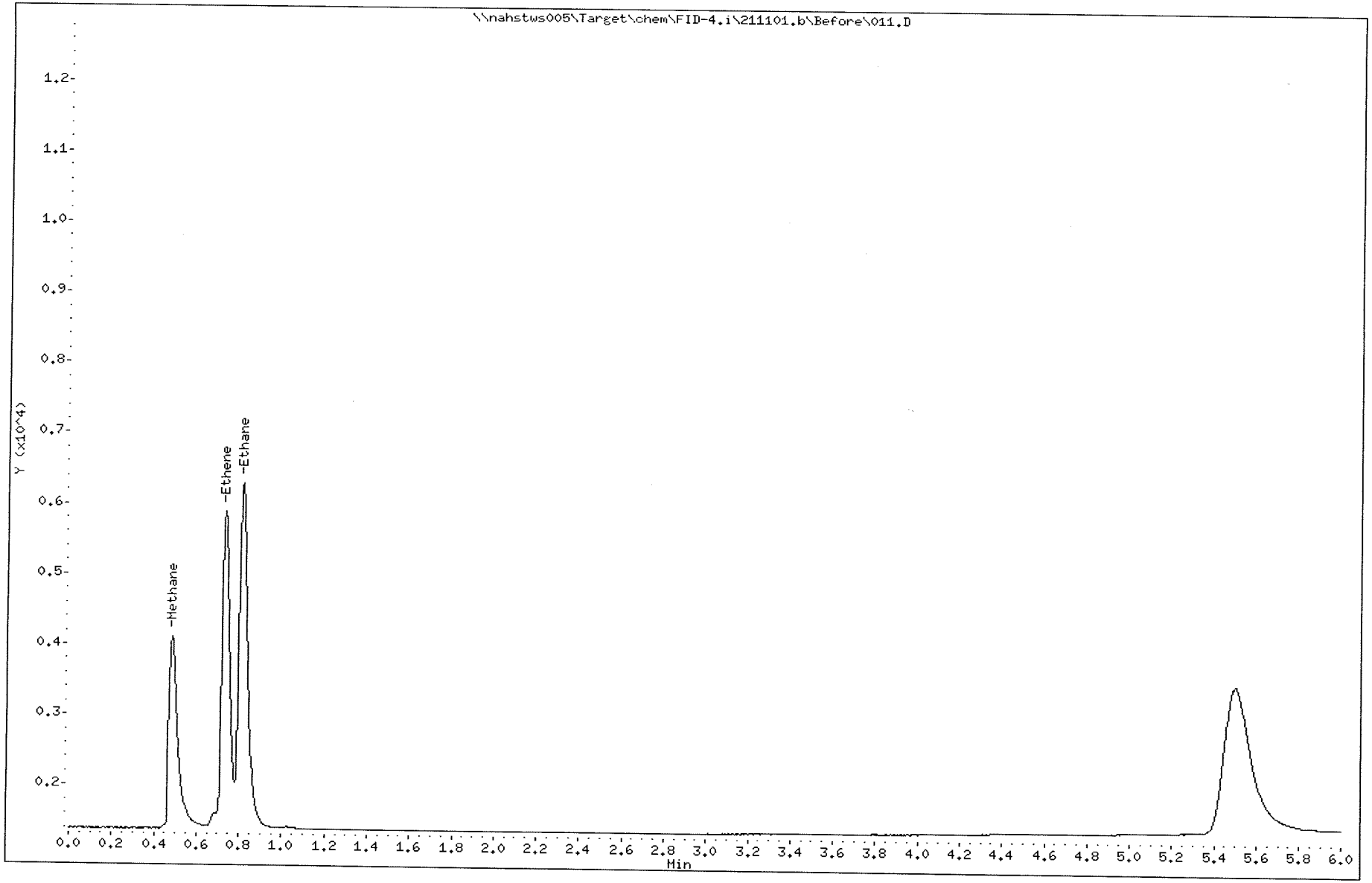
Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)
1 Methane	0.480	0.483	-0.003	8276	9.64700	8.488
2 Ethene	0.730	0.736	-0.006	12284	16.8500	20.971
3 Ethane	0.810	0.820	-0.010	14828	18.0430	20.609

Data File: \\nahstws005\Target\chem\FID-4.i\211101.b\Before\011.D
Date : 01-NOV-2021 11:53
Client ID: RSK-CCV
Sample Info: RSK-CCV;RSK-CCV;2;4

Column phase: Rtx-PLOT

Instrument: FID-4.i

Operator: PL
Column diameter: 0.53



Data File: \\nahstws005\Target\chem\FID-4.i\211101.b\021.D
Report Date: 17-Nov-2021 09:46

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\211101.b\021.D
Lab Smp Id: HS21101554-11 Client Smp ID: HS21101554-11
Inj Date : 01-NOV-2021 13:38
Operator : PL Inst ID: FID-4.i
Smp Info : HS21101554-11;HS21101554-11
Misc Info : ;1;0;1
Comment :
Method : \\NAHSTWS005\Target\chem\FID-4.i\211101.b\RSKNI3.m
Meth Date : 17-Nov-2021 09:40 linh.pham 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: ALSHSW7104

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	0.486	0.473	0.013	149585	153.422	153.421(A)
2 Ethene	0.723	0.726	-0.003	1524	2.60175	2.601(M)

QC Flag Legend

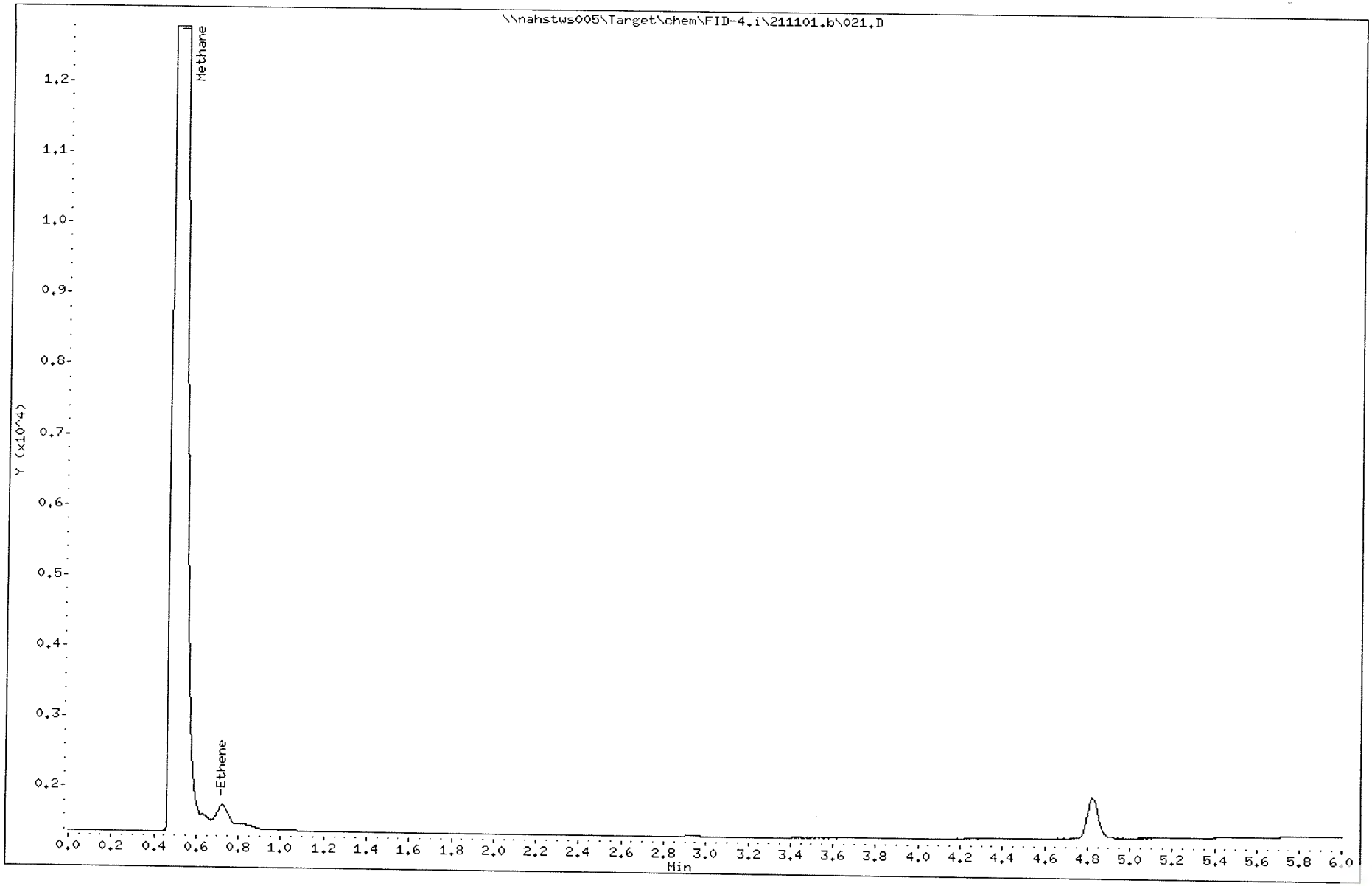
A - Target compound detected but, quantitated amount exceeded maximum amount.
M - Compound response manually integrated.

Data File: \\nahstws005\Target\chem\FID-4.i\211101.b\021.D
Date : 01-NOV-2021 13:38
Client ID: HS21101554-11
Sample Info: HS21101554-11;HS21101554-11

Instrument: FID-4.i

Operator: PL
Column diameter: 0.53

Column phase: Rtx-PLOT



ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\211101.b\Before\021.D
Lab Smp Id: HS21101554-11 Client Smp ID: HS21101554-11
Inj Date : 01-NOV-2021 13:38
Operator : PL Inst ID: FID-4.i
Smp Info : HS21101554-11;HS21101554-11
Misc Info : ;1;0;1
Comment :
Method : \\NAHSTWS005\Target\chem\FID-4.i\211101.b\RSKNI3.m
Meth Date : 17-Nov-2021 09:47 linh.pham 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: NAHSTW7056

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

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)
1 Methane	0.486	0.483	0.003	149585	153.422	153.421(A)
2 Ethene	0.723	0.736	-0.013	1944	3.31876	3.318

QC Flag Legend

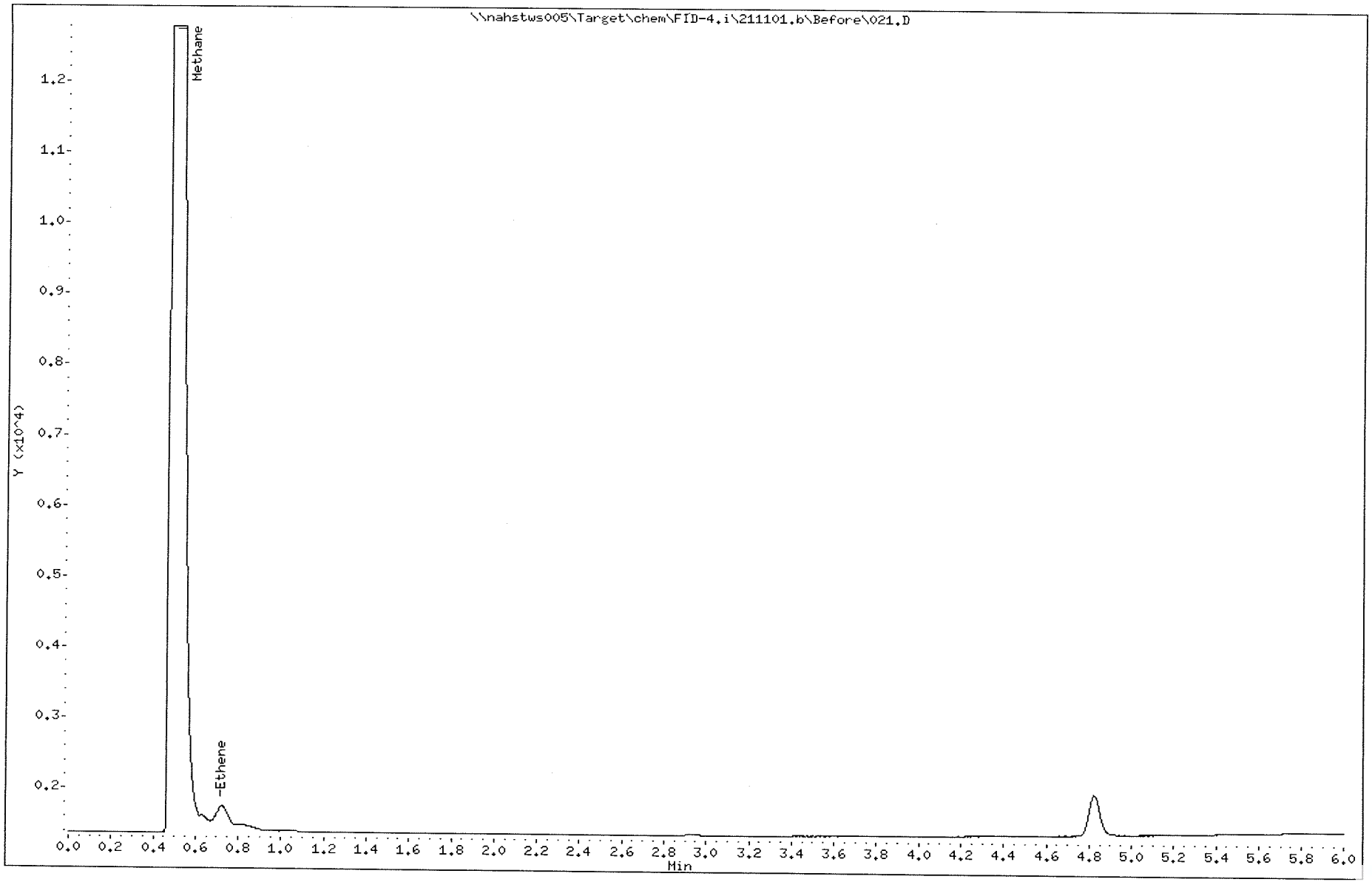
A - Target compound detected but, quantitated amount exceeded maximum amount.

Data File: \\nahstws005\Target\chem\FID-4.i\211101.b\Before\021.D
Date : 01-NOV-2021 13:38
Client ID: HS21101554-11
Sample Info: HS21101554-11;HS21101554-11

Column phase: Rtx-PLOT

Instrument: FID-4.i

Operator: PL
Column diameter: 0.53



Data File: \\nahstws005\Target\chem\FID-4.i\211101.b\022.D
Report Date: 17-Nov-2021 09:46

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\211101.b\022.D
Lab Smp Id: RSK-CCV Client Smp ID: RSK-CCV
Inj Date : 01-NOV-2021 13:46
Operator : PL Inst ID: FID-4.i
Smp Info : RSK-CCV;RSK-CCV;2;4
Misc Info : ;1;0;1
Comment :
Method : \\NAHSTWS005\Target\chem\FID-4.i\211101.b\RSKNI3.m
Meth Date : 17-Nov-2021 09:40 linh.pham 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: ALSHSW7104

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	0.473	0.473	0.000	8508	9.64700	8.726 (M)
2 Ethene	0.726	0.726	0.000	11664	16.8500	19.912 (M)
3 Ethane	0.810	0.810	0.000	13633	18.0430	18.948 (M)

QC Flag Legend

M - Compound response manually integrated.

Data File: \\nahstws005\Target\chem\FID-4.i\211101.b\022.D

Date : 01-NOV-2021 13:46

Client ID: RSK-CCV

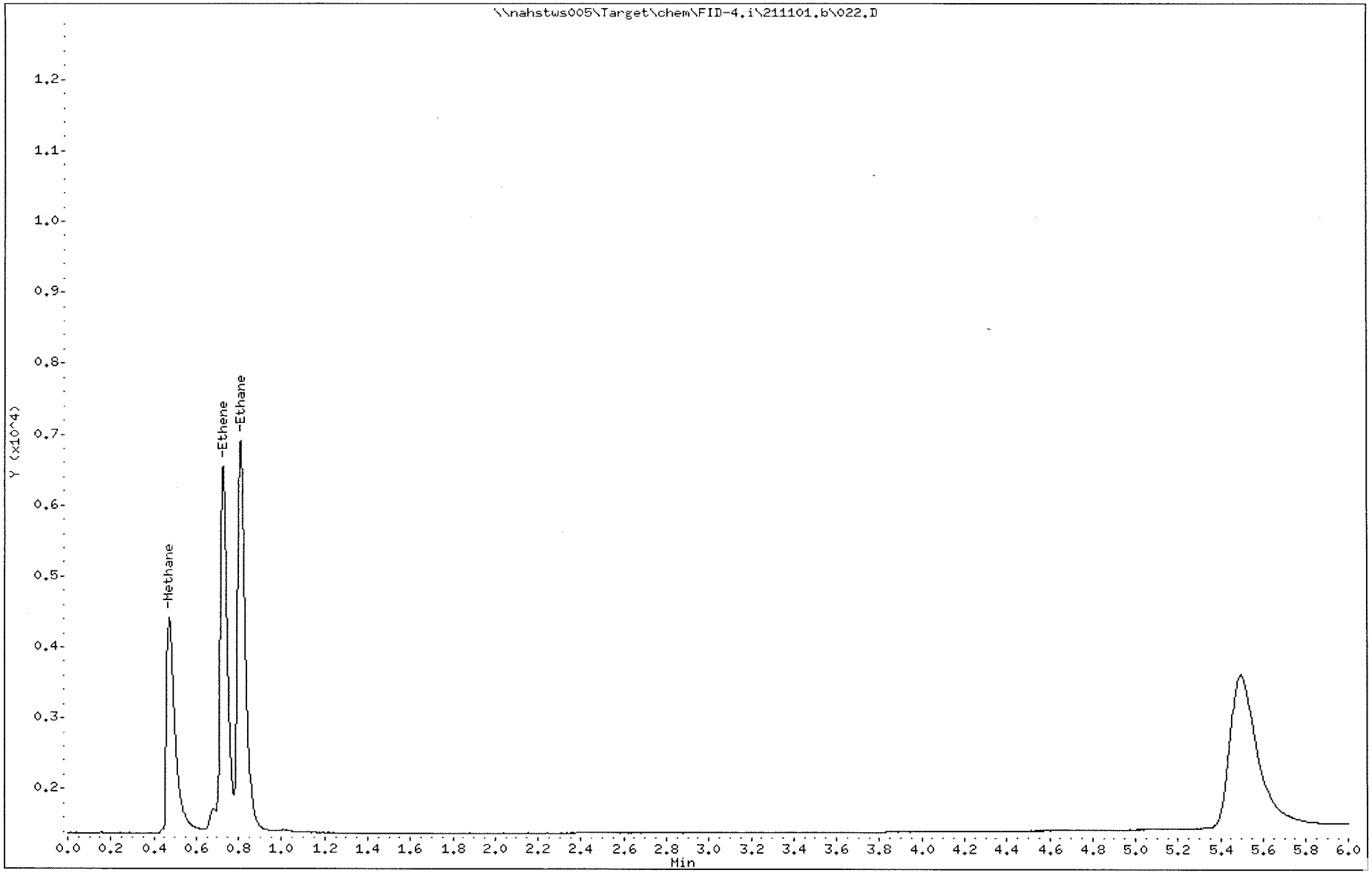
Instrument: FID-4.i

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

Operator: PL

Column phase: Rtx-PLOT

Column diameter: 0.53



ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\211101.b\Before\022.D
Lab Smp Id: RSK-CCV Client Smp ID: RSK-CCV
Inj Date : 01-NOV-2021 13:46
Operator : PL Inst ID: FID-4.i
Smp Info : RSK-CCV;RSK-CCV;2;4
Misc Info : ;1;0;1
Comment :
Method : \\NAHSTWS005\Target\chem\FID-4.i\211101.b\RSKNI3.m
Meth Date : 17-Nov-2021 09:47 linh.pham Quant Type: ESTD
Cal Date : 24-JAN-2017 10:15 Cal File: 004.D
Als bottle: 22 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: RSK175.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

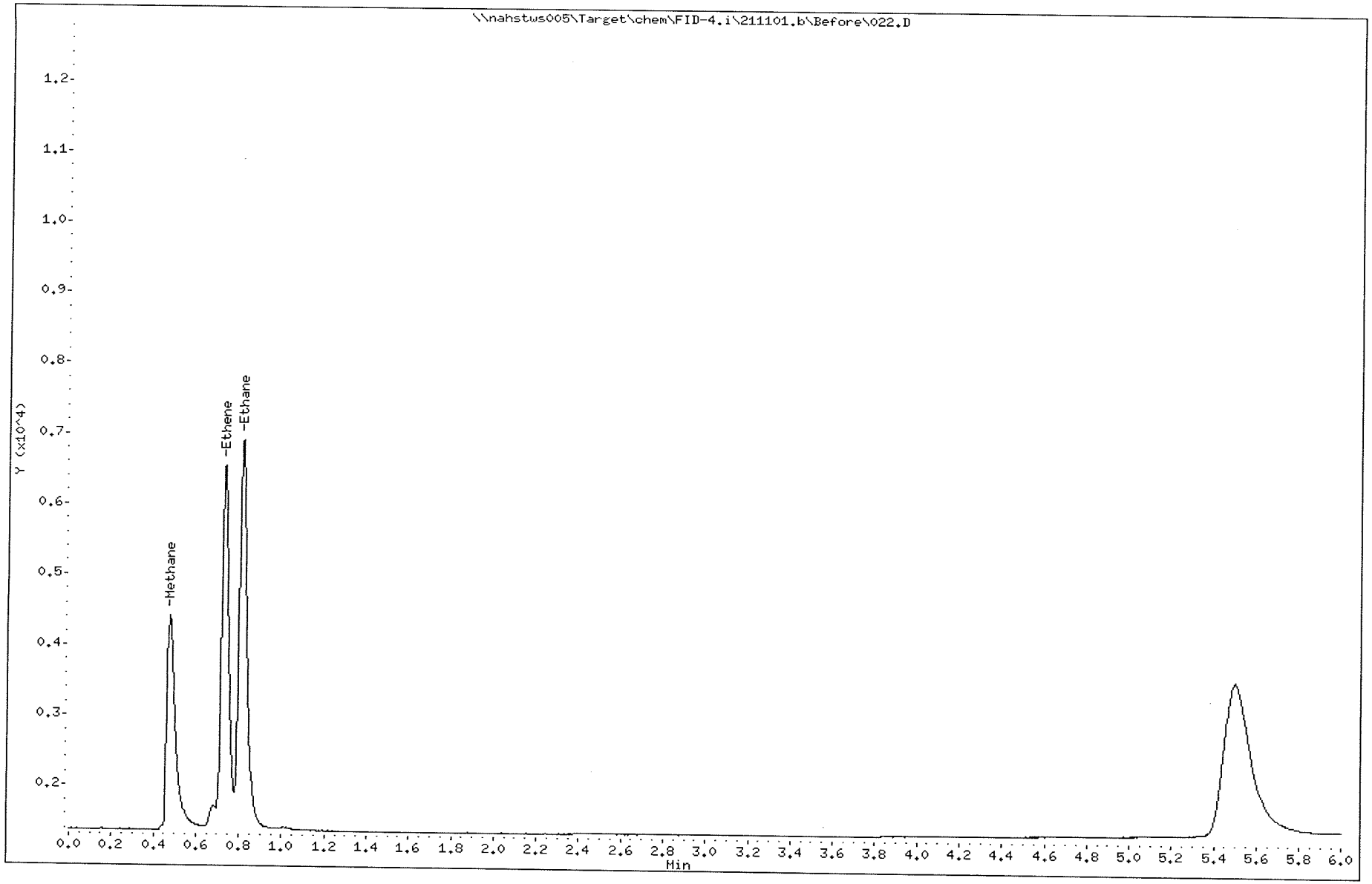
Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)
1 Methane	0.473	0.483	-0.010	8712	9.64700	8.935
2 Ethene	0.726	0.736	-0.010	13239	16.8500	22.601
3 Ethane	0.810	0.820	-0.010	15054	18.0430	20.923

Data File: \\nahstws005\Target\chem\FID-4.i\211101.b\Before\022.D
Date : 01-NOV-2021 13:46
Client ID: RSK-CCV
Sample Info: RSK-CCV;RSK-CCV;2;4

Column phase: Rtx-PLOT

Instrument: FID-4.i

Operator: PL
Column diameter: 0.53



Data File: \\nahstws005\Target\chem\FID-4.i\211101.b\023.D
Report Date: 17-Nov-2021 09:46

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\211101.b\023.D
Lab Smp Id: HS21101554-12 Client Smp ID: HS21101554-12
Inj Date : 01-NOV-2021 13:55
Operator : PL Inst ID: FID-4.i
Smp Info : HS21101554-12;HS21101554-12
Misc Info : ;1;0;1
Comment :
Method : \\NAHSTWS005\Target\chem\FID-4.i\211101.b\RSKNI3.m
Meth Date : 17-Nov-2021 09:40 linh.pham Quant Type: ESTD
Cal Date : 24-JAN-2017 10:15 Cal File: 004.D
Als bottle: 23
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: RSK175.sub
Target Version: 4.14
Processing Host: ALSHSW7104

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	0.486	0.473	0.013	208849	214.206	214.205(A)
2 Ethene	0.720	0.726	-0.006	3043	5.19496	5.194(M)

QC Flag Legend

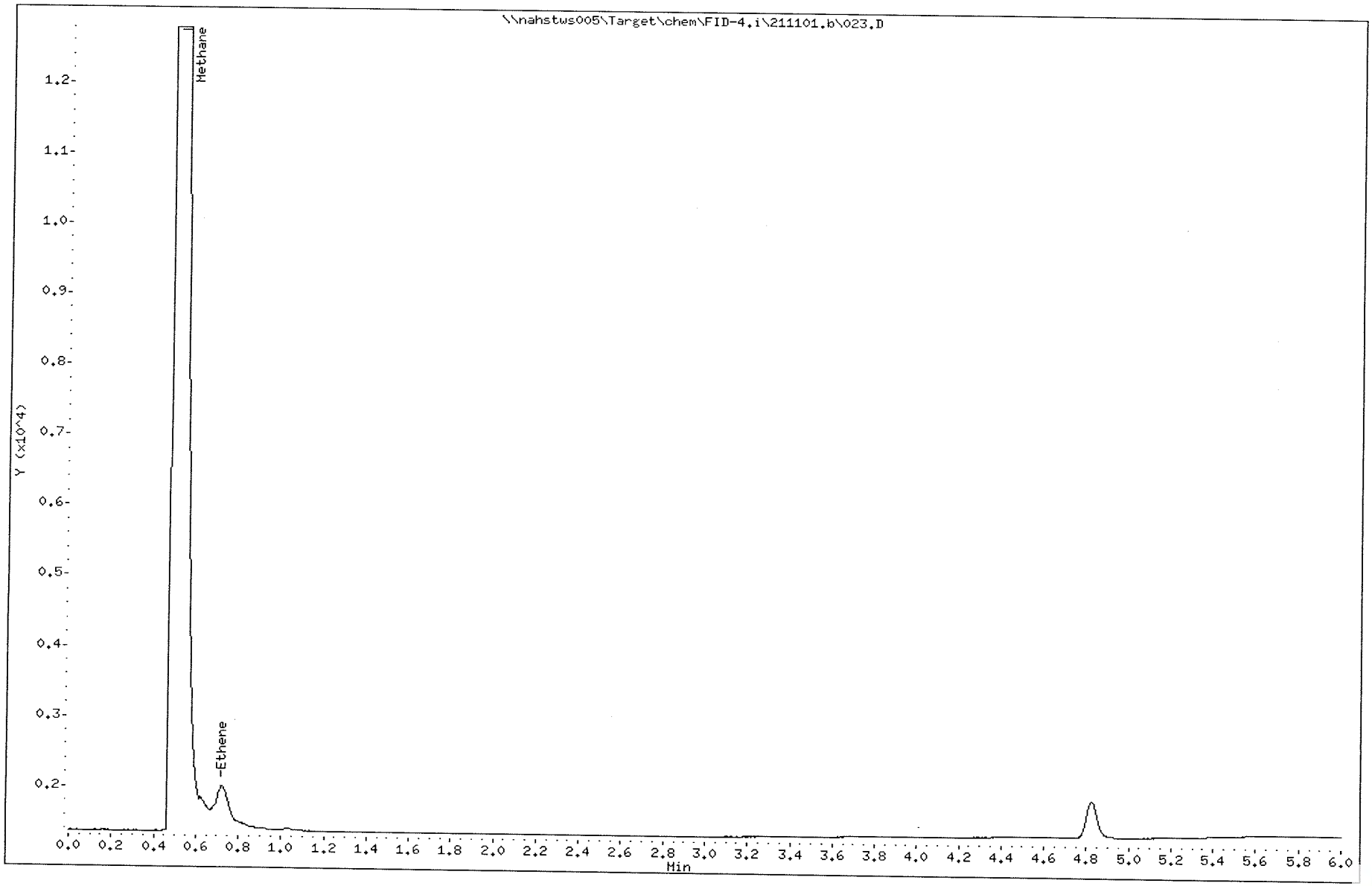
A - Target compound detected but, quantitated amount exceeded maximum amount.
M - Compound response manually integrated.

Data File: \\nahstws005\Target\chem\FID-4.i\211101.b\023.D
Date : 01-NOV-2021 13:55
Client ID: HS21101554-12
Sample Info: HS21101554-12;HS21101554-12

Column phase: Rtx-PLOT

Instrument: FID-4.i

Operator: PL
Column diameter: 0.53



ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\211101.b\Before\023.D
Lab Smp Id: HS21101554-12 Client Smp ID: HS21101554-12
Inj Date : 01-NOV-2021 13:55
Operator : PL Inst ID: FID-4.i
Smp Info : HS21101554-12;HS21101554-12
Misc Info : ;1;0;1
Comment :
Method : \\NAHSTWS005\Target\chem\FID-4.i\211101.b\RSKNI3.m
Meth Date : 17-Nov-2021 09:47 linh.pham Quant Type: ESTD
Cal Date : 24-JAN-2017 10:15 Cal File: 004.D
Als bottle: 23
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: RSK175.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)
1 Methane	0.486	0.483	0.003	208849	214.206	214.205(A)
2 Ethene	0.720	0.736	-0.016	3599	6.14415	6.144

QC Flag Legend

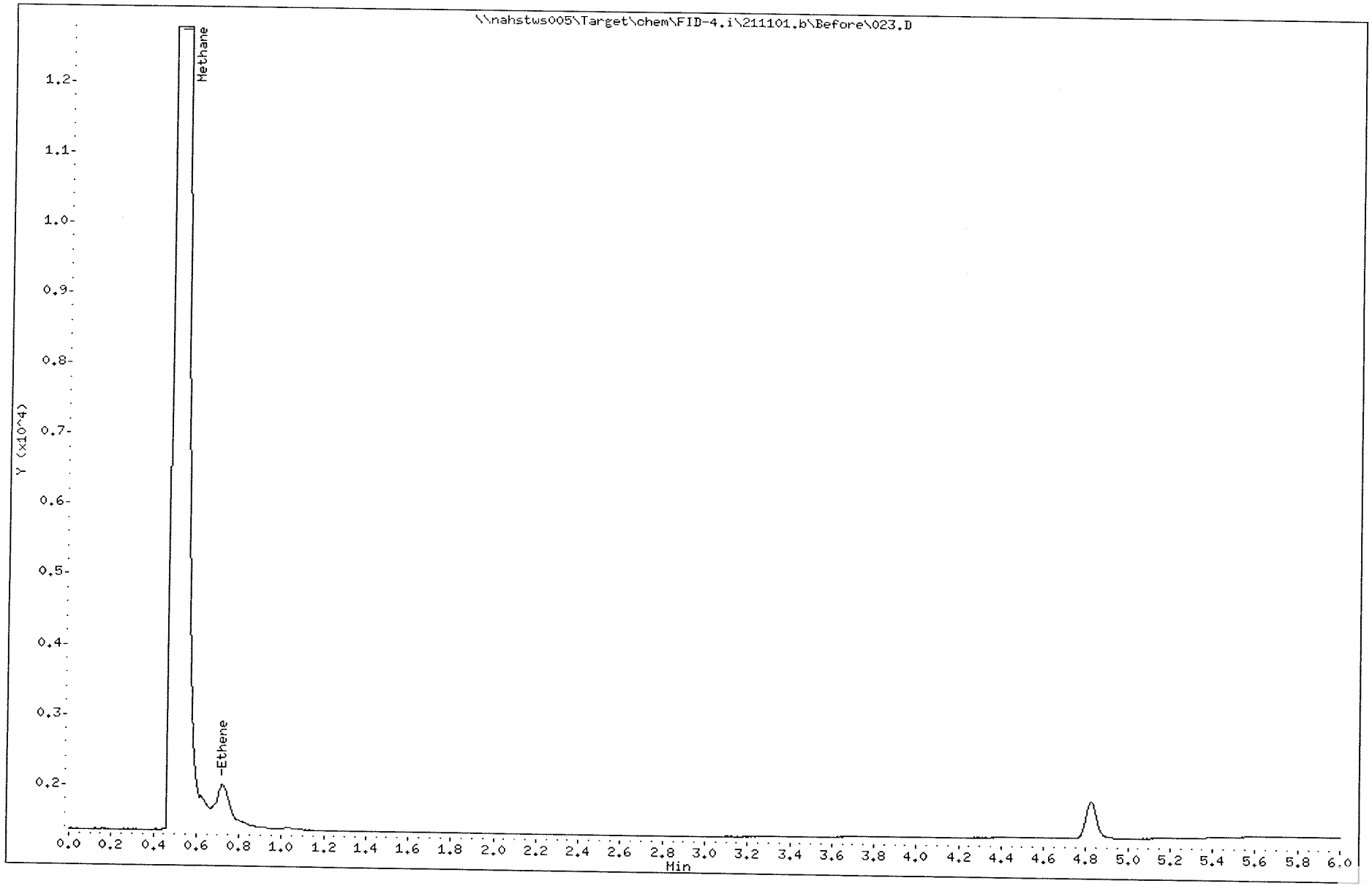
A - Target compound detected but, quantitated amount exceeded maximum amount.

Data File: \\nahstws005\Target\chem\FID-4.i\211101.b\Before\023.D
Date : 01-NOV-2021 13:55
Client ID: HS21101554-12
Sample Info: HS21101554-12;HS21101554-12

Column phase: Rtx-PLOT

Instrument: FID-4.i

Operator: PL
Column diameter: 0.53



Data File: \\nahstws005\Target\chem\FID-4.i\211101.b\024.D
Report Date: 17-Nov-2021 09:46

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\211101.b\024.D
Lab Smp Id: HS21101554-15 Client Smp ID: HS21101554-15
Inj Date : 01-NOV-2021 14:04
Operator : PL Inst ID: FID-4.i
Smp Info : HS21101554-15;HS21101554-15
Misc Info : ;1;0;1
Comment :
Method : \\NAHSTWS005\Target\chem\FID-4.i\211101.b\RSKNI3.m
Meth Date : 17-Nov-2021 09:40 linh.pham Quant Type: ESTD
Cal Date : 24-JAN-2017 10:15 Cal File: 004.D
Als bottle: 24
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: RSK175.sub
Target Version: 4.14
Processing Host: ALSHSW7104

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	0.490	0.473	0.017	11776	12.0780	12.078 (M)

QC Flag Legend

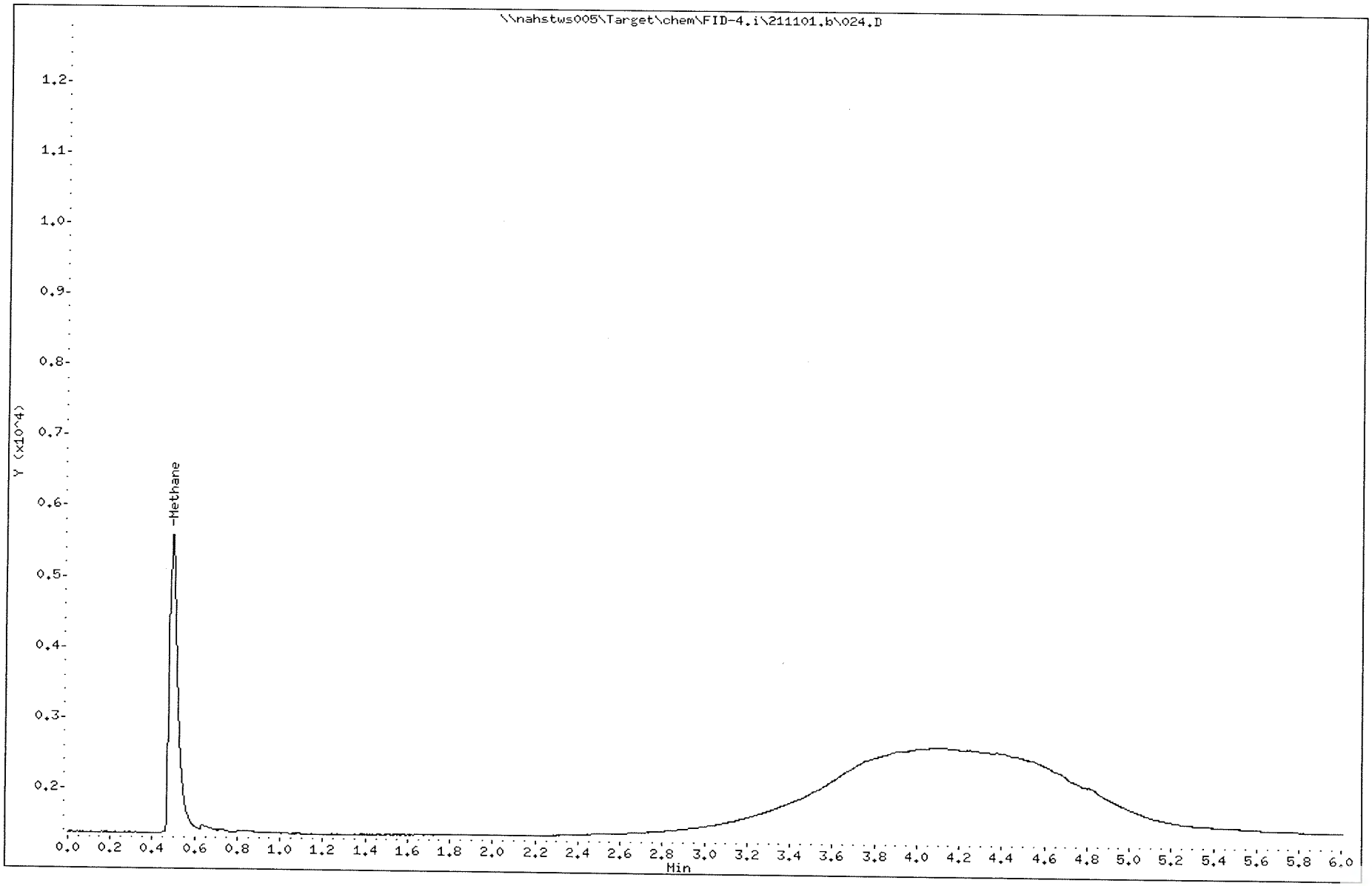
M - Compound response manually integrated.

Data File: \\nahstws005\Target\chem\FID-4.i\211101.b\024.D
Date : 01-NOV-2021 14:04
Client ID: HS21101554-15
Sample Info: HS21101554-15;HS21101554-15

Column phase: Rtx-PLOT

Instrument: FID-4.i

Operator: PL
Column diameter: 0.53



ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\211101.b\Before\024.D
Lab Smp Id: HS21101554-15 Client Smp ID: HS21101554-15
Inj Date : 01-NOV-2021 14:04
Operator : PL Inst ID: FID-4.i
Smp Info : HS21101554-15;HS21101554-15
Misc Info : ;1;0;1
Comment :
Method : \\NAHSTWS005\Target\chem\FID-4.i\211101.b\RSKNI3.m
Meth Date : 17-Nov-2021 09:47 linh.pham Quant Type: ESTD
Cal Date : 24-JAN-2017 10:15 Cal File: 004.D
Als bottle: 24
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

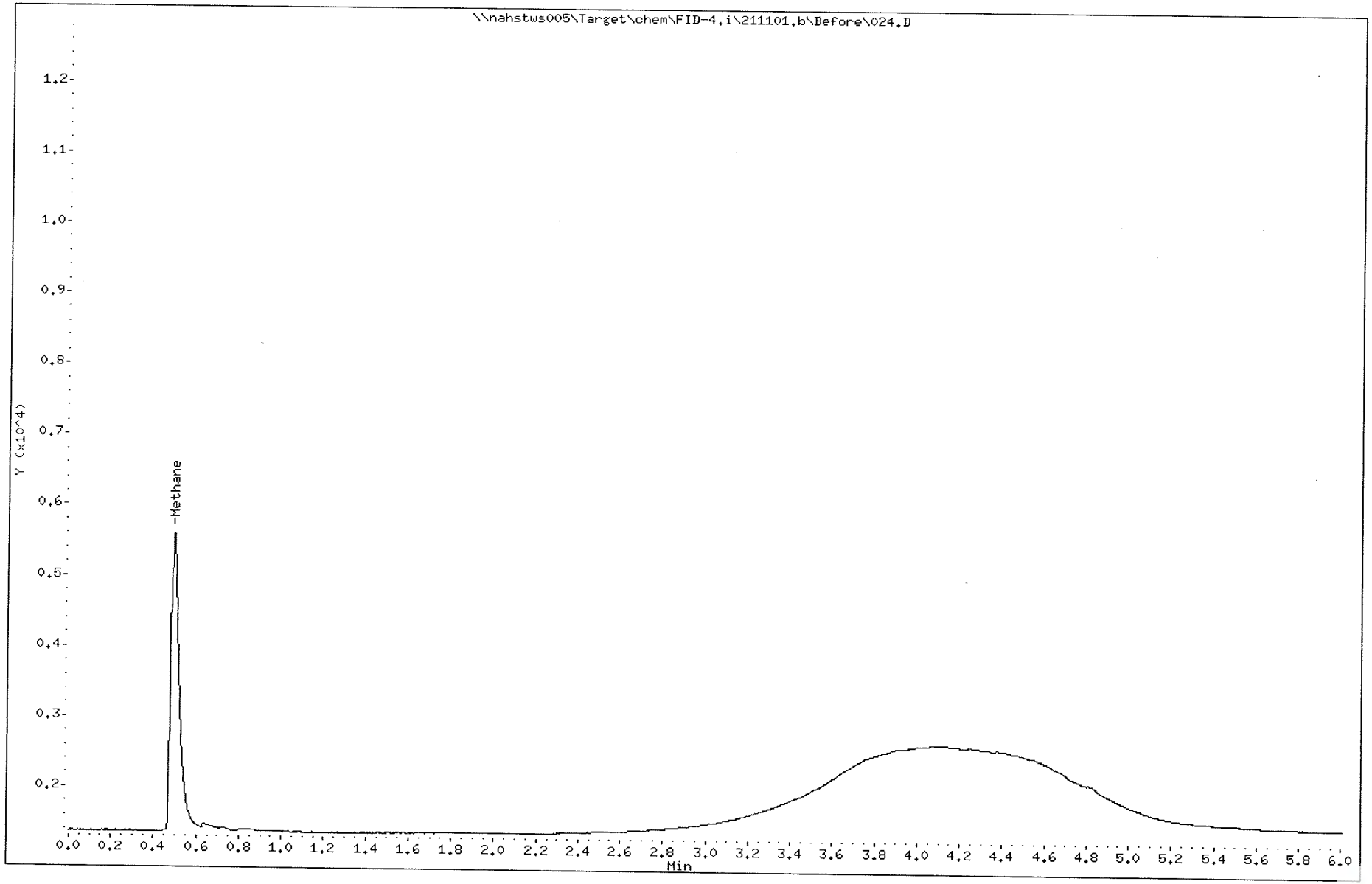
Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)
1 Methane	0.490	0.483	0.007	11952	12.2586	12.258

Data File: \\nahstws005\Target\chem\FID-4.i\211101.b\Before\024.D
Date : 01-NOV-2021 14:04
Client ID: HS21101554-15
Sample Info: HS21101554-15;HS21101554-15

Column phase: Rtx-PLOT

Instrument: FID-4.i

Operator: PL
Column diameter: 0.53



Data File: \\nahstws005\Target\chem\FID-4.i\211101.b\025.D
Report Date: 17-Nov-2021 09:46

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\211101.b\025.D
Lab Smp Id: HS21101554-11 Client Smp ID: HS21101554-11
Inj Date : 01-NOV-2021 14:15
Operator : PL Inst ID: FID-4.i
Smp Info : HS21101554-11;HS21101554-11
Misc Info : ;1;0;10
Comment :
Method : \\NAHSTWS005\Target\chem\FID-4.i\211101.b\RSKNI3.m
Meth Date : 17-Nov-2021 09:40 linh.pham Quant Type: ESTD
Cal Date : 24-JAN-2017 10:15 Cal File: 004.D
Als bottle: 25
Dil Factor: 10.00000
Integrator: Falcon Compound Sublist: RSK175.sub
Target Version: 4.14
Processing Host: ALSHSW7104

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

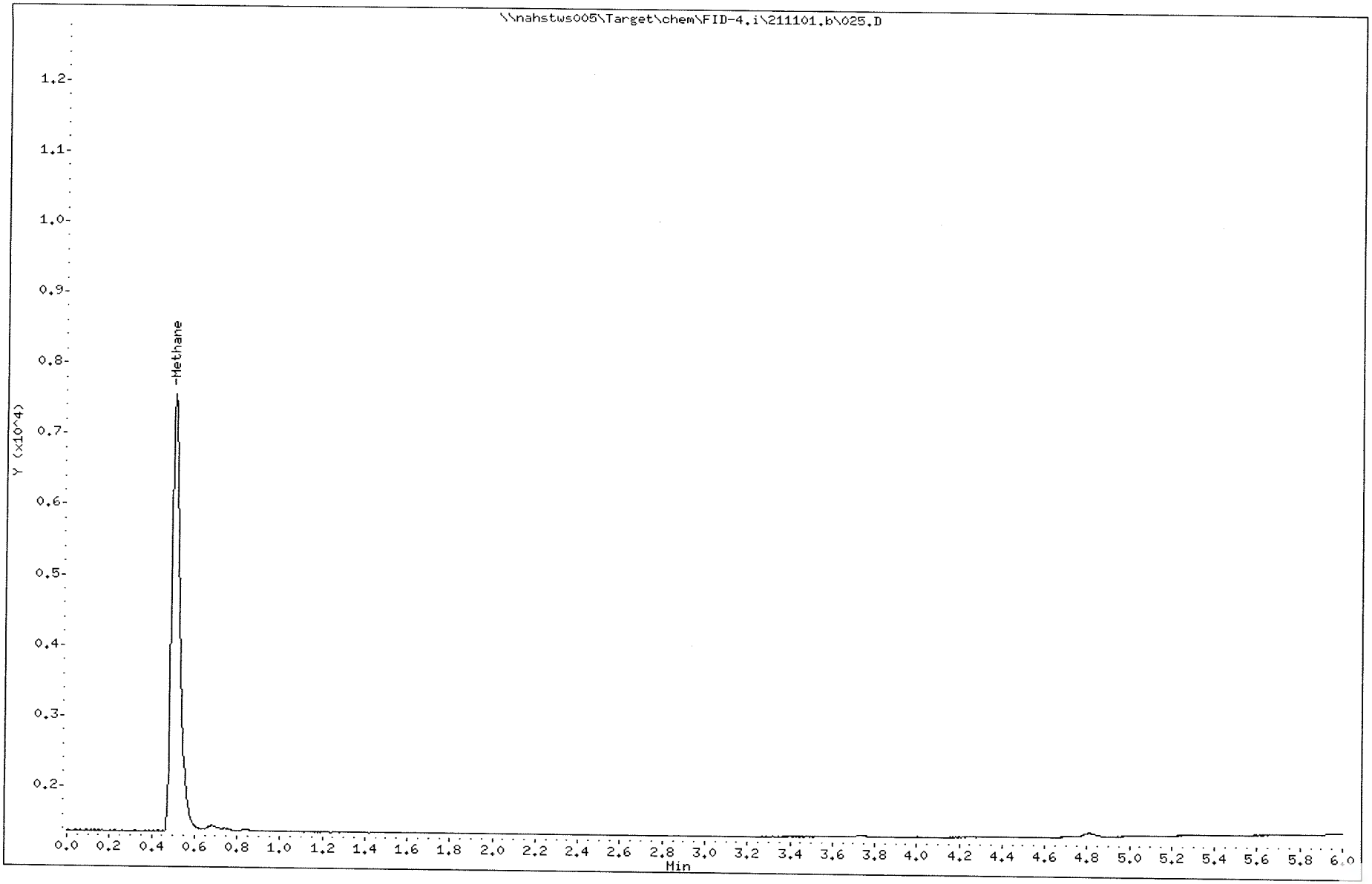
Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)
1 Methane	0.500	0.473	0.027	17592	18.0432	180.432

Data File: \\nahstws005\Target\chem\FID-4.i\211101.b\025.D
Date : 01-NOV-2021 14:15
Client ID: HS21101554-11
Sample Info: HS21101554-11;HS21101554-11

Column phase: Rtx-PLOT

Instrument: FID-4.i

Operator: PL
Column diameter: 0.53



ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\211101.b\Before\025.D
Lab Smp Id: HS21101554-11 Client Smp ID: HS21101554-11
Inj Date : 01-NOV-2021 14:15
Operator : PL Inst ID: FID-4.i
Smp Info : HS21101554-11;HS21101554-11
Misc Info : ;1;0;10
Comment :
Method : \\NAHSTWS005\Target\chem\FID-4.i\211101.b\RSKNI3.m
Meth Date : 17-Nov-2021 09:47 linh.pham Quant Type: ESTD
Cal Date : 24-JAN-2017 10:15 Cal File: 004.D
Als bottle: 25
Dil Factor: 10.00000
Integrator: Falcon Compound Sublist: RSK175.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

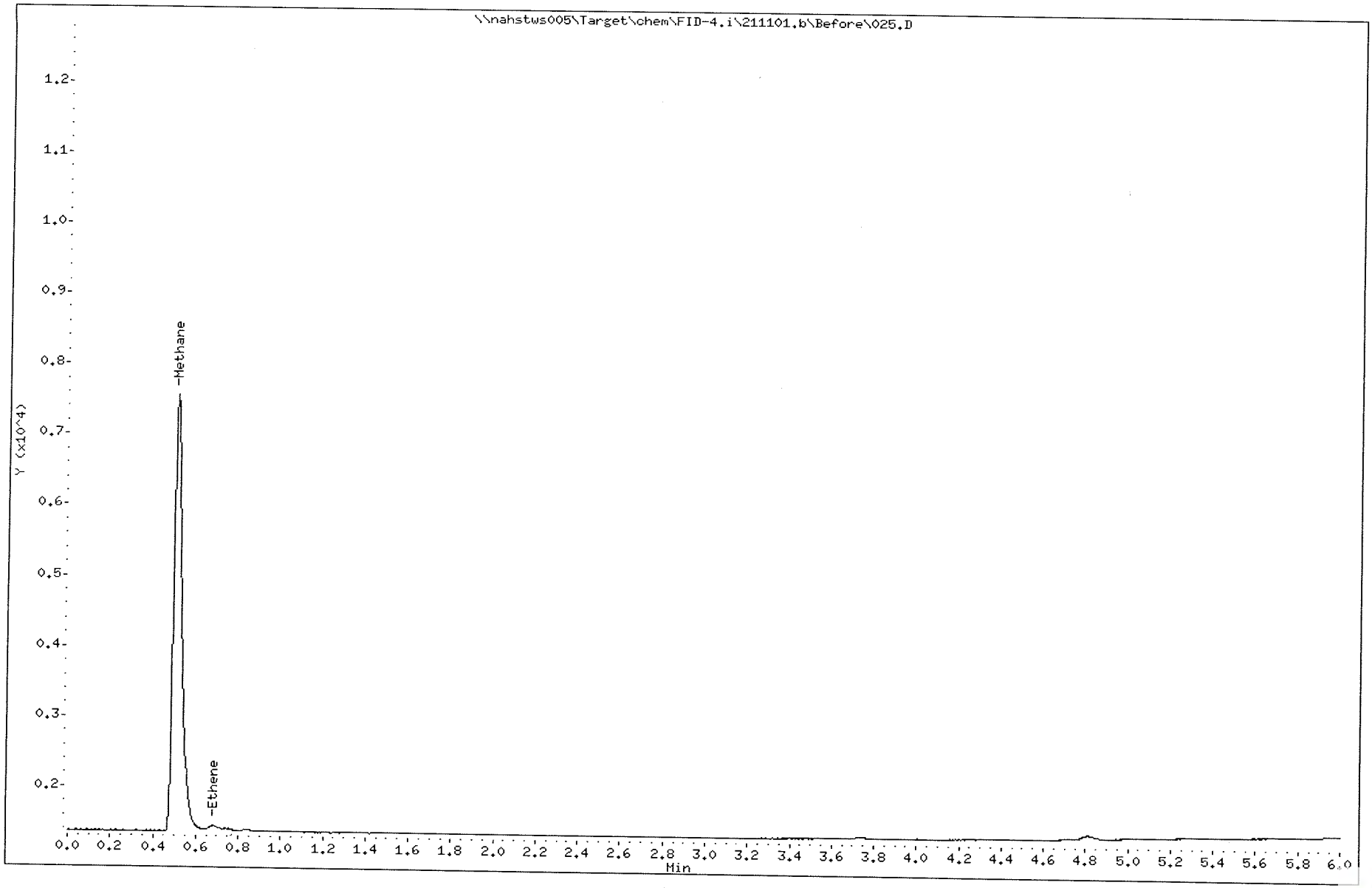
Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)
1 Methane	0.500	0.483	0.017	17592	18.0432	180.432
2 Ethene	0.686	0.736	-0.050	512	0.87408	8.740

Data File: \\nahstws005\Target\chem\FID-4.i\211101.b\Before\025.D
Date : 01-NOV-2021 14:15
Client ID: HS21101554-11
Sample Info: HS21101554-11;HS21101554-11

Column phase: Rtx-PLOT

Instrument: FID-4.i

Operator: PL
Column diameter: 0.53



ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\211101.b\026.D
Lab Smp Id: HS21101554-12 Client Smp ID: HS21101554-12
Inj Date : 01-NOV-2021 14:23
Operator : PL Inst ID: FID-4.i
Smp Info : HS21101554-12;HS21101554-12
Misc Info : ;1;0;10
Comment :
Method : \\NAHSTWS005\Target\chem\FID-4.i\211101.b\RSKNI3.m
Meth Date : 17-Nov-2021 09:40 linh.pham Quant Type: ESTD
Cal Date : 24-JAN-2017 10:15 Cal File: 004.D
Als bottle: 26
Dil Factor: 10.00000
Integrator: Falcon Compound Sublist: RSK175.sub
Target Version: 4.14
Processing Host: ALSHSW7104

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

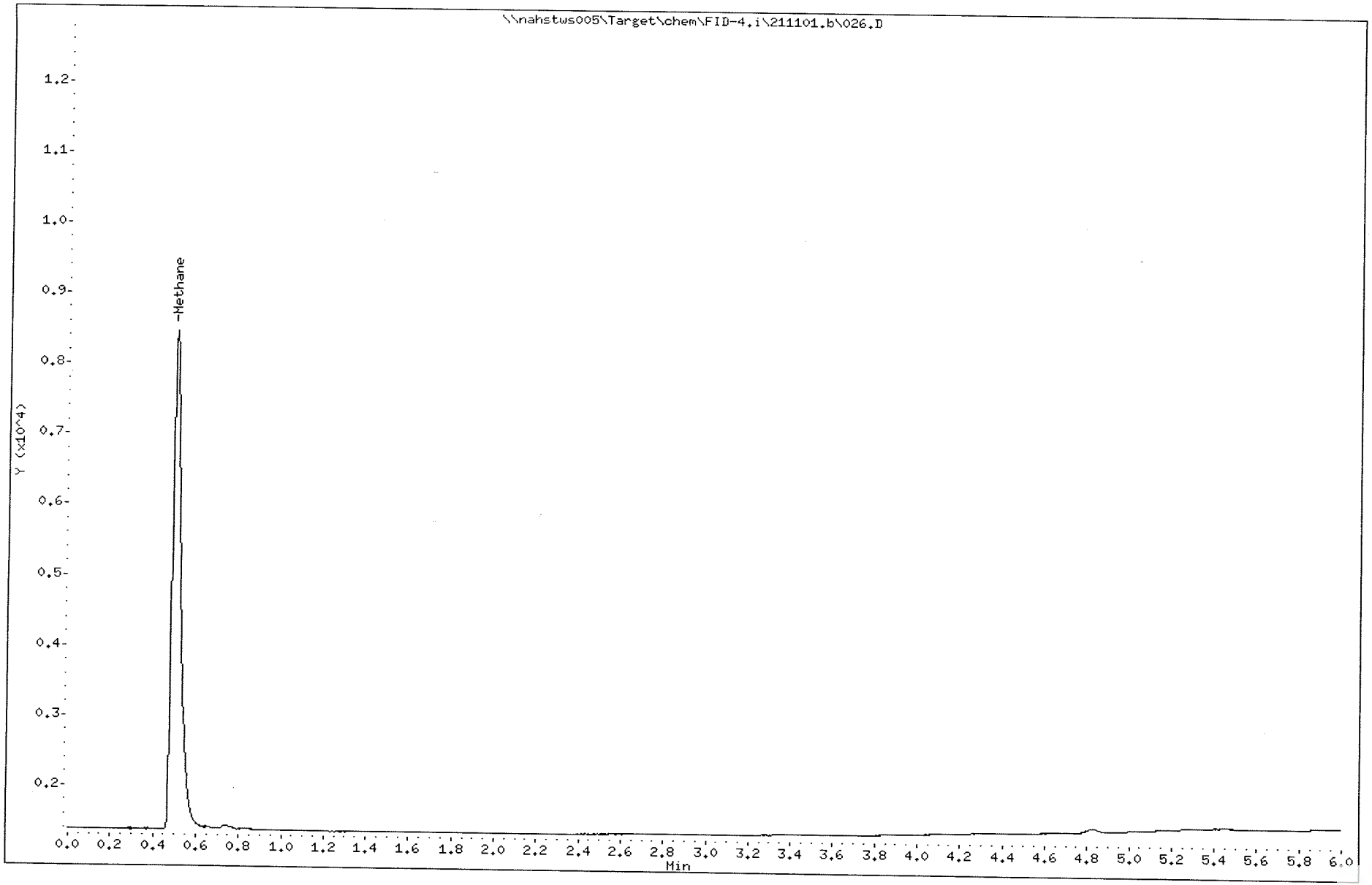
Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)
1 Methane	0.490	0.473	0.017	21059	21.5991	215.991

Data File: \\nahstws005\Target\chem\FID-4.i\211101.b\026.D
Date : 01-NOV-2021 14:23
Client ID: HS21101554-12
Sample Info: HS21101554-12;HS21101554-12

Column phase: Rtx-PLOT

Instrument: FID-4.i

Operator: PL
Column diameter: 0.53



ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\211101.b\Before\026.D
Lab Smp Id: HS21101554-12 Client Smp ID: HS21101554-12
Inj Date : 01-NOV-2021 14:23
Operator : PL Inst ID: FID-4.i
Smp Info : HS21101554-12;HS21101554-12
Misc Info : ;1;0;10
Comment :
Method : \\NAHSTWS005\Target\chem\FID-4.i\211101.b\RSKNI3.m
Meth Date : 17-Nov-2021 09:47 linh.pham Quant Type: ESTD
Cal Date : 24-JAN-2017 10:15 Cal File: 004.D
Als bottle: 26
Dil Factor: 10.00000
Integrator: Falcon Compound Sublist: RSK175.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

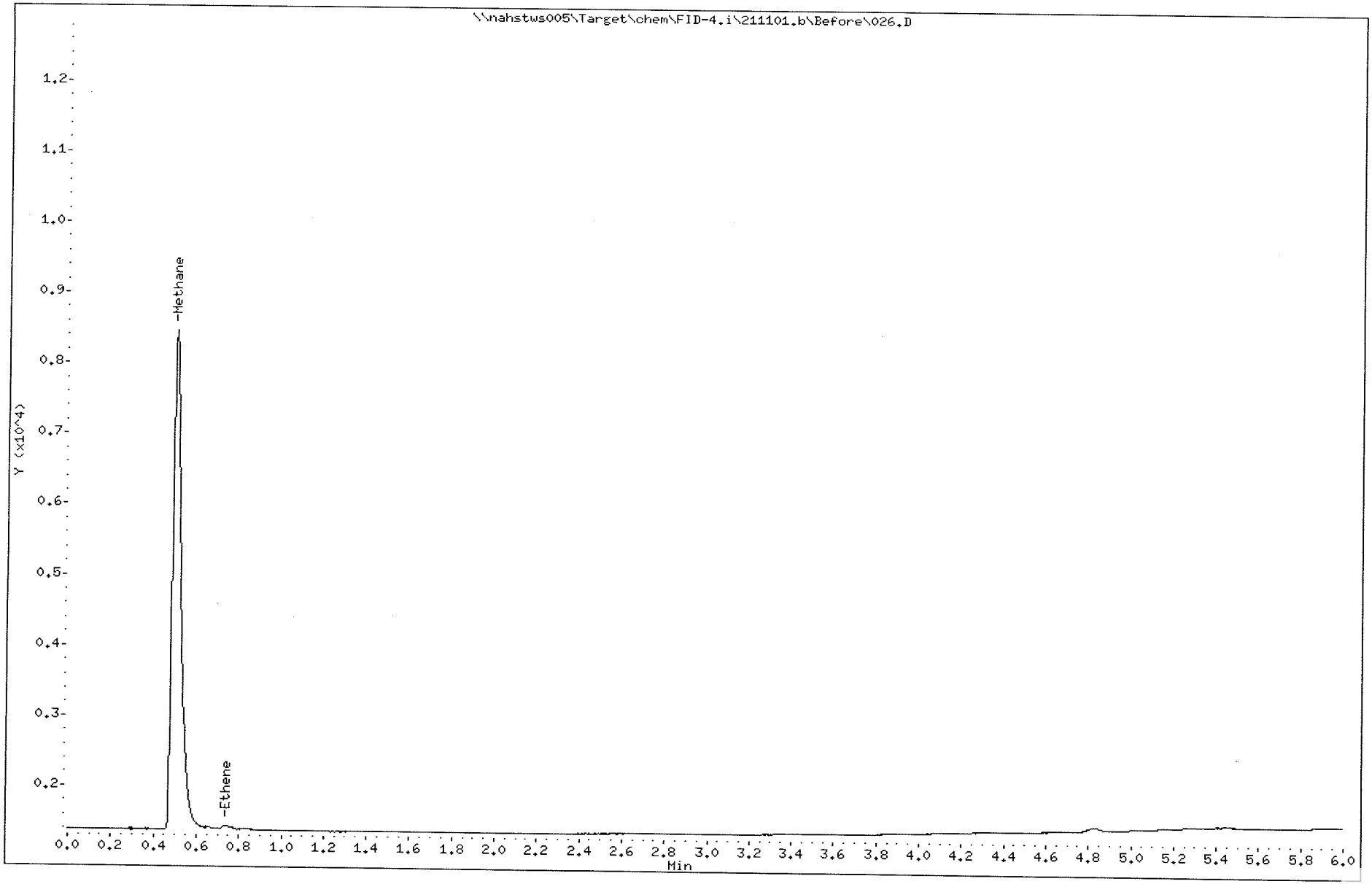
Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)
1 Methane	0.490	0.483	0.007	20996	21.5345	215.345
2 Ethene	0.740	0.736	0.004	351	0.59922	5.992

Data File: \\nahstws005\Target\chem\FID-4.i\211101.b\Before\026.D
Date : 01-NOV-2021 14:23
Client ID: HS21101554-12
Sample Info: HS21101554-12;HS21101554-12

Column phase: Rtx-PLOT

Instrument: FID-4.i

Operator: PL
Column diameter: 0.53



Data File: \\nahstws005\Target\chem\FID-4.i\211101.b\027.D
Report Date: 17-Nov-2021 09:46

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\211101.b\027.D
Lab Smp Id: RSK-CCV Client Smp ID: RSK-CCV
Inj Date : 01-NOV-2021 14:31
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\211101.b\RSKNI3.m
Meth Date : 17-Nov-2021 09:40 linh.pham Quant Type: ESTD
Cal Date : 24-JAN-2017 10:15 Cal File: 004.D
Als bottle: 27 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: RSK175.sub
Target Version: 4.14
Processing Host: ALSHSW7104

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

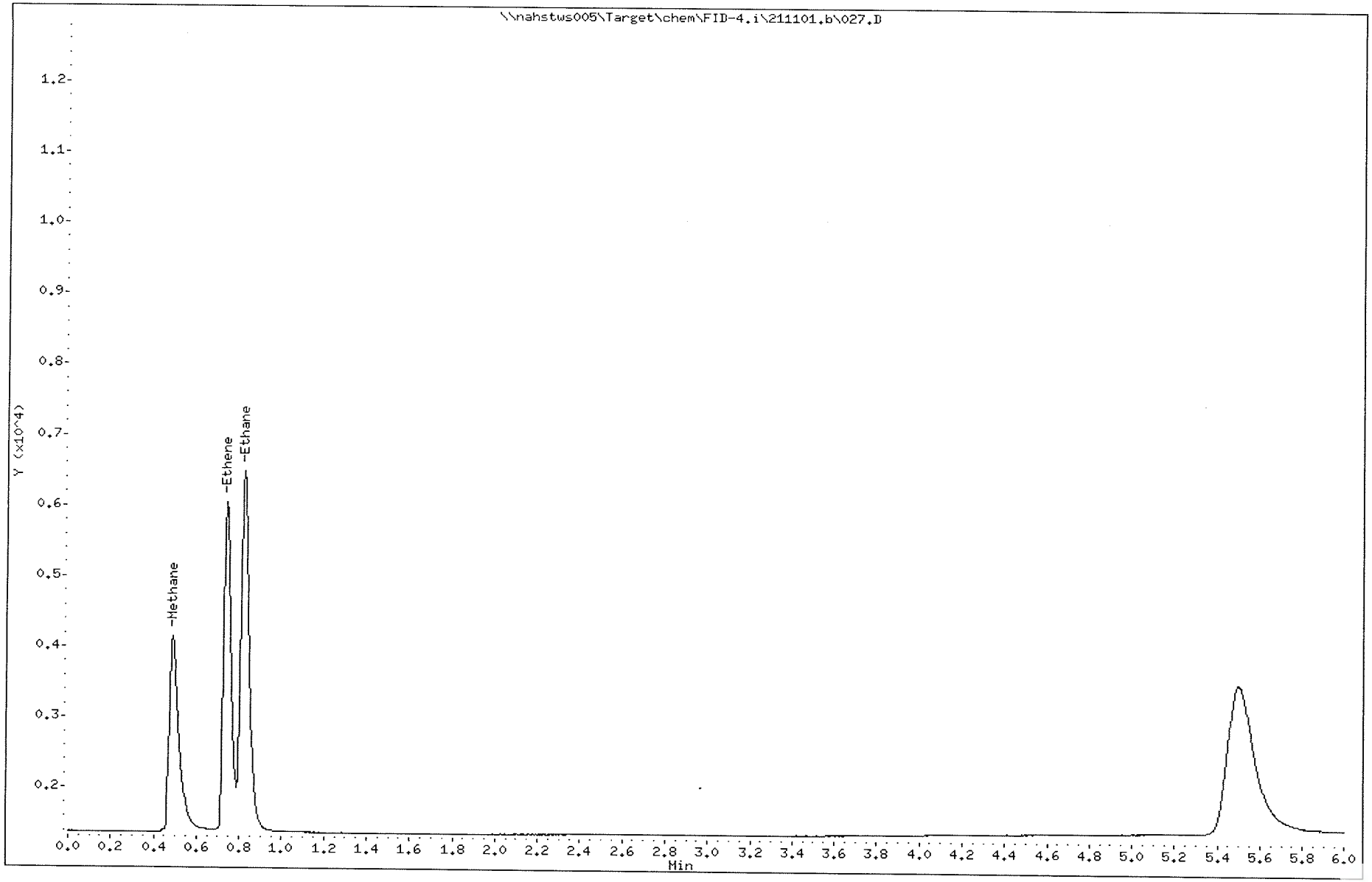
Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)
1 Methane	0.483	0.473	0.010	8825	9.64700	9.051
2 Ethene	0.736	0.726	0.010	11641	16.8500	19.873
3 Ethane	0.820	0.810	0.010	14226	18.0430	19.772

Data File: \\nahstws005\Target\chem\FID-4.i\211101.b\027.D
Date : 01-NOV-2021 14:31
Client ID: RSK-CCV
Sample Info: RSK-CCV;RSK-CCV;2;4

Column phase: Rtx-PLOT

Instrument: FID-4.i

Operator: PL
Column diameter: 0.53



ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\211101.b\Before\027.D
Lab Smp Id: RSK-CCV Client Smp ID: RSK-CCV
Inj Date : 01-NOV-2021 14:31
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\211101.b\RSKNI3.m
Meth Date : 17-Nov-2021 09:47 linh.pham Quant Type: ESTD
Cal Date : 24-JAN-2017 10:15 Cal File: 004.D
Als bottle: 27 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: RSK175.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

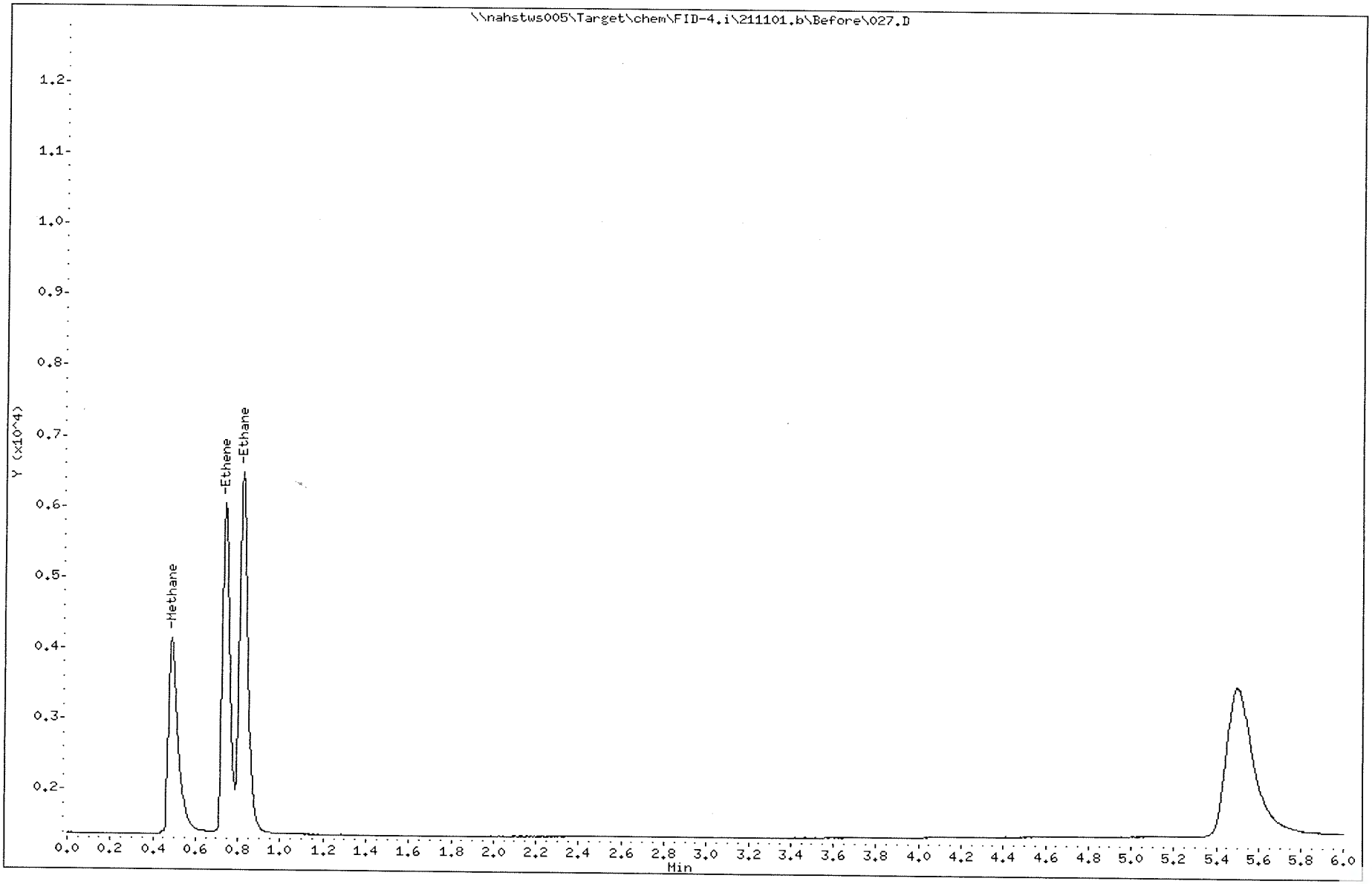
					AMOUNTS	
					CAL-AMT	ON-COL
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/L)	(ug/L)
1 Methane	0.483	0.483	0.000	8992	9.64700	9.222
2 Ethene	0.736	0.736	0.000	11847	16.8500	20.224
3 Ethane	0.820	0.820	0.000	14566	18.0430	20.244

Data File: \\nahstws005\Target\chem\FID-4.i\211101.b\Before\027.D
Date : 01-NOV-2021 14:31
Client ID: RSK-CCV
Sample Info: RSK-CCV;RSK-CCV;2;4

Column phase: Rtx-PLOT

Instrument: FID-4.i

Operator: PL
Column diameter: 0.53



HS21101554 Wet Chemistry

ALS WO# HS21101554

C:\TOC-L\Data\2021_10_25_002.tlx

	Type	Analysis	Sample Name	Sample ID	Origin	Manual Diluti	Result	Notes
1	Unknown	NPOC	RINSE		10_18_2021	1.000	NPOC:0.06454mg/	
2	Unknown	NPOC	RINSE		10_18_2021	1.000	NPOC:0.06455mg/	
3	Unknown	NPOC	RINSE		10_18_2021	1.000	NPOC:0.07074mg/	
4	Standard	NPOC	CAL	3100604915	10_25_2021	1.000		
5	Unknown	NPOC	ICB		10_25_2021	1.000	NPOC:0.09179mg/	
6	Unknown	NPOC	ICV	3100604423	10_25_2021	1.000	NPOC:10.60mg/L	
7	Unknown	NPOC	ICB		10_25_2021	1.000	NPOC:0.05172mg/	
8	Unknown	NPOC	CCV	317195504	10_25_2021	1.000	NPOC:25.73mg/L	
9	Unknown	NPOC	CCB		10_25_2021	1.000	NPOC:0.06181mg/	
10	Unknown	NPOC	MBLK-10252021		10_25_2021	1.000	NPOC:0.05600mg/	
11	Unknown	NPOC	LCS-10252021	3100604423	10_25_2021	1.000	NPOC:9.287mg/L	
12	Unknown	NPOC	LCSD-10252021	3100604423	10_25_2021	1.000	NPOC:10.83mg/L	
13	Unknown	NPOC	HS21101075-01DF10		10_25_2021	1.000	NPOC:0.2805mg/L	
14	Unknown	NPOC	HS21101075-01MSD		10_25_2021	1.000	NPOC:12.37mg/L	
15	Unknown	NPOC	HS21101075-02DF10		10_25_2021	1.000	NPOC:0.3788mg/L	
16	Unknown	NPOC	HS21101075-03DF10		10_25_2021	1.000	NPOC:0.2410mg/L	
17	Unknown	NPOC	HS21101075-04DF10		10_25_2021	1.000	NPOC:0.3913mg/L	
18	Unknown	NPOC	HS21101075-05DF10		10_25_2021	1.000	NPOC:0.2171mg/L	
19	Unknown	NPOC	HS21101075-06DF10		10_25_2021	1.000	NPOC:0.1665mg/L	
20	Unknown	NPOC	CCV	317195504	10_25_2021	1.000	NPOC:25.66mg/L	
21	Unknown	NPOC	CCB		10_25_2021	1.000	NPOC:0.05208mg/	
22	Unknown	NPOC	HS21101075-07DF10		10_25_2021	1.000	NPOC:0.1747mg/L	
23	Unknown	NPOC	HS21101075-08DF10		10_25_2021	1.000	NPOC:0.1648mg/L	
24	Unknown	NPOC	HS21101075-09DF10		10_25_2021	1.000	NPOC:0.1167mg/L	
25	Unknown	NPOC	HS21101075-10DF10		10_25_2021	1.000	NPOC:0.1071mg/L	
26	Unknown	NPOC	CCV	317195504	10_25_2021	1.000	NPOC:25.76mg/L	
27	Unknown	NPOC	CCB		10_25_2021	1.000	NPOC:0.05571mg/	
28	Unknown	NPOC	MBLK-10252021		10_25_2021	1.000	NPOC:0.06486mg/	
29	Unknown	NPOC	LCS-10252021	3100604423	10_25_2021	1.000	NPOC:9.320mg/L	
30	Unknown	NPOC	LCSD-10252021	3100604423	10_25_2021	1.000	NPOC:10.96mg/L	
31	Unknown	NPOC	HS21101075-11DF10		10_25_2021	1.000	NPOC:0.1323mg/L	
32	Unknown	NPOC	HS21101075-11MSD		10_25_2021	1.000	NPOC:11.21mg/L	
33	Unknown	NPOC	HS21101075-12DF10		10_25_2021	1.000	NPOC:0.2792mg/L	
34	Unknown	NPOC	HS21101080-01DF10		10_25_2021	1.000	NPOC:0.1261mg/L	
35	Unknown	NPOC	HS21101080-02DF10		10_25_2021	1.000	NPOC:0.1407mg/L	
36	Unknown	NPOC	HS21101080-03DF10		10_25_2021	1.000	NPOC:0.1267mg/L	
37	Unknown	NPOC	HS21101080-04DF10		10_25_2021	1.000	NPOC:0.1381mg/L	
38	Unknown	NPOC	CCV	317195504	10_25_2021	1.000	NPOC:25.74mg/L	
39	Unknown	NPOC	CCB		10_25_2021	1.000	NPOC:0.09212mg/	
40	Unknown	NPOC	HS21101080-05DF10		10_25_2021	1.000	NPOC:0.1654mg/L	
41	Unknown	NPOC	HS21101080-06DF10		10_25_2021	1.000	NPOC:0.1460mg/L	
42	Unknown	NPOC	HS21101080-07DF10		10_25_2021	1.000	NPOC:0.1360mg/L	
43	Unknown	NPOC	HS21101080-08DF10		10_25_2021	1.000	NPOC:0.1453mg/L	
44	Unknown	NPOC	CCV	317195504	10_25_2021	1.000	NPOC:25.54mg/L	
45	Unknown	NPOC	CCB		10_25_2021	1.000	NPOC:0.1296mg/L	
46	Unknown	NPOC	MBLK-10252021		10_25_2021	1.000	NPOC:0.05576mg/	
47	Unknown	NPOC	LCS-10252021	3100604423	10_25_2021	1.000	NPOC:9.292mg/L	
48	Unknown	NPOC	LCSD-10252021	3100604423	10_25_2021	1.000	NPOC:10.94mg/L	
49	Unknown	NPOC	HS21101080-09DF10		10_25_2021	1.000	NPOC:0.2259mg/L	
50	Unknown	NPOC	HS21101080-09MSD		10_25_2021	1.000	NPOC:11.03mg/L	
51	Unknown	NPOC	HS21101080-10DF10		10_25_2021	1.000	NPOC:0.1935mg/L	

C:\TOC-L\Data\2021_10_25_002.tlx

	Type	Analysis	Sample Name	Sample ID	Origin	Manual Diluti	Result	Notes
52	Unknown	NPOC	HS21101080-11DF10		10_25_2021	1.000	NPOC:0.1278mg/L	
53	Unknown	NPOC	HS21101080-12DF10		10_25_2021	1.000	NPOC:0.1284mg/L	
54	Unknown	NPOC	HS21101080-13DF10		10_25_2021	1.000	NPOC:0.1196mg/L	
55	Unknown	NPOC	HS21101080-14DF10		10_25_2021	1.000	NPOC:0.2314mg/L	
56	Unknown	NPOC	CCV	317195504	10_25_2021	1.000	NPOC:25.69mg/L	
57	Unknown	NPOC	CCB		10_25_2021	1.000	NPOC:0.02809mg/	
58	Unknown	NPOC	HS21101083-01DF10		10_25_2021	1.000	NPOC:0.2332mg/L	
59	Unknown	NPOC	HS21101083-02DF10		10_25_2021	1.000	NPOC:0.2108mg/L	
60	Unknown	NPOC	HS21101083-03DF10		10_25_2021	1.000	NPOC:0.2038mg/L	
61	Unknown	NPOC	HS21101083-04DF10		10_25_2021	1.000	NPOC:0.3380mg/L	
62	Unknown	NPOC	CCV	317195504	10_25_2021	1.000	NPOC:25.53mg/L	
63	Unknown	NPOC	CCB		10_25_2021	1.000	NPOC:0.1115mg/L	
64	Unknown	NPOC	MBLK-10252021		10_25_2021	1.000	NPOC:0.06795mg/	
65	Unknown	NPOC	LCS-10252021	3100604423	10_25_2021	1.000	NPOC:9.230mg/L	
66	Unknown	NPOC	LCSD-10252021	3100604423	10_25_2021	1.000	NPOC:10.89mg/L	
67	Unknown	NPOC	HS21101083-05DF10		10_25_2021	1.000	NPOC:0.4956mg/L	
68	Unknown	NPOC	HS21101083-05MSD		10_25_2021	1.000	NPOC:11.17mg/L	
69	Unknown	NPOC	HS21101083-06DF10		10_25_2021	1.000	NPOC:0.2640mg/L	
70	Unknown	NPOC	HS21101083-07DF10		10_25_2021	1.000	NPOC:0.2414mg/L	
71	Unknown	NPOC	HS21101083-08DF10		10_25_2021	1.000	NPOC:0.2102mg/L	
72	Unknown	NPOC	HS21101083-09DF10		10_25_2021	1.000	NPOC:0.1629mg/L	
73	Unknown	NPOC	HS21101083-10DF10		10_25_2021	1.000	NPOC:0.1838mg/L	
74	Unknown	NPOC	CCV	317195504	10_25_2021	1.000	NPOC:25.60mg/L	
75	Unknown	NPOC	CCB		10_25_2021	1.000	NPOC:0.1118mg/L	
76	Unknown	NPOC	HS21101083-11DF10		10_25_2021	1.000	NPOC:0.1718mg/L	
77	Unknown	NPOC	HS21101083-12DF10		10_25_2021	1.000	NPOC:0.1978mg/L	
78	Unknown	NPOC	HS21101083-13DF10		10_25_2021	1.000	NPOC:0.2415mg/L	
79	Unknown	NPOC	HS21101083-14DF10		10_25_2021	1.000	NPOC:0.2981mg/L	
80	Unknown	NPOC	CCV	317195504	10_25_2021	1.000	NPOC:25.57mg/L	
81	Unknown	NPOC	CCB		10_25_2021	1.000	NPOC:0.1184mg/L	

	Status	Date / Time	Vial
1	Completed	10/25/2021	64
2	Completed	10/25/2021	65
3	Completed	10/25/2021	66
4	Completed	10/25/2021	1, 2, 3, 4, 5,
5	Completed	10/25/2021	1
6	Completed	10/25/2021	8
7	Completed	10/25/2021	1
8	Completed	10/25/2021	9
9	Completed	10/25/2021	10
10	Completed	10/25/2021	11
11	Completed	10/25/2021	12
12	Completed	10/25/2021	13
13	Completed	10/25/2021	14
14	Completed	10/25/2021	15
15	Completed	10/25/2021	16
16	Completed	10/26/2021	17
17	Completed	10/26/2021	18
18	Completed	10/26/2021	19
19	Completed	10/26/2021	20
20	Completed	10/26/2021	9
21	Completed	10/26/2021	10
22	Completed	10/26/2021	21
23	Completed	10/26/2021	22
24	Completed	10/26/2021	23
25	Completed	10/26/2021	24
26	Completed	10/26/2021	9
27	Completed	10/26/2021	10
28	Completed	10/26/2021	11
29	Completed	10/26/2021	12
30	Completed	10/26/2021	13
31	Completed	10/26/2021	25
32	Completed	10/26/2021	26
33	Completed	10/26/2021	27
34	Completed	10/26/2021	28
35	Completed	10/26/2021	29
36	Completed	10/26/2021	30
37	Completed	10/26/2021	31
38	Completed	10/26/2021	32
39	Completed	10/26/2021	33
40	Completed	10/26/2021	34
41	Completed	10/26/2021	35
42	Completed	10/26/2021	36
43	Completed	10/26/2021	37
44	Completed	10/26/2021	32
45	Completed	10/26/2021	33
46	Completed	10/26/2021	11
47	Completed	10/26/2021	12
48	Completed	10/26/2021	13
49	Completed	10/26/2021	38
50	Completed	10/26/2021	39
51	Completed	10/26/2021	40

	Status	Date / Time	Vial
52	Completed	10/26/2021	41
53	Completed	10/26/2021	42
54	Completed	10/26/2021	43
55	Completed	10/26/2021	44
56	Completed	10/26/2021	32
57	Completed	10/26/2021	33
58	Completed	10/26/2021	45
59	Completed	10/26/2021	46
60	Completed	10/26/2021	47
61	Completed	10/26/2021	48
62	Completed	10/26/2021	49
63	Completed	10/26/2021	50
64	Completed	10/26/2021	11
65	Completed	10/26/2021	12
66	Completed	10/26/2021	13
67	Completed	10/26/2021	51
68	Completed	10/26/2021	52
69	Completed	10/26/2021	53
70	Completed	10/26/2021	54
71	Completed	10/26/2021	55
72	Completed	10/26/2021	56
73	Completed	10/26/2021	57
74	Completed	10/26/2021	49
75	Completed	10/26/2021	50
76	Completed	10/26/2021	58
77	Completed	10/26/2021	59
78	Completed	10/26/2021	60
79	Completed	10/26/2021	61
80	Completed	10/26/2021	49
81	Completed	10/26/2021	50

TOC-Control L Report

2021_10_25_002.tlx

Instr.Information

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

Cal. Curve

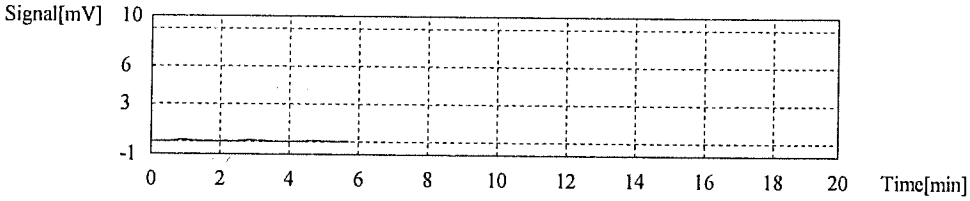
Sample Name:	CAL
Sample ID:	3100604915
Cal. Curve:	10_25_2021_CAL.2021_10_25_18_24_47.cal
Status	Completed

Type	Anal.
Standard	NPOC

Conc: 0.000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	0.1779	50uL	1.000	*******		10/25/2021 6:33:22 PM
2	0.000	50uL	1.000	*******		10/25/2021 6:36:36 PM
3	0.000	50uL	1.000	*******		10/25/2021 6:39:50 PM

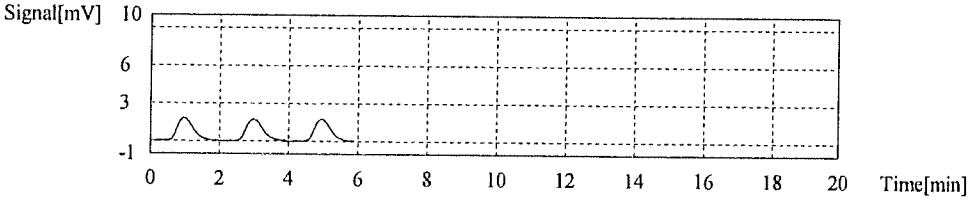
Acid Add.	1.500%
Sparge Gas Flow	80mL/min
Sp. Time	120.0sec
Mean Area	0.05930



Conc: 1.000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	5.679	50uL	1.000	*******		10/25/2021 6:48:38 PM
2	5.762	50uL	1.000	*******		10/25/2021 6:51:52 PM
3	5.629	50uL	1.000	*******		10/25/2021 6:55:02 PM

Acid Add.	1.500%
Sparge Gas Flow	80mL/min
Sp. Time	120.0sec
Mean Area	5.690



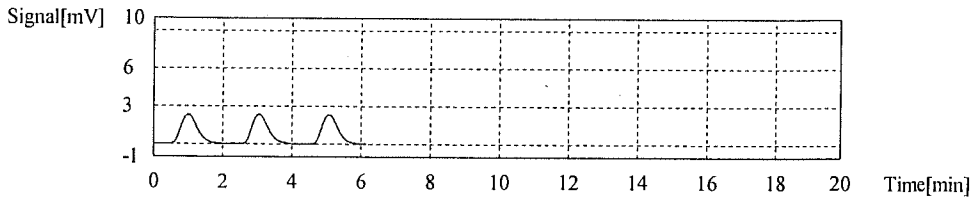
Conc: 2.000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	7.704	50uL	1.000	*******		10/25/2021 7:03:55 PM
2	7.453	50uL	1.000	*******		10/25/2021 7:07:06 PM
3	7.508	50uL	1.000	*******		10/25/2021 7:10:22 PM

TOC-Control L Report

2021_10_25_002.tlx

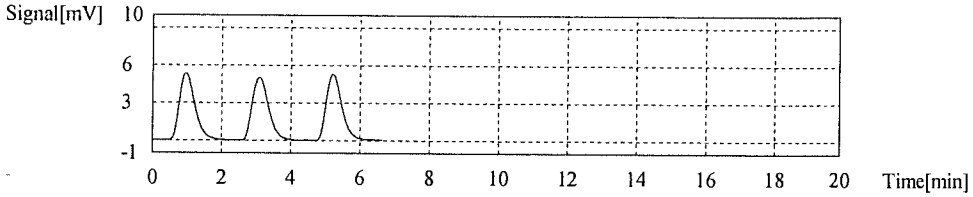
Acid Add.	1.500%
Sparge Gas Flow	80mL/min
Sp. Time	120.0sec
Mean Area	7.555



Conc: 5.000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	16.62	50uL	1.000	*******		10/25/2021 7:19:15 PM
2	16.58	50uL	1.000	*******		10/25/2021 7:22:33 PM
3	16.79	50uL	1.000	*******		10/25/2021 7:26:01 PM

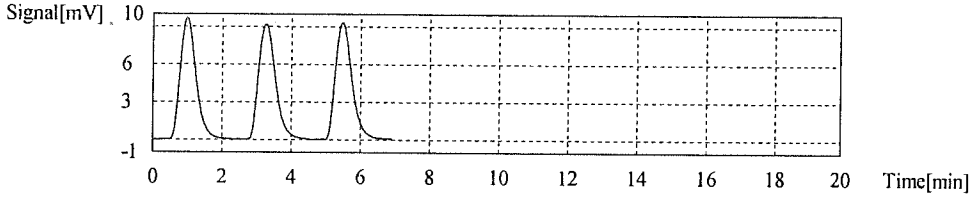
Acid Add.	1.500%
Sparge Gas Flow	80mL/min
Sp. Time	120.0sec
Mean Area	16.66



Conc: 10.00mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	30.96	50uL	1.000	*******		10/25/2021 7:35:05 PM
2	31.10	50uL	1.000	*******		10/25/2021 7:38:17 PM
3	31.16	50uL	1.000	*******		10/25/2021 7:41:41 PM

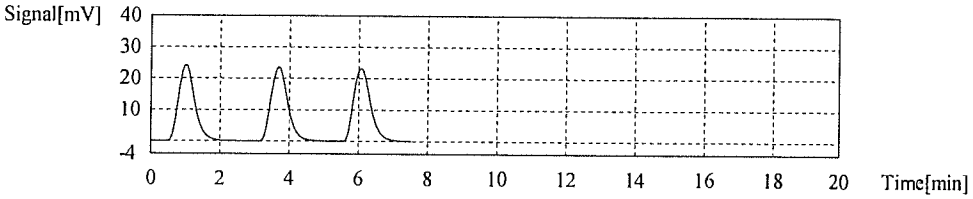
Acid Add.	1.500%
Sparge Gas Flow	80mL/min
Sp. Time	120.0sec
Mean Area	31.07



Conc: 25.00mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	79.40	50uL	1.000	*******		10/25/2021 7:51:09 PM
2	79.56	50uL	1.000	*******		10/25/2021 7:54:09 PM
3	79.35	50uL	1.000	*******		10/25/2021 7:57:24 PM

Acid Add.	1.500%
Sparge Gas Flow	80mL/min
Sp. Time	120.0sec
Mean Area	79.44



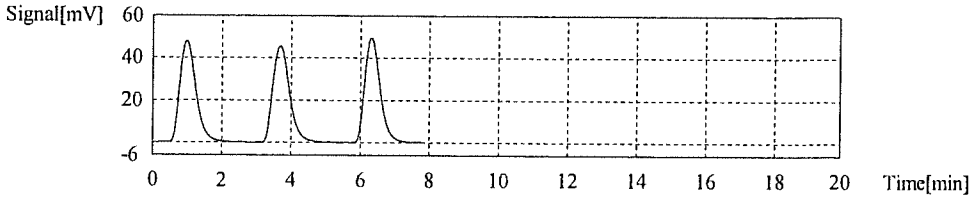
Conc: 50.00mg/L

TOC-Control L Report

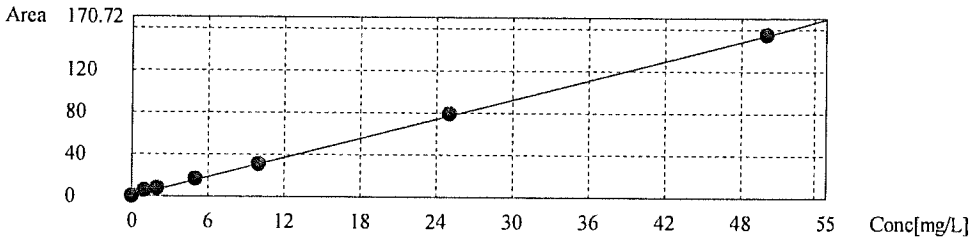
2021_10_25_002.tlx

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	156.1	50uL	1.000	*******		10/25/2021 8:06:53 PM
2	154.0	50uL	1.000	*******		10/25/2021 8:10:05 PM
3	155.5	50uL	1.000	*******		10/25/2021 8:13:11 PM

Acid Add. 1.500%
Sparge Gas Flow 80mL/min
Sp. Time 120.0sec
Mean Area 155.2



Slope: 3.086
Intercept 0.000
r^2 0.9997
r 0.9999
RSE(%) N/A
Zero Shift Yes



Sample

Sample Name: ICV
Sample ID: 3100604423
Origin: 10_25_2021_CAL.cal
Status Completed
Chk. Result

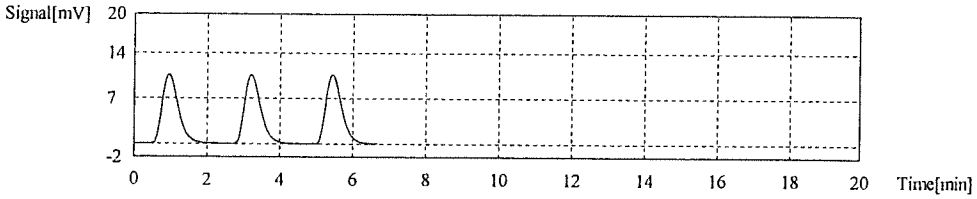
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:10.60mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	32.74	10.61mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	10/25/2021 8:38:14 PM
2	32.74	10.61mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	10/25/2021 8:41:41 PM
3	32.67	10.59mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	10/25/2021 8:45:09 PM

Mean Area 32.72
Mean Conc. 10.60mg/L



Sample

TOC-Control L Report

2021_10_25_002.tlx

Sample Name: ICB
Sample ID:
Origin: 10_25_2021_CAL.cal
Status Completed
Chk. Result

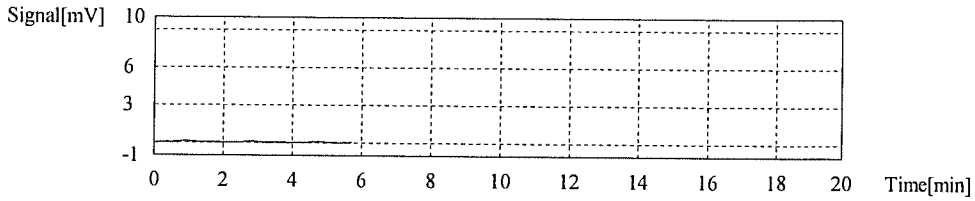
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.05172mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	0.1343	0.04352mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	10/25/2021 8:54:04 PM
2	0.1944	0.06299mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	10/25/2021 8:57:34 PM
3	0.1502	0.04867mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	10/25/2021 9:01:04 PM

Mean Area 0.1596
Mean Conc. 0.05172mg/L



C:\TOC-L\Data\2021_11_05_001.tlx

	Type	Analysis	Sample Name	Sample ID	Origin	Manual Diluti	Result	Notes	Status
1	Unknown	NPOC	CCV	317195504	10_25_2021	1.000	NPOC:26.09m		Completed
2	Unknown	NPOC	CCB		10_25_2021	1.000	NPOC:0.1417		Completed
3	Unknown	NPOC	MBLK-11052021		10_25_2021	1.000	NPOC:0.1490		Completed
4	Unknown	NPOC	LCS-11052021	3100604423	10_25_2021	1.000	NPOC:10.72m		Completed
5	Unknown	NPOC	LCSD-11052021	3100604423	10_25_2021	1.000	NPOC:10.74m		Completed
6	Unknown	NPOC	HS21101584-01		10_25_2021	1.000	NPOC:4.332m		Completed
7	Unknown	NPOC	HS21110022-01		10_25_2021	1.000	NPOC:9.218m		Completed
8	Unknown	NPOC	HS21110074-01		10_25_2021	1.000	NPOC:12.23m		Completed
9	Unknown	NPOC	HS21110078-01		10_25_2021	1.000	NPOC:8.019m		Completed
10	Unknown	NPOC	HS21101554-11		10_25_2021	1.000	NPOC:2.581m		Completed
11	Unknown	NPOC	HS21101554-12		10_25_2021	1.000	NPOC:5.895m		Completed
12	Unknown	NPOC	CCV	317195504	10_25_2021	1.000	NPOC:25.81m		Completed
13	Unknown	NPOC	CCB		10_25_2021	1.000	NPOC:0.2464		Completed
14	Unknown	NPOC	HS21101554-15		10_25_2021	1.000	NPOC:6.912m		Completed
15	Unknown	NPOC	HS21101554-15M		10_25_2021	1.000	NPOC:19.07m		Completed
16	Unknown	NPOC	HS21101583-01		10_25_2021	1.000	NPOC:4.111m		Completed
17	Unknown	NPOC	HS21101666-01		10_25_2021	1.000	NPOC:21.76m		Completed
18	Unknown	NPOC	HS21101666-02		10_25_2021	1.000	NPOC:99.51m		Completed
19	Unknown	NPOC	CCV	317195504	10_25_2021	1.000	NPOC:26.03m		Completed
20	Unknown	NPOC	CCB		10_25_2021	1.000	NPOC:0.1982		Completed
21	Unknown	NPOC	CCB		TOC_W 906	1.000	NPOC:0.09840		Completed
22	Unknown	NPOC	CCV		TOC_W 906	1.000	NPOC:25.63m		Completed
23	Unknown	NPOC	CCB		TOC_W 906	1.000	NPOC:0.06890		Completed
24	Unknown	NPOC	MBLK-11052021		TOC_W 906	1.000	NPOC:0.07020		Completed
25	Unknown	NPOC	LCS-11052021	3100604423	TOC_W 906	1.000	NPOC:10.47m		Completed
26	Unknown	NPOC	LCSD-11052021	3100604423	TOC_W 906	1.000	NPOC:10.53m		Completed
27	Unknown	NPOC	HS21101719-01		TOC_W 906	1.000	NPOC:9.355m		Completed
28	Unknown	NPOC	HS21101716-01		TOC_W 906	1.000	NPOC:9.080m		Completed
29	Unknown	NPOC	HS21101717-01		TOC_W 906	1.000	NPOC:9.414m		Completed
30	Unknown	NPOC	HS21101670-01		TOC_W 906	1.000	NPOC:307.3m		Completed
31	Unknown	NPOC	HS21101670-02		TOC_W 906	1.000	NPOC:2.090m		Completed
32	Unknown	NPOC	HS21101670-03		TOC_W 906	1.000	NPOC:4.617m		Completed
33	Unknown	NPOC	HS21101670-04		TOC_W 906	1.000	NPOC:1.890m		Completed
34	Unknown	NPOC	CCV		TOC_W 906	1.000	NPOC:25.53m		Completed
35	Unknown	NPOC	CCB		TOC_W 906	1.000	NPOC:0.1155		Completed
36	Unknown	NPOC	HS21101670-05		TOC_W 906	1.000	NPOC:1.151m		Completed
37	Unknown	NPOC	HS21101670-06		TOC_W 906	1.000	NPOC:35.97m		Completed
38	Unknown	NPOC	HS21101670-10		TOC_W 906	1.000	NPOC:3.272m		Completed
39	Unknown	NPOC	HS21101670-11DF		TOC_W 906	1.000	NPOC:423.0m		Completed
40	Unknown	NPOC	HS21101670-12DF		TOC_W 906	1.000	NPOC:424.9m		Completed
41	Unknown	NPOC	HS21101670-14		TOC_W 906	1.000	NPOC:2.293m		Completed
42	Unknown	NPOC	HS21101670-14M		TOC_W 906	1.000	NPOC:12.25m		Completed
43	Unknown	NPOC	HS211110164-01		TOC_W 906	1.000	NPOC:1.672m		Completed
44	Unknown	NPOC	HS211110164-02D		TOC_W 906	1.000	NPOC:329.4m		Completed
45	Unknown	NPOC	HS211110164-03D		TOC_W 906	1.000	NPOC:623.5m		Completed
46	Unknown	NPOC	CCV		TOC_W 906	1.000	NPOC:25.54m		Completed
47	Unknown	NPOC	CCB		TOC_W 906	1.000	NPOC:0.1314		Completed
48	Unknown	NPOC	HS21101720-01		TOC_W 906	1.000	NPOC:9.733m		Completed
49	Unknown	NPOC	HS21101724-01		TOC_W 906	1.000	NPOC:8.759m		Completed
50	Unknown	NPOC	HS21101726-01		TOC_W 906	1.000	NPOC:9.318m		Completed
51	Unknown	NPOC	CCV		TOC_W 906	1.000	NPOC:25.91m		Completed

C:\TOC-L\Data\2021_11_05_001.tlx

	Type	Analysis	Sample Name	Sample ID	Origin	Manual Diluti	Result	Notes	Status
52	Unknown	NPOC	CCB		TOC_W 906	1.000	NPOC:0.1124		Completed

	Date / Time	Vial
1	11/5/2021 8:	1
2	11/5/2021 8:	2
3	11/5/2021 8:	3
4	11/5/2021 9:	4
5	11/5/2021 9:	5
6	11/5/2021 9:	6
7	11/5/2021 1	7
8	11/5/2021 1	8
9	11/5/2021 1	9
10	11/5/2021 1	10
11	11/5/2021 1	11
12	11/5/2021 1	1
13	11/5/2021 1	2
14	11/6/2021 1	12
15	11/6/2021 1	13
16	11/6/2021 1	14
17	11/6/2021 1	15
18	11/6/2021 1:	16
19	11/6/2021 1:	1
20	11/6/2021 2:	2
21	11/6/2021 2:	39
22	11/6/2021 2:	1
23	11/6/2021 2:	2
24	11/6/2021 3:	3
25	11/6/2021 3:	4
26	11/6/2021 3:	5
27	11/6/2021 3:	17
28	11/6/2021 4:	18
29	11/6/2021 4:	19
30	11/6/2021 4:	20
31	11/6/2021 4:	21
32	11/6/2021 5:	22
33	11/6/2021 5:	23
34	11/6/2021 5:	24
35	11/6/2021 6:	25
36	11/6/2021 6:	26
37	11/6/2021 6:	27
38	11/6/2021 6:	28
39	11/6/2021 7:	29
40	11/6/2021 7:	30
41	11/6/2021 7:	31
42	11/6/2021 8:	32
43	11/6/2021 8:	33
44	11/6/2021 8:	34
45	11/6/2021 8:	35
46	11/6/2021 9:	24
47	11/6/2021 9:	25
48	11/6/2021 9:	36
49	11/6/2021 1	37
50	11/6/2021 1	38
51	11/6/2021 1	24

	Date / Time	Vial
52	11/6/2021 1	25

TOC-Control L Report

2021_11_05_001.tlx

Instr.Information

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

Sample

Sample Name: CCV
Sample ID: 317195504
Origin: 10_25_2021_CAL.cal
Status: Completed
Chk. Result:

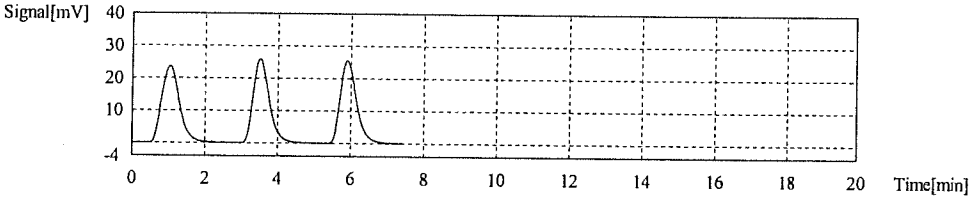
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:26.09mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	80.48	26.08mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/5/2021 8:19:30 PM
2	81.00	26.25mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/5/2021 8:22:53 PM
3	80.08	25.95mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/5/2021 8:26:29 PM

Mean Area: 80.52
Mean Conc.: 26.09mg/L



Sample

Sample Name: CCB
Sample ID:
Origin: 10_25_2021_CAL.cal
Status: Completed
Chk. Result:

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.1417mg/L

1. Det

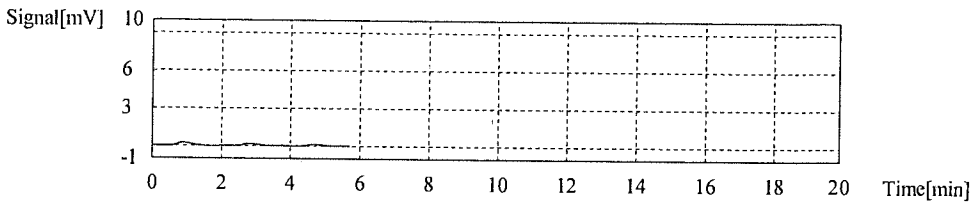
Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	0.5755	0.1865mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/5/2021 8:35:11 PM
2	0.4203	0.1362mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/5/2021 8:38:41 PM
3	0.3161	0.1024mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/5/2021 8:42:11 PM

TOC-Control L Report

2021_11_05_001.tlx

Mean Area 0.4373
Mean Conc. 0.1417mg/L



Sample

Sample Name: MBLK-11052021
Sample ID:
Origin: 10_25_2021_CAL.cal
Status Completed
Chk. Result

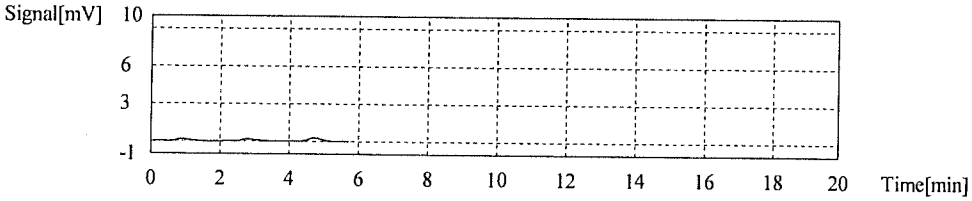
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.1490mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	0.3379	0.1095mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/5/2021 8:50:54 PM
2	0.3495	0.1132mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/5/2021 8:54:24 PM
3	0.6921	0.2243mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/5/2021 8:57:54 PM

Mean Area 0.4598
Mean Conc. 0.1490mg/L



Sample

Sample Name: LCS-11052021
Sample ID: 3100604423
Origin: 10_25_2021_CAL.cal
Status Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:10.72mg/L

1. Det

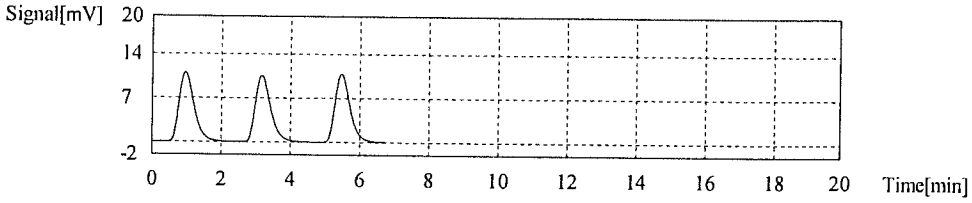
Anal.: NPOC

TOC-Control L Report

2021_11_05_001.tlx

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	33.39	10.82mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/5/2021 9:06:56 PM
2	32.78	10.62mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/5/2021 9:10:30 PM
3	33.10	10.72mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/5/2021 9:13:56 PM

Mean Area 33.09
Mean Conc. 10.72mg/L



Sample

Sample Name: LCSD-11052021
Sample ID: 3100604423
Origin: 10_25_2021_CAL.cal
Status Completed
Chk. Result

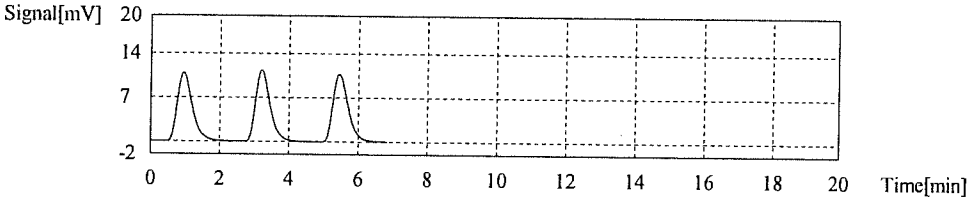
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:10.74mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	33.27	10.78mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/5/2021 9:23:01 PM
2	33.07	10.72mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/5/2021 9:26:29 PM
3	33.08	10.72mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/5/2021 9:30:04 PM

Mean Area 33.14
Mean Conc. 10.74mg/L



Sample

Sample Name: HS21101554-11
Sample ID:
Origin: 10_25_2021_CAL.cal
Status Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:2.581mg/L

1. Det

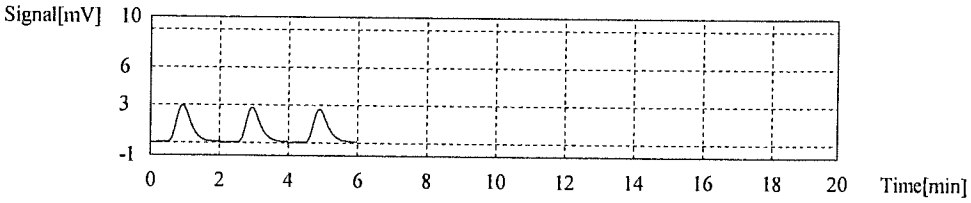
TOC-Control L Report

2021_11_05_001.tlx

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	8.556	2.772mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/5/2021 10:42:43 PM
2	7.857	2.546mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/5/2021 10:46:08 PM
3	7.486	2.426mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/5/2021 10:49:40 PM

Mean Area 7.966
Mean Conc. 2.581mg/L



Sample

Sample Name: HS21101554-12
Sample ID:
Origin: 10_25_2021_CAL.cal
Status Completed
Chk. Result

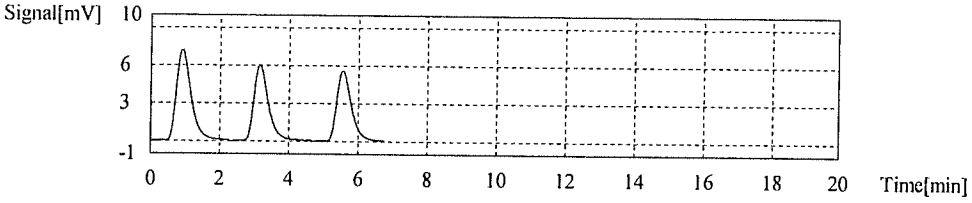
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:5.895mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	20.96	6.791mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/5/2021 10:58:43 PM
2	17.47	5.661mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/5/2021 11:02:23 PM
3	16.15	5.233mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/5/2021 11:05:36 PM

Mean Area 18.19
Mean Conc. 5.895mg/L



Sample

Sample Name: CCV
Sample ID: 317195504
Origin: 10_25_2021_CAL.cal
Status Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:25.81mg/L

TOC-Control L Report

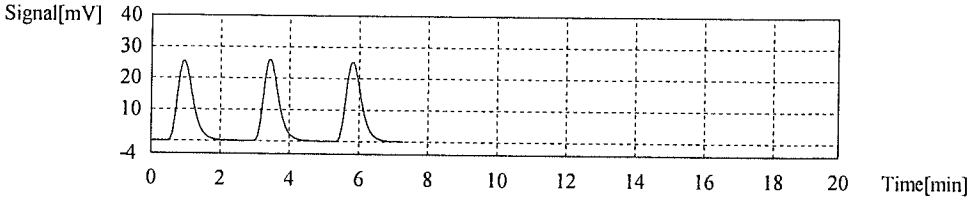
2021_11_05_001.tlx

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	80.14	25.97mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/5/2021 11:30:45 PM
2	79.60	25.79mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/5/2021 11:34:08 PM
3	79.25	25.68mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/5/2021 11:37:41 PM

Mean Area 79.66
Mean Conc. 25.81mg/L



Sample

Sample Name: CCB
Sample ID:
Origin: 10_25_2021_CAL.cal
Status Completed
Chk. Result

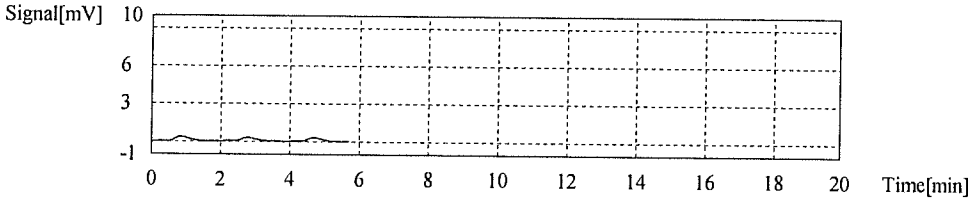
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.2464mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	0.8404	0.2723mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/5/2021 11:46:24 PM
2	0.7635	0.2474mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/5/2021 11:49:54 PM
3	0.6770	0.2194mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/5/2021 11:53:24 PM

Mean Area 0.7603
Mean Conc. 0.2464mg/L



Sample

Sample Name: HS21101554-15
Sample ID:
Origin: 10_25_2021_CAL.cal
Status Completed
Chk. Result

TOC-Control L Report

2021_11_05_001.tlx

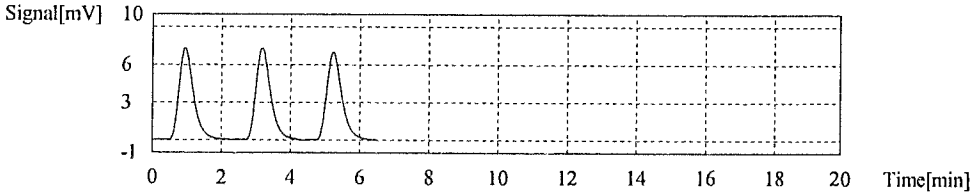
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:6.912mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	21.21	6.872mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/6/2021 12:02:31 AM
2	21.52	6.973mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/6/2021 12:05:51 AM
3	21.27	6.892mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/6/2021 12:09:29 AM

Mean Area 21.33
Mean Conc. 6.912mg/L



Sample

Sample Name: HS21101554-15MS
Sample ID:
Origin: 10_25_2021_CAL.cal
Status Completed
Chk. Result

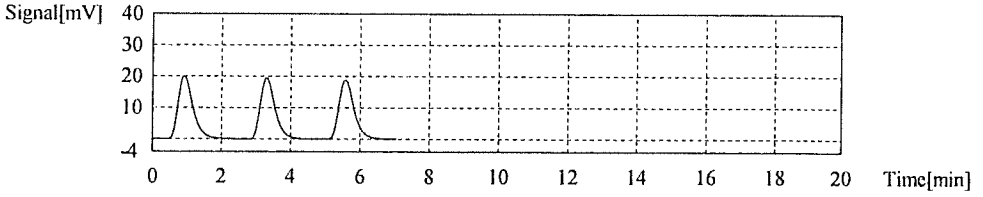
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:19.07mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	60.60	19.64mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/6/2021 12:18:39 AM
2	58.14	18.84mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/6/2021 12:22:04 AM
3	57.85	18.74mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/6/2021 12:25:43 AM

Mean Area 58.86
Mean Conc. 19.07mg/L



Sample

TOC-Control L Report

2021_11_05_001.tlx

Sample Name: CCV
Sample ID: 317195504
Origin: 10_25_2021_CAL.cal
Status Completed
Chk. Result

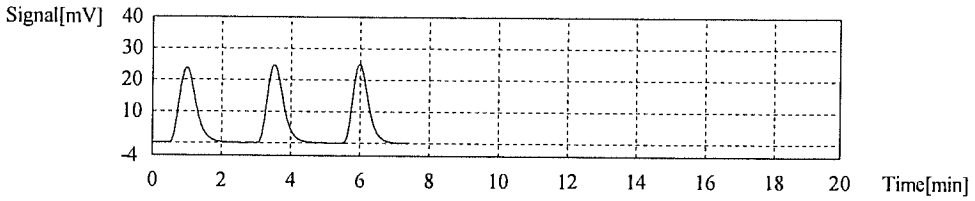
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:26.03mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	80.32	26.03mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/6/2021 1:39:16 AM
2	81.56	26.43mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/6/2021 1:42:43 AM
3	79.16	25.65mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/6/2021 1:46:09 AM

Mean Area 80.35
Mean Conc. 26.03mg/L



Sample

Sample Name: CCB
Sample ID:
Origin: 10_25_2021_CAL.cal
Status Completed
Chk. Result

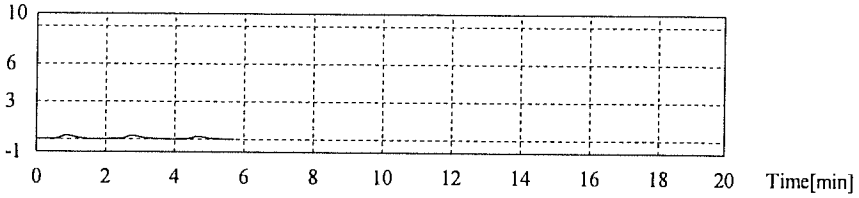
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.1982mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	0.7320	0.2372mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/6/2021 1:54:53 AM
2	0.6118	0.1982mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/6/2021 1:58:23 AM
3	0.4915	0.1593mg/L	50uL	1.000		10_25_2021_CAL.2021_10_25_18_24_47.cal	11/6/2021 2:01:53 AM

Mean Area 0.6118
Mean Conc. 0.1982mg/L



MICROBAC®

Microbac Laboratories Inc., - Marietta, OH

Level IV QA/QC Data Package

Laboratory Report Number:

M1J0978

Client Project ID:

LHAAP

For:

Vicki Graves

APTIM Tennesee

2410 Cherahala BLVD

Knoxville, TN 37932

Project Requested Certification:

Microbac Laboratories Inc., - Marietta, OH	2936.01	American Association for Laboratory Accreditation

Project State of Origin: Texas

All test results meet the requirements of the QAPP and other applicable contract terms and conditions. Any exceptions are attached to this cover page or addressed in the method narratives presented in the report. I certify that all test results meet all of the requirements of the accrediting authority listed within this report. Analytical results are reported on a 'as received' basis unless specified otherwise. Analytical results for solids with units ending in (dry) are reported on a dry weight basis. A statement of uncertainty for each analysis is available upon request. This laboratory report shall not be reproduced, except in full, without the written approval of Microbac Laboratories. The reported results are related only to the samples analyzed as received. ***The services were provided under and subject to Microbac's standard terms and conditions which can be located and reviewed at <https://www.microbac.com/standard-terms-conditions>.***

Laboratory Project Manager:

Stephanie Mossburg

Stephanie Mossburg
Customer Relations Manager
Stephanie.Mossburg@microbac.com

Authorized By:

Alicia Walker
Project Manager
Issued: 12/06/2021

MICROBAC®

Laboratory Report Number: M1J0978

Client Project ID: LHAAP

Microbac Laboratories Inc., - Marietta, OH

Cooler Receipt Log

Cooler ID: Default Cooler Temp: 2.4 °C

Cooler Inspection Checklist

Ice Present or not required?	Yes	Shipping containers sealed or not required?	Yes
Custody seals intact or not required?	Yes	Chain of Custody (COC) Present?	Yes
COC includes customer information?	Yes	Relinquished and received signature on COC?	Yes
Sample collector identified on COC?	Yes	Sample type identified on COC?	Yes
Correct type of Containers Received	Yes	Correct number of containers listed on COC?	Yes
Containers Intact?	Yes	COC includes requested analyses?	Yes
Enough sample volume for indicated tests received?	Yes	Sample labels match COC (Name, Date & Time?)	Yes
Samples arrived within hold time?	Yes	Correct preservatives on COC or not required?	Yes
Chemical preservations checked or not required?	Yes	Preservation checks meet method requirements?	Yes
VOA vials have zero headspace, or not recd.?	Yes		

Table of Contents

Analysis Class (HPLC Organics) 8

Analysis (EPA 6850) 10

Form I, Certificate of Analysis (EPA 6850) 11

Form III, BS BSD MS MSD DUP Summary (EPA 6850) 19

Form IV, Blank Summary (EPA 6850) 22

Form VII, ICV CCV Summary (EPA 6850) 27

Form VIII, Internal Standard and RT Summary (EPA 6850) 46

Section A, Batch and Sequence Raw Data (EPA 6850) 51

Section B, Sample Raw Data (EPA 6850) 66

Section C, QC Sample Raw Data (EPA 6850) 81

Section D, Calibration Raw Data (EPA 6850) 92

Section E, Sequence Raw Data (EPA 6850) 96

MICROBAC®

Sample Summary

MICROBAC®

Sample Summary

Laboratory Report Number: M1J0978

Client Project ID: LHAAP

Microbac Laboratories Inc., - Marietta, OH

Client Sample ID:	Lab Sample ID:	Sampled:
16WW25-211014	M1J0978-01	10/14/21 08:25
16WW25-211014-FD	M1J0978-02	10/14/21 08:25
16WW26-211014	M1J0978-03	10/14/21 09:15
16WW30-211014	M1J0978-04	10/14/21 10:05
16WW29-211014	M1J0978-05	10/14/21 10:45
16WW29-211014-FD	M1J0978-06	10/14/21 10:45
16WW55-211014	M1J0978-07	10/14/21 11:40

Holding Time Summary

MICROBAC®

Specific Method: EPA 6850 **Hold Time**

Laboratory Report Number: M1J0978

Matrix: Aqueous

Client Project ID: LHAAP

Microbac Laboratories Inc., - Marietta, OH

Laboratory ID	Date Collected	Date Received	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
16WW25-211014	10/14/21 08:25	10/15/21 09:45	10/29/21 00:14	14.66	28.00	
16WW25-211014-FD	10/14/21 08:25	10/15/21 09:45	10/29/21 00:53	14.69	28.00	
16WW26-211014	10/14/21 09:15	10/15/21 09:45	10/29/21 01:07	14.66	28.00	
16WW30-211014	10/14/21 10:05	10/15/21 09:45	10/29/21 01:20	14.64	28.00	
16WW29-211014	10/14/21 10:45	10/15/21 09:45	10/29/21 01:33	14.62	28.00	
16WW29-211014-FD	10/14/21 10:45	10/15/21 09:45	10/29/21 02:26	14.65	28.00	
16WW55-211014	10/14/21 11:40	10/15/21 09:45	10/29/21 12:02	15.02	28.00	

* - Holding time exceeded.

MICROBAC®

Analysis Class

HPLC Organics

Microbac Laboratories, Inc.
158 Starlite Drive | Marietta, OH 45750 | 800.373.4071 | www.microbac.com

MICROBAC®

HPLC Organics - Class Narrative and Notes

All test results meet the requirements of the QAPP and other applicable contract terms and conditions . Any exceptions are listed below in the sample and qc notes sections. Analytical results are reported on a 'as received' basis unless specified otherwise. Analytical results for solids with units ending in (dry) are reported on a dry weight basis. A statement of uncertainty for each analysis is available upon request.

Sample Notes

EPA 6850

D3 **Dilution was performed due to high target analyte concentration.**

M1J0978-07 16WW55-211014

AC **The Internal Standard for this sample was below the Accpetance Limit due to Sample Matrix Interference. The sample has a Biased High Non Detect Result for Perchlorate.**

O18LP

M1J0978-04 16WW30-211014

I1 **Internal standard was outside of acceptance limits.**

O18LP

M1J0978-04 16WW30-211014

MICROBAC®

HPLC Organics
EPA 6850

Microbac Laboratories, Inc.
158 Starlite Drive | Marietta, OH 45750 | 800.373.4071 | www.microbac.com

MICROBAC®

FORM I:
HPLC Organics
EPA 6850
RESULTS SUMMARY

Microbac Laboratories, Inc.
158 Starlite Drive | Marietta, OH 45750 | 800.373.4071 | www.microbac.com

MICROBAC®

Laboratory Report Number: M1J0978

CERTIFICATE OF ANALYSIS
FORM I

Client Project ID: LHAAP

Microbac Laboratories Inc., - Marietta, OH

Perchlorate by LCMS

Client ID:	16WW25-211014			**Collection Date:**	10/14/2021 08:25
Laboratory ID:	M1J0978-01			**Prep Date:**	10/28/2021 14:19
Matrix:	Aqueous			**Analyzed:**	10/29/2021 00:14
Batch / Sequence:	B1J1573 / S1J0510	**Analytical Method:**	EPA 6850	**Calibration:**	21J0034
Instrument:	LCMS2	**Units:**	ug/L	**File ID:**	2LM031264
Analyst:	CAS	**Dilution:**	1		

Analyte	CAS Number	Result	DL	LOD	LOQ	Flag	Qual
Perchlorate	14797-73-0	0.200	0.100	0.200	0.400	U	

Notes and Definitions

DL: Detection Limit
LOD: Limit of Detection
LOQ: Limit of Quantitation
U: The analyte was analyzed for but was not detected above the reported quantitation limit. The quantitation limit has been adjusted for any dilution or concentration of the sample.
ug/L: Micrograms per Liter

MICROBAC®

Laboratory Report Number: M1J0978

CERTIFICATE OF ANALYSIS
FORM I

Client Project ID: LHAAP

Microbac Laboratories Inc., - Marietta, OH

Perchlorate by LCMS

Client ID:	16WW25-211014-FD			**Collection Date:**	10/14/2021 08:25
Laboratory ID:	M1J0978-02			**Prep Date:**	10/28/2021 14:21
Matrix:	Aqueous			**Analyzed:**	10/29/2021 00:53
Batch / Sequence:	B1J1574 / S1J0510	**Analytical Method:**	EPA 6850	**Calibration:**	21J0034
Instrument:	LCMS2	**Units:**	ug/L	**File ID:**	2LM031267
Analyst:	CAS	**Dilution:**	1		

Analyte	CAS Number	Result	DL	LOD	LOQ	Flag	Qual
Perchlorate	14797-73-0	0.200	0.100	0.200	0.400	U	

Notes and Definitions

DL: Detection Limit
LOD: Limit of Detection
LOQ: Limit of Quantitation
U: The analyte was analyzed for but was not detected above the reported quantitation limit. The quantitation limit has been adjusted for any dilution or concentration of the sample.
ug/L: Micrograms per Liter

MICROBAC®

Laboratory Report Number: M1J0978

CERTIFICATE OF ANALYSIS
FORM I

Client Project ID: LHAAP

Microbac Laboratories Inc., - Marietta, OH

Perchlorate by LCMS

Client ID:	16WW26-211014			**Collection Date:**	10/14/2021 09:15
Laboratory ID:	M1J0978-03			**Prep Date:**	10/28/2021 14:21
Matrix:	Aqueous			**Analyzed:**	10/29/2021 01:07
Batch / Sequence:	B1J1574 / S1J0510	**Analytical Method:**	EPA 6850	**Calibration:**	21J0034
Instrument:	LCMS2	**Units:**	ug/L	**File ID:**	2LM031268
Analyst:	CAS	**Dilution:**	1		

Analyte	CAS Number	Result	DL	LOD	LOQ	Flag	Qual
Perchlorate	14797-73-0	0.200	0.100	0.200	0.400	U	

Notes and Definitions

DL: Detection Limit
LOD: Limit of Detection
LOQ: Limit of Quantitation
U: The analyte was analyzed for but was not detected above the reported quantitation limit. The quantitation limit has been adjusted for any dilution or concentration of the sample.
ug/L: Micrograms per Liter

MICROBAC®

Laboratory Report Number: M1J0978

CERTIFICATE OF ANALYSIS
FORM I

Client Project ID: LHAAP

Microbac Laboratories Inc., - Marietta, OH

Perchlorate by LCMS

Client ID:	16WW30-211014			**Collection Date:**	10/14/2021 10:05
Laboratory ID:	M1J0978-04			**Prep Date:**	10/28/2021 14:21
Matrix:	Aqueous			**Analyzed:**	10/29/2021 01:20
Batch / Sequence:	B1J1574 / S1J0510	**Analytical Method:**	EPA 6850	**Calibration:**	21J0034
Instrument:	LCMS2	**Units:**	ug/L	**File ID:**	2LM031269
Analyst:	CAS	**Dilution:**	1		

Analyte	CAS Number	Result	DL	LOD	LOQ	Flag	Qual
Perchlorate	14797-73-0	0.200	0.100	0.200	0.400	U	

Notes and Definitions

DL: Detection Limit
LOD: Limit of Detection
LOQ: Limit of Quantitation
AC: The Internal Standard for this sample was below the Accpetance Limit due to Sample Matrix Interference . The sample has a Biased High Non Detect Result for Perchlorate.
I1: Internal standard was outside of acceptance limits.
U: The analyte was analyzed for but was not detected above the reported quantitation limit. The quantitation limit has been adjusted for any dilution or concentration of the sample.
ug/L: Micrograms per Liter

MICROBAC®

Laboratory Report Number: M1J0978

CERTIFICATE OF ANALYSIS
FORM I

Client Project ID: LHAAP

Microbac Laboratories Inc., - Marietta, OH

Perchlorate by LCMS

Client ID:	16WW29-211014			**Collection Date:**	10/14/2021 10:45
Laboratory ID:	M1J0978-05			**Prep Date:**	10/28/2021 14:21
Matrix:	Aqueous			**Analyzed:**	10/29/2021 01:33
Batch / Sequence:	B1J1574 / S1J0510	**Analytical Method:**	EPA 6850	**Calibration:**	21J0034
Instrument:	LCMS2	**Units:**	ug/L	**File ID:**	2LM031270
Analyst:	CAS	**Dilution:**	1		

Analyte	CAS Number	Result	DL	LOD	LOQ	Flag	Qual
Perchlorate	14797-73-0	0.200	0.100	0.200	0.400	U	

Notes and Definitions

DL: Detection Limit
LOD: Limit of Detection
LOQ: Limit of Quantitation
U: The analyte was analyzed for but was not detected above the reported quantitation limit. The quantitation limit has been adjusted for any dilution or concentration of the sample.
ug/L: Micrograms per Liter

MICROBAC®

Laboratory Report Number: M1J0978

CERTIFICATE OF ANALYSIS
FORM I

Client Project ID: LHAAP

Microbac Laboratories Inc., - Marietta, OH

Perchlorate by LCMS

Client ID:	16WW29-211014-FD			**Collection Date:**	10/14/2021 10:45
Laboratory ID:	M1J0978-06			**Prep Date:**	10/28/2021 14:21
Matrix:	Aqueous			**Analyzed:**	10/29/2021 02:26
Batch / Sequence:	B1J1574 / S1J0510	**Analytical Method:**	EPA 6850	**Calibration:**	21J0034
Instrument:	LCMS2	**Units:**	ug/L	**File ID:**	2LM031274
Analyst:	CAS	**Dilution:**	1		

Analyte	CAS Number	Result	DL	LOD	LOQ	Flag	Qual
Perchlorate	14797-73-0	0.200	0.100	0.200	0.400	U	

Notes and Definitions

DL: Detection Limit
LOD: Limit of Detection
LOQ: Limit of Quantitation
U: The analyte was analyzed for but was not detected above the reported quantitation limit. The quantitation limit has been adjusted for any dilution or concentration of the sample.
ug/L: Micrograms per Liter

MICROBAC®

Laboratory Report Number: M1J0978

CERTIFICATE OF ANALYSIS
FORM I

Client Project ID: LHAAP

Microbac Laboratories Inc., - Marietta, OH

Perchlorate by LCMS

Client ID:	16WW55-211014			**Collection Date:**	10/14/2021 11:40
Laboratory ID:	M1J0978-07			**Prep Date:**	10/28/2021 14:21
Matrix:	Aqueous			**Analyzed:**	10/29/2021 12:02
Batch / Sequence:	B1J1574 / S1J0523	**Analytical Method:**	EPA 6850	**Calibration:**	21J0034
Instrument:	LCMS2	**Units:**	ug/L	**File ID:**	2LM031302
Analyst:	CAS	**Dilution:**	100		

Sample Notes: D3

Analyte	CAS Number	Result	DL	LOD	LOQ	Flag	Qual
Perchlorate	14797-73-0	363	10.0	20.0	40.0		

Notes and Definitions

DL: Detection Limit
LOD: Limit of Detection
LOQ: Limit of Quantitation
D3: Dilution was performed due to high target analyte concentration.
ug/L: Micrograms per Liter

MICROBAC®

FORM III:
HPLC Organics
EPA 6850
BS/BSD, MS/MSD, DUP

Microbac Laboratories, Inc.
158 Starlite Drive | Marietta, OH 45750 | 800.373.4071 | www.microbac.com

MICROBAC®

Laboratory Report Number: M1J0978

BLANK SPIKE (BS)

Client Project ID: LHAAP

FORM IIIB

Method:	EPA 6850		**Blank Spike**
Batch:	B1J1573	**Spike ID:**	B1J1573-BS1
Analyst:	CAS	**Prepared:**	10/28/21 14:19
Matrix:	Aqueous	**Analyzed:**	10/28/21 18:16
Units:	ug/L	**File ID:**	2LM031237
Instrument:	LCMS2	**Initial/Final:**	10mL/10mL
Calibration:	21J0034		

Analyte	BS Spiked	BS Found	BS %Rec	%Rec Limts	Q
Perchlorate	0.200	0.206	103	84 - 119	

* - Does not meet %Rec acceptance criteria.
\# - Does not meet RPD acceptance criteria.
NS - Analyte Not Spiked

MICROBAC®

Laboratory Report Number: M1J0978

BLANK SPIKE (BS)

Client Project ID: LHAAP

FORM IIIB

Method:	EPA 6850		**Blank Spike**
Batch:	B1J1574	**Spike ID:**	B1J1574-BS1
Analyst:	CAS	**Prepared:**	10/28/21 14:21
Matrix:	Aqueous	**Analyzed:**	10/29/21 00:40
Units:	ug/L	**File ID:**	2LM031266
Instrument:	LCMS2	**Initial/Final:**	10mL/10mL
Calibration:	21J0034		

Analyte	BS Spiked	BS Found	BS %Rec	%Rec Limts	Q
Perchlorate	0.200	0.211	106	84 - 119	

* - Does not meet %Rec acceptance criteria.
\# - Does not meet RPD acceptance criteria.
NS - Analyte Not Spiked

MICROBAC®

FORM IV:
HPLC Organics
EPA 6850
METHOD BLANK SUMMARY

Microbac Laboratories, Inc.
158 Starlite Drive | Marietta, OH 45750 | 800.373.4071 | www.microbac.com

MICROBAC®

Laboratory Report Number: M1J0978
Client Project ID: LHAAP

METHOD BLANK SUMMARY
FORM IVA

Blank ID:	B1J1573-BLK1	**Batch:**	B1J1573
Blank File ID:	2LM031236	**Instrument:**	LCMS2
Prepared:	10/28/2021 14:19	**Method:**	EPA 6850
Analyzed:	10/28/2021 18:03	**Analyst:**	CAS

This Method Blank Applies To The Following Samples:

Client Sample ID	Laboratory Sample ID	Lab File ID	Time Analyzed
Blank	B1J1573-BLK1	2LM031236	10/28/2021 18:03
LCS	B1J1573-BS1	2LM031237	10/28/2021 18:16
MRL Check	B1J1573-MRL1	2LM031238	10/28/2021 18:29
16WW25-211014	M1J0978-01	2LM031264	10/29/2021 0:14

MICROBAC®

Laboratory Report Number: M1J0978
Client Project ID: LHAAP

METHOD BLANK SUMMARY
FORM IVA

Blank ID:	B1J1574-BLK1	**Batch:**	B1J1574
Blank File ID:	2LM031265	**Instrument:**	LCMS2
Prepared:	10/28/2021 14:21	**Method:**	EPA 6850
Analyzed:	10/29/2021 0:27	**Analyst:**	CAS

This Method Blank Applies To The Following Samples:

Client Sample ID	Laboratory Sample ID	Lab File ID	Time Analyzed
Blank	B1J1574-BLK1	2LM031265	10/29/2021 0:27
LCS	B1J1574-BS1	2LM031266	10/29/2021 0:40
16WW25-211014-FD	M1J0978-02	2LM031267	10/29/2021 0:53
16WW26-211014	M1J0978-03	2LM031268	10/29/2021 1:07
16WW30-211014	M1J0978-04	2LM031269	10/29/2021 1:20
16WW29-211014	M1J0978-05	2LM031270	10/29/2021 1:33
16WW29-211014-FD	M1J0978-06	2LM031274	10/29/2021 2:26
16WW55-211014	M1J0978-07	2LM031302	10/29/2021 12:02

MICROBAC®

Laboratory Report Number: M1J0978

Client Project ID: LHAAP

METHOD BLANK
FORM IVB

Sample ID:	B1J1573-BLK1	**Prep Date:**	10/28/21 14:19	**Matrix:**	Aqueous
Instrument:	LCMS2	**Analyzed:**	10/28/21 18:03	**Method:**	EPA 6850
File ID:	2LM031236	**Sequence:**	S1J0510	**Analyst:**	CAS
Batch:	B1J1573	**Units:**	ug/L	**Calibration:**	21J0034

Analyte	Result	DL	LOD	LOQ	Dilution	Flag	Q
Perchlorate	0.200	0.100	0.200	0.400	1	U	

Notes and Definitions

* - Detected in the associated method Blank at a concentration >= 1/2xRL

U: The analyte was analyzed for but was not detected above the reported quantitation limit. The quantitation limit has been adjusted for any dilution or concentration of the sample.

MICROBAC®

Laboratory Report Number: M1J0978

Client Project ID: LHAAP

METHOD BLANK
FORM IVB

Sample ID:	B1J1574-BLK1	**Prep Date:**	10/28/21 14:21	**Matrix:**	Aqueous
Instrument:	LCMS2	**Analyzed:**	10/29/21 00:27	**Method:**	EPA 6850
File ID:	2LM031265	**Sequence:**	S1J0510	**Analyst:**	CAS
Batch:	B1J1574	**Units:**	ug/L	**Calibration:**	21J0034

Analyte	Result	DL	LOD	LOQ	Dilution	Flag	Q
Perchlorate	0.200	0.100	0.200	0.400	1	U	

Notes and Definitions

* - Detected in the associated method Blank at a concentration >= 1/2xRL

U: The analyte was analyzed for but was not detected above the reported quantitation limit. The quantitation limit has been adjusted for any dilution or concentration of the sample.

MICROBAC®

FORM VII:
HPLC Organics
EPA 6850
ICV/CCV

Microbac Laboratories, Inc.
158 Starlite Drive | Marietta, OH 45750 | 800.373.4071 | www.microbac.com

MICROBAC®

Laboratory Report Number: M1J0978
Client Project ID: LHAAP

Initial Calibration Verification (ICV)
FORM VIIA

Sample ID:	S1J0510-ICV1	**Analyzed:**	10/28/21 16:56	**Method:**	EPA 6850
Instrument:	LCMS2	**Calibration:**	21J0034	**Sequence:**	S1J0510
File ID:	2LM031231	**Units:**	ug/L	**Analyst:**	CAS

Analyte	Response	Limit	Q	Expected	Found	% Drift / % Diff	UCL	Q
Perchlorate	0.8512392			1.00	0.990	-1.0	15	

* - Does not meet acceptance criteria.

MICROBAC®

Laboratory Report Number: M1J0978
Client Project ID: LHAAP

Continuing Calibration Verification (CCV)
FORM VIIB

Laboratory ID:	S1J0510-CCV1	**Analyzed:**	10/28/21 17:23	**Method:**	EPA 6850
Instrument:	LCMS2	**Calibration:**	21J0034	**Sequence:**	S1J0510
File ID:	2LM031233	**Units:**	ug/L	**Analyst:**	CAS

Analyte	Response	Limit	Q	Expected	Found	% Drift / % Diff	UCL	Q
Perchlorate	0.8206075			1.00	0.955	-4.5	15	

* - Does not meet acceptance criteria.

MICROBAC®

Laboratory Report Number: M1J0978
Client Project ID: LHAAP

Continuing Calibration Verification (CCV)
FORM VIIB

Laboratory ID:	S1J0510-CCV2	**Analyzed:**	10/28/21 20:02	**Method:**	EPA 6850
Instrument:	LCMS2	**Calibration:**	21J0034	**Sequence:**	S1J0510
File ID:	2LM031245	**Units:**	ug/L	**Analyst:**	CAS

Analyte	Response	Limit	Q	Expected	Found	% Drift / % Diff	UCL	Q
Perchlorate	0.8179542			1.00	0.952	-4.8	15	

* - Does not meet acceptance criteria.

MICROBAC®

Laboratory Report Number: M1J0978
Client Project ID: LHAAP

Continuing Calibration Verification (CCV)
FORM VIIB

Laboratory ID:	S1J0510-CCV3	**Analyzed:**	10/28/21 22:54	**Method:**	EPA 6850
Instrument:	LCMS2	**Calibration:**	21J0034	**Sequence:**	S1J0510
File ID:	2LM031258	**Units:**	ug/L	**Analyst:**	CAS

Analyte	Response	Limit	Q	Expected	Found	% Drift / % Diff	UCL	Q
Perchlorate	0.8094733			1.00	0.942	-5.8	15	

* - Does not meet acceptance criteria.

MICROBAC®

Laboratory Report Number: M1J0978
Client Project ID: LHAAP

Continuing Calibration Verification (CCV)
FORM VIIB

Laboratory ID:	S1J0510-CCV4	**Analyzed:**	10/29/21 01:46	**Method:**	EPA 6850
Instrument:	LCMS2	**Calibration:**	21J0034	**Sequence:**	S1J0510
File ID:	2LM031271	**Units:**	ug/L	**Analyst:**	CAS

Analyte	Response	Limit	Q	Expected	Found	% Drift / % Diff	UCL	Q
Perchlorate	0.8175338			1.00	0.951	-4.9	15	

* - Does not meet acceptance criteria.

MICROBAC®

Laboratory Report Number: M1J0978
Client Project ID: LHAAP

Continuing Calibration Verification (CCV)
FORM VIIB

Laboratory ID:	S1J0510-CCV5	**Analyzed:**	10/29/21 04:39	**Method:**	EPA 6850
Instrument:	LCMS2	**Calibration:**	21J0034	**Sequence:**	S1J0510
File ID:	2LM031284	**Units:**	ug/L	**Analyst:**	CAS

Analyte	Response	Limit	Q	Expected	Found	% Drift / % Diff	UCL	Q
Perchlorate	0.8277726			1.00	0.963	-3.7	15	

* - Does not meet acceptance criteria.

MICROBAC®

Laboratory Report Number: M1J0978
Client Project ID: LHAAP

Continuing Calibration Verification (CCV)
FORM VIIB

Laboratory ID:	S1J0510-CCV6	**Analyzed:**	10/29/21 07:04	**Method:**	EPA 6850
Instrument:	LCMS2	**Calibration:**	21J0034	**Sequence:**	S1J0510
File ID:	2LM031295	**Units:**	ug/L	**Analyst:**	CAS

Analyte	Response	Limit	Q	Expected	Found	% Drift / % Diff	UCL	Q
Perchlorate	0.8182149			1.00	0.952	-4.8	15	

* - Does not meet acceptance criteria.

MICROBAC®

Laboratory Report Number: M1J0978
Client Project ID: LHAAP

Instrument Reporting Limit Check (CRL)
FORM VIIB

Laboratory ID:	S1J0510-CRL1	**Analyzed:**	10/28/21 17:36	**Method:**	EPA 6850
Instrument:	LCMS2	**Calibration:**	21J0034	**Sequence:**	S1J0510
File ID:	2LM031234	**Units:**	ug/L		

Analyte	Expected	Found	Recovery	LCL	UCL	Q
Perchlorate	0.200	0.200	100	70	130	

* - Does not meet acceptance criteria.

MICROBAC®

Laboratory Report Number: M1J0978
Client Project ID: LHAAP

Instrument Reporting Limit Check (CRL)
FORM VIIB

Laboratory ID:	S1J0510-CRL2	**Analyzed:**	10/28/21 20:15	**Method:**	EPA 6850
Instrument:	LCMS2	**Calibration:**	21J0034	**Sequence:**	S1J0510
File ID:	2LM031246	**Units:**	ug/L		

Analyte	Expected	Found	Recovery	LCL	UCL	Q
Perchlorate	0.200	0.200	100	70	130	

* - Does not meet acceptance criteria.

MICROBAC®

Laboratory Report Number: M1J0978
Client Project ID: LHAAP

Instrument Reporting Limit Check (CRL)
FORM VIIB

Laboratory ID:	S1J0510-CRL3	**Analyzed:**	10/28/21 23:07	**Method:**	EPA 6850
Instrument:	LCMS2	**Calibration:**	21J0034	**Sequence:**	S1J0510
File ID:	2LM031259	**Units:**	ug/L		

Analyte	Expected	Found	Recovery	LCL	UCL	Q
Perchlorate	0.200	0.198	99.0	70	130	

* - Does not meet acceptance criteria.

MICROBAC®

Laboratory Report Number: M1J0978
Client Project ID: LHAAP

Instrument Reporting Limit Check (CRL)
FORM VIIB

Laboratory ID:	S1J0510-CRL4	**Analyzed:**	10/29/21 02:00	**Method:**	EPA 6850
Instrument:	LCMS2	**Calibration:**	21J0034	**Sequence:**	S1J0510
File ID:	2LM031272	**Units:**	ug/L		

Analyte	Expected	Found	Recovery	LCL	UCL	Q
Perchlorate	0.200	0.204	102	70	130	

* - Does not meet acceptance criteria.

MICROBAC®

Laboratory Report Number: M1J0978
Client Project ID: LHAAP

Instrument Reporting Limit Check (CRL)
FORM VIIB

Laboratory ID:	S1J0510-CRL5	**Analyzed:**	10/29/21 04:52	**Method:**	EPA 6850
Instrument:	LCMS2	**Calibration:**	21J0034	**Sequence:**	S1J0510
File ID:	2LM031285	**Units:**	ug/L		

Analyte	Expected	Found	Recovery	LCL	UCL	Q
Perchlorate	0.200	0.201	101	70	130	

* - Does not meet acceptance criteria.

MICROBAC®

Laboratory Report Number: M1J0978
Client Project ID: LHAAP

Instrument Reporting Limit Check (CRL)
FORM VIIB

Laboratory ID:	S1J0510-CRL6	**Analyzed:**	10/29/21 07:18	**Method:**	EPA 6850
Instrument:	LCMS2	**Calibration:**	21J0034	**Sequence:**	S1J0510
File ID:	2LM031296	**Units:**	ug/L		

Analyte	Expected	Found	Recovery	LCL	UCL	Q
Perchlorate	0.200	0.203	102	70	130	

* - Does not meet acceptance criteria.

MICROBAC®

Laboratory Report Number: M1J0978
Client Project ID: LHAAP

Continuing Calibration Verification (CCV)
FORM VIIB

Laboratory ID:	S1J0523-CCV1	**Analyzed:**	10/29/21 11:22	**Method:**	EPA 6850
Instrument:	LCMS2	**Calibration:**	21J0034	**Sequence:**	S1J0523
File ID:	2LM031299	**Units:**	ug/L	**Analyst:**	CAS

Analyte	Response	Limit	Q	Expected	Found	% Drift / % Diff	UCL	Q
Perchlorate	0.8115317			1.00	0.944	-5.6	15	

* - Does not meet acceptance criteria.

MICROBAC®

Laboratory Report Number: M1J0978
Client Project ID: LHAAP

Continuing Calibration Verification (CCV)
FORM VIIB

Laboratory ID:	S1J0523-CCV2	**Analyzed:**	10/29/21 13:08	**Method:**	EPA 6850
Instrument:	LCMS2	**Calibration:**	21J0034	**Sequence:**	S1J0523
File ID:	2LM031307	**Units:**	ug/L	**Analyst:**	CAS

Analyte	Response	Limit	Q	Expected	Found	% Drift / % Diff	UCL	Q
Perchlorate	0.8141257			1.00	0.947	-5.3	15	

* - Does not meet acceptance criteria.

MICROBAC®

Laboratory Report Number: M1J0978
Client Project ID: LHAAP

Instrument Reporting Limit Check (CRL)
FORM VIIB

Laboratory ID:	S1J0523-CRL1	**Analyzed:**	10/29/21 11:36	**Method:**	EPA 6850
Instrument:	LCMS2	**Calibration:**	21J0034	**Sequence:**	S1J0523
File ID:	2LM031300	**Units:**	ug/L		

Analyte	Expected	Found	Recovery	LCL	UCL	Q
Perchlorate	0.200	0.203	102	70	130	

* - Does not meet acceptance criteria.

MICROBAC®

Laboratory Report Number: M1J0978
Client Project ID: LHAAP

Instrument Reporting Limit Check (CRL)
FORM VIIB

Laboratory ID:	S1J0523-CRL2	**Analyzed:**	10/29/21 13:22	**Method:**	EPA 6850
Instrument:	LCMS2	**Calibration:**	21J0034	**Sequence:**	S1J0523
File ID:	2LM031308	**Units:**	ug/L		

Analyte	Expected	Found	Recovery	LCL	UCL	Q
Perchlorate	0.200	0.198	99.0	70	130	

* - Does not meet acceptance criteria.

MICROBAC®

Laboratory Report Number: M1J0978
Client Project ID: LHAAP

MATRIX CONDUCTIVITY TEST
FORM VII

Laboratory ID:	S1J0510-IFA1	**Run Date:**	10/28/21 17:49	**Matrix:**	Aqueous
Instrument:	LCMS2	**Calibration:**	21J0034	**Method:**	EPA 6850
File ID:	2LM031235	**Analyst:**	CAS	**Batch ID:**	S1J0510

Analyte	Known (ug/L)	Result (ug/L)	Recovery	LCL	UCL	MRL (ug/L)	Flags
Perchlorate	0.20000	0.231	116	80	120	0.4000	

MICROBAC®

FORM VIII:
HPLC Organics
EPA 6850
Internal Standard Area and RT

Microbac Laboratories, Inc.
158 Starlite Drive | Marietta, OH 45750 | 800.373.4071 | www.microbac.com

MICROBAC®

Laboratory Report Number: M1J0978

Client Project ID: LHAAP

INTERNAL STANDARD AREA SUMMARY
FORM VIIIA

Laboratory:	Microbac Laboratories Inc., - Marietta, OH	**SDG:**	M1J0978
Client:	APTIM Tennessee	**Project:**	Longhorn AAP
Sequence:	S1J0510	**Instrument:**	LCMS2
		Calibration:	21J0034

Blank (B1J1573-BLK1)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	1719059	7.83	1651234	7.79	104	50 - 150		0.0400	+/-2.00	

LCS (B1J1573-BS1)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	1717089	7.83	1651234	7.79	104	50 - 150		0.0400	+/-2.00	

MRL Check (B1J1573-MRL1)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	1782991	7.84	1651234	7.79	108	50 - 150		0.0500	+/-2.00	

Blank (B1J1574-BLK1)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	1289719	7.88	1651234	7.79	78	50 - 150		0.0200	+/-2.00	

LCS (B1J1574-BS1)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	1329597	7.88	1651234	7.79	81	50 - 150		0.0200	+/-2.00	

16WW25-211014 (M1J0978-01)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	865157	7.51	1651234	7.79	52	50 - 150		-0.3500	+/-2.00	

16WW25-211014-FD (M1J0978-02)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	908960	7.53	1651234	7.79	55	50 - 150		-0.3300	+/-2.00	

16WW26-211014 (M1J0978-03)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	1049328	7.69	1651234	7.79	64	50 - 150		-0.1700	+/-2.00	

16WW30-211014 (M1J0978-04)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	805385	7.68	1651234	7.79	49	50 - 150	*	-0.1800	+/-2.00	

MICROBAC®

Laboratory Report Number: M1J0978

Client Project ID: LHAAP

INTERNAL STANDARD AREA SUMMARY
FORM VIIIA

16WW29-211014 (M1J0978-05)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	850358	7.59	1651234	7.79	51	50 - 150		-0.2700	+/-2.00	

16WW29-211014-FD (M1J0978-06)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	875033	7.59	1651234	7.79	53	50 - 150		-0.2900	+/-2.00	

Calibration Blank (S1J0510-CCB1)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	1742679	7.78	1651234	7.79	106	50 - 150		0.0000	+/-2.00	

Calibration Blank (S1J0510-CCB2)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	1766918	7.84	1651234	7.79	107	50 - 150		-0.0100	+/-2.00	

Calibration Blank (S1J0510-CCB3)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	1650476	7.86	1651234	7.79	100	50 - 150		0.0000	+/-2.00	

Calibration Blank (S1J0510-CCB4)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	1344678	7.88	1651234	7.79	81	50 - 150		0.0000	+/-2.00	

Calibration Blank (S1J0510-CCB5)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	1248933	7.88	1651234	7.79	76	50 - 150		0.0000	+/-2.00	

Calibration Blank (S1J0510-CCB6)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	1446848	7.89	1651234	7.79	88	50 - 150		0.0000	+/-2.00	

Calibration Check (S1J0510-CCV1)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	1651234	7.79	1651234	7.79	100	50 - 150		0.0000	+/-2.00	

Calibration Check (S1J0510-CCV2)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	1739535	7.85	1651234	7.79	105	50 - 150		0.0000	+/-2.00	

Calibration Check (S1J0510-CCV3)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	1623988	7.86	1651234	7.79	98	50 - 150		0.0000	+/-2.00	

MICROBAC®

Laboratory Report Number: M1J0978

Client Project ID: LHAAP

INTERNAL STANDARD AREA SUMMARY
FORM VIIIA

Calibration Check (S1J0510-CCV4)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	1214280	7.88	1651234	7.79	74	50 - 150		0.0000	+/-2.00	

Calibration Check (S1J0510-CCV5)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	1115711	7.88	1651234	7.79	68	50 - 150		0.0000	+/-2.00	

Calibration Check (S1J0510-CCV6)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	1377847	7.89	1651234	7.79	83	50 - 150		0.0000	+/-2.00	

Instrument RL Check (S1J0510-CRL1)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	1672014	7.81	1651234	7.79	101	50 - 150		0.0200	+/-2.00	

Instrument RL Check (S1J0510-CRL2)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	1701939	7.84	1651234	7.79	103	50 - 150		-0.0100	+/-2.00	

Instrument RL Check (S1J0510-CRL3)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	1575526	7.86	1651234	7.79	95	50 - 150		0.0000	+/-2.00	

Instrument RL Check (S1J0510-CRL4)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	1241809	7.88	1651234	7.79	75	50 - 150		0.0000	+/-2.00	

Instrument RL Check (S1J0510-CRL5)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	1192196	7.88	1651234	7.79	72	50 - 150		0.0000	+/-2.00	

Instrument RL Check (S1J0510-CRL6)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	1512320	7.9	1651234	7.79	92	50 - 150		0.0100	+/-2.00	

Initial Cal Blank (S1J0510-ICB1)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	1680592	7.59	1651234	7.79	102	50 - 150		-0.1000	+/-2.00	

Initial Cal Check (S1J0510-ICV1)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	1674312	7.78	1651234	7.79	101	50 - 150		0.0000	+/-2.00	

MICROBAC®

Laboratory Report Number: M1J0978

Client Project ID: LHAAP

INTERNAL STANDARD AREA SUMMARY
FORM VIIIA

Interference Check A (S1J0510-IFA1)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	1633945	7.29	1651234	7.79	99	50 - 150		-0.5000	+/-2.00	

Laboratory:	Microbac Laboratories Inc., - Marietta, OH	**SDG:**	M1J0978
Client:	APTIM Tennessee	**Project:**	Longhorn AAP
Sequence:	S1J0523	**Instrument:**	LCMS2
		Calibration:	21J0034

16WW55-211014 (M1J0978-07)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	1128188	7.93	1320355	7.91	85	50 - 150		0.0200	+/-2.00	

Calibration Blank (S1J0523-CCB1)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	1238370	7.84	1708009	7.69	73	50 - 150		0.1500	+/-2.00	

Calibration Blank (S1J0523-CCB2)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	1428653	7.93	1320355	7.91	108	50 - 150		0.0000	+/-2.00	

Calibration Check (S1J0523-CCV1)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	1320355	7.91	1320355	7.91	100	50 - 150		0.0000	+/-2.00	

Calibration Check (S1J0523-CCV2)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	1361915	7.93	1320355	7.91	103	50 - 150		0.0000	+/-2.00	

Instrument RL Check (S1J0523-CRL1)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	1326434	7.93	1320355	7.91	100	50 - 150		0.0200	+/-2.00	

Instrument RL Check (S1J0523-CRL2)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	1445889	7.93	1320355	7.91	110	50 - 150		0.0000	+/-2.00	

MICROBAC®

Section A:
HPLC Organics
EPA 6850
Batch / Sequence Raw Data

Microbac Laboratories, Inc.
158 Starlite Drive | Marietta, OH 45750 | 800.373.4071 | www.microbac.com

Perchlorate Conductivity Check

(perchlorate1)

Conductivity Probe
Calibration Check: 1418 /1410 µs/cm

Working MCT Level: 9920 µs/cm

Sample	Conductivity (µs/cm)	Pretreatment or Dilution Needed
MIJ0726-01	2620	
-02	2730	
-03	4400	
-04	5430	
-05	1997	
-06	282	
-07	284	
-08	3550	
MIJ0978-01	8050	

Analyst: Craig A. Smith

Date/Time: 10/29/21 / 1215

Perchlorate Conductivity Check
(perchlorate1)

Conductivity Probe Calibration Check: 1415 /1410 µs/cm

Working MCT Level: 9930 µs/cm

Sample	Conductivity (µs/cm)	Pretreatment or Dilution Needed
MJ0975-02	7340	
-03	949	
-04	1701	
-05	3690	
-06	4070	
-07	4790	
MJ0981-01	2980	
-02	5990	
-03	4020	
-04	15,930	
-05	6750	
-06	4160	
-07	2750	
-08	186.5	
MJ 1014-03	6210	
-04	2660	
-05	3910	
-06	3880	
-07	3510	
-08	4230	

Analyst: Craig A. Smith

Date/Time: 10/29/21 / 1355

Filename	Sample Type	Level	Sample ID	Comments	Compound	Type	Area	Ion Ratio (2.31-3.85)
2LM031223	Unknown		S1J0510-ICB1	1:1	Perchlorate	Target Compound	3111	2.537520392
2LM031223	Unknown		S1J0510-ICB1	1:1	Perchlorate	Confirming Peak	1226	
2LM031224	Cal Std	1	S1J0510-CAL1	1:1 0012469	Perchlorate	Target Compound	26495	2.991081508
2LM031224	Cal Std	1	S1J0510-CAL1	1:1 0012469	Perchlorate	Confirming Peak	8858	
2LM031225	Cal Std	2	S1J0510-CAL2	1:1 0012468	Perchlorate	Target Compound	55643	2.957688832
2LM031225	Cal Std	2	S1J0510-CAL2	1:1 0012468	Perchlorate	Confirming Peak	18813	
2LM031226	Cal Std	3	S1J0510-CAL3	1:1 0012467	Perchlorate	Target Compound	141805	3.099427347
2LM031226	Cal Std	3	S1J0510-CAL3	1:1 0012467	Perchlorate	Confirming Peak	45752	
2LM031227	Cal Std	4	S1J0510-CAL4	1:1 0012466	Perchlorate	Target Compound	295153	3.041873647
2LM031227	Cal Std	4	S1J0510-CAL4	1:1 0012466	Perchlorate	Confirming Peak	97030	
2LM031228	Cal Std	5	S1J0510-CAL5	1:1 0012465	Perchlorate	Target Compound	563232	3.074259452
2LM031228	Cal Std	5	S1J0510-CAL5	1:1 0012465	Perchlorate	Confirming Peak	183209	
2LM031229	Cal Std	6	S1J0510-CAL6	1:1 0012464	Perchlorate	Target Compound	1363180	3.145860497
2LM031229	Cal Std	6	S1J0510-CAL6	1:1 0012464	Perchlorate	Confirming Peak	433325	
2LM031230	Cal Std	7	S1J0510-CAL7	1:1 0012463	Perchlorate	Target Compound	2528538	3.201718532
2LM031230	Cal Std	7	S1J0510-CAL7	1:1 0012463	Perchlorate	Confirming Peak	789744	
2LM031231	Chk Std	ICV	S1J0510-ICV1	1:1 0012475	Perchlorate	Target Compound	285048	3.038308214
2LM031231	Chk Std	ICV	S1J0510-ICV1	1:1 0012475	Perchlorate	Confirming Peak	93818	
2LM031232	Unknown		S1J0510-CCB1	1:1	Perchlorate	Target Compound	4617	3.497727273
2LM031232	Unknown		S1J0510-CCB1	1:1	Perchlorate	Confirming Peak	1320	
2LM031233	Chk Std	CCV	S1J0510-CCV1	1:1 0012466	Perchlorate	Target Compound	271003	3.015835744
2LM031233	Chk Std	CCV	S1J0510-CCV1	1:1 0012466	Perchlorate	Confirming Peak	89860	
2LM031234	Chk Std	QCMRL	S1J0510-CRL1	1:1 0012468	Perchlorate	Target Compound	54161	3.224828818
2LM031234	Chk Std	QCMRL	S1J0510-CRL1	1:1 0012468	Perchlorate	Confirming Peak	16795	
2LM031235	Unknown		S1J0510-IFA1	1:1 0012477	Perchlorate	Target Compound	61825	2.673976039
2LM031235	Unknown		S1J0510-IFA1	1:1 0012477	Perchlorate	Confirming Peak	23121	
2LM031236	Unknown		B1J1573-BLK1	1:1	Perchlorate	Target Compound	5196	2.938914027
2LM031236	Unknown		B1J1573-BLK1	1:1	Perchlorate	Confirming Peak	1768	
2LM031237	Unknown		B1J1573-BS1	1:1 0012474	Perchlorate	Target Compound	57586	2.882615007
2LM031237	Unknown		B1J1573-BS1	1:1 0012474	Perchlorate	Confirming Peak	19977	
2LM031238	Unknown		B1J1573-MRL1	1:1	Perchlorate	Target Compound	60164	3.216810137
2LM031238	Unknown		B1J1573-MRL1	1:1	Perchlorate	Confirming Peak	18703	
2LM031239	Unknown		M1J0723-01	1:1	Perchlorate	Target Compound	109760	3.011083068
2LM031239	Unknown		M1J0723-01	1:1	Perchlorate	Confirming Peak	36452	
2LM031240	Unknown		M1J0723-02	1:1	Perchlorate	Target Compound	178174	3.090347758
2LM031240	Unknown		M1J0723-02	1:1	Perchlorate	Confirming Peak	57655	
2LM031241	Unknown		B1J1573-MS1	1:1	Perchlorate	Target Compound	216626	3.079479707
2LM031241	Unknown		B1J1573-MS1	1:1	Perchlorate	Confirming Peak	70345	
2LM031242	Unknown		B1J1573-MSD1	1:1	Perchlorate	Target Compound	218175	3.066322802
2LM031242	Unknown		B1J1573-MSD1	1:1	Perchlorate	Confirming Peak	71152	
2LM031243	Unknown		M1J0723-04	1:1	Perchlorate	Target Compound	548053	3.096397114
2LM031243	Unknown		M1J0723-04	1:1	Perchlorate	Confirming Peak	176997	
2LM031244	Unknown		M1J0723-06	1:1	Perchlorate	Target Compound	750315	3.14078629
2LM031244	Unknown		M1J0723-06	1:1	Perchlorate	Confirming Peak	238894	
2LM031245	Chk Std	CCV	S1J0510-CCV2	1:1 0012466	Perchlorate	Target Compound	284572	3.04465795
2LM031245	Chk Std	CCV	S1J0510-CCV2	1:1 0012466	Perchlorate	Confirming Peak	93466	
2LM031246	Chk Std	QCMRL	S1J0510-CRL2	1:1 0012468	Perchlorate	Target Compound	55330	3.11525252
2LM031246	Chk Std	QCMRL	S1J0510-CRL2	1:1 0012468	Perchlorate	Confirming Peak	17761	
2LM031247	Unknown		S1J0510-CCB2	1:1	Perchlorate	Target Compound	3895	3.653846154
2LM031247	Unknown		S1J0510-CCB2	1:1	Perchlorate	Confirming Peak	1066	
2LM031248	Unknown		M1J0723-08	1:1	Perchlorate	Target Compound	86159	3.065720182
2LM031248	Unknown		M1J0723-08	1:1	Perchlorate	Confirming Peak	28104	
2LM031249	Unknown		M1J0723-10	1:1	Perchlorate	Target Compound	76189	3.039899453
2LM031249	Unknown		M1J0723-10	1:1	Perchlorate	Confirming Peak	25063	
2LM031250	Unknown		M1J0723-12	1:1	Perchlorate	Target Compound	235384	3.062901757
2LM031250	Unknown		M1J0723-12	1:1	Perchlorate	Confirming Peak	76850	
2LM031251	Unknown		M1J0723-14	1:1	Perchlorate	Target Compound	122794	3.114701705

Filename	Sample Type	Level	Sample ID	Comments	Compound	Type	Area	Ion Ratio (2.31-3.85)
2LM031251	Unknown		M1J0723-14	1:1	Perchlorate	Confirming Peak	39424	
2LM031252	Unknown		M1J0726-01	1:1	Perchlorate	Target Compound	28170	3.489841427
2LM031252	Unknown		M1J0726-01	1:1	Perchlorate	Confirming Peak	8072	
2LM031253	Unknown		M1J0726-02	1:1	Perchlorate	Target Compound	50906112	3.062491694
2LM031253	Unknown		M1J0726-02	1:1	Perchlorate	Confirming Peak	16622449	
2LM031254	Unknown		M1J0726-03	1:1	Perchlorate	Target Compound	75462	2.996664284
2LM031254	Unknown		M1J0726-03	1:1	Perchlorate	Confirming Peak	25182	
2LM031255	Unknown		M1J0726-04	1:1	Perchlorate	Target Compound	22679	3.287764569
2LM031255	Unknown		M1J0726-04	1:1	Perchlorate	Confirming Peak	6898	
2LM031256	Unknown		M1J0726-05	1:1	Perchlorate	Target Compound	14391	2.073631124
2LM031256	Unknown		M1J0726-05	1:1	Perchlorate	Confirming Peak	6940	
2LM031257	Unknown		M1J0726-06	1:1	Perchlorate	Target Compound	11935	2.600784485
2LM031257	Unknown		M1J0726-06	1:1	Perchlorate	Confirming Peak	4589	
2LM031258	Chk Std	CCV	S1J0510-CCV3	1:1 0012466	Perchlorate	Target Compound	262915	3.092499147
2LM031258	Chk Std	CCV	S1J0510-CCV3	1:1 0012466	Perchlorate	Confirming Peak	85017	
2LM031259	Chk Std	QCMRL	S1J0510-CRL3	1:1 0012468	Perchlorate	Target Compound	50485	3.017632995
2LM031259	Chk Std	QCMRL	S1J0510-CRL3	1:1 0012468	Perchlorate	Confirming Peak	16730	
2LM031260	Unknown		S1J0510-CCB3	1:1	Perchlorate	Target Compound	3257	3.4685836
2LM031260	Unknown		S1J0510-CCB3	1:1	Perchlorate	Confirming Peak	939	
2LM031261	Unknown		M1J0726-07	1:1	Perchlorate	Target Compound	8645	3.101901686
2LM031261	Unknown		M1J0726-07	1:1	Perchlorate	Confirming Peak	2787	
2LM031262	Unknown		M1J0726-08	1:1	Perchlorate	Target Compound	3359	#VALUE!
2LM031262	Unknown		M1J0726-08	1:1	Perchlorate	Confirming Peak	N/F	
2LM031263	Unknown		M1J0825-11	1:1	Perchlorate	Target Compound	N/F	#VALUE!
2LM031263	Unknown		M1J0825-11	1:1	Perchlorate	Confirming Peak	N/F	
2LM031264	Unknown		M1J0978-01	1:1	Perchlorate	Target Compound	3525	#VALUE!
2LM031264	Unknown		M1J0978-01	1:1	Perchlorate	Confirming Peak	N/F	
2LM031265	Unknown		B1J1574-BLK1	1:1	Perchlorate	Target Compound	3473	#VALUE!
2LM031265	Unknown		B1J1574-BLK1	1:1	Perchlorate	Confirming Peak	N/F	
2LM031266	Unknown		B1J1574-BS1	1:1	Perchlorate	Target Compound	45667	3.215306625
2LM031266	Unknown		B1J1574-BS1	1:1	Perchlorate	Confirming Peak	14203	
2LM031267	Unknown		M1J0978-02	1:1	Perchlorate	Target Compound	3508	#VALUE!
2LM031267	Unknown		M1J0978-02	1:1	Perchlorate	Confirming Peak	N/F	
2LM031268	Unknown		M1J0978-03	1:1	Perchlorate	Target Compound	3200	2.45210728
2LM031268	Unknown		M1J0978-03	1:1	Perchlorate	Confirming Peak	1305	
2LM031269	Unknown		M1J0978-04	1:1	Perchlorate	Target Compound	2229	3.211815562
2LM031269	Unknown		M1J0978-04	1:1	Perchlorate	Confirming Peak	694	
2LM031270	Unknown		M1J0978-05	1:1	Perchlorate	Target Compound	1267	#VALUE!
2LM031270	Unknown		M1J0978-05	1:1	Perchlorate	Confirming Peak	N/F	
2LM031271	Chk Std	CCV	S1J0510-CCV4	1:1	Perchlorate	Target Compound	198543	3.056388547
2LM031271	Chk Std	CCV	S1J0510-CCV4	1:1	Perchlorate	Confirming Peak	64960	
2LM031272	Chk Std	QCMRL	S1J0510-CRL4	1:1	Perchlorate	Target Compound	41087	3.447763699
2LM031272	Chk Std	QCMRL	S1J0510-CRL4	1:1	Perchlorate	Confirming Peak	11917	
2LM031273	Unknown		S1J0510-CCB4	1:1	Perchlorate	Target Compound	3202	#VALUE!
2LM031273	Unknown		S1J0510-CCB4	1:1	Perchlorate	Confirming Peak	N/F	
2LM031274	Unknown		M1J0978-06	1:1	Perchlorate	Target Compound	N/F	#VALUE!
2LM031274	Unknown		M1J0978-06	1:1	Perchlorate	Confirming Peak	N/F	
2LM031275	Unknown		M1J0978-07	1:1	Perchlorate	Target Compound	28418679	3.101773911
2LM031275	Unknown		M1J0978-07	1:1	Perchlorate	Confirming Peak	9162073	
2LM031276	Unknown		M1J0981-01	1:1	Perchlorate	Target Compound	1915	1.642367067
2LM031276	Unknown		M1J0981-01	1:1	Perchlorate	Confirming Peak	1166	
2LM031277	Unknown		M1J0981-02	1:1	Perchlorate	Target Compound	10222	3.204388715
2LM031277	Unknown		M1J0981-02	1:1	Perchlorate	Confirming Peak	3190	
2LM031278	Unknown		M1J0981-03	1:1	Perchlorate	Target Compound	36247072	3.09734913
2LM031278	Unknown		M1J0981-03	1:1	Perchlorate	Confirming Peak	11702611	
2LM031279	Unknown		M1J0981-04	1:1	Perchlorate	Target Compound	30204867	3.076859693
2LM031279	Unknown		M1J0981-04	1:1	Perchlorate	Confirming Peak	9816784	

Filename	Sample Type	Level	Sample ID	Comments	Compound	Type	Area	Ion Ratio (2.31-3.85)
2LM031280	Unknown		M1J0981-05	1:1	Perchlorate	Target Compound	47035	3.161379218
2LM031280	Unknown		M1J0981-05	1:1	Perchlorate	Confirming Peak	14878	
2LM031281	Unknown		M1J0981-06	1:1	Perchlorate	Target Compound	N/F	#VALUE!
2LM031281	Unknown		M1J0981-06	1:1	Perchlorate	Confirming Peak	N/F	
2LM031282	Unknown		M1J0981-07	1:1	Perchlorate	Target Compound	3594	#VALUE!
2LM031282	Unknown		M1J0981-07	1:1	Perchlorate	Confirming Peak	N/F	
2LM031283	Unknown		M1J0981-08	1:1	Perchlorate	Target Compound	2059	#VALUE!
2LM031283	Unknown		M1J0981-08	1:1	Perchlorate	Confirming Peak	N/F	
2LM031284	Chk Std	CCV	S1J0510-CCV5	1:1	Perchlorate	Target Compound	184711	3.131915832
2LM031284	Chk Std	CCV	S1J0510-CCV5	1:1	Perchlorate	Confirming Peak	58977	
2LM031285	Chk Std	QCMRL	S1J0510-CRL5	1:1	Perchlorate	Target Compound	38863	3.344780102
2LM031285	Chk Std	QCMRL	S1J0510-CRL5	1:1	Perchlorate	Confirming Peak	11619	
2LM031286	Unknown		S1J0510-CCB5	1:1	Perchlorate	Target Compound	3274	#VALUE!
2LM031286	Unknown		S1J0510-CCB5	1:1	Perchlorate	Confirming Peak	N/F	
2LM031287	Unknown		M1J1014-03	1:1	Perchlorate	Target Compound	145152	3.158843115
2LM031287	Unknown		M1J1014-03	1:1	Perchlorate	Confirming Peak	45951	
2LM031288	Unknown		M1J1014-04	1:1	Perchlorate	Target Compound	248135	3.090292048
2LM031288	Unknown		M1J1014-04	1:1	Perchlorate	Confirming Peak	80295	
2LM031289	Unknown		M1J1014-05	1:1	Perchlorate	Target Compound	304799	3.088354797
2LM031289	Unknown		M1J1014-05	1:1	Perchlorate	Confirming Peak	98693	
2LM031290	Unknown		M1J1014-06	1:1	Perchlorate	Target Compound	304512	3.061191254
2LM031290	Unknown		M1J1014-06	1:1	Perchlorate	Confirming Peak	99475	
2LM031291	Unknown		M1J1014-07	1:1	Perchlorate	Target Compound	1191	#VALUE!
2LM031291	Unknown		M1J1014-07	1:1	Perchlorate	Confirming Peak	N/F	
2LM031292	Unknown		M1J1014-08	1:1	Perchlorate	Target Compound	2147209	3.170056146
2LM031292	Unknown		M1J1014-08	1:1	Perchlorate	Confirming Peak	677341	
2LM031293	Unknown		B1J1574-MS1	1:1	Perchlorate	Target Compound	2211532	3.180810991
2LM031293	Unknown		B1J1574-MS1	1:1	Perchlorate	Confirming Peak	695273	
2LM031294	Unknown		B1J1574-MSD1	1:1	Perchlorate	Target Compound	2222935	3.137717798
2LM031294	Unknown		B1J1574-MSD1	1:1	Perchlorate	Confirming Peak	708456	
2LM031295	Chk Std	CCV	S1J0510-CCV6	1:1	Perchlorate	Target Compound	225475	3.085106383
2LM031295	Chk Std	CCV	S1J0510-CCV6	1:1	Perchlorate	Confirming Peak	73085	
2LM031296	Chk Std	QCMRL	S1J0510-CRL6	1:1	Perchlorate	Target Compound	49914	3.152131355
2LM031296	Chk Std	QCMRL	S1J0510-CRL6	1:1	Perchlorate	Confirming Peak	15835	
2LM031297	Unknown		S1J0510-CCB6	1:1	Perchlorate	Target Compound	4077	7.293381038
2LM031297	Unknown		S1J0510-CCB6	1:1	Perchlorate	Confirming Peak	559	

Filename	Sample Type	Level	Sample ID	Comments	Compound	Type	Area	IS Rec (50-150 Avg. ICAL)
2LM031223	Unknown		S1J0510-ICB1	1:1	O18LP	Internal Standard	1680592	
2LM031224	Cal Std	1	S1J0510-CAL1	1:1 0012469	O18LP	Internal Standard	1661900	
2LM031225	Cal Std	2	S1J0510-CAL2	1:1 0012468	O18LP	Internal Standard	1670033	
2LM031226	Cal Std	3	S1J0510-CAL3	1:1 0012467	O18LP	Internal Standard	1708009	
2LM031227	Cal Std	4	S1J0510-CAL4	1:1 0012466	O18LP	Internal Standard	1730800	1644264.143
2LM031228	Cal Std	5	S1J0510-CAL5	1:1 0012465	O18LP	Internal Standard	1711825	
2LM031229	Cal Std	6	S1J0510-CAL6	1:1 0012464	O18LP	Internal Standard	1609989	
2LM031230	Cal Std	7	S1J0510-CAL7	1:1 0012463	O18LP	Internal Standard	1417293	
2LM031231	Chk Std	ICV	S1J0510-ICV1	1:1 0012475	O18LP	Internal Standard	1674312	101.8274349
2LM031232	Unknown		S1J0510-CCB1	1:1	O18LP	Internal Standard	1742679	105.9853435
2LM031233	Chk Std	CCV	S1J0510-CCV1	1:1 0012466	O18LP	Internal Standard	1651234	100.4238891
2LM031234	Chk Std	QCMRL	S1J0510-CRL1	1:1 0012468	O18LP	Internal Standard	1672014	101.6876764
2LM031235	Unknown		S1J0510-IFA1	1:1 0012477	O18LP	Internal Standard	1633945	99.37241575
2LM031236	Unknown		B1J1573-BLK1	1:1	O18LP	Internal Standard	1719059	104.5488347
2LM031237	Unknown		B1J1573-BS1	1:1 0012474	O18LP	Internal Standard	1717089	104.4290242
2LM031238	Unknown		B1J1573-MRL1	1:1	O18LP	Internal Standard	1782991	108.4370177
2LM031239	Unknown		M1J0723-01	1:1	O18LP	Internal Standard	992389	60.35459718
2LM031240	Unknown		M1J0723-02	1:1	O18LP	Internal Standard	1012348	61.56845324
2LM031241	Unknown		B1J1573-MS1	1:1	O18LP	Internal Standard	1042843	63.42308227
2LM031242	Unknown		B1J1573-MSD1	1:1	O18LP	Internal Standard	1075862	65.43121461
2LM031243	Unknown		M1J0723-04	1:1	O18LP	Internal Standard	1018160	61.92192443
2LM031244	Unknown		M1J0723-06	1:1	O18LP	Internal Standard	1043550	63.46608022
2LM031245	Chk Std	CCV	S1J0510-CCV2	1:1 0012466	O18LP	Internal Standard	1739535	105.7941334
2LM031246	Chk Std	QCMRL	S1J0510-CRL2	1:1 0012468	O18LP	Internal Standard	1701939	103.5076394
2LM031247	Unknown		S1J0510-CCB2	1:1	O18LP	Internal Standard	1766918	107.4594984
2LM031248	Unknown		M1J0723-08	1:1	O18LP	Internal Standard	1023250	62.2314854
2LM031249	Unknown		M1J0723-10	1:1	O18LP	Internal Standard	993066	60.39577061
2LM031250	Unknown		M1J0723-12	1:1	O18LP	Internal Standard	1063240	64.66357639
2LM031251	Unknown		M1J0723-14	1:1	O18LP	Internal Standard	1029542	62.61414898
2LM031252	Unknown		M1J0726-01	1:1	O18LP	Internal Standard	1058284	64.36216496
2LM031253	Unknown		M1J0726-02	1:1	O18LP	Internal Standard	380915	23.16629002
2LM031254	Unknown		M1J0726-03	1:1	O18LP	Internal Standard	960457	58.41257344
2LM031255	Unknown		M1J0726-04	1:1	O18LP	Internal Standard	1040402	63.2746268
2LM031256	Unknown		M1J0726-05	1:1	O18LP	Internal Standard	992981	60.39060113
2LM031257	Unknown		M1J0726-06	1:1	O18LP	Internal Standard	1534277	93.31085925
2LM031258	Chk Std	CCV	S1J0510-CCV3	1:1 0012466	O18LP	Internal Standard	1623988	98.76685611
2LM031259	Chk Std	QCMRL	S1J0510-CRL3	1:1 0012468	O18LP	Internal Standard	1575526	95.81951944
2LM031260	Unknown		S1J0510-CCB3	1:1	O18LP	Internal Standard	1650476	100.3777895
2LM031261	Unknown		M1J0726-07	1:1	O18LP	Internal Standard	1371981	83.44042567
2LM031262	Unknown		M1J0726-08	1:1	O18LP	Internal Standard	977669	59.45936389
2LM031263	Unknown		M1J0825-11	1:1	O18LP	Internal Standard	1574817	95.77639985
2LM031264	Unknown		M1J0978-01	1:1	O18LP	Internal Standard	865157	52.61666769
2LM031265	Unknown		B1J1574-BLK1	1:1	O18LP	Internal Standard	1289719	78.43745822
2LM031266	Unknown		B1J1574-BS1	1:1	O18LP	Internal Standard	1329597	80.86273764
2LM031267	Unknown		M1J0978-02	1:1	O18LP	Internal Standard	908960	55.28065572
2LM031268	Unknown		M1J0978-03	1:1	O18LP	Internal Standard	1049328	63.81748362
2LM031269	Unknown		M1J0978-04	1:1	O18LP	Internal Standard	805385	48.98148533
2LM031270	Unknown		M1J0978-05	1:1	O18LP	Internal Standard	850358	51.71662982
2LM031271	Chk Std	CCV	S1J0510-CCV4	1:1	O18LP	Internal Standard	1214280	73.84944842
2LM031272	Chk Std	QCMRL	S1J0510-CRL4	1:1	O18LP	Internal Standard	1241809	75.5236928
2LM031273	Unknown		S1J0510-CCB4	1:1	O18LP	Internal Standard	1344678	81.77992604
2LM031274	Unknown		M1J0978-06	1:1	O18LP	Internal Standard	875033	53.21730111
2LM031275	Unknown		M1J0978-07	1:1	O18LP	Internal Standard	381033	23.17346648
2LM031276	Unknown		M1J0981-01	1:1	O18LP	Internal Standard	815110	49.57293532
2LM031277	Unknown		M1J0981-02	1:1	O18LP	Internal Standard	711765	43.28775295
2LM031278	Unknown		M1J0981-03	1:1	O18LP	Internal Standard	313582	19.0712667
2LM031279	Unknown		M1J0981-04	1:1	O18LP	Internal Standard	358875	21.82587278

Filename	Sample Type	Level	Sample ID	Comments	Compound	Type	Area	IS Rec (50-150 Avg. ICAL)
2LM031280	Unknown		M1J0981-05	1:1	O18LP	Internal Standard	972045	59.11732639
2LM031281	Unknown		M1J0981-06	1:1	O18LP	Internal Standard	779616	47.41427972
2LM031282	Unknown		M1J0981-07	1:1	O18LP	Internal Standard	842922	51.26439104
2LM031283	Unknown		M1J0981-08	1:1	O18LP	Internal Standard	878882	53.45138759
2LM031284	Chk Std	CCV	S1J0510-CCV5	1:1	O18LP	Internal Standard	1115711	67.85473033
2LM031285	Chk Std	QCMRL	S1J0510-CRL5	1:1	O18LP	Internal Standard	1192196	72.50635521
2LM031286	Unknown		S1J0510-CCB5	1:1	O18LP	Internal Standard	1248933	75.95695652
2LM031287	Unknown		M1J1014-03	1:1	O18LP	Internal Standard	884920	53.81860353
2LM031288	Unknown		M1J1014-04	1:1	O18LP	Internal Standard	1002188	60.95054766
2LM031289	Unknown		M1J1014-05	1:1	O18LP	Internal Standard	911437	55.43130062
2LM031290	Unknown		M1J1014-06	1:1	O18LP	Internal Standard	926602	56.35359769
2LM031291	Unknown		M1J1014-07	1:1	O18LP	Internal Standard	1026192	62.41041042
2LM031292	Unknown		M1J1014-08	1:1	O18LP	Internal Standard	885756	53.86944694
2LM031293	Unknown		B1J1574-MS1	1:1	O18LP	Internal Standard	943268	57.36718179
2LM031294	Unknown		B1J1574-MSD1	1:1	O18LP	Internal Standard	941514	57.26050794
2LM031295	Chk Std	CCV	S1J0510-CCV6	1:1	O18LP	Internal Standard	1377847	83.79718101
2LM031296	Chk Std	QCMRL	S1J0510-CRL6	1:1	O18LP	Internal Standard	1512320	91.97548986
2LM031297	Unknown		S1J0510-CCB6	1:1	O18LP	Internal Standard	1446848	87.99364787

Filename	Sample Type	Level	Sample ID	Comments	Compound	Type	Area	Ion Ratio (2.31-3.85)
2LM031298	Unknown		S1J0523-CCB1	1:1	Perchlorate	Target Compound	3420	#VALUE!
2LM031298	Unknown		S1J0523-CCB1	1:1	Perchlorate	Confirming Peak	N/F	
2LM031299	Chk Std	CCV	S1J0523-CCV1	1:1 0012466	Perchlorate	Target Compound	214302	3.076090545
2LM031299	Chk Std	CCV	S1J0523-CCV1	1:1 0012466	Perchlorate	Confirming Peak	69667	
2LM031300	Chk Std	QCMRL	S1J0523-CRL1	1:1 0012468	Perchlorate	Target Compound	43732	3.283429687
2LM031300	Chk Std	QCMRL	S1J0523-CRL1	1:1 0012468	Perchlorate	Confirming Peak	13319	
2LM031301	Unknown		M1J0726-02@1000	1:1000	Perchlorate	Target Compound	158059	3.050389841
2LM031301	Unknown		M1J0726-02@1000	1:1000	Perchlorate	Confirming Peak	51816	
2LM031302	Unknown		M1J0978-07@100	1:100	Perchlorate	Target Compound	711521	3.108178002
2LM031302	Unknown		M1J0978-07@100	1:100	Perchlorate	Confirming Peak	228919	
2LM031303	Unknown		M1J0981-03@1000	1:1000	Perchlorate	Target Compound	124686	3.204636579
2LM031303	Unknown		M1J0981-03@1000	1:1000	Perchlorate	Confirming Peak	38908	
2LM031304	Unknown		M1J1014-08@10	1:10	Perchlorate	Target Compound	212461	3.042154097
2LM031304	Unknown		M1J1014-08@10	1:10	Perchlorate	Confirming Peak	69839	
2LM031305	Unknown		B1J1574-MS1@10	1:10	Perchlorate	Target Compound	215286	3.184515709
2LM031305	Unknown		B1J1574-MS1@10	1:10	Perchlorate	Confirming Peak	67604	
2LM031306	Unknown		B1J1574-MSD1@10	1:10	Perchlorate	Target Compound	224671	3.033430095
2LM031306	Unknown		B1J1574-MSD1@10	1:10	Perchlorate	Confirming Peak	74065	
2LM031307	Chk Std	CCV	S1J0523-CCV2	1:1 0012466	Perchlorate	Target Compound	221754	3.061040252
2LM031307	Chk Std	CCV	S1J0523-CCV2	1:1 0012466	Perchlorate	Confirming Peak	72444	
2LM031308	Chk Std	QCMRL	S1J0523-CRL2	1:1 0012468	Perchlorate	Target Compound	46431	3.092513654
2LM031308	Chk Std	QCMRL	S1J0523-CRL2	1:1 0012468	Perchlorate	Confirming Peak	15014	
2LM031309	Unknown		S1J0523-CCB2	1:1	Perchlorate	Target Compound	3298	#VALUE!
2LM031309	Unknown		S1J0523-CCB2	1:1	Perchlorate	Confirming Peak	N/F	

Filename	Sample Type	Level	Sample ID	Comments	Compound	Type	Area	IS Rec (50-150 Avg. ICAL)
2LM031224	Cal Std	1	S1J0510-CAL1	1:1 0012469	O18LP	Internal Standard	1661900	
2LM031225	Cal Std	2	S1J0510-CAL2	1:1 0012468	O18LP	Internal Standard	1670033	
2LM031226	Cal Std	3	S1J0510-CAL3	1:1 0012467	O18LP	Internal Standard	1708009	
2LM031227	Cal Std	4	S1J0510-CAL4	1:1 0012466	O18LP	Internal Standard	1730800	1644264.143
2LM031228	Cal Std	5	S1J0510-CAL5	1:1 0012465	O18LP	Internal Standard	1711825	
2LM031229	Cal Std	6	S1J0510-CAL6	1:1 0012464	O18LP	Internal Standard	1609989	
2LM031230	Cal Std	7	S1J0510-CAL7	1:1 0012463	O18LP	Internal Standard	1417293	
2LM031298	Unknown		S1J0523-CCB1	1:1	O18LP	Internal Standard	1238370	75.31454148
2LM031299	Chk Std	CCV	S1J0523-CCV1	1:1 0012466	O18LP	Internal Standard	1320355	80.3006625
2LM031300	Chk Std	QCMRL	S1J0523-CRL1	1:1 0012468	O18LP	Internal Standard	1326434	80.67037195
2LM031301	Unknown		M1J0726-02@1000	1:1000	O18LP	Internal Standard	1357428	82.55534889
2LM031302	Unknown		M1J0978-07@100	1:100	O18LP	Internal Standard	1128188	68.61355001
2LM031303	Unknown		M1J0981-03@1000	1:1000	O18LP	Internal Standard	1321403	80.36439921
2LM031304	Unknown		M1J1014-08@10	1:10	O18LP	Internal Standard	954249	58.03501853
2LM031305	Unknown		B1J1574-MS1@10	1:10	O18LP	Internal Standard	961979	58.50513764
2LM031306	Unknown		B1J1574-MSD1@10	1:10	O18LP	Internal Standard	1013761	61.65438834
2LM031307	Chk Std	CCV	S1J0523-CCV2	1:1 0012466	O18LP	Internal Standard	1361915	82.82823692
2LM031308	Chk Std	QCMRL	S1J0523-CRL2	1:1 0012468	O18LP	Internal Standard	1445889	87.9353239
2LM031309	Unknown		S1J0523-CCB2	1:1	O18LP	Internal Standard	1428653	86.88707384

MICROBAC®

Laboratory Report Number: M1J0978

Client Project ID: LHAAP

BATCH LOG SUMMARY
SECTION A1

Batch: B1J1573
Matrix: Aqueous
Method: EPA 6850

Prepared: 10/28/2021 2:19:00PM
Prepared By: CAS

Laboratory ID	Client / Source ID	Initial	Final						Spike(s)
B1J1573-BLK1		10.0 mL	10.0 mL						
B1J1573-BS1		10.0 mL	10.0 mL						1006965 200µL
B1J1573-MRL1		10.0 mL	10.0 mL						1006965 200µL
M1J0978-01	16WW25-211014	10.0 mL	10.0 mL						

Standards used in the batch:

Standard ID	Description	Date Prepared	Prepared By
1006965	6850/331 Perchlorate Alternate Solution (10 ppb)	8/11/2021 5:13:38PM	John Richards

Reagents used in the batch:

Reagent ID	Description	Prepared	Prepared By
1000181	6850/331 Column	1/8/2021 2:36:22PM	** Vendor **
1008665	0.45 um PTFE Syringe Filter	10/11/2021 10:46:38AM	Asa Timmons
1009215	0.1% Acetic Acid in Water	10/26/2021 8:46:45AM	Craig Smith
1009216	0.1% Acetic Acid in Acetonitrile	10/26/2021 8:48:32AM	Craig Smith

MICROBAC®

Laboratory Report Number: M1J0978

Client Project ID: LHAAP

BATCH LOG SUMMARY
SECTION A1

Batch: B1J1574
Matrix: Aqueous
Method: EPA 6850

Prepared: 10/28/2021 2:21:00PM
Prepared By: CAS

Laboratory ID	Client / Source ID	Initial	Final						Spike(s)
B1J1574-BLK1		10.0 mL	10.0 mL						
B1J1574-BS1		10.0 mL	10.0 mL						1006965 200µL
M1J0978-02	16WW25-211014-FD	10.0 mL	10.0 mL						
M1J0978-03	16WW26-211014	10.0 mL	10.0 mL						
M1J0978-04	16WW30-211014	10.0 mL	10.0 mL						
M1J0978-05	16WW29-211014	10.0 mL	10.0 mL						
M1J0978-06	16WW29-211014-FD	10.0 mL	10.0 mL						
M1J0978-07	16WW55-211014	10.0 mL	10.0 mL						

Standards used in the batch:

Standard ID	Description	Date Prepared	Prepared By
1006965	6850/331 Perchlorate Alternate Solution (10 ppb)	8/11/2021 5:13:38PM	John Richards

Reagents used in the batch:

Reagent ID	Description	Prepared	Prepared By
1000181	6850/331 Column	1/8/2021 2:36:22PM	** Vendor **
1008665	0.45 um PTFE Syringe Filter	10/11/2021 10:46:38AM	Asa Timmons
1009215	0.1% Acetic Acid in Water	10/26/2021 8:46:45AM	Craig Smith
1009216	0.1% Acetic Acid in Acetonitrile	10/26/2021 8:48:32AM	Craig Smith

MICROBAC®

Laboratory Report Number: M1J0978

Client Project ID: LHAAP

SEQUENCE LOG SUMMARY
SECTION A2

Sequence: S1J0510
Instrument: LCMS2
Calibration: 21J0034

Analyst 1: CAS
Method: EPA 6850
SOP: HPLC06

#	File ID	Laboratory ID	Client ID	Analyzed	Reference	Standard
1	2LM031223	S1J0510-ICB1	Initial Cal Blank	10/28/21 15:10		
2	2LM031224	S1J0510-CAL1	Cal Standard	10/28/21 15:24		1007584
3	2LM031225	S1J0510-CAL2	Cal Standard	10/28/21 15:37		1007583
4	2LM031226	S1J0510-CAL3	Cal Standard	10/28/21 15:50		1007582
5	2LM031227	S1J0510-CAL4	Cal Standard	10/28/21 16:03		1007581
6	2LM031228	S1J0510-CAL5	Cal Standard	10/28/21 16:17		1007580
7	2LM031229	S1J0510-CAL6	Cal Standard	10/28/21 16:30		1007579
8	2LM031230	S1J0510-CAL7	Cal Standard	10/28/21 16:43		1007578
9	2LM031231	S1J0510-ICV1	Initial Cal Check	10/28/21 16:56		1006966
10	2LM031232	S1J0510-CCB1	Calibration Blank	10/28/21 17:10		
11	2LM031233	S1J0510-CCV1	Calibration Check	10/28/21 17:23		1007581
12	2LM031234	S1J0510-CRL1	Instrument RL Check	10/28/21 17:36		1007583
13	2LM031235	S1J0510-IFA1	Interference Check A	10/28/21 17:49		1006967
14	2LM031236	B1J1573-BLK1	Blank	10/28/21 18:03		
15	2LM031237	B1J1573-BS1	LCS	10/28/21 18:16		
16	2LM031238	B1J1573-MRL1	MRL Check	10/28/21 18:29		
24	2LM031245	S1J0510-CCV2	Calibration Check	10/28/21 20:02		1007581
25	2LM031246	S1J0510-CRL2	Instrument RL Check	10/28/21 20:15		1007583
26	2LM031247	S1J0510-CCB2	Calibration Blank	10/28/21 20:28		
36	2LM031258	S1J0510-CCV3	Calibration Check	10/28/21 22:54		1007581
37	2LM031259	S1J0510-CRL3	Instrument RL Check	10/28/21 23:07		1007583
38	2LM031260	S1J0510-CCB3	Calibration Blank	10/28/21 23:21		
42	2LM031264	M1J0978-01	16WW25-211014	10/29/21 00:14		
43	2LM031265	B1J1574-BLK1	Blank	10/29/21 00:27		
44	2LM031266	B1J1574-BS1	LCS	10/29/21 00:40		
45	2LM031267	M1J0978-02	16WW25-211014-FD	10/29/21 00:53		
46	2LM031268	M1J0978-03	16WW26-211014	10/29/21 01:07		
47	2LM031269	M1J0978-04	16WW30-211014	10/29/21 01:20		
48	2LM031270	M1J0978-05	16WW29-211014	10/29/21 01:33		
49	2LM031271	S1J0510-CCV4	Calibration Check	10/29/21 01:46		1007581
50	2LM031272	S1J0510-CRL4	Instrument RL Check	10/29/21 02:00		1007583
51	2LM031273	S1J0510-CCB4	Calibration Blank	10/29/21 02:13		
52	2LM031274	M1J0978-06	16WW29-211014-FD	10/29/21 02:26		

MICROBAC®

Laboratory Report Number: M1J0978
Client Project ID: LHAAP

SEQUENCE LOG SUMMARY
SECTION A2

Sequence: S1J0510 **Analyst 1:** CAS
Instrument: LCMS2 **Method:** EPA 6850
Calibration: 21J0034 **SOP:** HPLC06

#	File ID	Laboratory ID	Client ID	Analyzed	Reference	Standard
59	2LM031284	S1J0510-CCV5	Calibration Check	10/29/21 04:39		1007581
60	2LM031285	S1J0510-CRL5	Instrument RL Check	10/29/21 04:52		1007583
61	2LM031286	S1J0510-CCB5	Calibration Blank	10/29/21 05:05		
67	2LM031295	S1J0510-CCV6	Calibration Check	10/29/21 07:04		1007581
68	2LM031296	S1J0510-CRL6	Instrument RL Check	10/29/21 07:18		1007583
69	2LM031297	S1J0510-CCB6	Calibration Blank	10/29/21 07:31		

Sequence Standards

Standard ID	Description	Prepared	PreparedBy	Expires
1006966	6850/331 Perchlorate ICV (1 ppb)	08/11/2021	John Richards	08/11/2022
1006967	6850 Perchlorate Alternate 0.2 ppb MCT	08/11/2021	John Richards	08/11/2022
1007578	6850/331 ICAL STD @ 10 ppb	09/07/2021	Craig Smith	09/07/2022
1007579	6850/331 ICAL STD @ 5 ppb	09/07/2021	Craig Smith	09/07/2022
1007580	6850/331 ICAL STD @ 2 ppb	09/07/2021	Craig Smith	09/07/2022
1007581	6850/331 ICAL STD-CCV @ 1 ppb	09/07/2021	Craig Smith	09/07/2022
1007582	6850/331 ICAL STD @ 0.5 ppb	09/07/2021	Craig Smith	09/07/2022
1007583	6850/331 ICAL STD-MRL @ 0.2 ppb	09/07/2021	Craig Smith	09/07/2022
1007584	6850/331 ICAL STD @ 0.1 ppb	09/07/2021	Craig Smith	09/07/2022

Sequence Internal Standard

Standard ID	Description	Prepared	PreparedBy	Expires
1000597	6850/331 IS Working (5.0 ppb)	01/20/2021	Craig Smith	01/20/2022

MICROBAC®

Laboratory Report Number: M1J0978

Client Project ID: LHAAP

SEQUENCE LOG SUMMARY
SECTION A2

Sequence: S1J0523 **Analyst 1:** CAS
Instrument: LCMS2 **Method:** EPA 6850
Calibration: 21J0034 **SOP:** HPLC06

#	File ID	Laboratory ID	Client ID	Analyzed	Reference	Standard
1	2LM031298	S1J0523-CCB1	Calibration Blank	10/29/21 11:09		
2	2LM031299	S1J0523-CCV1	Calibration Check	10/29/21 11:22		1007581
3	2LM031300	S1J0523-CRL1	Instrument RL Check	10/29/21 11:36		1007583
5	2LM031302	M1J0978-07	16WW55-211014	10/29/21 12:02		
10	2LM031307	S1J0523-CCV2	Calibration Check	10/29/21 13:08		1007581
11	2LM031308	S1J0523-CRL2	Instrument RL Check	10/29/21 13:22		1007583
12	2LM031309	S1J0523-CCB2	Calibration Blank	10/29/21 13:35		

Sequence Standards

Standard ID	Description	Prepared	PreparedBy	Expires
1007581	6850/331 ICAL STD-CCV @ 1 ppb	09/07/2021	Craig Smith	09/07/2022
1007583	6850/331 ICAL STD-MRL @ 0.2 ppb	09/07/2021	Craig Smith	09/07/2022

Sequence Internal Standard

Standard ID	Description	Prepared	PreparedBy	Expires
1000597	6850/331 IS Working (5.0 ppb)	01/20/2021	Craig Smith	01/20/2022

MICROBAC®

Section B:
HPLC Organics
EPA 6850
Sample Raw Data

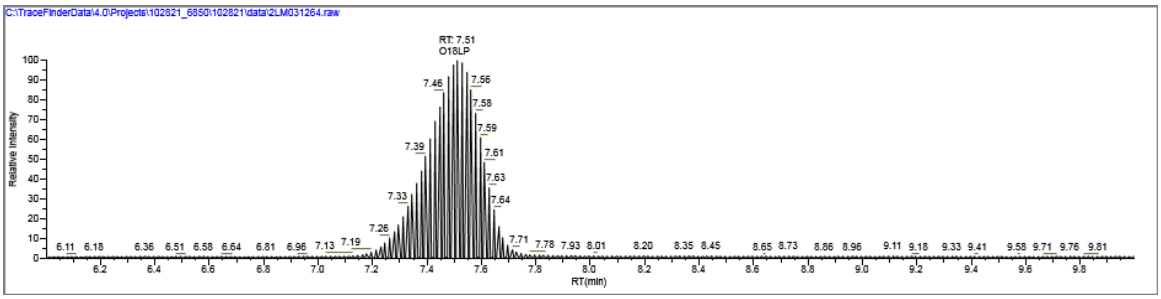
Microbac Laboratories, Inc.
158 Starlite Drive | Marietta, OH 45750 | 800.373.4071 | www.microbac.com

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 102821

Method: 102821_Perchlorate 6850
Perchlorate 6850
Cali File: 102821.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:D6	M1J0978-01	2LM031264	N/A	M1J0978-01	10/29/2021 12:14:08 AM	1:01



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.51	89	865157			5.000	ug/L	5.000	ug/L	

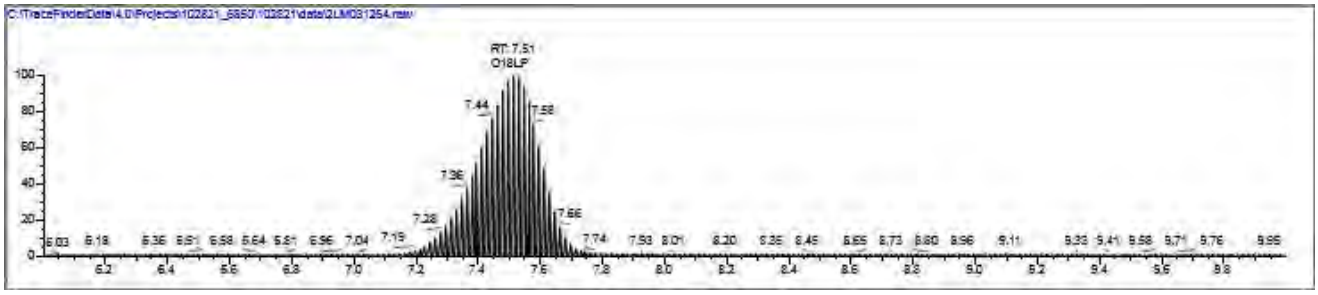
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.52	83	3525	Linear	0.004	0.037	ug/L	0.037	ug/L	I

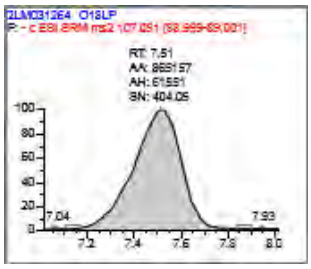
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

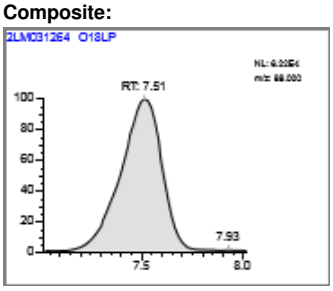
Data File:	2LM031264	Tune Report Date:	Tune report not found
Method:	102821_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	10/29/2021 12:14:08 AM
		Cali File Date:	10/29/2021 9:06:35 AM
Cali File:	102821.calx	Operator ID:	CAS
Sample ID:	M1J0978-01	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:D6
Comments:	1:01		



m/z 89.000



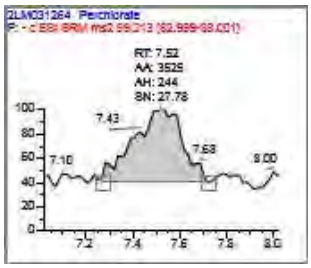
Composite:



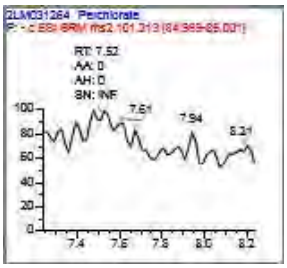
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.51	m/z 89.000	865157	5.000		N/A

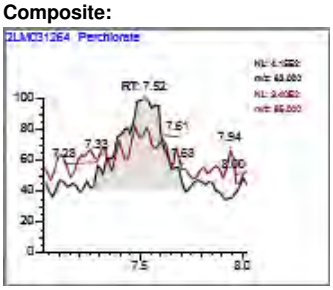
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio	
			N/A			
7.52	m/z 83.000	3525	0.037		N/A	I
7.52	m/z 85.000			26.30 - 39.45	*	

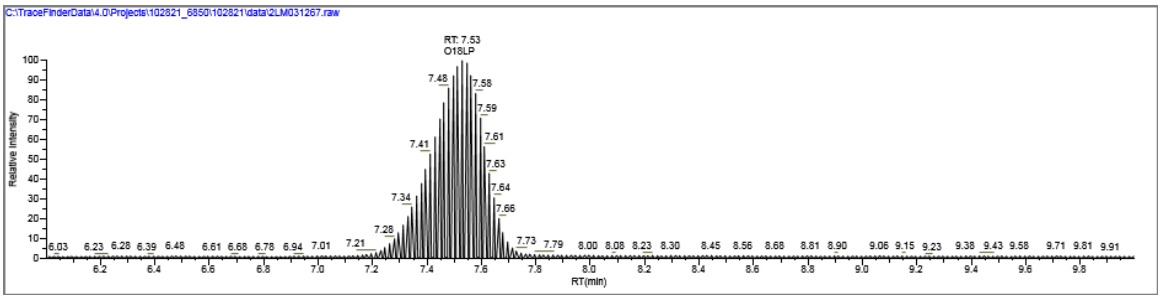
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 102821

Method: 102821_Perchlorate 6850
Perchlorate 6850
Cali File: 102821.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:D7	M1J0978-02	2LM031267	N/A	M1J0978-02	10/29/2021 12:53:53 AM	1:01



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.53	89	908960			5.000	ug/L	5.000	ug/L	

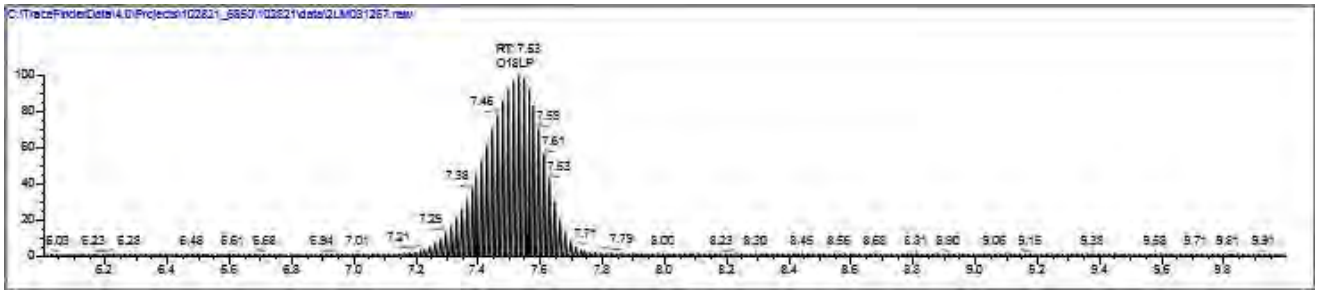
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.57	83	3508	Linear	0.004	0.036	ug/L	0.036	ug/L	I

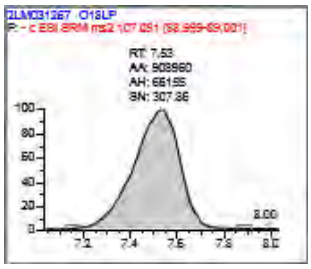
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

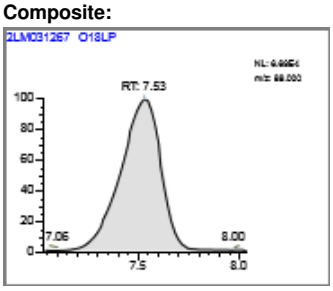
Data File:	2LM031267	Tune Report Date:	Tune report not found
Method:	102821_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	10/29/2021 12:53:53 AM
		Cali File Date:	10/29/2021 9:06:35 AM
Cali File:	102821.calx	Operator ID:	CAS
Sample ID:	M1J0978-02	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:D7
Comments:	1:01		



m/z 89.000



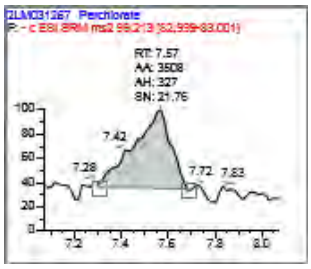
Composite:



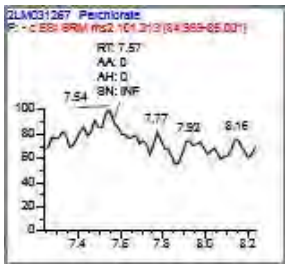
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.53	m/z 89.000	908960	5.000		N/A

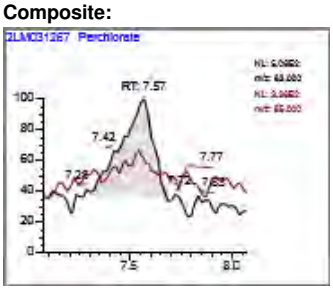
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio	
			N/A			
7.57	m/z 83.000	3508	0.036		N/A	I
7.57	m/z 85.000			26.30 - 39.45		*

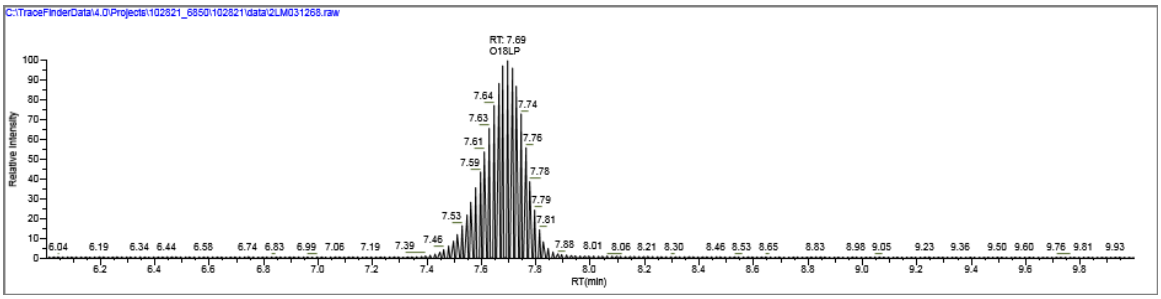
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 102821

Method: 102821_Perchlorate 6850
Perchlorate 6850
Cali File: 102821.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:D8	M1J0978-03	2LM031268	N/A	M1J0978-03	10/29/2021 1:07:08 AM	1:01



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.69	89	1049328			5.000	ug/L	5.000	ug/L	

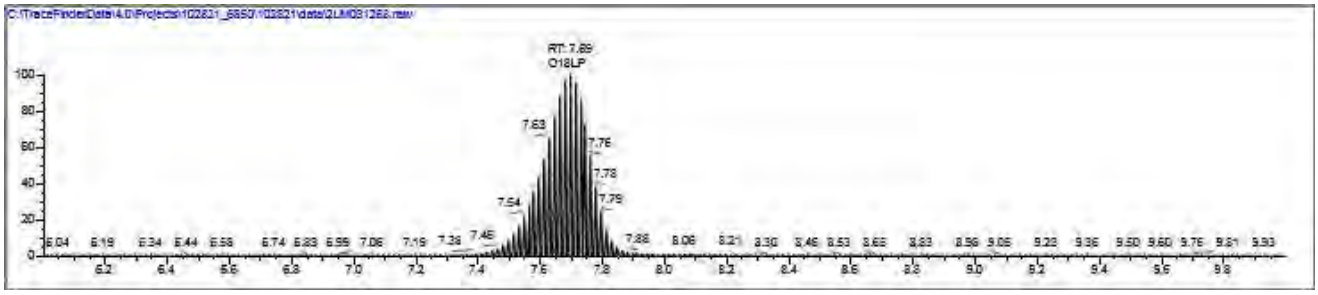
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.7	83	3200	Linear	0.003	0.032	ug/L	0.032	ug/L	I

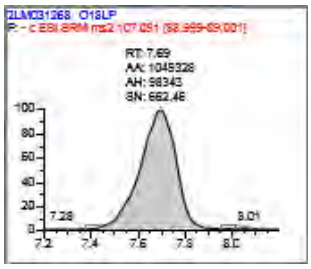
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

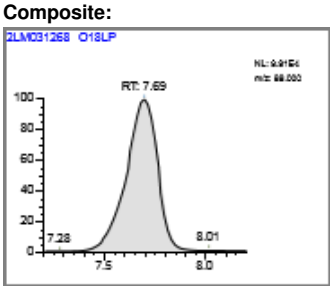
Data File:	2LM031268	Tune Report Date:	Tune report not found
Method:	102821_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	10/29/2021 1:07:08 AM
		Cali File Date:	10/29/2021 9:06:35 AM
Cali File:	102821.calx	Operator ID:	CAS
Sample ID:	M1J0978-03	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:D8
Comments:	1:01		



m/z 89.000



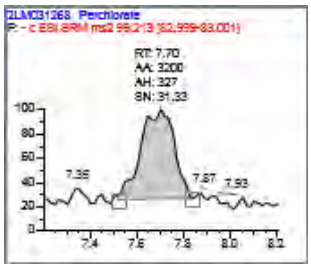
Composite:



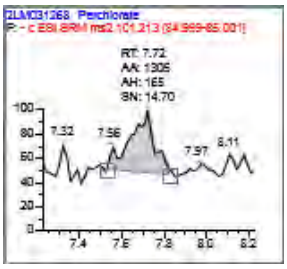
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio	
			N/A			
7.69	m/z 89.000	1049328	5.000		N/A	

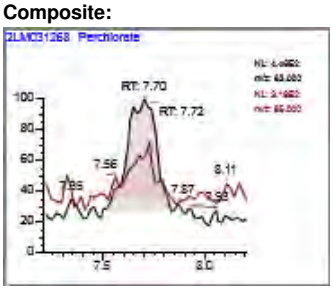
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio	
			N/A			
7.70	m/z 83.000	3200	0.032		N/A	I
7.72	m/z 85.000	1305		26.30 - 39.45	40.79 *	

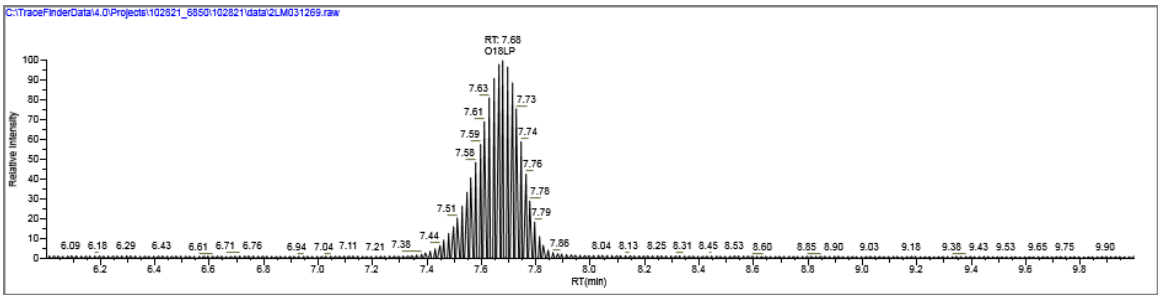
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 102821

Method: 102821_Perchlorate 6850 Perchlorate 6850
Cali File: 102821.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:D9	M1J0978-04	2LM031269	N/A	M1J0978-04	10/29/2021 1:20:23 AM	1:01



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.68	89	805385			5.000	ug/L	5.000	ug/L	

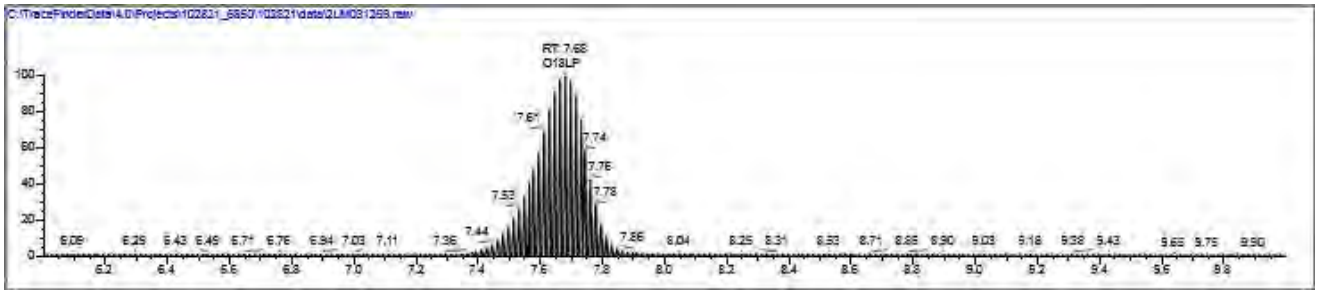
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.67	83	2229	Linear	0.003	0.03	ug/L	0.03	ug/L	

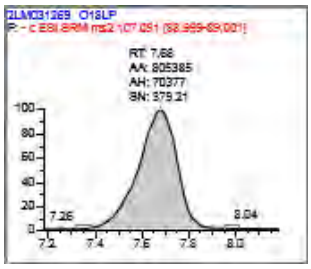
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

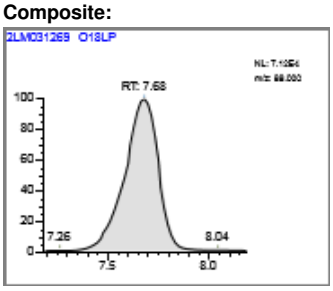
Data File:	2LM031269	Tune Report Date:	Tune report not found
Method:	102821_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	10/29/2021 1:20:23 AM
		Cali File Date:	10/29/2021 9:06:35 AM
Cali File:	102821.calx	Operator ID:	CAS
Sample ID:	M1J0978-04	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:D9
Comments:	1:01		



m/z 89.000



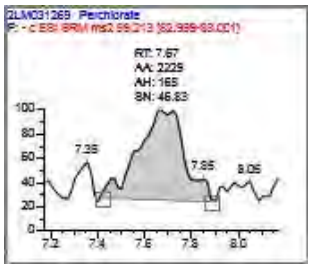
Composite:



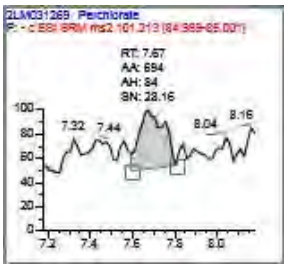
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.68	m/z 89.000	805385	5.000		N/A

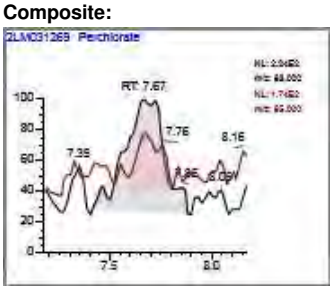
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.67	m/z 83.000	2229	0.030		N/A
7.67	m/z 85.000	694		26.30 - 39.45	31.13

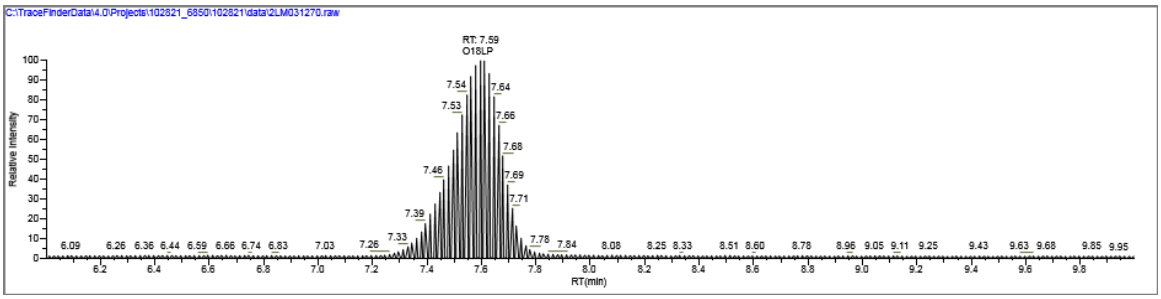
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 102821

Method: 102821_Perchlorate 6850 Perchlorate 6850
Cali File: 102821.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:E1	M1J0978-05	2LM031270	N/A	M1J0978-05	10/29/2021 1:33:38 AM	1:01



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.59	89	850358			5.000	ug/L	5.000	ug/L	

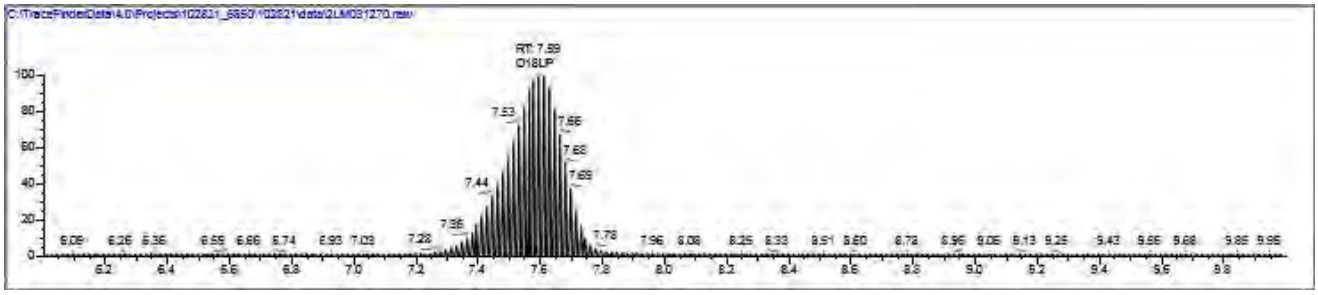
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.58	83	1267	Linear	0.001	0.023	ug/L	0.023	ug/L	I

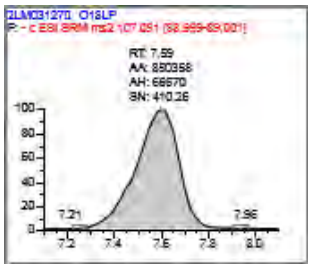
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

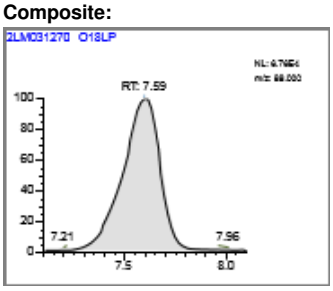
Data File:	2LM031270	Tune Report Date:	Tune report not found
Method:	102821_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	10/29/2021 1:33:38 AM
		Cali File Date:	10/29/2021 9:06:35 AM
Cali File:	102821.calx	Operator ID:	CAS
Sample ID:	M1J0978-05	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:E1
Comments:	1:01		



m/z 89.000



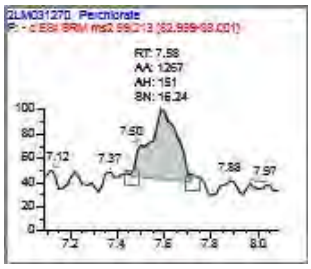
Composite:



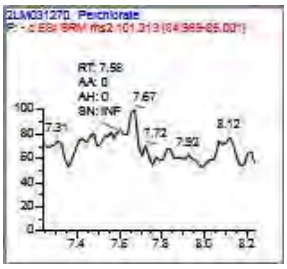
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.59	m/z 89.000	850358	5.000		N/A

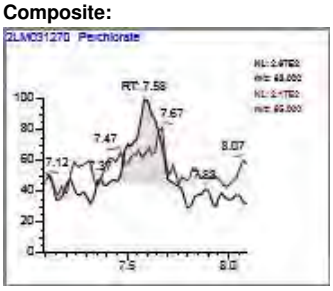
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio	
			N/A			
7.58	m/z 83.000	1267	0.023		N/A	I
7.58	m/z 85.000			26.30 - 39.45	*	

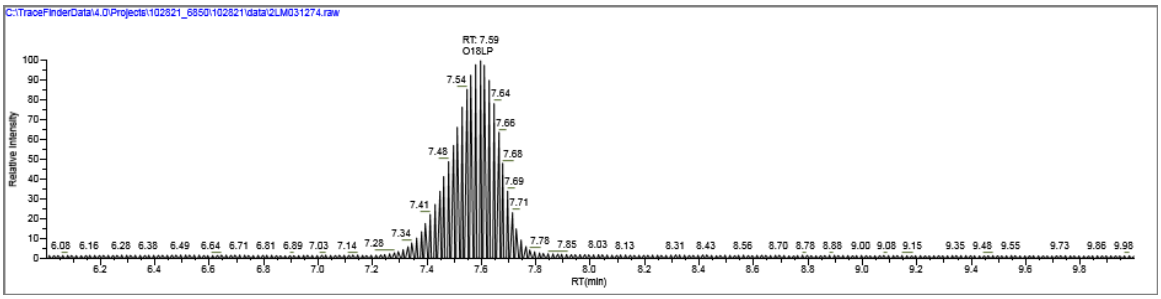
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 102821

Method: 102821_Perchlorate 6850
Perchlorate 6850
Cali File: 102821.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:E2	M1J0978-06	2LM031274	N/A	M1J0978-06	10/29/2021 2:26:37 AM	1:01



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.59	89	875033			5.000	ug/L	5.000	ug/L	

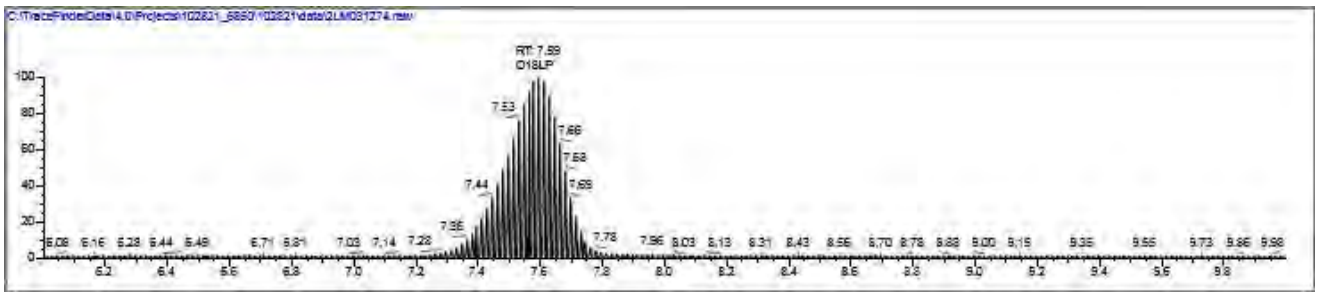
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	N/F	N/F	N/F	Linear	0.000	N/F	ug/L	N/F	ug/L	

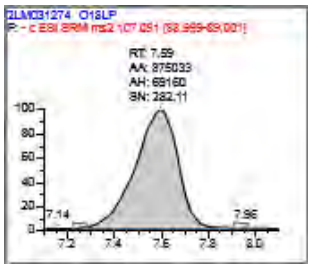
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

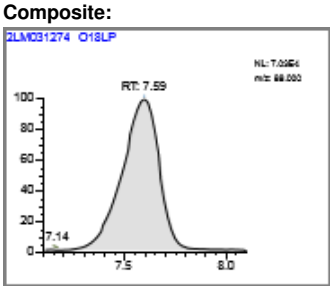
Data File:	2LM031274	Tune Report Date:	Tune report not found
Method:	102821_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	10/29/2021 2:26:37 AM
		Cali File Date:	10/29/2021 9:06:35 AM
Cali File:	102821.calx	Operator ID:	CAS
Sample ID:	M1J0978-06	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:E2
Comments:	1:01		



m/z 89.000



Composite:



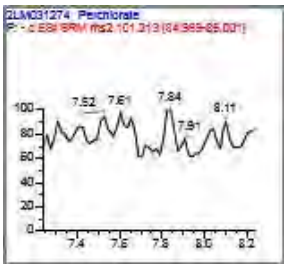
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.59	m/z 89.000	875033	5.000		N/A

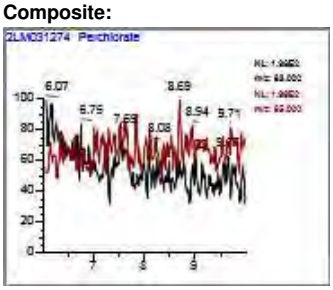
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
			Compound Not Found		
0.00	m/z 83.000 m/z 85.000		N/A		

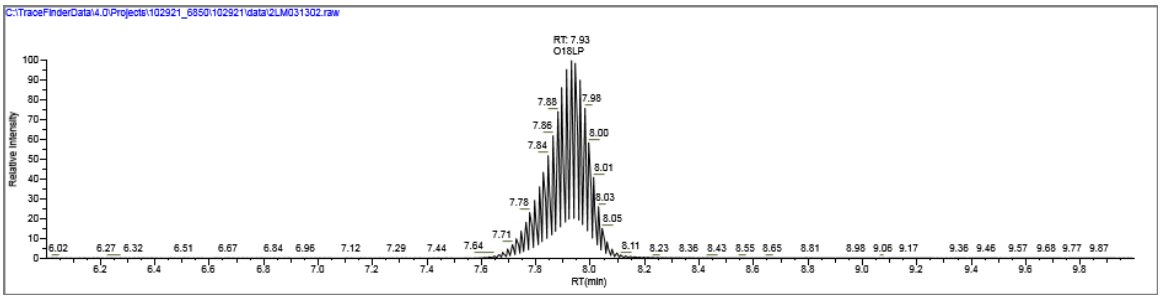
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: TSQ_Quantiva
Batch: 102921

Method: 102921_Perchlorate 6850
Perchlorate 6850
Cali File: 102821_102921.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
G:F2	M1J0978-07@100	2LM031302	N/A	M1J0978-07@100	10/29/2021 12:02:45 PM	1:100



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.93	89	1128188			5.000	ug/L	5.000	ug/L	

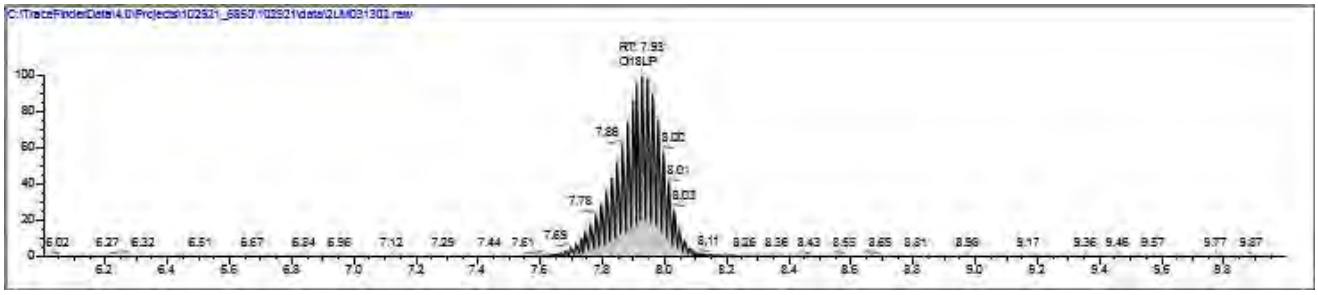
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.93	83	711521	Linear	0.631	3.629	ug/L	3.629	ug/L	

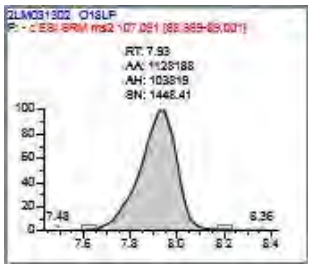
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

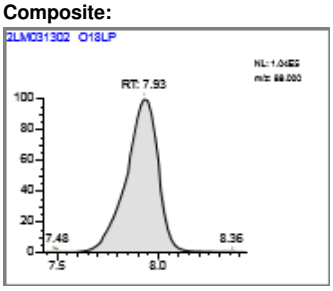
Data File:	2LM031302	Tune Report Date:	Tune report not found
Method:	102921_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	10/29/2021 12:02:45 PM
		Cali File Date:	10/29/2021 9:06:35 AM
Cali File:	102821_102921.calx	Operator ID:	TSQ_Quantiva
Sample ID:	M1J0978-07@100	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	G:F2
Comments:	1:100		



m/z 89.000



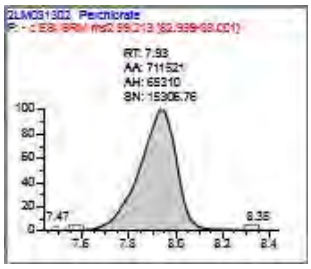
Composite:



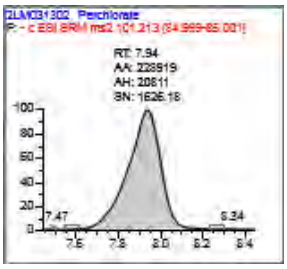
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.93	m/z 89.000	1128188	5.000		N/A

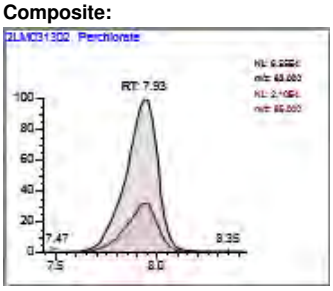
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.93	m/z 83.000	711521	3.629		N/A
7.94	m/z 85.000	228919		25.89 - 38.83	32.17

Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

MICROBAC®

Section C:
HPLC Organics
EPA 6850
QC Sample Raw Data

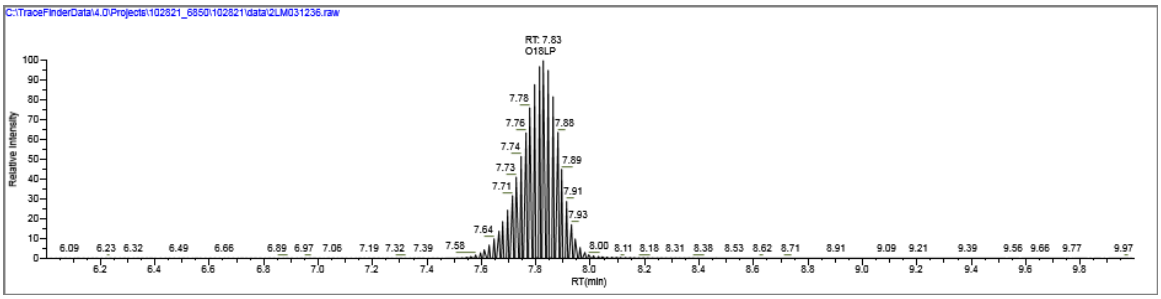
Microbac Laboratories, Inc.
158 Starlite Drive | Marietta, OH 45750 | 800.373.4071 | www.microbac.com

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 102821

Method: 102821_Perchlorate 6850 Perchlorate 6850
Cali File: 102821.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:B2	B1J1573-BLK1	2LM031236	N/A	BLANK	10/28/2021 6:03:09 PM	1:01



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.83	89	1719059			5.000	ug/L	5.000	ug/L	

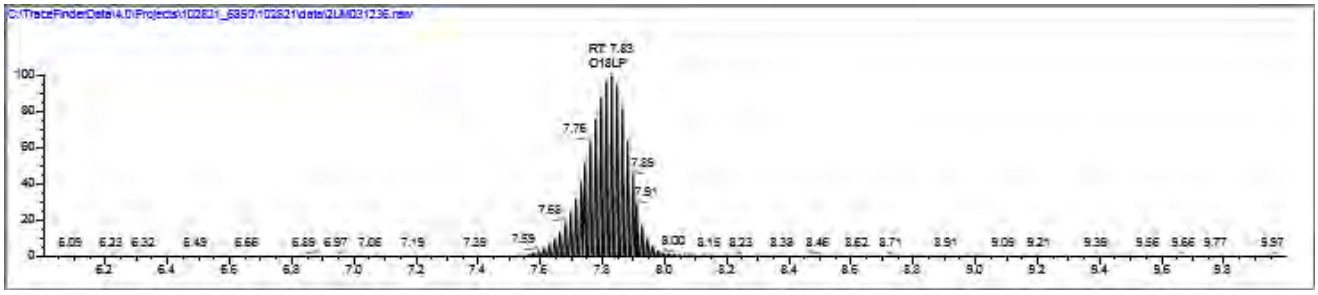
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.82	83	5196	Linear	0.003	0.031	ug/L	0.031	ug/L	

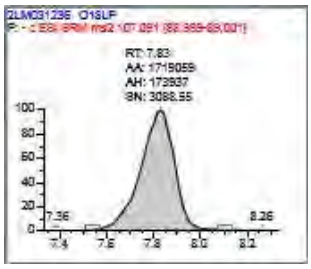
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

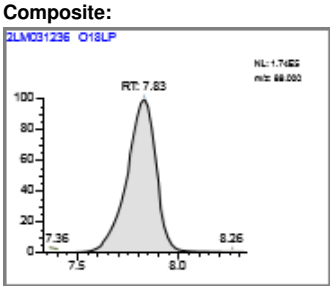
Data File:	2LM031236	Tune Report Date:	Tune report not found
Method:	102821_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	10/28/2021 6:03:09 PM
		Cali File Date:	10/29/2021 9:06:35 AM
Cali File:	102821.calx	Operator ID:	CAS
Sample ID:	B1J1573-BLK1	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:B2
Comments:	1:01		



m/z 89.000



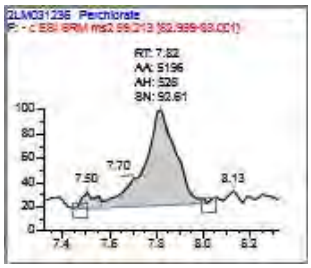
Composite:



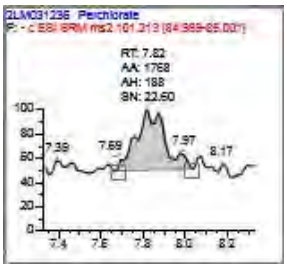
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.83	m/z 89.000	1719059	5.000		N/A

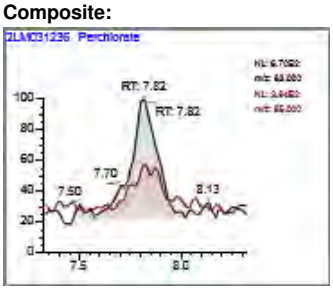
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.82	m/z 83.000	5196	0.031		N/A
7.82	m/z 85.000	1768		26.30 - 39.45	34.03

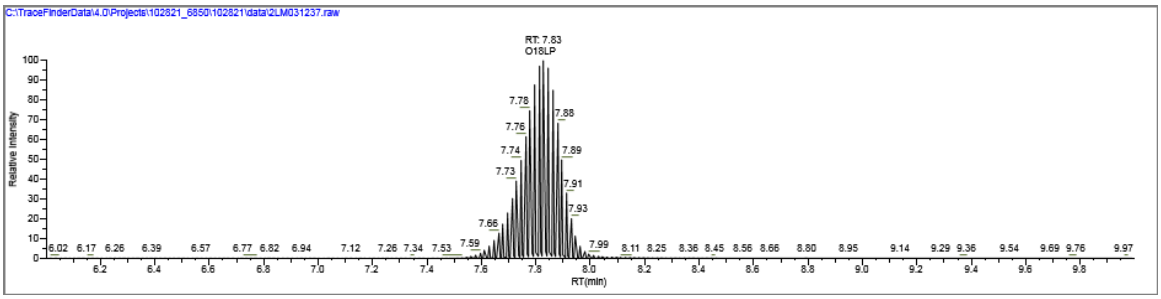
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 102821

Method: 102821_Perchlorate 6850 Perchlorate 6850
Cali File: 102821.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:B3	B1J1573-BS1	2LM031237	N/A	LCS (0.2ug/L)	10/28/2021 6:16:23 PM	1:1 0012474



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.83	89	1717089			5.000	ug/L	5.000	ug/L	

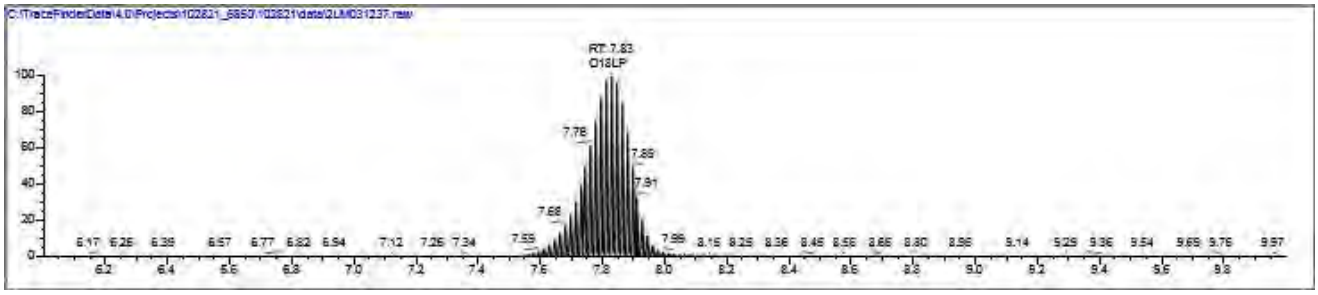
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.83	83	57586	Linear	0.034	0.206	ug/L	0.206	ug/L	

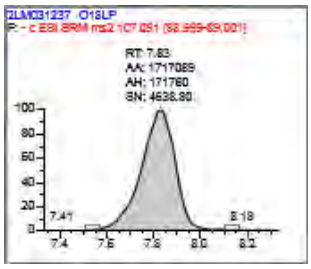
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

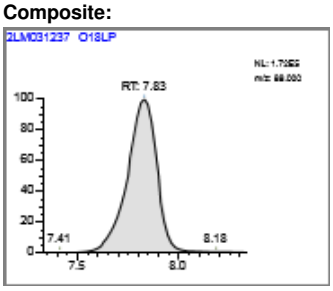
Data File:	2LM031237	Tune Report Date:	Tune report not found
Method:	102821_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	10/28/2021 6:16:23 PM
		Cali File Date:	10/29/2021 9:06:35 AM
Cali File:	102821.calx	Operator ID:	CAS
Sample ID:	B1J1573-BS1	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:B3
Comments:	1:1 0012474		



m/z 89.000



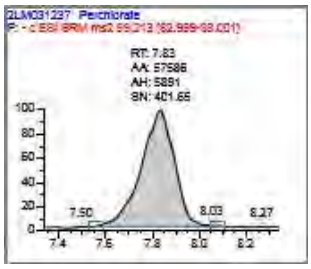
Composite:



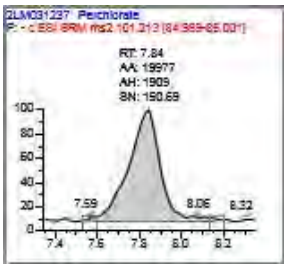
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.83	m/z 89.000	1717089	5.000		N/A

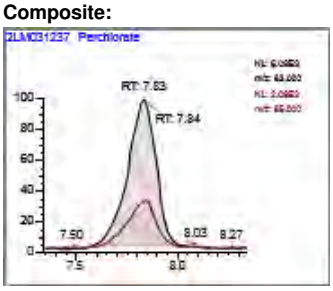
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.83	m/z 83.000	57586	0.206		N/A
7.84	m/z 85.000	19977		26.30 - 39.45	34.69

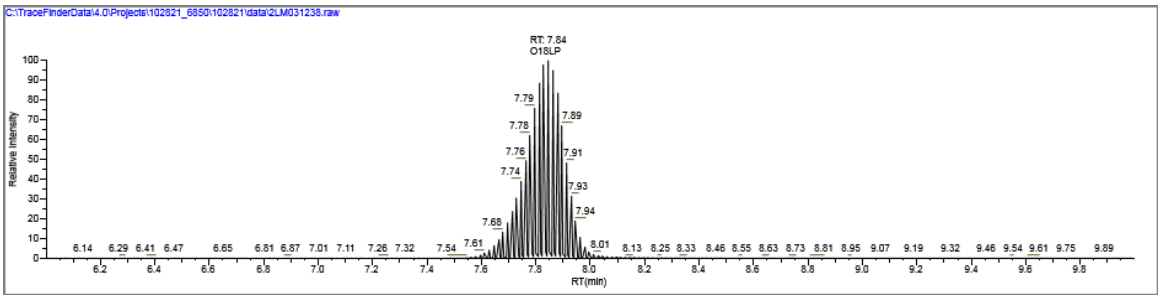
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 102821

Method: 102821_Perchlorate 6850 Perchlorate 6850
Cali File: 102821.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:B4	B1J1573-MRL1	2LM031238	N/A	LOQ (0.2ug/L)	10/28/2021 6:29:38 PM	1:01



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.84	89	1782991			5.000	ug/L	5.000	ug/L	

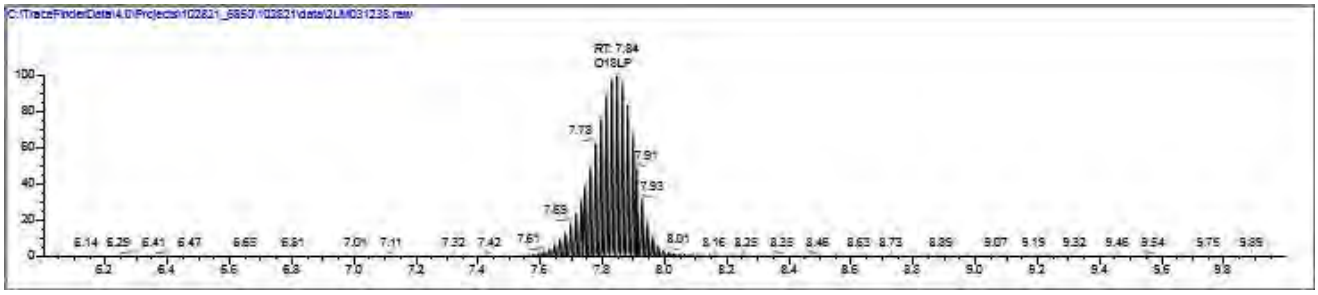
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.85	83	60164	Linear	0.034	0.208	ug/L	0.208	ug/L	

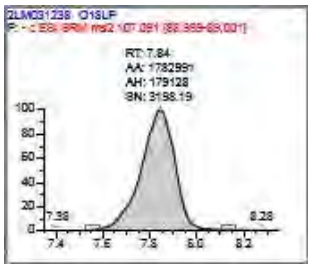
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

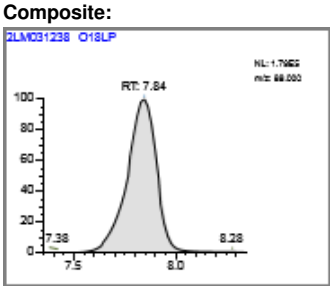
Data File:	2LM031238	Tune Report Date:	Tune report not found
Method:	102821_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	10/28/2021 6:29:38 PM
		Cali File Date:	10/29/2021 9:06:35 AM
Cali File:	102821.calx	Operator ID:	CAS
Sample ID:	B1J1573-MRL1	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:B4
Comments:	1:01		



m/z 89.000



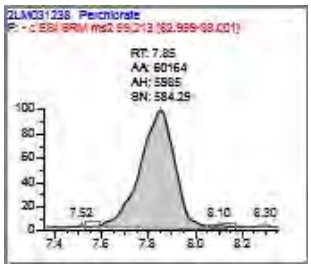
Composite:



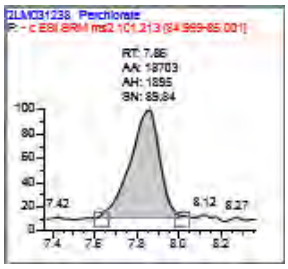
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.84	m/z 89.000	1782991	5.000		N/A

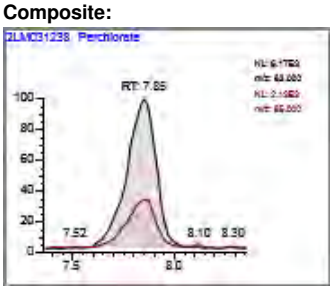
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.85	m/z 83.000	60164	0.208		N/A
7.86	m/z 85.000	18703		26.30 - 39.45	31.09

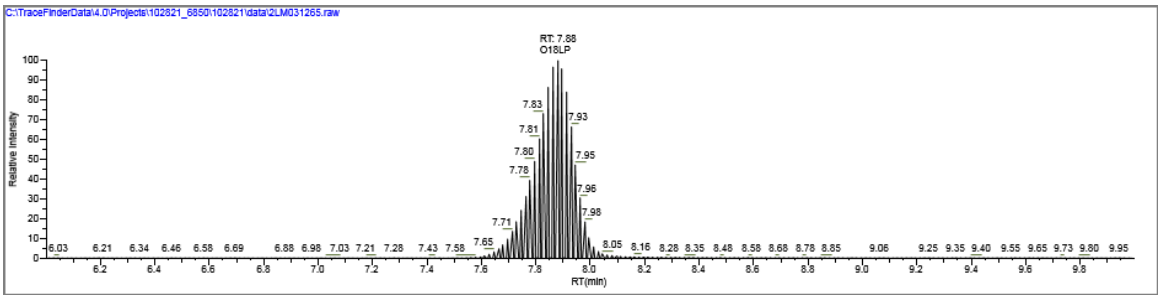
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 102821

Method: 102821_Perchlorate 6850 Perchlorate 6850
Cali File: 102821.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:B2	B1J1574-BLK1	2LM031265	N/A	BLANK	10/29/2021 12:27:24 AM	1:01



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.88	89	1289719			5.000	ug/L	5.000	ug/L	

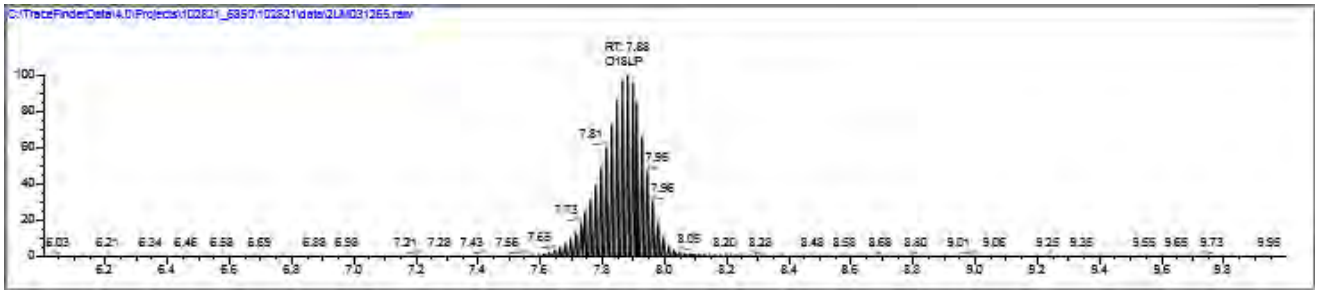
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.9	83	3473	Linear	0.003	0.03	ug/L	0.03	ug/L	I

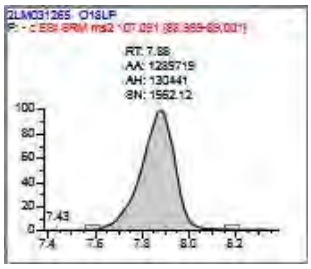
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

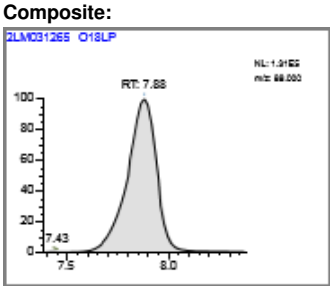
Data File:	2LM031265	Tune Report Date:	Tune report not found
Method:	102821_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	10/29/2021 12:27:24 AM
		Cali File Date:	10/29/2021 9:06:35 AM
Cali File:	102821.calx	Operator ID:	CAS
Sample ID:	B1J1574-BLK1	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:B2
Comments:	1:01		



m/z 89.000



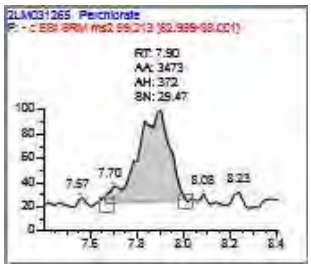
Composite:



O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.88	m/z 89.000	1289719	5.000		N/A

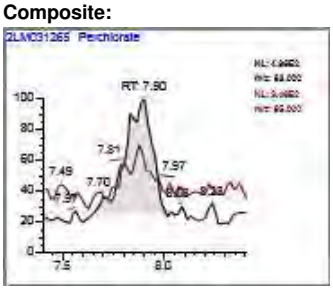
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio	
			N/A			
7.90	m/z 83.000	3473	0.030		N/A	I
7.90	m/z 85.000			26.30 - 39.45		*

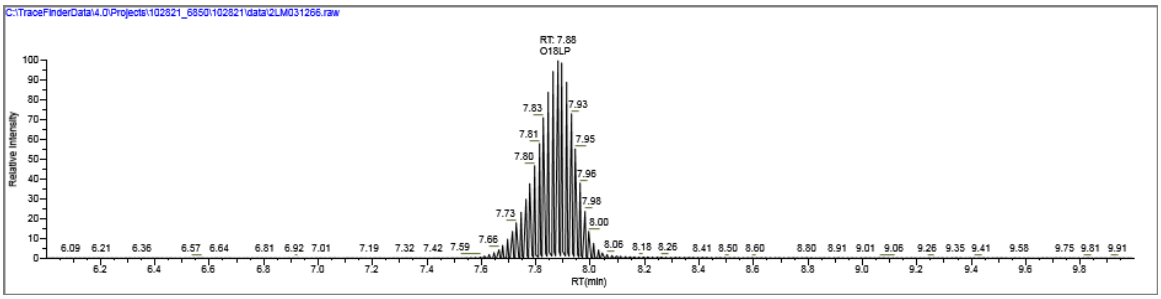
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 102821

Method: 102821_Perchlorate 6850 Perchlorate 6850
Cali File: 102821.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:B3	B1J1574-BS1	2LM031266	N/A	LCS (0.2ug/L)	10/29/2021 12:40:37 AM	1:01



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.88	89	1329597			5.000	ug/L	5.000	ug/L	

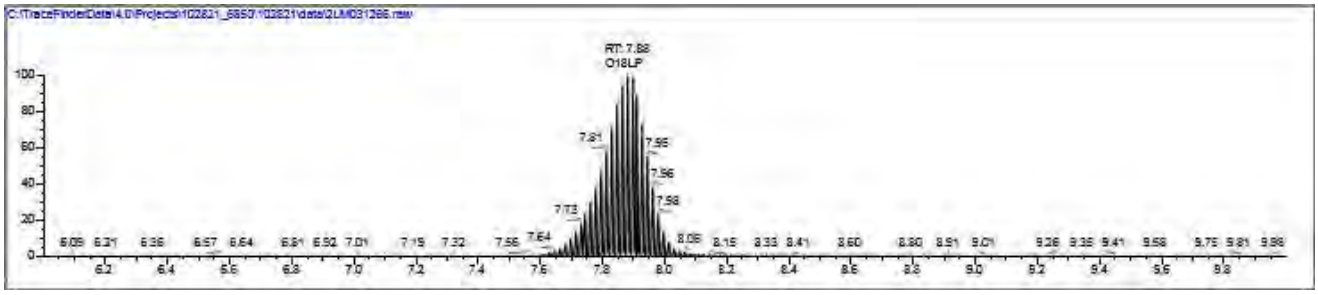
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.88	83	45667	Linear	0.034	0.211	ug/L	0.211	ug/L	

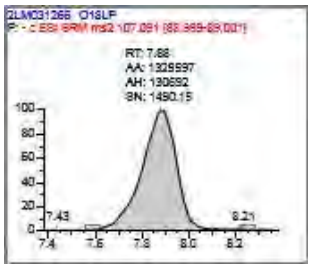
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

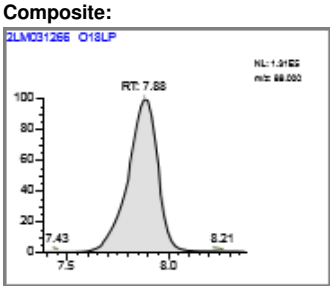
Data File:	2LM031266	Tune Report Date:	Tune report not found
Method:	102821_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	10/29/2021 12:40:37 AM
		Cali File Date:	10/29/2021 9:06:35 AM
Cali File:	102821.calx	Operator ID:	CAS
Sample ID:	B1J1574-BS1	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:B3
Comments:	1:01		



m/z 89.000



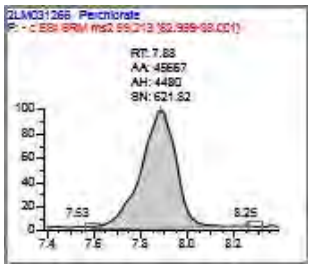
Composite:



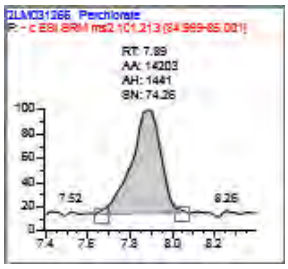
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.88	m/z 89.000	1329597	5.000		N/A

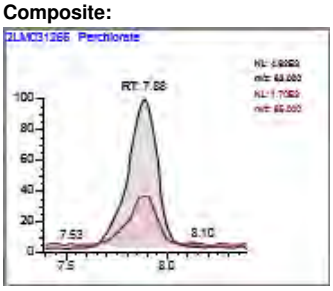
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.88	m/z 83.000	45667	0.211		N/A
7.89	m/z 85.000	14203		26.30 - 39.45	31.1

Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

MICROBAC®

Section D:
HPLC Organics
EPA 6850
Calibration Raw Data

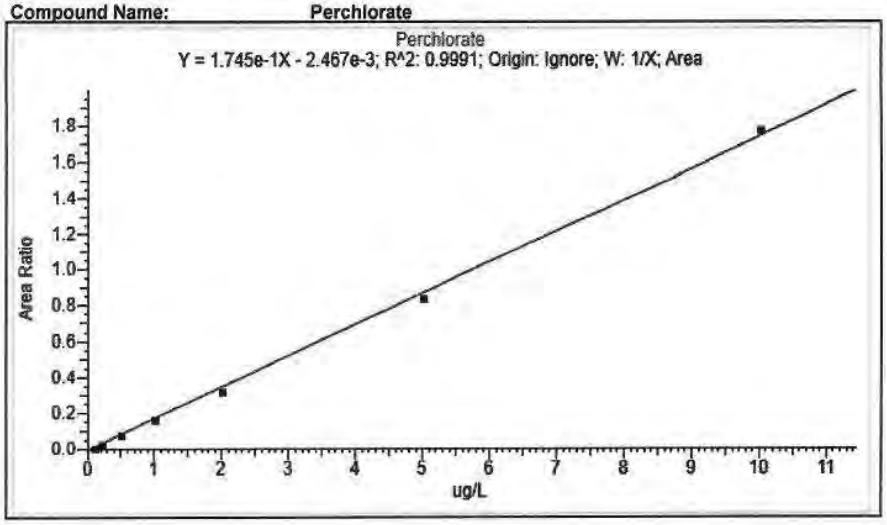
Microbac Laboratories, Inc.
158 Starlite Drive | Marietta, OH 45750 | 800.373.4071 | www.microbac.com

Compound Calibration Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 102821.00

Method: 102821_Perchlorate 6850
Perchlorate 6850
Cali File: 102821.calx

Compound Name: Perchlorate



Linear
Pass

Level	Std Amount	Std Area	IS Amount	IS Area	Resp factor/ ratio	Calc Amount	Units	% CV	% RSD
1	0.1	26495	5	1661900	0.016	0.106	ug/L	N/A	N/A
2	0.2	55643	5	1670033	0.033	0.205	ug/L	N/A	N/A
3	0.5	141805	5	1708009	0.083	0.49	ug/L	N/A	N/A
4	1	295153	5	1730800	0.171	0.992	ug/L	N/A	N/A
5	2	563232	5	1711825	0.329	1.9	ug/L	N/A	N/A
6	5	1363180	5	1609989	0.847	4.867	ug/L	N/A	N/A
7	10	2528538	5	1417293	1.784	10.24	ug/L	N/A	N/A

Bordered cell = Manually Integrated; Calibration flags: D=RSD; F=Response factor; R=R Squared; A=Amount.

Compound Calibration Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 102821.00

Method: 102821_Perchlorate 6850 Perchlorate 6850
Cali File: 102821.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A2	S1J0510-CAL1	2LM031224	1	CAL STD 1	10/28/2021 3:24:10 PM	1:1 0012469
R:A3	S1J0510-CAL2	2LM031225	2	CAL STD 2	10/28/2021 3:37:25 PM	1:1 0012468
R:A4	S1J0510-CAL3	2LM031226	3	CAL STD 3	10/28/2021 3:50:39 PM	1:1 0012467
R:A5	S1J0510-CAL4	2LM031227	4	CAL STD 4	10/28/2021 4:03:55 PM	1:1 0012466
R:A6	S1J0510-CAL5	2LM031228	5	CAL STD 5	10/28/2021 4:17:10 PM	1:1 0012465
R:A7	S1J0510-CAL6	2LM031229	6	CAL STD 6	10/28/2021 4:30:25 PM	1:1 0012464
R:A8	S1J0510-CAL7	2LM031230	7	CAL STD 7	10/28/2021 4:43:40 PM	1:1 0012463

Bordered cell = Manually Integrated; Calibration flags: D=RSD; F=Response factor; R=R Squared; A=Amount.

Data Review Report

Printed: 10/29/2021 11:28 am

Analysis	Analyte	CalResult	True Value	% D	% Rec
Lab ID: S1J0510-CAL1 Cal Standard					
6850 Perchlorate	Perchlorate	0.11	0.10000	5.52	105.52
6850 Perchlorate DOD	Perchlorate	0.11	0.10000	5.52	105.52
Lab ID: S1J0510-CAL2 Cal Standard					
6850 Perchlorate	Perchlorate	0.21	0.20000	2.56	102.56
6850 Perchlorate DOD	Perchlorate	0.21	0.20000	2.56	102.56
Lab ID: S1J0510-CAL3 Cal Standard					
6850 Perchlorate	Perchlorate	0.49	0.50000	-2.00	98.01
6850 Perchlorate DOD	Perchlorate	0.49	0.50000	-2.00	98.01
Lab ID: S1J0510-CAL4 Cal Standard					
6850 Perchlorate	Perchlorate	0.99	1.0000	-0.84	99.16
6850 Perchlorate DOD	Perchlorate	0.99	1.0000	-0.84	99.16
Lab ID: S1J0510-CAL5 Cal Standard					
6850 Perchlorate	Perchlorate	1.90	2.0000	-5.00	95.00
6850 Perchlorate DOD	Perchlorate	1.90	2.0000	-5.00	95.00
Lab ID: S1J0510-CAL6 Cal Standard					
6850 Perchlorate	Perchlorate	4.87	5.0000	-2.65	97.35
6850 Perchlorate DOD	Perchlorate	4.87	5.0000	-2.65	97.35
Lab ID: S1J0510-CAL7 Cal Standard					
6850 Perchlorate	Perchlorate	10.24	10.000	2.40	102.40
6850 Perchlorate DOD	Perchlorate	10.24	10.000	2.40	102.40

MICROBAC®

Section E:
HPLC Organics
EPA 6850
Sequence QC Sample Raw Data

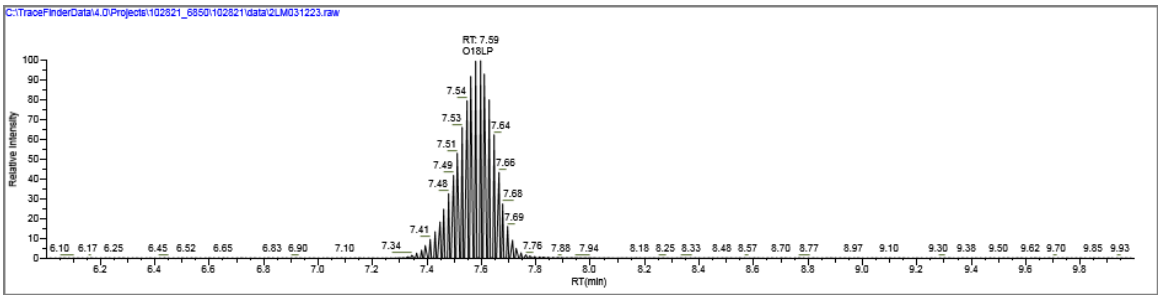
Microbac Laboratories, Inc.
158 Starlite Drive | Marietta, OH 45750 | 800.373.4071 | www.microbac.com

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 102821

Method: 102821_Perchlorate 6850 Perchlorate 6850
Cali File: 102821.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A1	S1J0510-ICB1	2LM031223	N/A	CCB	10/28/2021 3:10:56 PM	1:01



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.59	89	1680592			5.000	ug/L	5.000	ug/L	

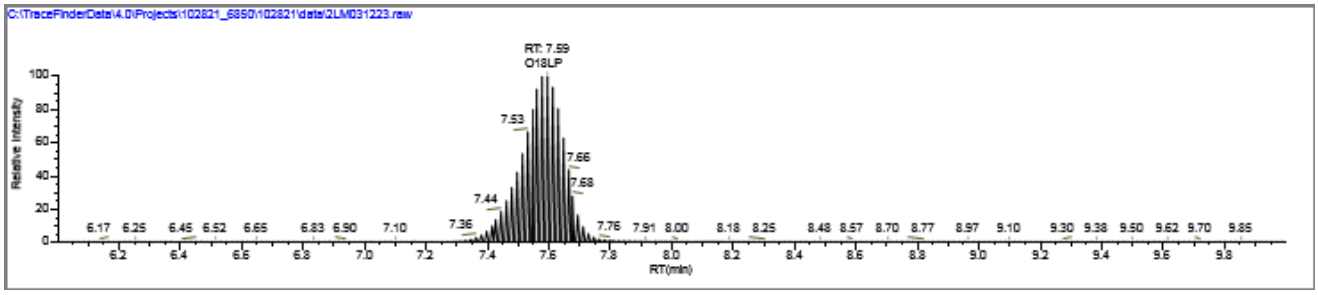
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.6	83	3111	Linear	0.002	0.025	ug/L	0.025	ug/L	

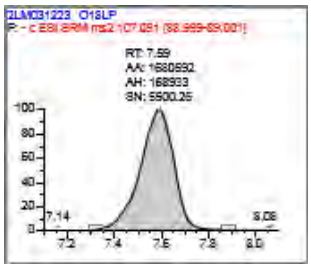
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

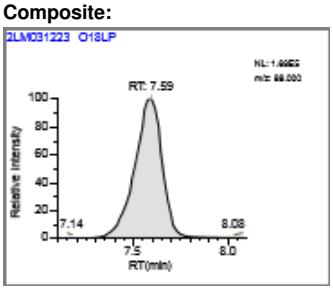
Data File:	2LM031223	Tune Report Date:	Tune report not found
Method:	102821_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	10/28/2021 3:10:56 PM
		Cali File Date:	10/29/2021 9:06:35 AM
Cali File:	102821.calx	Operator ID:	CAS
Sample ID:	S1J0510-ICB1	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:A1
Comments:	1:01		



m/z 89.000



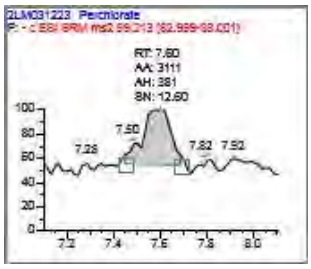
Composite:



O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.59	m/z 89.000	1680592	5.000		N/A

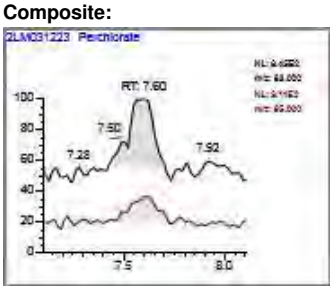
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.60	m/z 83.000	3111	0.025		N/A
7.61	m/z 85.000	1226		26.30 - 39.45	39.41

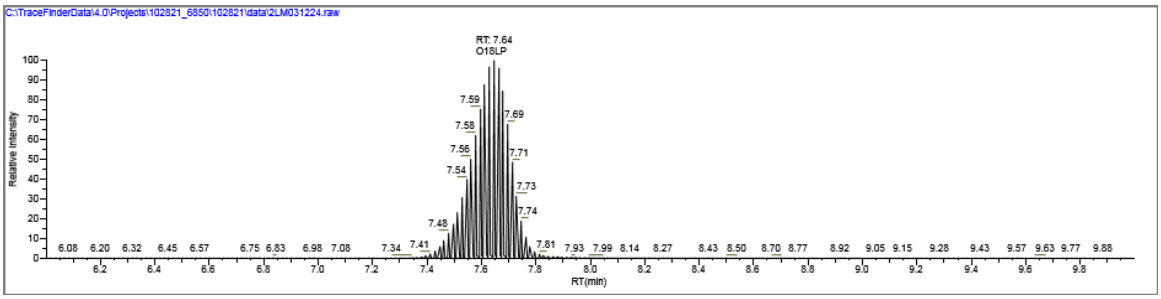
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 102821

Method: 102821_Perchlorate 6850 Perchlorate 6850
Cali File: 102821.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A2	S1J0510-CAL1	2LM031224	1	CAL STD 1	10/28/2021 3:24:10 PM	1:1 0012469



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.64	89	1661900			5.000	ug/L	5.000	ug/L	

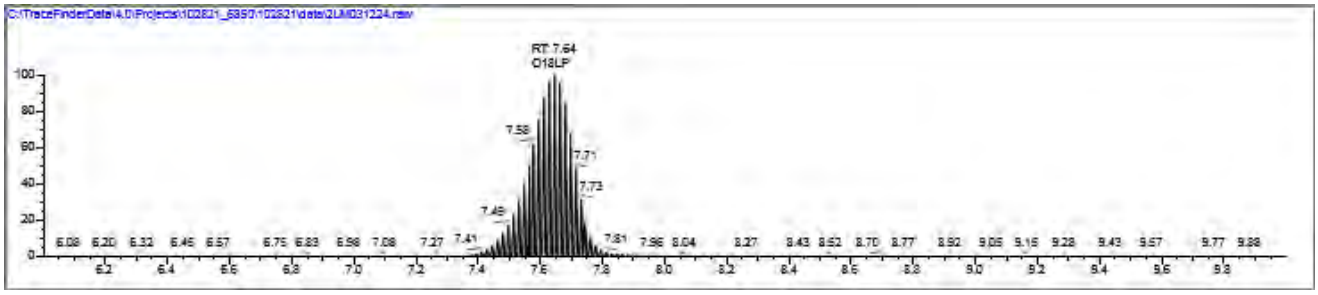
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.63	83	26495	Linear	0.016	0.106	ug/L	0.106	ug/L	

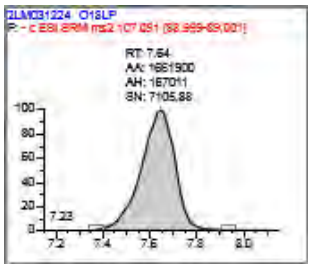
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

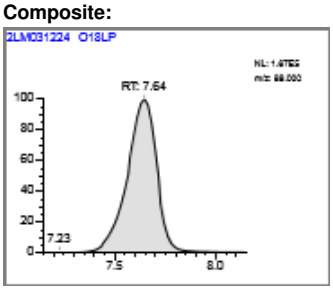
Data File:	2LM031224	Tune Report Date:	Tune report not found
Method:	102821_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	10/28/2021 3:24:10 PM
		Cali File Date:	10/29/2021 9:06:35 AM
Cali File:	102821.calx	Operator ID:	CAS
Sample ID:	S1J0510-CAL1	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:A2
Comments:	1:1 0012469		



m/z 89.000



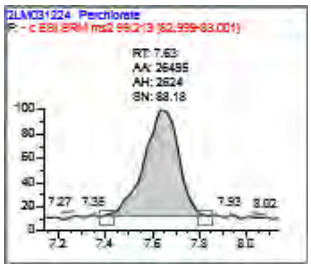
Composite:



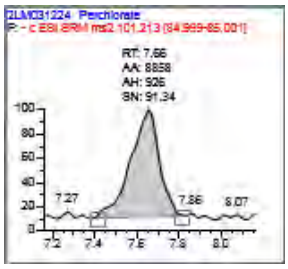
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.64	m/z 89.000	1661900	5.000		N/A

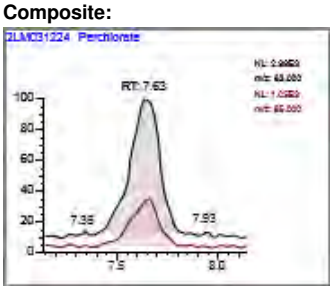
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			Cal: 0.100	0.080 - 2.100	
7.63	m/z 83.000	26495	0.106		N/A
7.66	m/z 85.000	8858		26.30 - 39.45	33.43

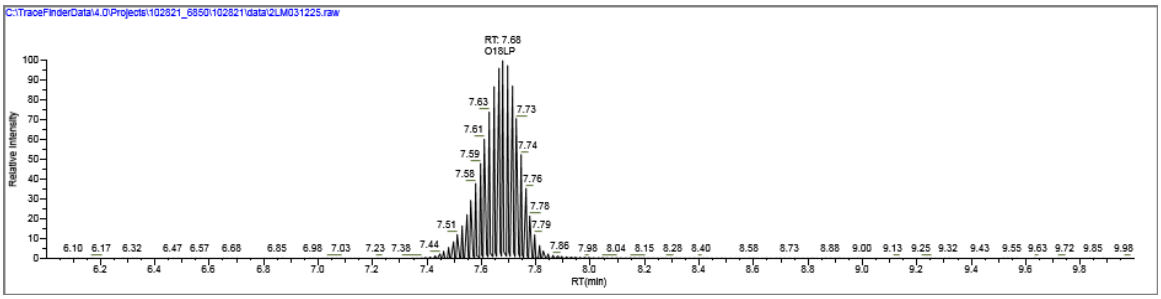
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 102821

Method: 102821_Perchlorate 6850 Perchlorate 6850
Cali File: 102821.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A3	S1J0510-CAL2	2LM031225	2	CAL STD 2	10/28/2021 3:37:25 PM	1:1 0012468



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.68	89	1670033			5.000	ug/L	5.000	ug/L	

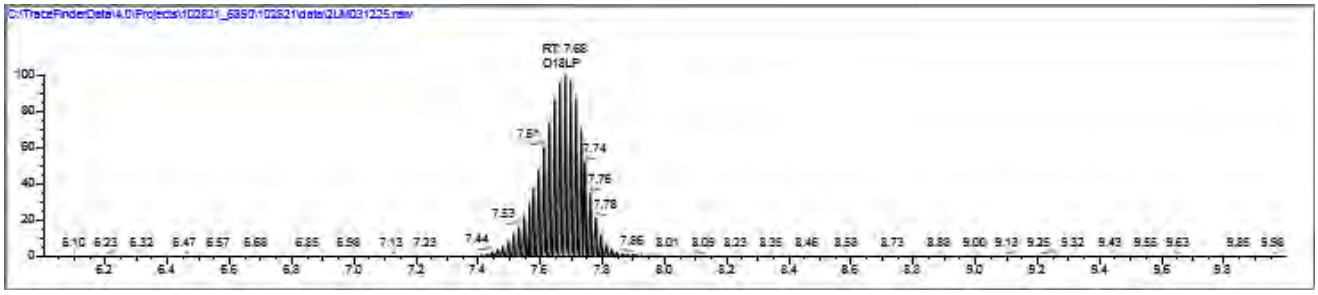
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.68	83	55643	Linear	0.033	0.205	ug/L	0.205	ug/L	

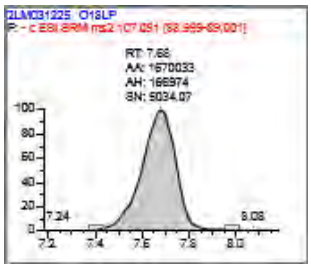
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

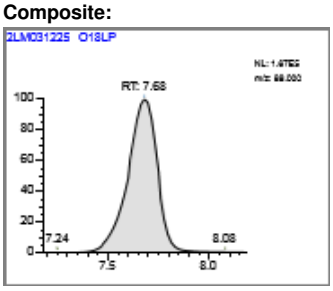
Data File:	2LM031225	Tune Report Date:	Tune report not found
Method:	102821_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	10/28/2021 3:37:25 PM
		Cali File Date:	10/29/2021 9:06:35 AM
Cali File:	102821.calx	Operator ID:	CAS
Sample ID:	S1J0510-CAL2	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:A3
Comments:	1:1 0012468		



m/z 89.000



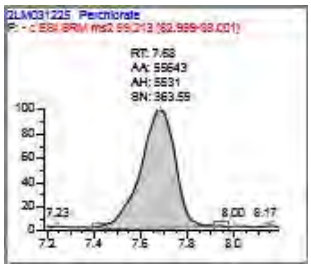
Composite:



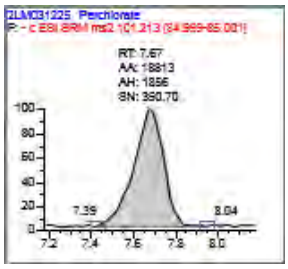
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.68	m/z 89.000	1670033	5.000		N/A

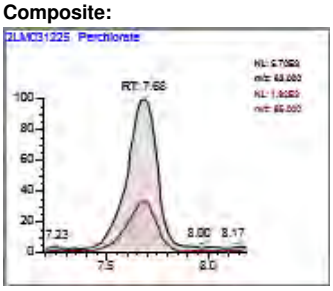
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			Cal: 0.200	0.160 - 4.200	
7.68	m/z 83.000	55643	0.205		N/A
7.67	m/z 85.000	18813		26.30 - 39.45	33.81

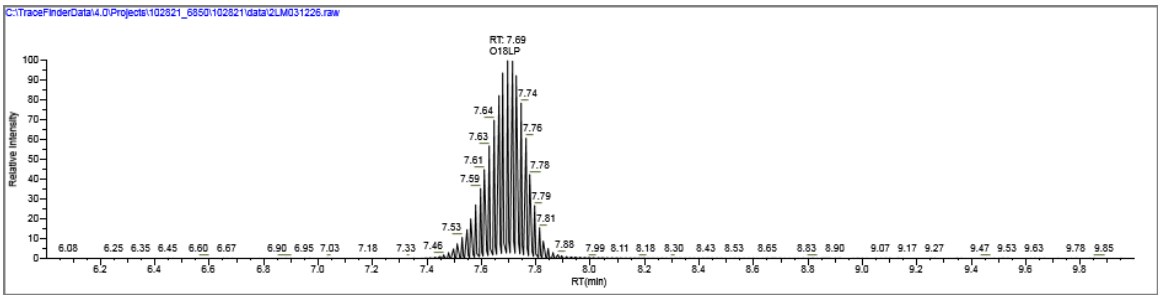
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 102821

Method: 102821_Perchlorate 6850 Perchlorate 6850
Cali File: 102821.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A4	S1J0510-CAL3	2LM031226	3	CAL STD 3	10/28/2021 3:50:39 PM	1:1 0012467



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.69	89	1708009			5.000	ug/L	5.000	ug/L	

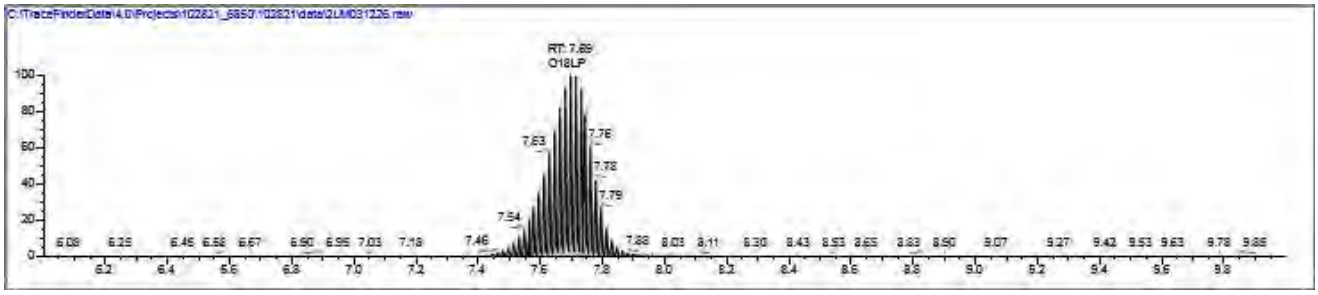
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.72	83	141805	Linear	0.083	0.49	ug/L	0.49	ug/L	

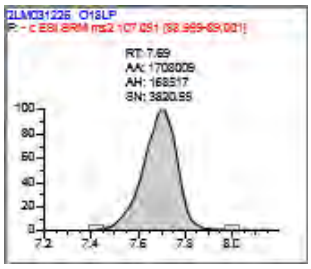
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

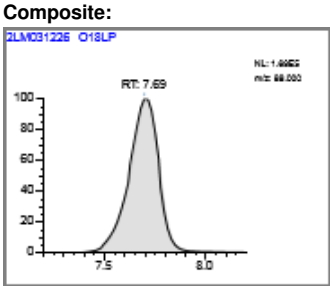
Data File:	2LM031226	Tune Report Date:	Tune report not found
Method:	102821_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	10/28/2021 3:50:39 PM
		Cali File Date:	10/29/2021 9:06:35 AM
Cali File:	102821.calx	Operator ID:	CAS
Sample ID:	S1J0510-CAL3	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:A4
Comments:	1:1 0012467		



m/z 89.000



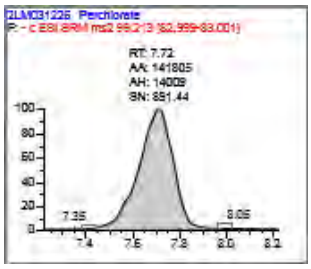
Composite:



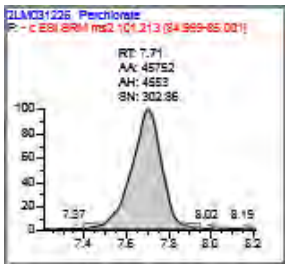
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.69	m/z 89.000	1708009	5.000		N/A

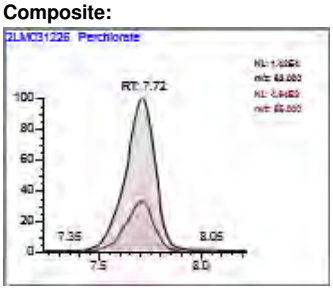
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			Cal: 0.500	0.400 - 10.500	
7.72	m/z 83.000	141805	0.490		N/A
7.71	m/z 85.000	45752		26.30 - 39.45	32.26

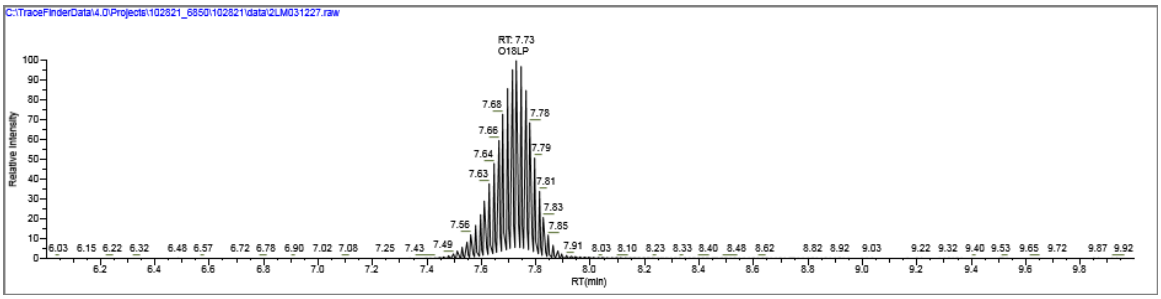
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 102821

Method: 102821_Perchlorate 6850
Perchlorate 6850
Cali File: 102821.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A5	S1J0510-CAL4	2LM031227	4	CAL STD 4	10/28/2021 4:03:55 PM	1:1 0012466



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.73	89	1730800			5.000	ug/L	5.000	ug/L	

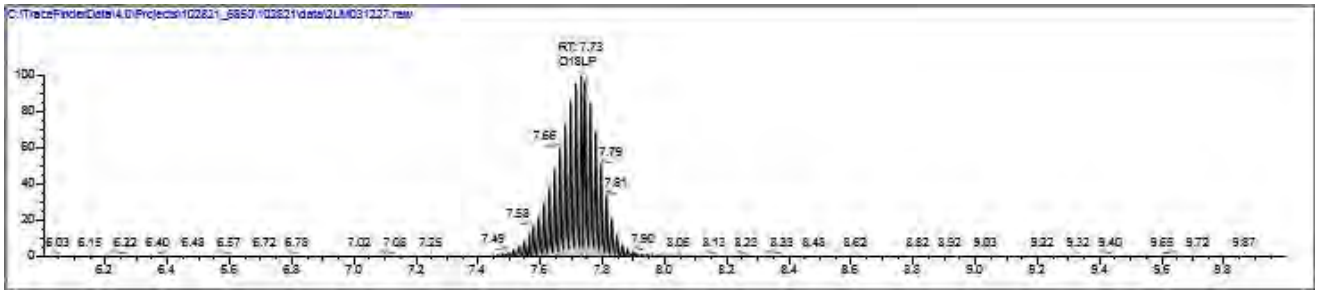
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.73	83	295153	Linear	0.171	0.992	ug/L	0.992	ug/L	

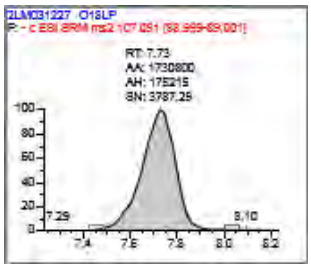
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

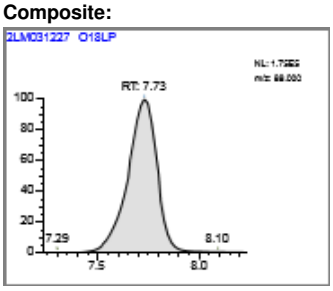
Data File:	2LM031227	Tune Report Date:	Tune report not found
Method:	102821_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	10/28/2021 4:03:55 PM
		Cali File Date:	10/29/2021 9:06:35 AM
Cali File:	102821.calx	Operator ID:	CAS
Sample ID:	S1J0510-CAL4	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:A5
Comments:	1:1 0012466		



m/z 89.000



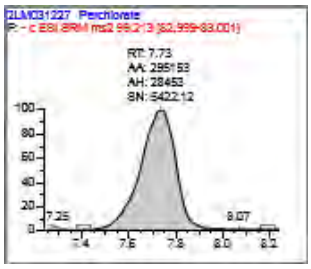
Composite:



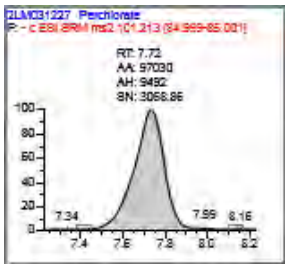
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.73	m/z 89.000	1730800	5.000		N/A

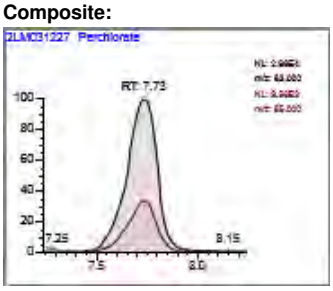
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			Cal: 1.000	0.800 - 21.000	
7.73	m/z 83.000	295153	0.992		N/A
7.72	m/z 85.000	97030		26.30 - 39.45	32.87

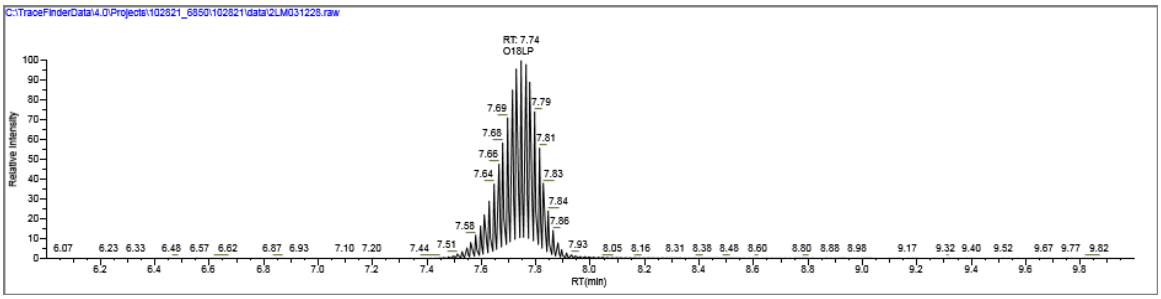
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 102821

Method: 102821_Perchlorate 6850 Perchlorate 6850
Cali File: 102821.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A6	S1J0510-CAL5	2LM031228	5	CAL STD 5	10/28/2021 4:17:10 PM	1:1 0012465



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.74	89	1711825			5.000	ug/L	5.000	ug/L	

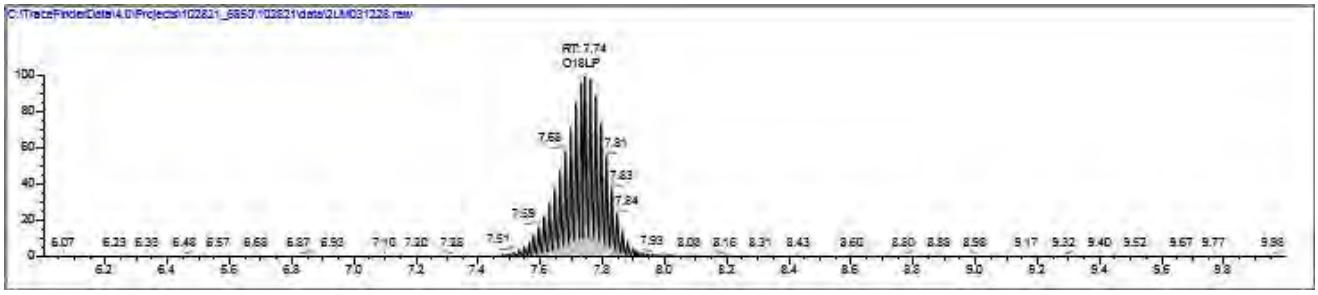
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.75	83	563232	Linear	0.329	1.9	ug/L	1.9	ug/L	

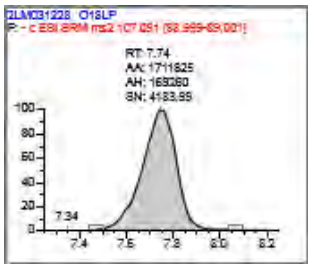
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

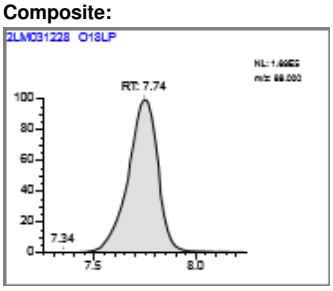
Data File:	2LM031228	Tune Report Date:	Tune report not found
Method:	102821_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	10/28/2021 4:17:10 PM
		Cali File Date:	10/29/2021 9:06:35 AM
Cali File:	102821.calx	Operator ID:	CAS
Sample ID:	S1J0510-CAL5	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:A6
Comments:	1:1 0012465		



m/z 89.000



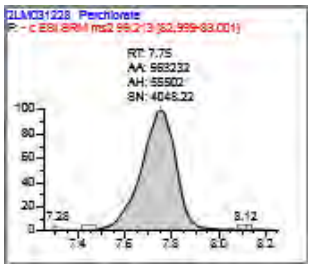
Composite:



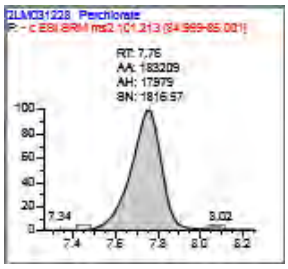
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.74	m/z 89.000	1711825	5.000		N/A

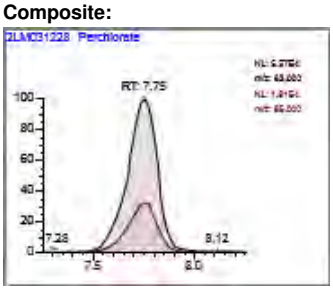
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			Cal: 2.000	1.600 - 42.000	
7.75	m/z 83.000	563232	1.900		N/A
7.76	m/z 85.000	183209		26.30 - 39.45	32.53

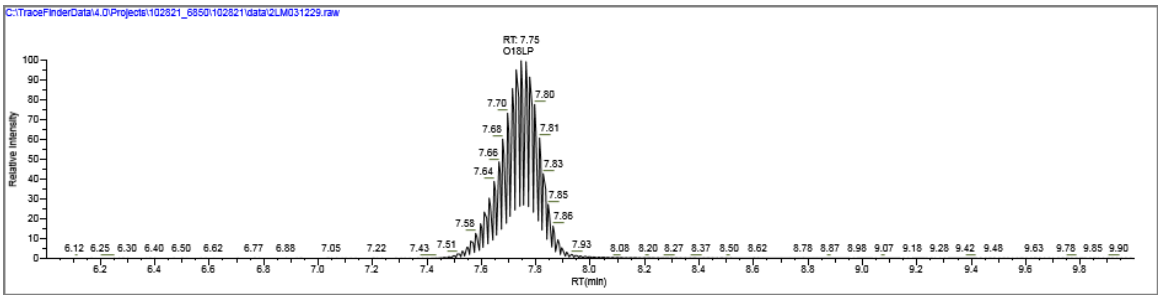
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 102821

Method: 102821_Perchlorate 6850 Perchlorate 6850
Cali File: 102821.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A7	S1J0510-CAL6	2LM031229	6	CAL STD 6	10/28/2021 4:30:25 PM	1:1 0012464



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.75	89	1609989			5.000	ug/L	5.000	ug/L	

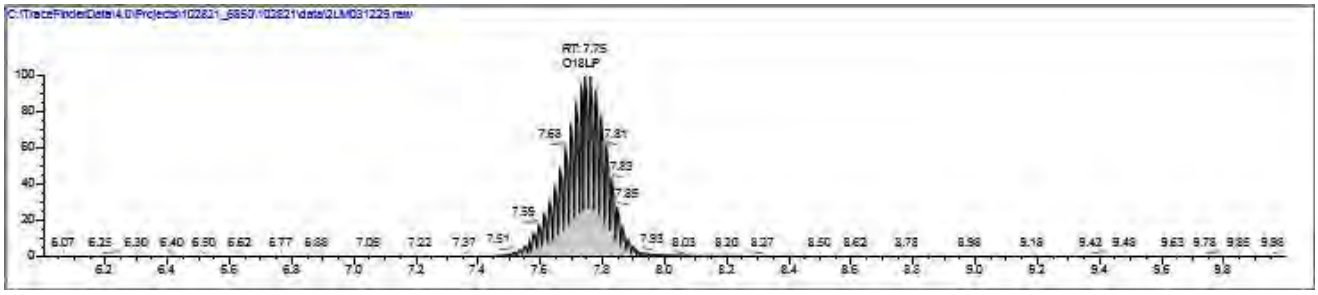
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.75	83	1363180	Linear	0.847	4.867	ug/L	4.867	ug/L	

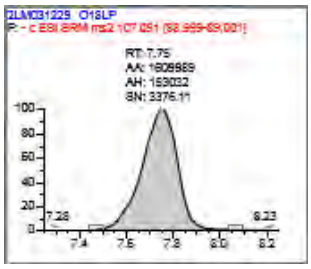
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

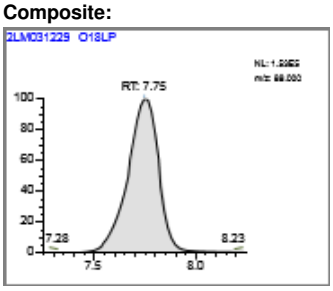
Data File:	2LM031229	Tune Report Date:	Tune report not found
Method:	102821_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	10/28/2021 4:30:25 PM
		Cali File Date:	10/29/2021 9:06:35 AM
Cali File:	102821.calx	Operator ID:	CAS
Sample ID:	S1J0510-CAL6	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:A7
Comments:	1:1 0012464		



m/z 89.000



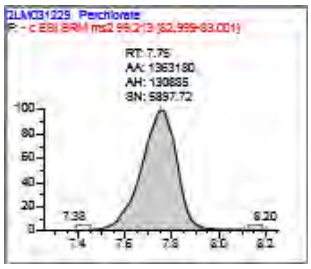
Composite:



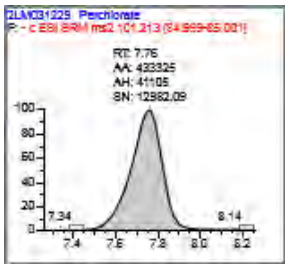
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.75	m/z 89.000	1609989	5.000		N/A

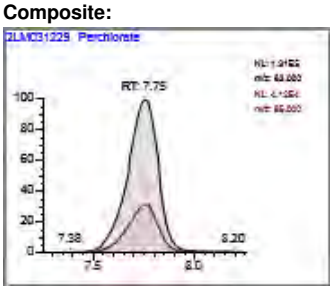
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			Cal: 5.000	4.000 - 105.000	
7.75	m/z 83.000	1363180	4.867		N/A
7.76	m/z 85.000	433325		26.30 - 39.45	31.79

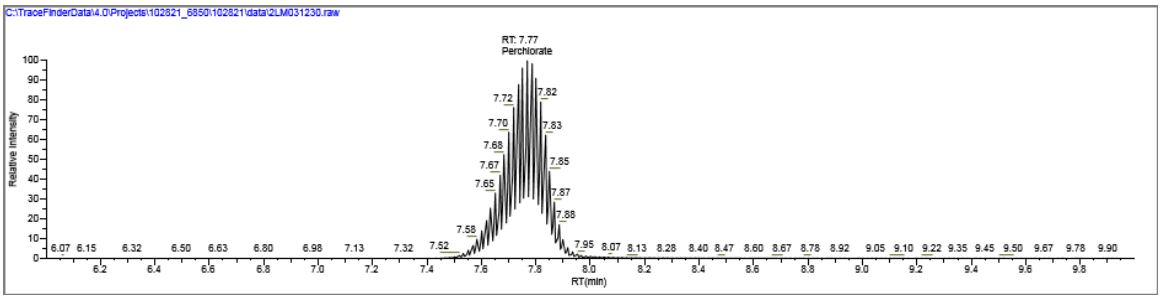
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 102821

Method: 102821_Perchlorate 6850 Perchlorate 6850
Cali File: 102821.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A8	S1J0510-CAL7	2LM031230	7	CAL STD 7	10/28/2021 4:43:40 PM	1:1 0012463



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.76	89	1417293			5.000	ug/L	5.000	ug/L	

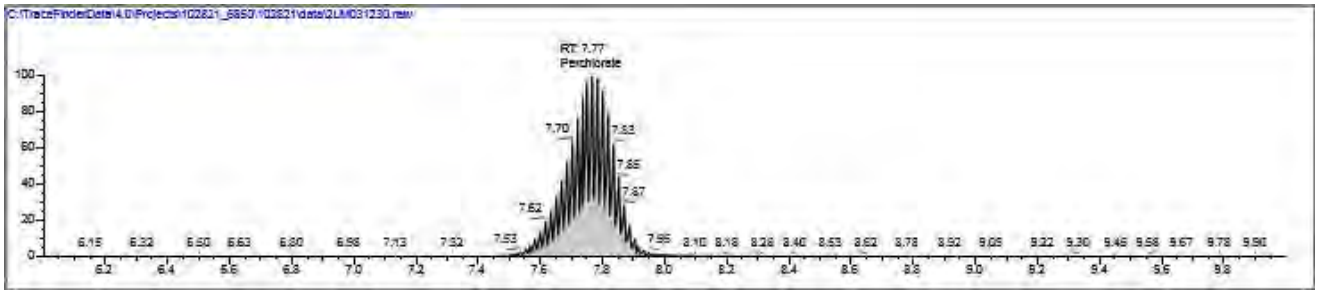
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.77	83	2528538	Linear	1.784	10.24	ug/L	10.24	ug/L	

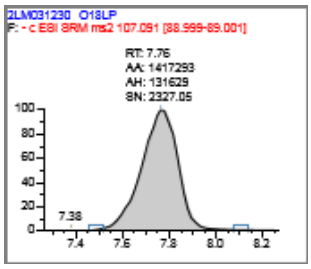
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

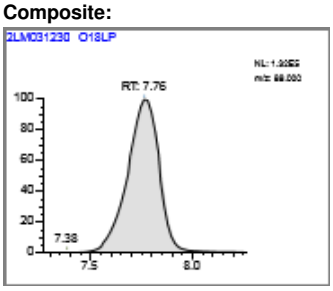
Data File:	2LM031230	Tune Report Date:	Tune report not found
Method:	102821_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	10/28/2021 4:43:40 PM
		Cali File Date:	10/29/2021 9:06:35 AM
Cali File:	102821.calx	Operator ID:	CAS
Sample ID:	S1J0510-CAL7	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:A8
Comments:	1:1 0012463		



m/z 89.000



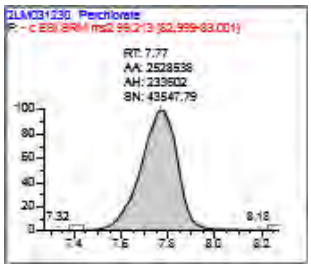
Composite:



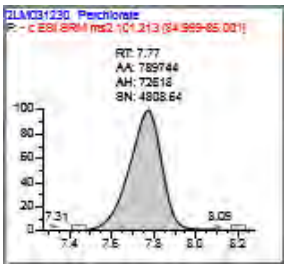
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.76	m/z 89.000	1417293	5.000		N/A

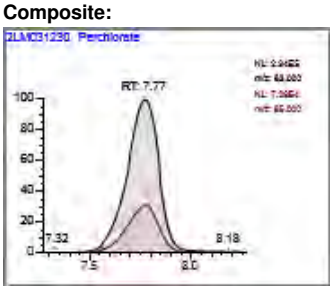
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			Cal: 10.000	8.000 - 210.000	
7.77	m/z 83.000	2528538	10.240		N/A
7.77	m/z 85.000	789744		26.30 - 39.45	31.23

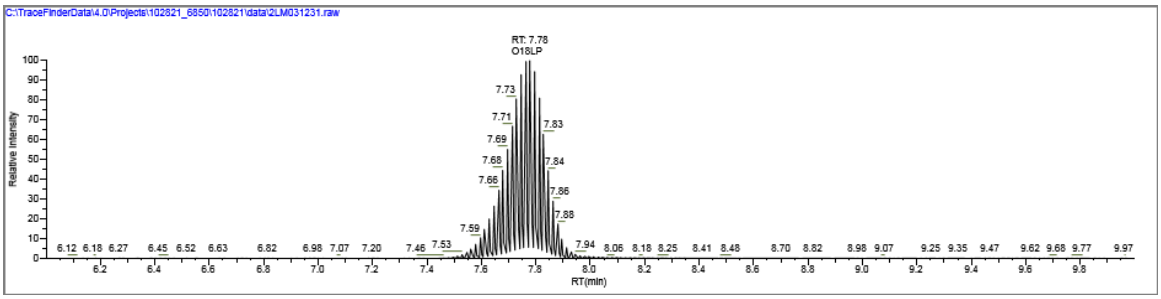
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 102821

Method: 102821_Perchlorate 6850
Perchlorate 6850
Cali File: 102821.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A9	S1J0510-ICV1	2LM031231	ICV	ICV	10/28/2021 4:56:55 PM	1:1 0012475



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.78	89	1674312			5.000	ug/L	5.000	ug/L	

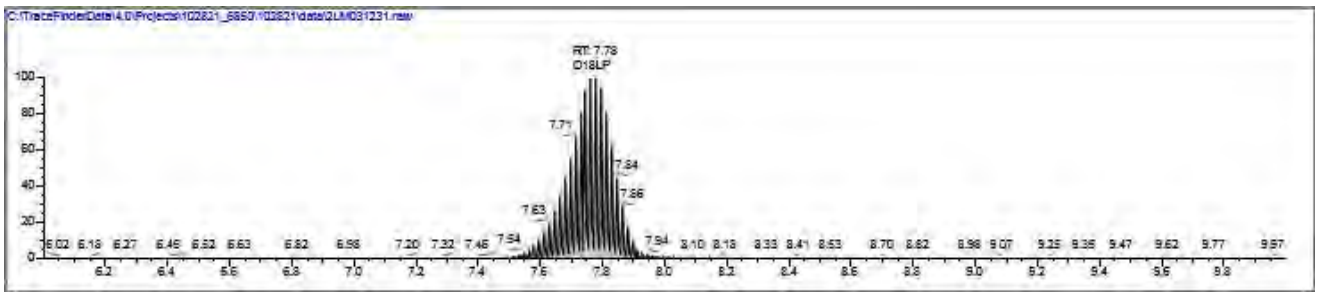
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.77	83	285048	Linear	0.170	0.99	ug/L	0.99	ug/L	

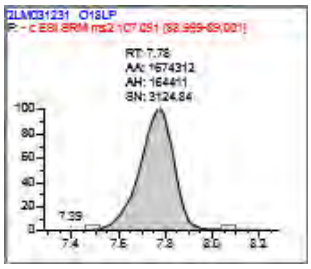
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

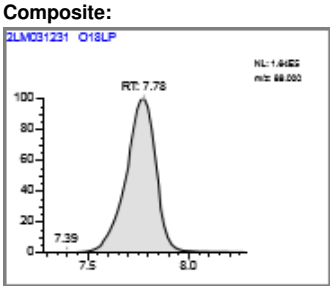
Data File:	2LM031231	Tune Report Date:	Tune report not found
Method:	102821_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	10/28/2021 4:56:55 PM
Cali File:	102821.calx	Cali File Date:	10/29/2021 9:06:35 AM
Sample ID:	S1J0510-ICV1	Operator ID:	CAS
Diln Factor:	1.00	Instrument ID:	LCMS2
Comments:	1:1 0012475	Vial Number:	R:A9



m/z 89.000



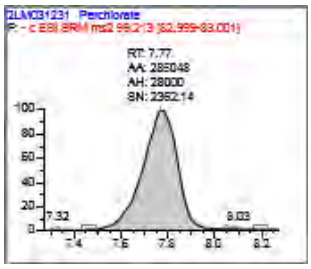
Composite:



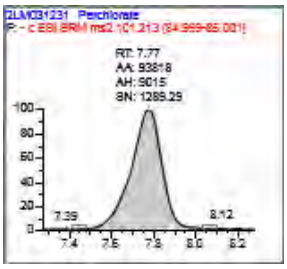
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.78	m/z 89.000	1674312	5.000		N/A

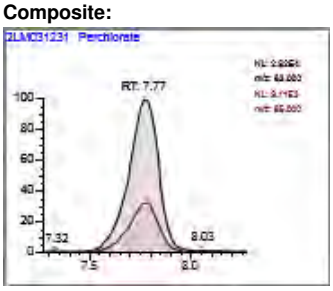
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			QC: 1.000	0.850 - 1.150	
7.77	m/z 83.000	285048	0.990		N/A
7.77	m/z 85.000	93818		26.30 - 39.45	32.91

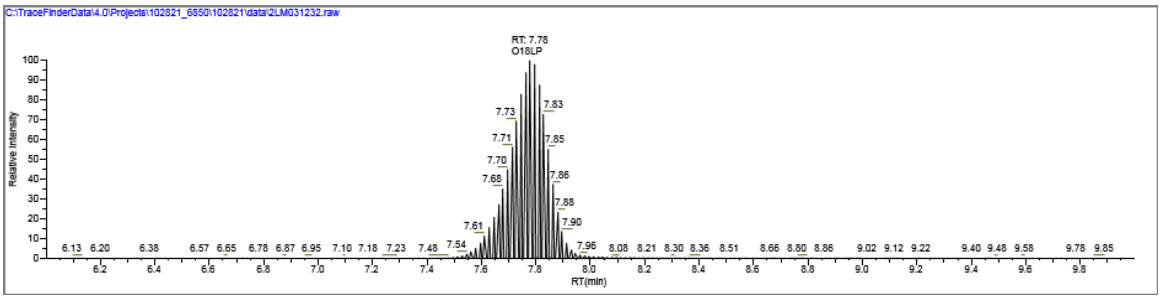
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 102821

Method: 102821_Perchlorate 6850 Perchlorate 6850
Cali File: 102821.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A1	S1J0510-CCB1	2LM031232	N/A	CCB	10/28/2021 5:10:09 PM	1:01



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.78	89	1742679			5.000	ug/L	5.000	ug/L	

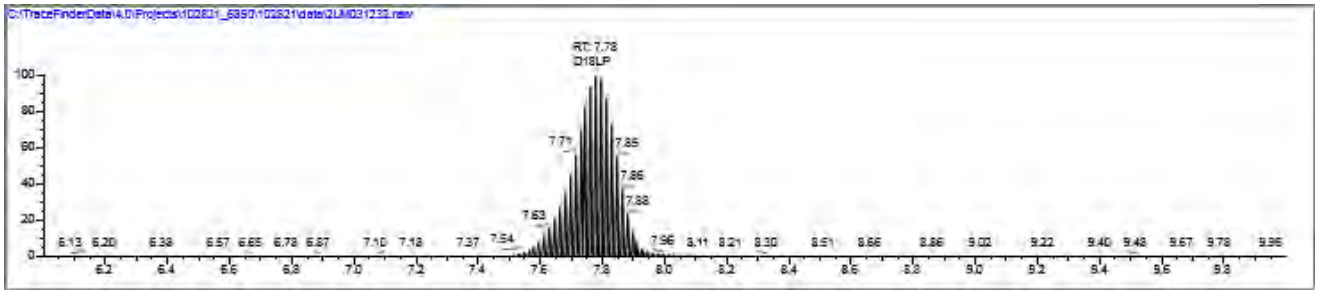
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.78	83	4617	Linear	0.003	0.029	ug/L	0.029	ug/L	

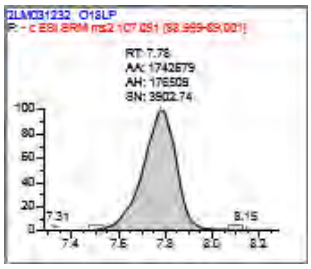
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

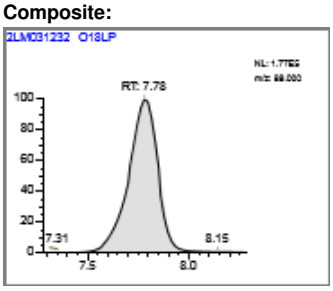
Data File:	2LM031232	Tune Report Date:	Tune report not found
Method:	102821_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	10/28/2021 5:10:09 PM
		Cali File Date:	10/29/2021 9:06:35 AM
Cali File:	102821.calx	Operator ID:	CAS
Sample ID:	S1J0510-CCB1	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:A1
Comments:	1:01		



m/z 89.000



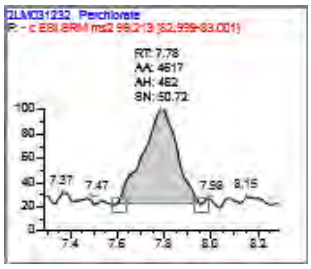
Composite:



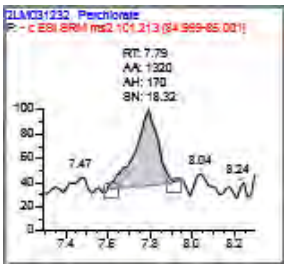
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.78	m/z 89.000	1742679	5.000		N/A

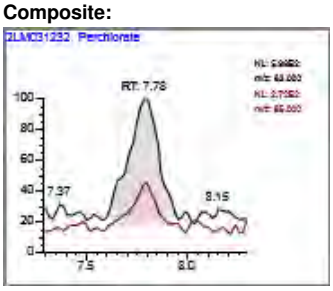
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.78	m/z 83.000	4617	0.029		N/A
7.79	m/z 85.000	1320		26.30 - 39.45	28.59

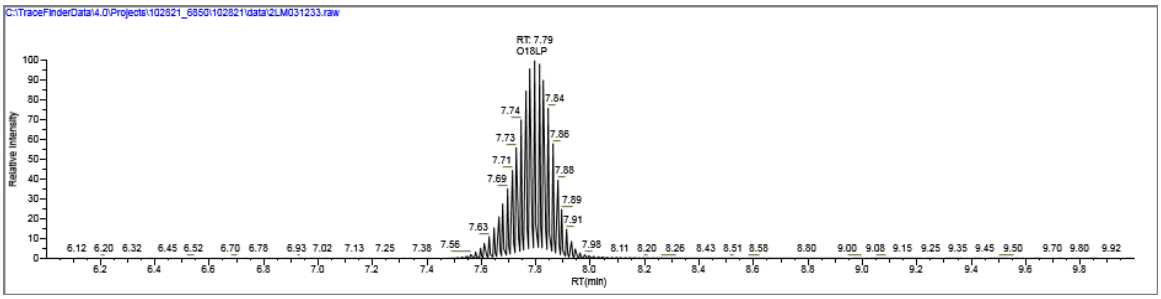
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 102821

Method: 102821_Perchlorate 6850 Perchlorate 6850
Cali File: 102821.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A5	S1J0510-CCV1	2LM031233	CCV	CCV 1.0 ug/L	10/28/2021 5:23:24 PM	1:1 0012466



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.79	89	1651234			5.000	ug/L	5.000	ug/L	

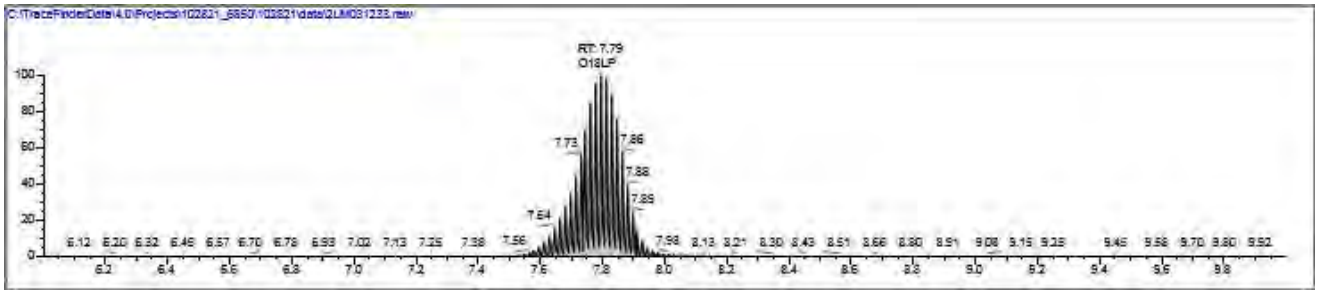
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.8	83	271003	Linear	0.164	0.955	ug/L	0.955	ug/L	

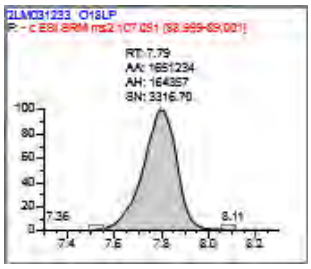
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

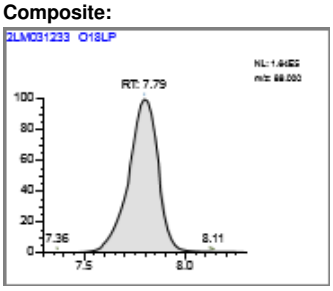
Data File:	2LM031233	Tune Report Date:	Tune report not found
Method:	102821_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	10/28/2021 5:23:24 PM
		Cali File Date:	10/29/2021 9:06:35 AM
Cali File:	102821.calx	Operator ID:	CAS
Sample ID:	S1J0510-CCV1	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:A5
Comments:	1:1 0012466		



m/z 89.000



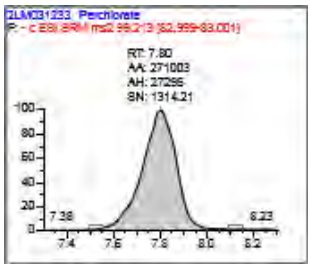
Composite:



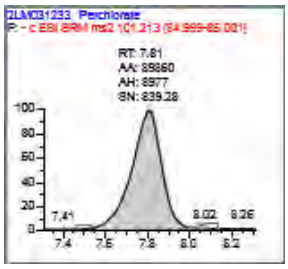
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.79	m/z 89.000	1651234	5.000		N/A

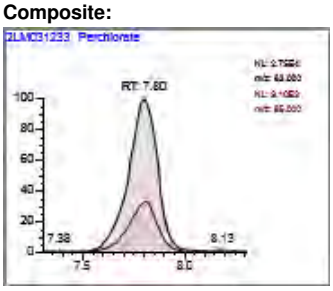
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			QC: 1.000	0.850 - 1.150	
7.80	m/z 83.000	271003	0.955		N/A
7.81	m/z 85.000	89860		26.30 - 39.45	33.16

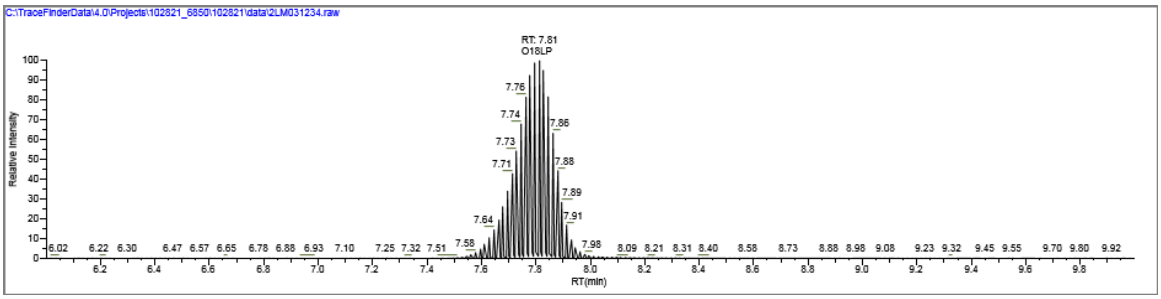
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 102821

Method: 102821_Perchlorate 6850 Perchlorate 6850
Cali File: 102821.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A3	S1J0510-CRL1	2LM031234	QCMRL	QCMRL 0.2 ug/L	10/28/2021 5:36:39 PM	1:1 0012468



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.81	89	1672014			5.000	ug/L	5.000	ug/L	

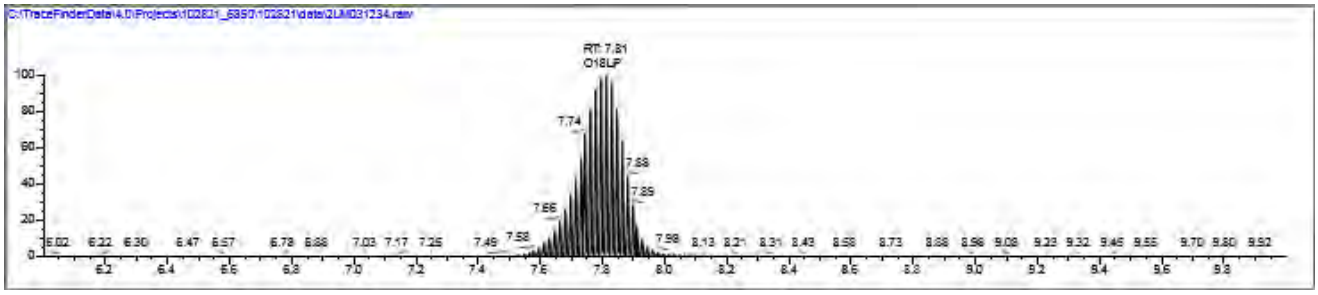
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.82	83	54161	Linear	0.032	0.2	ug/L	0.2	ug/L	

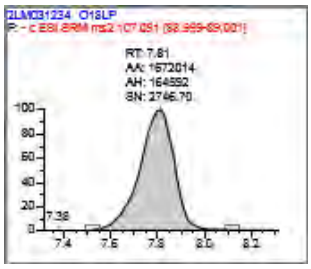
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

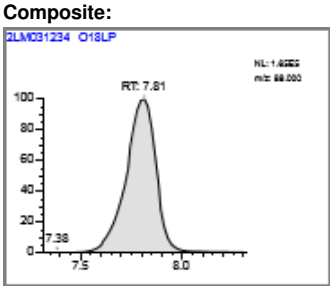
Data File:	2LM031234	Tune Report Date:	Tune report not found
Method:	102821_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	10/28/2021 5:36:39 PM
		Cali File Date:	10/29/2021 9:06:35 AM
Cali File:	102821.calx	Operator ID:	CAS
Sample ID:	S1J0510-CRL1	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:A3
Comments:	1:1 0012468		



m/z 89.000



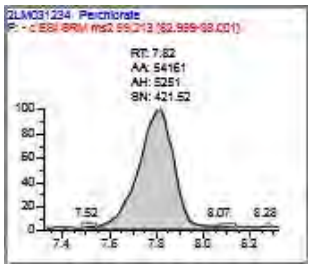
Composite:



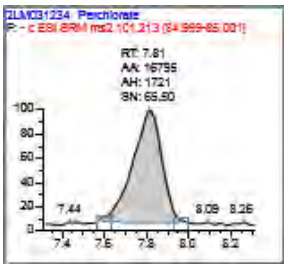
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.81	m/z 89.000	1672014	5.000		N/A

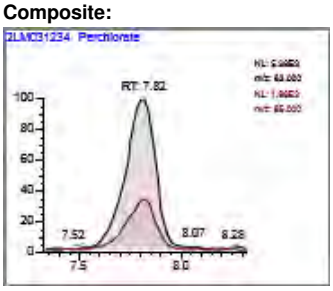
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			QC: 0.200	0.140 - 0.260	
7.82	m/z 83.000	54161	0.200		N/A
7.81	m/z 85.000	16795		26.30 - 39.45	31.01

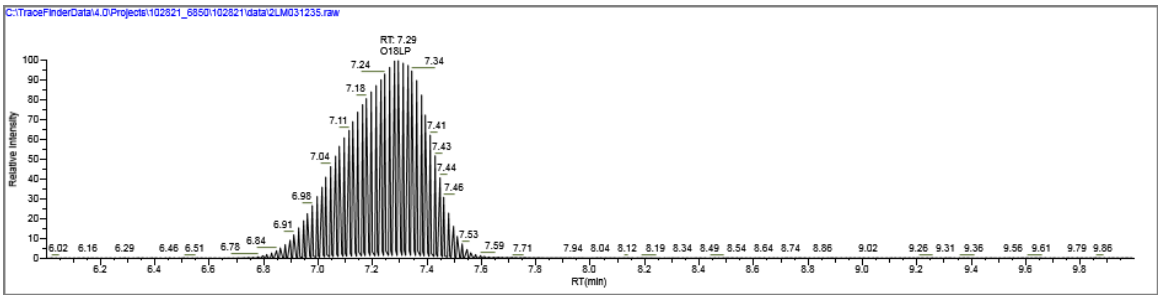
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 102821

Method: 102821_Perchlorate 6850 Perchlorate 6850
Cali File: 102821.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:B1	S1J0510-IFA1	2LM031235	N/A	MCT 0.2 ug/L	10/28/2021 5:49:54 PM	1:1 0012477



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.29	89	1633945			5.000	ug/L	5.000	ug/L	

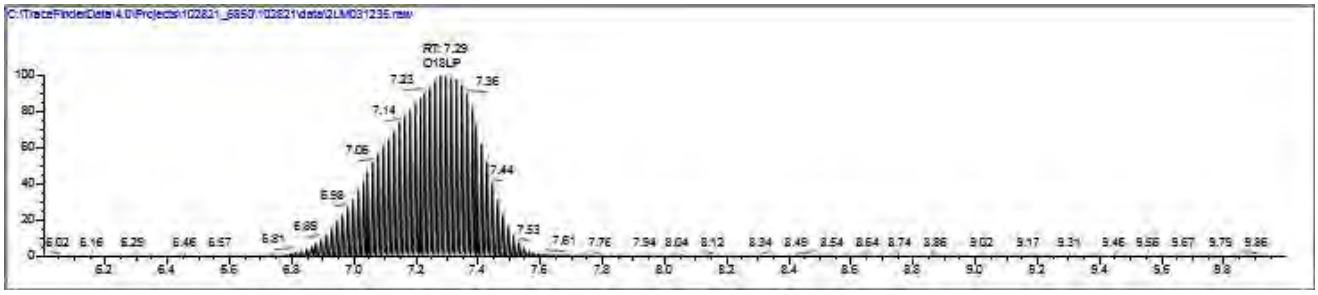
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.3	83	61825	Linear	0.038	0.231	ug/L	0.231	ug/L	

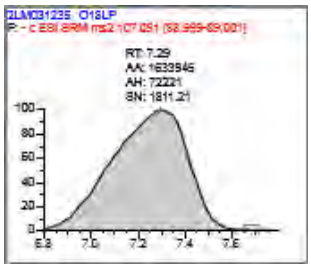
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

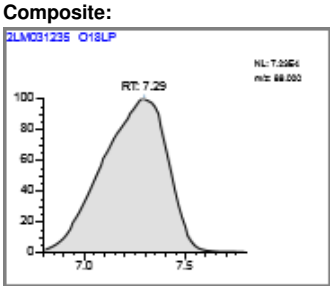
Data File:	2LM031235	Tune Report Date:	Tune report not found
Method:	102821_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	10/28/2021 5:49:54 PM
Cali File:	102821.calx	Cali File Date:	10/29/2021 9:06:35 AM
Sample ID:	S1J0510-IFA1	Operator ID:	CAS
Diln Factor:	1.00	Instrument ID:	LCMS2
Comments:	1:1 0012477	Vial Number:	R:B1



m/z 89.000



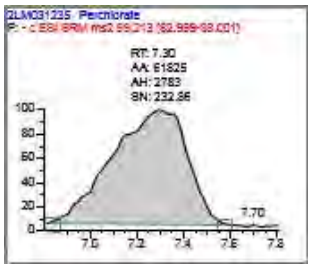
Composite:



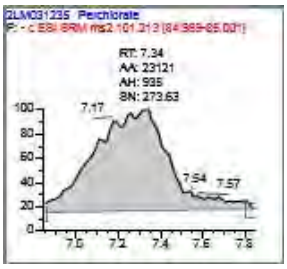
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.29	m/z 89.000	1633945	5.000		N/A

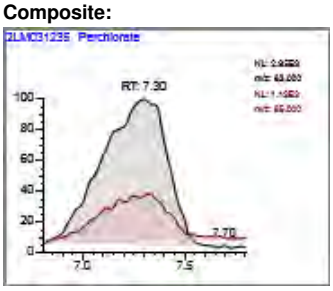
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.30	m/z 83.000	61825	0.231		N/A
7.34	m/z 85.000	23121		26.30 - 39.45	37.4

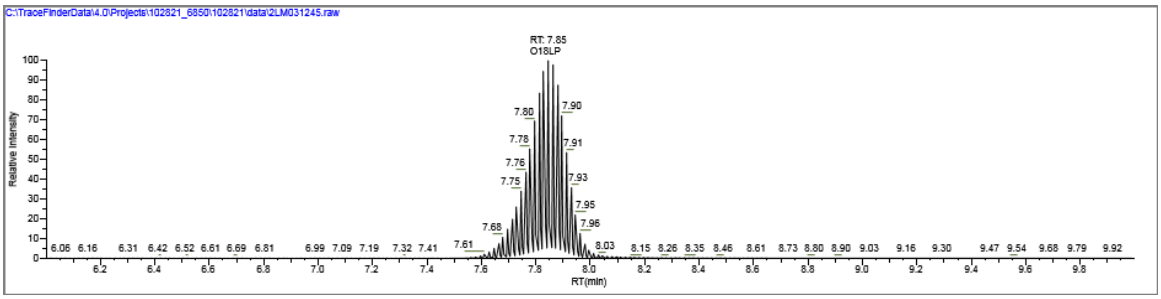
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 102821

Method: 102821_Perchlorate 6850 Perchlorate 6850
Cali File: 102821.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A5	S1J0510-CCV2	2LM031245	CCV	CCV 1.0 ug/L	10/28/2021 8:02:23 PM	1:1 0012466



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.85	89	1739535			5.000	ug/L	5.000	ug/L	

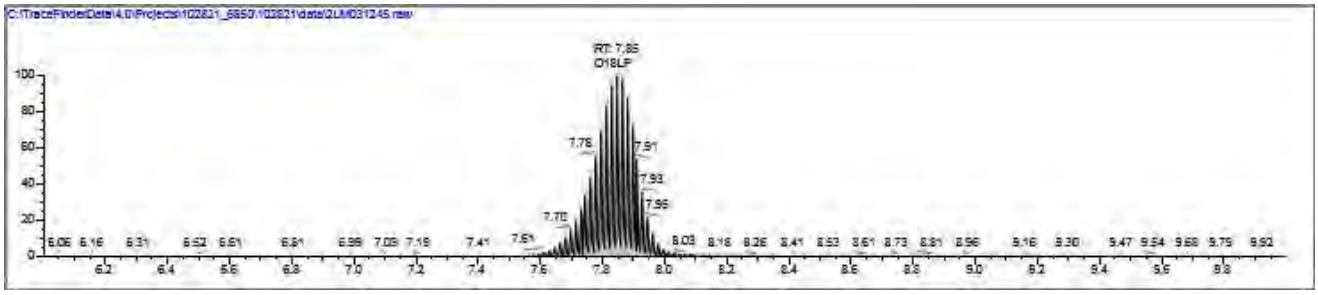
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.85	83	284572	Linear	0.164	0.952	ug/L	0.952	ug/L	

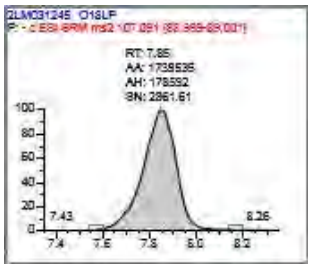
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

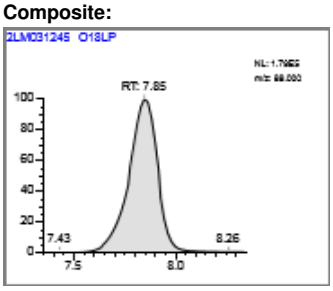
Data File:	2LM031245	Tune Report Date:	Tune report not found
Method:	102821_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	10/28/2021 8:02:23 PM
		Cali File Date:	10/29/2021 9:06:35 AM
Cali File:	102821.calx	Operator ID:	CAS
Sample ID:	S1J0510-CCV2	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:A5
Comments:	1:1 0012466		



m/z 89.000



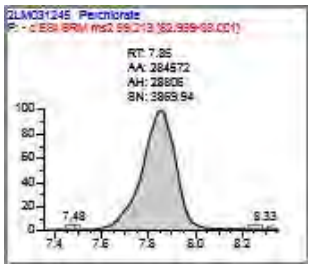
Composite:



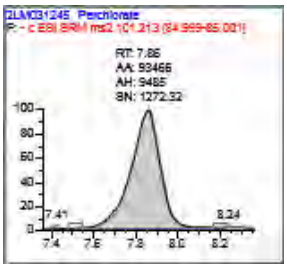
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.85	m/z 89.000	1739535	5.000		N/A

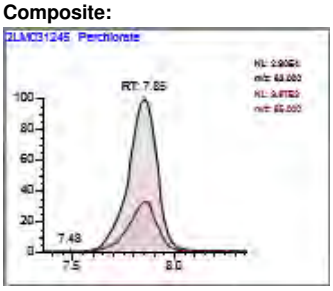
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			QC: 1.000	0.850 - 1.150	
7.85	m/z 83.000	284572	0.952		N/A
7.86	m/z 85.000	93466		26.30 - 39.45	32.84

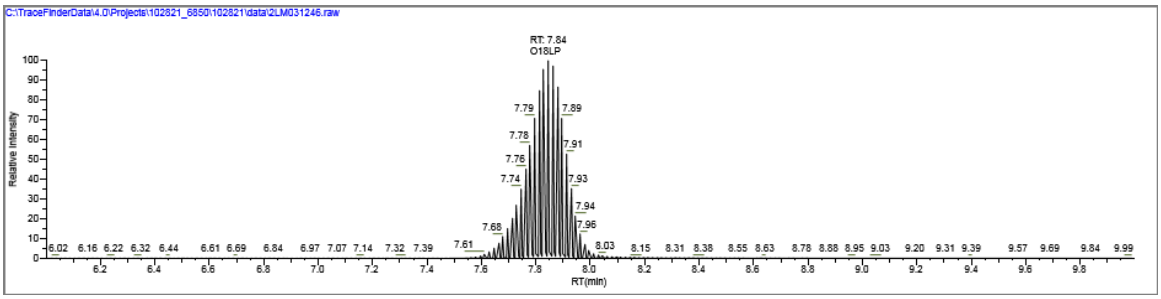
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 102821

Method: 102821_Perchlorate 6850 Perchlorate 6850
Cali File: 102821.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A3	S1J0510-CRL2	2LM031246	QCMRL	QCMRL 0.2 ug/L	10/28/2021 8:15:38 PM	1:1 0012468



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.84	89	1701939			5.000	ug/L	5.000	ug/L	

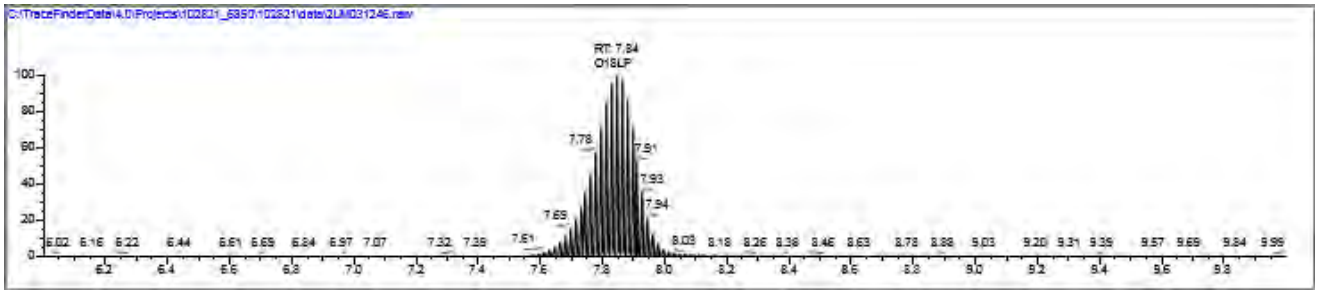
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.85	83	55330	Linear	0.033	0.2	ug/L	0.2	ug/L	

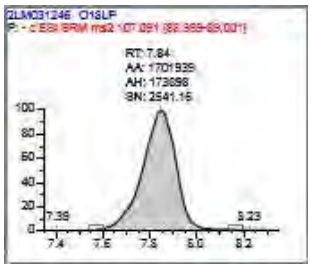
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

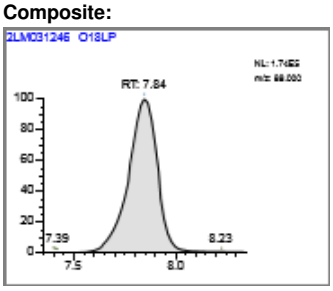
Data File:	2LM031246	Tune Report Date:	Tune report not found
Method:	102821_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	10/28/2021 8:15:38 PM
		Cali File Date:	10/29/2021 9:06:35 AM
Cali File:	102821.calx	Operator ID:	CAS
Sample ID:	S1J0510-CRL2	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:A3
Comments:	1:1 0012468		



m/z 89.000



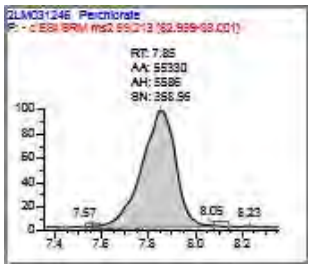
Composite:



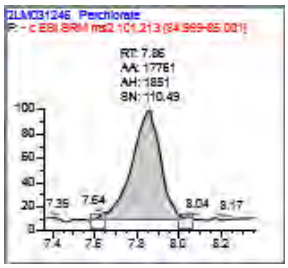
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.84	m/z 89.000	1701939	5.000		N/A

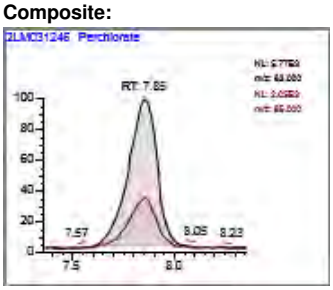
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			QC: 0.200	0.140 - 0.260	
7.85	m/z 83.000	55330	0.200		N/A
7.86	m/z 85.000	17761		26.30 - 39.45	32.1

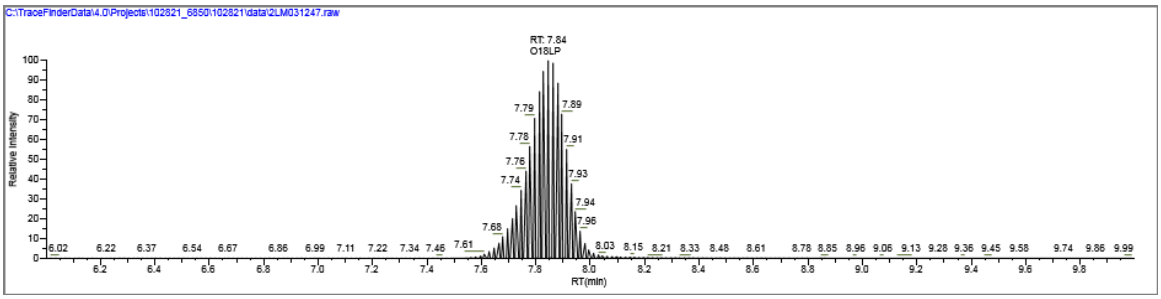
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 102821

Method: 102821_Perchlorate 6850 Perchlorate 6850
Cali File: 102821.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A1	S1J0510-CCB2	2LM031247	N/A	CCB	10/28/2021 8:28:52 PM	1:01



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.84	89	1766918			5.000	ug/L	5.000	ug/L	

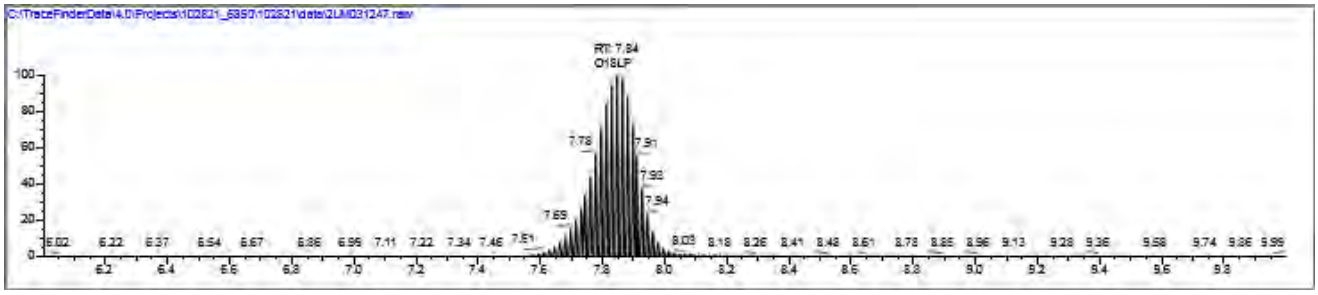
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.83	83	3895	Linear	0.002	0.027	ug/L	0.027	ug/L	

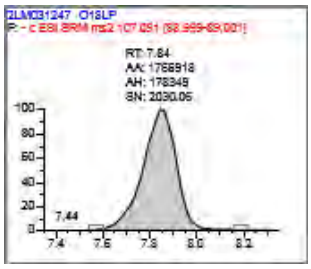
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

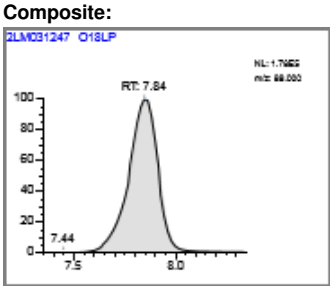
Data File:	2LM031247	Tune Report Date:	Tune report not found
Method:	102821_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	10/28/2021 8:28:52 PM
		Cali File Date:	10/29/2021 9:06:35 AM
Cali File:	102821.calx	Operator ID:	CAS
Sample ID:	S1J0510-CCB2	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:A1
Comments:	1:01		



m/z 89.000



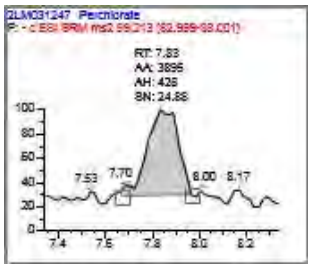
Composite:



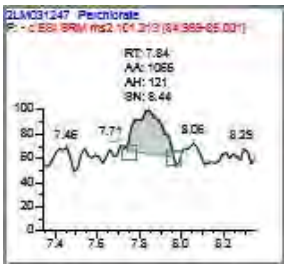
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.84	m/z 89.000	1766918	5.000		N/A

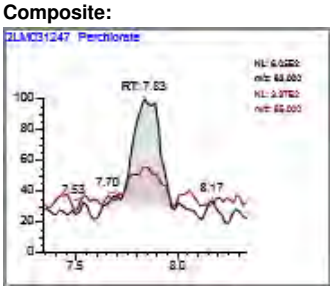
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.83	m/z 83.000	3895	0.027		N/A
7.84	m/z 85.000	1066		26.30 - 39.45	27.37

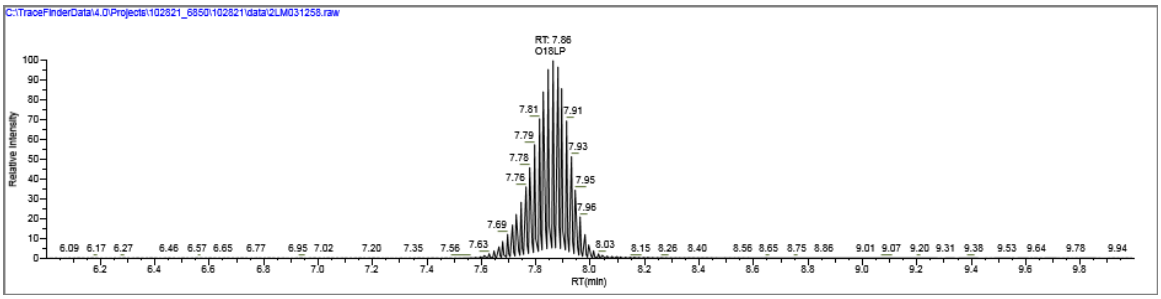
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 102821

Method: 102821_Perchlorate 6850 Perchlorate 6850
Cali File: 102821.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A5	S1J0510-CCV3	2LM031258	CCV	CCV 1.0 ug/L	10/28/2021 10:54:39 PM	1:1 0012466



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.86	89	1623988			5.000	ug/L	5.000	ug/L	

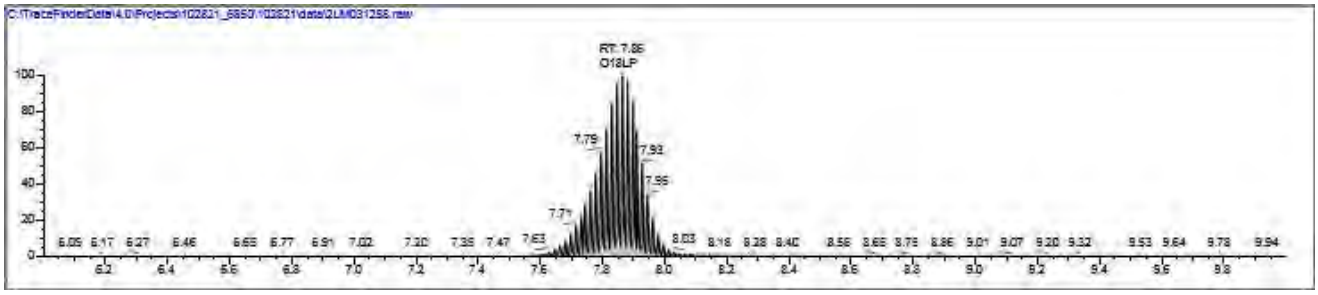
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.87	83	262915	Linear	0.162	0.942	ug/L	0.942	ug/L	

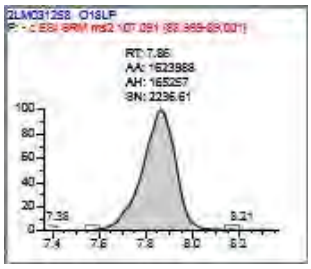
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

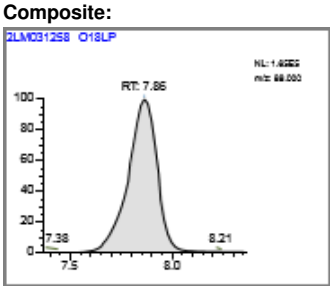
Data File:	2LM031258	Tune Report Date:	Tune report not found
Method:	102821_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	10/28/2021 10:54:39 PM
		Cali File Date:	10/29/2021 9:06:35 AM
Cali File:	102821.calx	Operator ID:	CAS
Sample ID:	S1J0510-CCV3	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:A5
Comments:	1:1 0012466		



m/z 89.000



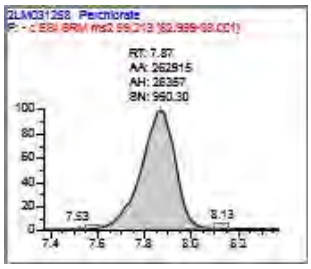
Composite:



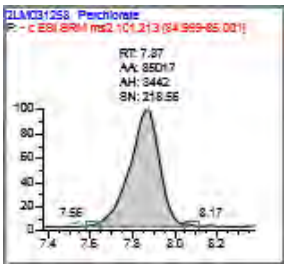
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.86	m/z 89.000	1623988	5.000		N/A

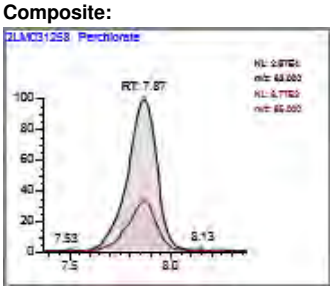
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			QC: 1.000	0.850 - 1.150	
7.87	m/z 83.000	262915	0.942		N/A
7.87	m/z 85.000	85017		26.30 - 39.45	32.34

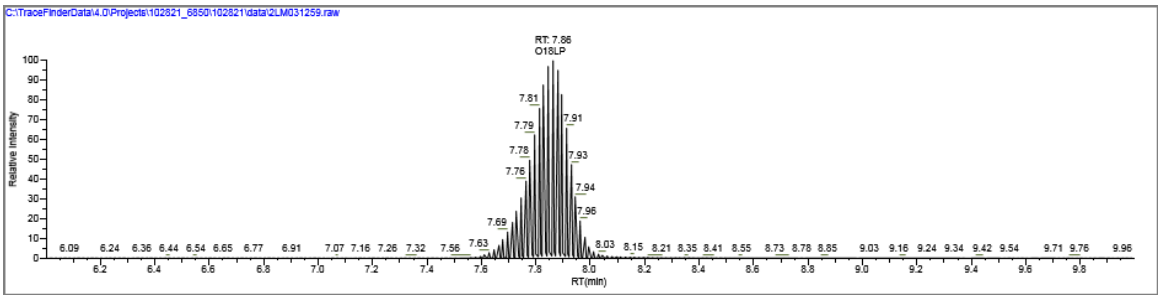
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 102821

Method: 102821_Perchlorate 6850 Perchlorate 6850
Cali File: 102821.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A3	S1J0510-CRL3	2LM031259	QCMRL	QCMRL 0.2 ug/L	10/28/2021 11:07:53 PM	1:1 0012468



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.86	89	1575526			5.000	ug/L	5.000	ug/L	

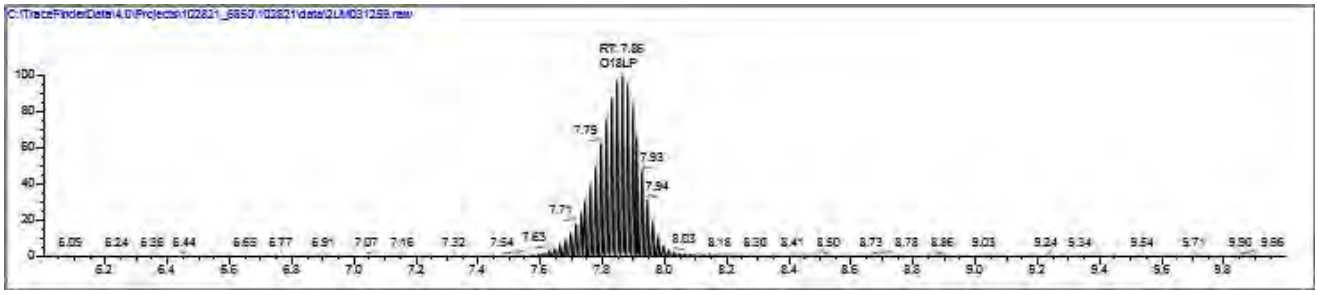
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.87	83	50485	Linear	0.032	0.198	ug/L	0.198	ug/L	

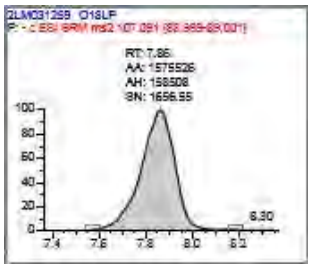
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

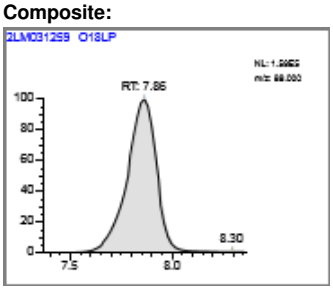
Data File:	2LM031259	Tune Report Date:	Tune report not found
Method:	102821_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	10/28/2021 11:07:53 PM
		Cali File Date:	10/29/2021 9:06:35 AM
Cali File:	102821.calx	Operator ID:	CAS
Sample ID:	S1J0510-CRL3	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:A3
Comments:	1:1 0012468		



m/z 89.000



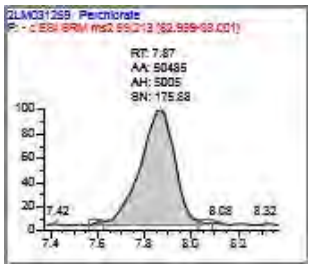
Composite:



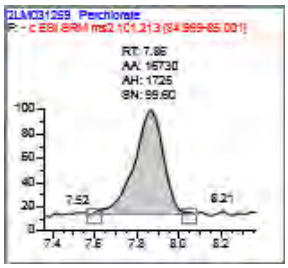
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.86	m/z 89.000	1575526	5.000		N/A

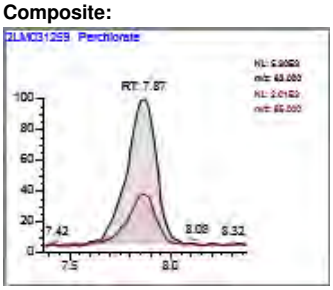
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			QC: 0.200	0.140 - 0.260	
7.87	m/z 83.000	50485	0.198		N/A
7.86	m/z 85.000	16730		26.30 - 39.45	33.14

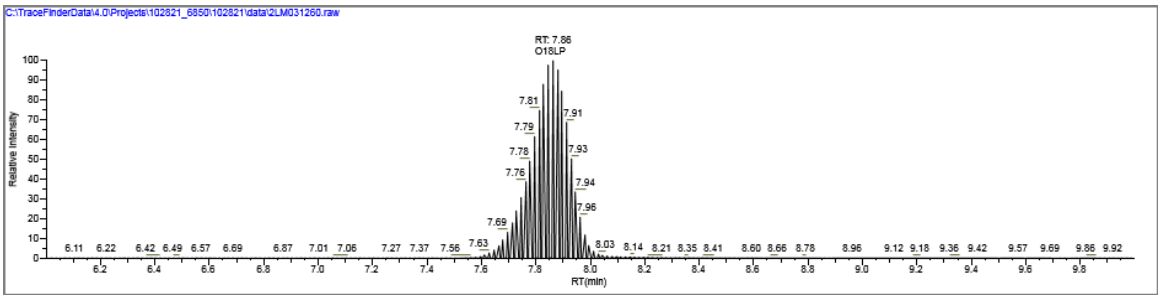
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 102821

Method: 102821_Perchlorate 6850 Perchlorate 6850
Cali File: 102821.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A1	S1J0510-CCB3	2LM031260	N/A	CCB	10/28/2021 11:21:08 PM	1:01



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.86	89	1650476			5.000	ug/L	5.000	ug/L	

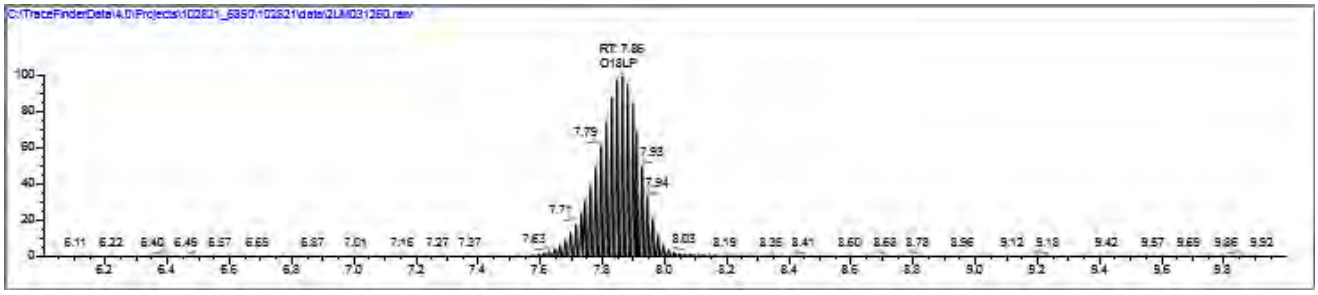
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.88	83	3257	Linear	0.002	0.025	ug/L	0.025	ug/L	

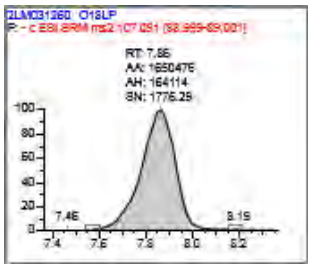
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

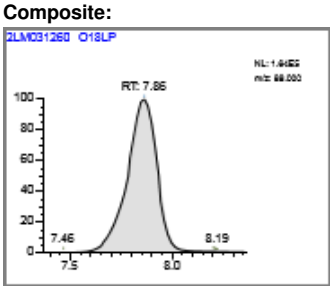
Data File:	2LM031260	Tune Report Date:	Tune report not found
Method:	102821_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	10/28/2021 11:21:08 PM
		Cali File Date:	10/29/2021 9:06:35 AM
Cali File:	102821.calx	Operator ID:	CAS
Sample ID:	S1J0510-CCB3	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:A1
Comments:	1:01		



m/z 89.000



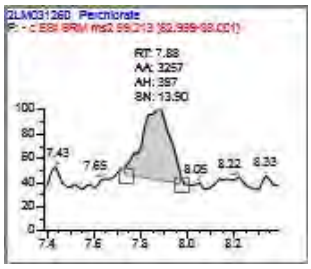
Composite:



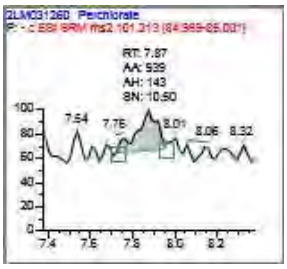
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.86	m/z 89.000	1650476	5.000		N/A

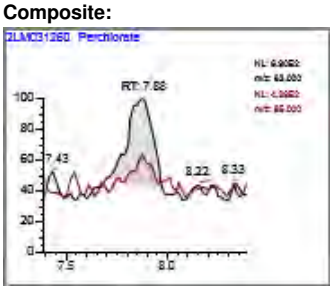
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.88	m/z 83.000	3257	0.025		N/A
7.87	m/z 85.000	939		26.30 - 39.45	28.85

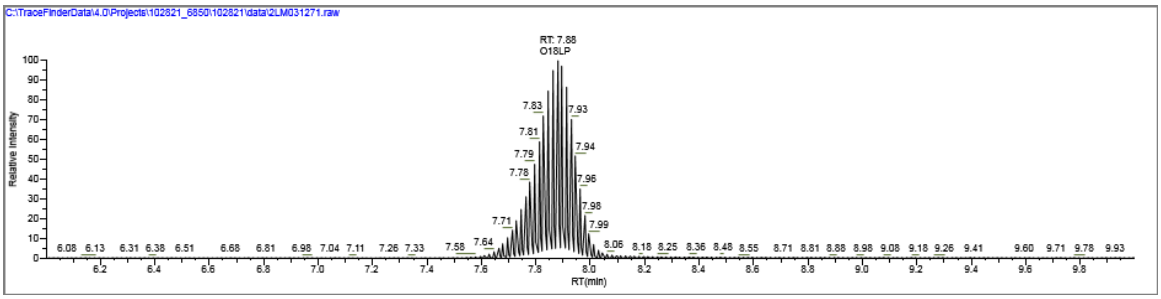
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 102821

Method: 102821_Perchlorate 6850 Perchlorate 6850
Cali File: 102821.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A5	S1J0510-CCV4	2LM031271	CCV	CCV 1.0 ug/L	10/29/2021 1:46:52 AM	1:01



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.88	89	1214280			5.000	ug/L	5.000	ug/L	

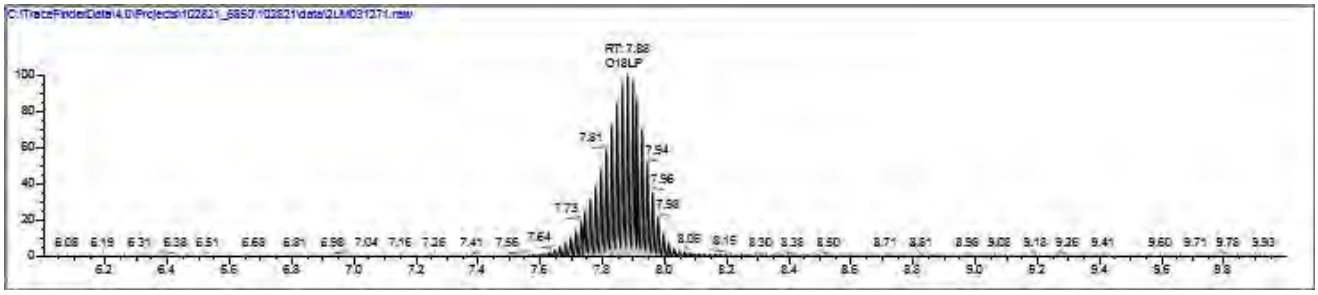
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.88	83	198543	Linear	0.164	0.951	ug/L	0.951	ug/L	

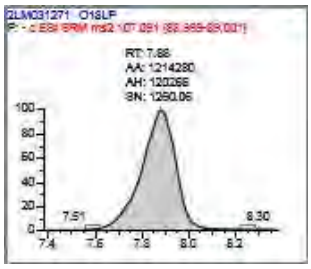
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

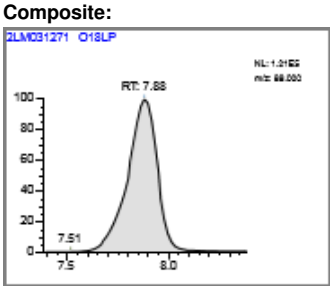
Data File:	2LM031271	Tune Report Date:	Tune report not found
Method:	102821_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	10/29/2021 1:46:52 AM
		Cali File Date:	10/29/2021 9:06:35 AM
Cali File:	102821.calx	Operator ID:	CAS
Sample ID:	S1J0510-CCV4	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:A5
Comments:	1:01		



m/z 89.000



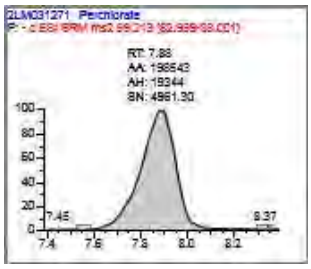
Composite:



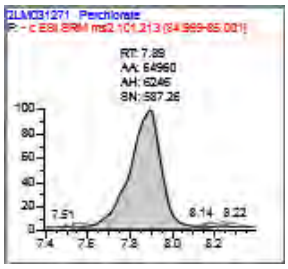
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.88	m/z 89.000	1214280	5.000		N/A

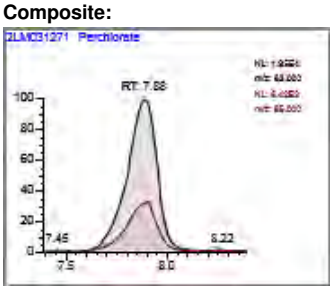
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			QC: 1.000	0.850 - 1.150	
7.88	m/z 83.000	198543	0.951		N/A
7.89	m/z 85.000	64960		26.30 - 39.45	32.72

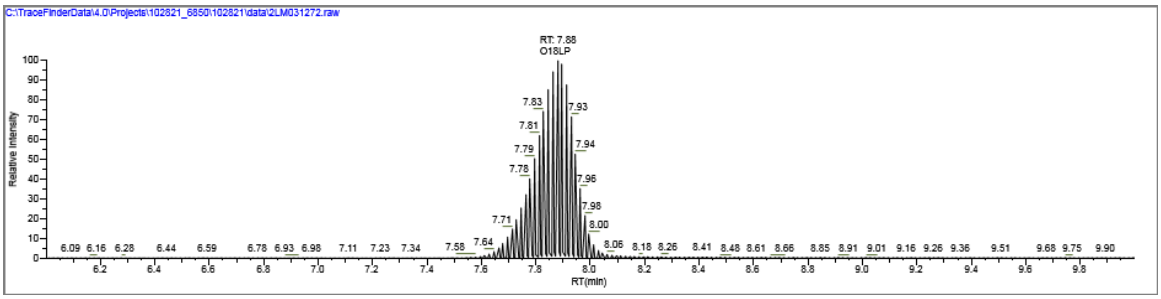
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 102821

Method: 102821_Perchlorate 6850 Perchlorate 6850
Cali File: 102821.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A3	S1J0510-CRL4	2LM031272	QCMRL	QCMRL 0.2 ug/L	10/29/2021 2:00:07 AM	1:01



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.88	89	1241809			5.000	ug/L	5.000	ug/L	

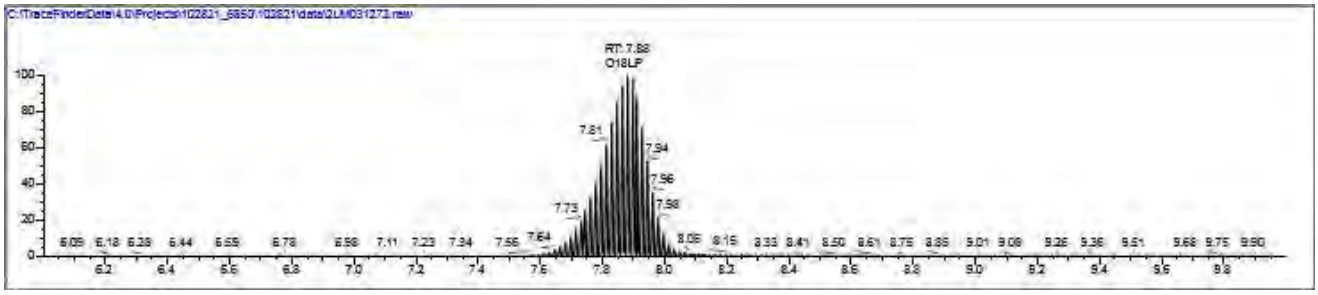
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.88	83	41087	Linear	0.033	0.204	ug/L	0.204	ug/L	

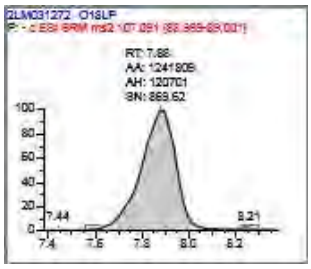
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

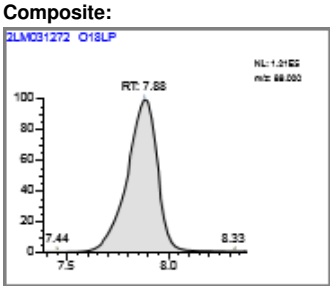
Data File:	2LM031272	Tune Report Date:	Tune report not found
Method:	102821_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	10/29/2021 2:00:07 AM
		Cali File Date:	10/29/2021 9:06:35 AM
Cali File:	102821.calx	Operator ID:	CAS
Sample ID:	S1J0510-CRL4	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:A3
Comments:	1:01		



m/z 89.000



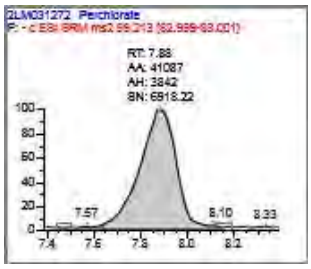
Composite:



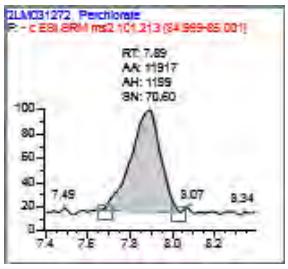
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.88	m/z 89.000	1241809	5.000		N/A

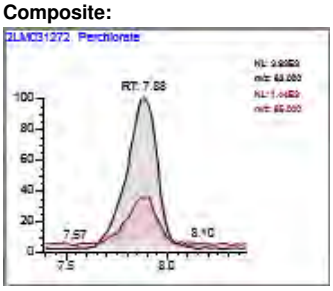
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			QC: 0.200	0.140 - 0.260	
7.88	m/z 83.000	41087	0.204		N/A
7.89	m/z 85.000	11917		26.30 - 39.45	29

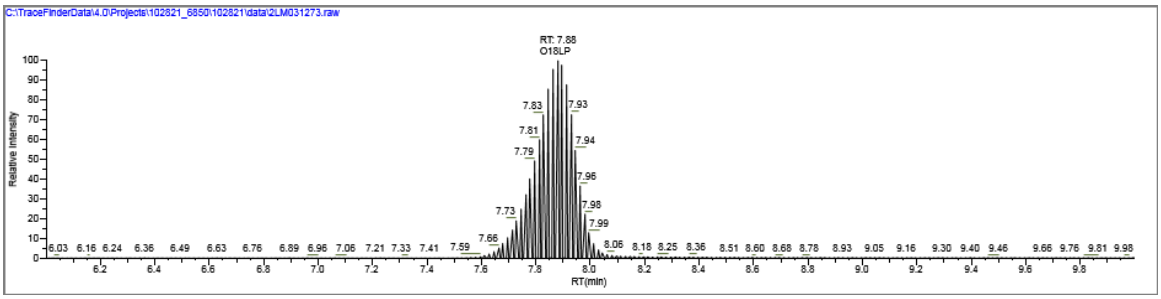
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 102821

Method: 102821_Perchlorate 6850 Perchlorate 6850
Cali File: 102821.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A1	S1J0510-CCB4	2LM031273	N/A	CCB	10/29/2021 2:13:22 AM	1:01



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.88	89	1344678			5.000	ug/L	5.000	ug/L	

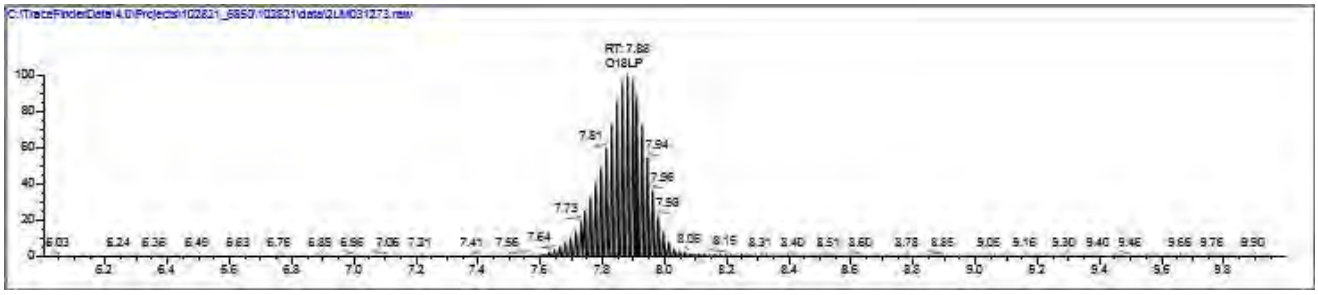
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.87	83	3202	Linear	0.002	0.028	ug/L	0.028	ug/L	I

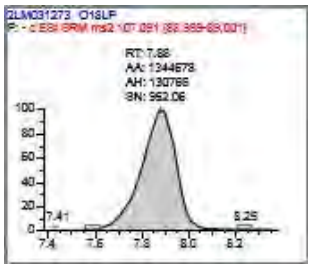
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

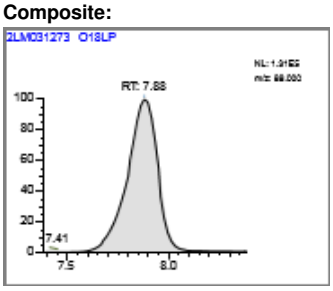
Data File:	2LM031273	Tune Report Date:	Tune report not found
Method:	102821_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	10/29/2021 2:13:22 AM
		Cali File Date:	10/29/2021 9:06:35 AM
Cali File:	102821.calx	Operator ID:	CAS
Sample ID:	S1J0510-CCB4	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:A1
Comments:	1:01		



m/z 89.000



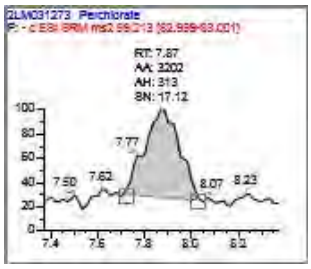
Composite:



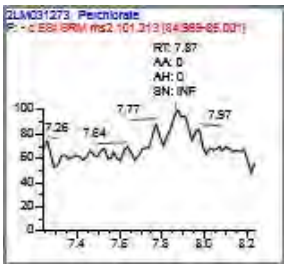
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio	
			N/A			
7.88	m/z 89.000	1344678	5.000		N/A	

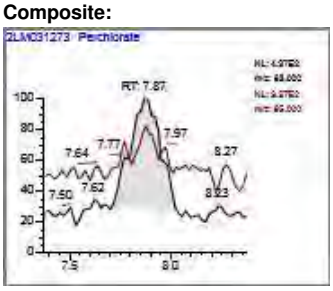
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio	
			N/A			
7.87	m/z 83.000	3202	0.028		N/A	I
7.87	m/z 85.000			26.30 - 39.45	*	

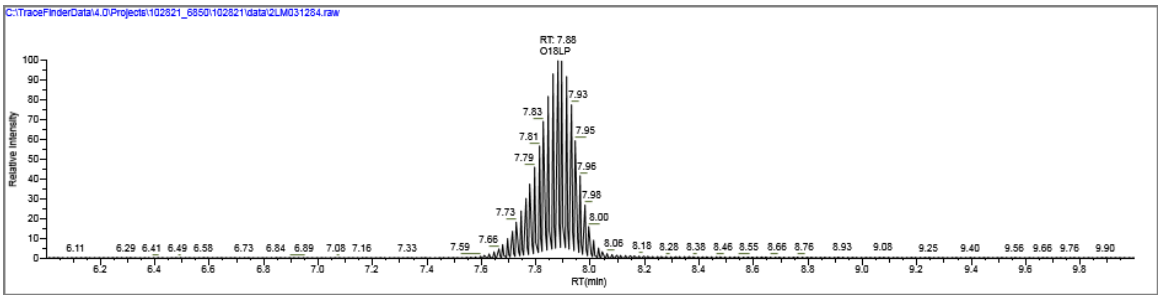
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 102821

Method: 102821_Perchlorate 6850
Perchlorate 6850
Cali File: 102821.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A5	S1J0510-CCV5	2LM031284	CCV	CCV 1.0 ug/L	10/29/2021 4:39:14 AM	1:01



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.88	89	1115711			5.000	ug/L	5.000	ug/L	

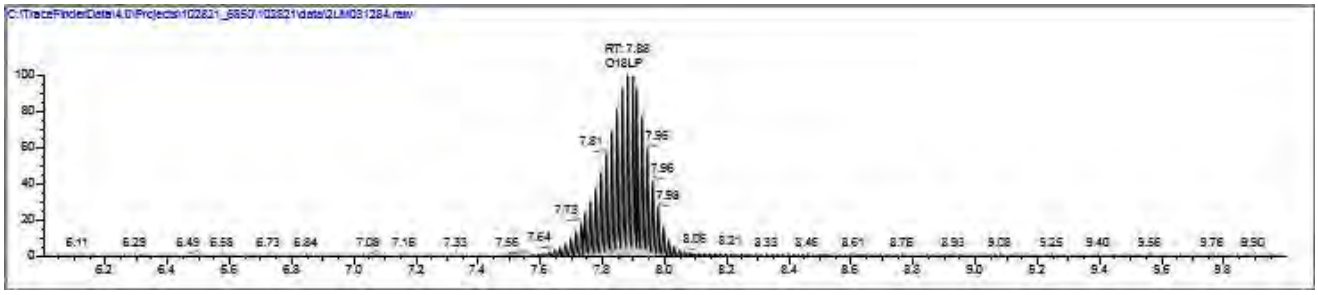
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.88	83	184711	Linear	0.166	0.963	ug/L	0.963	ug/L	

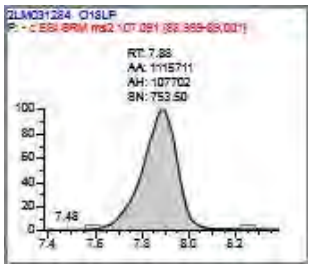
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

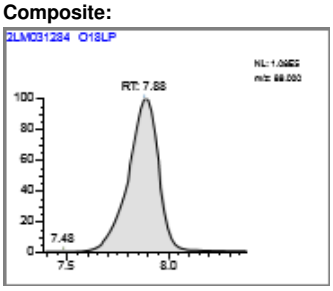
Data File:	2LM031284	Tune Report Date:	Tune report not found
Method:	102821_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	10/29/2021 4:39:14 AM
		Cali File Date:	10/29/2021 9:06:35 AM
Cali File:	102821.calx	Operator ID:	CAS
Sample ID:	S1J0510-CCV5	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:A5
Comments:	1:01		



m/z 89.000



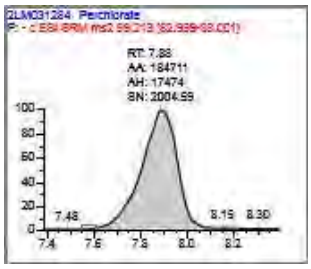
Composite:



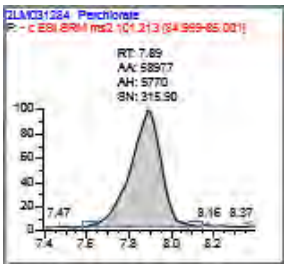
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.88	m/z 89.000	1115711	5.000		N/A

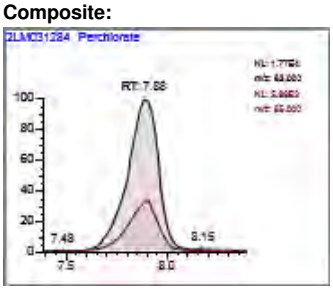
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			QC: 1.000	0.850 - 1.150	
7.88	m/z 83.000	184711	0.963		N/A
7.89	m/z 85.000	58977		26.30 - 39.45	31.93

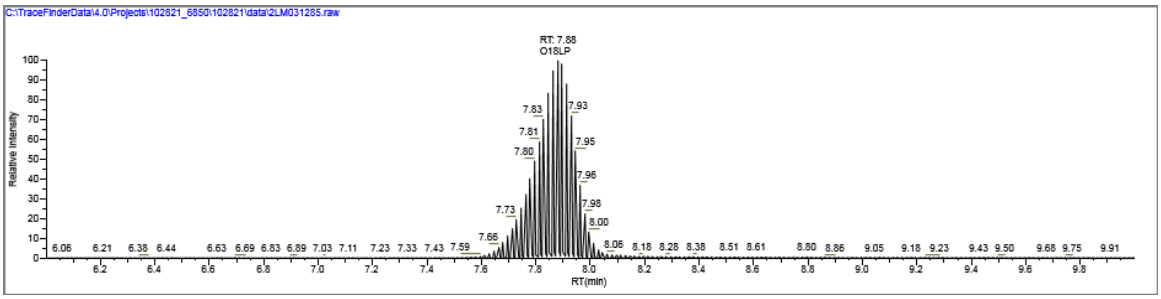
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 102821

Method: 102821_Perchlorate 6850 Perchlorate 6850
Cali File: 102821.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A3	S1J0510-CRL5	2LM031285	QCMRL	QCMRL 0.2 ug/L	10/29/2021 4:52:29 AM	1:01



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.88	89	1192196			5.000	ug/L	5.000	ug/L	

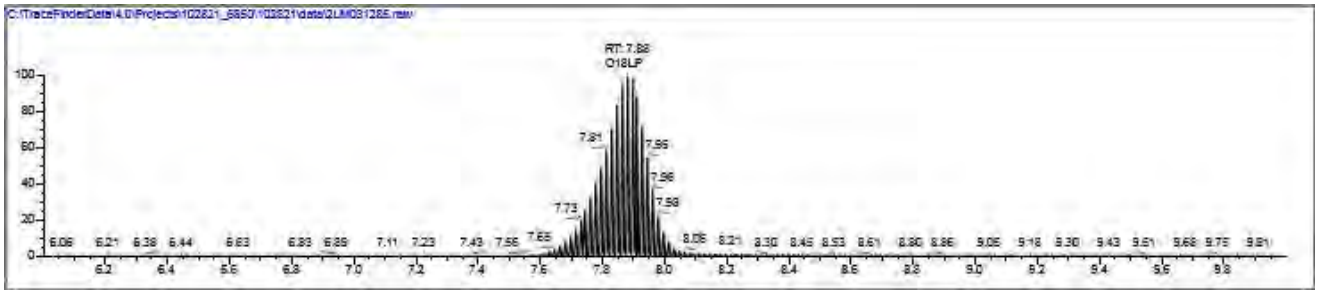
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.88	83	38863	Linear	0.033	0.201	ug/L	0.201	ug/L	

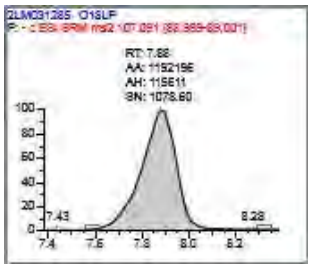
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

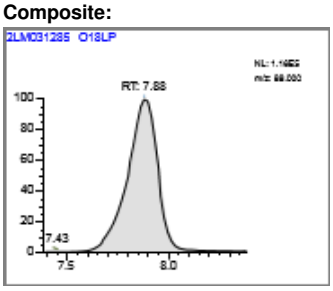
Data File:	2LM031285	Tune Report Date:	Tune report not found
Method:	102821_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	10/29/2021 4:52:29 AM
		Cali File Date:	10/29/2021 9:06:35 AM
Cali File:	102821.calx	Operator ID:	CAS
Sample ID:	S1J0510-CRL5	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:A3
Comments:	1:01		



m/z 89.000



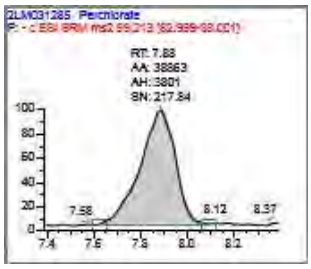
Composite:



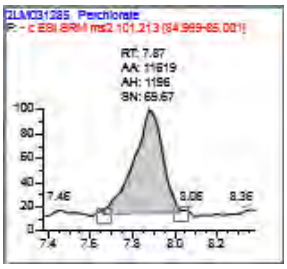
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.88	m/z 89.000	1192196	5.000		N/A

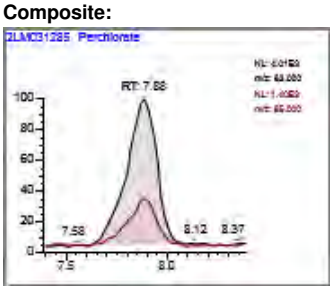
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			QC: 0.200	0.140 - 0.260	
7.88	m/z 83.000	38863	0.201		N/A
7.87	m/z 85.000	11619		26.30 - 39.45	29.9

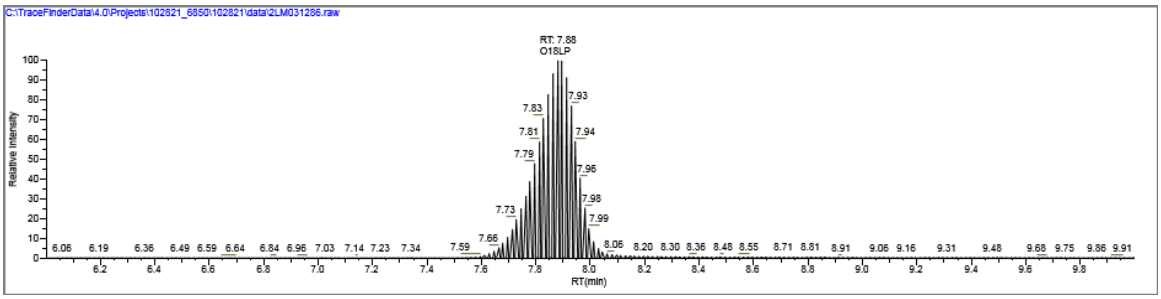
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 102821

Method: 102821_Perchlorate 6850 Perchlorate 6850
Cali File: 102821.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A1	S1J0510-CCB5	2LM031286	N/A	CCB	10/29/2021 5:05:44 AM	1:01



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.88	89	1248933			5.000	ug/L	5.000	ug/L	

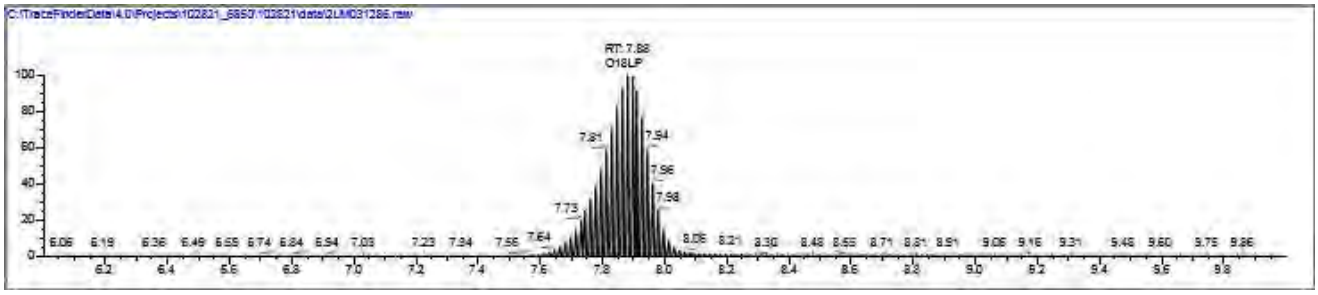
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.88	83	3274	Linear	0.003	0.029	ug/L	0.029	ug/L	I

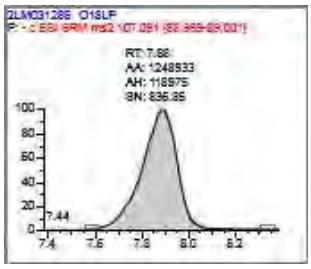
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

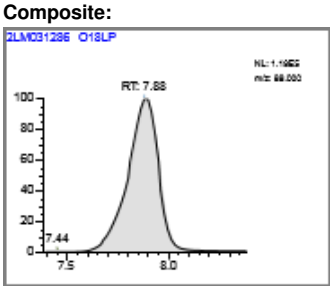
Data File:	2LM031286	Tune Report Date:	Tune report not found
Method:	102821_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	10/29/2021 5:05:44 AM
		Cali File Date:	10/29/2021 9:06:35 AM
Cali File:	102821.calx	Operator ID:	CAS
Sample ID:	S1J0510-CCB5	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:A1
Comments:	1:01		



m/z 89.000



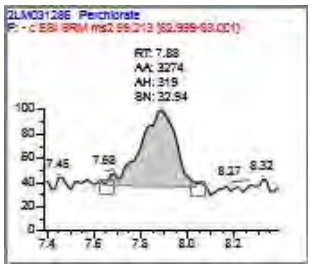
Composite:



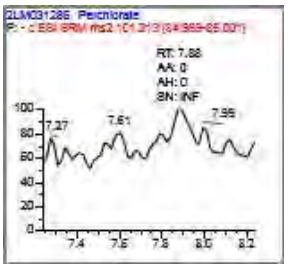
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio	
			N/A			
7.88	m/z 89.000	1248933	5.000		N/A	

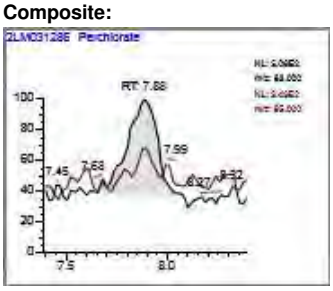
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio	
			N/A			
7.88	m/z 83.000	3274	0.029		N/A	I
7.88	m/z 85.000			26.30 - 39.45	*	

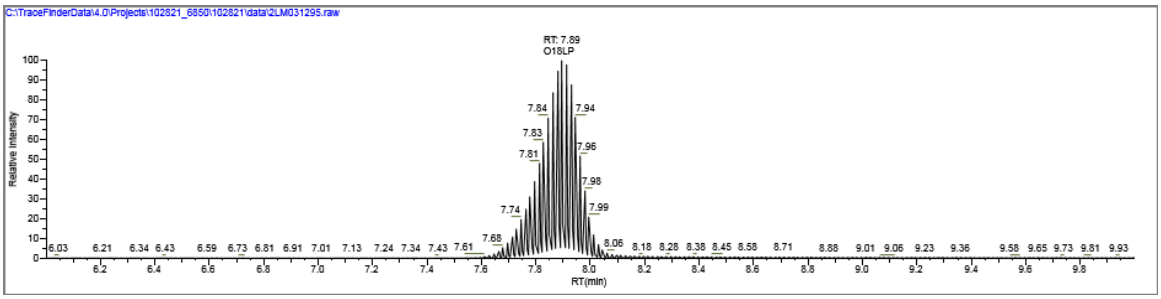
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 102821

Method: 102821_Perchlorate 6850 Perchlorate 6850
Cali File: 102821.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A5	S1J0510-CCV6	2LM031295	CCV	CCV 1.0 ug/L	10/29/2021 7:04:59 AM	1:01



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.89	89	1377847			5.000	ug/L	5.000	ug/L	

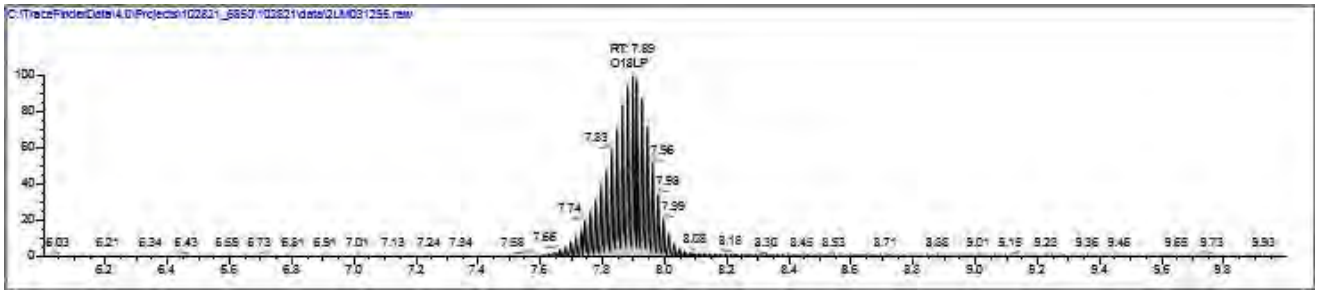
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.9	83	225475	Linear	0.164	0.952	ug/L	0.952	ug/L	

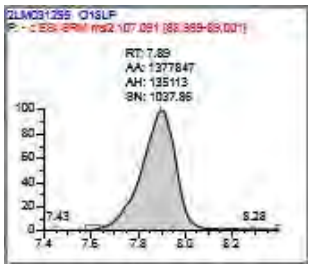
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

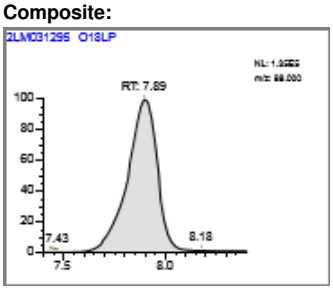
Data File:	2LM031295	Tune Report Date:	Tune report not found
Method:	102821_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	10/29/2021 7:04:59 AM
		Cali File Date:	10/29/2021 9:06:35 AM
Cali File:	102821.calx	Operator ID:	CAS
Sample ID:	S1J0510-CCV6	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:A5
Comments:	1:01		



m/z 89.000



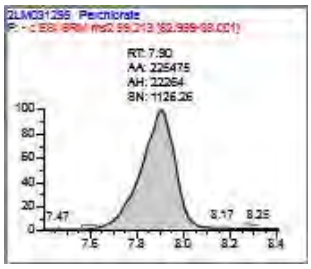
Composite:



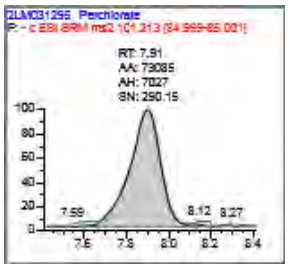
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.89	m/z 89.000	1377847	5.000		N/A

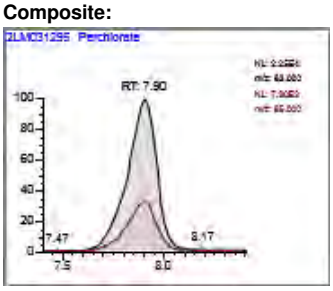
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			QC: 1.000	0.850 - 1.150	
7.90	m/z 83.000	225475	0.952		N/A
7.91	m/z 85.000	73085		26.30 - 39.45	32.41

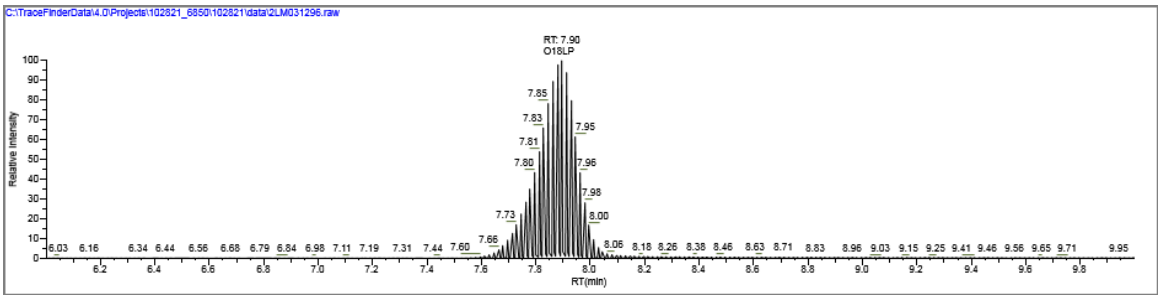
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 102821

Method: 102821_Perchlorate 6850 Perchlorate 6850
Cali File: 102821.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A3	S1J0510-CRL6	2LM031296	QCMRL	QCMRL 0.2 ug/L	10/29/2021 7:18:13 AM	1:01



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.90	89	1512320			5.000	ug/L	5.000	ug/L	

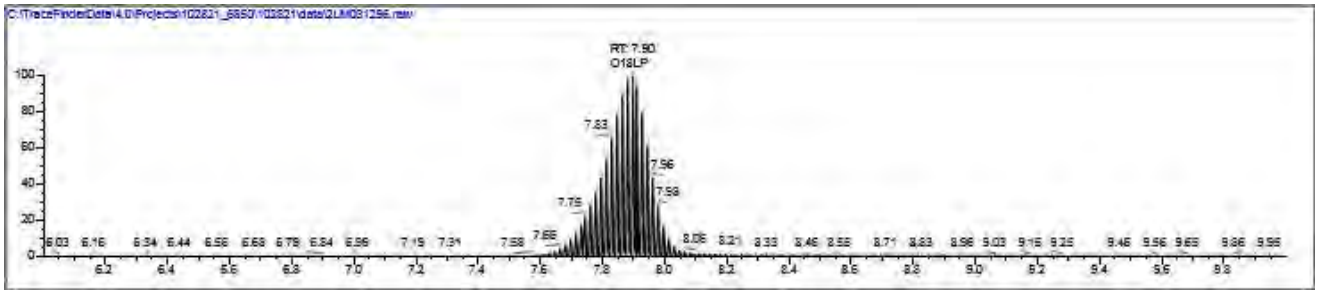
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.9	83	49914	Linear	0.033	0.203	ug/L	0.203	ug/L	

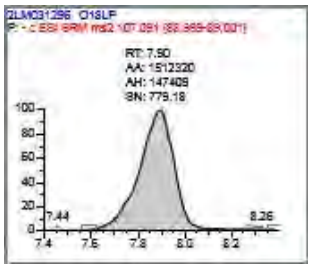
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

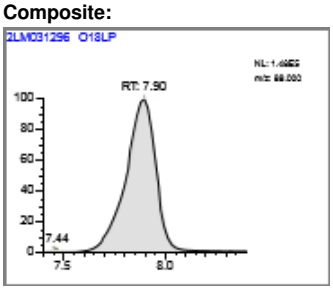
Data File:	2LM031296	Tune Report Date:	Tune report not found
Method:	102821_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	10/29/2021 7:18:13 AM
		Cali File Date:	10/29/2021 9:06:35 AM
Cali File:	102821.calx	Operator ID:	CAS
Sample ID:	S1J0510-CRL6	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:A3
Comments:	1:01		



m/z 89.000



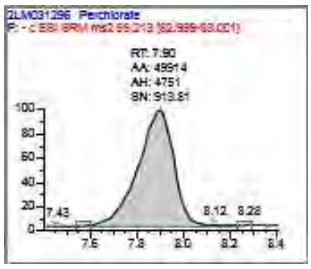
Composite:



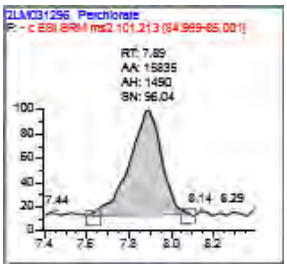
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.90	m/z 89.000	1512320	5.000		N/A

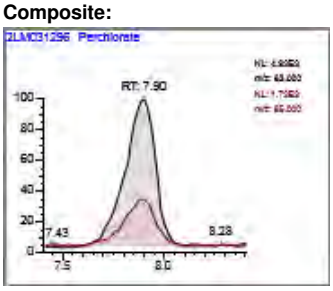
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			QC: 0.200	0.140 - 0.260	
7.90	m/z 83.000	49914	0.203		N/A
7.89	m/z 85.000	15835		26.30 - 39.45	31.72

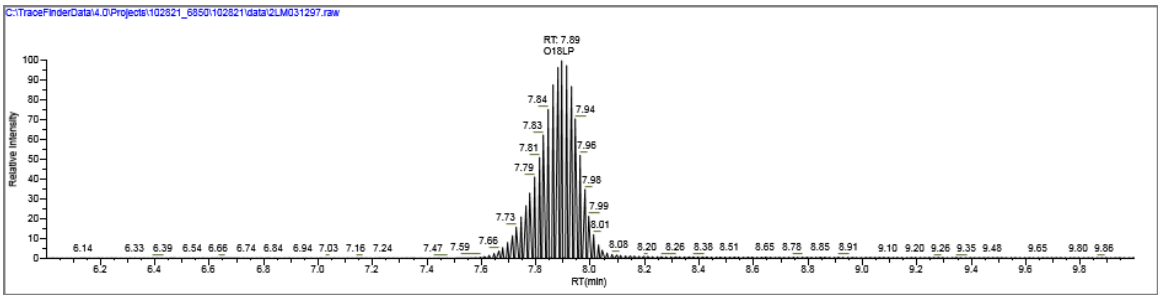
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 102821

Method: 102821_Perchlorate 6850 Perchlorate 6850
Cali File: 102821.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A1	S1J0510-CCB6	2LM031297	N/A	CCB	10/29/2021 7:31:28 AM	1:01



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.89	89	1446848			5.000	ug/L	5.000	ug/L	

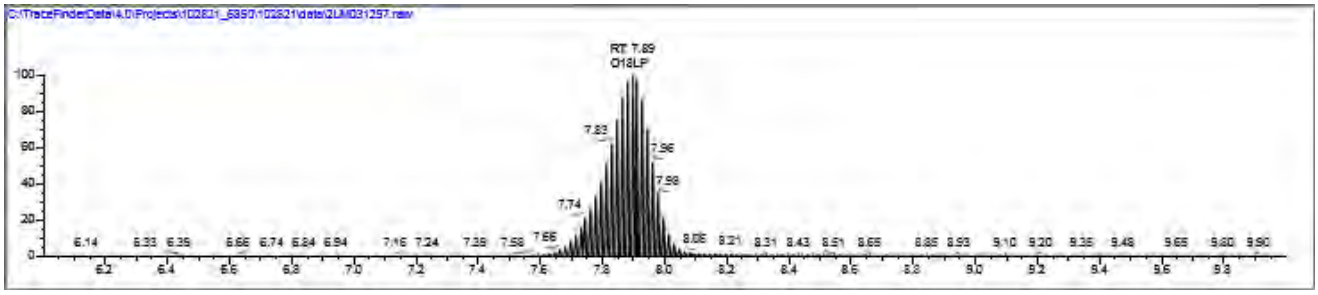
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.9	83	4077	Linear	0.003	0.03	ug/L	0.03	ug/L	I

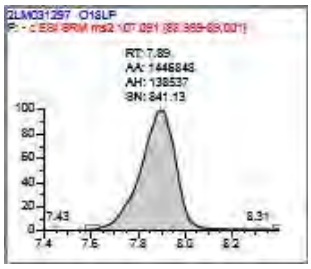
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

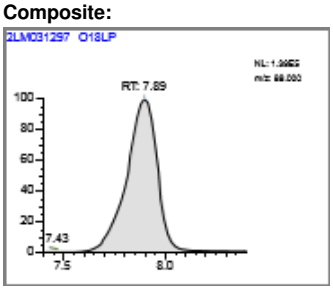
Data File:	2LM031297	Tune Report Date:	Tune report not found
Method:	102821_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	10/29/2021 7:31:28 AM
		Cali File Date:	10/29/2021 9:06:35 AM
Cali File:	102821.calx	Operator ID:	CAS
Sample ID:	S1J0510-CCB6	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:A1
Comments:	1:01		



m/z 89.000



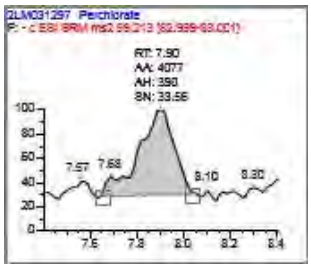
Composite:



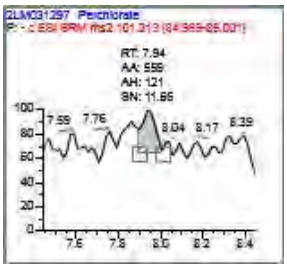
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.89	m/z 89.000	1446848	5.000		N/A

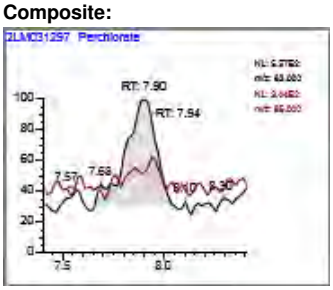
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio	
			N/A			
7.90	m/z 83.000	4077	0.030		N/A	I
7.94	m/z 85.000	559		26.30 - 39.45	13.7 *	

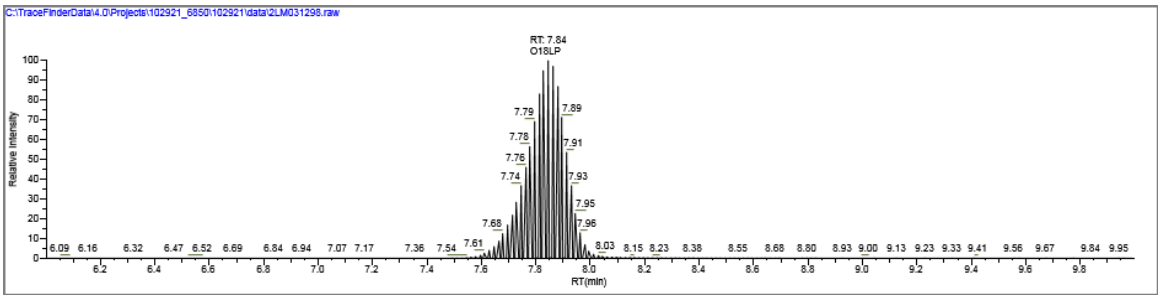
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: TSQ_Quantiva
Batch: 102921

Method: 102921_Perchlorate 6850 Perchlorate 6850
Cali File: 102821_102921.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A1	S1J0523-CCB1	2LM031298	N/A	CCB	10/29/2021 11:09:36 AM	1:01



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.84	89	1238370			5.000	ug/L	5.000	ug/L	

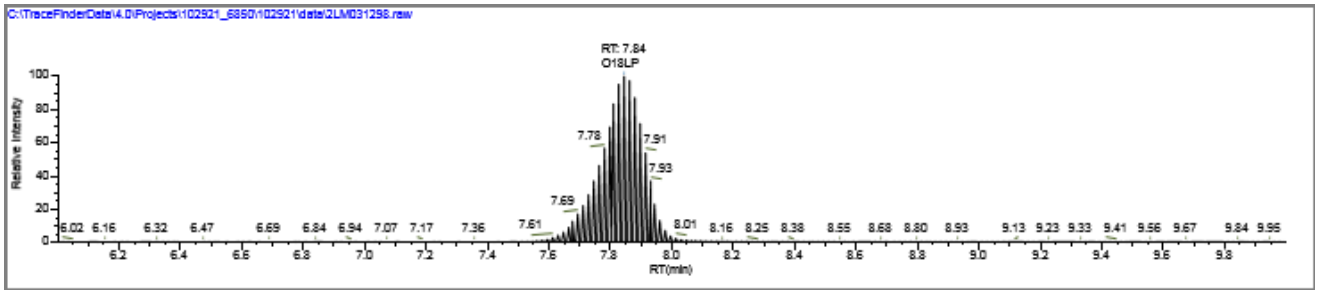
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.83	83	3420	Linear	0.003	0.03	ug/L	0.03	ug/L	I

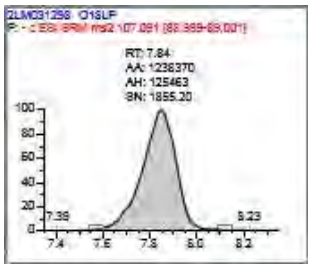
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

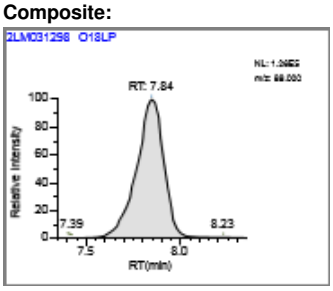
Data File:	2LM031298	Tune Report Date:	Tune report not found
Method:	102921_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	10/29/2021 11:09:36 AM
		Cali File Date:	10/29/2021 9:06:35 AM
Cali File:	102821_102921.calx	Operator ID:	TSQ_Quantiva
Sample ID:	S1J0523-CCB1	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:A1
Comments:	1:01		



m/z 89.000



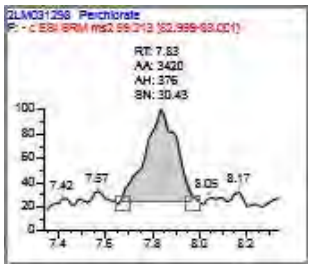
Composite:



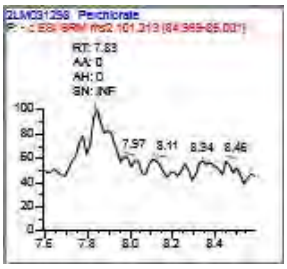
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.84	m/z 89.000	1238370	5.000		N/A

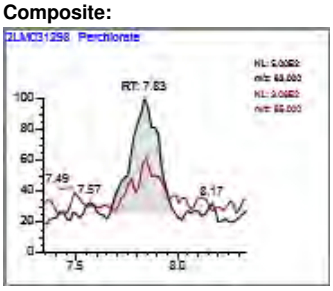
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio	
			N/A			
7.83	m/z 83.000	3420	0.030		N/A	I
7.83	m/z 85.000			25.89 - 38.83	*	

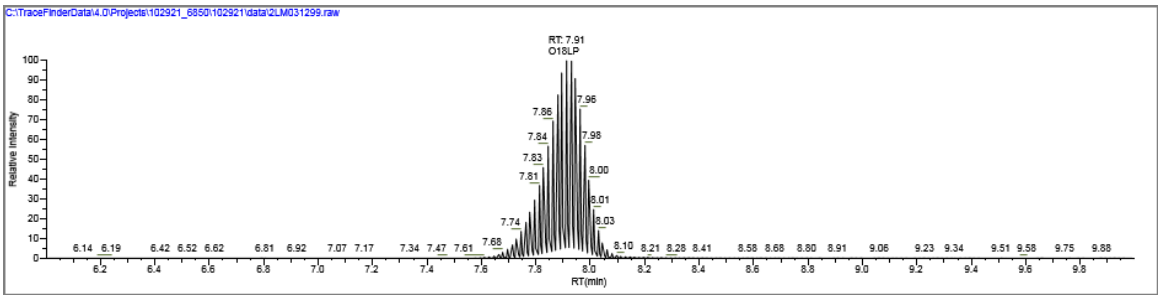
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: TSQ_Quantiva
Batch: 102921

Method: 102921_Perchlorate 6850
Perchlorate 6850
Cali File: 102821_102921.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A5	S1J0523-CCV1	2LM031299	CCV	CCV 1.0 ug/L	10/29/2021 11:22:52 AM	1:1 0012466



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.91	89	1320355			5.000	ug/L	5.000	ug/L	

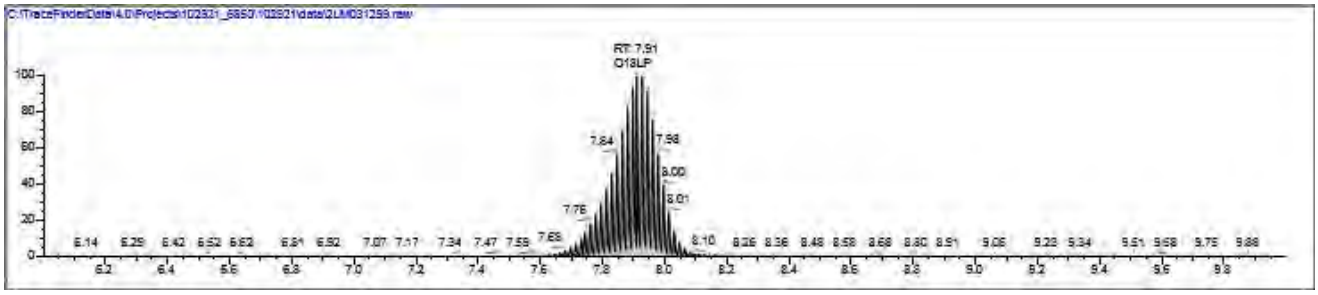
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.92	83	214302	Linear	0.162	0.944	ug/L	0.944	ug/L	

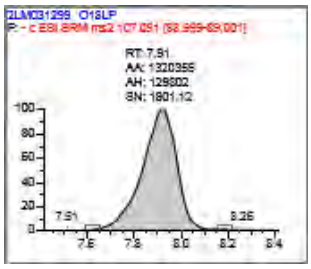
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

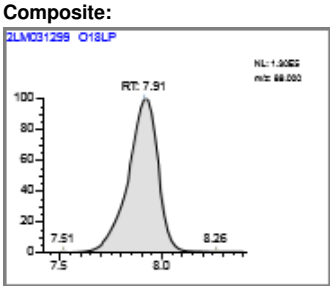
Data File:	2LM031299	Tune Report Date:	Tune report not found
Method:	102921_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	10/29/2021 11:22:52 AM
		Cali File Date:	10/29/2021 9:06:35 AM
Cali File:	102821_102921.calx	Operator ID:	TSQ_Quantiva
Sample ID:	S1J0523-CCV1	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:A5
Comments:	1:1 0012466		



m/z 89.000



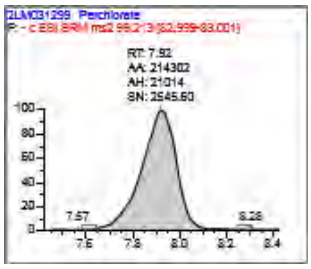
Composite:



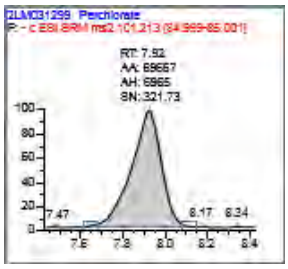
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.91	m/z 89.000	1320355	5.000		N/A

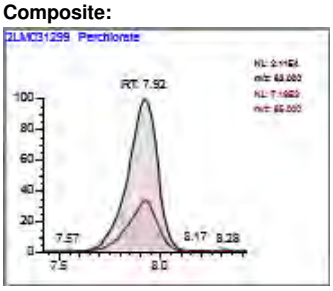
m/z 83.000



m/z 85.000



Composite:



Perchlorate

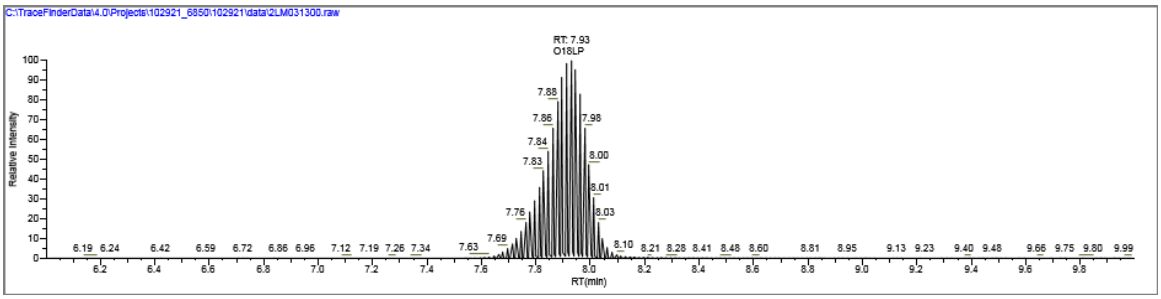
RT (min)	Ion	Response	Amount	Target Range	Ratio
			QC: 1.000	0.850 - 1.150	
7.92	m/z 83.000	214302	0.944		N/A
7.92	m/z 85.000	69667		25.89 - 38.83	32.51

Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name:	Microbac OVD		
Instrument:	LCMS2	**Method:**	102921_Perchlorate 6850
User:	TSQ_Quantiva		Perchlorate 6850
Batch:	102921	**Cali File:**	102821_102921.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A3	S1J0523-CRL1	2LM031300	QCMRL	QCMRL 0.2 ug/L	10/29/2021 11:36:06 AM	1:1 0012468



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.93	89	1326434			5.000	ug/L	5.000	ug/L	

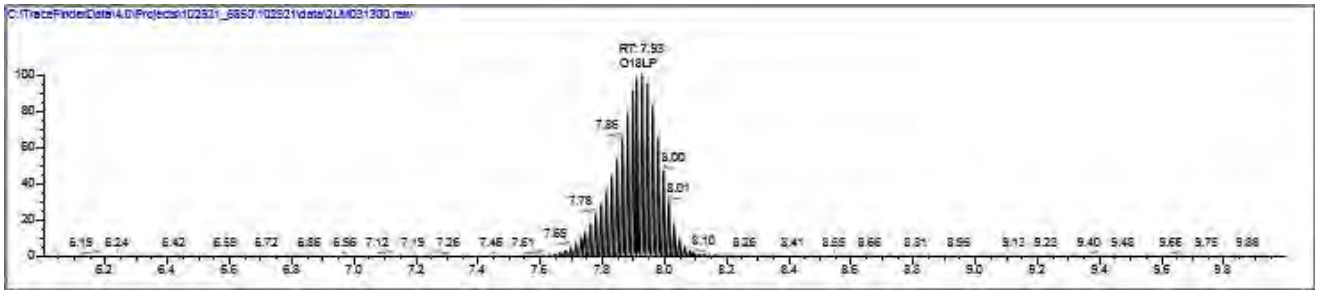
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.93	83	43732	Linear	0.033	0.203	ug/L	0.203	ug/L	

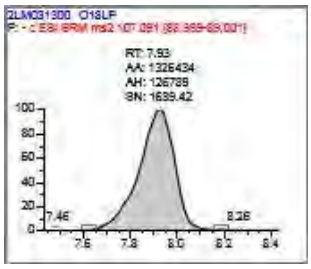
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

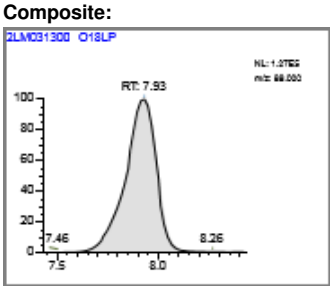
Data File:	2LM031300	Tune Report Date:	Tune report not found
Method:	102921_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	10/29/2021 11:36:06 AM
		Cali File Date:	10/29/2021 9:06:35 AM
Cali File:	102821_102921.calx	Operator ID:	TSQ_Quantiva
Sample ID:	S1J0523-CRL1	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:A3
Comments:	1:1 0012468		



m/z 89.000



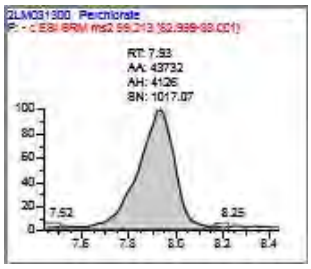
Composite:



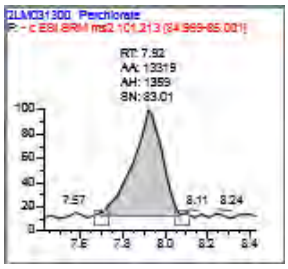
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.93	m/z 89.000	1326434	5.000		N/A

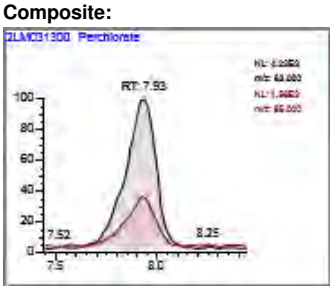
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			QC: 0.200	0.140 - 0.260	
7.93	m/z 83.000	43732	0.203		N/A
7.92	m/z 85.000	13319		25.89 - 38.83	30.46

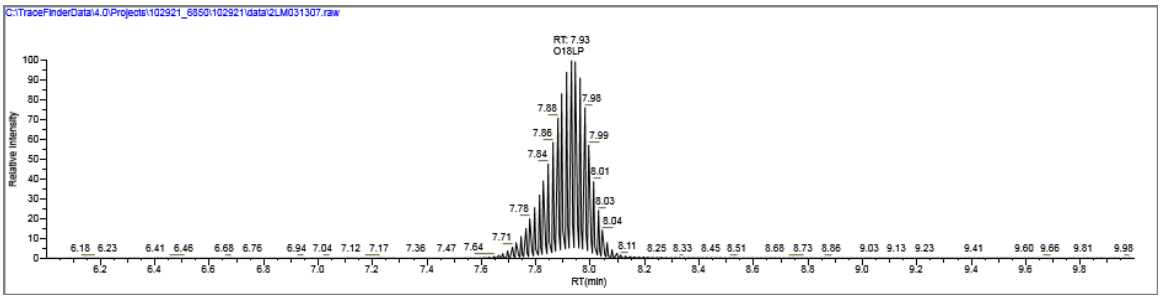
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: TSQ_Quantiva
Batch: 102921

Method: 102921_Perchlorate 6850 Perchlorate 6850
Cali File: 102821_102921.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A5	S1J0523-CCV2	2LM031307	CCV	CCV 1.0 ug/L	10/29/2021 1:08:59 PM	1:1 0012466



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.93	89	1361915			5.000	ug/L	5.000	ug/L	

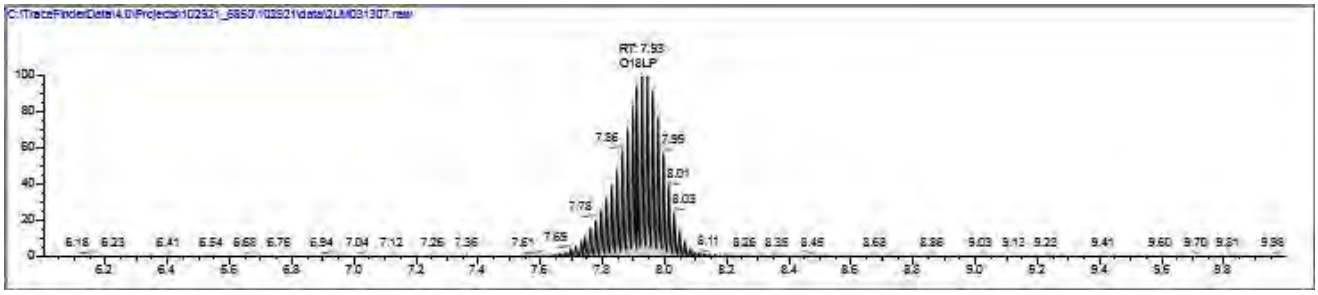
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.93	83	221754	Linear	0.163	0.947	ug/L	0.947	ug/L	

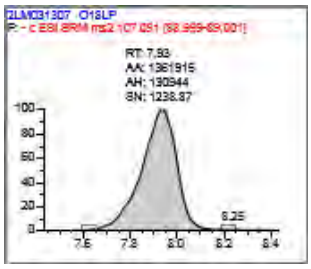
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

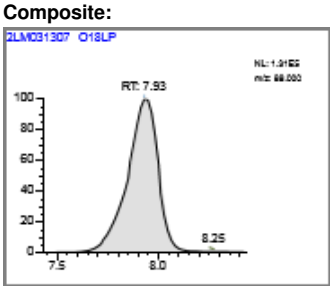
Data File:	2LM031307	Tune Report Date:	Tune report not found
Method:	102921_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	10/29/2021 1:08:59 PM
Cali File:	102821_102921.calx	Cali File Date:	10/29/2021 9:06:35 AM
Sample ID:	S1J0523-CCV2	Operator ID:	TSQ_Quantiva
Diln Factor:	1.00	Instrument ID:	LCMS2
Comments:	1:1 0012466	Vial Number:	R:A5



m/z 89.000



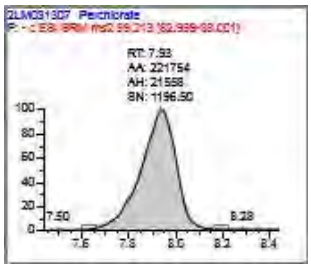
Composite:



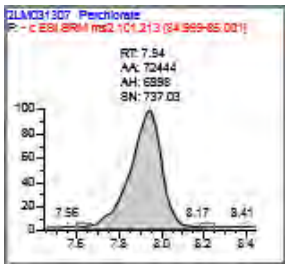
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.93	m/z 89.000	1361915	5.000		N/A

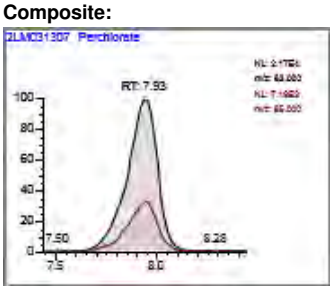
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			QC: 1.000	0.850 - 1.150	
7.93	m/z 83.000	221754	0.947		N/A
7.94	m/z 85.000	72444		25.89 - 38.83	32.67

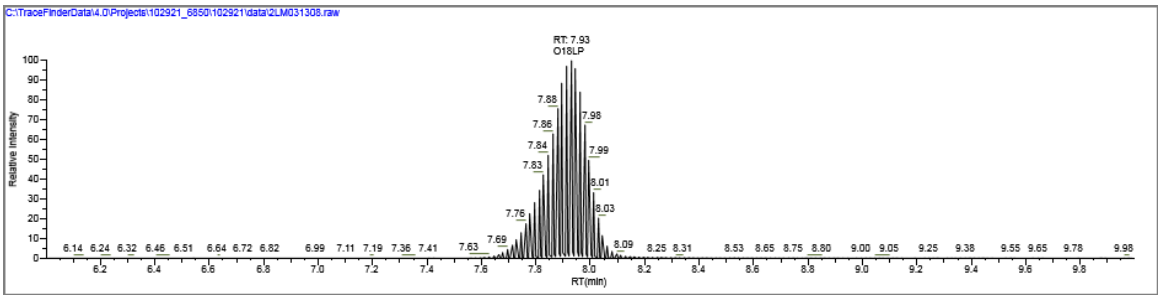
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: TSQ_Quantiva
Batch: 102921

Method: 102921_Perchlorate 6850
Perchlorate 6850
Cali File: 102821_102921.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A3	S1J0523-CRL2	2LM031308	QCMRL	QCMRL 0.2 ug/L	10/29/2021 1:22:13 PM	1:1 0012468



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.93	89	1445889			5.000	ug/L	5.000	ug/L	

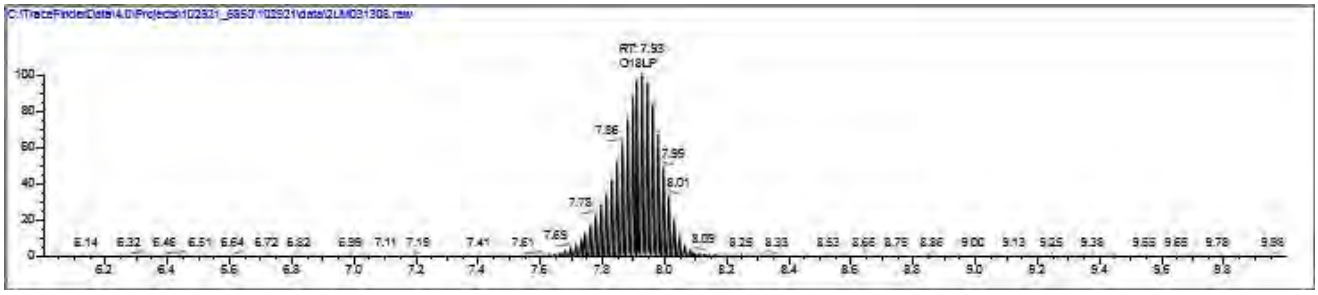
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.95	83	46431	Linear	0.032	0.198	ug/L	0.198	ug/L	

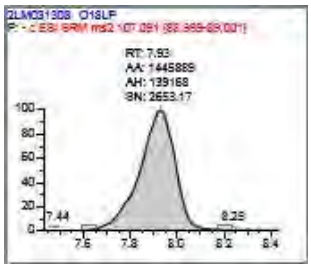
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

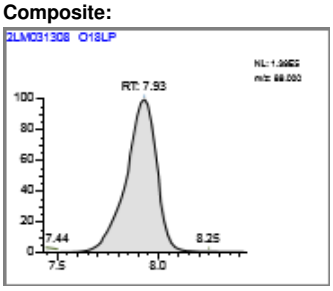
Data File:	2LM031308	Tune Report Date:	Tune report not found
Method:	102921_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	10/29/2021 1:22:13 PM
Cali File:	102821_102921.calx	Cali File Date:	10/29/2021 9:06:35 AM
Sample ID:	S1J0523-CRL2	Operator ID:	TSQ_Quantiva
Diln Factor:	1.00	Instrument ID:	LCMS2
Comments:	1:1 0012468	Vial Number:	R:A3



m/z 89.000



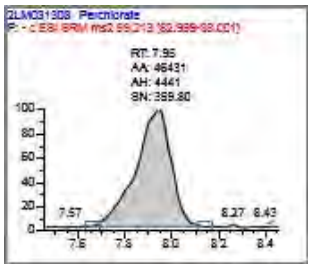
Composite:



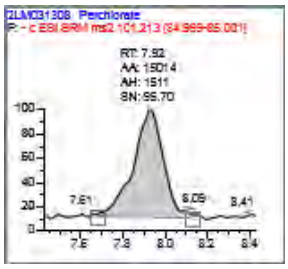
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.93	m/z 89.000	1445889	5.000		N/A

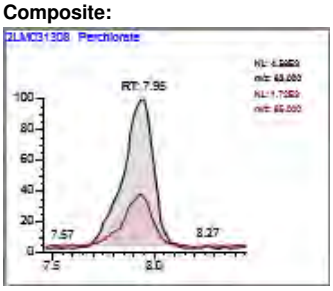
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			QC: 0.200	0.140 - 0.260	
7.95	m/z 83.000	46431	0.198		N/A
7.92	m/z 85.000	15014		25.89 - 38.83	32.34

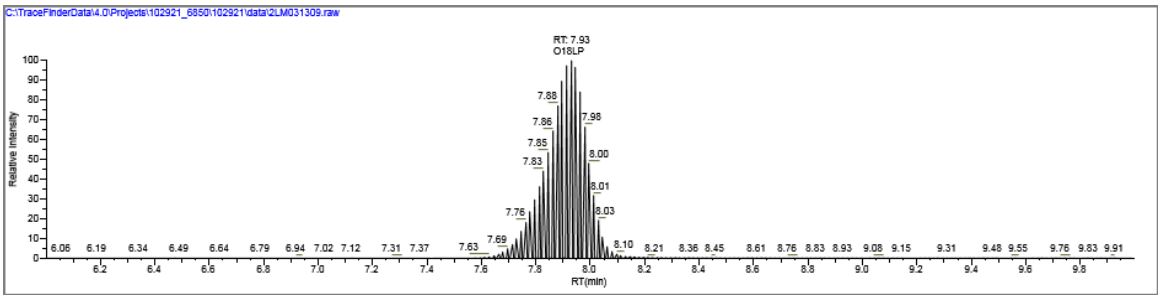
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: TSQ_Quantiva
Batch: 102921

Method: 102921_Perchlorate 6850 Perchlorate 6850
Cali File: 102821_102921.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A1	S1J0523-CCB2	2LM031309	N/A	CCB	10/29/2021 1:35:28 PM	1:01



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.93	89	1428653			5.000	ug/L	5.000	ug/L	

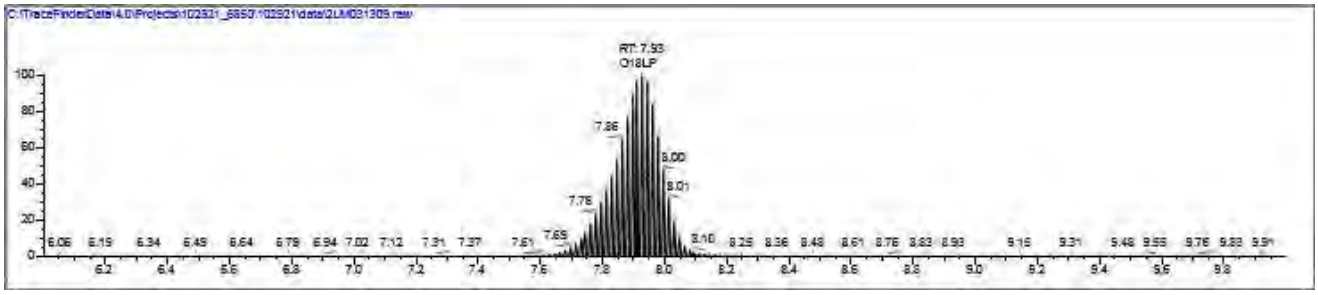
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.92	83	3298	Linear	0.002	0.027	ug/L	0.027	ug/L	I

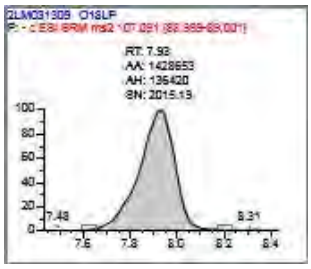
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

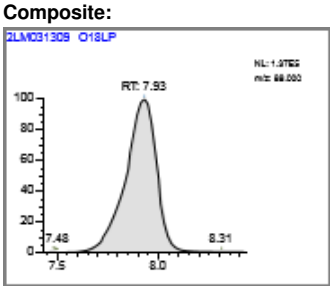
Data File:	2LM031309	Tune Report Date:	Tune report not found
Method:	102921_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	10/29/2021 1:35:28 PM
		Cali File Date:	10/29/2021 9:06:35 AM
Cali File:	102821_102921.calx	Operator ID:	TSQ_Quantiva
Sample ID:	S1J0523-CCB2	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:A1
Comments:	1:01		



m/z 89.000



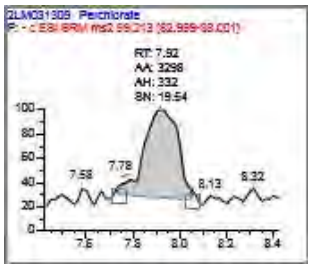
Composite:



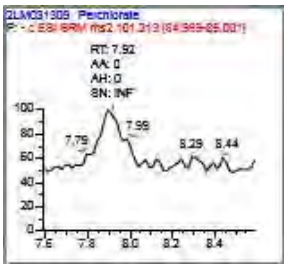
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio	
			N/A			
7.93	m/z 89.000	1428653	5.000		N/A	

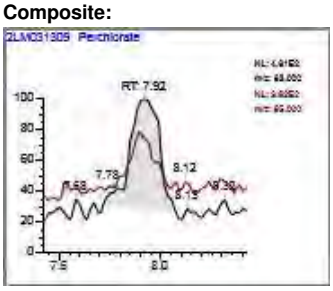
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio	
			N/A			
7.92	m/z 83.000	3298	0.027		N/A	I
7.92	m/z 85.000			25.89 - 38.83		*

Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

CHAIN OF CUSTODY

Name Of Lab Shipping To: Microbac 158 Starlite Drive Marietta, OH. 45750 (304) 299-4976 Cell (740)-373-4071 Office ATTN: Stephanie Mossburg

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

Project No. 501032

Job: LHAAP 16 October 2021

Prepared By: Scott Beesinger

P.O. Number

Field Sample I.D.	Sample Matrix	Date / Time	MS / MSD	No. OF CONTAINERS	Analyses: Perchlorate by SW6850	Remarks (Preservatives, etc.)	Lab I.D.#
16WW25-211014	WG	10/14/21/0825		1	X		
16WW25-211014-FD	WG	10/14/21/0825		1	X		
16WW26-211014	WG	10/14/21/0915		1	X		
16WW30-211014	WG	10/14/21/1005		1	X		
16WW29-211014	WG	10/14/21/1045		1	X		
16WW29-211014-FD	WG	10/14/21/1045		1	X		
16WW55-211014	WG	10/14/21/1140		1	X		

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

Relinquished By:	Date	Time	Received By:	Date	Time	Relinquished By:	Date	Time	Received By:	Date	Time
Scott Beesinger	10/14/21	1430		10/15/21	0945						

For Lab Use Only

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

Remarks:

M 1 J 0 9 7 8

APTIM Tennessee
Rec'd: 10/15/2021 09:45
By: Stephanie Murphy Temp: 2.4 (Signature)

MICROBAC®

Work Order # MIJ0418

COOLER TEMP >6° C LOG

SAMPLE ID	Bottle 1 °C	Bottle 2 °C	Bottle 3 °C	Bottle 4 °C	Bottle 5 °C	Bottle 6 °C

10/15/2021 SM

pH Lot # HC157543 pH Exceptions

SAMPLE ID	Bottle 1	Bottle 2	Bottle 3	Bottle 4	Bottle 5	Bottle 6

10/15/2021 SM

PRESERVATIVE EXCEPTIONS

✓ NONE

__ AS NOTED

10/15/2021 SM

Document Control # 1957
Last 04-10-2019

Issued to: Document Master File

Microbac Laboratories Inc., - Marietta, OH

Level IV QA/QC Data Package

Laboratory Report Number:

M1J0981

Client Project ID:

LHAAP

For:

Vicki Graves

APTIM Tennesee

2410 Cherahala BLVD

Knoxville, TN 37932

Project Requested Certification:

Microbac Laboratories Inc., - Marietta, OH	2936.01	American Association for Laboratory Accreditation

Project State of Origin: Texas

All test results meet the requirements of the QAPP and other applicable contract terms and conditions. Any exceptions are attached to this cover page or addressed in the method narratives presented in the report. I certify that all test results meet all of the requirements of the accrediting authority listed within this report. Analytical results are reported on a 'as received' basis unless specified otherwise. Analytical results for solids with units ending in (dry) are reported on a dry weight basis. A statement of uncertainty for each analysis is available upon request. This laboratory report shall not be reproduced, except in full, without the written approval of Microbac Laboratories. The reported results are related only to the samples analyzed as received. ***The services were provided under and subject to Microbac's standard terms and conditions which can be located and reviewed at <https://www.microbac.com/standard-terms-conditions>.***

Laboratory Project Manager:

Stephanie Mossburg

Stephanie Mossburg
Customer Relations Manager
Stephanie.Mossburg@microbac.com

Authorized By:

Stephanie Mossburg

Stephanie Mossburg
Customer Relations Manager
Issued: 12/06/2021

MICROBAC®

Laboratory Report Number: M1J0981

Client Project ID: LHAAP

Microbac Laboratories Inc., - Marietta, OH

Cooler Receipt Log

Cooler ID: Default Cooler Temp: 2.4 °C

Cooler Inspection Checklist

Ice Present or not required?	Yes	Shipping containers sealed or not required?	Yes
Custody seals intact or not required?	Yes	Chain of Custody (COC) Present?	Yes
COC includes customer information?	Yes	Relinquished and received signature on COC?	Yes
Sample collector identified on COC?	Yes	Sample type identified on COC?	Yes
Correct type of Containers Received	Yes	Correct number of containers listed on COC?	Yes
Containers Intact?	Yes	COC includes requested analyses?	Yes
Enough sample volume for indicated tests received?	Yes	Sample labels match COC (Name, Date & Time?)	Yes
Samples arrived within hold time?	Yes	Correct preservatives on COC or not required?	Yes
Chemical preservations checked or not required?	Yes	Preservation checks meet method requirements?	Yes
VOA vials have zero headspace, or not recd.?	Yes		

Table of Contents

Analysis Class (HPLC Organics) 8

Analysis (EPA 6850) 10

Form I, Certificate of Analysis (EPA 6850) 11

Form III, BS BSD MS MSD DUP Summary (EPA 6850) 20

Form IV, Blank Summary (EPA 6850) 22

Form VII, ICV CCV Summary (EPA 6850) 25

Form VIII, Internal Standard and RT Summary (EPA 6850) 51

Section A, Batch and Sequence Raw Data (EPA 6850) 58

Section B, Sample Raw Data (EPA 6850) 74

Section C, QC Sample Raw Data (EPA 6850) 91

Section D, Calibration Raw Data (EPA 6850) 96

Section E, Sequence Raw Data (EPA 6850) 100

Sample Summary

MICROBAC®

Sample Summary

Laboratory Report Number: M1J0981

Client Project ID: LHAAP

Microbac Laboratories Inc., - Marietta, OH

Client Sample ID:	Lab Sample ID:	Sampled:
16WW58-211013	M1J0981-01	10/13/21 07:45
16WW57-211013	M1J0981-02	10/13/21 08:35
16WW16-211013	M1J0981-03	10/13/21 09:35
16WW35-211013	M1J0981-04	10/13/21 10:25
16WW36-211013	M1J0981-05	10/13/21 11:10
16WW23-211013	M1J0981-06	10/13/21 12:05
16WW24-211013	M1J0981-07	10/13/21 12:45
16RW02-211013	M1J0981-08	10/13/21 13:25

Holding Time Summary

MICROBAC®

Specific Method: EPA 6850 **Hold Time**

Laboratory Report Number: M1J0981

Matrix: Aqueous

Client Project ID: LHAAP

Microbac Laboratories Inc., - Marietta, OH

Laboratory ID	Date Collected	Date Received	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
16WW58-211013	10/13/21 07:45	10/15/21 09:45	10/29/21 02:53	15.80	28.00	
16WW57-211013	10/13/21 08:35	10/15/21 09:45	10/29/21 03:06	15.77	28.00	
16WW16-211013	10/13/21 09:35	10/15/21 09:45	10/29/21 12:15	16.11	28.00	
16WW35-211013	10/13/21 10:25	10/15/21 09:45	10/29/21 18:10	16.32	28.00	
16WW36-211013	10/13/21 11:10	10/15/21 09:45	10/29/21 03:46	15.69	28.00	
16WW23-211013	10/13/21 12:05	10/15/21 09:45	10/29/21 03:59	15.66	28.00	
16WW24-211013	10/13/21 12:45	10/15/21 09:45	10/29/21 04:12	15.64	28.00	
16RW02-211013	10/13/21 13:25	10/15/21 09:45	10/29/21 04:26	15.63	28.00	

* - Holding time exceeded.

MICROBAC®

Analysis Class

HPLC Organics

Microbac Laboratories, Inc.
158 Starlite Drive | Marietta, OH 45750 | 800.373.4071 | www.microbac.com

MICROBAC®

HPLC Organics - Class Narrative and Notes

All test results meet the requirements of the QAPP and other applicable contract terms and conditions . Any exceptions are listed below in the sample and qc notes sections. Analytical results are reported on a 'as received' basis unless specified otherwise. Analytical results for solids with units ending in (dry) are reported on a dry weight basis. A statement of uncertainty for each analysis is available upon request.

Sample Notes

EPA 6850

D3 **Dilution was performed due to high target analyte concentration.**

M1J0981-03	16WW16-211013	M1J0981-04	16WW35-211013

AC **The Internal Standard for this sample was below the Accpetance Limit due to Sample Matrix Interference. The sample has a Biased High Non Detect Result for Perchlorate.**

O18LP

M1J0981-01	16WW58-211013	M1J0981-02	16WW57-211013
M1J0981-06	16WW23-211013		

I1 **Internal standard was outside of acceptance limits.**

O18LP

M1J0981-01	16WW58-211013	M1J0981-02	16WW57-211013
M1J0981-06	16WW23-211013		

MICROBAC®

HPLC Organics
EPA 6850

Microbac Laboratories, Inc.
158 Starlite Drive | Marietta, OH 45750 | 800.373.4071 | www.microbac.com

MICROBAC®

FORM I:
HPLC Organics
EPA 6850
RESULTS SUMMARY

Microbac Laboratories, Inc.
158 Starlite Drive | Marietta, OH 45750 | 800.373.4071 | www.microbac.com

MICROBAC®

Laboratory Report Number: M1J0981

CERTIFICATE OF ANALYSIS
FORM I

Client Project ID: LHAAP

Microbac Laboratories Inc., - Marietta, OH

Perchlorate by LCMS

Client ID:	16WW58-211013			**Collection Date:**	10/13/2021 07:45
Laboratory ID:	M1J0981-01			**Prep Date:**	10/28/2021 14:21
Matrix:	Aqueous			**Analyzed:**	10/29/2021 02:53
Batch / Sequence:	B1J1574 / S1J0510	**Analytical Method:**	EPA 6850	**Calibration:**	21J0034
Instrument:	LCMS2	**Units:**	ug/L	**File ID:**	2LM031276
Analyst:	CAS	**Dilution:**	1		

Analyte	CAS Number	Result	DL	LOD	LOQ	Flag	Qual
Perchlorate	14797-73-0	0.200	0.100	0.200	0.400	U	

Notes and Definitions

DL: Detection Limit
LOD: Limit of Detection
LOQ: Limit of Quantitation
AC: The Internal Standard for this sample was below the Accpetance Limit due to Sample Matrix Interference . The sample has a Biased High Non Detect Result for Perchlorate.
I1: Internal standard was outside of acceptance limits.
U: The analyte was analyzed for but was not detected above the reported quantitation limit. The quantitation limit has been adjusted for any dilution or concentration of the sample.
ug/L: Micrograms per Liter

MICROBAC®

Laboratory Report Number: M1J0981

CERTIFICATE OF ANALYSIS
FORM I

Client Project ID: LHAAP

Microbac Laboratories Inc., - Marietta, OH

Perchlorate by LCMS

Client ID:	16WW57-211013			**Collection Date:**	10/13/2021 08:35
Laboratory ID:	M1J0981-02			**Prep Date:**	10/28/2021 14:21
Matrix:	Aqueous			**Analyzed:**	10/29/2021 03:06
Batch / Sequence:	B1J1574 / S1J0510	**Analytical Method:**	EPA 6850	**Calibration:**	21J0034
Instrument:	LCMS2	**Units:**	ug/L	**File ID:**	2LM031277
Analyst:	CAS	**Dilution:**	1		

Analyte	CAS Number	Result	DL	LOD	LOQ	Flag	Qual
Perchlorate	14797-73-0	0.200	0.100	0.200	0.400	U	

Notes and Definitions

DL: Detection Limit
LOD: Limit of Detection
LOQ: Limit of Quantitation
AC: The Internal Standard for this sample was below the Accpetance Limit due to Sample Matrix Interference . The sample has a Biased High Non Detect Result for Perchlorate.
I1: Internal standard was outside of acceptance limits.
U: The analyte was analyzed for but was not detected above the reported quantitation limit. The quantitation limit has been adjusted for any dilution or concentration of the sample.
ug/L: Micrograms per Liter

MICROBAC®

Laboratory Report Number: M1J0981

CERTIFICATE OF ANALYSIS
FORM I

Client Project ID: LHAAP

Microbac Laboratories Inc., - Marietta, OH

Perchlorate by LCMS

Client ID:	16WW16-211013			**Collection Date:**	10/13/2021 09:35
Laboratory ID:	M1J0981-03			**Prep Date:**	10/28/2021 14:21
Matrix:	Aqueous			**Analyzed:**	10/29/2021 12:15
Batch / Sequence:	B1J1574 / S1J0523	**Analytical Method:**	EPA 6850	**Calibration:**	21J0034
Instrument:	LCMS2	**Units:**	ug/L	**File ID:**	2LM031303
Analyst:	CAS	**Dilution:**	1000		

Sample Notes: D3

Analyte	CAS Number	Result	DL	LOD	LOQ	Flag	Qual
Perchlorate	14797-73-0	555	100	200	400		

Notes and Definitions

DL: Detection Limit
LOD: Limit of Detection
LOQ: Limit of Quantitation
D3: Dilution was performed due to high target analyte concentration.
ug/L: Micrograms per Liter

MICROBAC®

Laboratory Report Number: M1J0981

CERTIFICATE OF ANALYSIS
FORM I

Client Project ID: LHAAP

Microbac Laboratories Inc., - Marietta, OH

Perchlorate by LCMS

Client ID:	16WW35-211013			**Collection Date:**	10/13/2021 10:25
Laboratory ID:	M1J0981-04			**Prep Date:**	10/28/2021 14:21
Matrix:	Aqueous			**Analyzed:**	10/29/2021 18:10
Batch / Sequence:	B1J1574 / S1J0551	**Analytical Method:**	EPA 6850	**Calibration:**	21J0034
Instrument:	LCMS2	**Units:**	ug/L	**File ID:**	2LM031317
Analyst:	CAS	**Dilution:**	100		

Sample Notes: D3

Analyte	CAS Number	Result	DL	LOD	LOQ	Flag	Qual
Perchlorate	14797-73-0	366	10.0	20.0	40.0		

Notes and Definitions

DL: Detection Limit
LOD: Limit of Detection
LOQ: Limit of Quantitation
D3: Dilution was performed due to high target analyte concentration.
ug/L: Micrograms per Liter

MICROBAC®

Laboratory Report Number: M1J0981

CERTIFICATE OF ANALYSIS
FORM I

Client Project ID: LHAAP

Microbac Laboratories Inc., - Marietta, OH

Perchlorate by LCMS

Client ID:	16WW36-211013			**Collection Date:**	10/13/2021 11:10
Laboratory ID:	M1J0981-05			**Prep Date:**	10/28/2021 14:21
Matrix:	Aqueous			**Analyzed:**	10/29/2021 03:46
Batch / Sequence:	B1J1574 / S1J0510	**Analytical Method:**	EPA 6850	**Calibration:**	21J0034
Instrument:	LCMS2	**Units:**	ug/L	**File ID:**	2LM031280
Analyst:	CAS	**Dilution:**	1		

Analyte	CAS Number	Result	DL	LOD	LOQ	Flag	Qual
Perchlorate	14797-73-0	0.291	0.100	0.200	0.400	J	

Notes and Definitions

DL: Detection Limit
LOD: Limit of Detection
LOQ: Limit of Quantitation
J: The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
ug/L: Micrograms per Liter

MICROBAC®

Laboratory Report Number: M1J0981

CERTIFICATE OF ANALYSIS
FORM I

Client Project ID: LHAAP

Microbac Laboratories Inc., - Marietta, OH

Perchlorate by LCMS

Client ID:	16WW23-211013			**Collection Date:**	10/13/2021 12:05
Laboratory ID:	M1J0981-06			**Prep Date:**	10/28/2021 14:21
Matrix:	Aqueous			**Analyzed:**	10/29/2021 03:59
Batch / Sequence:	B1J1574 / S1J0510	**Analytical Method:**	EPA 6850	**Calibration:**	21J0034
Instrument:	LCMS2	**Units:**	ug/L	**File ID:**	2LM031281
Analyst:	CAS	**Dilution:**	1		

Analyte	CAS Number	Result	DL	LOD	LOQ	Flag	Qual
Perchlorate	14797-73-0	0.200	0.100	0.200	0.400	U	

Notes and Definitions

DL: Detection Limit
LOD: Limit of Detection
LOQ: Limit of Quantitation
AC: The Internal Standard for this sample was below the Accpetance Limit due to Sample Matrix Interference . The sample has a Biased High Non Detect Result for Perchlorate.
I1: Internal standard was outside of acceptance limits.
U: The analyte was analyzed for but was not detected above the reported quantitation limit. The quantitation limit has been adjusted for any dilution or concentration of the sample.
ug/L: Micrograms per Liter

MICROBAC®

Laboratory Report Number: M1J0981

CERTIFICATE OF ANALYSIS
FORM I

Client Project ID: LHAAP

Microbac Laboratories Inc., - Marietta, OH

Perchlorate by LCMS

Client ID:	16WW24-211013			**Collection Date:**	10/13/2021 12:45
Laboratory ID:	M1J0981-07			**Prep Date:**	10/28/2021 14:21
Matrix:	Aqueous			**Analyzed:**	10/29/2021 04:12
Batch / Sequence:	B1J1574 / S1J0510	**Analytical Method:**	EPA 6850	**Calibration:**	21J0034
Instrument:	LCMS2	**Units:**	ug/L	**File ID:**	2LM031282
Analyst:	CAS	**Dilution:**	1		

Analyte	CAS Number	Result	DL	LOD	LOQ	Flag	Qual
Perchlorate	14797-73-0	0.200	0.100	0.200	0.400	U	

Notes and Definitions

DL: Detection Limit
LOD: Limit of Detection
LOQ: Limit of Quantitation
U: The analyte was analyzed for but was not detected above the reported quantitation limit. The quantitation limit has been adjusted for any dilution or concentration of the sample.
ug/L: Micrograms per Liter

MICROBAC®

Laboratory Report Number: M1J0981

CERTIFICATE OF ANALYSIS
FORM I

Client Project ID: LHAAP

Microbac Laboratories Inc., - Marietta, OH

Perchlorate by LCMS

Client ID:	16RW02-211013			**Collection Date:**	10/13/2021 13:25
Laboratory ID:	M1J0981-08			**Prep Date:**	10/28/2021 14:21
Matrix:	Aqueous			**Analyzed:**	10/29/2021 04:26
Batch / Sequence:	B1J1574 / S1J0510	**Analytical Method:**	EPA 6850	**Calibration:**	21J0034
Instrument:	LCMS2	**Units:**	ug/L	**File ID:**	2LM031283
Analyst:	CAS	**Dilution:**	1		

Analyte	CAS Number	Result	DL	LOD	LOQ	Flag	Qual
Perchlorate	14797-73-0	0.200	0.100	0.200	0.400	U	

Notes and Definitions

DL: Detection Limit
LOD: Limit of Detection
LOQ: Limit of Quantitation
U: The analyte was analyzed for but was not detected above the reported quantitation limit. The quantitation limit has been adjusted for any dilution or concentration of the sample.
ug/L: Micrograms per Liter

MICROBAC®

FORM III:
HPLC Organics
EPA 6850
BS/BSD, MS/MSD, DUP

Microbac Laboratories, Inc.
158 Starlite Drive | Marietta, OH 45750 | 800.373.4071 | www.microbac.com

MICROBAC®

Laboratory Report Number: M1J0981

BLANK SPIKE (BS)

Client Project ID: LHAAP

FORM IIIB

Method:	EPA 6850		**Blank Spike**
Batch:	B1J1574	**Spike ID:**	B1J1574-BS1
Analyst:	CAS	**Prepared:**	10/28/21 14:21
Matrix:	Aqueous	**Analyzed:**	10/29/21 00:40
Units:	ug/L	**File ID:**	2LM031266
Instrument:	LCMS2	**Initial/Final:**	10mL/10mL
Calibration:	21J0034		

Analyte	BS Spiked	BS Found	BS %Rec	%Rec Limts	Q
Perchlorate	0.200	0.211	106	84 - 119	

* - Does not meet %Rec acceptance criteria.
\# - Does not meet RPD acceptance criteria.
NS - Analyte Not Spiked

MICROBAC®

FORM IV:
HPLC Organics
EPA 6850
METHOD BLANK SUMMARY

Microbac Laboratories, Inc.
158 Starlite Drive | Marietta, OH 45750 | 800.373.4071 | www.microbac.com

MICROBAC®

Laboratory Report Number: M1J0981
Client Project ID: LHAAP

METHOD BLANK SUMMARY
FORM IVA

Blank ID:	B1J1574-BLK1	**Batch:**	B1J1574
Blank File ID:	2LM031265	**Instrument:**	LCMS2
Prepared:	10/28/2021 14:21	**Method:**	EPA 6850
Analyzed:	10/29/2021 0:27	**Analyst:**	CAS

This Method Blank Applies To The Following Samples:

Client Sample ID	Laboratory Sample ID	Lab File ID	Time Analyzed
Blank	B1J1574-BLK1	2LM031265	10/29/2021 0:27
LCS	B1J1574-BS1	2LM031266	10/29/2021 0:40
16WW58-211013	M1J0981-01	2LM031276	10/29/2021 2:53
16WW57-211013	M1J0981-02	2LM031277	10/29/2021 3:06
16WW36-211013	M1J0981-05	2LM031280	10/29/2021 3:46
16WW23-211013	M1J0981-06	2LM031281	10/29/2021 3:59
16WW24-211013	M1J0981-07	2LM031282	10/29/2021 4:12
16RW02-211013	M1J0981-08	2LM031283	10/29/2021 4:26
16WW16-211013	M1J0981-03	2LM031303	10/29/2021 12:15
16WW35-211013	M1J0981-04	2LM031317	10/29/2021 18:10

MICROBAC®

Laboratory Report Number: M1J0981

Client Project ID: LHAAP

METHOD BLANK
FORM IVB

Sample ID:	B1J1574-BLK1	**Prep Date:**	10/28/21 14:21	**Matrix:**	Aqueous
Instrument:	LCMS2	**Analyzed:**	10/29/21 00:27	**Method:**	EPA 6850
File ID:	2LM031265	**Sequence:**	S1J0510	**Analyst:**	CAS
Batch:	B1J1574	**Units:**	ug/L	**Calibration:**	21J0034

Analyte	Result	DL	LOD	LOQ	Dilution	Flag	Q
Perchlorate	0.200	0.100	0.200	0.400	1	U	

Notes and Definitions

* - Detected in the associated method Blank at a concentration >= 1/2xRL

U: The analyte was analyzed for but was not detected above the reported quantitation limit. The quantitation limit has been adjusted for any dilution or concentration of the sample.

MICROBAC®

FORM VII:
HPLC Organics
EPA 6850
ICV/CCV

Microbac Laboratories, Inc.
158 Starlite Drive | Marietta, OH 45750 | 800.373.4071 | www.microbac.com

MICROBAC®

Laboratory Report Number: M1J0981
Client Project ID: LHAAP

Initial Calibration Verification (ICV)
FORM VIIA

Sample ID:	S1J0510-ICV1	**Analyzed:**	10/28/21 16:56	**Method:**	EPA 6850
Instrument:	LCMS2	**Calibration:**	21J0034	**Sequence:**	S1J0510
File ID:	2LM031231	**Units:**	ug/L	**Analyst:**	CAS

Analyte	Response	Limit	Q	Expected	Found	% Drift / % Diff	UCL	Q
Perchlorate	0.8512392			1.00	0.990	-1.0	15	

* - Does not meet acceptance criteria.

MICROBAC®

Laboratory Report Number: M1J0981
Client Project ID: LHAAP

Continuing Calibration Verification (CCV)
FORM VIIB

Laboratory ID:	S1J0510-CCV1	**Analyzed:**	10/28/21 17:23	**Method:**	EPA 6850
Instrument:	LCMS2	**Calibration:**	21J0034	**Sequence:**	S1J0510
File ID:	2LM031233	**Units:**	ug/L	**Analyst:**	CAS

Analyte	Response	Limit	Q	Expected	Found	% Drift / % Diff	UCL	Q
Perchlorate	0.8206075			1.00	0.955	-4.5	15	

* - Does not meet acceptance criteria.

MICROBAC®

Laboratory Report Number: M1J0981
Client Project ID: LHAAP

Continuing Calibration Verification (CCV)
FORM VIIB

Laboratory ID:	S1J0510-CCV2	**Analyzed:**	10/28/21 20:02	**Method:**	EPA 6850
Instrument:	LCMS2	**Calibration:**	21J0034	**Sequence:**	S1J0510
File ID:	2LM031245	**Units:**	ug/L	**Analyst:**	CAS

Analyte	Response	Limit	Q	Expected	Found	% Drift / % Diff	UCL	Q
Perchlorate	0.8179542			1.00	0.952	-4.8	15	

* - Does not meet acceptance criteria.

MICROBAC®

Laboratory Report Number: M1J0981
Client Project ID: LHAAP

Continuing Calibration Verification (CCV)
FORM VIIB

Laboratory ID:	S1J0510-CCV3	**Analyzed:**	10/28/21 22:54	**Method:**	EPA 6850
Instrument:	LCMS2	**Calibration:**	21J0034	**Sequence:**	S1J0510
File ID:	2LM031258	**Units:**	ug/L	**Analyst:**	CAS

Analyte	Response	Limit	Q	Expected	Found	% Drift / % Diff	UCL	Q
Perchlorate	0.8094733			1.00	0.942	-5.8	15	

* - Does not meet acceptance criteria.

MICROBAC®

Laboratory Report Number: M1J0981
Client Project ID: LHAAP

Continuing Calibration Verification (CCV)
FORM VIIB

Laboratory ID:	S1J0510-CCV4	**Analyzed:**	10/29/21 01:46	**Method:**	EPA 6850
Instrument:	LCMS2	**Calibration:**	21J0034	**Sequence:**	S1J0510
File ID:	2LM031271	**Units:**	ug/L	**Analyst:**	CAS

Analyte	Response	Limit	Q	Expected	Found	% Drift / % Diff	UCL	Q
Perchlorate	0.8175338			1.00	0.951	-4.9	15	

* - Does not meet acceptance criteria.

MICROBAC®

Laboratory Report Number: M1J0981
Client Project ID: LHAAP

Continuing Calibration Verification (CCV)
FORM VIIB

Laboratory ID:	S1J0510-CCV5	**Analyzed:**	10/29/21 04:39	**Method:**	EPA 6850
Instrument:	LCMS2	**Calibration:**	21J0034	**Sequence:**	S1J0510
File ID:	2LM031284	**Units:**	ug/L	**Analyst:**	CAS

Analyte	Response	Limit	Q	Expected	Found	% Drift / % Diff	UCL	Q
Perchlorate	0.8277726			1.00	0.963	-3.7	15	

* - Does not meet acceptance criteria.

MICROBAC®

Laboratory Report Number: M1J0981
Client Project ID: LHAAP

Continuing Calibration Verification (CCV)
FORM VIIB

Laboratory ID:	S1J0510-CCV6	**Analyzed:**	10/29/21 07:04	**Method:**	EPA 6850
Instrument:	LCMS2	**Calibration:**	21J0034	**Sequence:**	S1J0510
File ID:	2LM031295	**Units:**	ug/L	**Analyst:**	CAS

Analyte	Response	Limit	Q	Expected	Found	% Drift / % Diff	UCL	Q
Perchlorate	0.8182149			1.00	0.952	-4.8	15	

* - Does not meet acceptance criteria.

MICROBAC®

Laboratory Report Number: M1J0981
Client Project ID: LHAAP

Instrument Reporting Limit Check (CRL)
FORM VIIB

Laboratory ID:	S1J0510-CRL1	**Analyzed:**	10/28/21 17:36	**Method:**	EPA 6850
Instrument:	LCMS2	**Calibration:**	21J0034	**Sequence:**	S1J0510
File ID:	2LM031234	**Units:**	ug/L		

Analyte	Expected	Found	Recovery	LCL	UCL	Q
Perchlorate	0.200	0.200	100	70	130	

* - Does not meet acceptance criteria.

MICROBAC®

Laboratory Report Number: M1J0981
Client Project ID: LHAAP

Instrument Reporting Limit Check (CRL)
FORM VIIB

Laboratory ID:	S1J0510-CRL2	**Analyzed:**	10/28/21 20:15	**Method:**	EPA 6850
Instrument:	LCMS2	**Calibration:**	21J0034	**Sequence:**	S1J0510
File ID:	2LM031246	**Units:**	ug/L		

Analyte	Expected	Found	Recovery	LCL	UCL	Q
Perchlorate	0.200	0.200	100	70	130	

* - Does not meet acceptance criteria.

MICROBAC®

Laboratory Report Number: M1J0981
Client Project ID: LHAAP

Instrument Reporting Limit Check (CRL)
FORM VIIB

Laboratory ID:	S1J0510-CRL3	**Analyzed:**	10/28/21 23:07	**Method:**	EPA 6850
Instrument:	LCMS2	**Calibration:**	21J0034	**Sequence:**	S1J0510
File ID:	2LM031259	**Units:**	ug/L		

Analyte	Expected	Found	Recovery	LCL	UCL	Q
Perchlorate	0.200	0.198	99.0	70	130	

* - Does not meet acceptance criteria.

MICROBAC®

Laboratory Report Number: M1J0981
Client Project ID: LHAAP

Instrument Reporting Limit Check (CRL)
FORM VIIB

Laboratory ID:	S1J0510-CRL4	**Analyzed:**	10/29/21 02:00	**Method:**	EPA 6850
Instrument:	LCMS2	**Calibration:**	21J0034	**Sequence:**	S1J0510
File ID:	2LM031272	**Units:**	ug/L		

Analyte	Expected	Found	Recovery	LCL	UCL	Q
Perchlorate	0.200	0.204	102	70	130	

* - Does not meet acceptance criteria.

MICROBAC®

Laboratory Report Number: M1J0981
Client Project ID: LHAAP

Instrument Reporting Limit Check (CRL)
FORM VIIB

Laboratory ID:	S1J0510-CRL5	**Analyzed:**	10/29/21 04:52	**Method:**	EPA 6850
Instrument:	LCMS2	**Calibration:**	21J0034	**Sequence:**	S1J0510
File ID:	2LM031285	**Units:**	ug/L		

Analyte	Expected	Found	Recovery	LCL	UCL	Q
Perchlorate	0.200	0.201	101	70	130	

* - Does not meet acceptance criteria.

MICROBAC®

Laboratory Report Number: M1J0981
Client Project ID: LHAAP

Instrument Reporting Limit Check (CRL)
FORM VIIB

Laboratory ID:	S1J0510-CRL6	**Analyzed:**	10/29/21 07:18	**Method:**	EPA 6850
Instrument:	LCMS2	**Calibration:**	21J0034	**Sequence:**	S1J0510
File ID:	2LM031296	**Units:**	ug/L		

Analyte	Expected	Found	Recovery	LCL	UCL	Q
Perchlorate	0.200	0.203	102	70	130	

* - Does not meet acceptance criteria.

MICROBAC®

Laboratory Report Number: M1J0981
Client Project ID: LHAAP

Continuing Calibration Verification (CCV)
FORM VIIB

Laboratory ID:	S1J0523-CCV1	**Analyzed:**	10/29/21 11:22	**Method:**	EPA 6850
Instrument:	LCMS2	**Calibration:**	21J0034	**Sequence:**	S1J0523
File ID:	2LM031299	**Units:**	ug/L	**Analyst:**	CAS

Analyte	Response	Limit	Q	Expected	Found	% Drift / % Diff	UCL	Q
Perchlorate	0.8115317			1.00	0.944	-5.6	15	

* - Does not meet acceptance criteria.

MICROBAC®

Laboratory Report Number: M1J0981
Client Project ID: LHAAP

Continuing Calibration Verification (CCV)
FORM VIIB

Laboratory ID:	S1J0523-CCV2	**Analyzed:**	10/29/21 13:08	**Method:**	EPA 6850
Instrument:	LCMS2	**Calibration:**	21J0034	**Sequence:**	S1J0523
File ID:	2LM031307	**Units:**	ug/L	**Analyst:**	CAS

Analyte	Response	Limit	Q	Expected	Found	% Drift / % Diff	UCL	Q
Perchlorate	0.8141257			1.00	0.947	-5.3	15	

* - Does not meet acceptance criteria.

MICROBAC®

Laboratory Report Number: M1J0981
Client Project ID: LHAAP

Instrument Reporting Limit Check (CRL)
FORM VIIB

Laboratory ID:	S1J0523-CRL1	**Analyzed:**	10/29/21 11:36	**Method:**	EPA 6850
Instrument:	LCMS2	**Calibration:**	21J0034	**Sequence:**	S1J0523
File ID:	2LM031300	**Units:**	ug/L		

Analyte	Expected	Found	Recovery	LCL	UCL	Q
Perchlorate	0.200	0.203	102	70	130	

* - Does not meet acceptance criteria.

MICROBAC®

Laboratory Report Number: M1J0981
Client Project ID: LHAAP

Instrument Reporting Limit Check (CRL)
FORM VIIB

Laboratory ID:	S1J0523-CRL2	**Analyzed:**	10/29/21 13:22	**Method:**	EPA 6850
Instrument:	LCMS2	**Calibration:**	21J0034	**Sequence:**	S1J0523
File ID:	2LM031308	**Units:**	ug/L		

Analyte	Expected	Found	Recovery	LCL	UCL	Q
Perchlorate	0.200	0.198	99.0	70	130	

* - Does not meet acceptance criteria.

MICROBAC®

Laboratory Report Number: M1J0981
Client Project ID: LHAAP

Continuing Calibration Verification (CCV)
FORM VIIB

Laboratory ID:	S1J0551-CCV1	**Analyzed:**	10/29/21 16:50	**Method:**	EPA 6850
Instrument:	LCMS2	**Calibration:**	21J0034	**Sequence:**	S1J0551
File ID:	2LM031311	**Units:**	ug/L	**Analyst:**	CAS

Analyte	Response	Limit	Q	Expected	Found	% Drift / % Diff	UCL	Q
Perchlorate	0.8123613			1.00	0.945	-5.5	15	

* - Does not meet acceptance criteria.

MICROBAC®

Laboratory Report Number: M1J0981
Client Project ID: LHAAP

Continuing Calibration Verification (CCV)
FORM VIIB

Laboratory ID:	S1J0551-CCV2	**Analyzed:**	10/29/21 19:29	**Method:**	EPA 6850
Instrument:	LCMS2	**Calibration:**	21J0034	**Sequence:**	S1J0551
File ID:	2LM031323	**Units:**	ug/L	**Analyst:**	CAS

Analyte	Response	Limit	Q	Expected	Found	% Drift / % Diff	UCL	Q
Perchlorate	0.8194461			1.00	0.954	-4.6	15	

* - Does not meet acceptance criteria.

MICROBAC®

Laboratory Report Number: M1J0981
Client Project ID: LHAAP

Continuing Calibration Verification (CCV)
FORM VIIB

Laboratory ID:	S1J0551-CCV3	**Analyzed:**	10/29/21 20:22	**Method:**	EPA 6850
Instrument:	LCMS2	**Calibration:**	21J0034	**Sequence:**	S1J0551
File ID:	2LM031327	**Units:**	ug/L	**Analyst:**	CAS

Analyte	Response	Limit	Q	Expected	Found	% Drift / % Diff	UCL	Q
Perchlorate	0.8196357			1.00	0.954	-4.6	15	

* - Does not meet acceptance criteria.

MICROBAC®

Laboratory Report Number: M1J0981
Client Project ID: LHAAP

Instrument Reporting Limit Check (CRL)
FORM VIIB

Laboratory ID:	S1J0551-CRL1	**Analyzed:**	10/29/21 17:04	**Method:**	EPA 6850
Instrument:	LCMS2	**Calibration:**	21J0034	**Sequence:**	S1J0551
File ID:	2LM031312	**Units:**	ug/L		

Analyte	Expected	Found	Recovery	LCL	UCL	Q
Perchlorate	0.200	0.208	104	70	130	

* - Does not meet acceptance criteria.

MICROBAC®

Laboratory Report Number: M1J0981
Client Project ID: LHAAP

Instrument Reporting Limit Check (CRL)
FORM VIIB

Laboratory ID:	S1J0551-CRL2	**Analyzed:**	10/29/21 19:43	**Method:**	EPA 6850
Instrument:	LCMS2	**Calibration:**	21J0034	**Sequence:**	S1J0551
File ID:	2LM031324	**Units:**	ug/L		

Analyte	Expected	Found	Recovery	LCL	UCL	Q
Perchlorate	0.200	0.198	99.0	70	130	

* - Does not meet acceptance criteria.

MICROBAC®

Laboratory Report Number: M1J0981
Client Project ID: LHAAP

Instrument Reporting Limit Check (CRL)
FORM VIIB

Laboratory ID:	S1J0551-CRL3	**Analyzed:**	10/29/21 20:36	**Method:**	EPA 6850
Instrument:	LCMS2	**Calibration:**	21J0034	**Sequence:**	S1J0551
File ID:	2LM031328	**Units:**	ug/L		

Analyte	Expected	Found	Recovery	LCL	UCL	Q
Perchlorate	0.200	0.198	99.0	70	130	

* - Does not meet acceptance criteria.

MICROBAC®

Laboratory Report Number: M1J0981
Client Project ID: LHAAP

MATRIX CONDUCTIVITY TEST
FORM VII

Laboratory ID:	S1J0510-IFA1	**Run Date:**	10/28/21 17:49	**Matrix:**	Aqueous
Instrument:	LCMS2	**Calibration:**	21J0034	**Method:**	EPA 6850
File ID:	2LM031235	**Analyst:**	CAS	**Batch ID:**	S1J0510

Analyte	Known (ug/L)	Result (ug/L)	Recovery	LCL	UCL	MRL (ug/L)	Flags
Perchlorate	0.20000	0.231	116	80	120	0.4000	

MICROBAC®

Laboratory Report Number: M1J0981
Client Project ID: LHAAP

MATRIX CONDUCTIVITY TEST
FORM VII

Laboratory ID:	S1J0551-IFA1	**Run Date:**	10/29/21 17:17	**Matrix:**	Aqueous
Instrument:	LCMS2	**Calibration:**	21J0034	**Method:**	EPA 6850
File ID:	2LM031313	**Analyst:**	CAS	**Batch ID:**	S1J0551

Analyte	Known (ug/L)	Result (ug/L)	Recovery	LCL	UCL	MRL (ug/L)	Flags
Perchlorate	0.20000	0.224	112	80	120	0.4000	

MICROBAC®

FORM VIII:
HPLC Organics
EPA 6850
Internal Standard Area and RT

Microbac Laboratories, Inc.
158 Starlite Drive | Marietta, OH 45750 | 800.373.4071 | www.microbac.com

MICROBAC®

Laboratory Report Number: M1J0981

Client Project ID: LHAAP

INTERNAL STANDARD AREA SUMMARY
FORM VIIIA

Laboratory:	Microbac Laboratories Inc., - Marietta, OH	**SDG:**	M1J0981
Client:	APTIM Tennessee	**Project:**	Longhorn AAP
Sequence:	S1J0510	**Instrument:**	LCMS2
		Calibration:	21J0034

Blank (B1J1574-BLK1)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	1289719	7.88	1651234	7.79	78	50 - 150		0.0200	+/-2.00	

LCS (B1J1574-BS1)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	1329597	7.88	1651234	7.79	81	50 - 150		0.0200	+/-2.00	

16WW58-211013 (M1J0981-01)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	815110	7.6	1651234	7.79	49	50 - 150	*	-0.2800	+/-2.00	

16WW57-211013 (M1J0981-02)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	711765	7.53	1651234	7.79	43	50 - 150	*	-0.3500	+/-2.00	

16WW36-211013 (M1J0981-05)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	972045	7.53	1651234	7.79	59	50 - 150		-0.3500	+/-2.00	

16WW23-211013 (M1J0981-06)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	779616	7.59	1651234	7.79	47	50 - 150	*	-0.2900	+/-2.00	

16WW24-211013 (M1J0981-07)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	842922	7.69	1651234	7.79	51	50 - 150		-0.1900	+/-2.00	

16RW02-211013 (M1J0981-08)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	878882	7.83	1651234	7.79	53	50 - 150		-0.0500	+/-2.00	

Calibration Blank (S1J0510-CCB1)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	1742679	7.78	1651234	7.79	106	50 - 150		0.0000	+/-2.00	

MICROBAC®

Laboratory Report Number: M1J0981

Client Project ID: LHAAP

INTERNAL STANDARD AREA SUMMARY
FORM VIIIA

Calibration Blank (S1J0510-CCB2)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	1766918	7.84	1651234	7.79	107	50 - 150		-0.0100	+/-2.00	

Calibration Blank (S1J0510-CCB3)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	1650476	7.86	1651234	7.79	100	50 - 150		0.0000	+/-2.00	

Calibration Blank (S1J0510-CCB4)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	1344678	7.88	1651234	7.79	81	50 - 150		0.0000	+/-2.00	

Calibration Blank (S1J0510-CCB5)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	1248933	7.88	1651234	7.79	76	50 - 150		0.0000	+/-2.00	

Calibration Blank (S1J0510-CCB6)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	1446848	7.89	1651234	7.79	88	50 - 150		0.0000	+/-2.00	

Calibration Check (S1J0510-CCV1)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	1651234	7.79	1651234	7.79	100	50 - 150		0.0000	+/-2.00	

Calibration Check (S1J0510-CCV2)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	1739535	7.85	1651234	7.79	105	50 - 150		0.0000	+/-2.00	

Calibration Check (S1J0510-CCV3)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	1623988	7.86	1651234	7.79	98	50 - 150		0.0000	+/-2.00	

Calibration Check (S1J0510-CCV4)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	1214280	7.88	1651234	7.79	74	50 - 150		0.0000	+/-2.00	

Calibration Check (S1J0510-CCV5)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	1115711	7.88	1651234	7.79	68	50 - 150		0.0000	+/-2.00	

Calibration Check (S1J0510-CCV6)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	1377847	7.89	1651234	7.79	83	50 - 150		0.0000	+/-2.00	

MICROBAC®

Laboratory Report Number: M1J0981

Client Project ID: LHAAP

INTERNAL STANDARD AREA SUMMARY
FORM VIIIA

Instrument RL Check (S1J0510-CRL1)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	1672014	7.81	1651234	7.79	101	50 - 150		0.0200	+/-2.00	

Instrument RL Check (S1J0510-CRL2)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	1701939	7.84	1651234	7.79	103	50 - 150		-0.0100	+/-2.00	

Instrument RL Check (S1J0510-CRL3)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	1575526	7.86	1651234	7.79	95	50 - 150		0.0000	+/-2.00	

Instrument RL Check (S1J0510-CRL4)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	1241809	7.88	1651234	7.79	75	50 - 150		0.0000	+/-2.00	

Instrument RL Check (S1J0510-CRL5)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	1192196	7.88	1651234	7.79	72	50 - 150		0.0000	+/-2.00	

Instrument RL Check (S1J0510-CRL6)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	1512320	7.9	1651234	7.79	92	50 - 150		0.0100	+/-2.00	

Initial Cal Blank (S1J0510-ICB1)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	1680592	7.59	1651234	7.79	102	50 - 150		-0.1000	+/-2.00	

Initial Cal Check (S1J0510-ICV1)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	1674312	7.78	1651234	7.79	101	50 - 150		0.0000	+/-2.00	

Interference Check A (S1J0510-IFA1)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	1633945	7.29	1651234	7.79	99	50 - 150		-0.5000	+/-2.00	

MICROBAC®

Laboratory Report Number: M1J0981

Client Project ID: LHAAP

INTERNAL STANDARD AREA SUMMARY
FORM VIIIA

Laboratory:	Microbac Laboratories Inc., - Marietta, OH	**SDG:**	M1J0981
Client:	APTIM Tennessee	**Project:**	Longhorn AAP
Sequence:	S1J0523	**Instrument:**	LCMS2
		Calibration:	21J0034

16WW16-211013 (M1J0981-03)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	1321403	7.96	1320355	7.91	100	50 - 150		0.0500	+/-2.00	

Calibration Blank (S1J0523-CCB1)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	1238370	7.84	1708009	7.69	73	50 - 150		0.1500	+/-2.00	

Calibration Blank (S1J0523-CCB2)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	1428653	7.93	1320355	7.91	108	50 - 150		0.0000	+/-2.00	

Calibration Check (S1J0523-CCV1)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	1320355	7.91	1320355	7.91	100	50 - 150		0.0000	+/-2.00	

Calibration Check (S1J0523-CCV2)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	1361915	7.93	1320355	7.91	103	50 - 150		0.0000	+/-2.00	

Instrument RL Check (S1J0523-CRL1)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	1326434	7.93	1320355	7.91	100	50 - 150		0.0200	+/-2.00	

Instrument RL Check (S1J0523-CRL2)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	1445889	7.93	1320355	7.91	110	50 - 150		0.0000	+/-2.00	

MICROBAC®

Laboratory Report Number: M1J0981

Client Project ID: LHAAP

INTERNAL STANDARD AREA SUMMARY
FORM VIIIA

Laboratory:	Microbac Laboratories Inc., - Marietta, OH	**SDG:**	M1J0981
Client:	APTIM Tennessee	**Project:**	Longhorn AAP
Sequence:	S1J0551	**Instrument:**	LCMS2
		Calibration:	21J0034

16WW35-211013 (M1J0981-04)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	1117543	7.83	1387640	7.94	81	50 - 150		-0.1100	+/-2.00	

Calibration Blank (S1J0551-CCB1)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	1457419	7.93	1708009	7.69	85	50 - 150		0.2400	+/-2.00	

Calibration Blank (S1J0551-CCB2)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	1538359	7.93	1387640	7.94	111	50 - 150		-0.0200	+/-2.00	

Calibration Blank (S1J0551-CCB3)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	1340850	7.95	1387640	7.94	97	50 - 150		0.0000	+/-2.00	

Calibration Check (S1J0551-CCV1)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	1387640	7.94	1387640	7.94	100	50 - 150		0.0000	+/-2.00	

Calibration Check (S1J0551-CCV2)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	1495254	7.95	1387640	7.94	108	50 - 150		0.0000	+/-2.00	

Calibration Check (S1J0551-CCV3)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	1301444	7.95	1387640	7.94	94	50 - 150		0.0000	+/-2.00	

Instrument RL Check (S1J0551-CRL1)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	1351341	7.95	1387640	7.94	97	50 - 150		0.0100	+/-2.00	

Instrument RL Check (S1J0551-CRL2)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	1501456	7.95	1387640	7.94	108	50 - 150		0.0000	+/-2.00	

MICROBAC®

Laboratory Report Number: M1J0981

Client Project ID: LHAAP

INTERNAL STANDARD AREA SUMMARY
FORM VIIIA

Instrument RL Check (S1J0551-CRL3)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	1390676	7.94	1387640	7.94	100	50 - 150		-0.0100	+/-2.00	

Interference Check A (S1J0551-IFA1)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	1355007	7.34	1387640	7.94	98	50 - 150		-0.6000	+/-2.00	

MICROBAC®

Section A:
HPLC Organics
EPA 6850
Batch / Sequence Raw Data

Microbac Laboratories, Inc.
158 Starlite Drive | Marietta, OH 45750 | 800.373.4071 | www.microbac.com

Perchlorate Conductivity Check
(perchlorate1)

Conductivity Probe Calibration Check: 1415 /1410 µs/cm

Working MCT Level: 9930 µs/cm

Sample	Conductivity (µs/cm)	Pretreatment or Dilution Needed
MIJ0975-02	7340	
-03	949	
-04	1701	
-05	3690	
-06	4070	
-07	4790	
MIJ0981-01	2980	
-02	5990	
-03	4020	
-04	15,930	
-05	6750	
-06	4160	
-07	2750	
-08	186.5	
MIJ 1014-03	6210	
-04	2660	
-05	3910	
-06	3880	
-07	3510	
-08	4230	

Analyst: Craig A. Smith

Date/Time: 10/29/21 / 1355

Filename	Sample Type	Level	Sample ID	Comments	Compound	Type	Area	Ion Ratio (2.31-3.85)
2LM031223	Unknown		S1J0510-ICB1	1:1	Perchlorate	Target Compound	3111	2.537520392
2LM031223	Unknown		S1J0510-ICB1	1:1	Perchlorate	Confirming Peak	1226	
2LM031224	Cal Std	1	S1J0510-CAL1	1:1 0012469	Perchlorate	Target Compound	26495	2.991081508
2LM031224	Cal Std	1	S1J0510-CAL1	1:1 0012469	Perchlorate	Confirming Peak	8858	
2LM031225	Cal Std	2	S1J0510-CAL2	1:1 0012468	Perchlorate	Target Compound	55643	2.957688832
2LM031225	Cal Std	2	S1J0510-CAL2	1:1 0012468	Perchlorate	Confirming Peak	18813	
2LM031226	Cal Std	3	S1J0510-CAL3	1:1 0012467	Perchlorate	Target Compound	141805	3.099427347
2LM031226	Cal Std	3	S1J0510-CAL3	1:1 0012467	Perchlorate	Confirming Peak	45752	
2LM031227	Cal Std	4	S1J0510-CAL4	1:1 0012466	Perchlorate	Target Compound	295153	3.041873647
2LM031227	Cal Std	4	S1J0510-CAL4	1:1 0012466	Perchlorate	Confirming Peak	97030	
2LM031228	Cal Std	5	S1J0510-CAL5	1:1 0012465	Perchlorate	Target Compound	563232	3.074259452
2LM031228	Cal Std	5	S1J0510-CAL5	1:1 0012465	Perchlorate	Confirming Peak	183209	
2LM031229	Cal Std	6	S1J0510-CAL6	1:1 0012464	Perchlorate	Target Compound	1363180	3.145860497
2LM031229	Cal Std	6	S1J0510-CAL6	1:1 0012464	Perchlorate	Confirming Peak	433325	
2LM031230	Cal Std	7	S1J0510-CAL7	1:1 0012463	Perchlorate	Target Compound	2528538	3.201718532
2LM031230	Cal Std	7	S1J0510-CAL7	1:1 0012463	Perchlorate	Confirming Peak	789744	
2LM031231	Chk Std	ICV	S1J0510-ICV1	1:1 0012475	Perchlorate	Target Compound	285048	3.038308214
2LM031231	Chk Std	ICV	S1J0510-ICV1	1:1 0012475	Perchlorate	Confirming Peak	93818	
2LM031232	Unknown		S1J0510-CCB1	1:1	Perchlorate	Target Compound	4617	3.497727273
2LM031232	Unknown		S1J0510-CCB1	1:1	Perchlorate	Confirming Peak	1320	
2LM031233	Chk Std	CCV	S1J0510-CCV1	1:1 0012466	Perchlorate	Target Compound	271003	3.015835744
2LM031233	Chk Std	CCV	S1J0510-CCV1	1:1 0012466	Perchlorate	Confirming Peak	89860	
2LM031234	Chk Std	QCMRL	S1J0510-CRL1	1:1 0012468	Perchlorate	Target Compound	54161	3.224828818
2LM031234	Chk Std	QCMRL	S1J0510-CRL1	1:1 0012468	Perchlorate	Confirming Peak	16795	
2LM031235	Unknown		S1J0510-IFA1	1:1 0012477	Perchlorate	Target Compound	61825	2.673976039
2LM031235	Unknown		S1J0510-IFA1	1:1 0012477	Perchlorate	Confirming Peak	23121	
2LM031236	Unknown		B1J1573-BLK1	1:1	Perchlorate	Target Compound	5196	2.938914027
2LM031236	Unknown		B1J1573-BLK1	1:1	Perchlorate	Confirming Peak	1768	
2LM031237	Unknown		B1J1573-BS1	1:1 0012474	Perchlorate	Target Compound	57586	2.882615007
2LM031237	Unknown		B1J1573-BS1	1:1 0012474	Perchlorate	Confirming Peak	19977	
2LM031238	Unknown		B1J1573-MRL1	1:1	Perchlorate	Target Compound	60164	3.216810137
2LM031238	Unknown		B1J1573-MRL1	1:1	Perchlorate	Confirming Peak	18703	
2LM031239	Unknown		M1J0723-01	1:1	Perchlorate	Target Compound	109760	3.011083068
2LM031239	Unknown		M1J0723-01	1:1	Perchlorate	Confirming Peak	36452	
2LM031240	Unknown		M1J0723-02	1:1	Perchlorate	Target Compound	178174	3.090347758
2LM031240	Unknown		M1J0723-02	1:1	Perchlorate	Confirming Peak	57655	
2LM031241	Unknown		B1J1573-MS1	1:1	Perchlorate	Target Compound	216626	3.079479707
2LM031241	Unknown		B1J1573-MS1	1:1	Perchlorate	Confirming Peak	70345	
2LM031242	Unknown		B1J1573-MSD1	1:1	Perchlorate	Target Compound	218175	3.066322802
2LM031242	Unknown		B1J1573-MSD1	1:1	Perchlorate	Confirming Peak	71152	
2LM031243	Unknown		M1J0723-04	1:1	Perchlorate	Target Compound	548053	3.096397114
2LM031243	Unknown		M1J0723-04	1:1	Perchlorate	Confirming Peak	176997	
2LM031244	Unknown		M1J0723-06	1:1	Perchlorate	Target Compound	750315	3.14078629
2LM031244	Unknown		M1J0723-06	1:1	Perchlorate	Confirming Peak	238894	
2LM031245	Chk Std	CCV	S1J0510-CCV2	1:1 0012466	Perchlorate	Target Compound	284572	3.04465795
2LM031245	Chk Std	CCV	S1J0510-CCV2	1:1 0012466	Perchlorate	Confirming Peak	93466	
2LM031246	Chk Std	QCMRL	S1J0510-CRL2	1:1 0012468	Perchlorate	Target Compound	55330	3.11525252
2LM031246	Chk Std	QCMRL	S1J0510-CRL2	1:1 0012468	Perchlorate	Confirming Peak	17761	
2LM031247	Unknown		S1J0510-CCB2	1:1	Perchlorate	Target Compound	3895	3.653846154
2LM031247	Unknown		S1J0510-CCB2	1:1	Perchlorate	Confirming Peak	1066	
2LM031248	Unknown		M1J0723-08	1:1	Perchlorate	Target Compound	86159	3.065720182
2LM031248	Unknown		M1J0723-08	1:1	Perchlorate	Confirming Peak	28104	
2LM031249	Unknown		M1J0723-10	1:1	Perchlorate	Target Compound	76189	3.039899453
2LM031249	Unknown		M1J0723-10	1:1	Perchlorate	Confirming Peak	25063	
2LM031250	Unknown		M1J0723-12	1:1	Perchlorate	Target Compound	235384	3.062901757
2LM031250	Unknown		M1J0723-12	1:1	Perchlorate	Confirming Peak	76850	
2LM031251	Unknown		M1J0723-14	1:1	Perchlorate	Target Compound	122794	3.114701705

Filename	Sample Type	Level	Sample ID	Comments	Compound	Type	Area	Ion Ratio (2.31-3.85)
2LM031251	Unknown		M1J0723-14	1:1	Perchlorate	Confirming Peak	39424	
2LM031252	Unknown		M1J0726-01	1:1	Perchlorate	Target Compound	28170	3.489841427
2LM031252	Unknown		M1J0726-01	1:1	Perchlorate	Confirming Peak	8072	
2LM031253	Unknown		M1J0726-02	1:1	Perchlorate	Target Compound	50906112	3.062491694
2LM031253	Unknown		M1J0726-02	1:1	Perchlorate	Confirming Peak	16622449	
2LM031254	Unknown		M1J0726-03	1:1	Perchlorate	Target Compound	75462	2.996664284
2LM031254	Unknown		M1J0726-03	1:1	Perchlorate	Confirming Peak	25182	
2LM031255	Unknown		M1J0726-04	1:1	Perchlorate	Target Compound	22679	3.287764569
2LM031255	Unknown		M1J0726-04	1:1	Perchlorate	Confirming Peak	6898	
2LM031256	Unknown		M1J0726-05	1:1	Perchlorate	Target Compound	14391	2.073631124
2LM031256	Unknown		M1J0726-05	1:1	Perchlorate	Confirming Peak	6940	
2LM031257	Unknown		M1J0726-06	1:1	Perchlorate	Target Compound	11935	2.600784485
2LM031257	Unknown		M1J0726-06	1:1	Perchlorate	Confirming Peak	4589	
2LM031258	Chk Std	CCV	S1J0510-CCV3	1:1 0012466	Perchlorate	Target Compound	262915	3.092499147
2LM031258	Chk Std	CCV	S1J0510-CCV3	1:1 0012466	Perchlorate	Confirming Peak	85017	
2LM031259	Chk Std	QCMRL	S1J0510-CRL3	1:1 0012468	Perchlorate	Target Compound	50485	3.017632995
2LM031259	Chk Std	QCMRL	S1J0510-CRL3	1:1 0012468	Perchlorate	Confirming Peak	16730	
2LM031260	Unknown		S1J0510-CCB3	1:1	Perchlorate	Target Compound	3257	3.4685836
2LM031260	Unknown		S1J0510-CCB3	1:1	Perchlorate	Confirming Peak	939	
2LM031261	Unknown		M1J0726-07	1:1	Perchlorate	Target Compound	8645	3.101901686
2LM031261	Unknown		M1J0726-07	1:1	Perchlorate	Confirming Peak	2787	
2LM031262	Unknown		M1J0726-08	1:1	Perchlorate	Target Compound	3359	#VALUE!
2LM031262	Unknown		M1J0726-08	1:1	Perchlorate	Confirming Peak	N/F	
2LM031263	Unknown		M1J0825-11	1:1	Perchlorate	Target Compound	N/F	#VALUE!
2LM031263	Unknown		M1J0825-11	1:1	Perchlorate	Confirming Peak	N/F	
2LM031264	Unknown		M1J0978-01	1:1	Perchlorate	Target Compound	3525	#VALUE!
2LM031264	Unknown		M1J0978-01	1:1	Perchlorate	Confirming Peak	N/F	
2LM031265	Unknown		B1J1574-BLK1	1:1	Perchlorate	Target Compound	3473	#VALUE!
2LM031265	Unknown		B1J1574-BLK1	1:1	Perchlorate	Confirming Peak	N/F	
2LM031266	Unknown		B1J1574-BS1	1:1	Perchlorate	Target Compound	45667	3.215306625
2LM031266	Unknown		B1J1574-BS1	1:1	Perchlorate	Confirming Peak	14203	
2LM031267	Unknown		M1J0978-02	1:1	Perchlorate	Target Compound	3508	#VALUE!
2LM031267	Unknown		M1J0978-02	1:1	Perchlorate	Confirming Peak	N/F	
2LM031268	Unknown		M1J0978-03	1:1	Perchlorate	Target Compound	3200	2.45210728
2LM031268	Unknown		M1J0978-03	1:1	Perchlorate	Confirming Peak	1305	
2LM031269	Unknown		M1J0978-04	1:1	Perchlorate	Target Compound	2229	3.211815562
2LM031269	Unknown		M1J0978-04	1:1	Perchlorate	Confirming Peak	694	
2LM031270	Unknown		M1J0978-05	1:1	Perchlorate	Target Compound	1267	#VALUE!
2LM031270	Unknown		M1J0978-05	1:1	Perchlorate	Confirming Peak	N/F	
2LM031271	Chk Std	CCV	S1J0510-CCV4	1:1	Perchlorate	Target Compound	198543	3.056388547
2LM031271	Chk Std	CCV	S1J0510-CCV4	1:1	Perchlorate	Confirming Peak	64960	
2LM031272	Chk Std	QCMRL	S1J0510-CRL4	1:1	Perchlorate	Target Compound	41087	3.447763699
2LM031272	Chk Std	QCMRL	S1J0510-CRL4	1:1	Perchlorate	Confirming Peak	11917	
2LM031273	Unknown		S1J0510-CCB4	1:1	Perchlorate	Target Compound	3202	#VALUE!
2LM031273	Unknown		S1J0510-CCB4	1:1	Perchlorate	Confirming Peak	N/F	
2LM031274	Unknown		M1J0978-06	1:1	Perchlorate	Target Compound	N/F	#VALUE!
2LM031274	Unknown		M1J0978-06	1:1	Perchlorate	Confirming Peak	N/F	
2LM031275	Unknown		M1J0978-07	1:1	Perchlorate	Target Compound	28418679	3.101773911
2LM031275	Unknown		M1J0978-07	1:1	Perchlorate	Confirming Peak	9162073	
2LM031276	Unknown		M1J0981-01	1:1	Perchlorate	Target Compound	1915	1.642367067
2LM031276	Unknown		M1J0981-01	1:1	Perchlorate	Confirming Peak	1166	
2LM031277	Unknown		M1J0981-02	1:1	Perchlorate	Target Compound	10222	3.204388715
2LM031277	Unknown		M1J0981-02	1:1	Perchlorate	Confirming Peak	3190	
2LM031278	Unknown		M1J0981-03	1:1	Perchlorate	Target Compound	36247072	3.09734913
2LM031278	Unknown		M1J0981-03	1:1	Perchlorate	Confirming Peak	11702611	
2LM031279	Unknown		M1J0981-04	1:1	Perchlorate	Target Compound	30204867	3.076859693
2LM031279	Unknown		M1J0981-04	1:1	Perchlorate	Confirming Peak	9816784	

Filename	Sample Type	Level	Sample ID	Comments	Compound	Type	Area	Ion Ratio (2.31-3.85)
2LM031280	Unknown		M1J0981-05	1:1	Perchlorate	Target Compound	47035	3.161379218
2LM031280	Unknown		M1J0981-05	1:1	Perchlorate	Confirming Peak	14878	
2LM031281	Unknown		M1J0981-06	1:1	Perchlorate	Target Compound	N/F	#VALUE!
2LM031281	Unknown		M1J0981-06	1:1	Perchlorate	Confirming Peak	N/F	
2LM031282	Unknown		M1J0981-07	1:1	Perchlorate	Target Compound	3594	#VALUE!
2LM031282	Unknown		M1J0981-07	1:1	Perchlorate	Confirming Peak	N/F	
2LM031283	Unknown		M1J0981-08	1:1	Perchlorate	Target Compound	2059	#VALUE!
2LM031283	Unknown		M1J0981-08	1:1	Perchlorate	Confirming Peak	N/F	
2LM031284	Chk Std	CCV	S1J0510-CCV5	1:1	Perchlorate	Target Compound	184711	3.131915832
2LM031284	Chk Std	CCV	S1J0510-CCV5	1:1	Perchlorate	Confirming Peak	58977	
2LM031285	Chk Std	QCMRL	S1J0510-CRL5	1:1	Perchlorate	Target Compound	38863	3.344780102
2LM031285	Chk Std	QCMRL	S1J0510-CRL5	1:1	Perchlorate	Confirming Peak	11619	
2LM031286	Unknown		S1J0510-CCB5	1:1	Perchlorate	Target Compound	3274	#VALUE!
2LM031286	Unknown		S1J0510-CCB5	1:1	Perchlorate	Confirming Peak	N/F	
2LM031287	Unknown		M1J1014-03	1:1	Perchlorate	Target Compound	145152	3.158843115
2LM031287	Unknown		M1J1014-03	1:1	Perchlorate	Confirming Peak	45951	
2LM031288	Unknown		M1J1014-04	1:1	Perchlorate	Target Compound	248135	3.090292048
2LM031288	Unknown		M1J1014-04	1:1	Perchlorate	Confirming Peak	80295	
2LM031289	Unknown		M1J1014-05	1:1	Perchlorate	Target Compound	304799	3.088354797
2LM031289	Unknown		M1J1014-05	1:1	Perchlorate	Confirming Peak	98693	
2LM031290	Unknown		M1J1014-06	1:1	Perchlorate	Target Compound	304512	3.061191254
2LM031290	Unknown		M1J1014-06	1:1	Perchlorate	Confirming Peak	99475	
2LM031291	Unknown		M1J1014-07	1:1	Perchlorate	Target Compound	1191	#VALUE!
2LM031291	Unknown		M1J1014-07	1:1	Perchlorate	Confirming Peak	N/F	
2LM031292	Unknown		M1J1014-08	1:1	Perchlorate	Target Compound	2147209	3.170056146
2LM031292	Unknown		M1J1014-08	1:1	Perchlorate	Confirming Peak	677341	
2LM031293	Unknown		B1J1574-MS1	1:1	Perchlorate	Target Compound	2211532	3.180810991
2LM031293	Unknown		B1J1574-MS1	1:1	Perchlorate	Confirming Peak	695273	
2LM031294	Unknown		B1J1574-MSD1	1:1	Perchlorate	Target Compound	2222935	3.137717798
2LM031294	Unknown		B1J1574-MSD1	1:1	Perchlorate	Confirming Peak	708456	
2LM031295	Chk Std	CCV	S1J0510-CCV6	1:1	Perchlorate	Target Compound	225475	3.085106383
2LM031295	Chk Std	CCV	S1J0510-CCV6	1:1	Perchlorate	Confirming Peak	73085	
2LM031296	Chk Std	QCMRL	S1J0510-CRL6	1:1	Perchlorate	Target Compound	49914	3.152131355
2LM031296	Chk Std	QCMRL	S1J0510-CRL6	1:1	Perchlorate	Confirming Peak	15835	
2LM031297	Unknown		S1J0510-CCB6	1:1	Perchlorate	Target Compound	4077	7.293381038
2LM031297	Unknown		S1J0510-CCB6	1:1	Perchlorate	Confirming Peak	559	

Filename	Sample Type	Level	Sample ID	Comments	Compound	Type	Area	IS Rec (50-150 Avg. ICAL)
2LM031223	Unknown		S1J0510-ICB1	1:1	O18LP	Internal Standard	1680592	
2LM031224	Cal Std	1	S1J0510-CAL1	1:1 0012469	O18LP	Internal Standard	1661900	
2LM031225	Cal Std	2	S1J0510-CAL2	1:1 0012468	O18LP	Internal Standard	1670033	
2LM031226	Cal Std	3	S1J0510-CAL3	1:1 0012467	O18LP	Internal Standard	1708009	
2LM031227	Cal Std	4	S1J0510-CAL4	1:1 0012466	O18LP	Internal Standard	1730800	1644264.143
2LM031228	Cal Std	5	S1J0510-CAL5	1:1 0012465	O18LP	Internal Standard	1711825	
2LM031229	Cal Std	6	S1J0510-CAL6	1:1 0012464	O18LP	Internal Standard	1609989	
2LM031230	Cal Std	7	S1J0510-CAL7	1:1 0012463	O18LP	Internal Standard	1417293	
2LM031231	Chk Std	ICV	S1J0510-ICV1	1:1 0012475	O18LP	Internal Standard	1674312	101.8274349
2LM031232	Unknown		S1J0510-CCB1	1:1	O18LP	Internal Standard	1742679	105.9853435
2LM031233	Chk Std	CCV	S1J0510-CCV1	1:1 0012466	O18LP	Internal Standard	1651234	100.4238891
2LM031234	Chk Std	QCMRL	S1J0510-CRL1	1:1 0012468	O18LP	Internal Standard	1672014	101.6876764
2LM031235	Unknown		S1J0510-IFA1	1:1 0012477	O18LP	Internal Standard	1633945	99.37241575
2LM031236	Unknown		B1J1573-BLK1	1:1	O18LP	Internal Standard	1719059	104.5488347
2LM031237	Unknown		B1J1573-BS1	1:1 0012474	O18LP	Internal Standard	1717089	104.4290242
2LM031238	Unknown		B1J1573-MRL1	1:1	O18LP	Internal Standard	1782991	108.4370177
2LM031239	Unknown		M1J0723-01	1:1	O18LP	Internal Standard	992389	60.35459718
2LM031240	Unknown		M1J0723-02	1:1	O18LP	Internal Standard	1012348	61.56845324
2LM031241	Unknown		B1J1573-MS1	1:1	O18LP	Internal Standard	1042843	63.42308227
2LM031242	Unknown		B1J1573-MSD1	1:1	O18LP	Internal Standard	1075862	65.43121461
2LM031243	Unknown		M1J0723-04	1:1	O18LP	Internal Standard	1018160	61.92192443
2LM031244	Unknown		M1J0723-06	1:1	O18LP	Internal Standard	1043550	63.46608022
2LM031245	Chk Std	CCV	S1J0510-CCV2	1:1 0012466	O18LP	Internal Standard	1739535	105.7941334
2LM031246	Chk Std	QCMRL	S1J0510-CRL2	1:1 0012468	O18LP	Internal Standard	1701939	103.5076394
2LM031247	Unknown		S1J0510-CCB2	1:1	O18LP	Internal Standard	1766918	107.4594984
2LM031248	Unknown		M1J0723-08	1:1	O18LP	Internal Standard	1023250	62.2314854
2LM031249	Unknown		M1J0723-10	1:1	O18LP	Internal Standard	993066	60.39577061
2LM031250	Unknown		M1J0723-12	1:1	O18LP	Internal Standard	1063240	64.66357639
2LM031251	Unknown		M1J0723-14	1:1	O18LP	Internal Standard	1029542	62.61414898
2LM031252	Unknown		M1J0726-01	1:1	O18LP	Internal Standard	1058284	64.36216496
2LM031253	Unknown		M1J0726-02	1:1	O18LP	Internal Standard	380915	23.16629002
2LM031254	Unknown		M1J0726-03	1:1	O18LP	Internal Standard	960457	58.41257344
2LM031255	Unknown		M1J0726-04	1:1	O18LP	Internal Standard	1040402	63.2746268
2LM031256	Unknown		M1J0726-05	1:1	O18LP	Internal Standard	992981	60.39060113
2LM031257	Unknown		M1J0726-06	1:1	O18LP	Internal Standard	1534277	93.31085925
2LM031258	Chk Std	CCV	S1J0510-CCV3	1:1 0012466	O18LP	Internal Standard	1623988	98.76685611
2LM031259	Chk Std	QCMRL	S1J0510-CRL3	1:1 0012468	O18LP	Internal Standard	1575526	95.81951944
2LM031260	Unknown		S1J0510-CCB3	1:1	O18LP	Internal Standard	1650476	100.3777895
2LM031261	Unknown		M1J0726-07	1:1	O18LP	Internal Standard	1371981	83.44042567
2LM031262	Unknown		M1J0726-08	1:1	O18LP	Internal Standard	977669	59.45936389
2LM031263	Unknown		M1J0825-11	1:1	O18LP	Internal Standard	1574817	95.77639985
2LM031264	Unknown		M1J0978-01	1:1	O18LP	Internal Standard	865157	52.61666769
2LM031265	Unknown		B1J1574-BLK1	1:1	O18LP	Internal Standard	1289719	78.43745822
2LM031266	Unknown		B1J1574-BS1	1:1	O18LP	Internal Standard	1329597	80.86273764
2LM031267	Unknown		M1J0978-02	1:1	O18LP	Internal Standard	908960	55.28065572
2LM031268	Unknown		M1J0978-03	1:1	O18LP	Internal Standard	1049328	63.81748362
2LM031269	Unknown		M1J0978-04	1:1	O18LP	Internal Standard	805385	48.98148533
2LM031270	Unknown		M1J0978-05	1:1	O18LP	Internal Standard	850358	51.71662982
2LM031271	Chk Std	CCV	S1J0510-CCV4	1:1	O18LP	Internal Standard	1214280	73.84944842
2LM031272	Chk Std	QCMRL	S1J0510-CRL4	1:1	O18LP	Internal Standard	1241809	75.5236928
2LM031273	Unknown		S1J0510-CCB4	1:1	O18LP	Internal Standard	1344678	81.77992604
2LM031274	Unknown		M1J0978-06	1:1	O18LP	Internal Standard	875033	53.21730111
2LM031275	Unknown		M1J0978-07	1:1	O18LP	Internal Standard	381033	23.17346648
2LM031276	Unknown		M1J0981-01	1:1	O18LP	Internal Standard	815110	49.57293532
2LM031277	Unknown		M1J0981-02	1:1	O18LP	Internal Standard	711765	43.28775295
2LM031278	Unknown		M1J0981-03	1:1	O18LP	Internal Standard	313582	19.0712667
2LM031279	Unknown		M1J0981-04	1:1	O18LP	Internal Standard	358875	21.82587278

Filename	Sample Type	Level	Sample ID	Comments	Compound	Type	Area	IS Rec (50-150 Avg. ICAL)
2LM031280	Unknown		M1J0981-05	1:1	O18LP	Internal Standard	972045	59.11732639
2LM031281	Unknown		M1J0981-06	1:1	O18LP	Internal Standard	779616	47.41427972
2LM031282	Unknown		M1J0981-07	1:1	O18LP	Internal Standard	842922	51.26439104
2LM031283	Unknown		M1J0981-08	1:1	O18LP	Internal Standard	878882	53.45138759
2LM031284	Chk Std	CCV	S1J0510-CCV5	1:1	O18LP	Internal Standard	1115711	67.85473033
2LM031285	Chk Std	QCMRL	S1J0510-CRL5	1:1	O18LP	Internal Standard	1192196	72.50635521
2LM031286	Unknown		S1J0510-CCB5	1:1	O18LP	Internal Standard	1248933	75.95695652
2LM031287	Unknown		M1J1014-03	1:1	O18LP	Internal Standard	884920	53.81860353
2LM031288	Unknown		M1J1014-04	1:1	O18LP	Internal Standard	1002188	60.95054766
2LM031289	Unknown		M1J1014-05	1:1	O18LP	Internal Standard	911437	55.43130062
2LM031290	Unknown		M1J1014-06	1:1	O18LP	Internal Standard	926602	56.35359769
2LM031291	Unknown		M1J1014-07	1:1	O18LP	Internal Standard	1026192	62.41041042
2LM031292	Unknown		M1J1014-08	1:1	O18LP	Internal Standard	885756	53.86944694
2LM031293	Unknown		B1J1574-MS1	1:1	O18LP	Internal Standard	943268	57.36718179
2LM031294	Unknown		B1J1574-MSD1	1:1	O18LP	Internal Standard	941514	57.26050794
2LM031295	Chk Std	CCV	S1J0510-CCV6	1:1	O18LP	Internal Standard	1377847	83.79718101
2LM031296	Chk Std	QCMRL	S1J0510-CRL6	1:1	O18LP	Internal Standard	1512320	91.97548986
2LM031297	Unknown		S1J0510-CCB6	1:1	O18LP	Internal Standard	1446848	87.99364787

Filename	Sample Type	Level	Sample ID	Comments	Compound	Type	Area	Ion Ratio (2.31-3.85)
2LM031298	Unknown		S1J0523-CCB1	1:1	Perchlorate	Target Compound	3420	#VALUE!
2LM031298	Unknown		S1J0523-CCB1	1:1	Perchlorate	Confirming Peak	N/F	
2LM031299	Chk Std	CCV	S1J0523-CCV1	1:1 0012466	Perchlorate	Target Compound	214302	3.076090545
2LM031299	Chk Std	CCV	S1J0523-CCV1	1:1 0012466	Perchlorate	Confirming Peak	69667	
2LM031300	Chk Std	QCMRL	S1J0523-CRL1	1:1 0012468	Perchlorate	Target Compound	43732	3.283429687
2LM031300	Chk Std	QCMRL	S1J0523-CRL1	1:1 0012468	Perchlorate	Confirming Peak	13319	
2LM031301	Unknown		M1J0726-02@1000	1:1000	Perchlorate	Target Compound	158059	3.050389841
2LM031301	Unknown		M1J0726-02@1000	1:1000	Perchlorate	Confirming Peak	51816	
2LM031302	Unknown		M1J0978-07@100	1:100	Perchlorate	Target Compound	711521	3.108178002
2LM031302	Unknown		M1J0978-07@100	1:100	Perchlorate	Confirming Peak	228919	
2LM031303	Unknown		M1J0981-03@1000	1:1000	Perchlorate	Target Compound	124686	3.204636579
2LM031303	Unknown		M1J0981-03@1000	1:1000	Perchlorate	Confirming Peak	38908	
2LM031304	Unknown		M1J1014-08@10	1:10	Perchlorate	Target Compound	212461	3.042154097
2LM031304	Unknown		M1J1014-08@10	1:10	Perchlorate	Confirming Peak	69839	
2LM031305	Unknown		B1J1574-MS1@10	1:10	Perchlorate	Target Compound	215286	3.184515709
2LM031305	Unknown		B1J1574-MS1@10	1:10	Perchlorate	Confirming Peak	67604	
2LM031306	Unknown		B1J1574-MSD1@10	1:10	Perchlorate	Target Compound	224671	3.033430095
2LM031306	Unknown		B1J1574-MSD1@10	1:10	Perchlorate	Confirming Peak	74065	
2LM031307	Chk Std	CCV	S1J0523-CCV2	1:1 0012466	Perchlorate	Target Compound	221754	3.061040252
2LM031307	Chk Std	CCV	S1J0523-CCV2	1:1 0012466	Perchlorate	Confirming Peak	72444	
2LM031308	Chk Std	QCMRL	S1J0523-CRL2	1:1 0012468	Perchlorate	Target Compound	46431	3.092513654
2LM031308	Chk Std	QCMRL	S1J0523-CRL2	1:1 0012468	Perchlorate	Confirming Peak	15014	
2LM031309	Unknown		S1J0523-CCB2	1:1	Perchlorate	Target Compound	3298	#VALUE!
2LM031309	Unknown		S1J0523-CCB2	1:1	Perchlorate	Confirming Peak	N/F	

Filename	Sample Type	Level	Sample ID	Comments	Compound	Type	Area	IS Rec (50-150 Avg. ICAL)
2LM031224	Cal Std	1	S1J0510-CAL1	1:1 0012469	O18LP	Internal Standard	1661900	
2LM031225	Cal Std	2	S1J0510-CAL2	1:1 0012468	O18LP	Internal Standard	1670033	
2LM031226	Cal Std	3	S1J0510-CAL3	1:1 0012467	O18LP	Internal Standard	1708009	
2LM031227	Cal Std	4	S1J0510-CAL4	1:1 0012466	O18LP	Internal Standard	1730800	1644264.143
2LM031228	Cal Std	5	S1J0510-CAL5	1:1 0012465	O18LP	Internal Standard	1711825	
2LM031229	Cal Std	6	S1J0510-CAL6	1:1 0012464	O18LP	Internal Standard	1609989	
2LM031230	Cal Std	7	S1J0510-CAL7	1:1 0012463	O18LP	Internal Standard	1417293	
2LM031298	Unknown		S1J0523-CCB1	1:1	O18LP	Internal Standard	1238370	75.31454148
2LM031299	Chk Std	CCV	S1J0523-CCV1	1:1 0012466	O18LP	Internal Standard	1320355	80.3006625
2LM031300	Chk Std	QCMRL	S1J0523-CRL1	1:1 0012468	O18LP	Internal Standard	1326434	80.67037195
2LM031301	Unknown		M1J0726-02@1000	1:1000	O18LP	Internal Standard	1357428	82.55534889
2LM031302	Unknown		M1J0978-07@100	1:100	O18LP	Internal Standard	1128188	68.61355001
2LM031303	Unknown		M1J0981-03@1000	1:1000	O18LP	Internal Standard	1321403	80.36439921
2LM031304	Unknown		M1J1014-08@10	1:10	O18LP	Internal Standard	954249	58.03501853
2LM031305	Unknown		B1J1574-MS1@10	1:10	O18LP	Internal Standard	961979	58.50513764
2LM031306	Unknown		B1J1574-MSD1@10	1:10	O18LP	Internal Standard	1013761	61.65438834
2LM031307	Chk Std	CCV	S1J0523-CCV2	1:1 0012466	O18LP	Internal Standard	1361915	82.82823692
2LM031308	Chk Std	QCMRL	S1J0523-CRL2	1:1 0012468	O18LP	Internal Standard	1445889	87.9353239
2LM031309	Unknown		S1J0523-CCB2	1:1	O18LP	Internal Standard	1428653	86.88707384

Filename	Sample Type	Level	Sample ID	Comments	Compound	Type	Area	Ion Ratio (2.31-3.85)
2LM031310	Unknown		S1J0551-CCB1	1:1	Perchlorate	Target Compound	3959	4.701900238
2LM031310	Unknown		S1J0551-CCB1	1:1	Perchlorate	Confirming Peak	842	
2LM031311	Chk Std	CCV	S1J0551-CCV1	1:1 0012466	Perchlorate	Target Compound	225453	2.993030295
2LM031311	Chk Std	CCV	S1J0551-CCV1	1:1 0012466	Perchlorate	Confirming Peak	75326	
2LM031312	Chk Std	QCMRL	S1J0551-CRL1	1:1 0012468	Perchlorate	Target Compound	45672	3.230442778
2LM031312	Chk Std	QCMRL	S1J0551-CRL1	1:1 0012468	Perchlorate	Confirming Peak	14138	
2LM031313	Unknown		S1J0551-IFA1	1:1 0012477	Perchlorate	Target Compound	49707	2.688172625
2LM031313	Unknown		S1J0551-IFA1	1:1 0012477	Perchlorate	Confirming Peak	18491	
2LM031314	Unknown		B1J1661-BLK1	1:1	Perchlorate	Target Compound	2748	#VALUE!
2LM031314	Unknown		B1J1661-BLK1	1:1	Perchlorate	Confirming Peak	N/F	
2LM031315	Unknown		B1J1661-BS1	1:1 0012474	Perchlorate	Target Compound	41842	2.939994379
2LM031315	Unknown		B1J1661-BS1	1:1 0012474	Perchlorate	Confirming Peak	14232	
2LM031316	Unknown		B1J1661-MRL1	1:1	Perchlorate	Target Compound	43908	2.91708743
2LM031316	Unknown		B1J1661-MRL1	1:1	Perchlorate	Confirming Peak	15052	
2LM031317	Unknown		M1J0981-04@100	1:100	Perchlorate	Target Compound	710874	3.166293266
2LM031317	Unknown		M1J0981-04@100	1:100	Perchlorate	Confirming Peak	224513	
2LM031318	Unknown		M1J1162-03	1:1	Perchlorate	Target Compound	N/F	#VALUE!
2LM031318	Unknown		M1J1162-03	1:1	Perchlorate	Confirming Peak	N/F	
2LM031319	Unknown		B1J1661-MS1	1:1	Perchlorate	Target Compound	17256	3.49099737
2LM031319	Unknown		B1J1661-MS1	1:1	Perchlorate	Confirming Peak	4943	
2LM031320	Unknown		B1J1661-MSD1	1:1	Perchlorate	Target Compound	17911	3.590098216
2LM031320	Unknown		B1J1661-MSD1	1:1	Perchlorate	Confirming Peak	4989	
2LM031321	Unknown		M1J1162-04	1:1	Perchlorate	Target Compound	515	#VALUE!
2LM031321	Unknown		M1J1162-04	1:1	Perchlorate	Confirming Peak	N/F	
2LM031322	Unknown		M1J1162-05	1:1	Perchlorate	Target Compound	N/F	#VALUE!
2LM031322	Unknown		M1J1162-05	1:1	Perchlorate	Confirming Peak	N/F	
2LM031323	Chk Std	CCV	S1J0551-CCV2	1:1 0012466	Perchlorate	Target Compound	245056	3.06980007
2LM031323	Chk Std	CCV	S1J0551-CCV2	1:1 0012466	Perchlorate	Confirming Peak	79828	
2LM031324	Chk Std	QCMRL	S1J0551-CRL2	1:1 0012468	Perchlorate	Target Compound	48204	3.137055838
2LM031324	Chk Std	QCMRL	S1J0551-CRL2	1:1 0012468	Perchlorate	Confirming Peak	15366	
2LM031325	Unknown		S1J0551-CCB2	1:1	Perchlorate	Target Compound	4739	#VALUE!
2LM031325	Unknown		S1J0551-CCB2	1:1	Perchlorate	Confirming Peak	N/F	
2LM031326	Unknown		M1J1162-06	1:1	Perchlorate	Target Compound	3061	2.589678511
2LM031326	Unknown		M1J1162-06	1:1	Perchlorate	Confirming Peak	1182	
2LM031327	Chk Std	CCV	S1J0551-CCV3	1:1 0012466	Perchlorate	Target Compound	213342	3.147379913
2LM031327	Chk Std	CCV	S1J0551-CCV3	1:1 0012466	Perchlorate	Confirming Peak	67784	
2LM031328	Chk Std	QCMRL	S1J0551-CRL3	1:1 0012468	Perchlorate	Target Compound	44714	3.115741063
2LM031328	Chk Std	QCMRL	S1J0551-CRL3	1:1 0012468	Perchlorate	Confirming Peak	14351	
2LM031329	Unknown		S1J0551-CCB3	1:1	Perchlorate	Target Compound	2955	2.5
2LM031329	Unknown		S1J0551-CCB3	1:1	Perchlorate	Confirming Peak	1182	

Filename	Sample Type	Level	Sample ID	Comments	Compound	Type	Area	IS Rec (50-150 Avg. ICAL)
2LM031224	Cal Std	1	S1J0510-CAL1	1:1 0012469	O18LP	Internal Standard	1661900	
2LM031225	Cal Std	2	S1J0510-CAL2	1:1 0012468	O18LP	Internal Standard	1670033	
2LM031226	Cal Std	3	S1J0510-CAL3	1:1 0012467	O18LP	Internal Standard	1708009	
2LM031227	Cal Std	4	S1J0510-CAL4	1:1 0012466	O18LP	Internal Standard	1730800	1644264.143
2LM031228	Cal Std	5	S1J0510-CAL5	1:1 0012465	O18LP	Internal Standard	1711825	
2LM031229	Cal Std	6	S1J0510-CAL6	1:1 0012464	O18LP	Internal Standard	1609989	
2LM031230	Cal Std	7	S1J0510-CAL7	1:1 0012463	O18LP	Internal Standard	1417293	
2LM031310	Unknown		S1J0551-CCB1	1:1	O18LP	Internal Standard	1457419	88.63654944
2LM031311	Chk Std	CCV	S1J0551-CCV1	1:1 0012466	O18LP	Internal Standard	1387640	84.39276657
2LM031312	Chk Std	QCMRL	S1J0551-CRL1	1:1 0012468	O18LP	Internal Standard	1351341	82.1851529
2LM031313	Unknown		S1J0551-IFA1	1:1 0012477	O18LP	Internal Standard	1355007	82.40810978
2LM031314	Unknown		B1J1661-BLK1	1:1	O18LP	Internal Standard	1250379	76.04489858
2LM031315	Unknown		B1J1661-BS1	1:1 0012474	O18LP	Internal Standard	1265642	76.97315577
2LM031316	Unknown		B1J1661-MRL1	1:1	O18LP	Internal Standard	1271247	77.31403774
2LM031317	Unknown		M1J0981-04@100	1:100	O18LP	Internal Standard	1117543	67.96614794
2LM031318	Unknown		M1J1162-03	1:1	O18LP	Internal Standard	980039	59.60350131
2LM031319	Unknown		B1J1661-MS1	1:1	O18LP	Internal Standard	1041909	63.36627874
2LM031320	Unknown		B1J1661-MSD1	1:1	O18LP	Internal Standard	1062818	64.6379114
2LM031321	Unknown		M1J1162-04	1:1	O18LP	Internal Standard	1023657	62.25623811
2LM031322	Unknown		M1J1162-05	1:1	O18LP	Internal Standard	1538016	93.53825579
2LM031323	Chk Std	CCV	S1J0551-CCV2	1:1 0012466	O18LP	Internal Standard	1495254	90.93757876
2LM031324	Chk Std	QCMRL	S1J0551-CRL2	1:1 0012468	O18LP	Internal Standard	1501456	91.31476876
2LM031325	Unknown		S1J0551-CCB2	1:1	O18LP	Internal Standard	1538359	93.55911619
2LM031326	Unknown		M1J1162-06	1:1	O18LP	Internal Standard	1234815	75.09833534
2LM031327	Chk Std	CCV	S1J0551-CCV3	1:1 0012466	O18LP	Internal Standard	1301444	79.15054315
2LM031328	Chk Std	QCMRL	S1J0551-CRL3	1:1 0012468	O18LP	Internal Standard	1390676	84.57740844
2LM031329	Unknown		S1J0551-CCB3	1:1	O18LP	Internal Standard	1340850	81.54711673

MICROBAC®

Laboratory Report Number: M1J0981

Client Project ID: LHAAP

BATCH LOG SUMMARY
SECTION A1

Batch: B1J1574
Matrix: Aqueous
Method: EPA 6850

Prepared: 10/28/2021 2:21:00PM
Prepared By: CAS

Laboratory ID	Client / Source ID	Initial	Final						Spike(s)
B1J1574-BLK1		10.0 mL	10.0 mL						
B1J1574-BS1		10.0 mL	10.0 mL						1006965 200µL
M1J0981-01	16WW58-211013	10.0 mL	10.0 mL						
M1J0981-02	16WW57-211013	10.0 mL	10.0 mL						
M1J0981-05	16WW36-211013	10.0 mL	10.0 mL						
M1J0981-06	16WW23-211013	10.0 mL	10.0 mL						
M1J0981-07	16WW24-211013	10.0 mL	10.0 mL						
M1J0981-08	16RW02-211013	10.0 mL	10.0 mL						
M1J0981-03	16WW16-211013	10.0 mL	10.0 mL						
M1J0981-04	16WW35-211013	10.0 mL	10.0 mL						

Standards used in the batch:

Standard ID	Description	Date Prepared	Prepared By
1006965	6850/331 Perchlorate Alternate Solution (10 ppb)	8/11/2021 5:13:38PM	John Richards

Reagents used in the batch:

Reagent ID	Description	Prepared	Prepared By
1000181	6850/331 Column	1/8/2021 2:36:22PM	** Vendor **
1008665	0.45 um PTFE Syringe Filter	10/11/2021 10:46:38AM	Asa Timmons
1009215	0.1% Acetic Acid in Water	10/26/2021 8:46:45AM	Craig Smith
1009216	0.1% Acetic Acid in Acetonitrile	10/26/2021 8:48:32AM	Craig Smith

MICROBAC®

Laboratory Report Number: M1J0981
Client Project ID: LHAAP

SEQUENCE LOG SUMMARY
SECTION A2

Sequence: S1J0510
Instrument: LCMS2
Calibration: 21J0034

Analyst 1: CAS
Method: EPA 6850
SOP: HPLC06

#	File ID	Laboratory ID	Client ID	Analyzed	Reference	Standard
1	2LM031223	S1J0510-ICB1	Initial Cal Blank	10/28/21 15:10		
2	2LM031224	S1J0510-CAL1	Cal Standard	10/28/21 15:24		1007584
3	2LM031225	S1J0510-CAL2	Cal Standard	10/28/21 15:37		1007583
4	2LM031226	S1J0510-CAL3	Cal Standard	10/28/21 15:50		1007582
5	2LM031227	S1J0510-CAL4	Cal Standard	10/28/21 16:03		1007581
6	2LM031228	S1J0510-CAL5	Cal Standard	10/28/21 16:17		1007580
7	2LM031229	S1J0510-CAL6	Cal Standard	10/28/21 16:30		1007579
8	2LM031230	S1J0510-CAL7	Cal Standard	10/28/21 16:43		1007578
9	2LM031231	S1J0510-ICV1	Initial Cal Check	10/28/21 16:56		1006966
10	2LM031232	S1J0510-CCB1	Calibration Blank	10/28/21 17:10		
11	2LM031233	S1J0510-CCV1	Calibration Check	10/28/21 17:23		1007581
12	2LM031234	S1J0510-CRL1	Instrument RL Check	10/28/21 17:36		1007583
13	2LM031235	S1J0510-IFA1	Interference Check A	10/28/21 17:49		1006967
24	2LM031245	S1J0510-CCV2	Calibration Check	10/28/21 20:02		1007581
25	2LM031246	S1J0510-CRL2	Instrument RL Check	10/28/21 20:15		1007583
26	2LM031247	S1J0510-CCB2	Calibration Blank	10/28/21 20:28		
36	2LM031258	S1J0510-CCV3	Calibration Check	10/28/21 22:54		1007581
37	2LM031259	S1J0510-CRL3	Instrument RL Check	10/28/21 23:07		1007583
38	2LM031260	S1J0510-CCB3	Calibration Blank	10/28/21 23:21		
43	2LM031265	B1J1574-BLK1	Blank	10/29/21 00:27		
44	2LM031266	B1J1574-BS1	LCS	10/29/21 00:40		
49	2LM031271	S1J0510-CCV4	Calibration Check	10/29/21 01:46		1007581
50	2LM031272	S1J0510-CRL4	Instrument RL Check	10/29/21 02:00		1007583
51	2LM031273	S1J0510-CCB4	Calibration Blank	10/29/21 02:13		
53	2LM031276	M1J0981-01	16WW58-211013	10/29/21 02:53		
54	2LM031277	M1J0981-02	16WW57-211013	10/29/21 03:06		
55	2LM031280	M1J0981-05	16WW36-211013	10/29/21 03:46		
56	2LM031281	M1J0981-06	16WW23-211013	10/29/21 03:59		
57	2LM031282	M1J0981-07	16WW24-211013	10/29/21 04:12		
58	2LM031283	M1J0981-08	16RW02-211013	10/29/21 04:26		
59	2LM031284	S1J0510-CCV5	Calibration Check	10/29/21 04:39		1007581
60	2LM031285	S1J0510-CRL5	Instrument RL Check	10/29/21 04:52		1007583
61	2LM031286	S1J0510-CCB5	Calibration Blank	10/29/21 05:05		

MICROBAC®

Laboratory Report Number: M1J0981

Client Project ID: LHAAP

SEQUENCE LOG SUMMARY
SECTION A2

Sequence: S1J0510 **Analyst 1:** CAS
Instrument: LCMS2 **Method:** EPA 6850
Calibration: 21J0034 **SOP:** HPLC06

#	File ID	Laboratory ID	Client ID	Analyzed	Reference	Standard
67	2LM031295	S1J0510-CCV6	Calibration Check	10/29/21 07:04		1007581
68	2LM031296	S1J0510-CRL6	Instrument RL Check	10/29/21 07:18		1007583
69	2LM031297	S1J0510-CCB6	Calibration Blank	10/29/21 07:31		

Sequence Standards

Standard ID	Description	Prepared	PreparedBy	Expires
1006966	6850/331 Perchlorate ICV (1 ppb)	08/11/2021	John Richards	08/11/2022
1006967	6850 Perchlorate Alternate 0.2 ppb MCT	08/11/2021	John Richards	08/11/2022
1007578	6850/331 ICAL STD @ 10 ppb	09/07/2021	Craig Smith	09/07/2022
1007579	6850/331 ICAL STD @ 5 ppb	09/07/2021	Craig Smith	09/07/2022
1007580	6850/331 ICAL STD @ 2 ppb	09/07/2021	Craig Smith	09/07/2022
1007581	6850/331 ICAL STD-CCV @ 1 ppb	09/07/2021	Craig Smith	09/07/2022
1007582	6850/331 ICAL STD @ 0.5 ppb	09/07/2021	Craig Smith	09/07/2022
1007583	6850/331 ICAL STD-MRL @ 0.2 ppb	09/07/2021	Craig Smith	09/07/2022
1007584	6850/331 ICAL STD @ 0.1 ppb	09/07/2021	Craig Smith	09/07/2022

Sequence Internal Standard

Standard ID	Description	Prepared	PreparedBy	Expires
1000597	6850/331 IS Working (5.0 ppb)	01/20/2021	Craig Smith	01/20/2022

MICROBAC®

Laboratory Report Number: M1J0981

Client Project ID: LHAAP

SEQUENCE LOG SUMMARY
SECTION A2

Sequence: S1J0523 **Analyst 1:** CAS
Instrument: LCMS2 **Method:** EPA 6850
Calibration: 21J0034 **SOP:** HPLC06

#	File ID	Laboratory ID	Client ID	Analyzed	Reference	Standard
1	2LM031298	S1J0523-CCB1	Calibration Blank	10/29/21 11:09		
2	2LM031299	S1J0523-CCV1	Calibration Check	10/29/21 11:22		1007581
3	2LM031300	S1J0523-CRL1	Instrument RL Check	10/29/21 11:36		1007583
6	2LM031303	M1J0981-03	16WW16-211013	10/29/21 12:15		
10	2LM031307	S1J0523-CCV2	Calibration Check	10/29/21 13:08		1007581
11	2LM031308	S1J0523-CRL2	Instrument RL Check	10/29/21 13:22		1007583
12	2LM031309	S1J0523-CCB2	Calibration Blank	10/29/21 13:35		

Sequence Standards

Standard ID	Description	Prepared	PreparedBy	Expires
1007581	6850/331 ICAL STD-CCV @ 1 ppb	09/07/2021	Craig Smith	09/07/2022
1007583	6850/331 ICAL STD-MRL @ 0.2 ppb	09/07/2021	Craig Smith	09/07/2022

Sequence Internal Standard

Standard ID	Description	Prepared	PreparedBy	Expires
1000597	6850/331 IS Working (5.0 ppb)	01/20/2021	Craig Smith	01/20/2022

MICROBAC®

Laboratory Report Number: M1J0981
Client Project ID: LHAAP

SEQUENCE LOG SUMMARY
SECTION A2

Sequence: S1J0551
Instrument: LCMS2
Calibration: 21J0034

Analyst 1: CAS
Method: EPA 6850
SOP: HPLC06

#	File ID	Laboratory ID	Client ID	Analyzed	Reference	Standard
1	2LM031310	S1J0551-CCB1	Calibration Blank	10/29/21 16:37		
2	2LM031311	S1J0551-CCV1	Calibration Check	10/29/21 16:50		1007581
3	2LM031312	S1J0551-CRL1	Instrument RL Check	10/29/21 17:04		1007583
4	2LM031313	S1J0551-IFA1	Interference Check A	10/29/21 17:17		1006967
8	2LM031317	M1J0981-04	16WW35-211013	10/29/21 18:10		
14	2LM031323	S1J0551-CCV2	Calibration Check	10/29/21 19:29		1007581
15	2LM031324	S1J0551-CRL2	Instrument RL Check	10/29/21 19:43		1007583
16	2LM031325	S1J0551-CCB2	Calibration Blank	10/29/21 19:56		
18	2LM031327	S1J0551-CCV3	Calibration Check	10/29/21 20:22		1007581
19	2LM031328	S1J0551-CRL3	Instrument RL Check	10/29/21 20:36		1007583
20	2LM031329	S1J0551-CCB3	Calibration Blank	10/29/21 20:49		

Sequence Standards

Standard ID	Description	Prepared	PreparedBy	Expires
1006967	6850 Perchlorate Alternate 0.2 ppb MCT	08/11/2021	John Richards	08/11/2022
1007581	6850/331 ICAL STD-CCV @ 1 ppb	09/07/2021	Craig Smith	09/07/2022
1007583	6850/331 ICAL STD-MRL @ 0.2 ppb	09/07/2021	Craig Smith	09/07/2022

Sequence Internal Standard

Standard ID	Description	Prepared	PreparedBy	Expires
1000597	6850/331 IS Working (5.0 ppb)	01/20/2021	Craig Smith	01/20/2022

MICROBAC®

Section B:
HPLC Organics
EPA 6850
Sample Raw Data

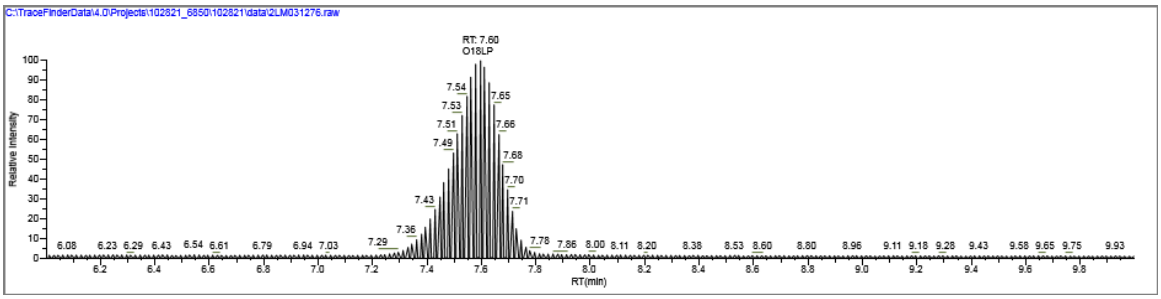
Microbac Laboratories, Inc.
158 Starlite Drive | Marietta, OH 45750 | 800.373.4071 | www.microbac.com

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 102821

Method: 102821_Perchlorate 6850
Perchlorate 6850
Cali File: 102821.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:E4	M1J0981-01	2LM031276	N/A	M1J0981-01	10/29/2021 2:53:07 AM	1:01



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.60	89	815110			5.000	ug/L	5.000	ug/L	

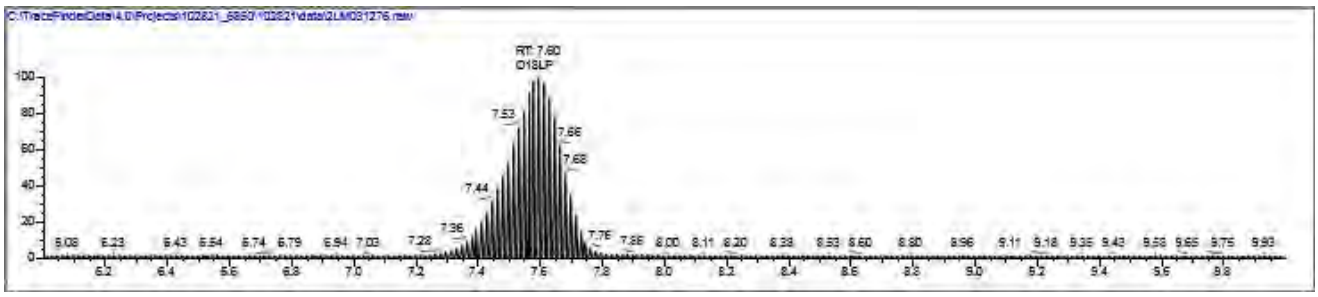
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.6	83	1915	Linear	0.002	0.028	ug/L	0.028	ug/L	I

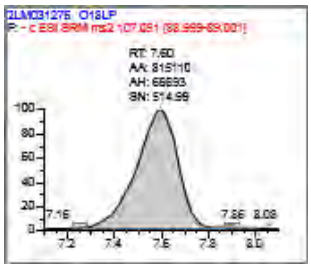
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

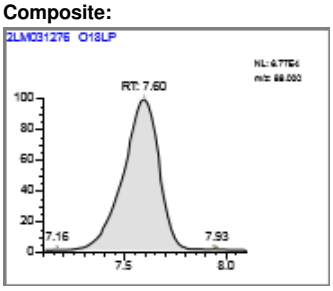
Data File:	2LM031276	Tune Report Date:	Tune report not found
Method:	102821_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	10/29/2021 2:53:07 AM
		Cali File Date:	10/29/2021 9:06:35 AM
Cali File:	102821.calx	Operator ID:	CAS
Sample ID:	M1J0981-01	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:E4
Comments:	1:01		



m/z 89.000



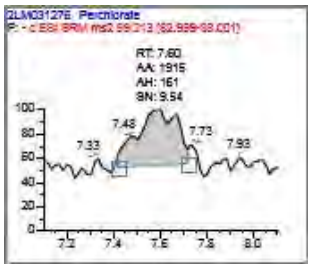
Composite:



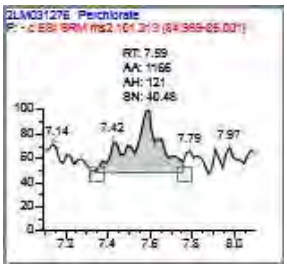
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.60	m/z 89.000	815110	5.000		N/A

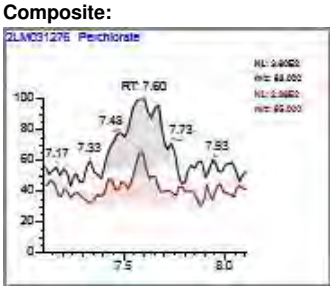
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio	
			N/A			
7.60	m/z 83.000	1915	0.028		N/A	I
7.59	m/z 85.000	1166		26.30 - 39.45	60.9 *	

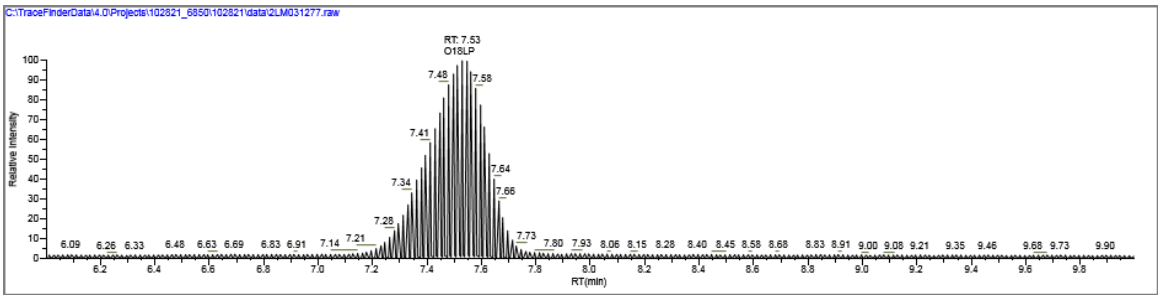
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 102821

Method: 102821_Perchlorate 6850
Perchlorate 6850
Cali File: 102821.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:E5	M1J0981-02	2LM031277	N/A	M1J0981-02	10/29/2021 3:06:22 AM	1:01



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.53	89	711765			5.000	ug/L	5.000	ug/L	

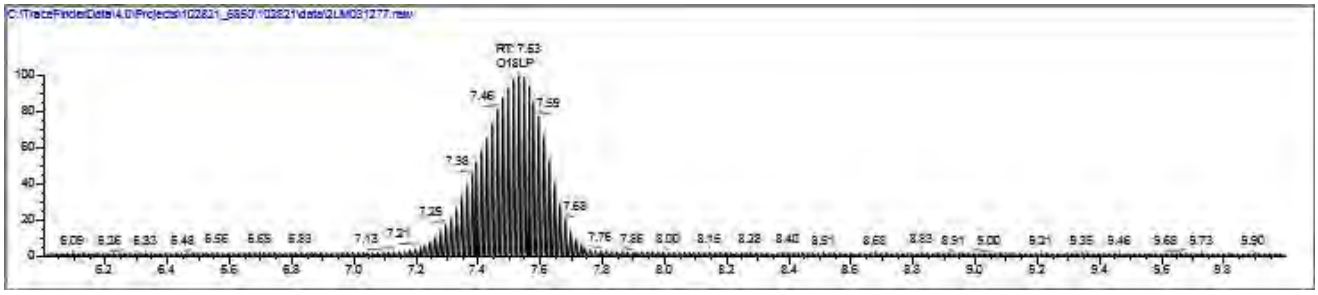
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.55	83	10222	Linear	0.014	0.096	ug/L	0.096	ug/L	

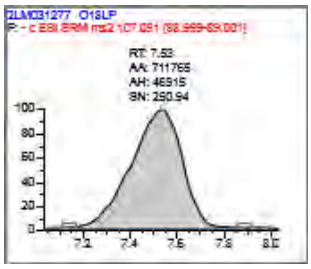
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

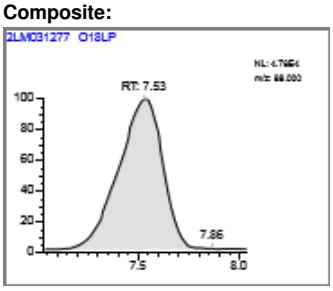
Data File:	2LM031277	Tune Report Date:	Tune report not found
Method:	102821_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	10/29/2021 3:06:22 AM
		Cali File Date:	10/29/2021 9:06:35 AM
Cali File:	102821.calx	Operator ID:	CAS
Sample ID:	M1J0981-02	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:E5
Comments:	1:01		



m/z 89.000



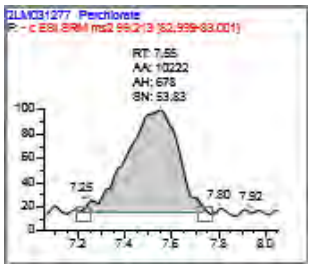
Composite:



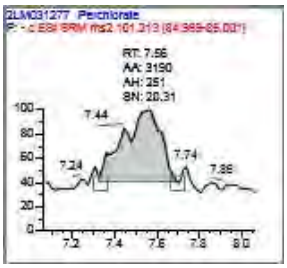
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.53	m/z 89.000	711765	5.000		N/A

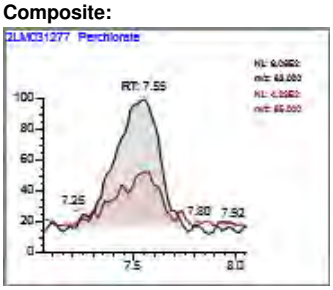
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.55	m/z 83.000	10222	0.096		N/A
7.56	m/z 85.000	3190		26.30 - 39.45	31.21

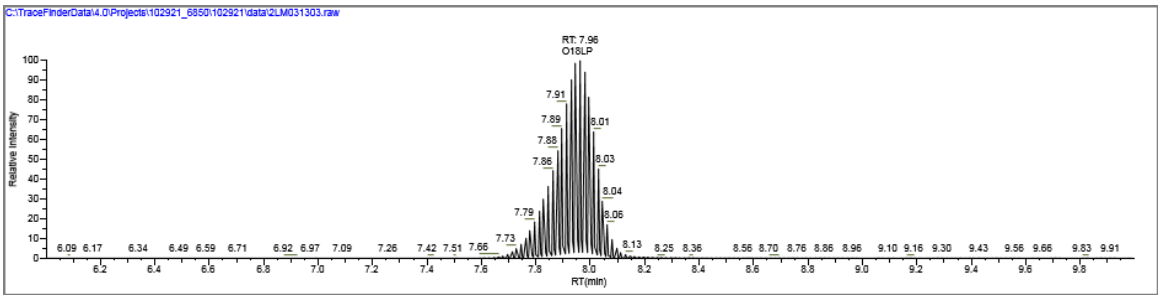
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: TSQ_Quantiva
Batch: 102921

Method: 102921_Perchlorate 6850 Perchlorate 6850
Cali File: 102821_102921.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
G:F3	M1J0981-03@1000	2LM031303	N/A	M1J0981-03@1000	10/29/2021 12:15:59 PM	1:1000



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.96	89	1321403			5.000	ug/L	5.000	ug/L	

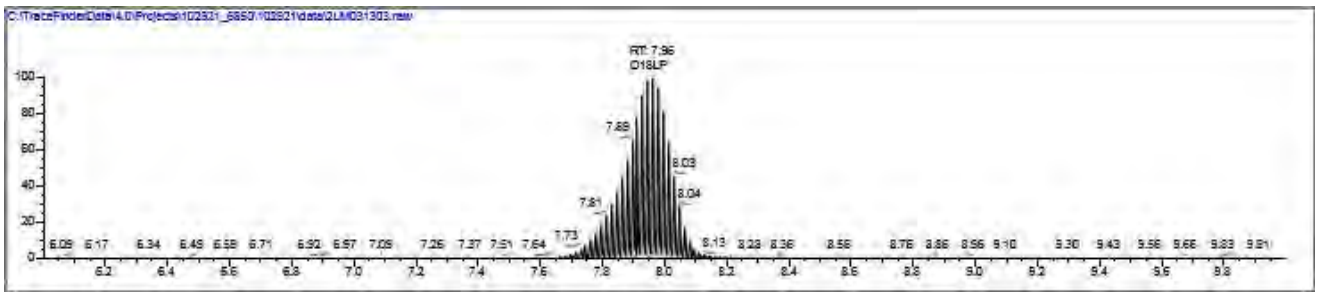
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.97	83	124686	Linear	0.094	0.555	ug/L	0.555	ug/L	

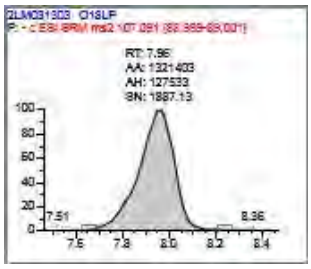
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

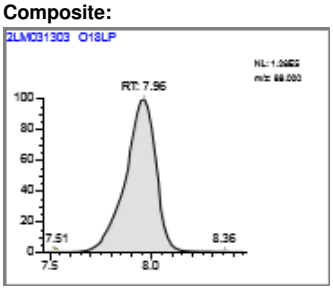
Data File:	2LM031303	Tune Report Date:	Tune report not found
Method:	102921_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	10/29/2021 12:15:59 PM
Cali File:	102821_102921.calx	Cali File Date:	10/29/2021 9:06:35 AM
Sample ID:	M1J0981-03@1000	Operator ID:	TSQ_Quantiva
Diln Factor:	1.00	Instrument ID:	LCMS2
Comments:	1:1000	Vial Number:	G:F3



m/z 89.000



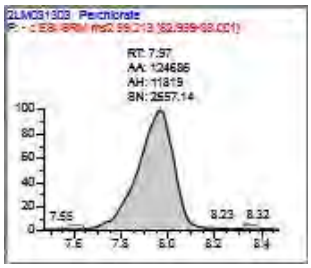
Composite:



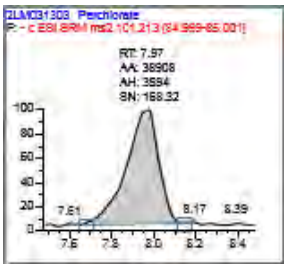
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.96	m/z 89.000	1321403	5.000		N/A

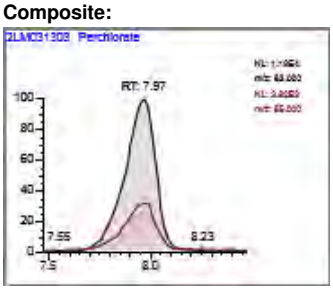
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.97	m/z 83.000	124686	0.555		N/A
7.97	m/z 85.000	38908		25.89 - 38.83	31.2

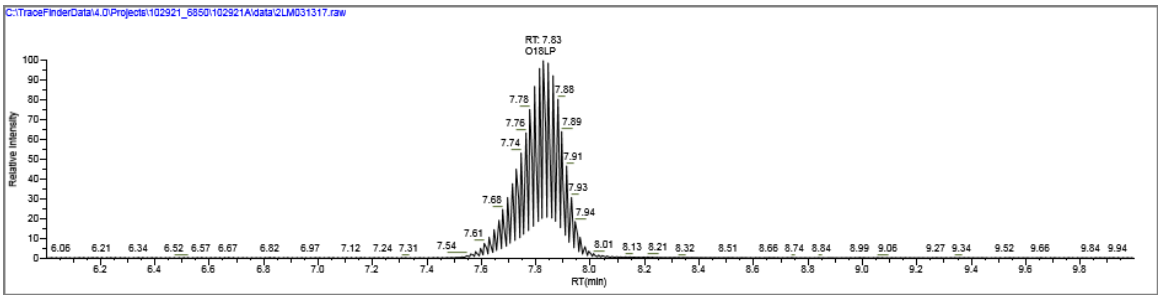
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 102921A

Method: 102921A_Perchlorate 6850
Perchlorate 6850
Cali File: 102821_102921A.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:B5	M1J0981-04@100	2LM031317	N/A	M1J0981-04@100	10/29/2021 6:10:18 PM	1:100



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.83	89	1117543			5.000	ug/L	5.000	ug/L	

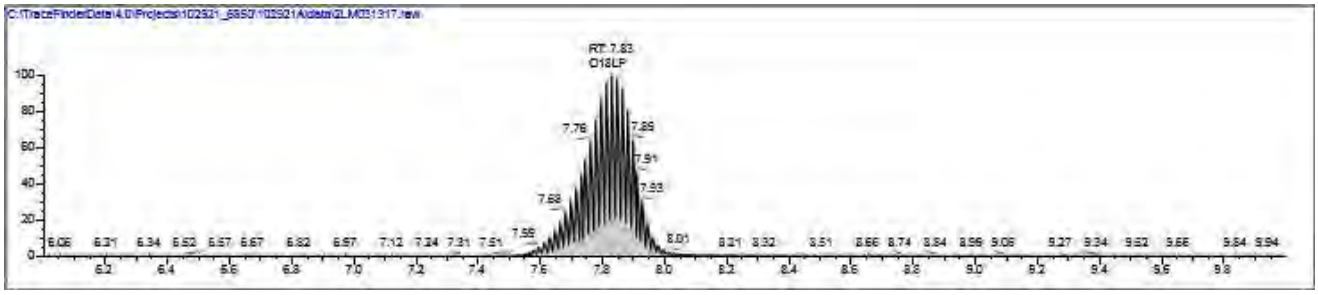
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.83	83	710874	Linear	0.636	3.66	ug/L	3.66	ug/L	

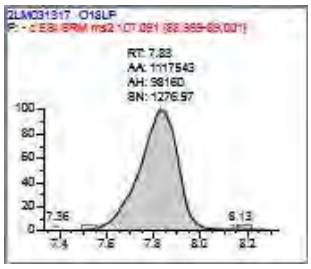
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

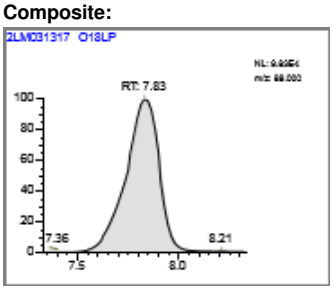
Data File:	2LM031317	Tune Report Date:	Tune report not found
Method:	102921A_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	10/29/2021 6:10:18 PM
		Cali File Date:	10/29/2021 1:22:57 PM
Cali File:	102821_102921A.calx	Operator ID:	CAS
Sample ID:	M1J0981-04@100	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:B5
Comments:	1:100		



m/z 89.000



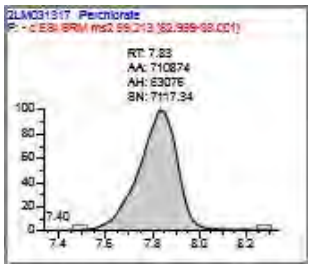
Composite:



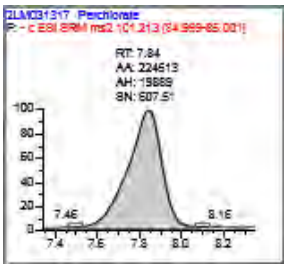
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.83	m/z 89.000	1117543	5.000		N/A

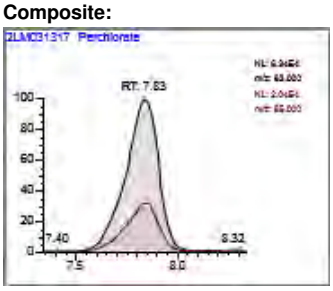
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.83	m/z 83.000	710874	3.660		N/A
7.84	m/z 85.000	224513		25.89 - 38.83	31.58

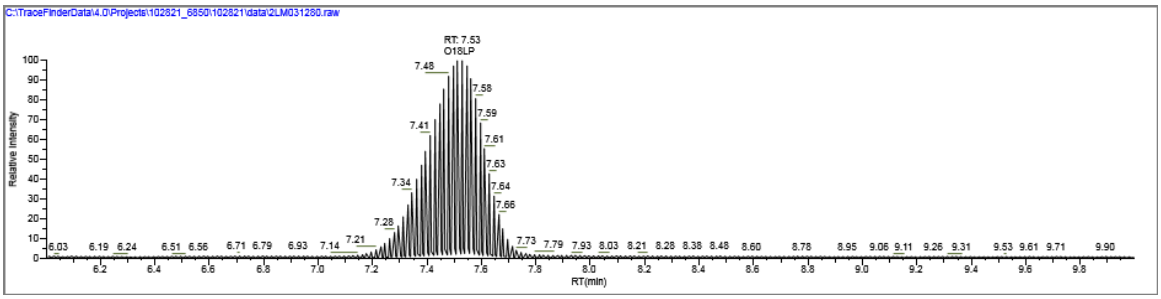
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 102821

Method: 102821_Perchlorate 6850
Perchlorate 6850
Cali File: 102821.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:E8	M1J0981-05	2LM031280	N/A	M1J0981-05	10/29/2021 3:46:06 AM	1:01



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.53	89	972045			5.000	ug/L	5.000	ug/L	

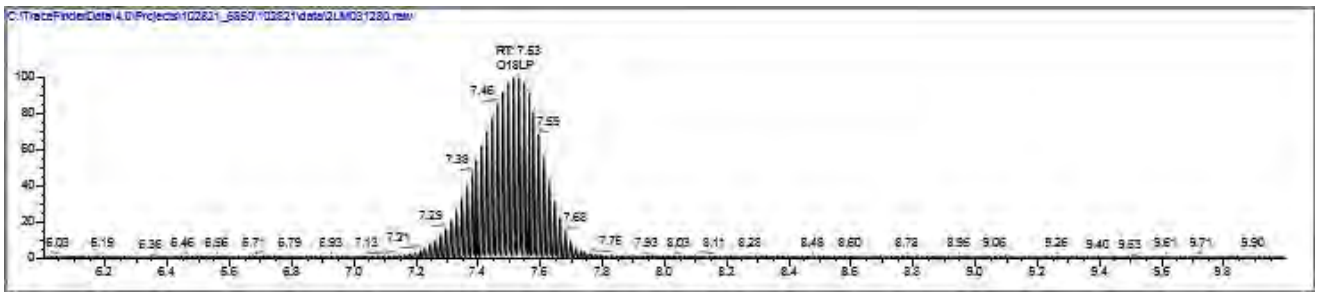
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.53	83	47035	Linear	0.048	0.291	ug/L	0.291	ug/L	

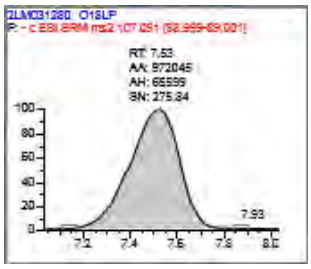
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

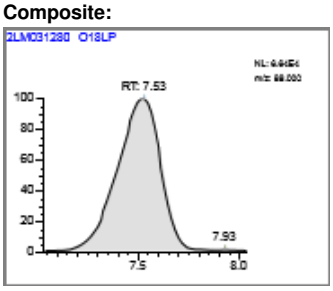
Data File:	2LM031280	Tune Report Date:	Tune report not found
Method:	102821_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	10/29/2021 3:46:06 AM
		Cali File Date:	10/29/2021 9:06:35 AM
Cali File:	102821.calx	Operator ID:	CAS
Sample ID:	M1J0981-05	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:E8
Comments:	1:01		



m/z 89.000



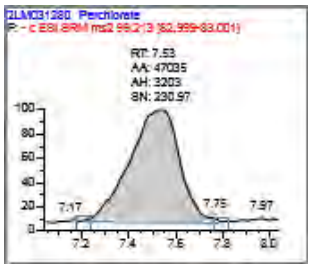
Composite:



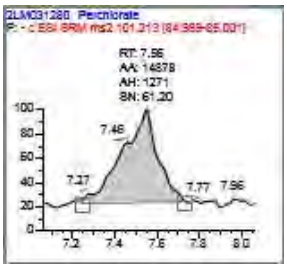
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.53	m/z 89.000	972045	5.000		N/A

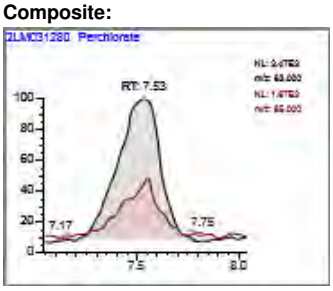
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.53	m/z 83.000	47035	0.291		N/A
7.56	m/z 85.000	14878		26.30 - 39.45	31.63

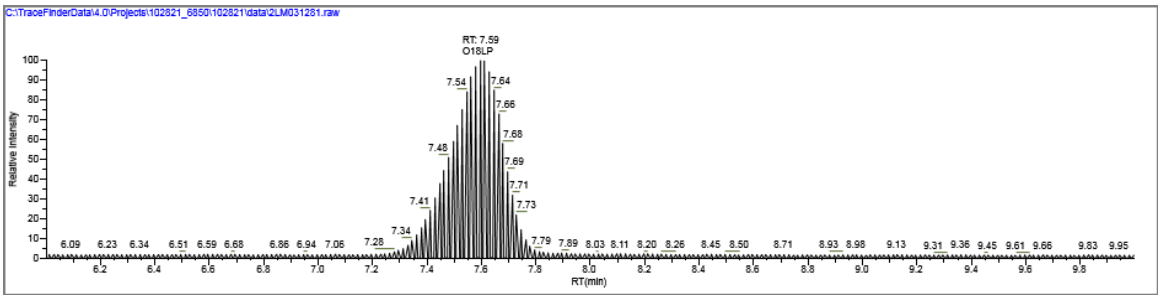
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 102821

Method: 102821_Perchlorate 6850 Perchlorate 6850
Cali File: 102821.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:E9	M1J0981-06	2LM031281	N/A	M1J0981-06	10/29/2021 3:59:21 AM	1:01



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.59	89	779616			5.000	ug/L	5.000	ug/L	

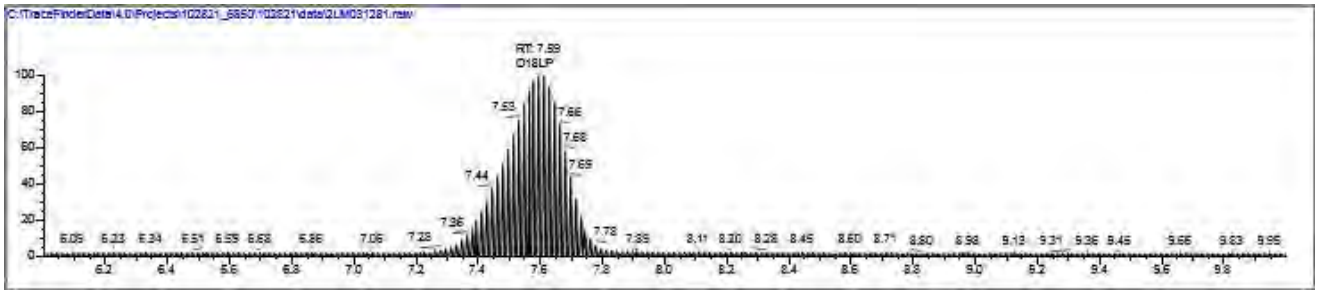
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	N/F	N/F	N/F	Linear	0.000	N/F	ug/L	N/F	ug/L	

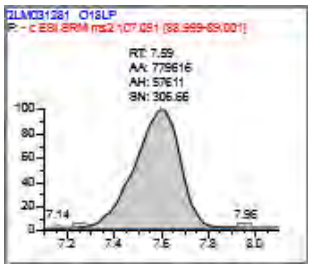
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

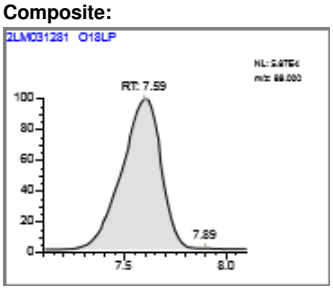
Data File:	2LM031281	Tune Report Date:	Tune report not found
Method:	102821_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	10/29/2021 3:59:21 AM
		Cali File Date:	10/29/2021 9:06:35 AM
Cali File:	102821.calx	Operator ID:	CAS
Sample ID:	M1J0981-06	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:E9
Comments:	1:01		



m/z 89.000



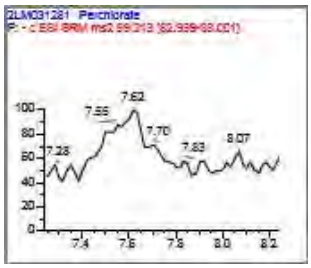
Composite:



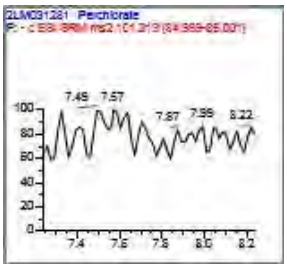
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.59	m/z 89.000	779616	5.000		N/A

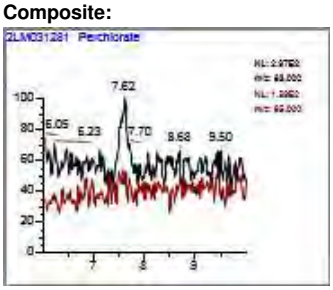
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
			Compound Not Found		
0.00	m/z 83.000		N/A		
	m/z 85.000				

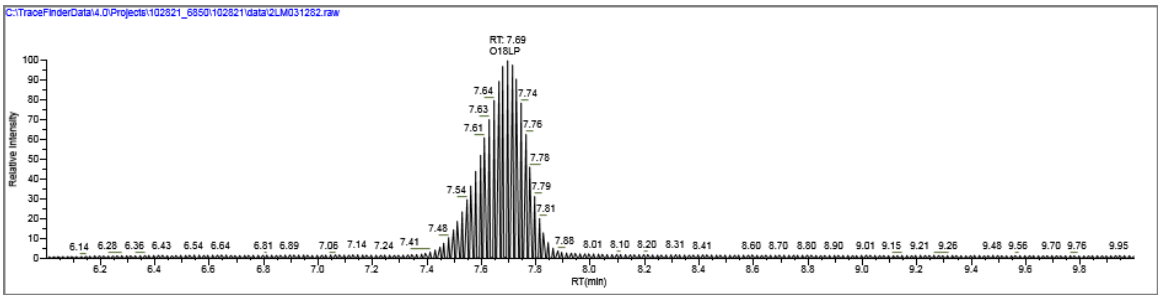
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 102821

Method: 102821_Perchlorate 6850
Perchlorate 6850
Cali File: 102821.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:F1	M1J0981-07	2LM031282	N/A	M1J0981-07	10/29/2021 4:12:40 AM	1:01



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.69	89	842922			5.000	ug/L	5.000	ug/L	

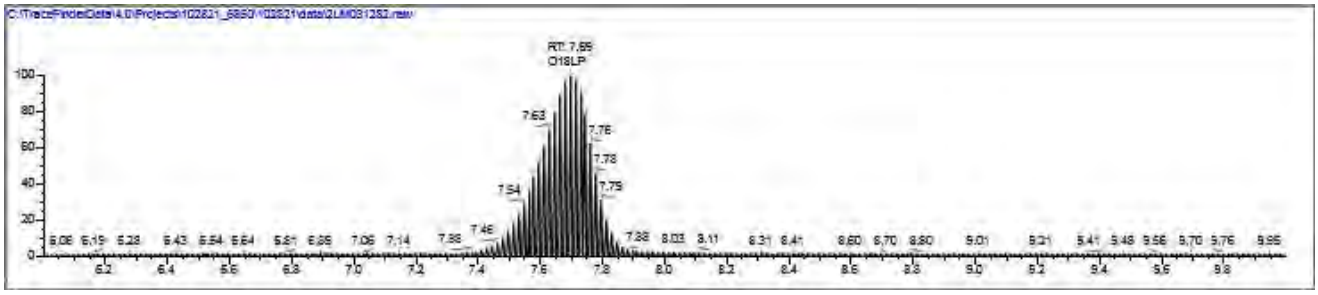
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.67	83	3594	Linear	0.004	0.039	ug/L	0.039	ug/L	I

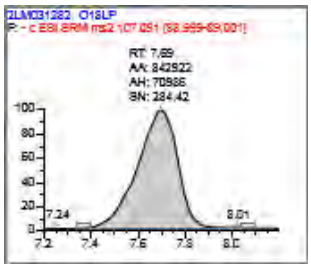
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

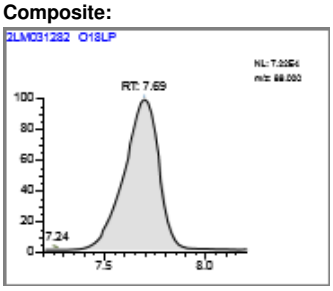
Data File:	2LM031282	Tune Report Date:	Tune report not found
Method:	102821_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	10/29/2021 4:12:40 AM
		Cali File Date:	10/29/2021 9:06:35 AM
Cali File:	102821.calx	Operator ID:	CAS
Sample ID:	M1J0981-07	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:F1
Comments:	1:01		



m/z 89.000



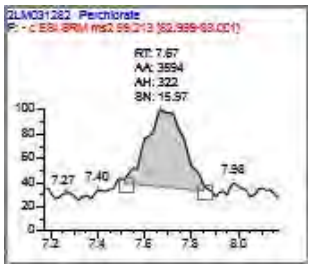
Composite:



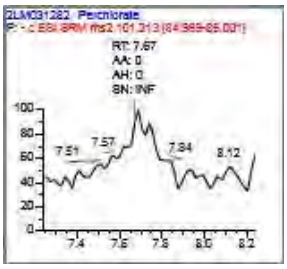
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio	
			N/A			
7.69	m/z 89.000	842922	5.000		N/A	

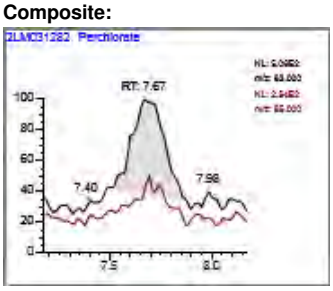
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio	
			N/A			
7.67	m/z 83.000	3594	0.039		N/A	I
7.67	m/z 85.000			26.30 - 39.45	*	

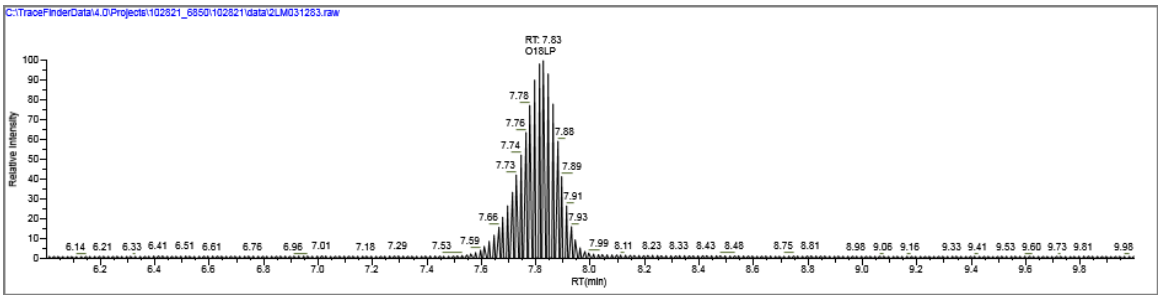
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 102821

Method: 102821_Perchlorate 6850 Perchlorate 6850
Cali File: 102821.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:F2	M1J0981-08	2LM031283	N/A	M1J0981-08	10/29/2021 4:26:00 AM	1:01



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.83	89	878882			5.000	ug/L	5.000	ug/L	

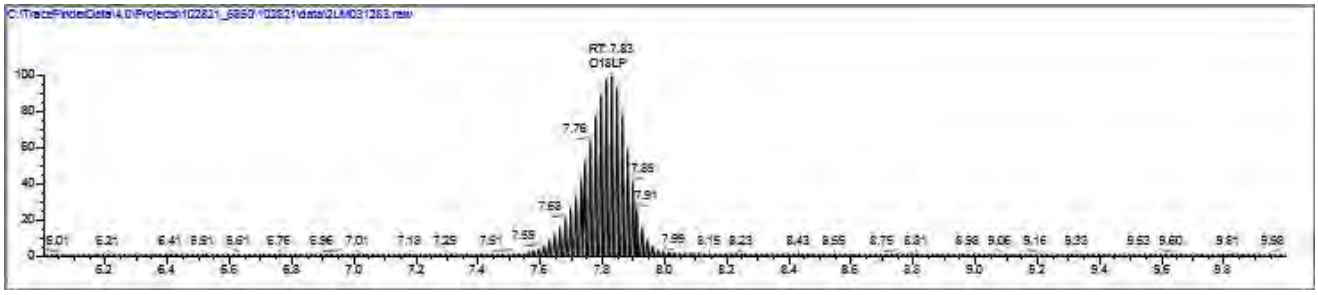
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.83	83	2059	Linear	0.002	0.028	ug/L	0.028	ug/L	I

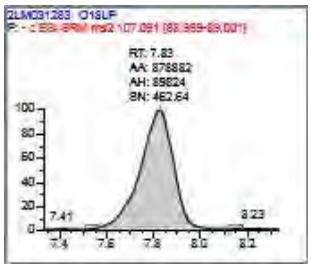
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

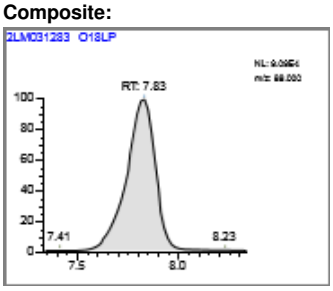
Data File:	2LM031283	Tune Report Date:	Tune report not found
Method:	102821_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	10/29/2021 4:26:00 AM
		Cali File Date:	10/29/2021 9:06:35 AM
Cali File:	102821.calx	Operator ID:	CAS
Sample ID:	M1J0981-08	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:F2
Comments:	1:01		



m/z 89.000



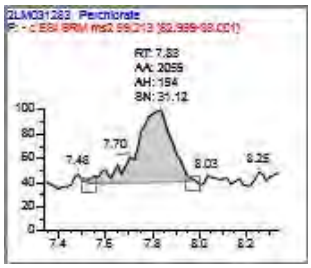
Composite:



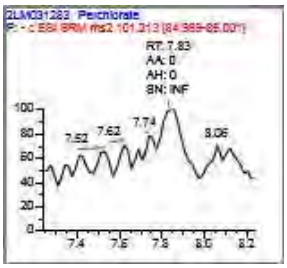
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio	
			N/A			
7.83	m/z 89.000	878882	5.000		N/A	

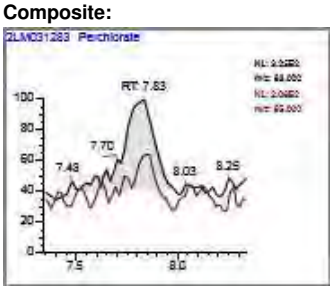
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio	
			N/A			
7.83	m/z 83.000	2059	0.028		N/A	I
7.83	m/z 85.000			26.30 - 39.45	*	

Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

MICROBAC®

Section C:
HPLC Organics
EPA 6850
QC Sample Raw Data

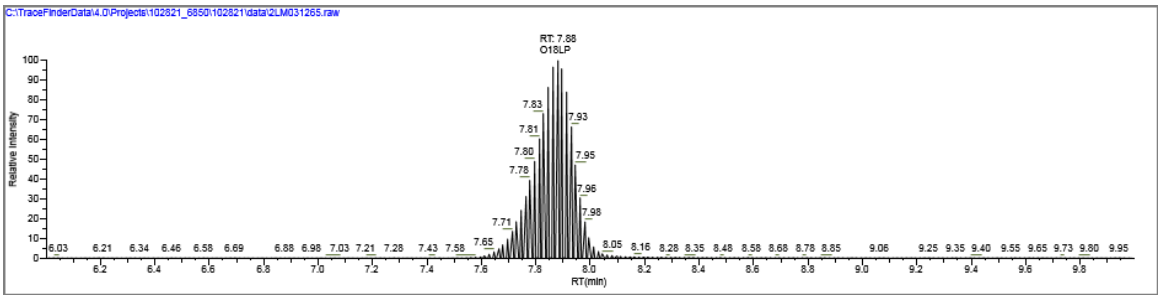
Microbac Laboratories, Inc.
158 Starlite Drive | Marietta, OH 45750 | 800.373.4071 | www.microbac.com

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 102821

Method: 102821_Perchlorate 6850 Perchlorate 6850
Cali File: 102821.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:B2	B1J1574-BLK1	2LM031265	N/A	BLANK	10/29/2021 12:27:24 AM	1:01



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.88	89	1289719			5.000	ug/L	5.000	ug/L	

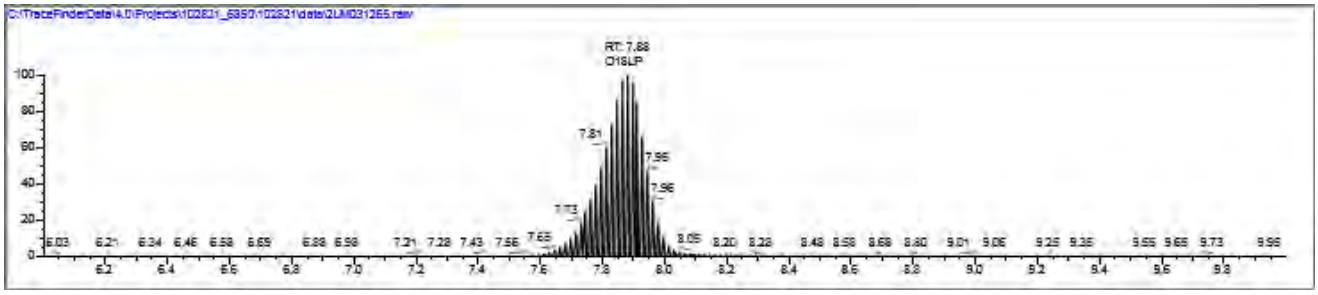
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.9	83	3473	Linear	0.003	0.03	ug/L	0.03	ug/L	I

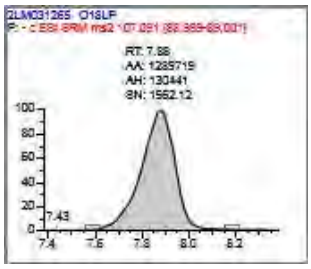
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

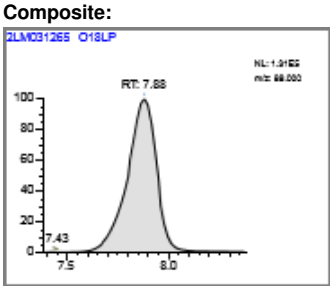
Data File:	2LM031265	Tune Report Date:	Tune report not found
Method:	102821_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	10/29/2021 12:27:24 AM
		Cali File Date:	10/29/2021 9:06:35 AM
Cali File:	102821.calx	Operator ID:	CAS
Sample ID:	B1J1574-BLK1	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:B2
Comments:	1:01		



m/z 89.000



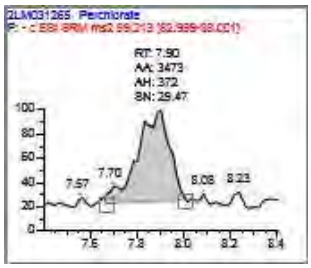
Composite:



O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.88	m/z 89.000	1289719	5.000		N/A

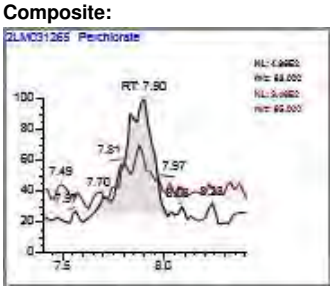
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio	
			N/A			
7.90	m/z 83.000	3473	0.030		N/A	I
7.90	m/z 85.000			26.30 - 39.45		*

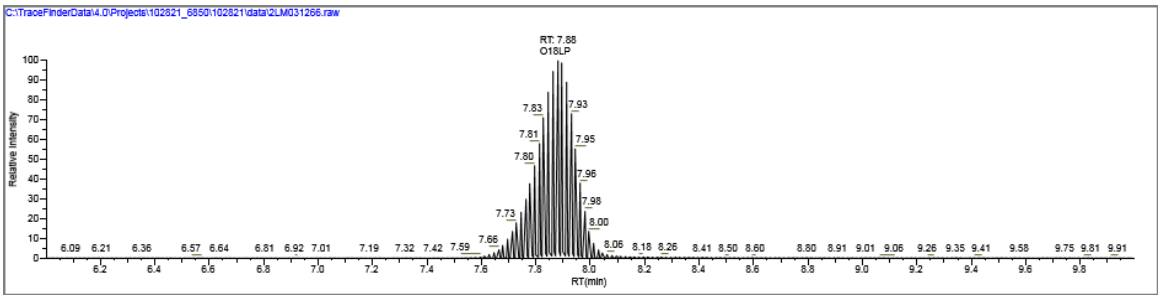
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 102821

Method: 102821_Perchlorate 6850 Perchlorate 6850
Cali File: 102821.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:B3	B1J1574-BS1	2LM031266	N/A	LCS (0.2ug/L)	10/29/2021 12:40:37 AM	1:01



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.88	89	1329597			5.000	ug/L	5.000	ug/L	

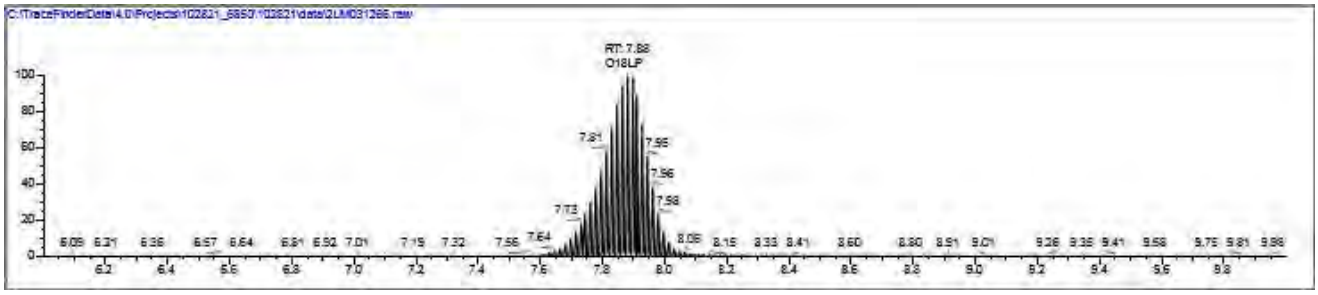
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.88	83	45667	Linear	0.034	0.211	ug/L	0.211	ug/L	

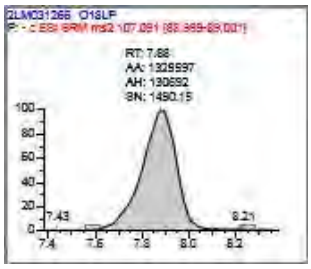
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

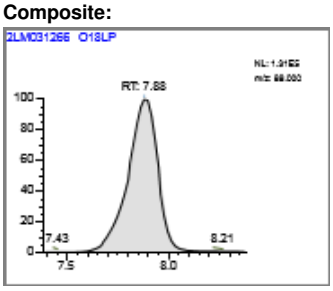
Data File:	2LM031266	Tune Report Date:	Tune report not found
Method:	102821_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	10/29/2021 12:40:37 AM
		Cali File Date:	10/29/2021 9:06:35 AM
Cali File:	102821.calx	Operator ID:	CAS
Sample ID:	B1J1574-BS1	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:B3
Comments:	1:01		



m/z 89.000



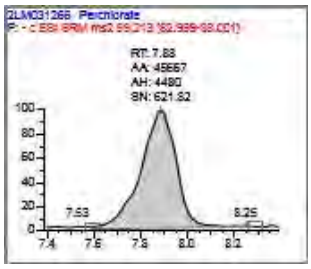
Composite:



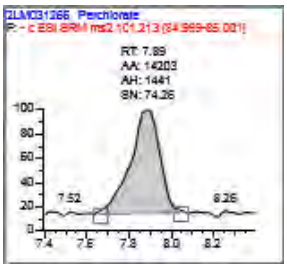
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.88	m/z 89.000	1329597	5.000		N/A

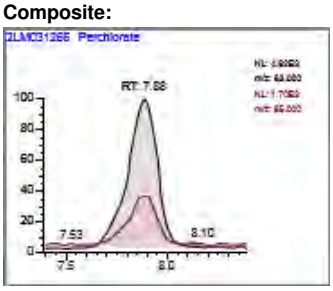
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.88	m/z 83.000	45667	0.211		N/A
7.89	m/z 85.000	14203		26.30 - 39.45	31.1

Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

MICROBAC®

Section D:
HPLC Organics
EPA 6850
Calibration Raw Data

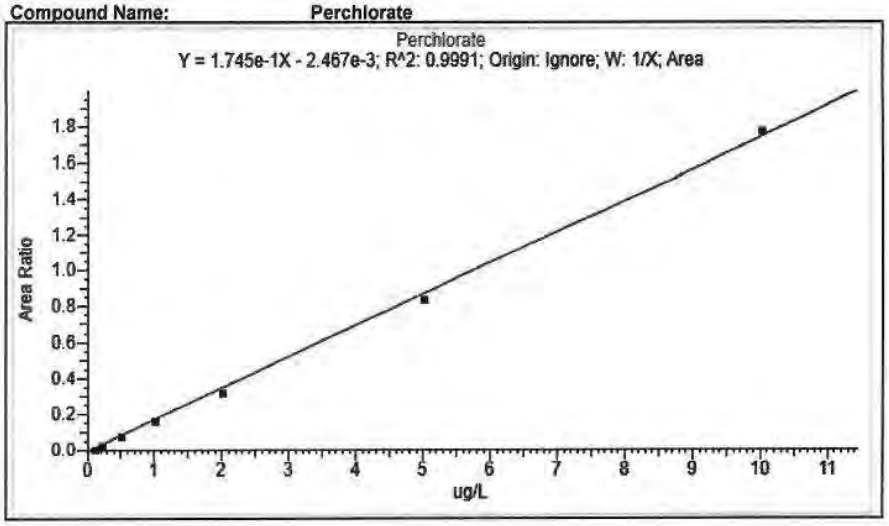
Microbac Laboratories, Inc.
158 Starlite Drive | Marietta, OH 45750 | 800.373.4071 | www.microbac.com

Compound Calibration Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 102821.00

Method: 102821_Perchlorate 6850
Perchlorate 6850
Cali File: 102821.calx

Compound Name: Perchlorate



Linear
Pass

Level	Std Amount	Std Area	IS Amount	IS Area	Resp factor/ ratio	Calc Amount	Units	% CV	% RSD
1	0.1	26495	5	1661900	0.016	0.106	ug/L	N/A	N/A
2	0.2	55643	5	1670033	0.033	0.205	ug/L	N/A	N/A
3	0.5	141805	5	1708009	0.083	0.49	ug/L	N/A	N/A
4	1	295153	5	1730800	0.171	0.992	ug/L	N/A	N/A
5	2	563232	5	1711825	0.329	1.9	ug/L	N/A	N/A
6	5	1363180	5	1609989	0.847	4.867	ug/L	N/A	N/A
7	10	2528538	5	1417293	1.784	10.24	ug/L	N/A	N/A

Bordered cell = Manually Integrated; Calibration flags: D=RSD; F=Response factor; R=R Squared; A=Amount.

Compound Calibration Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 102821.00

Method: 102821_Perchlorate 6850 Perchlorate 6850
Cali File: 102821.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A2	S1J0510-CAL1	2LM031224	1	CAL STD 1	10/28/2021 3:24:10 PM	1:1 0012469
R:A3	S1J0510-CAL2	2LM031225	2	CAL STD 2	10/28/2021 3:37:25 PM	1:1 0012468
R:A4	S1J0510-CAL3	2LM031226	3	CAL STD 3	10/28/2021 3:50:39 PM	1:1 0012467
R:A5	S1J0510-CAL4	2LM031227	4	CAL STD 4	10/28/2021 4:03:55 PM	1:1 0012466
R:A6	S1J0510-CAL5	2LM031228	5	CAL STD 5	10/28/2021 4:17:10 PM	1:1 0012465
R:A7	S1J0510-CAL6	2LM031229	6	CAL STD 6	10/28/2021 4:30:25 PM	1:1 0012464
R:A8	S1J0510-CAL7	2LM031230	7	CAL STD 7	10/28/2021 4:43:40 PM	1:1 0012463

Bordered cell = Manually Integrated; Calibration flags: D=RSD; F=Response factor; R=R Squared; A=Amount.

Data Review Report

Printed: 10/29/2021 11:28 am

Analysis	Analyte	CalResult	True Value	% D	% Rec
Lab ID: S1J0510-CAL1 Cal Standard					
6850 Perchlorate	Perchlorate	0.11	0.10000	5.52	105.52
6850 Perchlorate DOD	Perchlorate	0.11	0.10000	5.52	105.52
Lab ID: S1J0510-CAL2 Cal Standard					
6850 Perchlorate	Perchlorate	0.21	0.20000	2.56	102.56
6850 Perchlorate DOD	Perchlorate	0.21	0.20000	2.56	102.56
Lab ID: S1J0510-CAL3 Cal Standard					
6850 Perchlorate	Perchlorate	0.49	0.50000	-2.00	98.01
6850 Perchlorate DOD	Perchlorate	0.49	0.50000	-2.00	98.01
Lab ID: S1J0510-CAL4 Cal Standard					
6850 Perchlorate	Perchlorate	0.99	1.0000	-0.84	99.16
6850 Perchlorate DOD	Perchlorate	0.99	1.0000	-0.84	99.16
Lab ID: S1J0510-CAL5 Cal Standard					
6850 Perchlorate	Perchlorate	1.90	2.0000	-5.00	95.00
6850 Perchlorate DOD	Perchlorate	1.90	2.0000	-5.00	95.00
Lab ID: S1J0510-CAL6 Cal Standard					
6850 Perchlorate	Perchlorate	4.87	5.0000	-2.65	97.35
6850 Perchlorate DOD	Perchlorate	4.87	5.0000	-2.65	97.35
Lab ID: S1J0510-CAL7 Cal Standard					
6850 Perchlorate	Perchlorate	10.24	10.000	2.40	102.40
6850 Perchlorate DOD	Perchlorate	10.24	10.000	2.40	102.40

MICROBAC®

Section E:
HPLC Organics
EPA 6850
Sequence QC Sample Raw Data

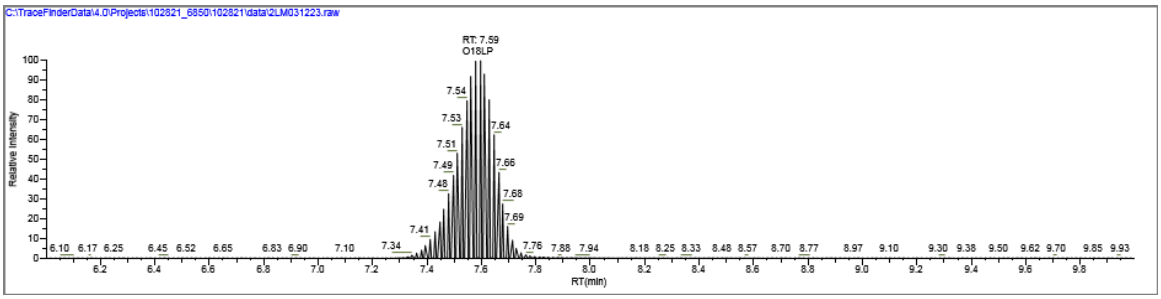
Microbac Laboratories, Inc.
158 Starlite Drive | Marietta, OH 45750 | 800.373.4071 | www.microbac.com

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 102821

Method: 102821_Perchlorate 6850 Perchlorate 6850
Cali File: 102821.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A1	S1J0510-ICB1	2LM031223	N/A	CCB	10/28/2021 3:10:56 PM	1:01



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.59	89	1680592			5.000	ug/L	5.000	ug/L	

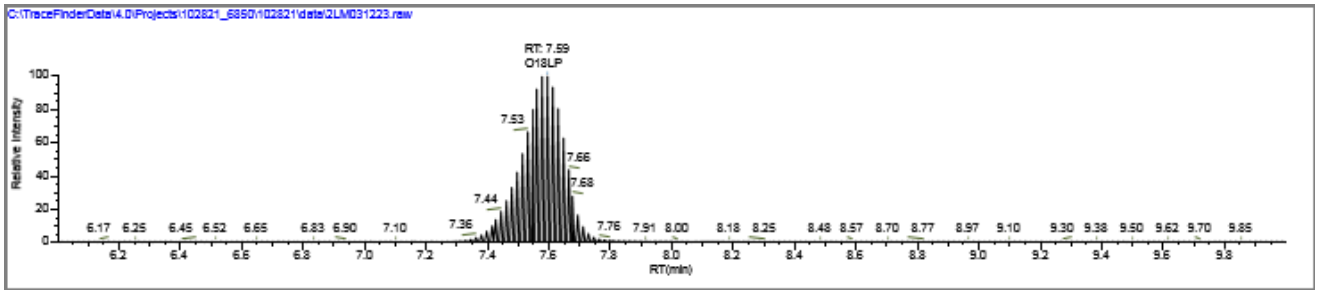
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.6	83	3111	Linear	0.002	0.025	ug/L	0.025	ug/L	

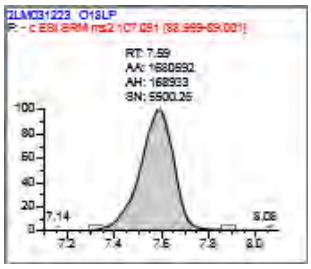
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

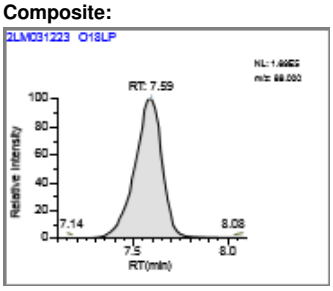
Data File:	2LM031223	Tune Report Date:	Tune report not found
Method:	102821_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	10/28/2021 3:10:56 PM
		Cali File Date:	10/29/2021 9:06:35 AM
Cali File:	102821.calx	Operator ID:	CAS
Sample ID:	S1J0510-ICB1	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:A1
Comments:	1:01		



m/z 89.000



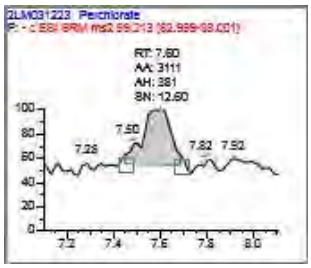
Composite:



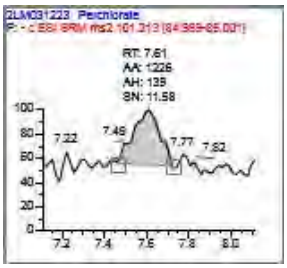
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.59	m/z 89.000	1680592	5.000		N/A

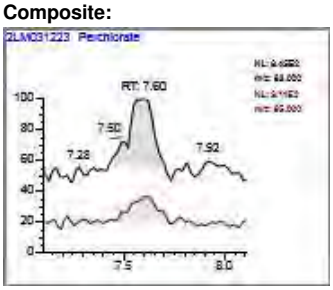
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.60	m/z 83.000	3111	0.025		N/A
7.61	m/z 85.000	1226		26.30 - 39.45	39.41

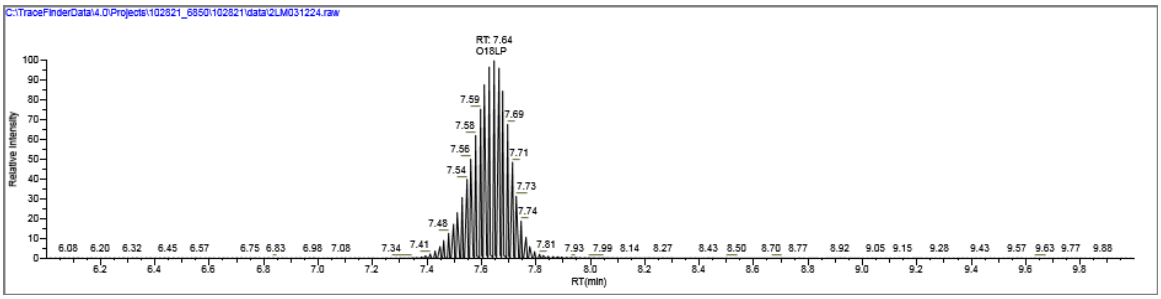
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 102821

Method: 102821_Perchlorate 6850 Perchlorate 6850
Cali File: 102821.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A2	S1J0510-CAL1	2LM031224	1	CAL STD 1	10/28/2021 3:24:10 PM	1:1 0012469



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.64	89	1661900			5.000	ug/L	5.000	ug/L	

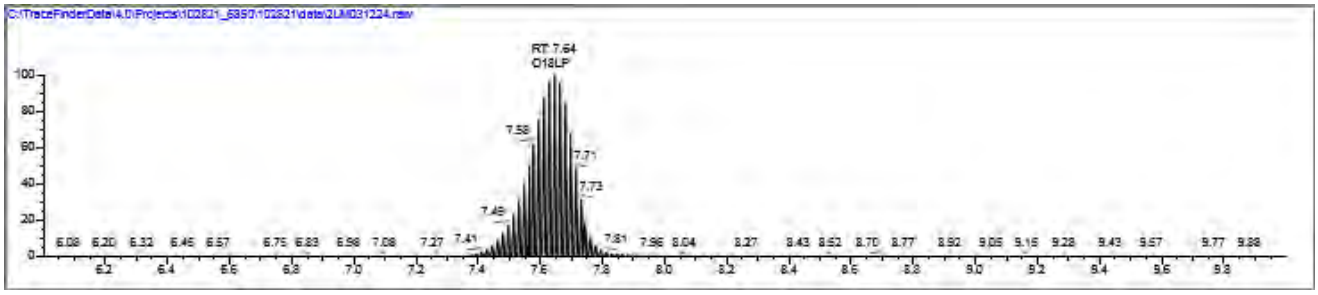
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.63	83	26495	Linear	0.016	0.106	ug/L	0.106	ug/L	

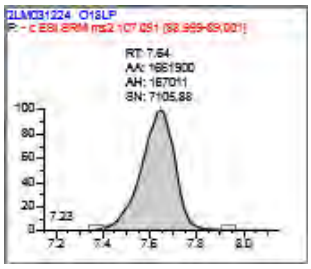
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

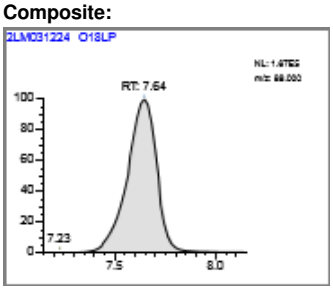
Data File:	2LM031224	Tune Report Date:	Tune report not found
Method:	102821_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	10/28/2021 3:24:10 PM
Cali File:	102821.calx	Cali File Date:	10/29/2021 9:06:35 AM
Sample ID:	S1J0510-CAL1	Operator ID:	CAS
Diln Factor:	1.00	Instrument ID:	LCMS2
Comments:	1:1 0012469	Vial Number:	R:A2



m/z 89.000



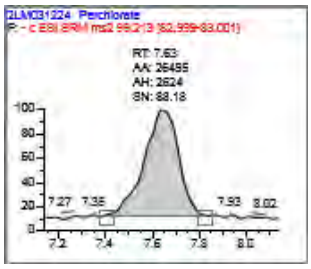
Composite:



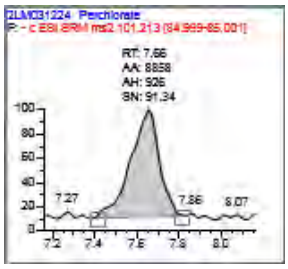
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.64	m/z 89.000	1661900	5.000		N/A

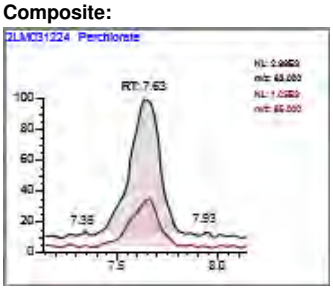
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			Cal: 0.100	0.080 - 2.100	
7.63	m/z 83.000	26495	0.106		N/A
7.66	m/z 85.000	8858		26.30 - 39.45	33.43

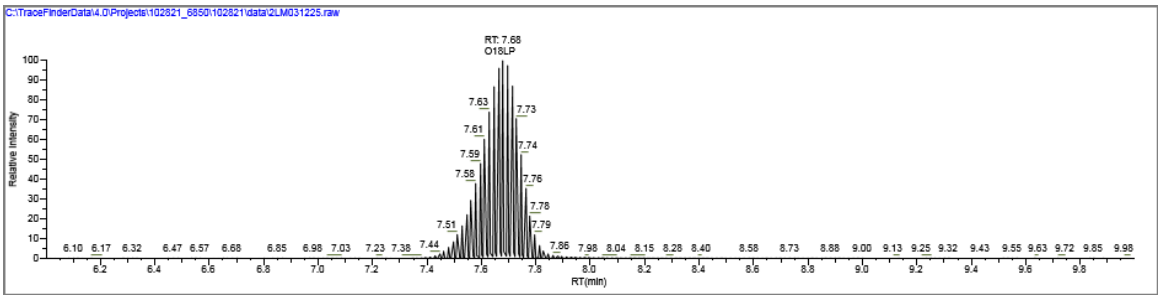
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 102821

Method: 102821_Perchlorate 6850 Perchlorate 6850
Cali File: 102821.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A3	S1J0510-CAL2	2LM031225	2	CAL STD 2	10/28/2021 3:37:25 PM	1:1 0012468



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.68	89	1670033			5.000	ug/L	5.000	ug/L	

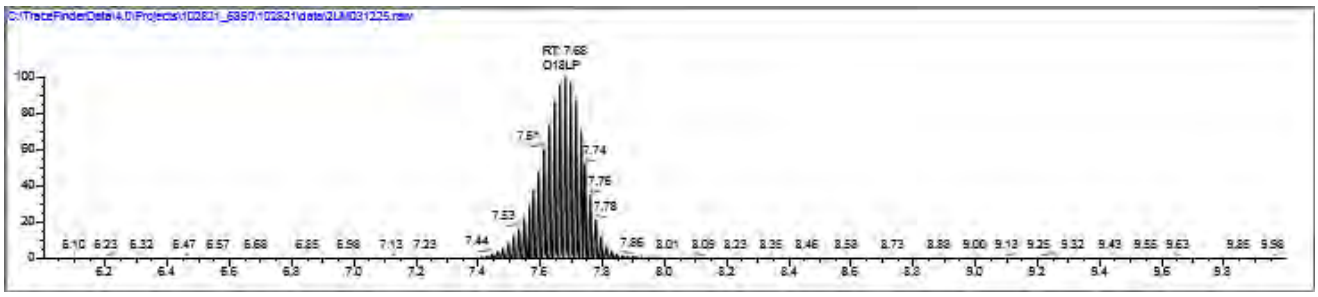
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.68	83	55643	Linear	0.033	0.205	ug/L	0.205	ug/L	

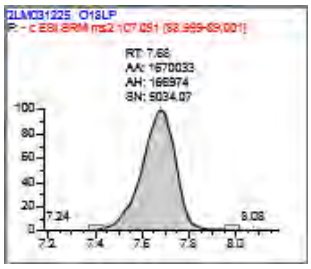
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

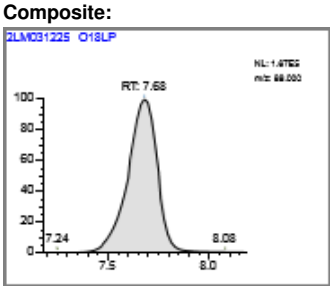
Data File:	2LM031225	Tune Report Date:	Tune report not found
Method:	102821_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	10/28/2021 3:37:25 PM
Cali File:	102821.calx	Cali File Date:	10/29/2021 9:06:35 AM
Sample ID:	S1J0510-CAL2	Operator ID:	CAS
Diln Factor:	1.00	Instrument ID:	LCMS2
Comments:	1:1 0012468	Vial Number:	R:A3



m/z 89.000



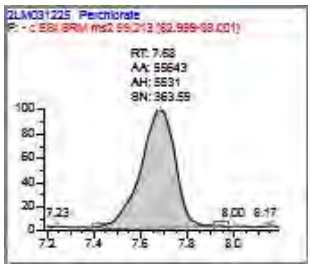
Composite:



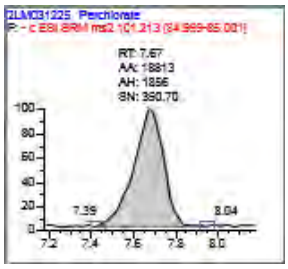
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.68	m/z 89.000	1670033	5.000		N/A

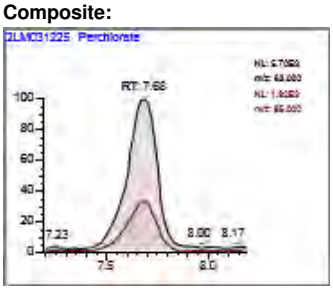
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			Cal: 0.200	0.160 - 4.200	
7.68	m/z 83.000	55643	0.205		N/A
7.67	m/z 85.000	18813		26.30 - 39.45	33.81

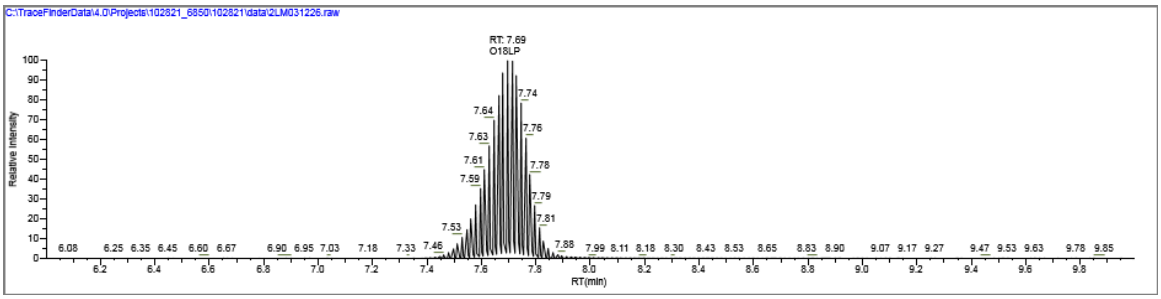
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 102821

Method: 102821_Perchlorate 6850 Perchlorate 6850
Cali File: 102821.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A4	S1J0510-CAL3	2LM031226	3	CAL STD 3	10/28/2021 3:50:39 PM	1:1 0012467



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.69	89	1708009			5.000	ug/L	5.000	ug/L	

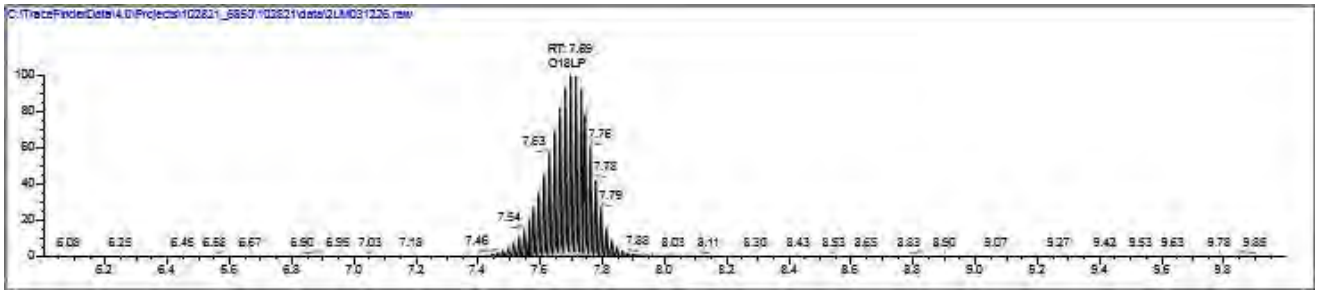
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.72	83	141805	Linear	0.083	0.49	ug/L	0.49	ug/L	

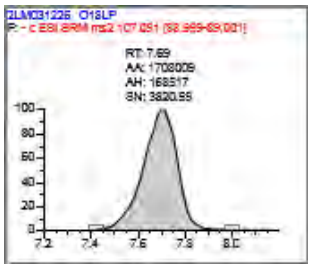
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

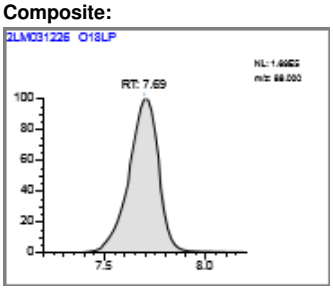
Data File:	2LM031226	Tune Report Date:	Tune report not found
Method:	102821_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	10/28/2021 3:50:39 PM
		Cali File Date:	10/29/2021 9:06:35 AM
Cali File:	102821.calx	Operator ID:	CAS
Sample ID:	S1J0510-CAL3	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:A4
Comments:	1:1 0012467		



m/z 89.000



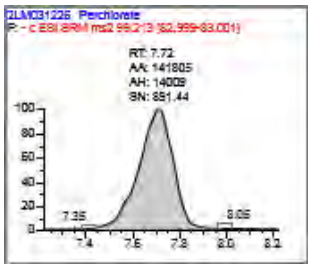
Composite:



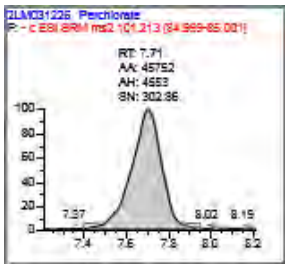
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.69	m/z 89.000	1708009	5.000		N/A

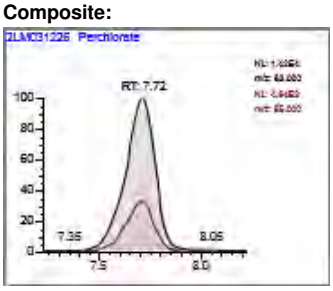
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			Cal: 0.500	0.400 - 10.500	
7.72	m/z 83.000	141805	0.490		N/A
7.71	m/z 85.000	45752		26.30 - 39.45	32.26

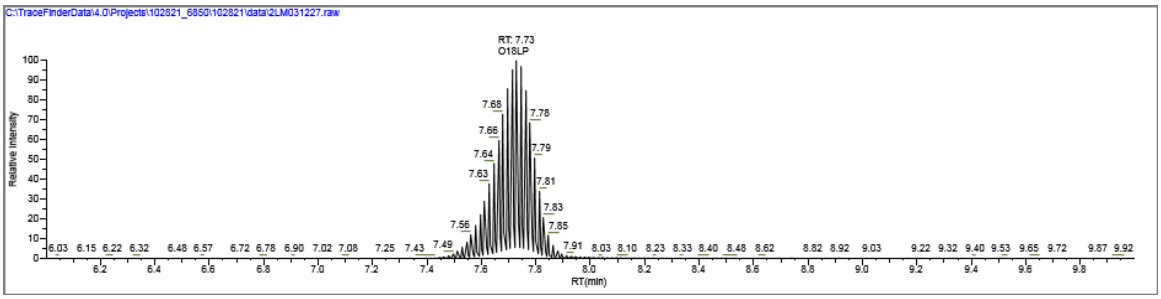
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 102821

Method: 102821_Perchlorate 6850 Perchlorate 6850
Cali File: 102821.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A5	S1J0510-CAL4	2LM031227	4	CAL STD 4	10/28/2021 4:03:55 PM	1:1 0012466



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.73	89	1730800			5.000	ug/L	5.000	ug/L	

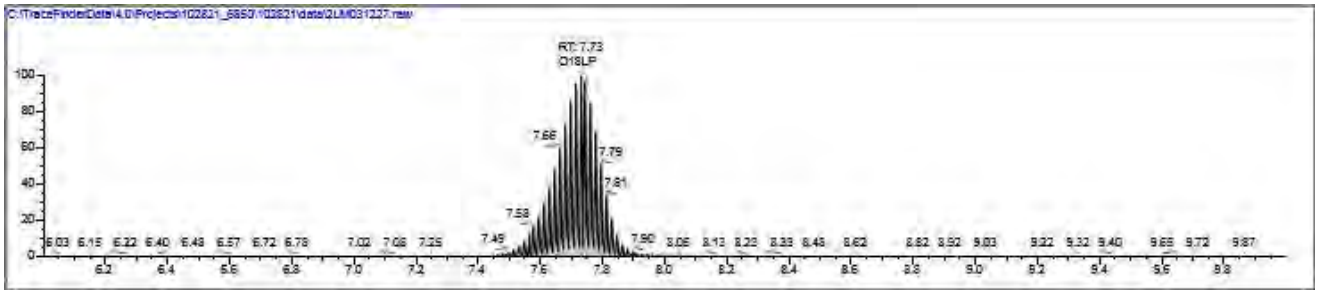
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.73	83	295153	Linear	0.171	0.992	ug/L	0.992	ug/L	

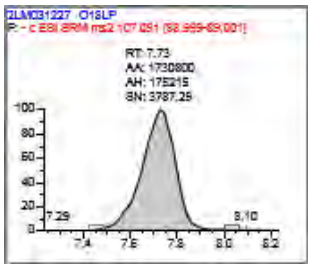
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

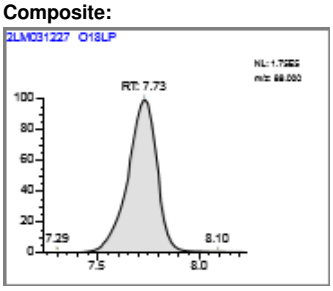
Data File:	2LM031227	Tune Report Date:	Tune report not found
Method:	102821_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	10/28/2021 4:03:55 PM
		Cali File Date:	10/29/2021 9:06:35 AM
Cali File:	102821.calx	Operator ID:	CAS
Sample ID:	S1J0510-CAL4	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:A5
Comments:	1:1 0012466		



m/z 89.000



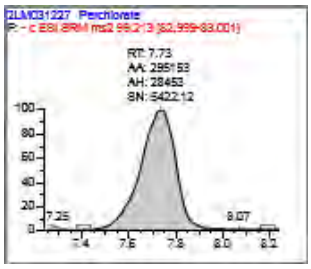
Composite:



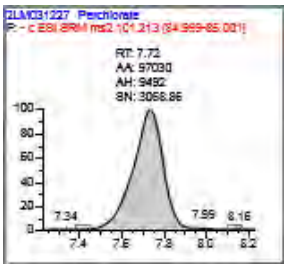
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.73	m/z 89.000	1730800	5.000		N/A

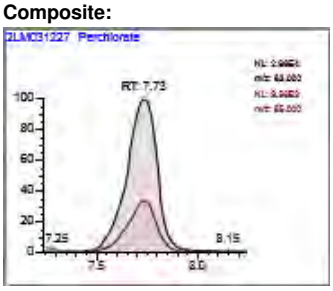
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			Cal: 1.000	0.800 - 21.000	
7.73	m/z 83.000	295153	0.992		N/A
7.72	m/z 85.000	97030		26.30 - 39.45	32.87

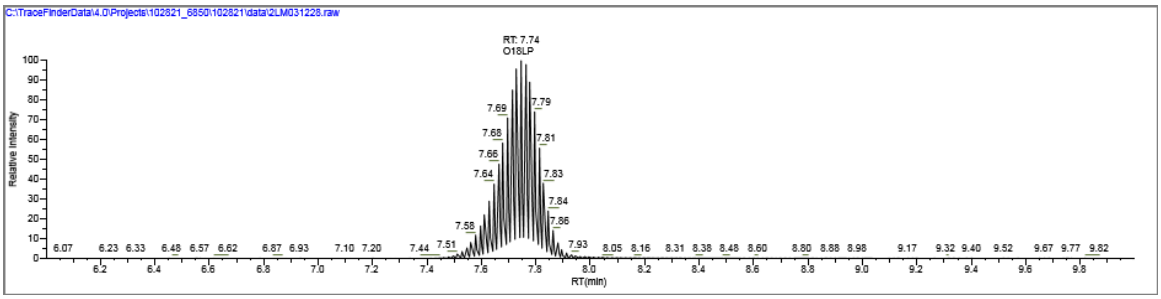
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 102821

Method: 102821_Perchlorate 6850 Perchlorate 6850
Cali File: 102821.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A6	S1J0510-CAL5	2LM031228	5	CAL STD 5	10/28/2021 4:17:10 PM	1:1 0012465



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.74	89	1711825			5.000	ug/L	5.000	ug/L	

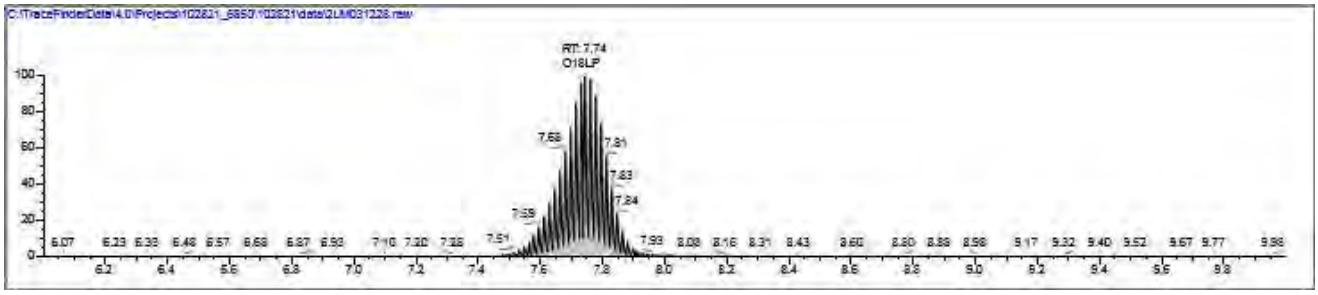
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.75	83	563232	Linear	0.329	1.9	ug/L	1.9	ug/L	

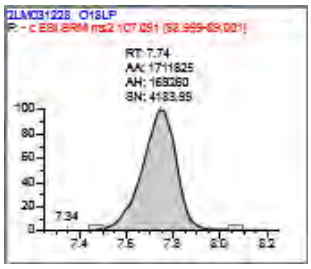
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

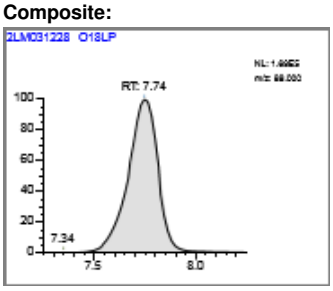
Data File:	2LM031228	Tune Report Date:	Tune report not found
Method:	102821_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	10/28/2021 4:17:10 PM
		Cali File Date:	10/29/2021 9:06:35 AM
Cali File:	102821.calx	Operator ID:	CAS
Sample ID:	S1J0510-CAL5	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:A6
Comments:	1:1 0012465		



m/z 89.000



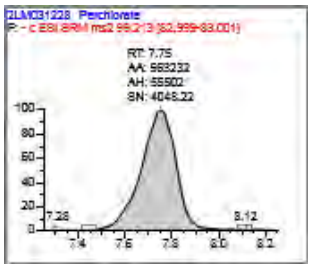
Composite:



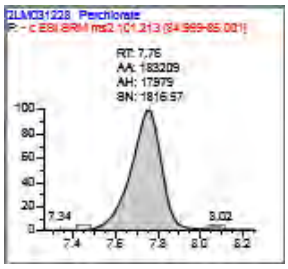
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.74	m/z 89.000	1711825	5.000		N/A

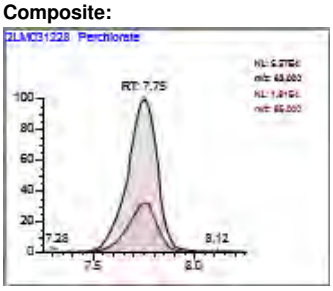
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			Cal: 2.000	1.600 - 42.000	
7.75	m/z 83.000	563232	1.900		N/A
7.76	m/z 85.000	183209		26.30 - 39.45	32.53

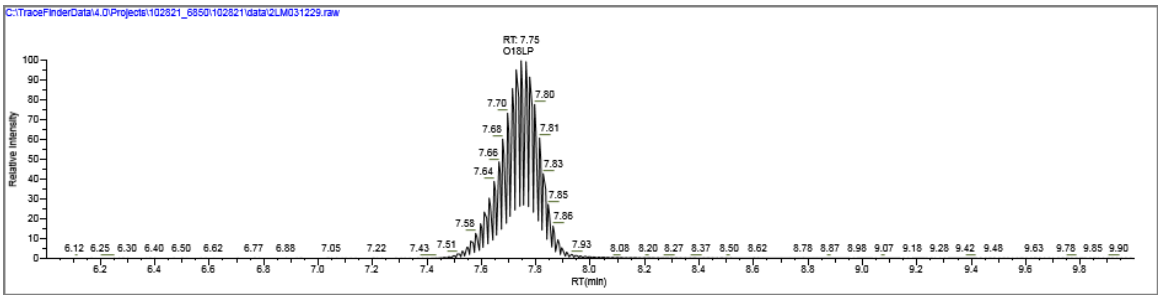
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 102821

Method: 102821_Perchlorate 6850 Perchlorate 6850
Cali File: 102821.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A7	S1J0510-CAL6	2LM031229	6	CAL STD 6	10/28/2021 4:30:25 PM	1:1 0012464



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.75	89	1609989			5.000	ug/L	5.000	ug/L	

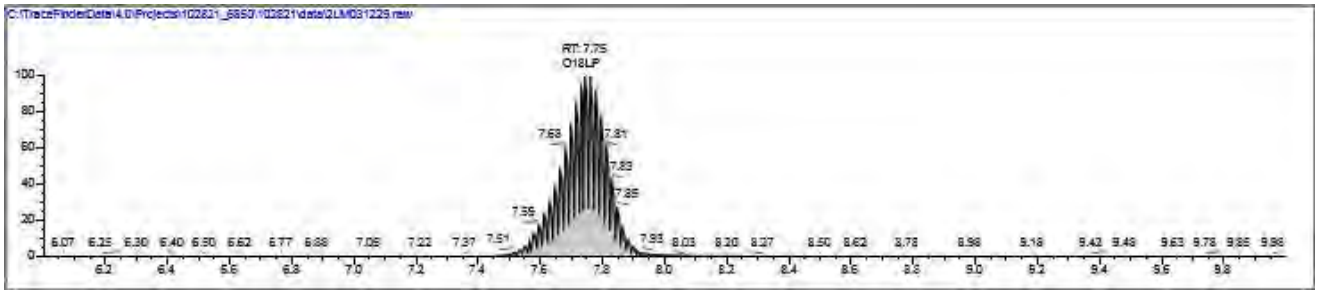
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.75	83	1363180	Linear	0.847	4.867	ug/L	4.867	ug/L	

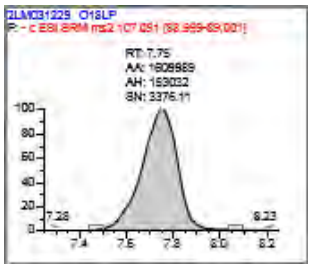
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

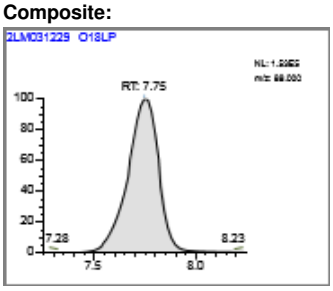
Data File:	2LM031229	Tune Report Date:	Tune report not found
Method:	102821_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	10/28/2021 4:30:25 PM
		Cali File Date:	10/29/2021 9:06:35 AM
Cali File:	102821.calx	Operator ID:	CAS
Sample ID:	S1J0510-CAL6	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:A7
Comments:	1:1 0012464		



m/z 89.000



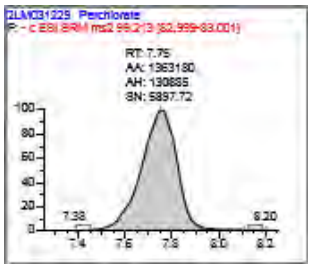
Composite:



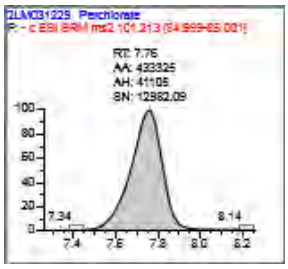
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.75	m/z 89.000	1609989	5.000		N/A

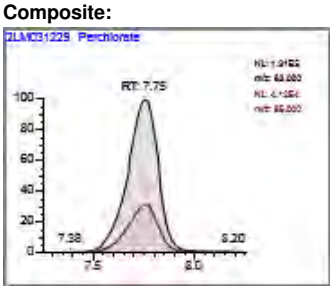
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			Cal: 5.000	4.000 - 105.000	
7.75	m/z 83.000	1363180	4.867		N/A
7.76	m/z 85.000	433325		26.30 - 39.45	31.79

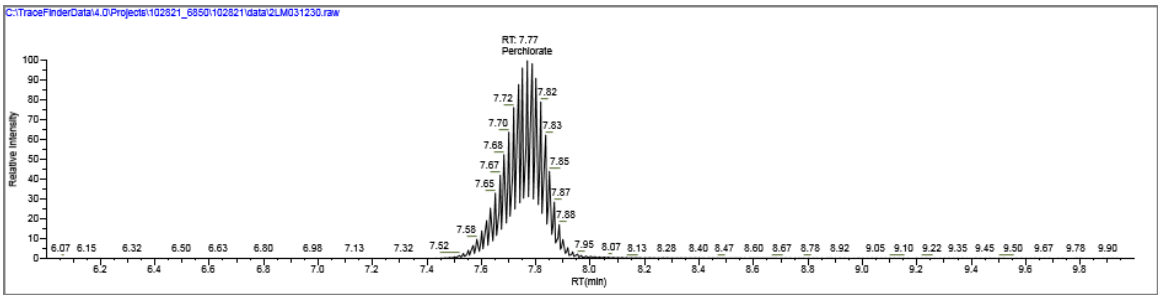
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 102821

Method: 102821_Perchlorate 6850 Perchlorate 6850
Cali File: 102821.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A8	S1J0510-CAL7	2LM031230	7	CAL STD 7	10/28/2021 4:43:40 PM	1:1 0012463



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.76	89	1417293			5.000	ug/L	5.000	ug/L	

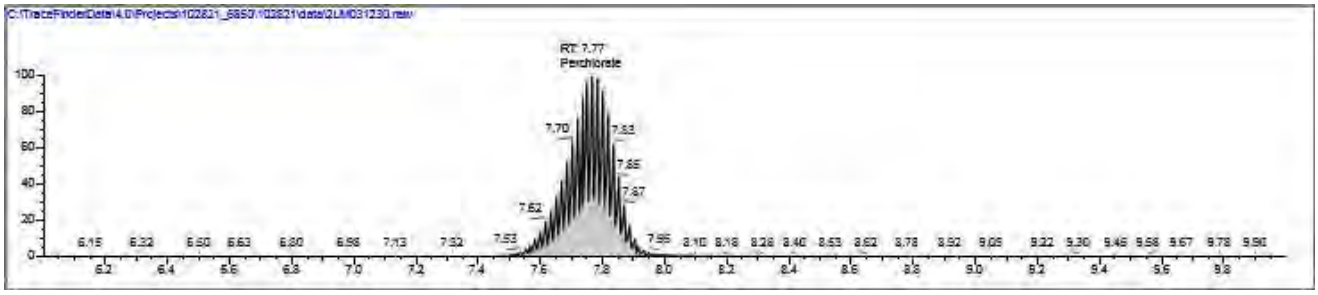
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.77	83	2528538	Linear	1.784	10.24	ug/L	10.24	ug/L	

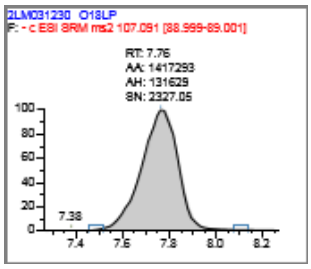
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

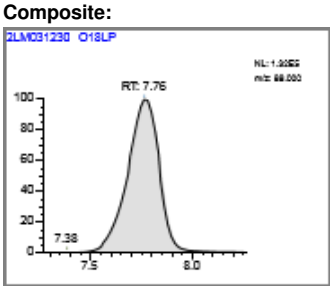
Data File:	2LM031230	Tune Report Date:	Tune report not found
Method:	102821_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	10/28/2021 4:43:40 PM
		Cali File Date:	10/29/2021 9:06:35 AM
Cali File:	102821.calx	Operator ID:	CAS
Sample ID:	S1J0510-CAL7	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:A8
Comments:	1:1 0012463		



m/z 89.000



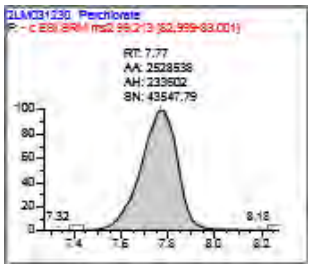
Composite:



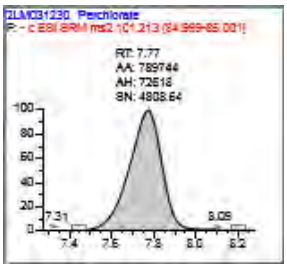
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.76	m/z 89.000	1417293	5.000		N/A

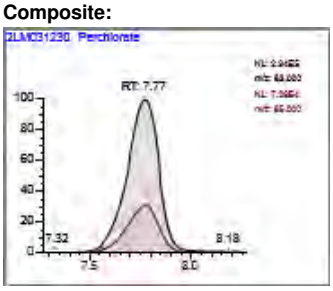
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			Cal: 10.000	8.000 - 210.000	
7.77	m/z 83.000	2528538	10.240		N/A
7.77	m/z 85.000	789744		26.30 - 39.45	31.23

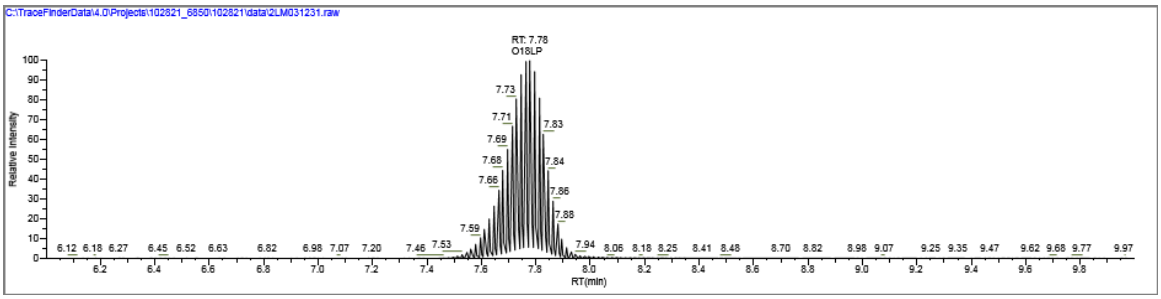
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 102821

Method: 102821_Perchlorate 6850
Perchlorate 6850
Cali File: 102821.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A9	S1J0510-ICV1	2LM031231	ICV	ICV	10/28/2021 4:56:55 PM	1:1 0012475



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.78	89	1674312			5.000	ug/L	5.000	ug/L	

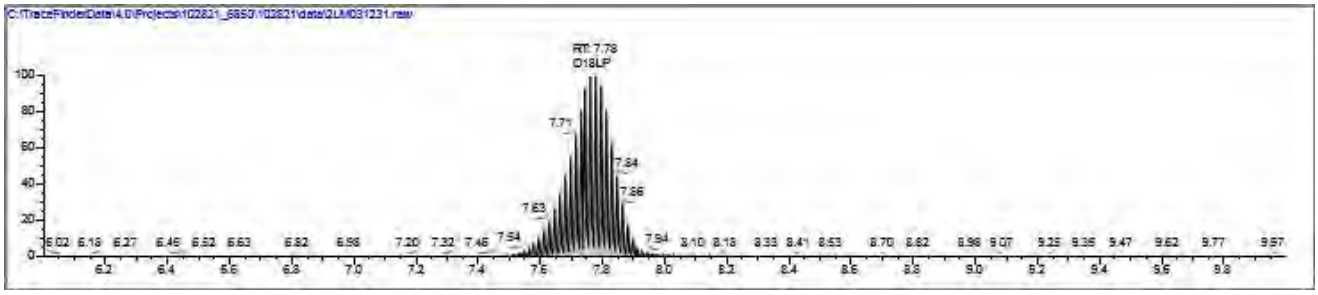
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.77	83	285048	Linear	0.170	0.99	ug/L	0.99	ug/L	

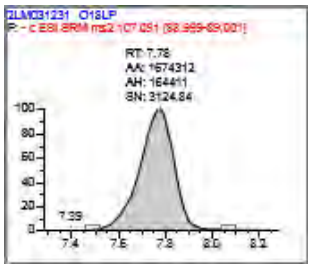
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

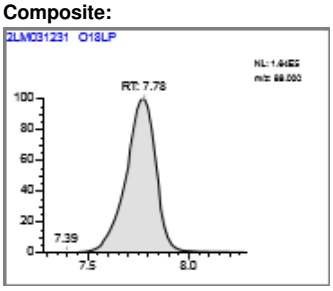
Data File:	2LM031231	Tune Report Date:	Tune report not found
Method:	102821_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	10/28/2021 4:56:55 PM
Cali File:	102821.calx	Cali File Date:	10/29/2021 9:06:35 AM
Sample ID:	S1J0510-ICV1	Operator ID:	CAS
Diln Factor:	1.00	Instrument ID:	LCMS2
Comments:	1:1 0012475	Vial Number:	R:A9



m/z 89.000



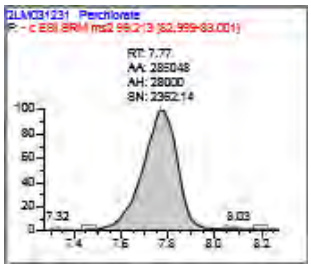
Composite:



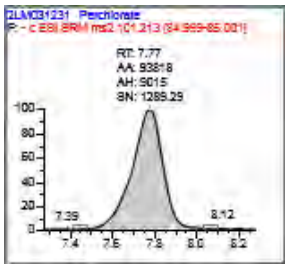
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.78	m/z 89.000	1674312	5.000		N/A

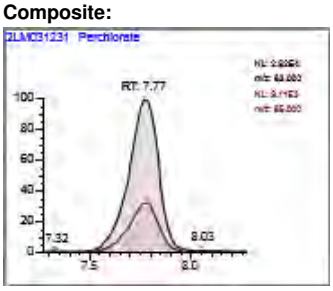
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			QC: 1.000	0.850 - 1.150	
7.77	m/z 83.000	285048	0.990		N/A
7.77	m/z 85.000	93818		26.30 - 39.45	32.91

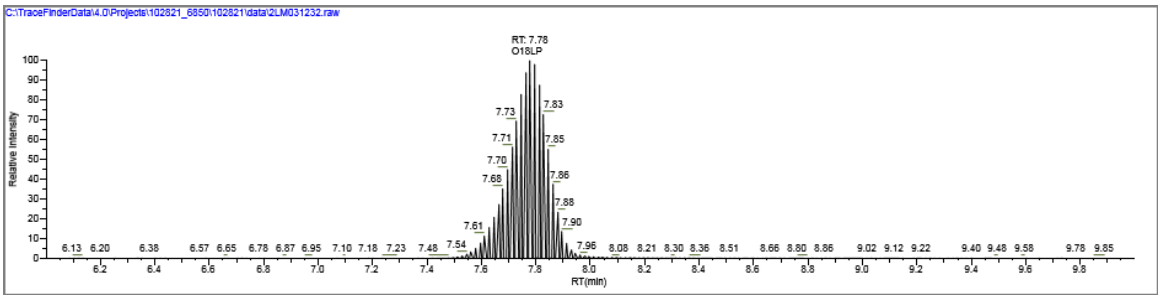
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 102821

Method: 102821_Perchlorate 6850 Perchlorate 6850
Cali File: 102821.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A1	S1J0510-CCB1	2LM031232	N/A	CCB	10/28/2021 5:10:09 PM	1:01



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.78	89	1742679			5.000	ug/L	5.000	ug/L	

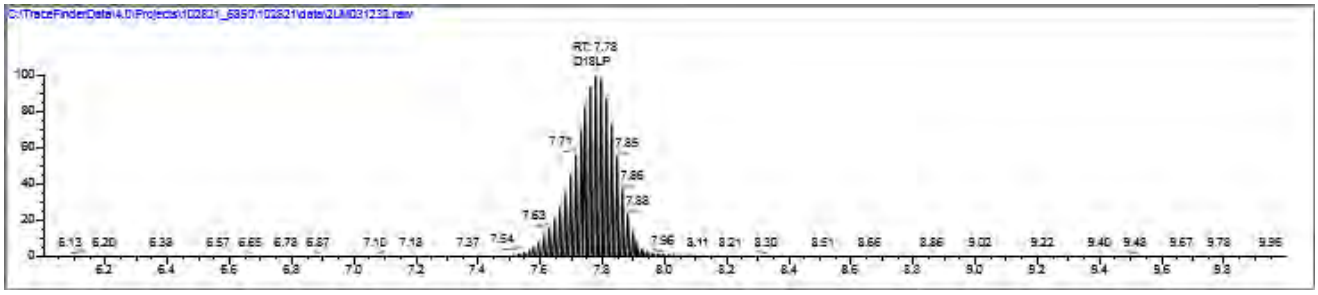
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.78	83	4617	Linear	0.003	0.029	ug/L	0.029	ug/L	

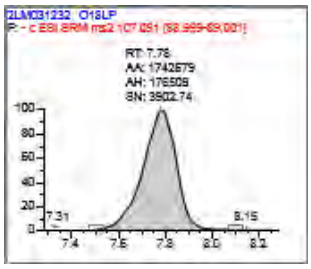
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

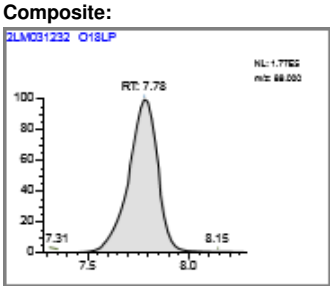
Data File:	2LM031232	Tune Report Date:	Tune report not found
Method:	102821_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	10/28/2021 5:10:09 PM
		Cali File Date:	10/29/2021 9:06:35 AM
Cali File:	102821.calx	Operator ID:	CAS
Sample ID:	S1J0510-CCB1	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:A1
Comments:	1:01		



m/z 89.000



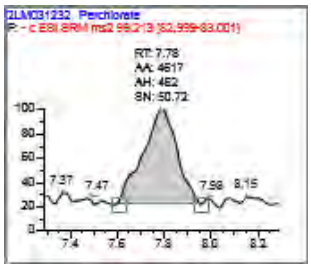
Composite:



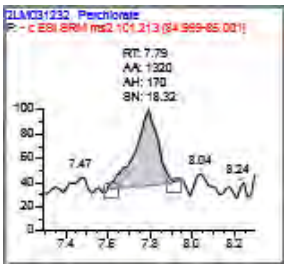
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.78	m/z 89.000	1742679	5.000		N/A

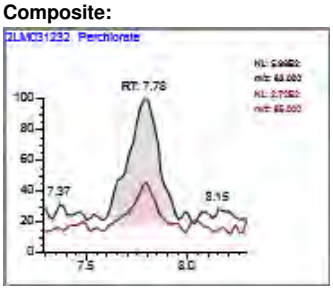
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.78	m/z 83.000	4617	0.029		N/A
7.79	m/z 85.000	1320		26.30 - 39.45	28.59

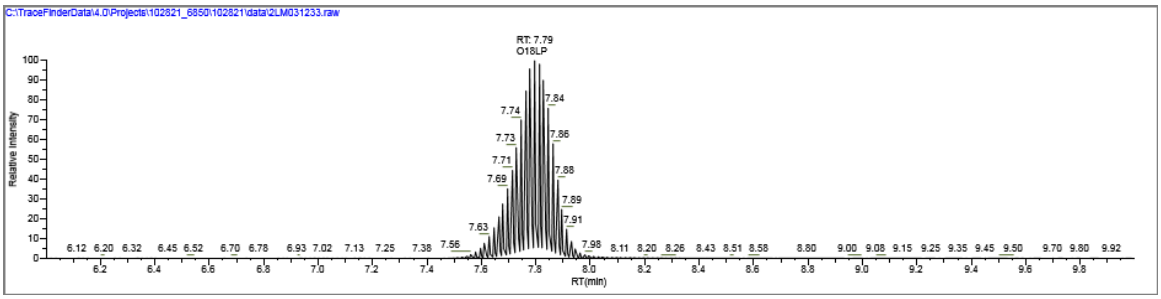
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 102821

Method: 102821_Perchlorate 6850 Perchlorate 6850
Cali File: 102821.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A5	S1J0510-CCV1	2LM031233	CCV	CCV 1.0 ug/L	10/28/2021 5:23:24 PM	1:1 0012466



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.79	89	1651234			5.000	ug/L	5.000	ug/L	

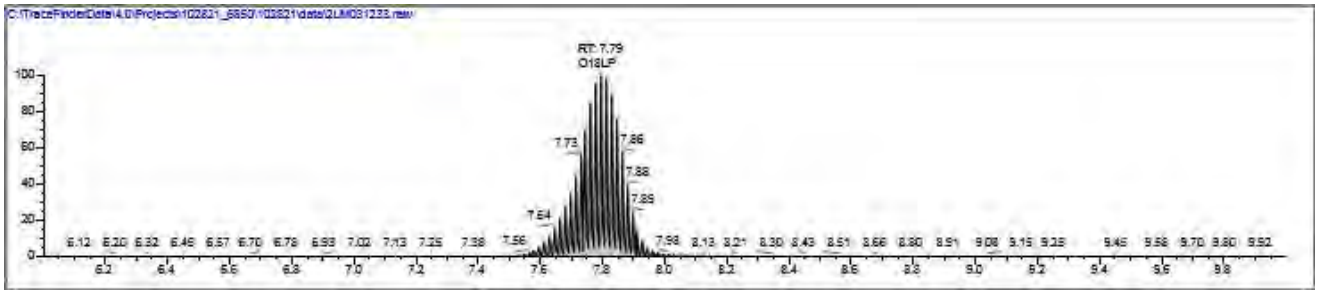
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.8	83	271003	Linear	0.164	0.955	ug/L	0.955	ug/L	

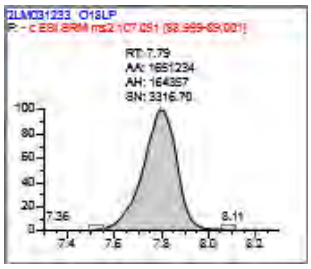
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

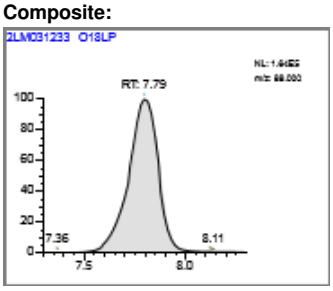
Data File:	2LM031233	Tune Report Date:	Tune report not found
Method:	102821_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	10/28/2021 5:23:24 PM
		Cali File Date:	10/29/2021 9:06:35 AM
Cali File:	102821.calx	Operator ID:	CAS
Sample ID:	S1J0510-CCV1	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:A5
Comments:	1:1 0012466		



m/z 89.000



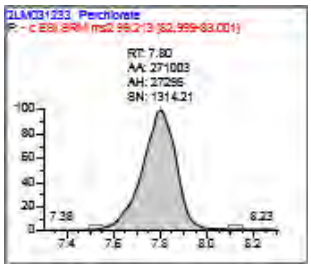
Composite:



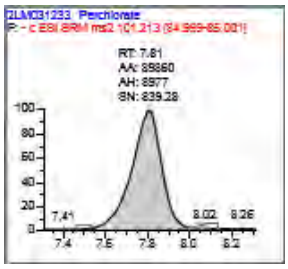
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.79	m/z 89.000	1651234	5.000		N/A

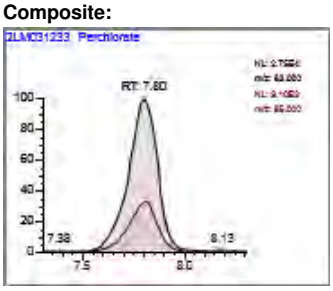
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			QC: 1.000	0.850 - 1.150	
7.80	m/z 83.000	271003	0.955		N/A
7.81	m/z 85.000	89860		26.30 - 39.45	33.16

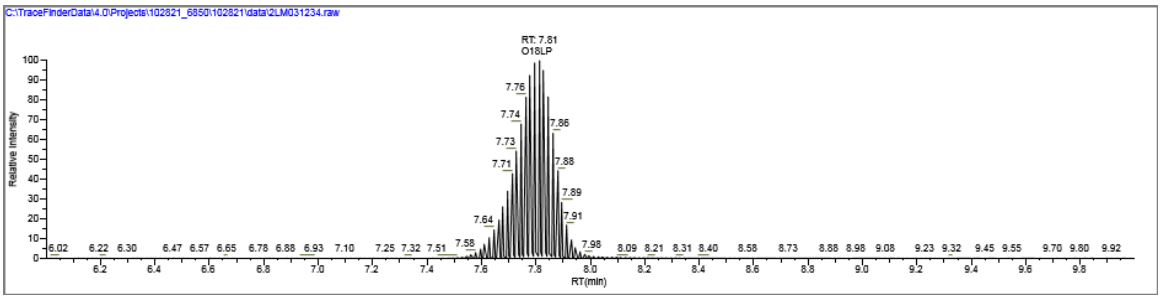
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 102821

Method: 102821_Perchlorate 6850 Perchlorate 6850
Cali File: 102821.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A3	S1J0510-CRL1	2LM031234	QCMRL	QCMRL 0.2 ug/L	10/28/2021 5:36:39 PM	1:1 0012468



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.81	89	1672014			5.000	ug/L	5.000	ug/L	

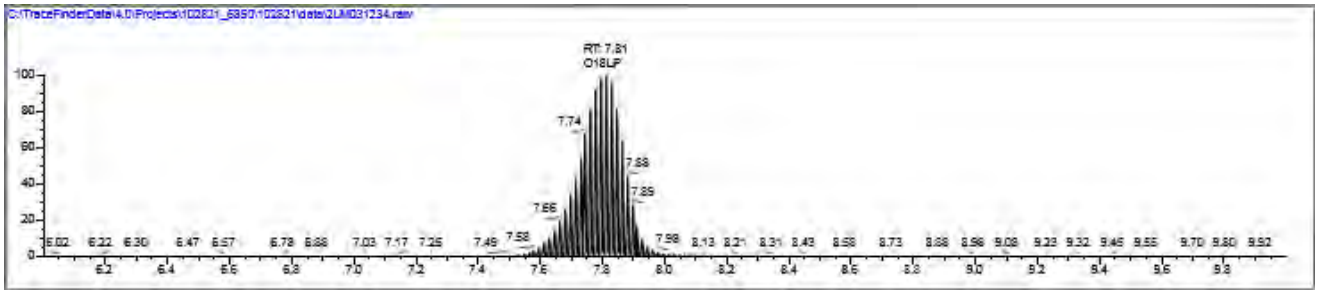
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.82	83	54161	Linear	0.032	0.2	ug/L	0.2	ug/L	

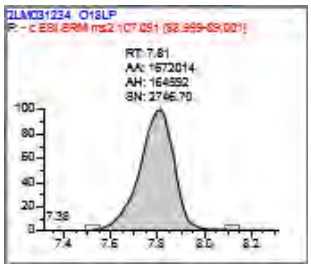
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

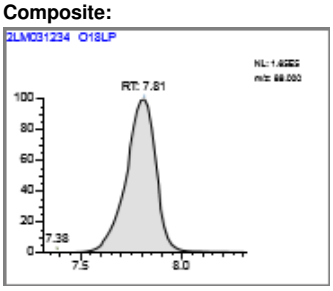
Data File:	2LM031234	Tune Report Date:	Tune report not found
Method:	102821_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	10/28/2021 5:36:39 PM
		Cali File Date:	10/29/2021 9:06:35 AM
Cali File:	102821.calx	Operator ID:	CAS
Sample ID:	S1J0510-CRL1	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:A3
Comments:	1:1 0012468		



m/z 89.000



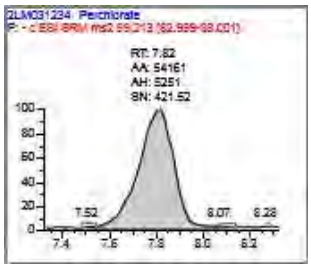
Composite:



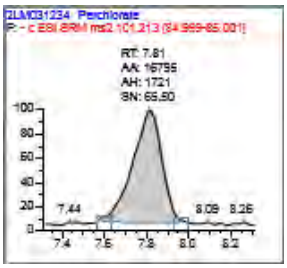
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.81	m/z 89.000	1672014	5.000		N/A

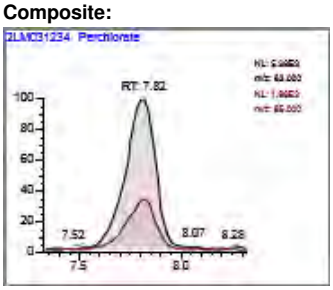
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			QC: 0.200	0.140 - 0.260	
7.82	m/z 83.000	54161	0.200		N/A
7.81	m/z 85.000	16795		26.30 - 39.45	31.01

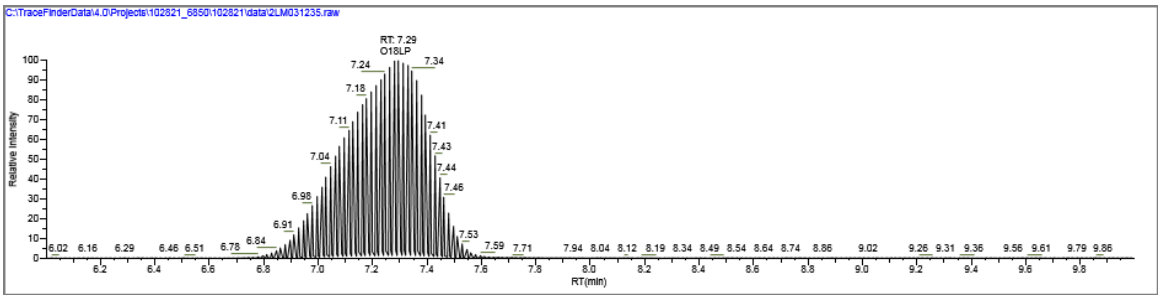
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 102821

Method: 102821_Perchlorate 6850 Perchlorate 6850
Cali File: 102821.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:B1	S1J0510-IFA1	2LM031235	N/A	MCT 0.2 ug/L	10/28/2021 5:49:54 PM	1:1 0012477



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.29	89	1633945			5.000	ug/L	5.000	ug/L	

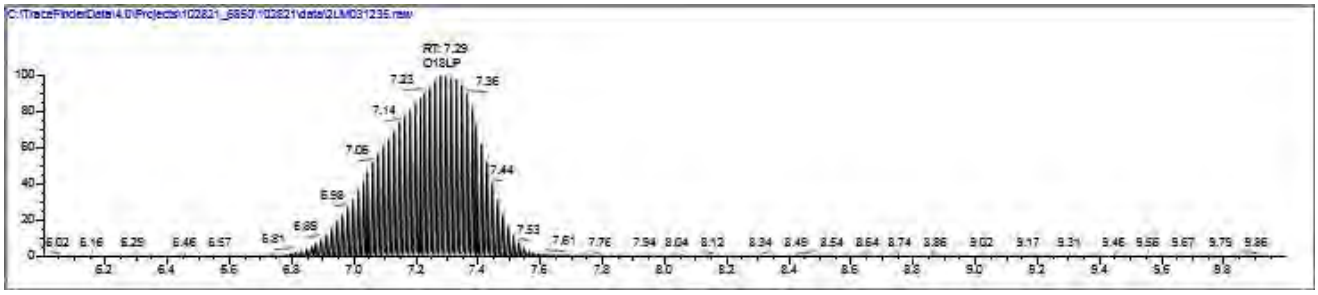
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.3	83	61825	Linear	0.038	0.231	ug/L	0.231	ug/L	

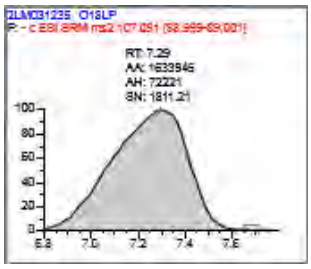
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

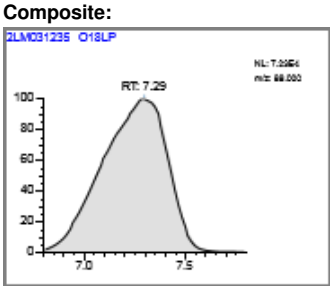
Data File:	2LM031235	Tune Report Date:	Tune report not found
Method:	102821_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	10/28/2021 5:49:54 PM
		Cali File Date:	10/29/2021 9:06:35 AM
Cali File:	102821.calx	Operator ID:	CAS
Sample ID:	S1J0510-IFA1	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:B1
Comments:	1:1 0012477		



m/z 89.000



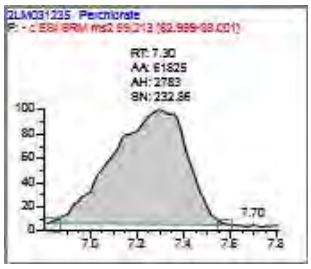
Composite:



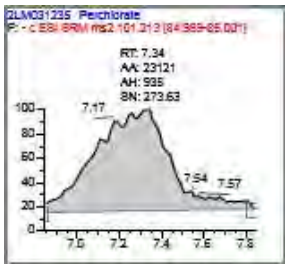
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.29	m/z 89.000	1633945	5.000		N/A

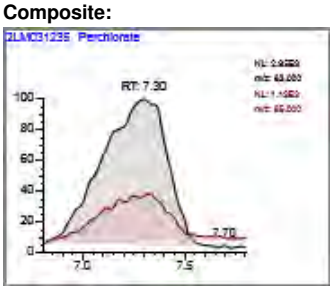
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.30	m/z 83.000	61825	0.231		N/A
7.34	m/z 85.000	23121		26.30 - 39.45	37.4

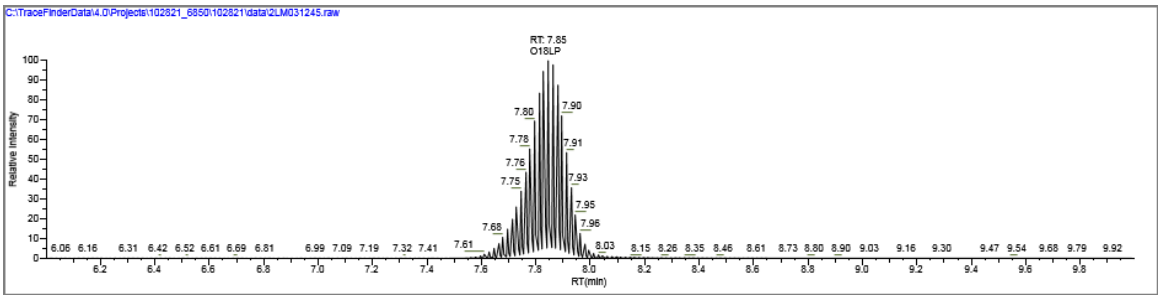
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 102821

Method: 102821_Perchlorate 6850 Perchlorate 6850
Cali File: 102821.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A5	S1J0510-CCV2	2LM031245	CCV	CCV 1.0 ug/L	10/28/2021 8:02:23 PM	1:1 0012466



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.85	89	1739535			5.000	ug/L	5.000	ug/L	

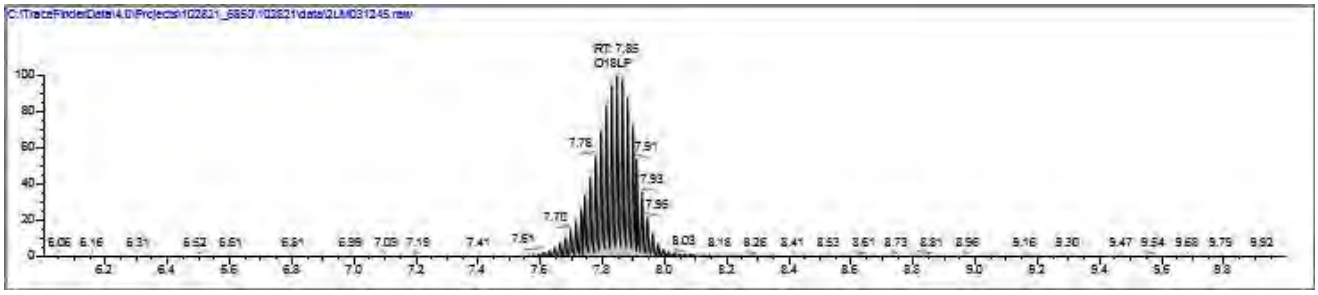
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.85	83	284572	Linear	0.164	0.952	ug/L	0.952	ug/L	

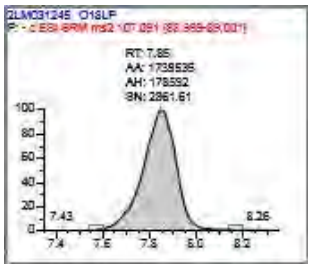
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

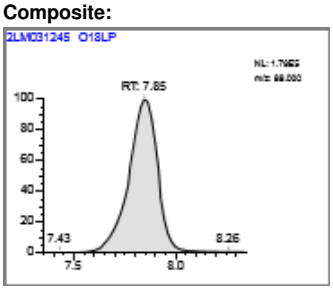
Data File:	2LM031245	Tune Report Date:	Tune report not found
Method:	102821_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	10/28/2021 8:02:23 PM
		Cali File Date:	10/29/2021 9:06:35 AM
Cali File:	102821.calx	Operator ID:	CAS
Sample ID:	S1J0510-CCV2	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:A5
Comments:	1:1 0012466		



m/z 89.000



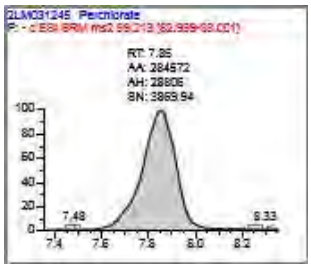
Composite:



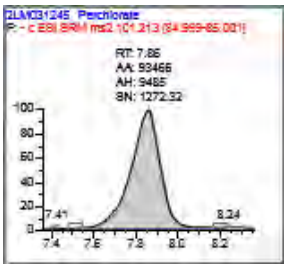
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.85	m/z 89.000	1739535	5.000		N/A

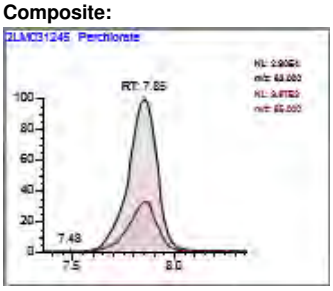
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			QC: 1.000	0.850 - 1.150	
7.85	m/z 83.000	284572	0.952		N/A
7.86	m/z 85.000	93466		26.30 - 39.45	32.84

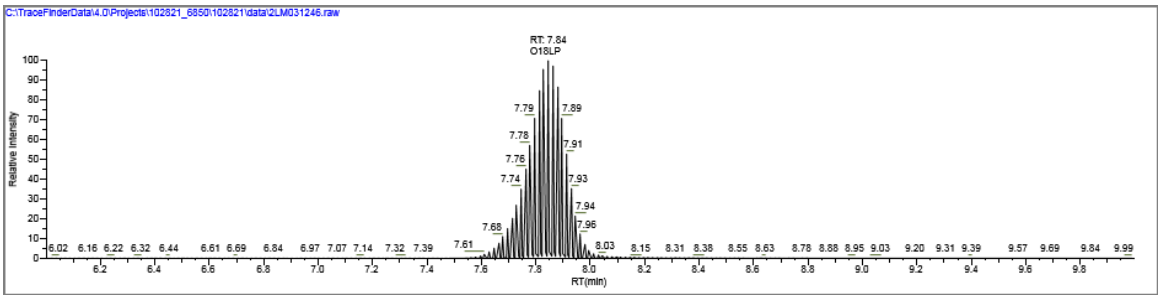
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 102821

Method: 102821_Perchlorate 6850 Perchlorate 6850
Cali File: 102821.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A3	S1J0510-CRL2	2LM031246	QCMRL	QCMRL 0.2 ug/L	10/28/2021 8:15:38 PM	1:1 0012468



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.84	89	1701939			5.000	ug/L	5.000	ug/L	

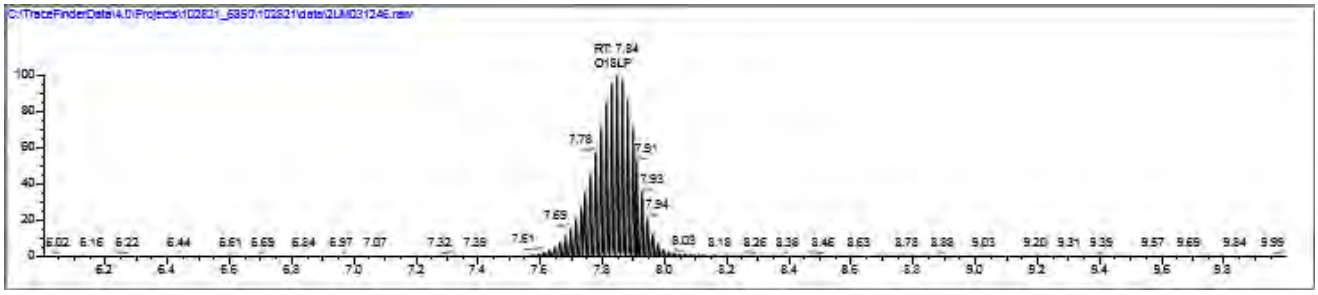
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.85	83	55330	Linear	0.033	0.2	ug/L	0.2	ug/L	

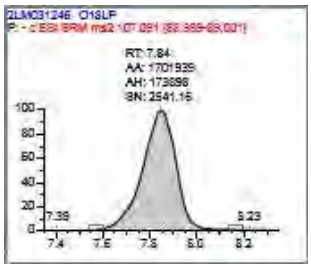
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

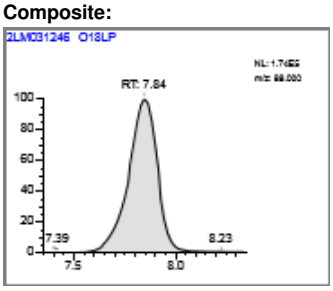
Data File:	2LM031246	Tune Report Date:	Tune report not found
Method:	102821_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	10/28/2021 8:15:38 PM
		Cali File Date:	10/29/2021 9:06:35 AM
Cali File:	102821.calx	Operator ID:	CAS
Sample ID:	S1J0510-CRL2	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:A3
Comments:	1:1 0012468		



m/z 89.000



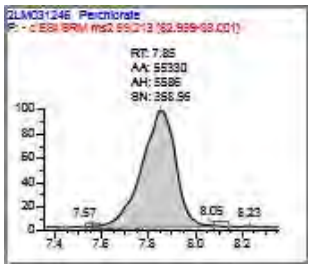
Composite:



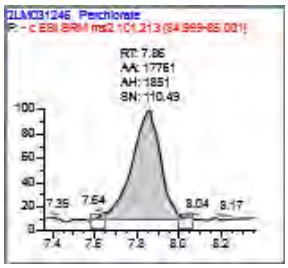
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.84	m/z 89.000	1701939	5.000		N/A

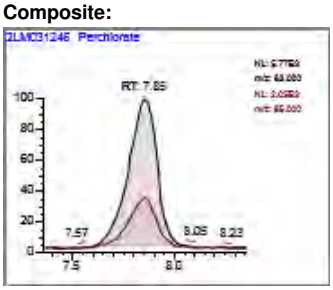
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			QC: 0.200	0.140 - 0.260	
7.85	m/z 83.000	55330	0.200		N/A
7.86	m/z 85.000	17761		26.30 - 39.45	32.1

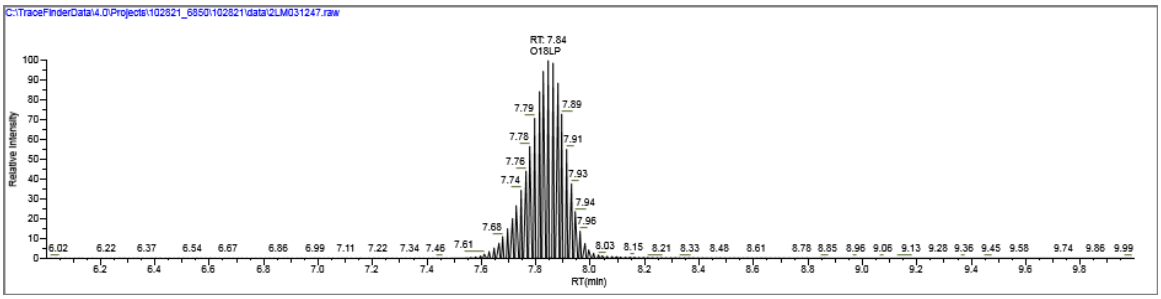
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 102821

Method: 102821_Perchlorate 6850 Perchlorate 6850
Cali File: 102821.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A1	S1J0510-CCB2	2LM031247	N/A	CCB	10/28/2021 8:28:52 PM	1:01



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.84	89	1766918			5.000	ug/L	5.000	ug/L	

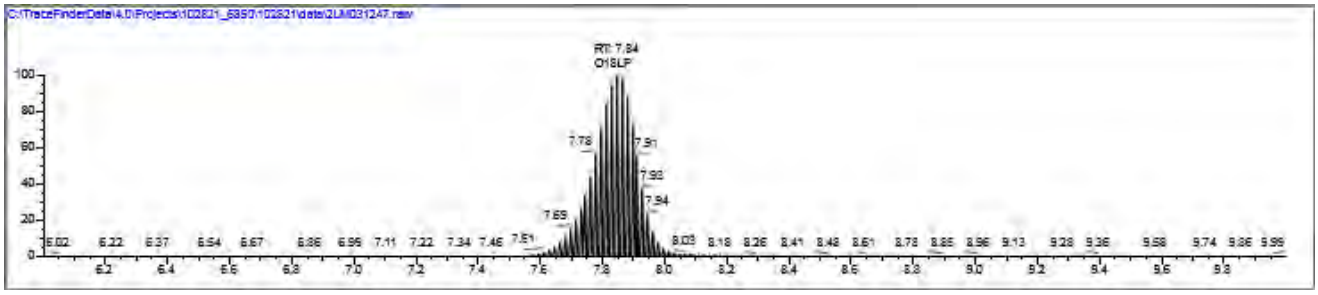
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.83	83	3895	Linear	0.002	0.027	ug/L	0.027	ug/L	

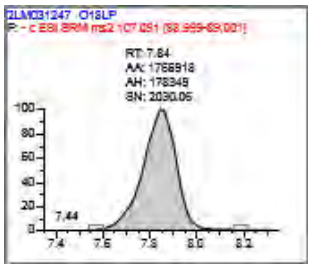
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

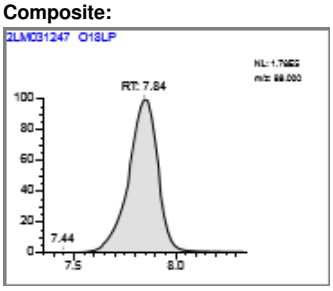
Data File:	2LM031247	Tune Report Date:	Tune report not found
Method:	102821_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	10/28/2021 8:28:52 PM
		Cali File Date:	10/29/2021 9:06:35 AM
Cali File:	102821.calx	Operator ID:	CAS
Sample ID:	S1J0510-CCB2	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:A1
Comments:	1:01		



m/z 89.000



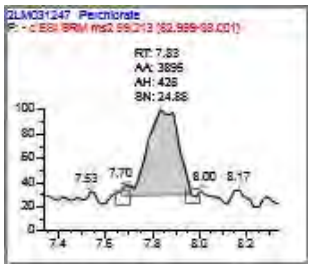
Composite:



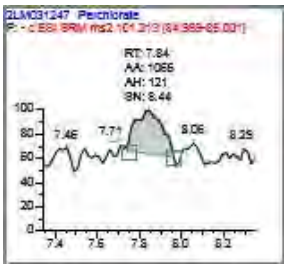
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.84	m/z 89.000	1766918	5.000		N/A

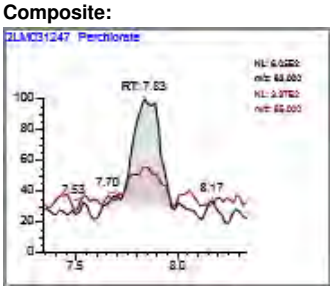
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.83	m/z 83.000	3895	0.027		N/A
7.84	m/z 85.000	1066		26.30 - 39.45	27.37

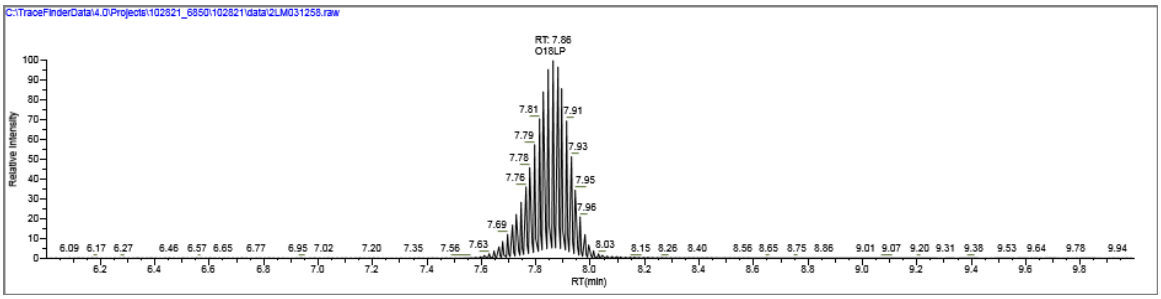
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 102821

Method: 102821_Perchlorate 6850 Perchlorate 6850
Cali File: 102821.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A5	S1J0510-CCV3	2LM031258	CCV	CCV 1.0 ug/L	10/28/2021 10:54:39 PM	1:1 0012466



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.86	89	1623988			5.000	ug/L	5.000	ug/L	

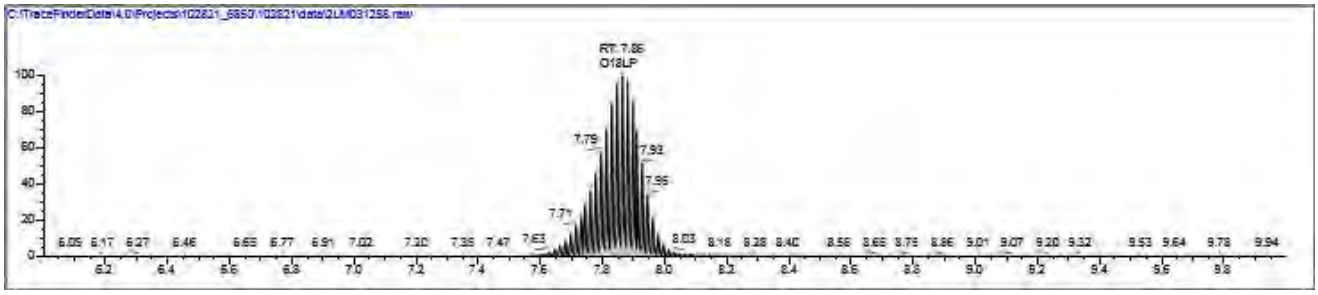
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.87	83	262915	Linear	0.162	0.942	ug/L	0.942	ug/L	

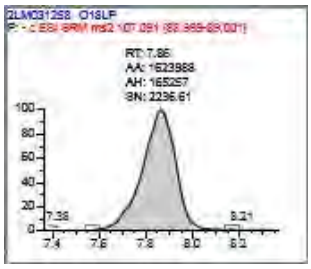
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

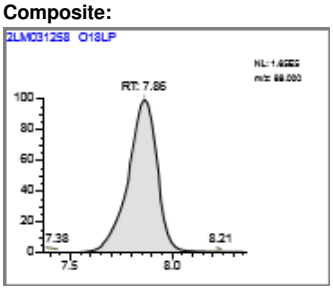
Data File:	2LM031258	Tune Report Date:	Tune report not found
Method:	102821_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	10/28/2021 10:54:39 PM
		Cali File Date:	10/29/2021 9:06:35 AM
Cali File:	102821.calx	Operator ID:	CAS
Sample ID:	S1J0510-CCV3	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:A5
Comments:	1:1 0012466		



m/z 89.000



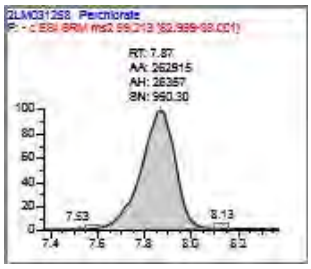
Composite:



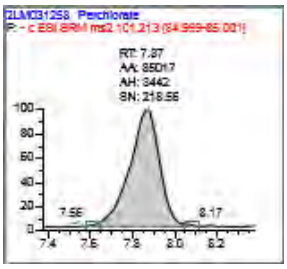
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.86	m/z 89.000	1623988	5.000		N/A

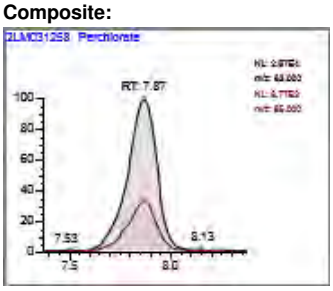
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			QC: 1.000	0.850 - 1.150	
7.87	m/z 83.000	262915	0.942		N/A
7.87	m/z 85.000	85017		26.30 - 39.45	32.34

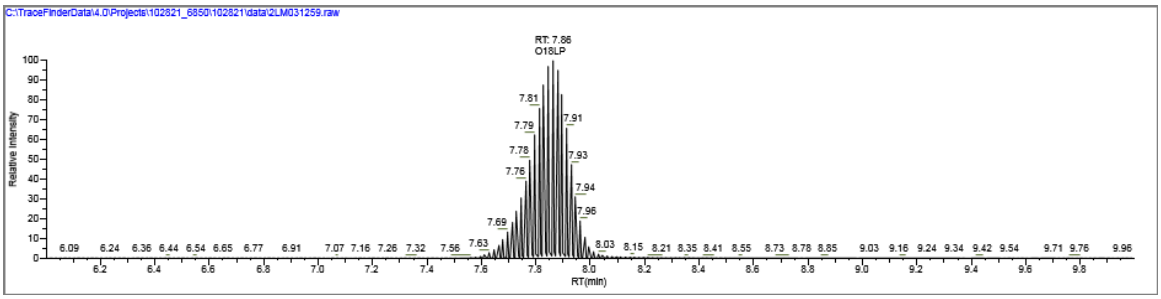
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 102821

Method: 102821_Perchlorate 6850 Perchlorate 6850
Cali File: 102821.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A3	S1J0510-CRL3	2LM031259	QCMRL	QCMRL 0.2 ug/L	10/28/2021 11:07:53 PM	1:1 0012468



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.86	89	1575526			5.000	ug/L	5.000	ug/L	

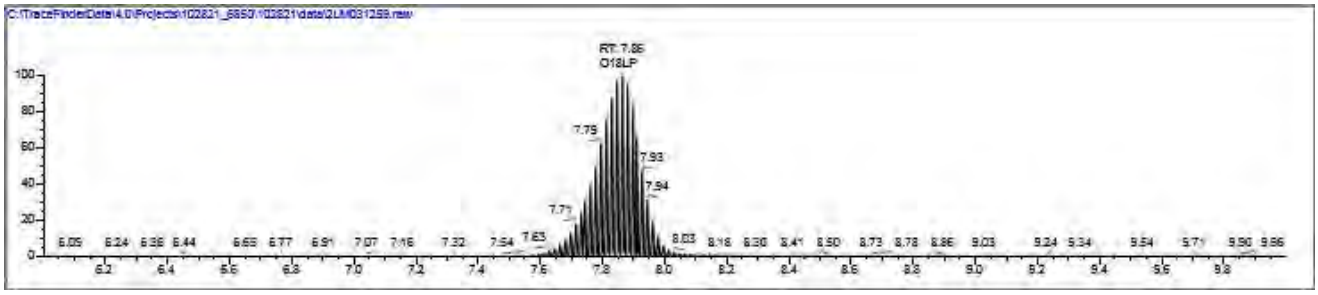
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.87	83	50485	Linear	0.032	0.198	ug/L	0.198	ug/L	

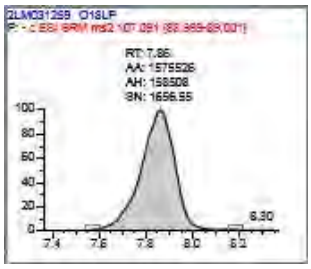
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

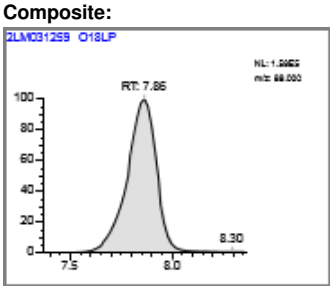
Data File:	2LM031259	Tune Report Date:	Tune report not found
Method:	102821_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	10/28/2021 11:07:53 PM
		Cali File Date:	10/29/2021 9:06:35 AM
Cali File:	102821.calx	Operator ID:	CAS
Sample ID:	S1J0510-CRL3	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:A3
Comments:	1:1 0012468		



m/z 89.000



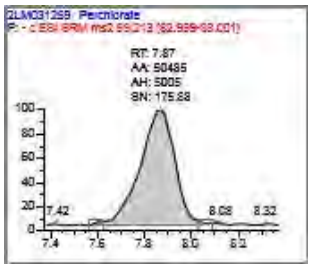
Composite:



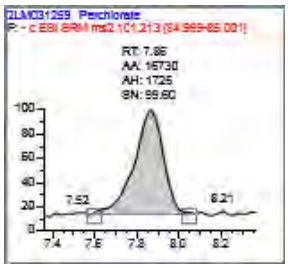
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.86	m/z 89.000	1575526	5.000		N/A

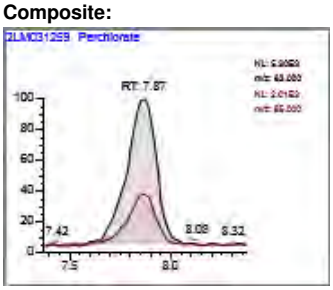
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			QC: 0.200	0.140 - 0.260	
7.87	m/z 83.000	50485	0.198		N/A
7.86	m/z 85.000	16730		26.30 - 39.45	33.14

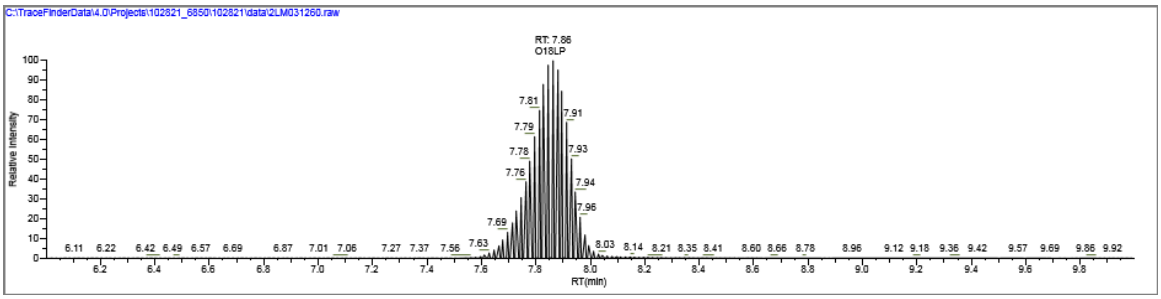
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 102821

Method: 102821_Perchlorate 6850 Perchlorate 6850
Cali File: 102821.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A1	S1J0510-CCB3	2LM031260	N/A	CCB	10/28/2021 11:21:08 PM	1:01



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.86	89	1650476			5.000	ug/L	5.000	ug/L	

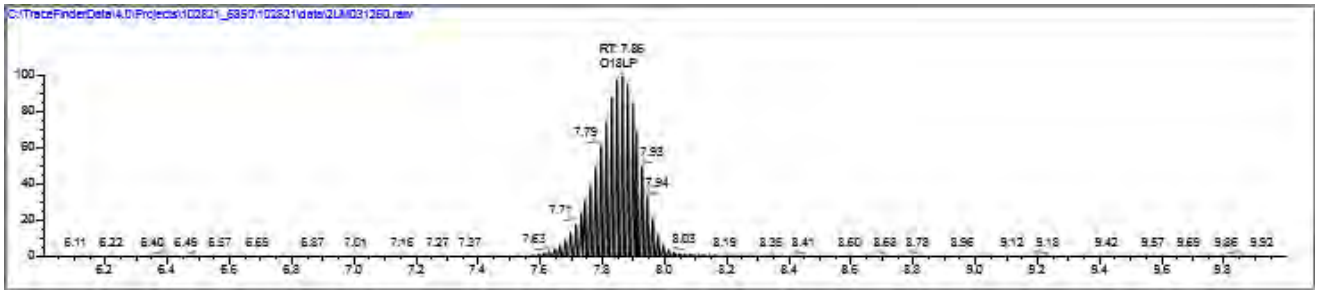
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.88	83	3257	Linear	0.002	0.025	ug/L	0.025	ug/L	

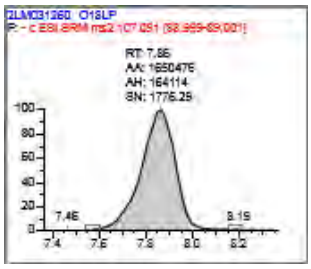
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

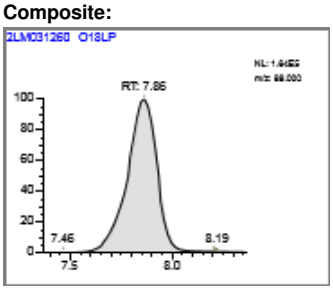
Data File:	2LM031260	Tune Report Date:	Tune report not found
Method:	102821_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	10/28/2021 11:21:08 PM
		Cali File Date:	10/29/2021 9:06:35 AM
Cali File:	102821.calx	Operator ID:	CAS
Sample ID:	S1J0510-CCB3	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:A1
Comments:	1:01		



m/z 89.000



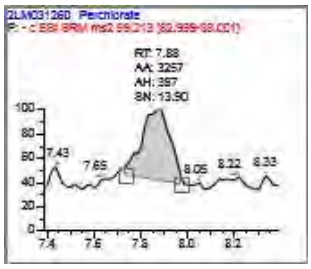
Composite:



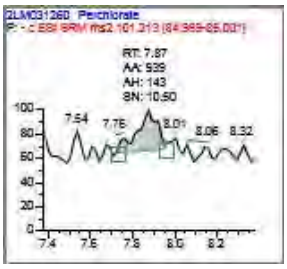
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.86	m/z 89.000	1650476	5.000		N/A

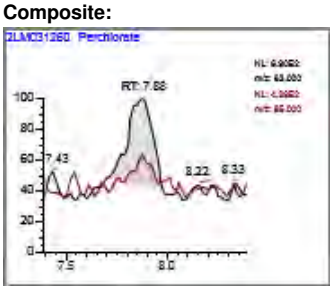
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.88	m/z 83.000	3257	0.025		N/A
7.87	m/z 85.000	939		26.30 - 39.45	28.85

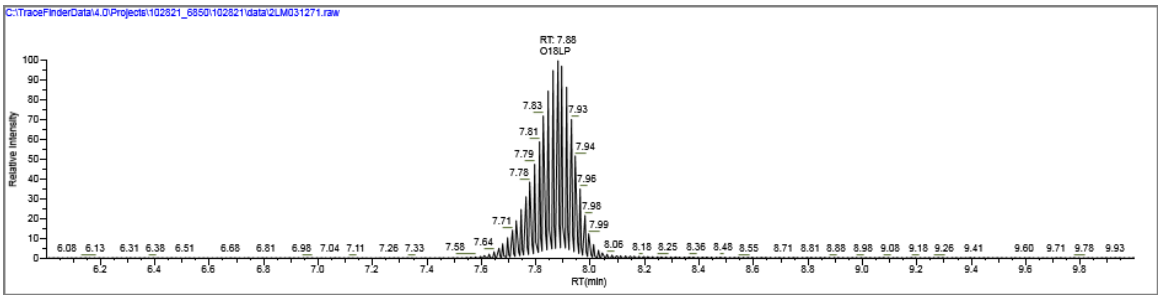
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 102821

Method: 102821_Perchlorate 6850 Perchlorate 6850
Cali File: 102821.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A5	S1J0510-CCV4	2LM031271	CCV	CCV 1.0 ug/L	10/29/2021 1:46:52 AM	1:01



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.88	89	1214280			5.000	ug/L	5.000	ug/L	

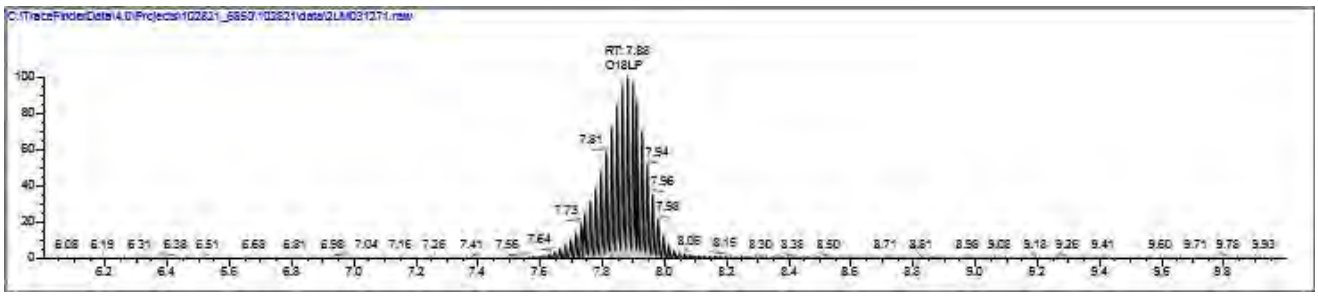
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.88	83	198543	Linear	0.164	0.951	ug/L	0.951	ug/L	

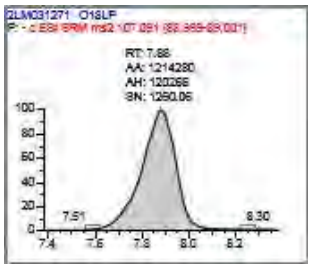
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

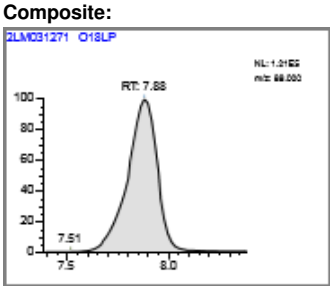
Data File:	2LM031271	Tune Report Date:	Tune report not found
Method:	102821_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	10/29/2021 1:46:52 AM
		Cali File Date:	10/29/2021 9:06:35 AM
Cali File:	102821.calx	Operator ID:	CAS
Sample ID:	S1J0510-CCV4	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:A5
Comments:	1:01		



m/z 89.000



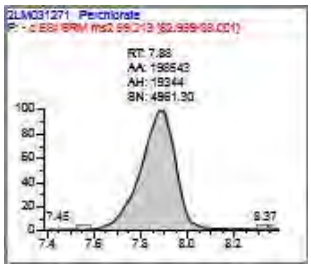
Composite:



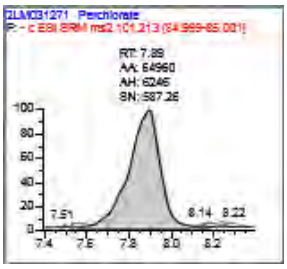
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.88	m/z 89.000	1214280	5.000		N/A

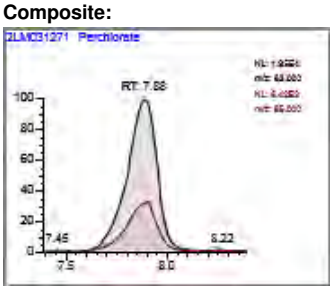
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			QC: 1.000	0.850 - 1.150	
7.88	m/z 83.000	198543	0.951		N/A
7.89	m/z 85.000	64960		26.30 - 39.45	32.72

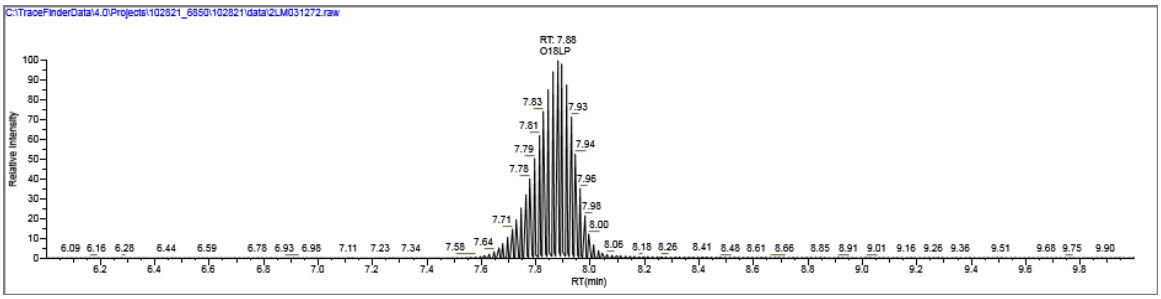
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 102821

Method: 102821_Perchlorate 6850 Perchlorate 6850
Cali File: 102821.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A3	S1J0510-CRL4	2LM031272	QCMRL	QCMRL 0.2 ug/L	10/29/2021 2:00:07 AM	1:01



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.88	89	1241809			5.000	ug/L	5.000	ug/L	

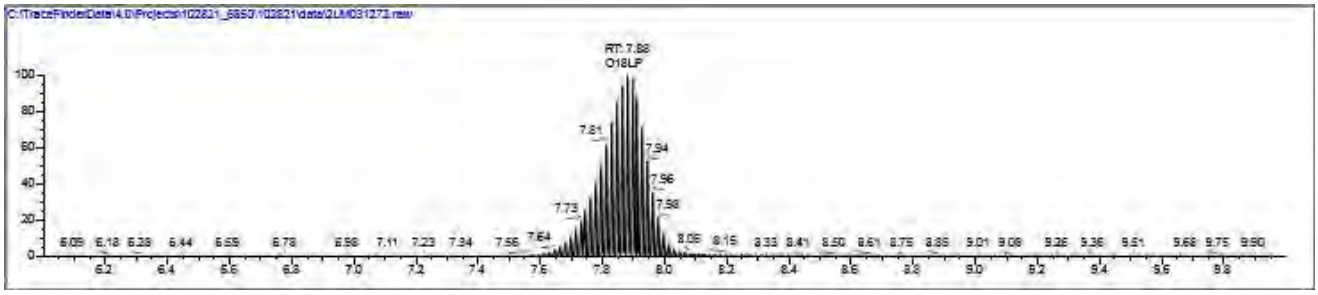
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.88	83	41087	Linear	0.033	0.204	ug/L	0.204	ug/L	

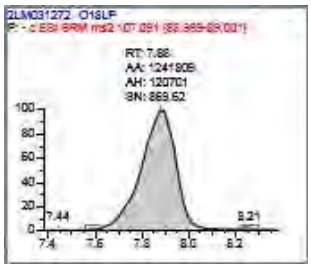
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

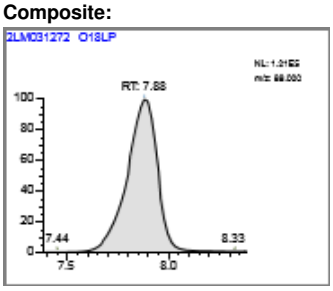
Data File:	2LM031272	Tune Report Date:	Tune report not found
Method:	102821_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	10/29/2021 2:00:07 AM
		Cali File Date:	10/29/2021 9:06:35 AM
Cali File:	102821.calx	Operator ID:	CAS
Sample ID:	S1J0510-CRL4	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:A3
Comments:	1:01		



m/z 89.000



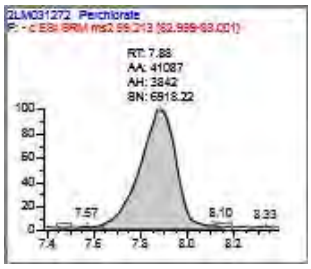
Composite:



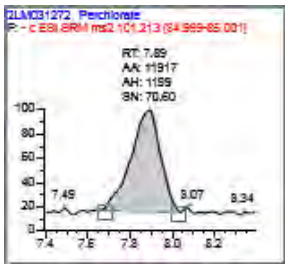
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.88	m/z 89.000	1241809	5.000		N/A

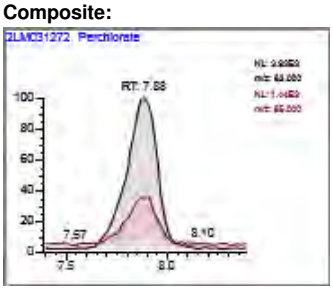
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			QC: 0.200	0.140 - 0.260	
7.88	m/z 83.000	41087	0.204		N/A
7.89	m/z 85.000	11917		26.30 - 39.45	29

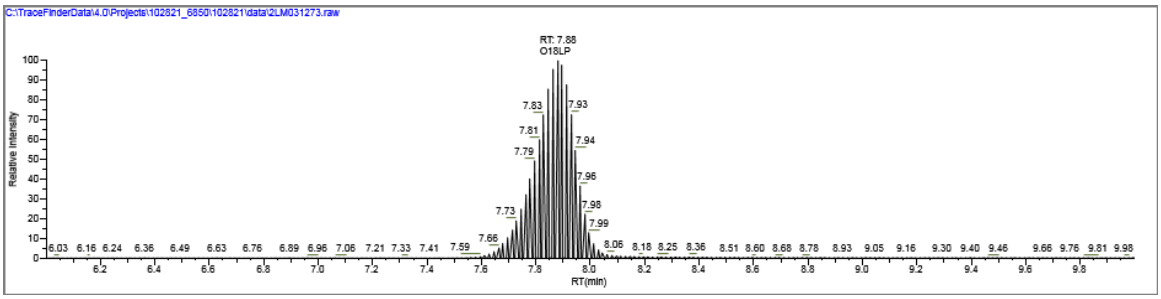
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 102821

Method: 102821_Perchlorate 6850 Perchlorate 6850
Cali File: 102821.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A1	S1J0510-CCB4	2LM031273	N/A	CCB	10/29/2021 2:13:22 AM	1:01



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.88	89	1344678			5.000	ug/L	5.000	ug/L	

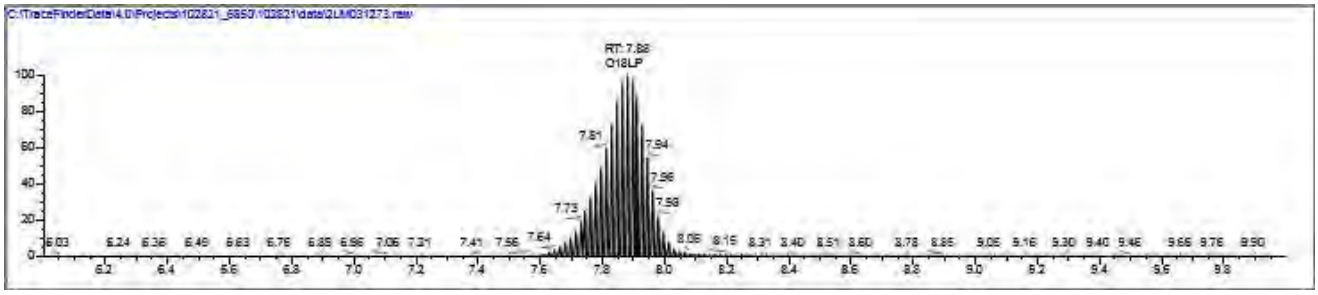
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.87	83	3202	Linear	0.002	0.028	ug/L	0.028	ug/L	I

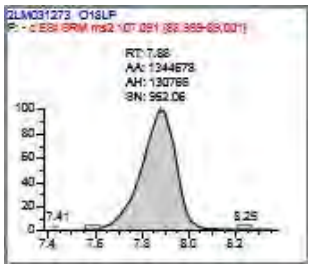
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

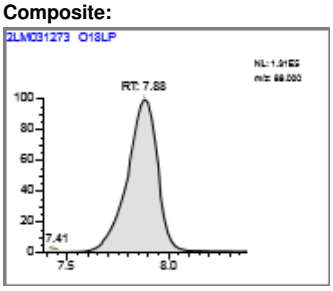
Data File:	2LM031273	Tune Report Date:	Tune report not found
Method:	102821_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	10/29/2021 2:13:22 AM
		Cali File Date:	10/29/2021 9:06:35 AM
Cali File:	102821.calx	Operator ID:	CAS
Sample ID:	S1J0510-CCB4	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:A1
Comments:	1:01		



m/z 89.000



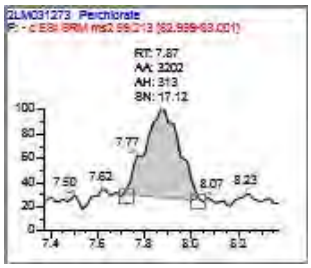
Composite:



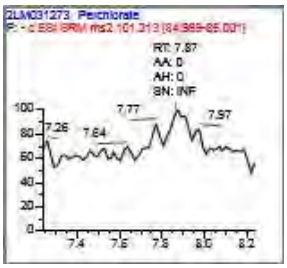
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio	
			N/A			
7.88	m/z 89.000	1344678	5.000		N/A	

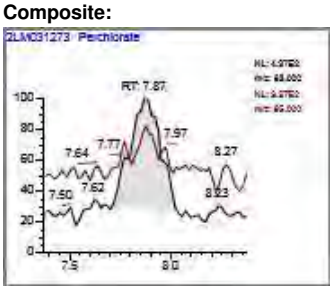
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio	
			N/A			
7.87	m/z 83.000	3202	0.028		N/A	I
7.87	m/z 85.000			26.30 - 39.45	*	

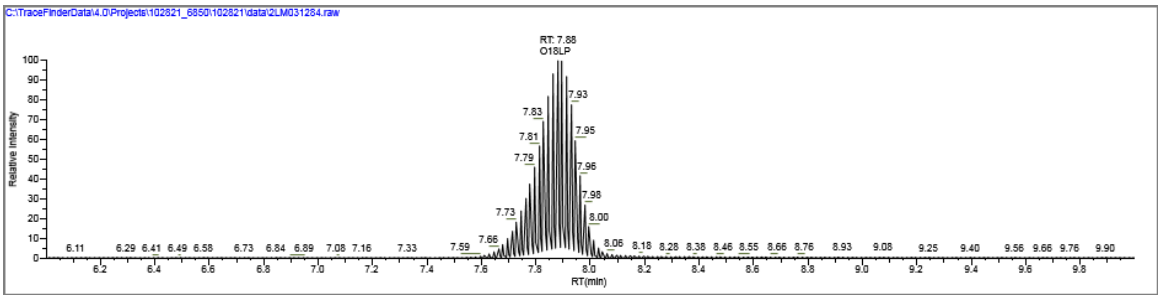
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 102821

Method: 102821_Perchlorate 6850
Perchlorate 6850
Cali File: 102821.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A5	S1J0510-CCV5	2LM031284	CCV	CCV 1.0 ug/L	10/29/2021 4:39:14 AM	1:01



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.88	89	1115711			5.000	ug/L	5.000	ug/L	

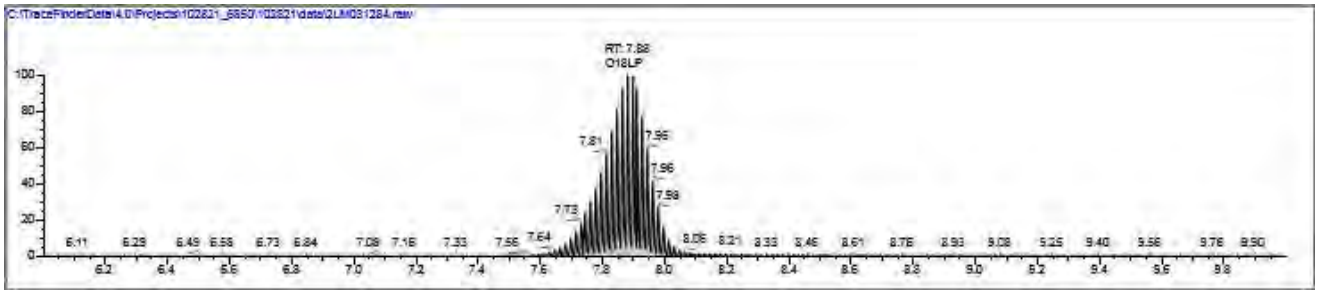
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.88	83	184711	Linear	0.166	0.963	ug/L	0.963	ug/L	

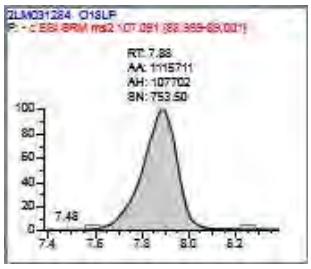
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

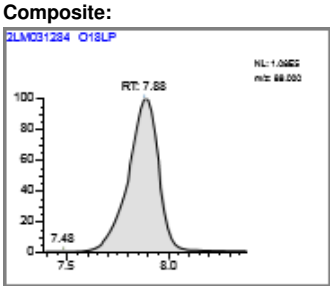
Data File:	2LM031284	Tune Report Date:	Tune report not found
Method:	102821_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	10/29/2021 4:39:14 AM
		Cali File Date:	10/29/2021 9:06:35 AM
Cali File:	102821.calx	Operator ID:	CAS
Sample ID:	S1J0510-CCV5	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:A5
Comments:	1:01		



m/z 89.000



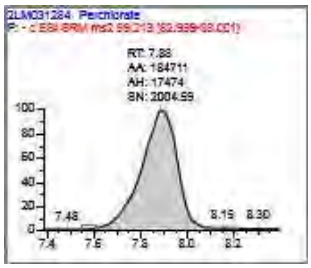
Composite:



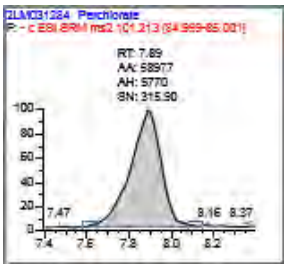
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.88	m/z 89.000	1115711	5.000		N/A

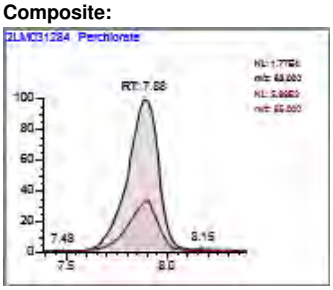
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			QC: 1.000	0.850 - 1.150	
7.88	m/z 83.000	184711	0.963		N/A
7.89	m/z 85.000	58977		26.30 - 39.45	31.93

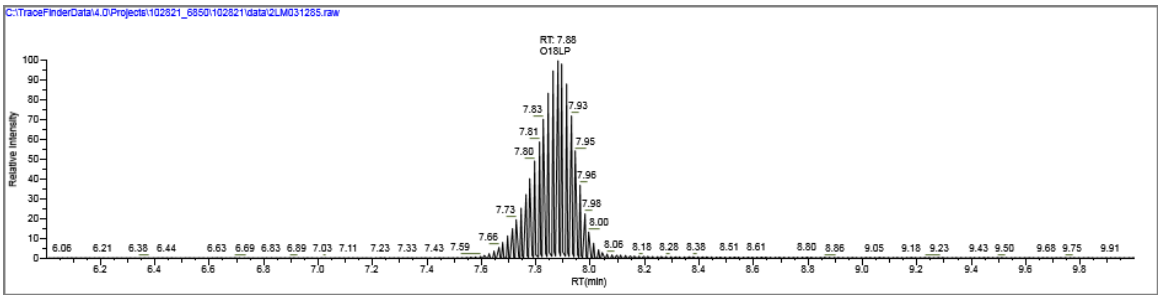
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 102821

Method: 102821_Perchlorate 6850 Perchlorate 6850
Cali File: 102821.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A3	S1J0510-CRL5	2LM031285	QCMRL	QCMRL 0.2 ug/L	10/29/2021 4:52:29 AM	1:01



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.88	89	1192196			5.000	ug/L	5.000	ug/L	

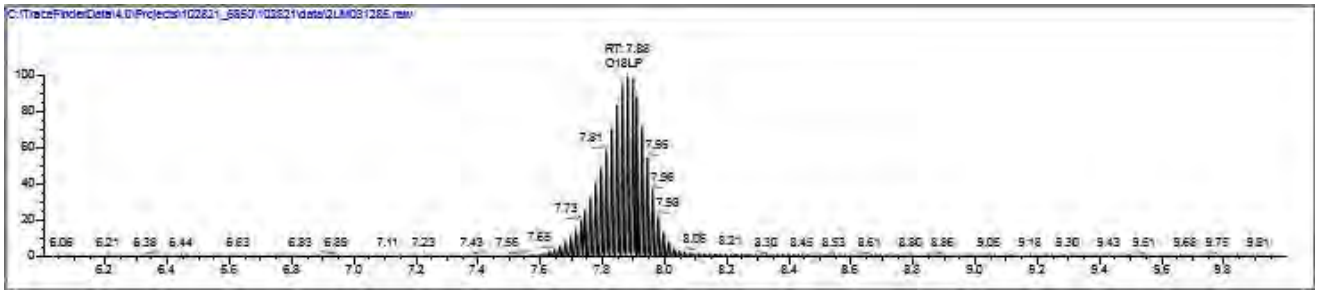
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.88	83	38863	Linear	0.033	0.201	ug/L	0.201	ug/L	

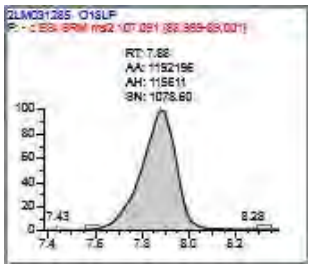
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

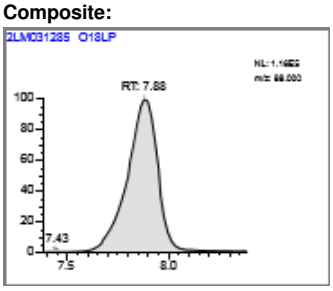
Data File:	2LM031285	Tune Report Date:	Tune report not found
Method:	102821_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	10/29/2021 4:52:29 AM
		Cali File Date:	10/29/2021 9:06:35 AM
Cali File:	102821.calx	Operator ID:	CAS
Sample ID:	S1J0510-CRL5	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:A3
Comments:	1:01		



m/z 89.000



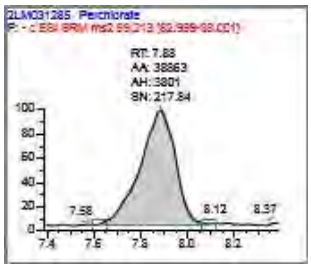
Composite:



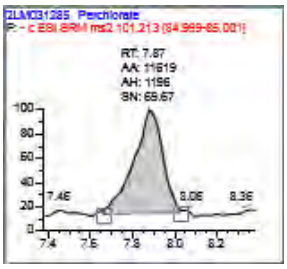
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.88	m/z 89.000	1192196	5.000		N/A

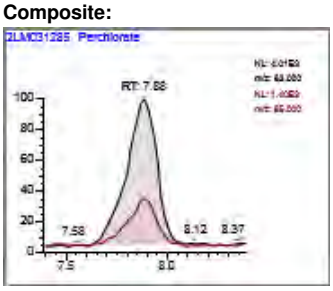
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			QC: 0.200	0.140 - 0.260	
7.88	m/z 83.000	38863	0.201		N/A
7.87	m/z 85.000	11619		26.30 - 39.45	29.9

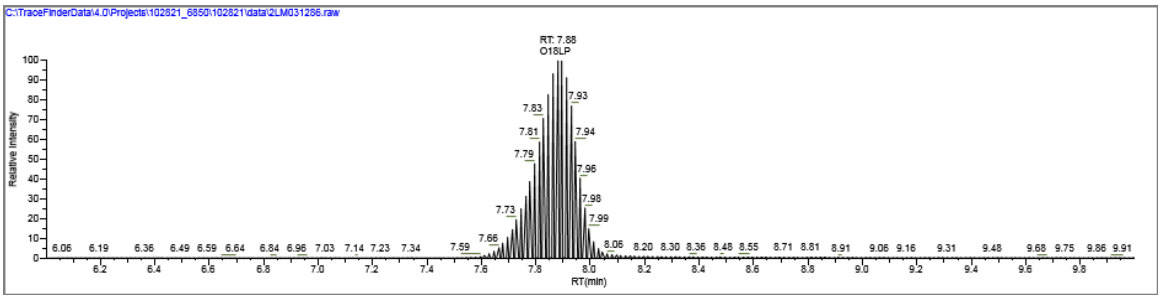
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 102821

Method: 102821_Perchlorate 6850 Perchlorate 6850
Cali File: 102821.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A1	S1J0510-CCB5	2LM031286	N/A	CCB	10/29/2021 5:05:44 AM	1:01



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.88	89	1248933			5.000	ug/L	5.000	ug/L	

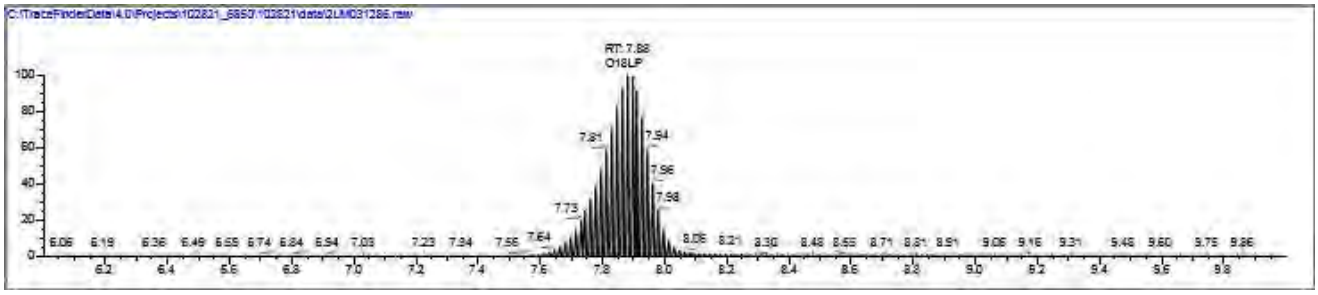
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.88	83	3274	Linear	0.003	0.029	ug/L	0.029	ug/L	I

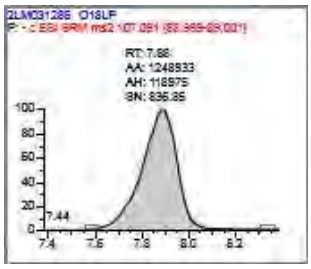
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

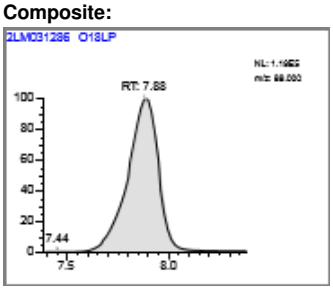
Data File:	2LM031286	Tune Report Date:	Tune report not found
Method:	102821_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	10/29/2021 5:05:44 AM
		Cali File Date:	10/29/2021 9:06:35 AM
Cali File:	102821.calx	Operator ID:	CAS
Sample ID:	S1J0510-CCB5	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:A1
Comments:	1:01		



m/z 89.000



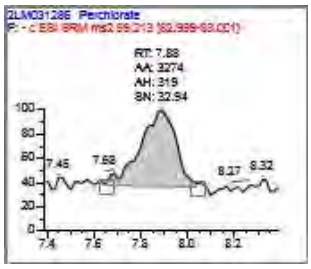
Composite:



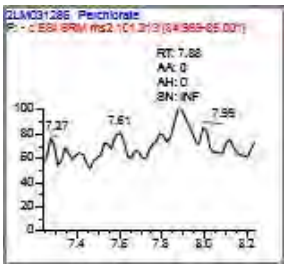
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio	
			N/A			
7.88	m/z 89.000	1248933	5.000		N/A	

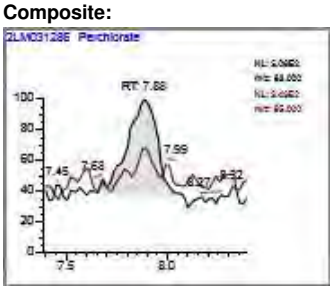
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio	
			N/A			
7.88	m/z 83.000	3274	0.029		N/A	I
7.88	m/z 85.000			26.30 - 39.45	*	

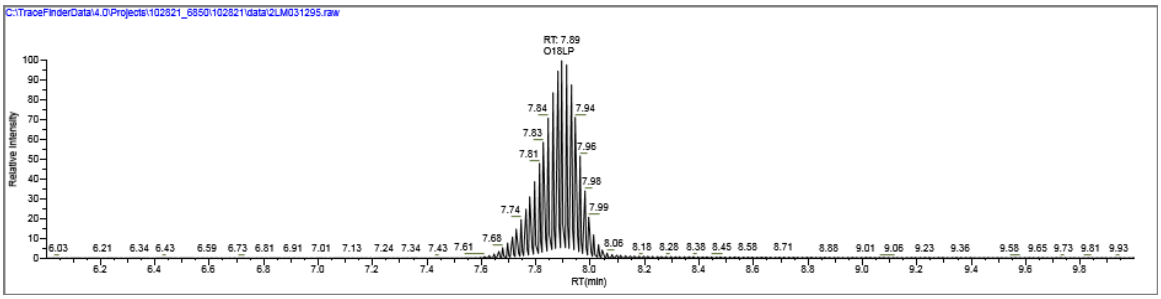
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 102821

Method: 102821_Perchlorate 6850 Perchlorate 6850
Cali File: 102821.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A5	S1J0510-CCV6	2LM031295	CCV	CCV 1.0 ug/L	10/29/2021 7:04:59 AM	1:01



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.89	89	1377847			5.000	ug/L	5.000	ug/L	

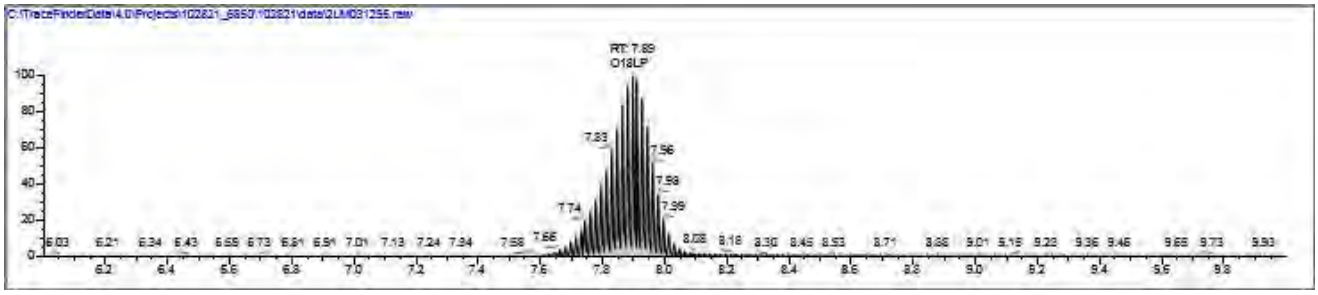
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.9	83	225475	Linear	0.164	0.952	ug/L	0.952	ug/L	

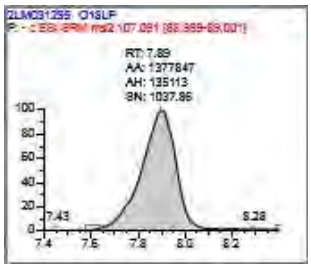
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

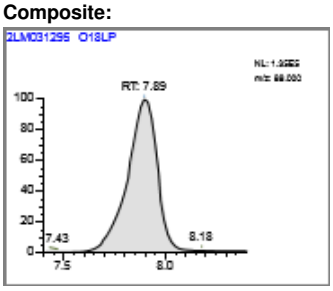
Data File:	2LM031295	Tune Report Date:	Tune report not found
Method:	102821_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	10/29/2021 7:04:59 AM
		Cali File Date:	10/29/2021 9:06:35 AM
Cali File:	102821.calx	Operator ID:	CAS
Sample ID:	S1J0510-CCV6	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:A5
Comments:	1:01		



m/z 89.000



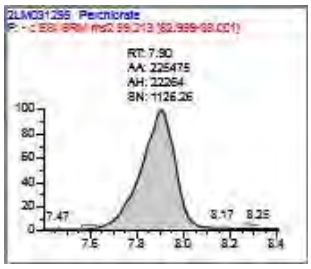
Composite:



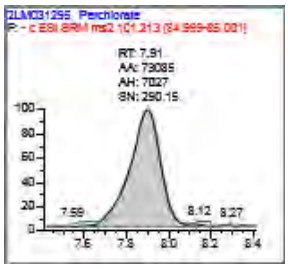
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.89	m/z 89.000	1377847	5.000		N/A

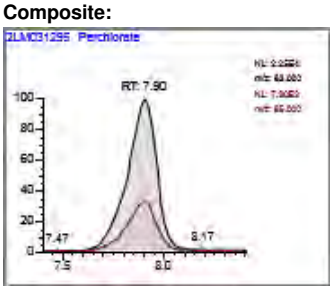
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			QC: 1.000	0.850 - 1.150	
7.90	m/z 83.000	225475	0.952		N/A
7.91	m/z 85.000	73085		26.30 - 39.45	32.41

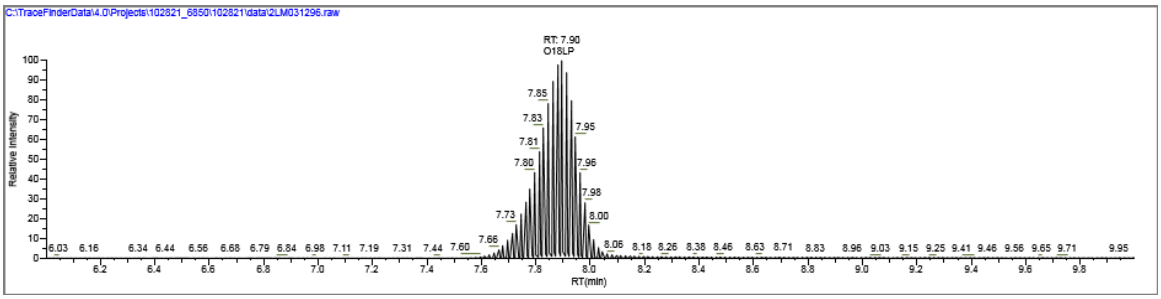
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 102821

Method: 102821_Perchlorate 6850 Perchlorate 6850
Cali File: 102821.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A3	S1J0510-CRL6	2LM031296	QCMRL	QCMRL 0.2 ug/L	10/29/2021 7:18:13 AM	1:01



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.90	89	1512320			5.000	ug/L	5.000	ug/L	

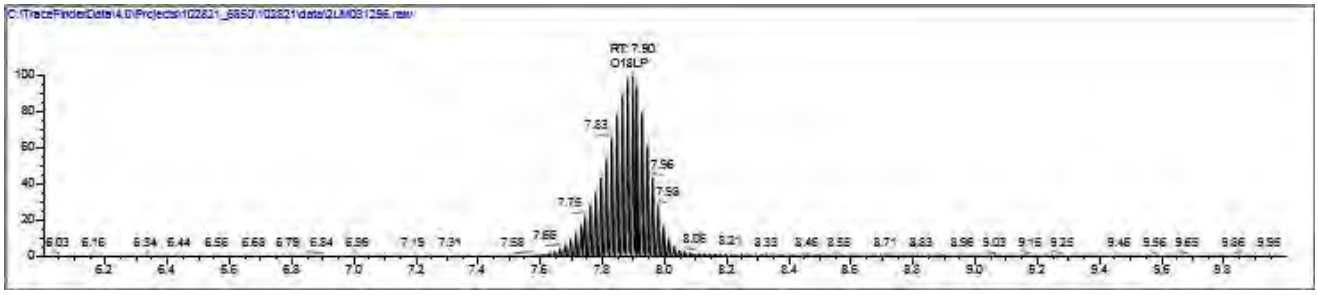
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.9	83	49914	Linear	0.033	0.203	ug/L	0.203	ug/L	

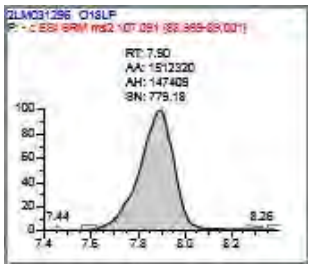
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

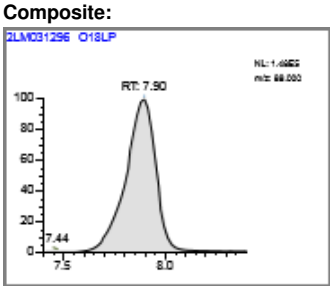
Data File:	2LM031296	Tune Report Date:	Tune report not found
Method:	102821_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	10/29/2021 7:18:13 AM
		Cali File Date:	10/29/2021 9:06:35 AM
Cali File:	102821.calx	Operator ID:	CAS
Sample ID:	S1J0510-CRL6	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:A3
Comments:	1:01		



m/z 89.000



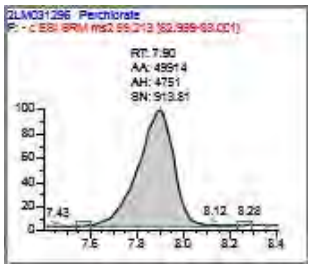
Composite:



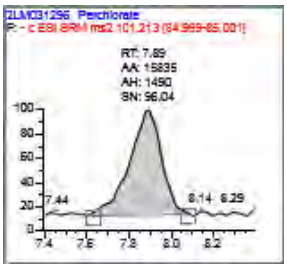
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.90	m/z 89.000	1512320	5.000		N/A

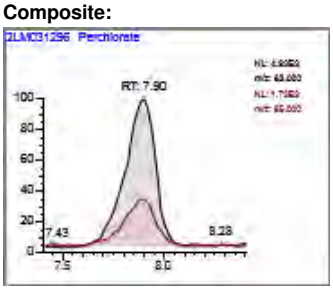
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			QC: 0.200	0.140 - 0.260	
7.90	m/z 83.000	49914	0.203		N/A
7.89	m/z 85.000	15835		26.30 - 39.45	31.72

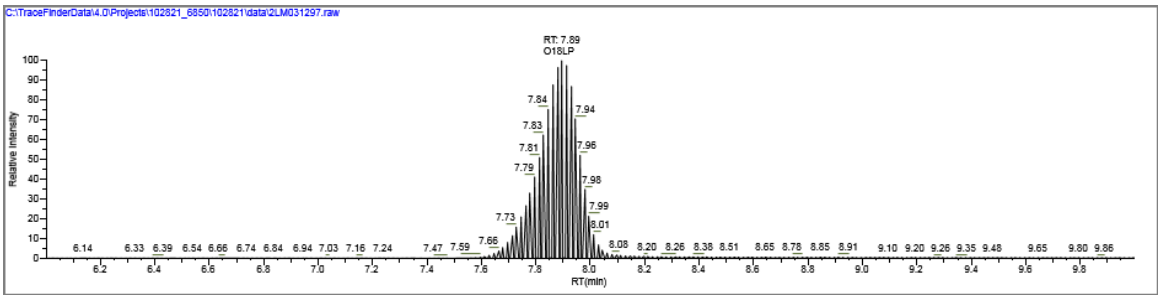
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 102821

Method: 102821_Perchlorate 6850 Perchlorate 6850
Cali File: 102821.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A1	S1J0510-CCB6	2LM031297	N/A	CCB	10/29/2021 7:31:28 AM	1:01



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.89	89	1446848			5.000	ug/L	5.000	ug/L	

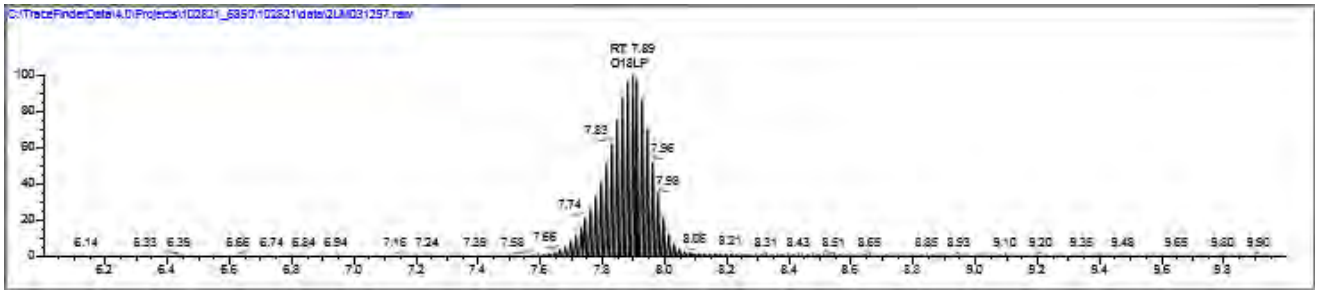
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.9	83	4077	Linear	0.003	0.03	ug/L	0.03	ug/L	I

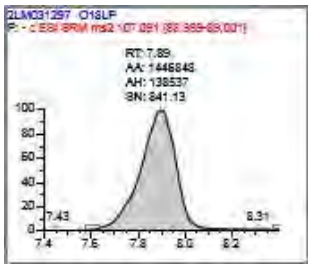
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

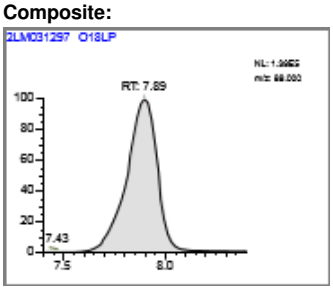
Data File:	2LM031297	Tune Report Date:	Tune report not found
Method:	102821_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	10/29/2021 7:31:28 AM
		Cali File Date:	10/29/2021 9:06:35 AM
Cali File:	102821.calx	Operator ID:	CAS
Sample ID:	S1J0510-CCB6	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:A1
Comments:	1:01		



m/z 89.000



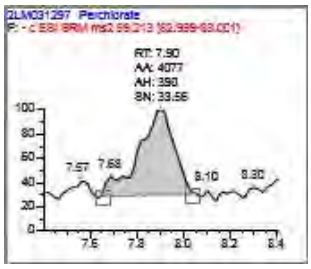
Composite:



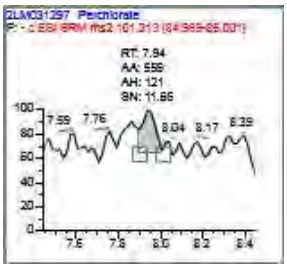
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.89	m/z 89.000	1446848	5.000		N/A

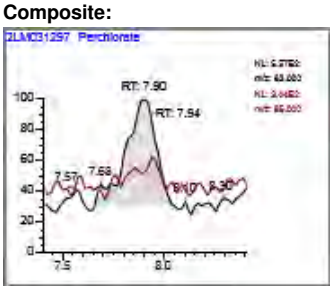
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio	
			N/A			
7.90	m/z 83.000	4077	0.030		N/A	I
7.94	m/z 85.000	559		26.30 - 39.45	13.7 *	

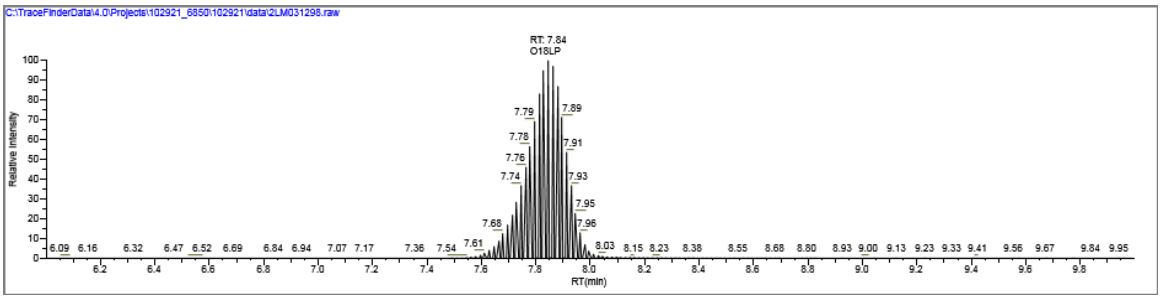
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: TSQ_Quantiva
Batch: 102921

Method: 102921_Perchlorate 6850 Perchlorate 6850
Cali File: 102821_102921.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A1	S1J0523-CCB1	2LM031298	N/A	CCB	10/29/2021 11:09:36 AM	1:01



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.84	89	1238370			5.000	ug/L	5.000	ug/L	

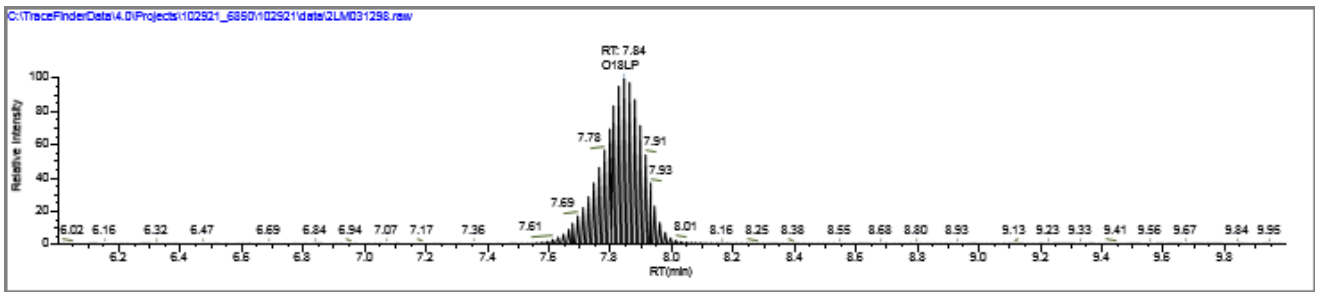
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.83	83	3420	Linear	0.003	0.03	ug/L	0.03	ug/L	I

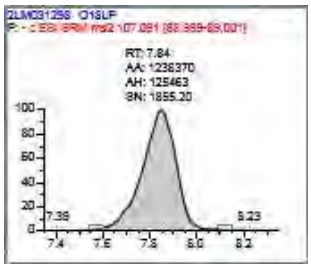
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

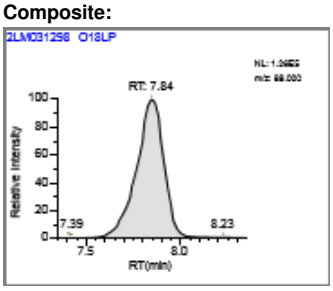
Data File:	2LM031298	Tune Report Date:	Tune report not found
Method:	102921_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	10/29/2021 11:09:36 AM
		Cali File Date:	10/29/2021 9:06:35 AM
Cali File:	102821_102921.calx	Operator ID:	TSQ_Quantiva
Sample ID:	S1J0523-CCB1	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:A1
Comments:	1:01		



m/z 89.000



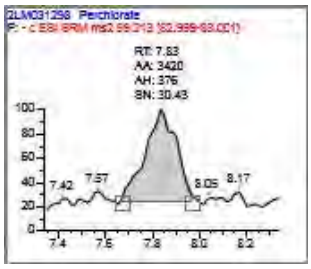
Composite:



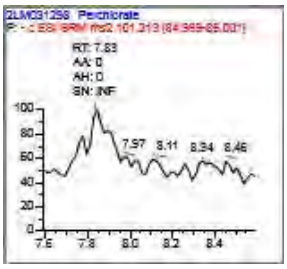
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.84	m/z 89.000	1238370	5.000		N/A

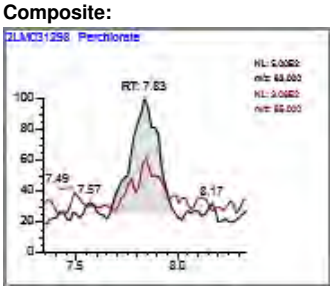
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio	
			N/A			
7.83	m/z 83.000	3420	0.030		N/A	I
7.83	m/z 85.000			25.89 - 38.83		*

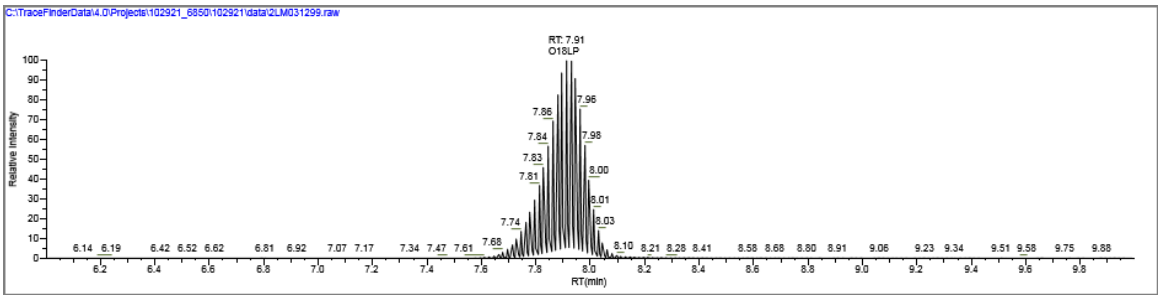
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: TSQ_Quantiva
Batch: 102921

Method: 102921_Perchlorate 6850
Perchlorate 6850
Cali File: 102821_102921.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A5	S1J0523-CCV1	2LM031299	CCV	CCV 1.0 ug/L	10/29/2021 11:22:52 AM	1:1 0012466



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.91	89	1320355			5.000	ug/L	5.000	ug/L	

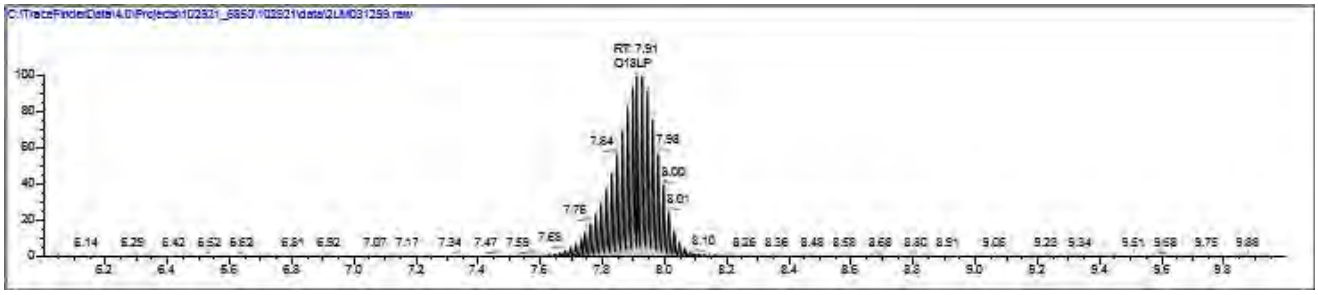
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.92	83	214302	Linear	0.162	0.944	ug/L	0.944	ug/L	

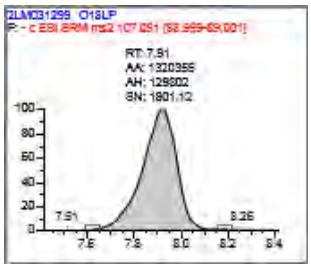
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

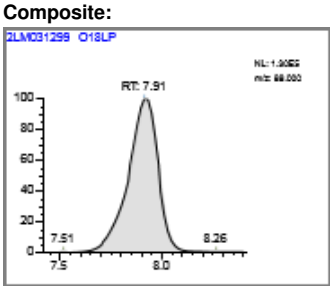
Data File:	2LM031299	Tune Report Date:	Tune report not found
Method:	102921_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	10/29/2021 11:22:52 AM
		Cali File Date:	10/29/2021 9:06:35 AM
Cali File:	102821_102921.calx	Operator ID:	TSQ_Quantiva
Sample ID:	S1J0523-CCV1	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:A5
Comments:	1:1 0012466		



m/z 89.000



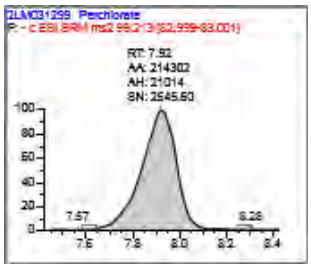
Composite:



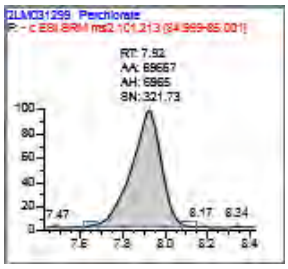
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.91	m/z 89.000	1320355	5.000		N/A

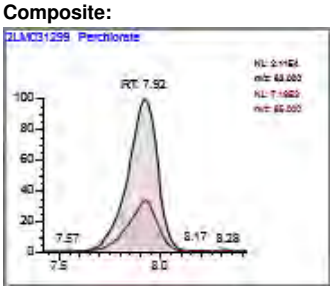
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			QC: 1.000	0.850 - 1.150	
7.92	m/z 83.000	214302	0.944		N/A
7.92	m/z 85.000	69667		25.89 - 38.83	32.51

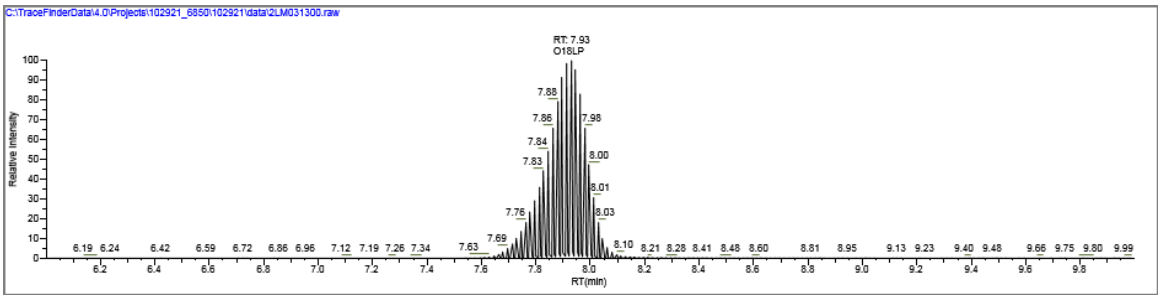
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: TSQ_Quantiva
Batch: 102921

Method: 102921_Perchlorate 6850
Perchlorate 6850
Cali File: 102821_102921.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A3	S1J0523-CRL1	2LM031300	QCMRL	QCMRL 0.2 ug/L	10/29/2021 11:36:06 AM	1:1 0012468



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.93	89	1326434			5.000	ug/L	5.000	ug/L	

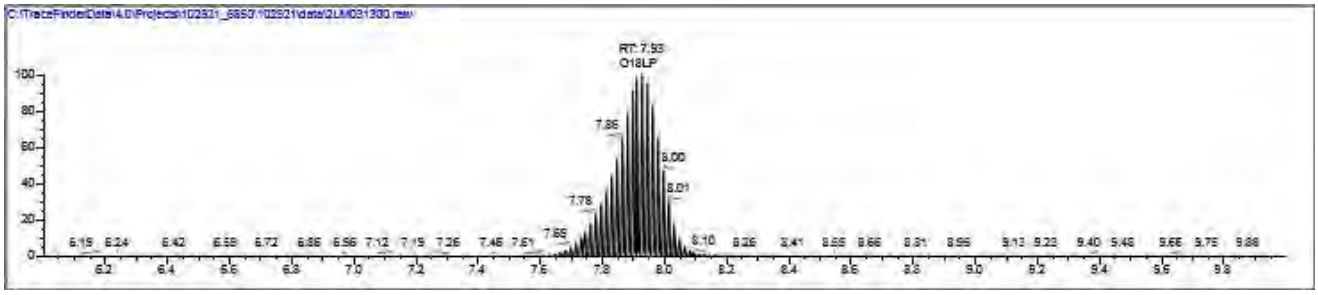
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.93	83	43732	Linear	0.033	0.203	ug/L	0.203	ug/L	

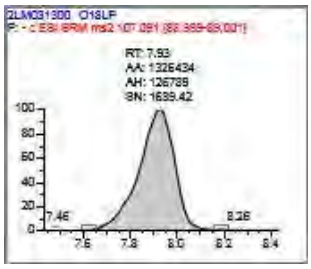
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

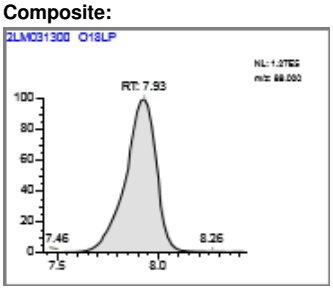
Data File:	2LM031300	Tune Report Date:	Tune report not found
Method:	102921_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	10/29/2021 11:36:06 AM
		Cali File Date:	10/29/2021 9:06:35 AM
Cali File:	102821_102921.calx	Operator ID:	TSQ_Quantiva
Sample ID:	S1J0523-CRL1	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:A3
Comments:	1:1 0012468		



m/z 89.000



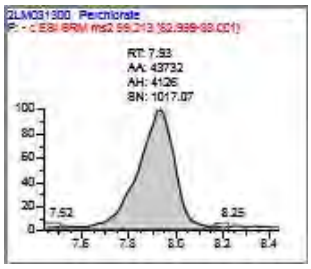
Composite:



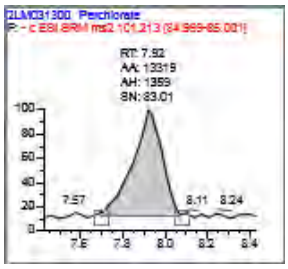
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.93	m/z 89.000	1326434	5.000		N/A

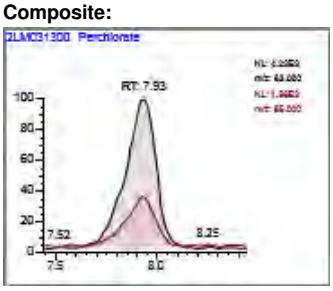
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			QC: 0.200	0.140 - 0.260	
7.93	m/z 83.000	43732	0.203		N/A
7.92	m/z 85.000	13319		25.89 - 38.83	30.46

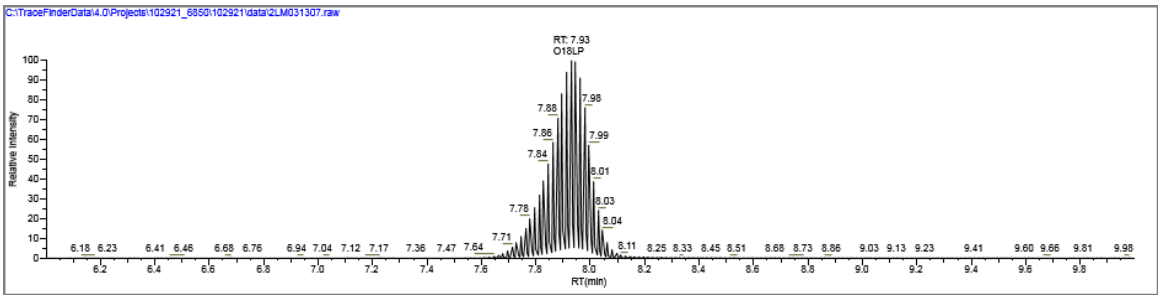
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: TSQ_Quantiva
Batch: 102921

Method: 102921_Perchlorate 6850 Perchlorate 6850
Cali File: 102821_102921.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A5	S1J0523-CCV2	2LM031307	CCV	CCV 1.0 ug/L	10/29/2021 1:08:59 PM	1:1 0012466



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.93	89	1361915			5.000	ug/L	5.000	ug/L	

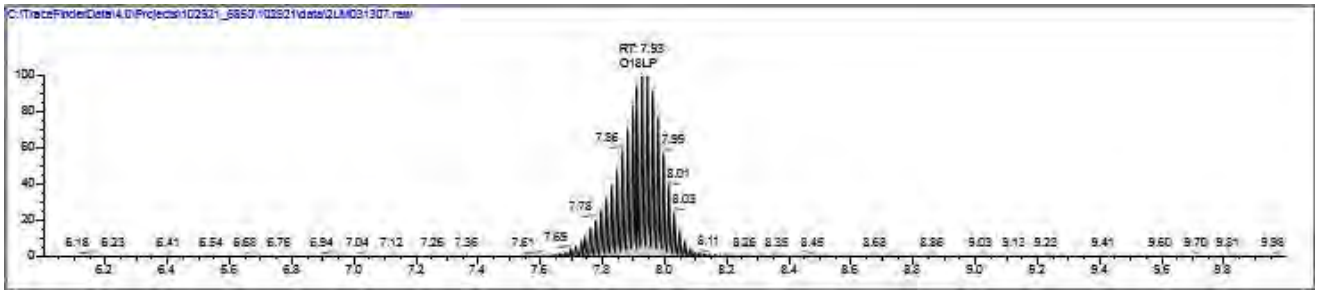
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.93	83	221754	Linear	0.163	0.947	ug/L	0.947	ug/L	

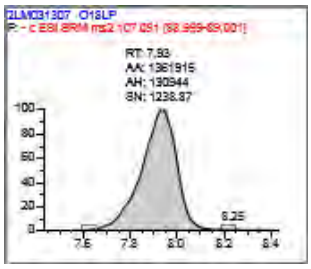
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

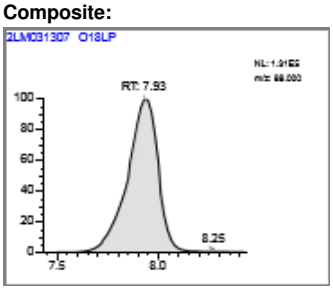
Data File:	2LM031307	Tune Report Date:	Tune report not found
Method:	102921_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	10/29/2021 1:08:59 PM
		Cali File Date:	10/29/2021 9:06:35 AM
Cali File:	102821_102921.calx	Operator ID:	TSQ_Quantiva
Sample ID:	S1J0523-CCV2	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:A5
Comments:	1:1 0012466		



m/z 89.000



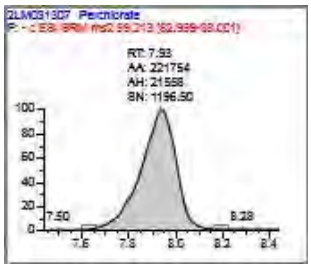
Composite:



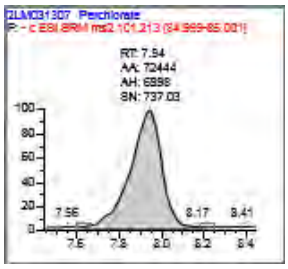
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.93	m/z 89.000	1361915	5.000		N/A

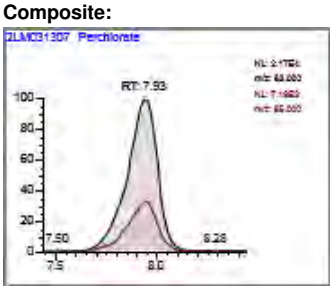
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			QC: 1.000	0.850 - 1.150	
7.93	m/z 83.000	221754	0.947		N/A
7.94	m/z 85.000	72444		25.89 - 38.83	32.67

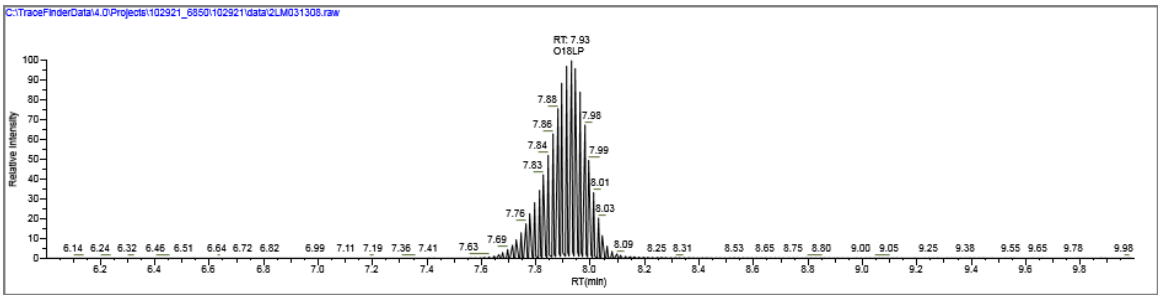
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: TSQ_Quantiva
Batch: 102921

Method: 102921_Perchlorate 6850 Perchlorate 6850
Cali File: 102821_102921.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A3	S1J0523-CRL2	2LM031308	QCMRL	QCMRL 0.2 ug/L	10/29/2021 1:22:13 PM	1:1 0012468



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.93	89	1445889			5.000	ug/L	5.000	ug/L	

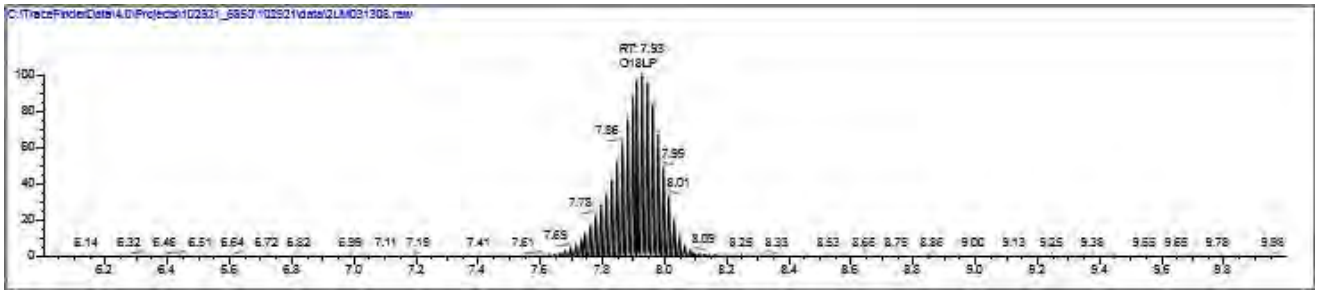
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.95	83	46431	Linear	0.032	0.198	ug/L	0.198	ug/L	

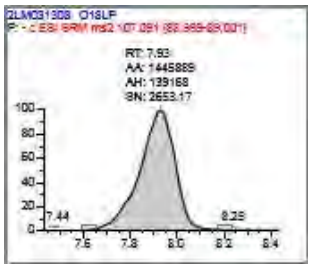
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

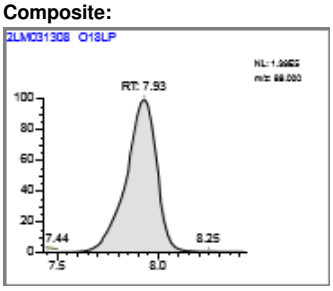
Data File:	2LM031308	Tune Report Date:	Tune report not found
Method:	102921_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	10/29/2021 1:22:13 PM
		Cali File Date:	10/29/2021 9:06:35 AM
Cali File:	102821_102921.calx	Operator ID:	TSQ_Quantiva
Sample ID:	S1J0523-CRL2	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:A3
Comments:	1:1 0012468		



m/z 89.000



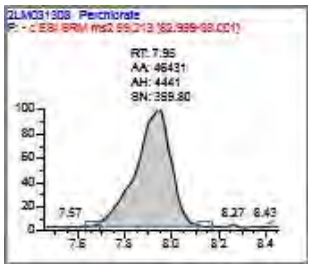
Composite:



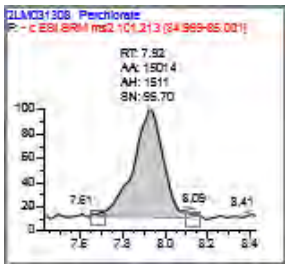
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.93	m/z 89.000	1445889	5.000		N/A

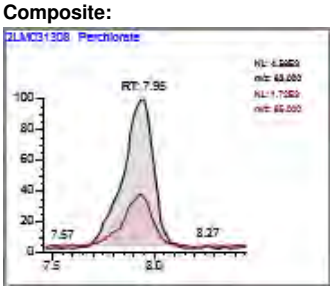
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			QC: 0.200	0.140 - 0.260	
7.95	m/z 83.000	46431	0.198		N/A
7.92	m/z 85.000	15014		25.89 - 38.83	32.34

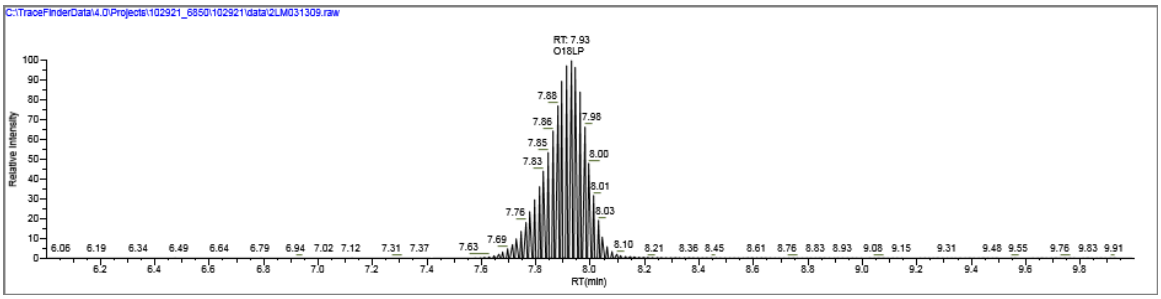
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: TSQ_Quantiva
Batch: 102921

Method: 102921_Perchlorate 6850
Perchlorate 6850
Cali File: 102821_102921.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A1	S1J0523-CCB2	2LM031309	N/A	CCB	10/29/2021 1:35:28 PM	1:01



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.93	89	1428653			5.000	ug/L	5.000	ug/L	

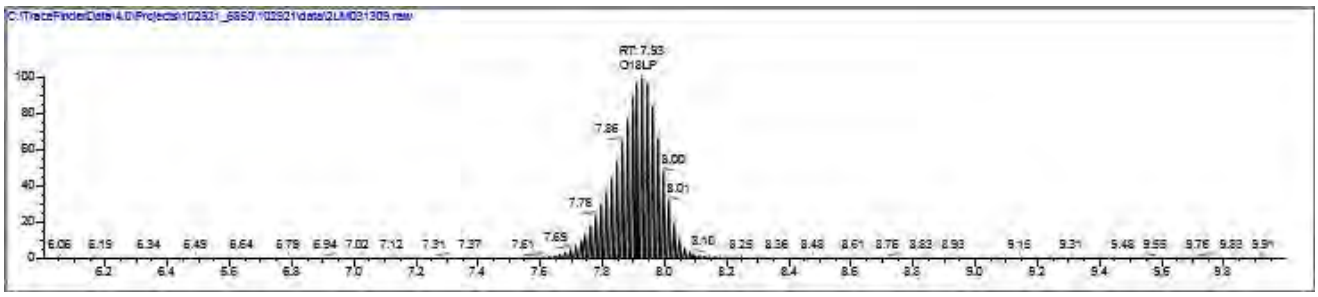
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.92	83	3298	Linear	0.002	0.027	ug/L	0.027	ug/L	I

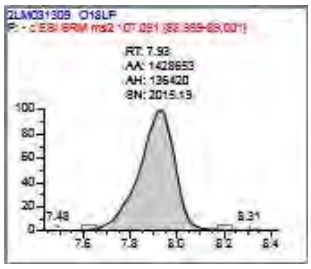
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

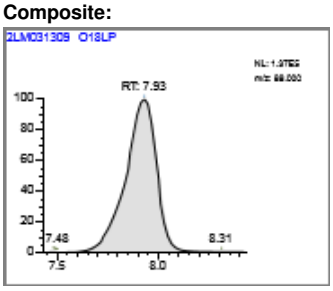
Data File:	2LM031309	Tune Report Date:	Tune report not found
Method:	102921_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	10/29/2021 1:35:28 PM
		Cali File Date:	10/29/2021 9:06:35 AM
Cali File:	102821_102921.calx	Operator ID:	TSQ_Quantiva
Sample ID:	S1J0523-CCB2	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:A1
Comments:	1:01		



m/z 89.000



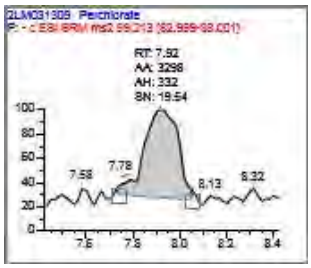
Composite:



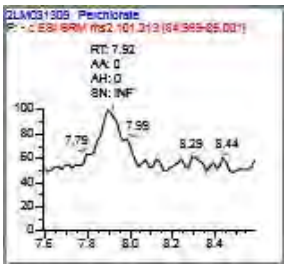
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio	
			N/A			
7.93	m/z 89.000	1428653	5.000		N/A	

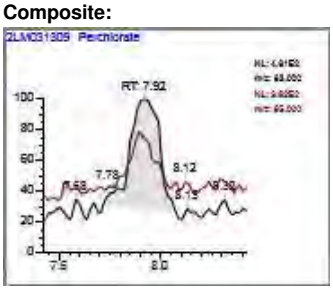
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio	
			N/A			
7.92	m/z 83.000	3298	0.027		N/A	I
7.92	m/z 85.000			25.89 - 38.83		*

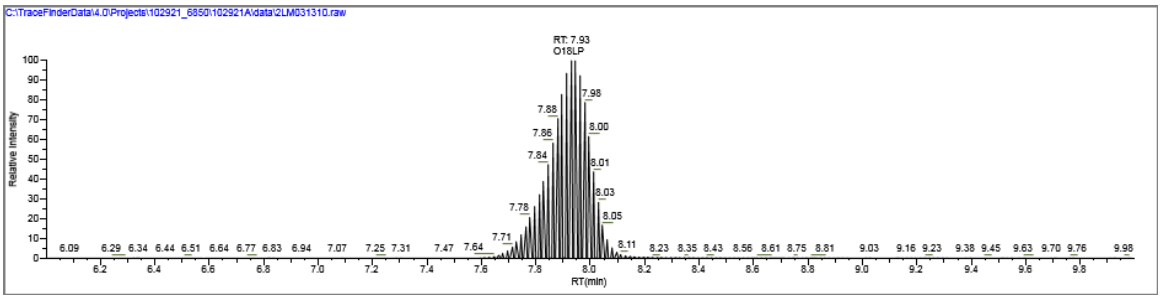
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 102921A

Method: 102921A_Perchlorate 6850 Perchlorate 6850
Cali File: 102821_102921A.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A1	S1J0551-CCB1	2LM031310	N/A	CCB	10/29/2021 4:37:34 PM	1:01



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.93	89	1457419			5.000	ug/L	5.000	ug/L	

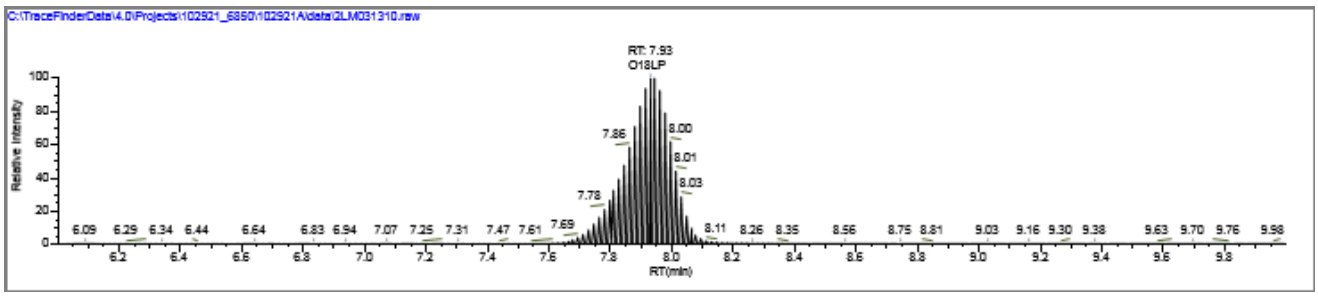
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.95	83	3959	Linear	0.003	0.03	ug/L	0.03	ug/L	I

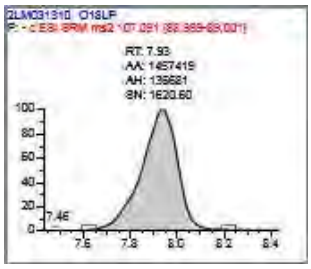
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

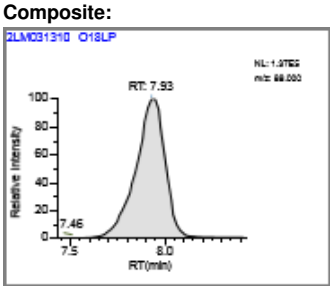
Data File:	2LM031310	Tune Report Date:	Tune report not found
Method:	102921A_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	10/29/2021 4:37:34 PM
		Cali File Date:	10/29/2021 1:22:57 PM
Cali File:	102821_102921A.calx	Operator ID:	CAS
Sample ID:	S1J0551-CCB1	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:A1
Comments:	1:01		



m/z 89.000



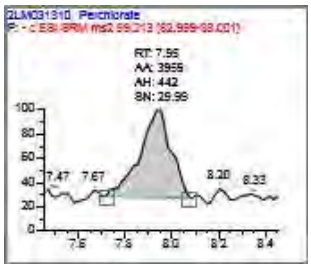
Composite:



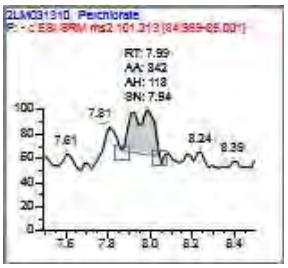
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.93	m/z 89.000	1457419	5.000		N/A

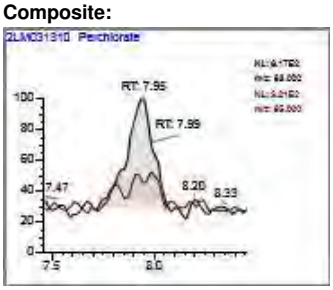
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio	
			N/A			
7.95	m/z 83.000	3959	0.030		N/A	I
7.99	m/z 85.000	842		25.89 - 38.83	21.27 *	

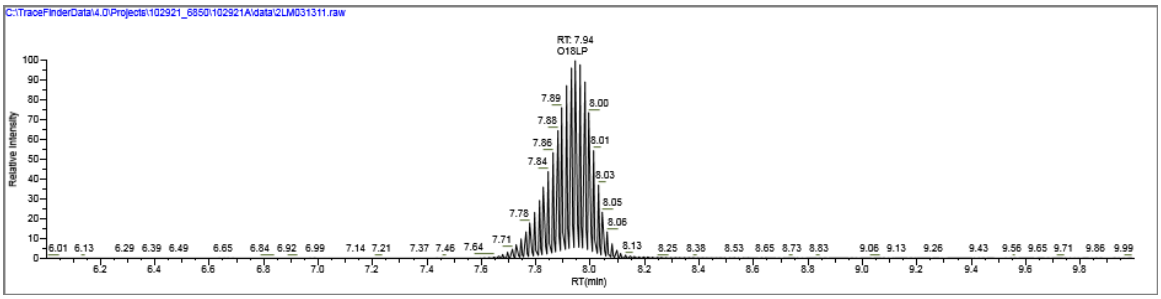
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 102921A

Method: 102921A_Perchlorate 6850
Perchlorate 6850
Cali File: 102821_102921A.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A5	S1J0551-CCV1	2LM031311	CCV	CCV 1.0 ug/L	10/29/2021 4:50:49 PM	1:1 0012466



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.94	89	1387640			5.000	ug/L	5.000	ug/L	

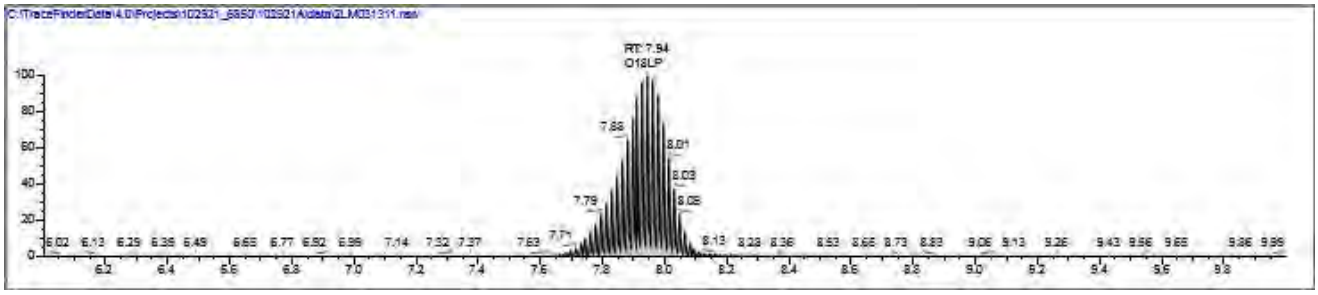
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.95	83	225453	Linear	0.162	0.945	ug/L	0.945	ug/L	

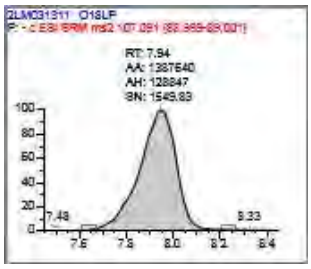
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

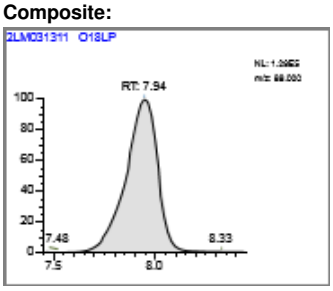
Data File:	2LM031311	Tune Report Date:	Tune report not found
Method:	102921A_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	10/29/2021 4:50:49 PM
		Cali File Date:	10/29/2021 1:22:57 PM
Cali File:	102821_102921A.calx	Operator ID:	CAS
Sample ID:	S1J0551-CCV1	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:A5
Comments:	1:1 0012466		



m/z 89.000



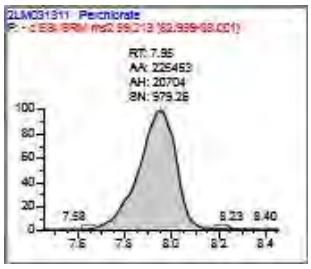
Composite:



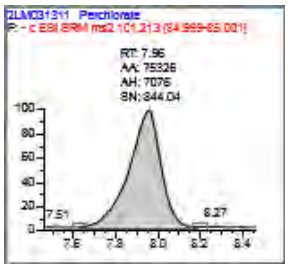
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.94	m/z 89.000	1387640	5.000		N/A

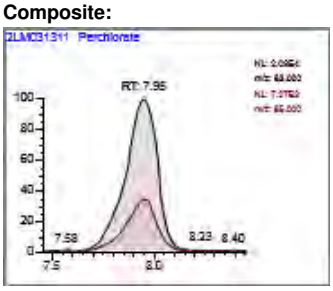
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			QC: 1.000	0.850 - 1.150	
7.95	m/z 83.000	225453	0.945		N/A
7.96	m/z 85.000	75326		25.89 - 38.83	33.41

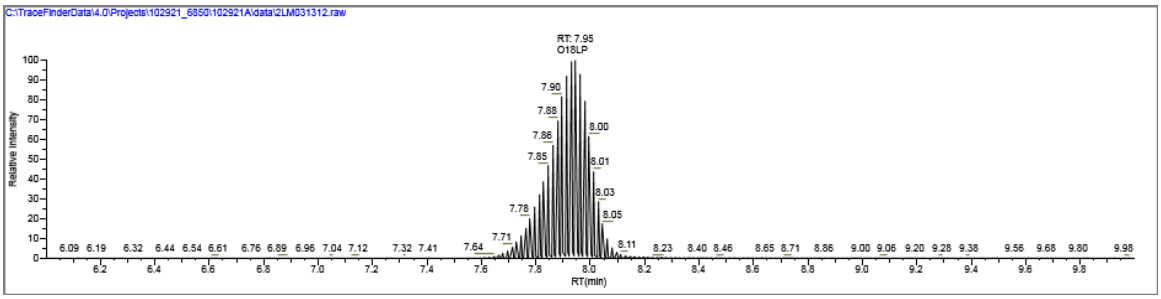
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 102921A

Method: 102921A_Perchlorate 6850 Perchlorate 6850
Cali File: 102821_102921A.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A3	S1J0551-CRL1	2LM031312	QCMRL	QCMRL 0.2 ug/L	10/29/2021 5:04:04 PM	1:1 0012468



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.95	89	1351341			5.000	ug/L	5.000	ug/L	

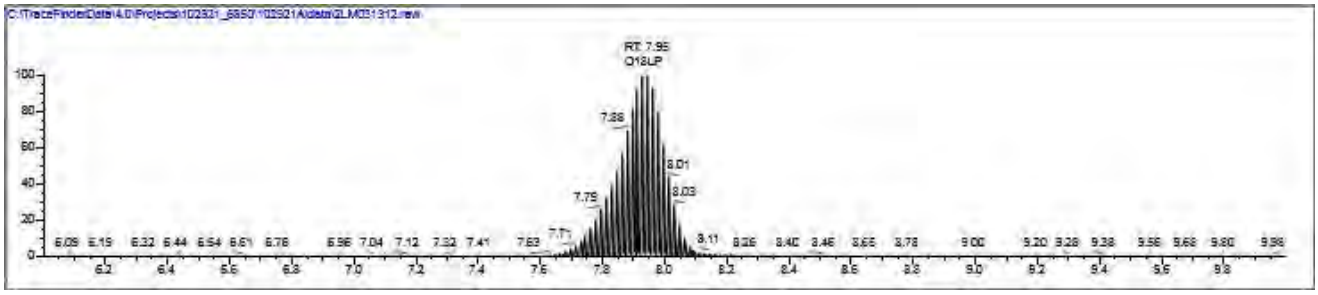
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.93	83	45672	Linear	0.034	0.208	ug/L	0.208	ug/L	

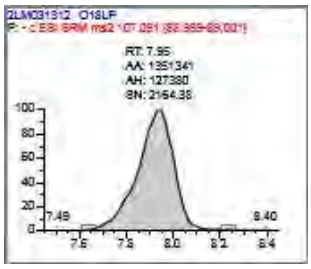
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

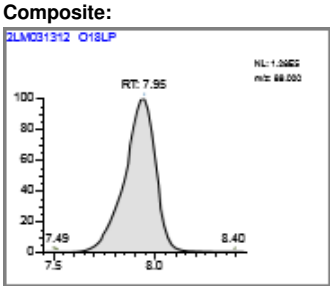
Data File:	2LM031312	Tune Report Date:	Tune report not found
Method:	102921A_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	10/29/2021 5:04:04 PM
		Cali File Date:	10/29/2021 1:22:57 PM
Cali File:	102821_102921A.calx	Operator ID:	CAS
Sample ID:	S1J0551-CRL1	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:A3
Comments:	1:1 0012468		



m/z 89.000



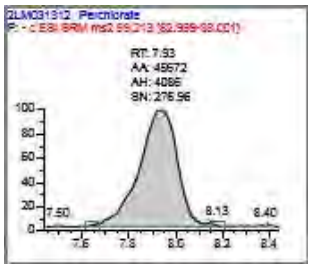
Composite:



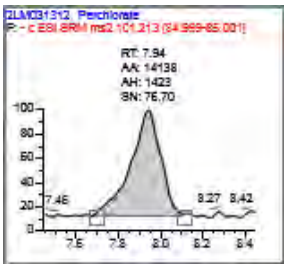
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.95	m/z 89.000	1351341	5.000		N/A

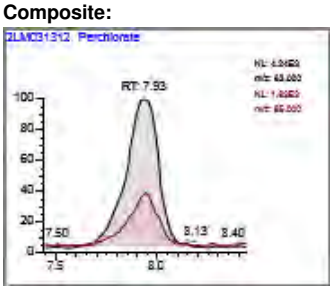
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			QC: 0.200	0.140 - 0.260	
7.93	m/z 83.000	45672	0.208		N/A
7.94	m/z 85.000	14138		25.89 - 38.83	30.95

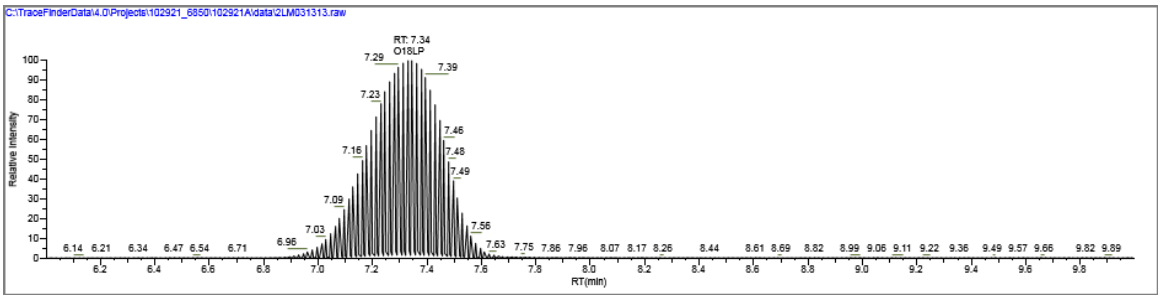
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 102921A

Method: 102921A_Perchlorate 6850 Perchlorate 6850
Cali File: 102821_102921A.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:B1	S1J0551-IFA1	2LM031313	N/A	MCT 0.2 ug/L	10/29/2021 5:17:19 PM	1:1 0012477



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.34	89	1355007			5.000	ug/L	5.000	ug/L	

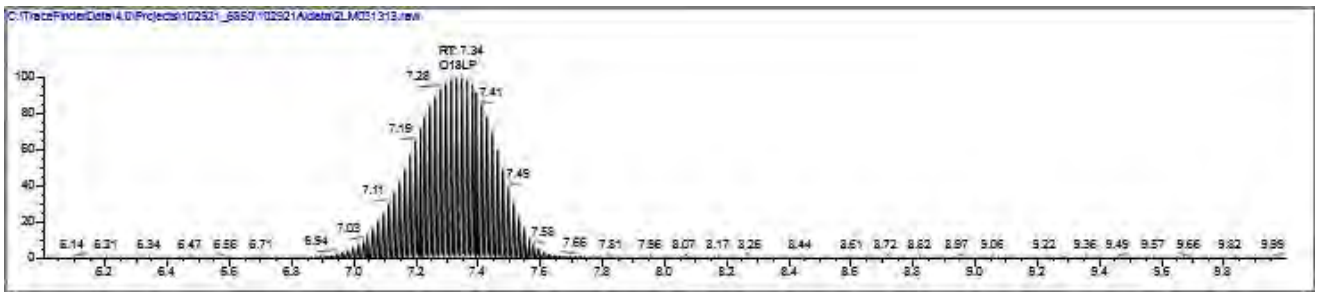
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.32	83	49707	Linear	0.037	0.224	ug/L	0.224	ug/L	

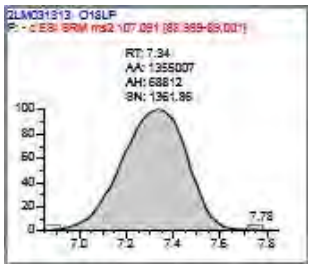
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

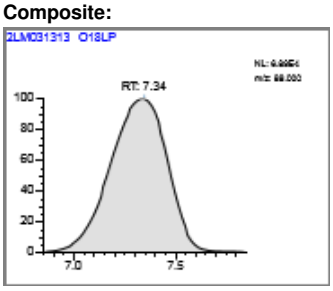
Data File:	2LM031313	Tune Report Date:	Tune report not found
Method:	102921A_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	10/29/2021 5:17:19 PM
		Cali File Date:	10/29/2021 1:22:57 PM
Cali File:	102821_102921A.calx	Operator ID:	CAS
Sample ID:	S1J0551-IFA1	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:B1
Comments:	1:1 0012477		



m/z 89.000



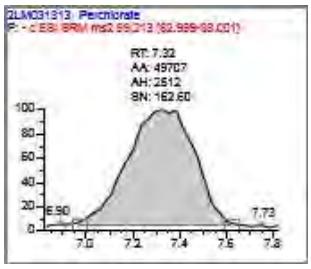
Composite:



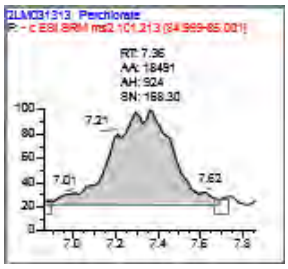
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.34	m/z 89.000	1355007	5.000		N/A

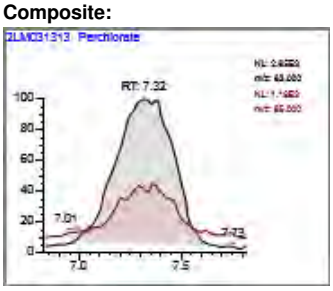
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.32	m/z 83.000	49707	0.224		N/A
7.36	m/z 85.000	18491		25.89 - 38.83	37.2

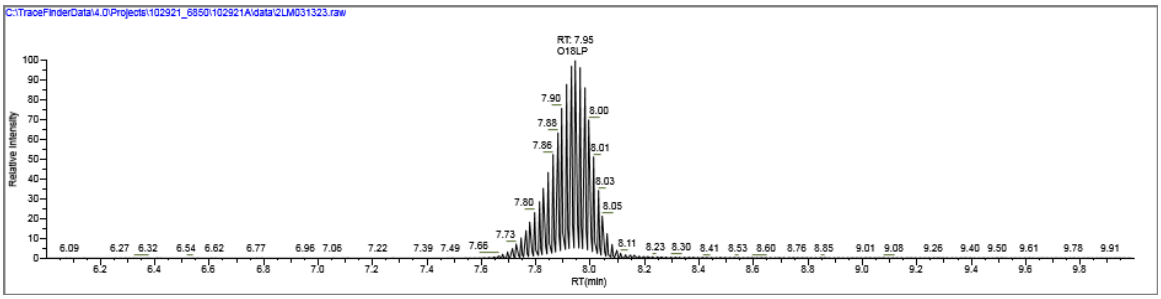
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 102921A

Method: 102921A_Perchlorate 6850
Perchlorate 6850
Cali File: 102821_102921A.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A5	S1J0551-CCV2	2LM031323	CCV	CCV 1.0 ug/L	10/29/2021 7:29:48 PM	1:1 0012466



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.95	89	1495254			5.000	ug/L	5.000	ug/L	

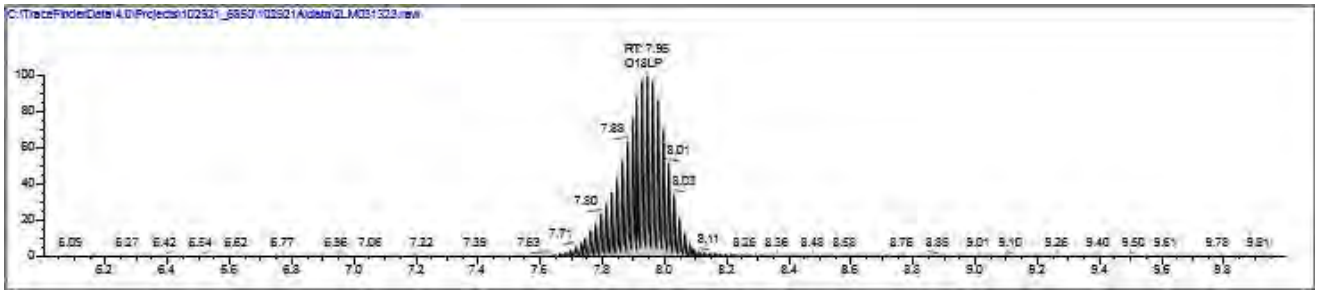
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.95	83	245056	Linear	0.164	0.954	ug/L	0.954	ug/L	

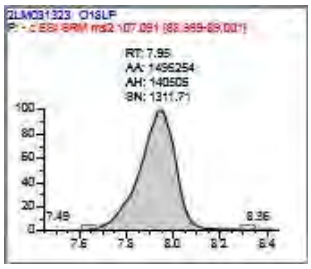
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

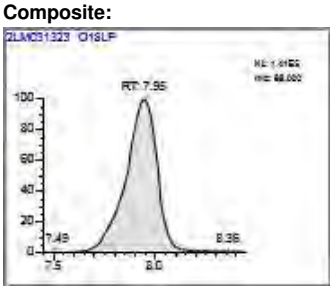
Data File:	2LM031323	Tune Report Date:	Tune report not found
Method:	102921A_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	10/29/2021 7:29:48 PM
		Cali File Date:	10/29/2021 1:22:57 PM
Cali File:	102821_102921A.calx	Operator ID:	CAS
Sample ID:	S1J0551-CCV2	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:A5
Comments:	1:1 0012466		



m/z 89.000



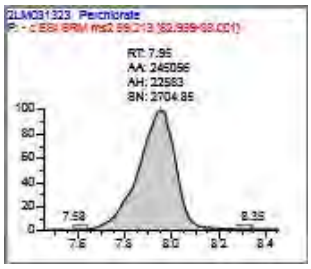
Composite:



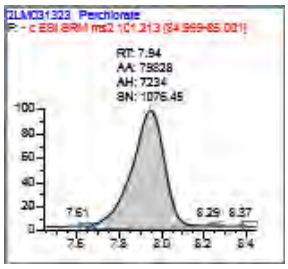
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.95	m/z 89.000	1495254	5.000		N/A

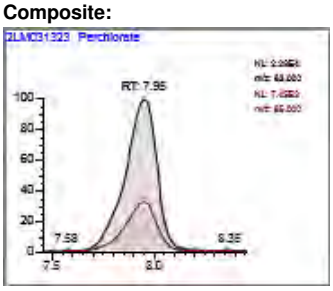
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			QC: 1.000	0.850 - 1.150	
7.95	m/z 83.000	245056	0.954		N/A
7.94	m/z 85.000	79828		25.89 - 38.83	32.58

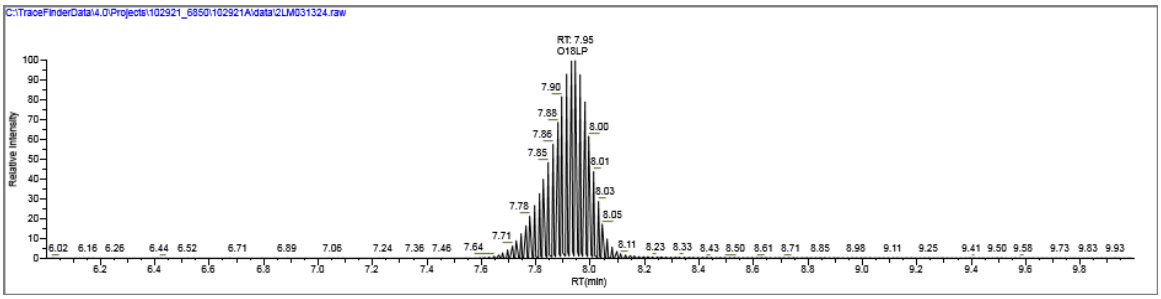
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 102921A

Method: 102921A_Perchlorate 6850
Perchlorate 6850
Cali File: 102821_102921A.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A3	S1J0551-CRL2	2LM031324	QCMRL	QCMRL 0.2 ug/L	10/29/2021 7:43:02 PM	1:1 0012468



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.95	89	1501456			5.000	ug/L	5.000	ug/L	

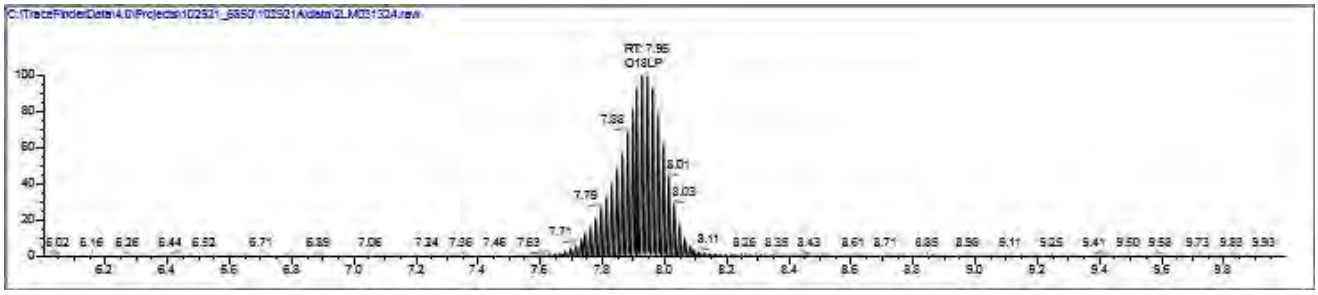
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.93	83	48204	Linear	0.032	0.198	ug/L	0.198	ug/L	

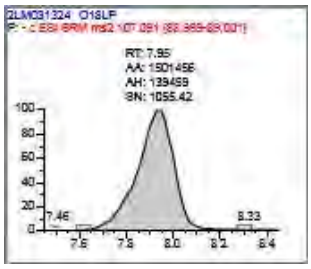
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

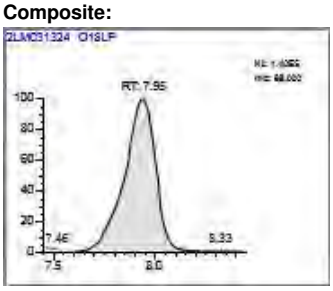
Data File:	2LM031324	Tune Report Date:	Tune report not found
Method:	102921A_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	10/29/2021 7:43:02 PM
		Cali File Date:	10/29/2021 1:22:57 PM
Cali File:	102821_102921A.calx	Operator ID:	CAS
Sample ID:	S1J0551-CRL2	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:A3
Comments:	1:1 0012468		



m/z 89.000



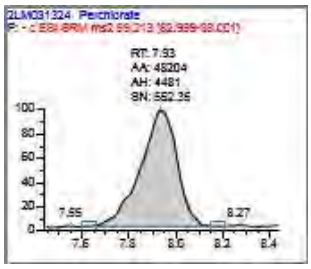
Composite:



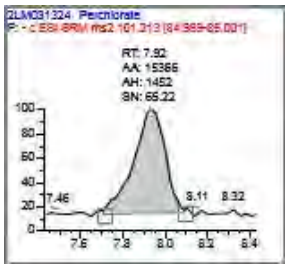
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.95	m/z 89.000	1501456	5.000		N/A

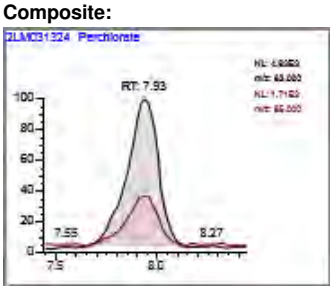
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			QC: 0.200	0.140 - 0.260	
7.93	m/z 83.000	48204	0.198		N/A
7.92	m/z 85.000	15366		25.89 - 38.83	31.88

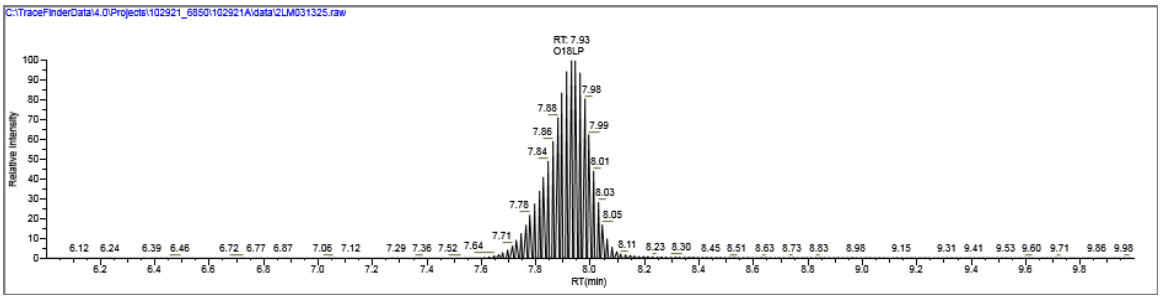
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 102921A

Method: 102921A_Perchlorate 6850 Perchlorate 6850
Cali File: 102821_102921A.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A1	S1J0551-CCB2	2LM031325	N/A	CCB	10/29/2021 7:56:17 PM	1:01



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.93	89	1538359			5.000	ug/L	5.000	ug/L	

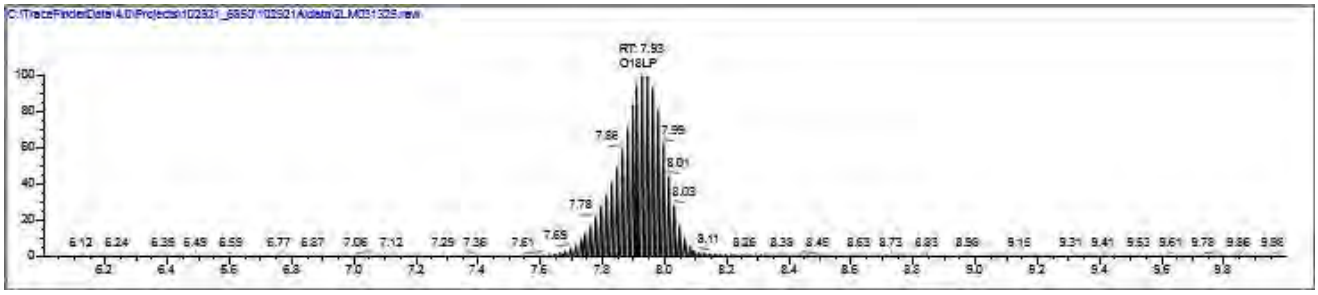
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.92	83	4739	Linear	0.003	0.032	ug/L	0.032	ug/L	I

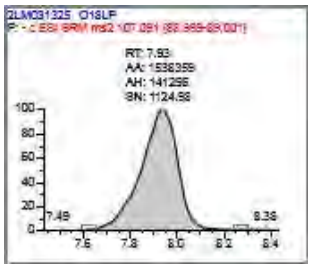
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

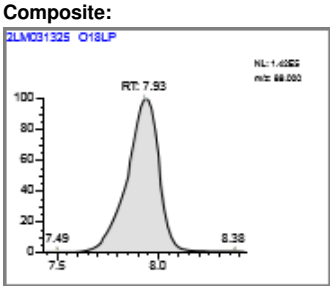
Data File:	2LM031325	Tune Report Date:	Tune report not found
Method:	102921A_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	10/29/2021 7:56:17 PM
		Cali File Date:	10/29/2021 1:22:57 PM
Cali File:	102821_102921A.calx	Operator ID:	CAS
Sample ID:	S1J0551-CCB2	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:A1
Comments:	1:01		



m/z 89.000



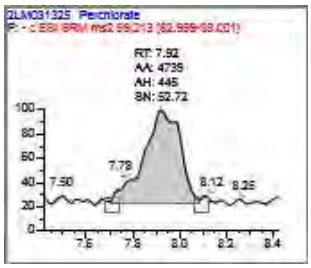
Composite:



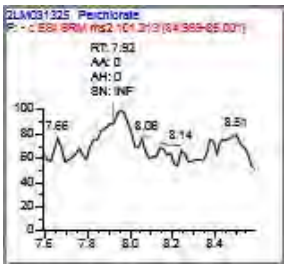
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.93	m/z 89.000	1538359	5.000		N/A

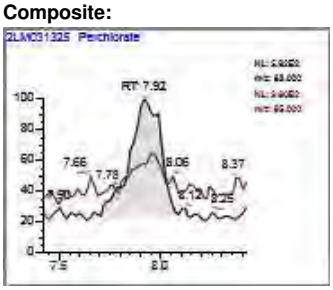
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio	
			N/A			
7.92	m/z 83.000	4739	0.032		N/A	I
7.92	m/z 85.000			25.89 - 38.83	*	

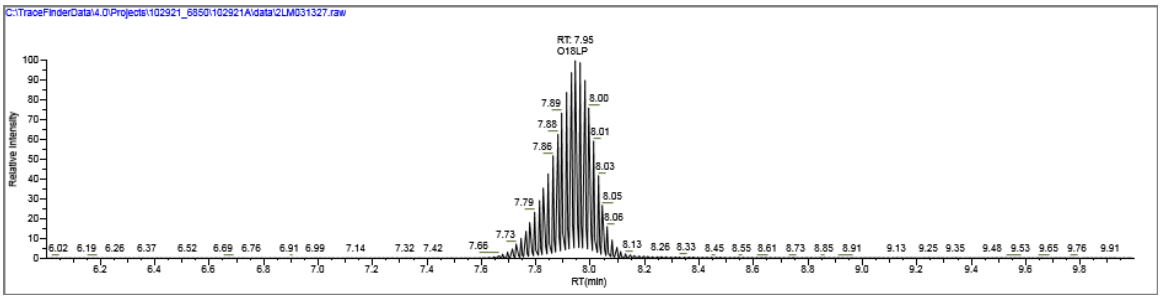
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 102921A

Method: 102921A_Perchlorate 6850 Perchlorate 6850
Cali File: 102821_102921A.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A5	S1J0551-CCV3	2LM031327	CCV	CCV 1.0 ug/L	10/29/2021 8:22:47 PM	1:1 0012466



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.95	89	1301444			5.000	ug/L	5.000	ug/L	

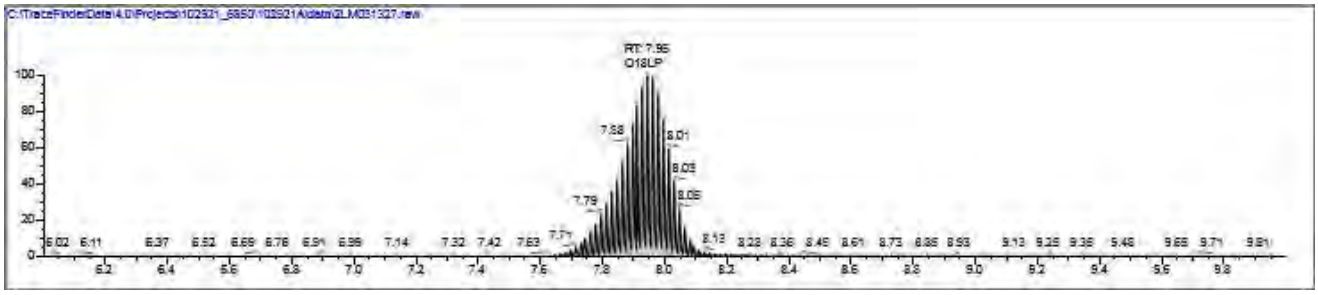
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.95	83	213342	Linear	0.164	0.954	ug/L	0.954	ug/L	

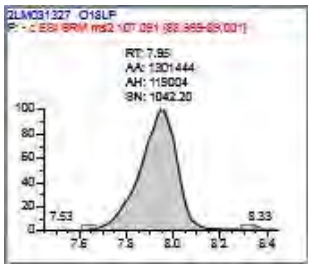
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

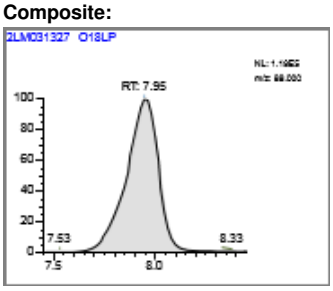
Data File:	2LM031327	Tune Report Date:	Tune report not found
Method:	102921A_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	10/29/2021 8:22:47 PM
Cali File:	102821_102921A.calx	Cali File Date:	10/29/2021 1:22:57 PM
Sample ID:	S1J0551-CCV3	Operator ID:	CAS
Diln Factor:	1.00	Instrument ID:	LCMS2
Comments:	1:1 0012466	Vial Number:	R:A5



m/z 89.000



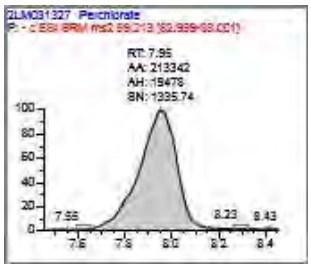
Composite:



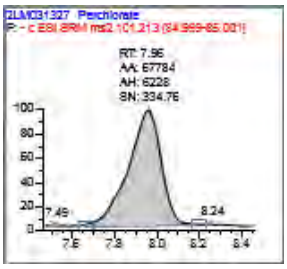
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.95	m/z 89.000	1301444	5.000		N/A

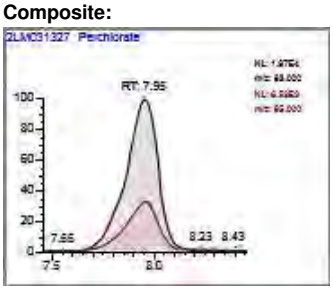
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			QC: 1.000	0.850 - 1.150	
7.95	m/z 83.000	213342	0.954		N/A
7.96	m/z 85.000	67784		25.89 - 38.83	31.77

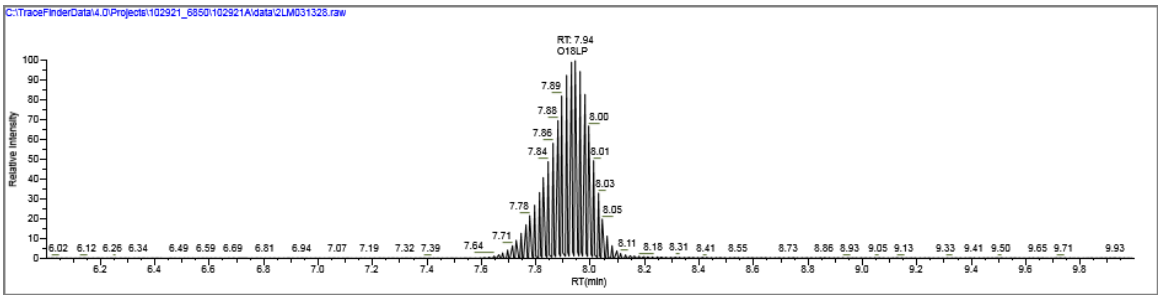
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 102921A

Method: 102921A_Perchlorate 6850
Perchlorate 6850
Cali File: 102821_102921A.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A3	S1J0551-CRL3	2LM031328	QCMRL	QCMRL 0.2 ug/L	10/29/2021 8:36:02 PM	1:1 0012468



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.94	89	1390676			5.000	ug/L	5.000	ug/L	

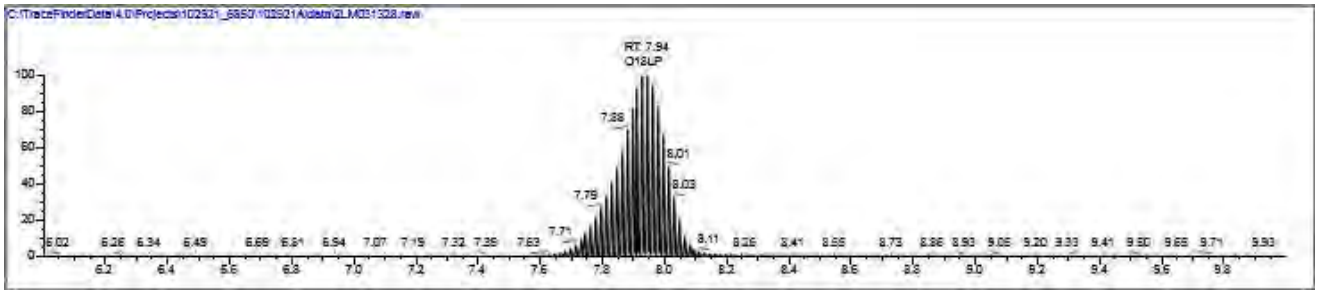
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.95	83	44714	Linear	0.032	0.198	ug/L	0.198	ug/L	

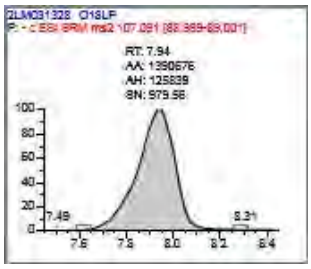
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

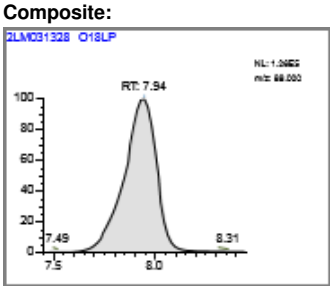
Data File:	2LM031328	Tune Report Date:	Tune report not found
Method:	102921A_Perchlorate 6850	Acquisition Date:	10/29/2021 8:36:02 PM
	Perchlorate 6850	Cali File Date:	10/29/2021 1:22:57 PM
Cali File:	102821_102921A.calx	Operator ID:	CAS
Sample ID:	S1J0551-CRL3	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:A3
Comments:	1:1 0012468		



m/z 89.000



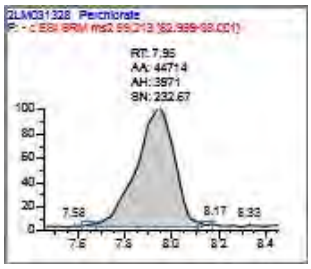
Composite:



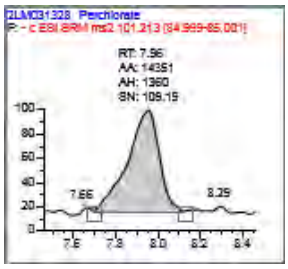
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.94	m/z 89.000	1390676	5.000		N/A

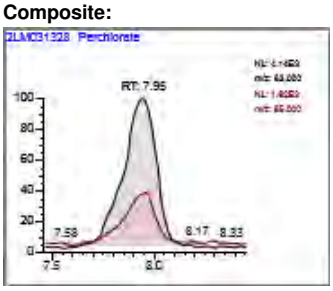
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			QC: 0.200	0.140 - 0.260	
7.95	m/z 83.000	44714	0.198		N/A
7.96	m/z 85.000	14351		25.89 - 38.83	32.09

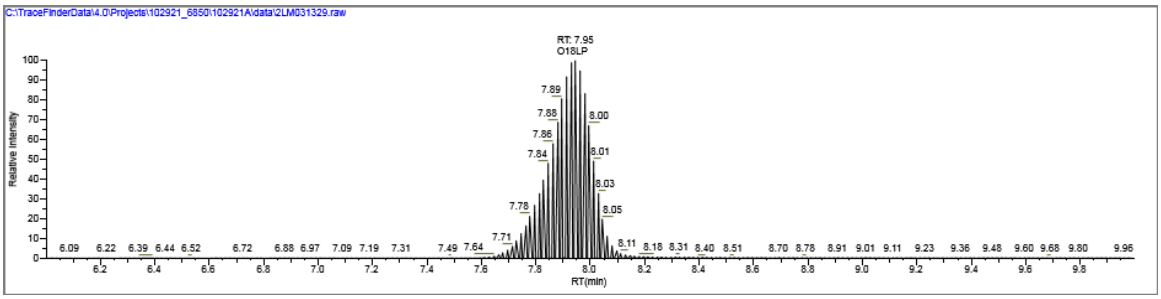
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 102921A

Method: 102921A_Perchlorate 6850 Perchlorate 6850
Cali File: 102821_102921A.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A1	S1J0551-CCB3	2LM031329	N/A	CCB	10/29/2021 8:49:17 PM	1:01



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.95	89	1340850			5.000	ug/L	5.000	ug/L	

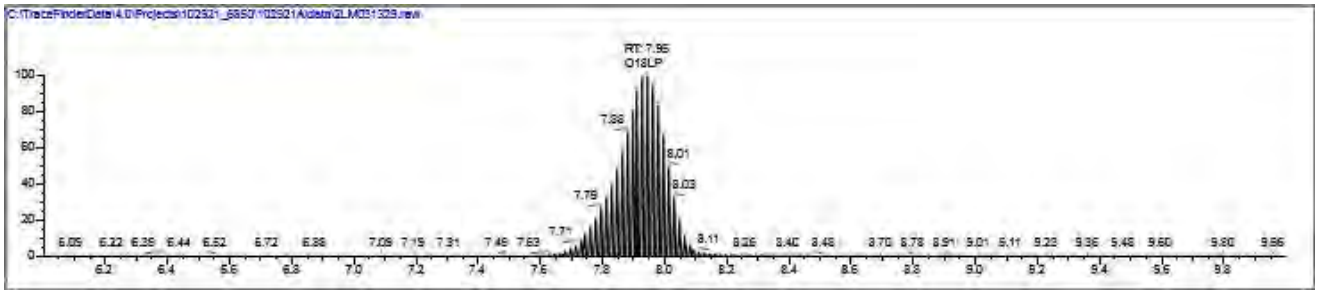
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.95	83	2955	Linear	0.002	0.027	ug/L	0.027	ug/L	I

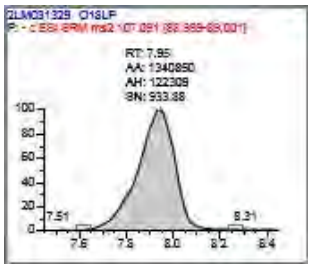
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

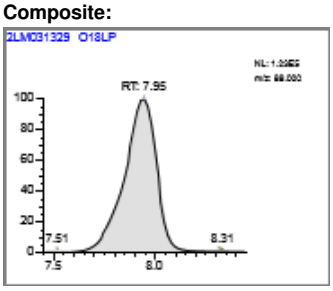
Data File:	2LM031329	Tune Report Date:	Tune report not found
Method:	102921A_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	10/29/2021 8:49:17 PM
		Cali File Date:	10/29/2021 1:22:57 PM
Cali File:	102821_102921A.calx	Operator ID:	CAS
Sample ID:	S1J0551-CCB3	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:A1
Comments:	1:01		



m/z 89.000



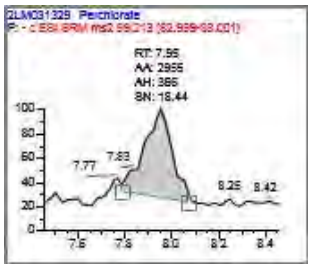
Composite:



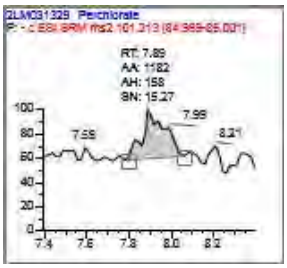
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.95	m/z 89.000	1340850	5.000		N/A

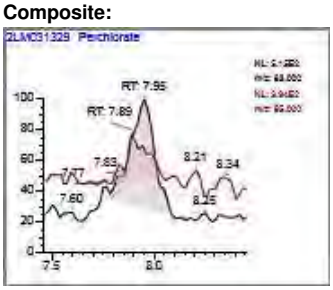
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio	
			N/A			
7.95	m/z 83.000	2955	0.027		N/A	I
7.89	m/z 85.000	1182		25.89 - 38.83	40 *	

Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

01171345

CHAIN OF CUSTODY

Name Of Lab Shipping To: Microbac 158 Starlite Drive Marietta, OH. 45750 (304) 299-4976 Cell (740)-373-4071 Office ATTN: Stephanie Mossburg

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

Project No. 501032

Job: LHAAP 16 October 2021

Prepared By: Scott Beesinger

P.O. Number

Field Sample I.D. / Time	Sample Matrix	Date / Time	MS / MSD	No. OF CONTAINERS	Analyses: Perchlorate by SW6850	Remarks (Preservatives, etc.)	Lab I.D.#
16WW58-211013	WG	10/13/21 / 0745		1	X		
16WW57-211013	WG	10/13/21 / 0835		1	X		
16WW16-211013	WG	10/13/21 / 0935		1	X		
16WW35-211013	WG	10/13/21 / 1025		1	X		
16WW36-211013	WG	10/13/21 / 1110		1	X		
16WW23-211013	WG	10/13/21 / 1205		1	X		
16WW24-211013	WG	10/13/21 / 1245		1	X		
16RW02-211013	WG	10/13/21 / 1325		1	X		

M 1 J 0 9 8 1

APTIM Tennessee
Rec'd: 10/15/2021 09:45
By: Stephanie Murphy
Temp: 2.4 (Signature)

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

Relinquished By:	Date	Time	Received By:	Date	Time	Relinquished By:	Date	Time	Received By:	Date	Time
Scott Beesinger	10/14/21	1430	Stephanie Murphy	10/15/21	0945						

For Lab Use Only

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

Remarks:

MICROBAC®

Work Order # M1J0981

COOLER TEMP >6° C LOG

SAMPLE ID	Bottle 1 °C	Bottle 2 °C	Bottle 3 °C	Bottle 4 °C	Bottle 5 °C	Bottle 6 °C

10/15/2021 SM

pH Lot # HA157843

pH Exceptions

SAMPLE ID	Bottle 1	Bottle 2	Bottle 3	Bottle 4	Bottle 5	Bottle 6

10/15/2021 SM

PRESERVATIVE EXCEPTIONS

✓ NONE

__ AS NOTED

10/15/2021 SM

Document Control # 1957
Last 04-10-2019

Issued to: Document Master File

MICROBAC®

Microbac Laboratories Inc., - Marietta, OH

Level IV QA/QC Data Package

Laboratory Report Number:

M1J1374

Client Project ID:

LHAAP

For:

Vicki Graves

APTIM Tennesee

2410 Cherahala BLVD

Knoxville, TN 37932

Project Requested Certification:

Microbac Laboratories Inc., - Marietta, OH	2936.01	American Association for Laboratory Accreditation

Project State of Origin: Texas

All test results meet the requirements of the QAPP and other applicable contract terms and conditions. Any exceptions are attached to this cover page or addressed in the method narratives presented in the report. I certify that all test results meet all of the requirements of the accrediting authority listed within this report. Analytical results are reported on a 'as received' basis unless specified otherwise. Analytical results for solids with units ending in (dry) are reported on a dry weight basis. A statement of uncertainty for each analysis is available upon request. This laboratory report shall not be reproduced, except in full, without the written approval of Microbac Laboratories. The reported results are related only to the samples analyzed as received. ***The services were provided under and subject to Microbac's standard terms and conditions which can be located and reviewed at <https://www.microbac.com/standard-terms-conditions>.***

Laboratory Project Manager:

Stephanie Mossburg

Stephanie Mossburg
Customer Relations Manager
Stephanie.Mossburg@microbac.com

Authorized By:

Stephanie Mossburg

Stephanie Mossburg
Customer Relations Manager
Issued: 12/06/2021

MICROBAC®

Laboratory Report Number: M1J1374

Client Project ID: LHAAP

Microbac Laboratories Inc., - Marietta, OH

Cooler Receipt Log

Cooler ID: Default Cooler Temp: 4.4 °C

Cooler Inspection Checklist

Ice Present or not required?	Yes	Shipping containers sealed or not required?	Yes
Custody seals intact or not required?	Yes	Chain of Custody (COC) Present?	Yes
COC includes customer information?	Yes	Relinquished and received signature on COC?	Yes
Sample collector identified on COC?	Yes	Sample type identified on COC?	Yes
Correct type of Containers Received	Yes	Correct number of containers listed on COC?	Yes
Containers Intact?	Yes	COC includes requested analyses?	Yes
Enough sample volume for indicated tests received?	Yes	Sample labels match COC (Name, Date & Time?)	Yes
Samples arrived within hold time?	Yes	Correct preservatives on COC or not required?	Yes
Chemical preservations checked or not required?	Yes	Preservation checks meet method requirements?	Yes
VOA vials have zero headspace, or not recd.?	Yes		

Table of Contents

Analysis Class (HPLC Organics) 9

Analysis (EPA 6850) 11

Form I, Certificate of Analysis (EPA 6850) 12

Form III, BS BSD MS MSD DUP Summary (EPA 6850) 47

Form IV, Blank Summary (EPA 6850) 52

Form VII, ICV CCV Summary (EPA 6850) 57

Form VIII, Internal Standard and RT Summary (EPA 6850) 86

Section A, Batch and Sequence Raw Data (EPA 6850) 97

Section B, Sample Raw Data (EPA 6850) 119

Section C, QC Sample Raw Data (EPA 6850) 188

Section D, Calibration Raw Data (EPA 6850) 205

Section E, Sequence Raw Data (EPA 6850) 212

Sample Summary

MICROBAC®

Sample Summary

Laboratory Report Number: M1J1374

Client Project ID: LHAAP

Microbac Laboratories Inc., - Marietta, OH

Client Sample ID:	Lab Sample ID:	Sampled:
16WW34-211018	M1J1374-01	10/18/21 08:00
16WW34-211018-FD	M1J1374-02	10/18/21 08:00
16WW33-211018	M1J1374-03	10/18/21 08:40
16WW32-211018	M1J1374-04	10/18/21 09:30
16WW31-211018	M1J1374-05	10/18/21 10:10
16WW46-211018	M1J1374-06	10/18/21 10:50
16WW27-211018	M1J1374-07	10/18/21 11:40
16WW43-211018	M1J1374-08	10/18/21 12:25
16RW05-211018	M1J1374-09	10/18/21 13:15
16WW56-211019	M1J1374-10	10/19/21 07:45
16WW22-211019	M1J1374-11	10/19/21 08:40
16WW41-211019	M1J1374-12	10/19/21 09:35
16WW21-211019	M1J1374-13	10/19/21 10:40
16WW48-211019	M1J1374-14	10/19/21 11:25
16WW49-211019	M1J1374-15	10/19/21 12:15
16WW51-211019	M1J1374-16	10/19/21 12:55
16IW09-211020	M1J1374-17	10/20/21 07:55
16IW10-211020	M1J1374-18	10/20/21 09:05
16EW01-211020	M1J1374-19	10/20/21 10:10
16EW03-211020	M1J1374-20	10/20/21 11:00
16EW02-211020	M1J1374-21	10/20/21 11:50
16EW04-211020	M1J1374-22	10/20/21 12:30
16EW08-211020	M1J1374-23	10/20/21 13:10
16RW04-211020	M1J1374-24	10/20/21 13:50
16RW11-211021	M1J1374-25	10/21/21 07:45
16RW11-211021-FD	M1J1374-26	10/21/21 07:45
16IW20-211021	M1J1374-27	10/21/21 08:25
16WW40-211021	M1J1374-28	10/21/21 09:10
16WW12-211021	M1J1374-29	10/21/21 10:00
16EW07-211021	M1J1374-30	10/21/21 10:45
16EW05-211021	M1J1374-31	10/21/21 11:30
16EW05-211021-FD	M1J1374-32	10/21/21 11:30
16EW06-211021	M1J1374-33	10/21/21 12:25
16IW03-211021	M1J1374-34	10/21/21 13:15

Holding Time Summary

MICROBAC®

Specific Method: EPA 6850 **Hold Time**

Laboratory Report Number: M1J1374

Matrix: Aqueous

Client Project ID: LHAAP

Microbac Laboratories Inc., - Marietta, OH

Laboratory ID	Date Collected	Date Received	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
16WW34-211018	10/18/21 08:00	10/22/21 09:40	11/07/21 15:26	20.31	28.00	
16WW34-211018-FD	10/18/21 08:00	10/22/21 09:40	11/07/21 15:39	20.32	28.00	
16WW33-211018	10/18/21 08:40	10/22/21 09:40	11/07/21 15:52	20.30	28.00	
16WW32-211018	10/18/21 09:30	10/22/21 09:40	11/07/21 16:06	20.28	28.00	
16WW31-211018	10/18/21 10:10	10/22/21 09:40	11/07/21 16:19	20.26	28.00	
16WW46-211018	10/18/21 10:50	10/22/21 09:40	11/07/21 16:32	20.24	28.00	
16WW27-211018	10/18/21 11:40	10/22/21 09:40	11/07/21 16:45	20.21	28.00	
16WW43-211018	10/18/21 12:25	10/22/21 09:40	11/07/21 17:38	20.22	28.00	
16RW05-211018	10/18/21 13:15	10/22/21 09:40	11/07/21 17:52	20.19	28.00	
16WW56-211019	10/19/21 07:45	10/22/21 09:40	11/07/21 18:05	19.43	28.00	
16WW22-211019	10/19/21 08:40	10/22/21 09:40	11/11/21 16:35	23.33	28.00	
16WW41-211019	10/19/21 09:35	10/22/21 09:40	11/11/21 16:48	23.30	28.00	
16WW21-211019	10/19/21 10:40	10/22/21 09:40	11/07/21 19:11	19.36	28.00	
16WW48-211019	10/19/21 11:25	10/22/21 09:40	11/11/21 17:01	23.23	28.00	
16WW49-211019	10/19/21 12:15	10/22/21 09:40	11/07/21 19:38	19.31	28.00	
16WW51-211019	10/19/21 12:55	10/22/21 09:40	11/07/21 20:31	19.32	28.00	
16IW09-211020	10/20/21 07:55	10/22/21 09:40	11/07/21 20:44	18.53	28.00	
16IW10-211020	10/20/21 09:05	10/22/21 09:40	11/11/21 17:41	22.36	28.00	
16EW01-211020	10/20/21 10:10	10/22/21 09:40	11/11/21 18:21	22.34	28.00	
16EW03-211020	10/20/21 11:00	10/22/21 09:40	11/11/21 19:14	22.34	28.00	
16EW02-211020	10/20/21 11:50	10/22/21 09:40	11/11/21 19:27	22.32	28.00	
16EW04-211020	10/20/21 12:30	10/22/21 09:40	11/11/21 19:40	22.30	28.00	

* - Holding time exceeded.

MICROBAC®

16EW08-211020	10/20/21 13:10	10/22/21 09:40	11/11/21 19:53	22.28	28.00	
16RW04-211020	10/20/21 13:50	10/22/21 09:40	11/11/21 20:07	22.26	28.00	
16RW11-211021	10/21/21 07:45	10/22/21 09:40	11/11/21 20:20	21.52	28.00	
16RW11-211021-FD	10/21/21 07:45	10/22/21 09:40	11/11/21 20:33	21.53	28.00	
16IW20-211021	10/21/21 08:25	10/22/21 09:40	11/11/21 20:46	21.52	28.00	
16WW40-211021	10/21/21 09:10	10/22/21 09:40	11/11/21 21:00	21.49	28.00	
16WW12-211021	10/21/21 10:00	10/22/21 09:40	11/11/21 21:13	21.47	28.00	
16EW07-211021	10/21/21 10:45	10/22/21 09:40	11/11/21 22:06	21.47	28.00	
16EW05-211021	10/21/21 11:30	10/22/21 09:40	11/11/21 22:19	21.45	28.00	
16EW05-211021-FD	10/21/21 11:30	10/22/21 09:40	11/11/21 22:32	21.46	28.00	
16EW06-211021	10/21/21 12:25	10/22/21 09:40	11/12/21 10:54	21.94	28.00	
16IW03-211021	10/21/21 13:15	10/22/21 09:40	11/11/21 22:59	21.41	28.00	

* - Holding time exceeded.

MICROBAC®

Analysis Class

HPLC Organics

Microbac Laboratories, Inc.
158 Starlite Drive | Marietta, OH 45750 | 800.373.4071 | www.microbac.com

MICROBAC®

HPLC Organics - Class Narrative and Notes

All test results meet the requirements of the QAPP and other applicable contract terms and conditions . Any exceptions are listed below in the sample and qc notes sections. Analytical results are reported on a 'as received' basis unless specified otherwise. Analytical results for solids with units ending in (dry) are reported on a dry weight basis. A statement of uncertainty for each analysis is available upon request.

Sample Notes

EPA 6850

D3 **Dilution was performed due to high target analyte concentration.**

M1J1374-12	16WW41-211019	M1J1374-14	16WW48-211019
M1J1374-19	16EW01-211020	M1J1374-29	16WW12-211021

AC **Sample result was set to zero. This sample's Ion Ratio was not within acceptance limits.**

Perchlorate

M1J1374-33	16EW06-211021

I1 **Internal standard was outside of acceptance limits.**

O18LP

M1J1374-33	16EW06-211021

QC Sample Notes

U **The analyte was analyzed for but was not detected above the reported quantitation limit. The quantitation limit has been adjusted for any dilution or concentration of the sample.**

EPA 6850

Perchlorate

S1K0152-CCB1	Calibration Blank	S1K0152-CCB2	Calibration Blank
S1K0152-CCB3	Calibration Blank	S1K0152-CCB4	Calibration Blank
S1K0152-CCB5	Calibration Blank	S1K0152-CCB6	Calibration Blank
S1K0152-ICB1	Initial Cal Blank	S1K0230-CCB1	Calibration Blank
S1K0230-CCB2	Calibration Blank		

MICROBAC®

HPLC Organics
EPA 6850

Microbac Laboratories, Inc.
158 Starlite Drive | Marietta, OH 45750 | 800.373.4071 | www.microbac.com

MICROBAC®

FORM I:
HPLC Organics
EPA 6850
RESULTS SUMMARY

Microbac Laboratories, Inc.
158 Starlite Drive | Marietta, OH 45750 | 800.373.4071 | www.microbac.com

MICROBAC®

Laboratory Report Number: M1J1374

CERTIFICATE OF ANALYSIS
FORM I

Client Project ID: LHAAP

Microbac Laboratories Inc., - Marietta, OH

Perchlorate by LCMS

Client ID:	16WW34-211018			**Collection Date:**	10/18/2021 08:00
Laboratory ID:	M1J1374-01			**Prep Date:**	11/03/2021 12:56
Matrix:	Aqueous			**Analyzed:**	11/07/2021 15:26
Batch / Sequence:	B1K0219 / S1K0132	**Analytical Method:**	EPA 6850	**Calibration:**	21K0013
Instrument:	LCMS2	**Units:**	ug/L	**File ID:**	2LM031686
Analyst:	CAS	**Dilution:**	1		

Analyte	CAS Number	Result	DL	LOD	LOQ	Flag	Qual
Perchlorate	14797-73-0	0.200	0.100	0.200	0.400	U	

Notes and Definitions

DL: Detection Limit
LOD: Limit of Detection
LOQ: Limit of Quantitation
U: The analyte was analyzed for but was not detected above the reported quantitation limit. The quantitation limit has been adjusted for any dilution or concentration of the sample.
ug/L: Micrograms per Liter

MICROBAC®

Laboratory Report Number: M1J1374

CERTIFICATE OF ANALYSIS
FORM I

Client Project ID: LHAAP

Microbac Laboratories Inc., - Marietta, OH

Perchlorate by LCMS

Client ID:	16WW34-211018-FD			**Collection Date:**	10/18/2021 08:00
Laboratory ID:	M1J1374-02			**Prep Date:**	11/03/2021 12:56
Matrix:	Aqueous			**Analyzed:**	11/07/2021 15:39
Batch / Sequence:	B1K0219 / S1K0132	**Analytical Method:**	EPA 6850	**Calibration:**	21K0013
Instrument:	LCMS2	**Units:**	ug/L	**File ID:**	2LM031687
Analyst:	CAS	**Dilution:**	1		

Analyte	CAS Number	Result	DL	LOD	LOQ	Flag	Qual
Perchlorate	14797-73-0	0.200	0.100	0.200	0.400	U	

Notes and Definitions

DL: Detection Limit
LOD: Limit of Detection
LOQ: Limit of Quantitation
U: The analyte was analyzed for but was not detected above the reported quantitation limit. The quantitation limit has been adjusted for any dilution or concentration of the sample.
ug/L: Micrograms per Liter

MICROBAC®

Laboratory Report Number: M1J1374

CERTIFICATE OF ANALYSIS
FORM I

Client Project ID: LHAAP

Microbac Laboratories Inc., - Marietta, OH

Perchlorate by LCMS

Client ID:	16WW33-211018			**Collection Date:**	10/18/2021 08:40
Laboratory ID:	M1J1374-03			**Prep Date:**	11/03/2021 12:56
Matrix:	Aqueous			**Analyzed:**	11/07/2021 15:52
Batch / Sequence:	B1K0219 / S1K0132	**Analytical Method:**	EPA 6850	**Calibration:**	21K0013
Instrument:	LCMS2	**Units:**	ug/L	**File ID:**	2LM031688
Analyst:	CAS	**Dilution:**	1		

Analyte	CAS Number	Result	DL	LOD	LOQ	Flag	Qual
Perchlorate	14797-73-0	0.200	0.100	0.200	0.400	U	

Notes and Definitions

DL: Detection Limit
LOD: Limit of Detection
LOQ: Limit of Quantitation
U: The analyte was analyzed for but was not detected above the reported quantitation limit. The quantitation limit has been adjusted for any dilution or concentration of the sample.
ug/L: Micrograms per Liter

MICROBAC®

Laboratory Report Number: M1J1374

CERTIFICATE OF ANALYSIS
FORM I

Client Project ID: LHAAP

Microbac Laboratories Inc., - Marietta, OH

Perchlorate by LCMS

Client ID:	16WW32-211018			**Collection Date:**	10/18/2021 09:30
Laboratory ID:	M1J1374-04			**Prep Date:**	11/03/2021 12:56
Matrix:	Aqueous			**Analyzed:**	11/07/2021 16:06
Batch / Sequence:	B1K0219 / S1K0132	**Analytical Method:**	EPA 6850	**Calibration:**	21K0013
Instrument:	LCMS2	**Units:**	ug/L	**File ID:**	2LM031689
Analyst:	CAS	**Dilution:**	1		

Analyte	CAS Number	Result	DL	LOD	LOQ	Flag	Qual
Perchlorate	14797-73-0	0.200	0.100	0.200	0.400	U	

Notes and Definitions

DL: Detection Limit
LOD: Limit of Detection
LOQ: Limit of Quantitation
U: The analyte was analyzed for but was not detected above the reported quantitation limit. The quantitation limit has been adjusted for any dilution or concentration of the sample.
ug/L: Micrograms per Liter

MICROBAC®

Laboratory Report Number: M1J1374

CERTIFICATE OF ANALYSIS
FORM I

Client Project ID: LHAAP

Microbac Laboratories Inc., - Marietta, OH

Perchlorate by LCMS

Client ID:	16WW31-211018			**Collection Date:**	10/18/2021 10:10
Laboratory ID:	M1J1374-05			**Prep Date:**	11/03/2021 12:56
Matrix:	Aqueous			**Analyzed:**	11/07/2021 16:19
Batch / Sequence:	B1K0219 / S1K0132	**Analytical Method:**	EPA 6850	**Calibration:**	21K0013
Instrument:	LCMS2	**Units:**	ug/L	**File ID:**	2LM031690
Analyst:	CAS	**Dilution:**	1		

Analyte	CAS Number	Result	DL	LOD	LOQ	Flag	Qual
Perchlorate	14797-73-0	0.200	0.100	0.200	0.400	U	

Notes and Definitions

DL: Detection Limit
LOD: Limit of Detection
LOQ: Limit of Quantitation
U: The analyte was analyzed for but was not detected above the reported quantitation limit. The quantitation limit has been adjusted for any dilution or concentration of the sample.
ug/L: Micrograms per Liter

MICROBAC®

Laboratory Report Number: M1J1374

CERTIFICATE OF ANALYSIS
FORM I

Client Project ID: LHAAP

Microbac Laboratories Inc., - Marietta, OH

Perchlorate by LCMS

Client ID:	16WW46-211018			**Collection Date:**	10/18/2021 10:50
Laboratory ID:	M1J1374-06			**Prep Date:**	11/03/2021 12:56
Matrix:	Aqueous			**Analyzed:**	11/07/2021 16:32
Batch / Sequence:	B1K0219 / S1K0132	**Analytical Method:**	EPA 6850	**Calibration:**	21K0013
Instrument:	LCMS2	**Units:**	ug/L	**File ID:**	2LM031691
Analyst:	CAS	**Dilution:**	1		

Analyte	CAS Number	Result	DL	LOD	LOQ	Flag	Qual
Perchlorate	14797-73-0	0.200	0.100	0.200	0.400	U	

Notes and Definitions

DL: Detection Limit
LOD: Limit of Detection
LOQ: Limit of Quantitation
U: The analyte was analyzed for but was not detected above the reported quantitation limit. The quantitation limit has been adjusted for any dilution or concentration of the sample.
ug/L: Micrograms per Liter

MICROBAC®

Laboratory Report Number: M1J1374

CERTIFICATE OF ANALYSIS
FORM I

Client Project ID: LHAAP

Microbac Laboratories Inc., - Marietta, OH

Perchlorate by LCMS

Client ID:	16WW27-211018			**Collection Date:**	10/18/2021 11:40
Laboratory ID:	M1J1374-07			**Prep Date:**	11/03/2021 12:56
Matrix:	Aqueous			**Analyzed:**	11/07/2021 16:45
Batch / Sequence:	B1K0219 / S1K0132	**Analytical Method:**	EPA 6850	**Calibration:**	21K0013
Instrument:	LCMS2	**Units:**	ug/L	**File ID:**	2LM031692
Analyst:	CAS	**Dilution:**	1		

Analyte	CAS Number	Result	DL	LOD	LOQ	Flag	Qual
Perchlorate	14797-73-0	0.200	0.100	0.200	0.400	U	

Notes and Definitions

DL: Detection Limit
LOD: Limit of Detection
LOQ: Limit of Quantitation
U: The analyte was analyzed for but was not detected above the reported quantitation limit. The quantitation limit has been adjusted for any dilution or concentration of the sample.
ug/L: Micrograms per Liter

MICROBAC®

Laboratory Report Number: M1J1374

CERTIFICATE OF ANALYSIS
FORM I

Client Project ID: LHAAP

Microbac Laboratories Inc., - Marietta, OH

Perchlorate by LCMS

Client ID:	16WW43-211018			**Collection Date:**	10/18/2021 12:25
Laboratory ID:	M1J1374-08			**Prep Date:**	11/03/2021 12:56
Matrix:	Aqueous			**Analyzed:**	11/07/2021 17:38
Batch / Sequence:	B1K0219 / S1K0132	**Analytical Method:**	EPA 6850	**Calibration:**	21K0013
Instrument:	LCMS2	**Units:**	ug/L	**File ID:**	2LM031696
Analyst:	CAS	**Dilution:**	1		

Analyte	CAS Number	Result	DL	LOD	LOQ	Flag	Qual
Perchlorate	14797-73-0	0.200	0.100	0.200	0.400	U	

Notes and Definitions

DL: Detection Limit
LOD: Limit of Detection
LOQ: Limit of Quantitation
U: The analyte was analyzed for but was not detected above the reported quantitation limit. The quantitation limit has been adjusted for any dilution or concentration of the sample.
ug/L: Micrograms per Liter

MICROBAC®

Laboratory Report Number: M1J1374

CERTIFICATE OF ANALYSIS
FORM I

Client Project ID: LHAAP

Microbac Laboratories Inc., - Marietta, OH

Perchlorate by LCMS

Client ID:	16RW05-211018			**Collection Date:**	10/18/2021 13:15
Laboratory ID:	M1J1374-09			**Prep Date:**	11/03/2021 12:56
Matrix:	Aqueous			**Analyzed:**	11/07/2021 17:52
Batch / Sequence:	B1K0219 / S1K0132	**Analytical Method:**	EPA 6850	**Calibration:**	21K0013
Instrument:	LCMS2	**Units:**	ug/L	**File ID:**	2LM031697
Analyst:	CAS	**Dilution:**	1		

Analyte	CAS Number	Result	DL	LOD	LOQ	Flag	Qual
Perchlorate	14797-73-0	0.200	0.100	0.200	0.400	U	

Notes and Definitions

DL: Detection Limit
LOD: Limit of Detection
LOQ: Limit of Quantitation
U: The analyte was analyzed for but was not detected above the reported quantitation limit. The quantitation limit has been adjusted for any dilution or concentration of the sample.
ug/L: Micrograms per Liter

MICROBAC®

Laboratory Report Number: M1J1374

CERTIFICATE OF ANALYSIS
FORM I

Client Project ID: LHAAP

Microbac Laboratories Inc., - Marietta, OH

Perchlorate by LCMS

Client ID:	16WW56-211019			**Collection Date:**	10/19/2021 07:45
Laboratory ID:	M1J1374-10			**Prep Date:**	11/03/2021 12:56
Matrix:	Aqueous			**Analyzed:**	11/07/2021 18:05
Batch / Sequence:	B1K0219 / S1K0132	**Analytical Method:**	EPA 6850	**Calibration:**	21K0013
Instrument:	LCMS2	**Units:**	ug/L	**File ID:**	2LM031698
Analyst:	CAS	**Dilution:**	1		

Analyte	CAS Number	Result	DL	LOD	LOQ	Flag	Qual
Perchlorate	14797-73-0	0.200	0.100	0.200	0.400	U	

Notes and Definitions

DL: Detection Limit
LOD: Limit of Detection
LOQ: Limit of Quantitation
U: The analyte was analyzed for but was not detected above the reported quantitation limit. The quantitation limit has been adjusted for any dilution or concentration of the sample.
ug/L: Micrograms per Liter

MICROBAC®

Laboratory Report Number: M1J1374

CERTIFICATE OF ANALYSIS
FORM I

Client Project ID: LHAAP

Microbac Laboratories Inc., - Marietta, OH

Perchlorate by LCMS

Client ID:	16WW22-211019			**Collection Date:**	10/19/2021 08:40
Laboratory ID:	M1J1374-11			**Prep Date:**	11/03/2021 12:56
Matrix:	Aqueous			**Analyzed:**	11/11/2021 16:35
Batch / Sequence:	B1K0219 / S1K0152	**Analytical Method:**	EPA 6850	**Calibration:**	21K0019
Instrument:	LCMS2	**Units:**	ug/L	**File ID:**	2LM032035
Analyst:	CAS	**Dilution:**	1		

Analyte	CAS Number	Result	DL	LOD	LOQ	Flag	Qual
Perchlorate	14797-73-0	0.486	0.100	0.200	0.400		

Notes and Definitions

DL: Detection Limit
LOD: Limit of Detection
LOQ: Limit of Quantitation
ug/L: Micrograms per Liter

MICROBAC®

Laboratory Report Number: M1J1374

CERTIFICATE OF ANALYSIS
FORM I

Client Project ID: LHAAP

Microbac Laboratories Inc., - Marietta, OH

Perchlorate by LCMS

Client ID:	16WW41-211019			**Collection Date:**	10/19/2021 09:35
Laboratory ID:	M1J1374-12			**Prep Date:**	11/03/2021 12:56
Matrix:	Aqueous			**Analyzed:**	11/11/2021 16:48
Batch / Sequence:	B1K0219 / S1K0152	**Analytical Method:**	EPA 6850	**Calibration:**	21K0019
Instrument:	LCMS2	**Units:**	ug/L	**File ID:**	2LM032036
Analyst:	CAS	**Dilution:**	100		

Sample Notes: D3

Analyte	CAS Number	Result	DL	LOD	LOQ	Flag	Qual
Perchlorate	14797-73-0	66.5	10.0	20.0	40.0		

Notes and Definitions

DL: Detection Limit
LOD: Limit of Detection
LOQ: Limit of Quantitation
D3: Dilution was performed due to high target analyte concentration.
ug/L: Micrograms per Liter

MICROBAC®

Laboratory Report Number: M1J1374

CERTIFICATE OF ANALYSIS
FORM I

Client Project ID: LHAAP

Microbac Laboratories Inc., - Marietta, OH

Perchlorate by LCMS

Client ID:	16WW21-211019			**Collection Date:**	10/19/2021 10:40
Laboratory ID:	M1J1374-13			**Prep Date:**	11/03/2021 12:56
Matrix:	Aqueous			**Analyzed:**	11/07/2021 19:11
Batch / Sequence:	B1K0219 / S1K0132	**Analytical Method:**	EPA 6850	**Calibration:**	21K0013
Instrument:	LCMS2	**Units:**	ug/L	**File ID:**	2LM031703
Analyst:	CAS	**Dilution:**	1		

Analyte	CAS Number	Result	DL	LOD	LOQ	Flag	Qual
Perchlorate	14797-73-0	0.200	0.100	0.200	0.400	U	

Notes and Definitions

DL: Detection Limit
LOD: Limit of Detection
LOQ: Limit of Quantitation
U: The analyte was analyzed for but was not detected above the reported quantitation limit. The quantitation limit has been adjusted for any dilution or concentration of the sample.
ug/L: Micrograms per Liter

MICROBAC®

Laboratory Report Number: M1J1374

CERTIFICATE OF ANALYSIS
FORM I

Client Project ID: LHAAP

Microbac Laboratories Inc., - Marietta, OH

Perchlorate by LCMS

Client ID:	16WW48-211019			**Collection Date:**	10/19/2021 11:25
Laboratory ID:	M1J1374-14			**Prep Date:**	11/03/2021 12:56
Matrix:	Aqueous			**Analyzed:**	11/11/2021 17:01
Batch / Sequence:	B1K0219 / S1K0152	**Analytical Method:**	EPA 6850	**Calibration:**	21K0019
Instrument:	LCMS2	**Units:**	ug/L	**File ID:**	2LM032037
Analyst:	CAS	**Dilution:**	10		

Sample Notes: D3

Analyte	CAS Number	Result	DL	LOD	LOQ	Flag	Qual
Perchlorate	14797-73-0	37.9	1.00	2.00	4.00		

Notes and Definitions

DL: Detection Limit
LOD: Limit of Detection
LOQ: Limit of Quantitation
D3: Dilution was performed due to high target analyte concentration.
ug/L: Micrograms per Liter

MICROBAC®

Laboratory Report Number: M1J1374

CERTIFICATE OF ANALYSIS
FORM I

Client Project ID: LHAAP

Microbac Laboratories Inc., - Marietta, OH

Perchlorate by LCMS

Client ID:	16WW49-211019			**Collection Date:**	10/19/2021 12:15
Laboratory ID:	M1J1374-15			**Prep Date:**	11/03/2021 12:56
Matrix:	Aqueous			**Analyzed:**	11/07/2021 19:38
Batch / Sequence:	B1K0219 / S1K0132	**Analytical Method:**	EPA 6850	**Calibration:**	21K0013
Instrument:	LCMS2	**Units:**	ug/L	**File ID:**	2LM031705
Analyst:	CAS	**Dilution:**	1		

Analyte	CAS Number	Result	DL	LOD	LOQ	Flag	Qual
Perchlorate	14797-73-0	0.200	0.100	0.200	0.400	U	

Notes and Definitions

DL: Detection Limit
LOD: Limit of Detection
LOQ: Limit of Quantitation
U: The analyte was analyzed for but was not detected above the reported quantitation limit. The quantitation limit has been adjusted for any dilution or concentration of the sample.
ug/L: Micrograms per Liter

MICROBAC®

Laboratory Report Number: M1J1374

CERTIFICATE OF ANALYSIS
FORM I

Client Project ID: LHAAP

Microbac Laboratories Inc., - Marietta, OH

Perchlorate by LCMS

Client ID:	16WW51-211019			**Collection Date:**	10/19/2021 12:55
Laboratory ID:	M1J1374-16			**Prep Date:**	11/03/2021 12:56
Matrix:	Aqueous			**Analyzed:**	11/07/2021 20:31
Batch / Sequence:	B1K0219 / S1K0132	**Analytical Method:**	EPA 6850	**Calibration:**	21K0013
Instrument:	LCMS2	**Units:**	ug/L	**File ID:**	2LM031709
Analyst:	CAS	**Dilution:**	1		

Analyte	CAS Number	Result	DL	LOD	LOQ	Flag	Qual
Perchlorate	14797-73-0	0.200	0.100	0.200	0.400	U	

Notes and Definitions

DL: Detection Limit
LOD: Limit of Detection
LOQ: Limit of Quantitation
U: The analyte was analyzed for but was not detected above the reported quantitation limit. The quantitation limit has been adjusted for any dilution or concentration of the sample.
ug/L: Micrograms per Liter

MICROBAC®

Laboratory Report Number: M1J1374

CERTIFICATE OF ANALYSIS
FORM I

Client Project ID: LHAAP

Microbac Laboratories Inc., - Marietta, OH

Perchlorate by LCMS

Client ID:	16IW09-211020			**Collection Date:**	10/20/2021 07:55
Laboratory ID:	M1J1374-17			**Prep Date:**	11/03/2021 12:56
Matrix:	Aqueous			**Analyzed:**	11/07/2021 20:44
Batch / Sequence:	B1K0219 / S1K0132	**Analytical Method:**	EPA 6850	**Calibration:**	21K0013
Instrument:	LCMS2	**Units:**	ug/L	**File ID:**	2LM031710
Analyst:	CAS	**Dilution:**	1		

Analyte	CAS Number	Result	DL	LOD	LOQ	Flag	Qual
Perchlorate	14797-73-0	0.200	0.100	0.200	0.400	U	

Notes and Definitions

DL: Detection Limit
LOD: Limit of Detection
LOQ: Limit of Quantitation
U: The analyte was analyzed for but was not detected above the reported quantitation limit. The quantitation limit has been adjusted for any dilution or concentration of the sample.
ug/L: Micrograms per Liter

MICROBAC®

Laboratory Report Number: M1J1374

CERTIFICATE OF ANALYSIS
FORM I

Client Project ID: LHAAP

Microbac Laboratories Inc., - Marietta, OH

Perchlorate by LCMS

Client ID:	16IW10-211020			**Collection Date:**	10/20/2021 09:05
Laboratory ID:	M1J1374-18			**Prep Date:**	11/03/2021 12:58
Matrix:	Aqueous			**Analyzed:**	11/11/2021 17:41
Batch / Sequence:	B1K0220 / S1K0152	**Analytical Method:**	EPA 6850	**Calibration:**	21K0019
Instrument:	LCMS2	**Units:**	ug/L	**File ID:**	2LM032040
Analyst:	CAS	**Dilution:**	1		

Analyte	CAS Number	Result	DL	LOD	LOQ	Flag	Qual
Perchlorate	14797-73-0	0.200	0.100	0.200	0.400	U	

Notes and Definitions

DL: Detection Limit
LOD: Limit of Detection
LOQ: Limit of Quantitation
U: The analyte was analyzed for but was not detected above the reported quantitation limit. The quantitation limit has been adjusted for any dilution or concentration of the sample.
ug/L: Micrograms per Liter

MICROBAC®

Laboratory Report Number: M1J1374

CERTIFICATE OF ANALYSIS
FORM I

Client Project ID: LHAAP

Microbac Laboratories Inc., - Marietta, OH

Perchlorate by LCMS

Client ID:	16EW01-211020			**Collection Date:**	10/20/2021 10:10
Laboratory ID:	M1J1374-19			**Prep Date:**	11/03/2021 12:58
Matrix:	Aqueous			**Analyzed:**	11/11/2021 18:21
Batch / Sequence:	B1K0220 / S1K0152	**Analytical Method:**	EPA 6850	**Calibration:**	21K0019
Instrument:	LCMS2	**Units:**	ug/L	**File ID:**	2LM032043
Analyst:	CAS	**Dilution:**	10		

Sample Notes: D3

Analyte	CAS Number	Result	DL	LOD	LOQ	Flag	Qual
Perchlorate	14797-73-0	40.3	1.00	2.00	4.00		

Notes and Definitions

DL: Detection Limit
LOD: Limit of Detection
LOQ: Limit of Quantitation
D3: Dilution was performed due to high target analyte concentration.
ug/L: Micrograms per Liter

MICROBAC®

Laboratory Report Number: M1J1374

CERTIFICATE OF ANALYSIS
FORM I

Client Project ID: LHAAP

Microbac Laboratories Inc., - Marietta, OH

Perchlorate by LCMS

Client ID:	16EW03-211020			**Collection Date:**	10/20/2021 11:00
Laboratory ID:	M1J1374-20			**Prep Date:**	11/03/2021 12:58
Matrix:	Aqueous			**Analyzed:**	11/11/2021 19:14
Batch / Sequence:	B1K0220 / S1K0152	**Analytical Method:**	EPA 6850	**Calibration:**	21K0019
Instrument:	LCMS2	**Units:**	ug/L	**File ID:**	2LM032047
Analyst:	CAS	**Dilution:**	1		

Analyte	CAS Number	Result	DL	LOD	LOQ	Flag	Qual
Perchlorate	14797-73-0	0.200	0.100	0.200	0.400	U	

Notes and Definitions

DL: Detection Limit
LOD: Limit of Detection
LOQ: Limit of Quantitation
U: The analyte was analyzed for but was not detected above the reported quantitation limit. The quantitation limit has been adjusted for any dilution or concentration of the sample.
ug/L: Micrograms per Liter

MICROBAC®

Laboratory Report Number: M1J1374

Client Project ID: LHAAP

Microbac Laboratories Inc., - Marietta, OH

Perchlorate by LCMS

CERTIFICATE OF ANALYSIS
FORM I

Client ID:	16EW02-211020			**Collection Date:**	10/20/2021 11:50
Laboratory ID:	M1J1374-21			**Prep Date:**	11/03/2021 12:58
Matrix:	Aqueous			**Analyzed:**	11/11/2021 19:27
Batch / Sequence:	B1K0220 / S1K0152	**Analytical Method:**	EPA 6850	**Calibration:**	21K0019
Instrument:	LCMS2	**Units:**	ug/L	**File ID:**	2LM032048
Analyst:	CAS	**Dilution:**	1		

Analyte	CAS Number	Result	DL	LOD	LOQ	Flag	Qual
Perchlorate	14797-73-0	2.53	0.100	0.200	0.400		

Notes and Definitions

DL: Detection Limit
LOD: Limit of Detection
LOQ: Limit of Quantitation
ug/L: Micrograms per Liter

MICROBAC®

Laboratory Report Number: M1J1374

CERTIFICATE OF ANALYSIS
FORM I

Client Project ID: LHAAP

Microbac Laboratories Inc., - Marietta, OH

Perchlorate by LCMS

Client ID:	16EW04-211020			**Collection Date:**	10/20/2021 12:30
Laboratory ID:	M1J1374-22			**Prep Date:**	11/03/2021 12:58
Matrix:	Aqueous			**Analyzed:**	11/11/2021 19:40
Batch / Sequence:	B1K0220 / S1K0152	**Analytical Method:**	EPA 6850	**Calibration:**	21K0019
Instrument:	LCMS2	**Units:**	ug/L	**File ID:**	2LM032049
Analyst:	CAS	**Dilution:**	1		

Analyte	CAS Number	Result	DL	LOD	LOQ	Flag	Qual
Perchlorate	14797-73-0	0.200	0.100	0.200	0.400	U	

Notes and Definitions

DL: Detection Limit
LOD: Limit of Detection
LOQ: Limit of Quantitation
U: The analyte was analyzed for but was not detected above the reported quantitation limit. The quantitation limit has been adjusted for any dilution or concentration of the sample.
ug/L: Micrograms per Liter

MICROBAC®

Laboratory Report Number: M1J1374

CERTIFICATE OF ANALYSIS
FORM I

Client Project ID: LHAAP

Microbac Laboratories Inc., - Marietta, OH

Perchlorate by LCMS

Client ID:	16EW08-211020			**Collection Date:**	10/20/2021 13:10
Laboratory ID:	M1J1374-23			**Prep Date:**	11/03/2021 12:58
Matrix:	Aqueous			**Analyzed:**	11/11/2021 19:53
Batch / Sequence:	B1K0220 / S1K0152	**Analytical Method:**	EPA 6850	**Calibration:**	21K0019
Instrument:	LCMS2	**Units:**	ug/L	**File ID:**	2LM032050
Analyst:	CAS	**Dilution:**	1		

Analyte	CAS Number	Result	DL	LOD	LOQ	Flag	Qual
Perchlorate	14797-73-0	0.200	0.100	0.200	0.400	U	

Notes and Definitions

DL: Detection Limit
LOD: Limit of Detection
LOQ: Limit of Quantitation
U: The analyte was analyzed for but was not detected above the reported quantitation limit. The quantitation limit has been adjusted for any dilution or concentration of the sample.
ug/L: Micrograms per Liter

MICROBAC®

Laboratory Report Number: M1J1374

CERTIFICATE OF ANALYSIS
FORM I

Client Project ID: LHAAP

Microbac Laboratories Inc., - Marietta, OH

Perchlorate by LCMS

Client ID:	16RW04-211020			**Collection Date:**	10/20/2021 13:50
Laboratory ID:	M1J1374-24			**Prep Date:**	11/03/2021 12:58
Matrix:	Aqueous			**Analyzed:**	11/11/2021 20:07
Batch / Sequence:	B1K0220 / S1K0152	**Analytical Method:**	EPA 6850	**Calibration:**	21K0019
Instrument:	LCMS2	**Units:**	ug/L	**File ID:**	2LM032051
Analyst:	CAS	**Dilution:**	1		

Analyte	CAS Number	Result	DL	LOD	LOQ	Flag	Qual
Perchlorate	14797-73-0	0.200	0.100	0.200	0.400	U	

Notes and Definitions

DL: Detection Limit
LOD: Limit of Detection
LOQ: Limit of Quantitation
U: The analyte was analyzed for but was not detected above the reported quantitation limit. The quantitation limit has been adjusted for any dilution or concentration of the sample.
ug/L: Micrograms per Liter

MICROBAC®

Laboratory Report Number: M1J1374

CERTIFICATE OF ANALYSIS
FORM I

Client Project ID: LHAAP

Microbac Laboratories Inc., - Marietta, OH

Perchlorate by LCMS

Client ID:	16RW11-211021			**Collection Date:**	10/21/2021 07:45
Laboratory ID:	M1J1374-25			**Prep Date:**	11/03/2021 12:58
Matrix:	Aqueous			**Analyzed:**	11/11/2021 20:20
Batch / Sequence:	B1K0220 / S1K0152	**Analytical Method:**	EPA 6850	**Calibration:**	21K0019
Instrument:	LCMS2	**Units:**	ug/L	**File ID:**	2LM032052
Analyst:	CAS	**Dilution:**	1		

Analyte	CAS Number	Result	DL	LOD	LOQ	Flag	Qual
Perchlorate	14797-73-0	0.200	0.100	0.200	0.400	U	

Notes and Definitions

DL: Detection Limit
LOD: Limit of Detection
LOQ: Limit of Quantitation
U: The analyte was analyzed for but was not detected above the reported quantitation limit. The quantitation limit has been adjusted for any dilution or concentration of the sample.
ug/L: Micrograms per Liter

MICROBAC®

Laboratory Report Number: M1J1374

CERTIFICATE OF ANALYSIS
FORM I

Client Project ID: LHAAP

Microbac Laboratories Inc., - Marietta, OH

Perchlorate by LCMS

Client ID:	16RW11-211021-FD			**Collection Date:**	10/21/2021 07:45
Laboratory ID:	M1J1374-26			**Prep Date:**	11/03/2021 12:58
Matrix:	Aqueous			**Analyzed:**	11/11/2021 20:33
Batch / Sequence:	B1K0220 / S1K0152	**Analytical Method:**	EPA 6850	**Calibration:**	21K0019
Instrument:	LCMS2	**Units:**	ug/L	**File ID:**	2LM032053
Analyst:	CAS	**Dilution:**	1		

Analyte	CAS Number	Result	DL	LOD	LOQ	Flag	Qual
Perchlorate	14797-73-0	0.200	0.100	0.200	0.400	U	

Notes and Definitions

DL: Detection Limit
LOD: Limit of Detection
LOQ: Limit of Quantitation
U: The analyte was analyzed for but was not detected above the reported quantitation limit. The quantitation limit has been adjusted for any dilution or concentration of the sample.
ug/L: Micrograms per Liter

MICROBAC®

Laboratory Report Number: M1J1374

CERTIFICATE OF ANALYSIS
FORM I

Client Project ID: LHAAP

Microbac Laboratories Inc., - Marietta, OH

Perchlorate by LCMS

Client ID:	16IW20-211021			**Collection Date:**	10/21/2021 08:25
Laboratory ID:	M1J1374-27			**Prep Date:**	11/03/2021 12:58
Matrix:	Aqueous			**Analyzed:**	11/11/2021 20:46
Batch / Sequence:	B1K0220 / S1K0152	**Analytical Method:**	EPA 6850	**Calibration:**	21K0019
Instrument:	LCMS2	**Units:**	ug/L	**File ID:**	2LM032054
Analyst:	CAS	**Dilution:**	1		

Analyte	CAS Number	Result	DL	LOD	LOQ	Flag	Qual
Perchlorate	14797-73-0	0.200	0.100	0.200	0.400	U	

Notes and Definitions

DL: Detection Limit
LOD: Limit of Detection
LOQ: Limit of Quantitation
U: The analyte was analyzed for but was not detected above the reported quantitation limit. The quantitation limit has been adjusted for any dilution or concentration of the sample.
ug/L: Micrograms per Liter

MICROBAC®

Laboratory Report Number: M1J1374

CERTIFICATE OF ANALYSIS
FORM I

Client Project ID: LHAAP

Microbac Laboratories Inc., - Marietta, OH

Perchlorate by LCMS

Client ID:	16WW40-211021			**Collection Date:**	10/21/2021 09:10
Laboratory ID:	M1J1374-28			**Prep Date:**	11/03/2021 12:58
Matrix:	Aqueous			**Analyzed:**	11/11/2021 21:00
Batch / Sequence:	B1K0220 / S1K0152	**Analytical Method:**	EPA 6850	**Calibration:**	21K0019
Instrument:	LCMS2	**Units:**	ug/L	**File ID:**	2LM032055
Analyst:	CAS	**Dilution:**	1		

Analyte	CAS Number	Result	DL	LOD	LOQ	Flag	Qual
Perchlorate	14797-73-0	0.622	0.100	0.200	0.400		

Notes and Definitions

DL: Detection Limit
LOD: Limit of Detection
LOQ: Limit of Quantitation
ug/L: Micrograms per Liter

MICROBAC®

Laboratory Report Number: M1J1374

CERTIFICATE OF ANALYSIS
FORM I

Client Project ID: LHAAP

Microbac Laboratories Inc., - Marietta, OH

Perchlorate by LCMS

Client ID:	16WW12-211021			**Collection Date:**	10/21/2021 10:00
Laboratory ID:	M1J1374-29			**Prep Date:**	11/03/2021 12:58
Matrix:	Aqueous			**Analyzed:**	11/11/2021 21:13
Batch / Sequence:	B1K0220 / S1K0152	**Analytical Method:**	EPA 6850	**Calibration:**	21K0019
Instrument:	LCMS2	**Units:**	ug/L	**File ID:**	2LM032056
Analyst:	CAS	**Dilution:**	10		

Sample Notes: D3

Analyte	CAS Number	Result	DL	LOD	LOQ	Flag	Qual
Perchlorate	14797-73-0	23.2	1.00	2.00	4.00		

Notes and Definitions

DL: Detection Limit
LOD: Limit of Detection
LOQ: Limit of Quantitation
D3: Dilution was performed due to high target analyte concentration.
ug/L: Micrograms per Liter

MICROBAC®

Laboratory Report Number: M1J1374

CERTIFICATE OF ANALYSIS
FORM I

Client Project ID: LHAAP

Microbac Laboratories Inc., - Marietta, OH

Perchlorate by LCMS

Client ID:	16EW07-211021			**Collection Date:**	10/21/2021 10:45
Laboratory ID:	M1J1374-30			**Prep Date:**	11/03/2021 12:58
Matrix:	Aqueous			**Analyzed:**	11/11/2021 22:06
Batch / Sequence:	B1K0220 / S1K0152	**Analytical Method:**	EPA 6850	**Calibration:**	21K0019
Instrument:	LCMS2	**Units:**	ug/L	**File ID:**	2LM032060
Analyst:	CAS	**Dilution:**	1		

Analyte	CAS Number	Result	DL	LOD	LOQ	Flag	Qual
Perchlorate	14797-73-0	0.220	0.100	0.200	0.400	J	

Notes and Definitions

DL: Detection Limit
LOD: Limit of Detection
LOQ: Limit of Quantitation
J: The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
ug/L: Micrograms per Liter

MICROBAC®

Laboratory Report Number: M1J1374

Client Project ID: LHAAP

Microbac Laboratories Inc., - Marietta, OH

Perchlorate by LCMS

CERTIFICATE OF ANALYSIS
FORM I

Client ID:	16EW05-211021			**Collection Date:**	10/21/2021 11:30
Laboratory ID:	M1J1374-31			**Prep Date:**	11/03/2021 12:58
Matrix:	Aqueous			**Analyzed:**	11/11/2021 22:19
Batch / Sequence:	B1K0220 / S1K0152	**Analytical Method:**	EPA 6850	**Calibration:**	21K0019
Instrument:	LCMS2	**Units:**	ug/L	**File ID:**	2LM032061
Analyst:	CAS	**Dilution:**	1		

Analyte	CAS Number	Result	DL	LOD	LOQ	Flag	Qual
Perchlorate	14797-73-0	0.164	0.100	0.200	0.400	J	

Notes and Definitions

DL: Detection Limit
LOD: Limit of Detection
LOQ: Limit of Quantitation
J: The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
ug/L: Micrograms per Liter

MICROBAC®

Laboratory Report Number: M1J1374

CERTIFICATE OF ANALYSIS
FORM I

Client Project ID: LHAAP

Microbac Laboratories Inc., - Marietta, OH

Perchlorate by LCMS

Client ID:	16EW05-211021-FD			**Collection Date:**	10/21/2021 11:30
Laboratory ID:	M1J1374-32			**Prep Date:**	11/03/2021 12:58
Matrix:	Aqueous			**Analyzed:**	11/11/2021 22:32
Batch / Sequence:	B1K0220 / S1K0152	**Analytical Method:**	EPA 6850	**Calibration:**	21K0019
Instrument:	LCMS2	**Units:**	ug/L	**File ID:**	2LM032062
Analyst:	CAS	**Dilution:**	1		

Analyte	CAS Number	Result	DL	LOD	LOQ	Flag	Qual
Perchlorate	14797-73-0	0.200	0.100	0.200	0.400	U	

Notes and Definitions

DL: Detection Limit
LOD: Limit of Detection
LOQ: Limit of Quantitation
U: The analyte was analyzed for but was not detected above the reported quantitation limit. The quantitation limit has been adjusted for any dilution or concentration of the sample.
ug/L: Micrograms per Liter

MICROBAC®

Laboratory Report Number: M1J1374

CERTIFICATE OF ANALYSIS
FORM I

Client Project ID: LHAAP

Microbac Laboratories Inc., - Marietta, OH

Perchlorate by LCMS

Client ID:	16EW06-211021			**Collection Date:**	10/21/2021 12:25
Laboratory ID:	M1J1374-33			**Prep Date:**	11/03/2021 12:58
Matrix:	Aqueous			**Analyzed:**	11/12/2021 10:54
Batch / Sequence:	B1K0220 / S1K0230	**Analytical Method:**	EPA 6850	**Calibration:**	21K0019
Instrument:	LCMS2	**Units:**	ug/L	**File ID:**	2LM032103
Analyst:	CAS	**Dilution:**	1		

Analyte	CAS Number	Result	DL	LOD	LOQ	Flag	Qual
Perchlorate	14797-73-0	0.200	0.100	0.200	0.400	U	AC

Notes and Definitions

DL: Detection Limit
LOD: Limit of Detection
LOQ: Limit of Quantitation
AC: Sample result was set to zero. This sample's Ion Ratio was not within acceptance limits.
I1: Internal standard was outside of acceptance limits.
U: The analyte was analyzed for but was not detected above the reported quantitation limit. The quantitation limit has been adjusted for any dilution or concentration of the sample.
ug/L: Micrograms per Liter

MICROBAC®

Laboratory Report Number: M1J1374

CERTIFICATE OF ANALYSIS
FORM I

Client Project ID: LHAAP

Microbac Laboratories Inc., - Marietta, OH

Perchlorate by LCMS

Client ID:	16IW03-211021			**Collection Date:**	10/21/2021 13:15
Laboratory ID:	M1J1374-34			**Prep Date:**	11/03/2021 12:58
Matrix:	Aqueous			**Analyzed:**	11/11/2021 22:59
Batch / Sequence:	B1K0220 / S1K0152	**Analytical Method:**	EPA 6850	**Calibration:**	21K0019
Instrument:	LCMS2	**Units:**	ug/L	**File ID:**	2LM032064
Analyst:	CAS	**Dilution:**	1		

Analyte	CAS Number	Result	DL	LOD	LOQ	Flag	Qual
Perchlorate	14797-73-0	0.200	0.100	0.200	0.400	U	

Notes and Definitions

DL: Detection Limit
LOD: Limit of Detection
LOQ: Limit of Quantitation
U: The analyte was analyzed for but was not detected above the reported quantitation limit. The quantitation limit has been adjusted for any dilution or concentration of the sample.
ug/L: Micrograms per Liter

MICROBAC®

FORM III:
HPLC Organics
EPA 6850
BS/BSD, MS/MSD, DUP

Microbac Laboratories, Inc.
158 Starlite Drive | Marietta, OH 45750 | 800.373.4071 | www.microbac.com

MICROBAC®

Laboratory Report Number: M1J1374
Client Project ID: LHAAP

Matrix Spike/Duplicate (MS/MSD)
FORM IIIA

		Parent	Spike	Duplicate
Method:	EPA 6850			
Batch:	B1K0219	**Sample ID:** M1J1374-10	B1K0219-MS1	B1K0219-MSD1
Matrix:	Aqueous	**Prepared:** 11/03/2021 12:56	11/03/21 12:56	11/03/21 12:56
Units:	ug/L	**Analyzed:** 11/07/2021 18:05	11/07/21 18:18	11/07/21 18:31
Instrument:	LCMS2	**File ID:** 2LM031698	2LM031699	2LM031700
Calibration:	21K0013	**Dilution:** 1	1	1
Analyst:	CAS			

Analyte	Parent	MS Spiked	MS Found	MS %Rec	MSD Spiked	MSD Found	MSD %Rec	%RPD	%Rec Limts	RPD Limit	Q
Perchlorate	ND	0.200	0.225	113	0.200	0.227	114	0.885	84 - 119	15	

* - Exceeds %Rec Limit
\# - Exceeds RPD Limit

MICROBAC®

Laboratory Report Number: M1J1374
Client Project ID: LHAAP

Matrix Spike/Duplicate (MS/MSD)
FORM IIIA

		Parent	Spike	Duplicate
Method:	EPA 6850			
Batch:	B1K0220	**Sample ID:** M1J1374-18	B1K0220-MS1	B1K0220-MSD1
Matrix:	Aqueous	**Prepared:** 11/03/2021 12:58	11/03/21 12:58	11/03/21 12:58
Units:	ug/L	**Analyzed:** 11/11/2021 17:41	11/11/21 17:54	11/11/21 18:07
Instrument:	LCMS2	**File ID:** 2LM032040	2LM032041	2LM032042
Calibration:	21K0019	**Dilution:** 1	1	1
Analyst:	CAS			

Analyte	Parent	MS Spiked	MS Found	MS %Rec	MSD Spiked	MSD Found	MSD %Rec	%RPD	%Rec Limts	RPD Limit	Q
Perchlorate	ND	0.200	0.211	106	0.200	0.220	110	4.18	84 - 119	15	

* - Exceeds %Rec Limit
\# - Exceeds RPD Limit

MICROBAC®

Laboratory Report Number: M1J1374

BLANK SPIKE (BS)

Client Project ID: LHAAP

FORM IIIB

Method:	EPA 6850		**Blank Spike**
Batch:	B1K0219	**Spike ID:**	B1K0219-BS1
Analyst:	CAS	**Prepared:**	11/03/21 12:56
Matrix:	Aqueous	**Analyzed:**	11/07/21 15:13
Units:	ug/L	**File ID:**	2LM031685
Instrument:	LCMS2	**Initial/Final:**	10mL/10mL
Calibration:	21K0013		

Analyte	BS Spiked	BS Found	BS %Rec	%Rec Limts	Q
Perchlorate	0.200	0.220	110	84 - 119	

* - Does not meet %Rec acceptance criteria.
\# - Does not meet RPD acceptance criteria.
NS - Analyte Not Spiked

MICROBAC®

Laboratory Report Number: M1J1374

BLANK SPIKE (BS)

Client Project ID: LHAAP

FORM IIIB

Method:	EPA 6850		**Blank Spike**
Batch:	B1K0220	**Spike ID:**	B1K0220-BS1
Analyst:	CAS	**Prepared:**	11/03/21 12:58
Matrix:	Aqueous	**Analyzed:**	11/11/21 17:28
Units:	ug/L	**File ID:**	2LM032039
Instrument:	LCMS2	**Initial/Final:**	10mL/10mL
Calibration:	21K0019		

Analyte	BS Spiked	BS Found	BS %Rec	%Rec Limts	Q
Perchlorate	0.200	0.197	98.5	84 - 119	

* - Does not meet %Rec acceptance criteria.
\# - Does not meet RPD acceptance criteria.
NS - Analyte Not Spiked

MICROBAC®

FORM IV:
HPLC Organics
EPA 6850
METHOD BLANK SUMMARY

Microbac Laboratories, Inc.
158 Starlite Drive | Marietta, OH 45750 | 800.373.4071 | www.microbac.com

MICROBAC®

Laboratory Report Number: M1J1374
Client Project ID: LHAAP

METHOD BLANK SUMMARY
FORM IVA

Blank ID:	B1K0219-BLK1	**Batch:**	B1K0219
Blank File ID:	2LM031684	**Instrument:**	LCMS2
Prepared:	11/03/2021 12:56	**Method:**	EPA 6850
Analyzed:	11/07/2021 14:59	**Analyst:**	CAS

This Method Blank Applies To The Following Samples:

Client Sample ID	Laboratory Sample ID	Lab File ID	Time Analyzed
Blank	B1K0219-BLK1	2LM031684	11/07/2021 14:59
LCS	B1K0219-BS1	2LM031685	11/07/2021 15:13
16WW34-211018	M1J1374-01	2LM031686	11/07/2021 15:26
16WW34-211018-FD	M1J1374-02	2LM031687	11/07/2021 15:39
16WW33-211018	M1J1374-03	2LM031688	11/07/2021 15:52
16WW32-211018	M1J1374-04	2LM031689	11/07/2021 16:06
16WW31-211018	M1J1374-05	2LM031690	11/07/2021 16:19
16WW46-211018	M1J1374-06	2LM031691	11/07/2021 16:32
16WW27-211018	M1J1374-07	2LM031692	11/07/2021 16:45
16WW43-211018	M1J1374-08	2LM031696	11/07/2021 17:38
16RW05-211018	M1J1374-09	2LM031697	11/07/2021 17:52
16WW56-211019	M1J1374-10	2LM031698	11/07/2021 18:05
Matrix Spike	B1K0219-MS1	2LM031699	11/07/2021 18:18
Matrix Spike Dup	B1K0219-MSD1	2LM031700	11/07/2021 18:31
16WW21-211019	M1J1374-13	2LM031703	11/07/2021 19:11
16WW49-211019	M1J1374-15	2LM031705	11/07/2021 19:38
16WW51-211019	M1J1374-16	2LM031709	11/07/2021 20:31
16IW09-211020	M1J1374-17	2LM031710	11/07/2021 20:44
16WW22-211019	M1J1374-11	2LM032035	11/11/2021 16:35
16WW41-211019	M1J1374-12	2LM032036	11/11/2021 16:48
16WW48-211019	M1J1374-14	2LM032037	11/11/2021 17:01

MICROBAC®

Laboratory Report Number: M1J1374
Client Project ID: LHAAP

METHOD BLANK SUMMARY
FORM IVA

Blank ID:	B1K0220-BLK1	**Batch:**	B1K0220
Blank File ID:	2LM032038	**Instrument:**	LCMS2
Prepared:	11/03/2021 12:58	**Method:**	EPA 6850
Analyzed:	11/11/2021 17:14	**Analyst:**	CAS

This Method Blank Applies To The Following Samples:

Client Sample ID	Laboratory Sample ID	Lab File ID	Time Analyzed
Blank	B1K0220-BLK1	2LM032038	11/11/2021 17:14
LCS	B1K0220-BS1	2LM032039	11/11/2021 17:28
16IW10-211020	M1J1374-18	2LM032040	11/11/2021 17:41
Matrix Spike	B1K0220-MS1	2LM032041	11/11/2021 17:54
Matrix Spike Dup	B1K0220-MSD1	2LM032042	11/11/2021 18:07
16EW01-211020	M1J1374-19	2LM032043	11/11/2021 18:21
16EW03-211020	M1J1374-20	2LM032047	11/11/2021 19:14
16EW02-211020	M1J1374-21	2LM032048	11/11/2021 19:27
16EW04-211020	M1J1374-22	2LM032049	11/11/2021 19:40
16EW08-211020	M1J1374-23	2LM032050	11/11/2021 19:53
16RW04-211020	M1J1374-24	2LM032051	11/11/2021 20:07
16RW11-211021	M1J1374-25	2LM032052	11/11/2021 20:20
16RW11-211021-FD	M1J1374-26	2LM032053	11/11/2021 20:33
16IW20-211021	M1J1374-27	2LM032054	11/11/2021 20:46
16WW40-211021	M1J1374-28	2LM032055	11/11/2021 21:00
16WW12-211021	M1J1374-29	2LM032056	11/11/2021 21:13
16EW07-211021	M1J1374-30	2LM032060	11/11/2021 22:06
16EW05-211021	M1J1374-31	2LM032061	11/11/2021 22:19
16EW05-211021-FD	M1J1374-32	2LM032062	11/11/2021 22:32
16IW03-211021	M1J1374-34	2LM032064	11/11/2021 22:59
16EW06-211021	M1J1374-33	2LM032103	11/12/2021 10:54

MICROBAC®

Laboratory Report Number: M1J1374

Client Project ID: LHAAP

METHOD BLANK
FORM IVB

Sample ID:	B1K0219-BLK1	**Prep Date:**	11/03/21 12:56	**Matrix:**	Aqueous
Instrument:	LCMS2	**Analyzed:**	11/07/21 14:59	**Method:**	EPA 6850
File ID:	2LM031684	**Sequence:**	S1K0132	**Analyst:**	CAS
Batch:	B1K0219	**Units:**	ug/L	**Calibration:**	21K0013

Analyte	Result	DL	LOD	LOQ	Dilution	Flag	Q
Perchlorate	0.200	0.100	0.200	0.400	1	U	

Notes and Definitions

* - Detected in the associated method Blank at a concentration >= 1/2xRL

U: The analyte was analyzed for but was not detected above the reported quantitation limit. The quantitation limit has been adjusted for any dilution or concentration of the sample.

MICROBAC®

Laboratory Report Number: M1J1374

Client Project ID: LHAAP

METHOD BLANK
FORM IVB

Sample ID:	B1K0220-BLK1	**Prep Date:**	11/03/21 12:58	**Matrix:**	Aqueous
Instrument:	LCMS2	**Analyzed:**	11/11/21 17:14	**Method:**	EPA 6850
File ID:	2LM032038	**Sequence:**	S1K0152	**Analyst:**	CAS
Batch:	B1K0220	**Units:**	ug/L	**Calibration:**	21K0019

Analyte	Result	DL	LOD	LOQ	Dilution	Flag	Q
Perchlorate	0.200	0.100	0.200	0.400	1	U	

Notes and Definitions

* - Detected in the associated method Blank at a concentration >= 1/2xRL

U: The analyte was analyzed for but was not detected above the reported quantitation limit. The quantitation limit has been adjusted for any dilution or concentration of the sample.

MICROBAC®

FORM VII:
HPLC Organics
EPA 6850
ICV/CCV

Microbac Laboratories, Inc.
158 Starlite Drive | Marietta, OH 45750 | 800.373.4071 | www.microbac.com

MICROBAC®

Laboratory Report Number: M1J1374
Client Project ID: LHAAP

Initial Calibration Verification (ICV)
FORM VIIA

Sample ID: S1K0132-ICV1		**Analyzed:** 11/07/21 13:53			**Method:** EPA 6850			
Instrument: LCMS2		**Calibration:** 21K0013			**Sequence:** S1K0132			
File ID: 2LM031679		**Units:** ug/L			**Analyst:** CAS			
Analyte	**Response**	**Limit**	**Q**	**Expected**	**Found**	**% Drift / % Diff**	**UCL**	**Q**
Perchlorate	0.8872893			1.00	1.00	0.0	15	

Sample ID: S1K0152-ICV1		**Analyzed:** 11/11/21 12:30			**Method:** EPA 6850			
Instrument: LCMS2		**Calibration:** 21K0019			**Sequence:** S1K0152			
File ID: 2LM032021		**Units:** ug/L			**Analyst:** CAS			
Analyte	**Response**	**Limit**	**Q**	**Expected**	**Found**	**% Drift / % Diff**	**UCL**	**Q**
Perchlorate	0.8805547			1.00	0.976	-2.4	15	

* - Does not meet acceptance criteria.

MICROBAC®

Laboratory Report Number: M1J1374
Client Project ID: LHAAP

Continuing Calibration Verification (CCV)
FORM VIIB

Laboratory ID:	S1K0132-CCV1	**Analyzed:**	11/07/21 14:20	**Method:**	EPA 6850
Instrument:	LCMS2	**Calibration:**	21K0013	**Sequence:**	S1K0132
File ID:	2LM031681	**Units:**	ug/L	**Analyst:**	CAS

Analyte	Response	Limit	Q	Expected	Found	% Drift / % Diff	UCL	Q
Perchlorate	0.8579924			1.00	0.967	-3.3	15	

* - Does not meet acceptance criteria.

MICROBAC®

Laboratory Report Number: M1J1374
Client Project ID: LHAAP

Continuing Calibration Verification (CCV)
FORM VIIB

Laboratory ID:	S1K0132-CCV2	**Analyzed:**	11/07/21 16:59	**Method:**	EPA 6850
Instrument:	LCMS2	**Calibration:**	21K0013	**Sequence:**	S1K0132
File ID:	2LM031693	**Units:**	ug/L	**Analyst:**	CAS

Analyte	Response	Limit	Q	Expected	Found	% Drift / % Diff	UCL	Q
Perchlorate	0.8720157			1.00	0.983	-1.7	15	

* - Does not meet acceptance criteria.

MICROBAC®

Laboratory Report Number: M1J1374
Client Project ID: LHAAP

Continuing Calibration Verification (CCV)
FORM VIIB

Laboratory ID:	S1K0132-CCV3	**Analyzed:**	11/07/21 19:51	**Method:**	EPA 6850
Instrument:	LCMS2	**Calibration:**	21K0013	**Sequence:**	S1K0132
File ID:	2LM031706	**Units:**	ug/L	**Analyst:**	CAS

Analyte	Response	Limit	Q	Expected	Found	% Drift / % Diff	UCL	Q
Perchlorate	0.8414827			1.00	0.949	-5.1	15	

* - Does not meet acceptance criteria.

MICROBAC®

Laboratory Report Number: M1J1374
Client Project ID: LHAAP

Continuing Calibration Verification (CCV)
FORM VIIB

Laboratory ID:	S1K0132-CCV4	**Analyzed:**	11/07/21 22:43	**Method:**	EPA 6850
Instrument:	LCMS2	**Calibration:**	21K0013	**Sequence:**	S1K0132
File ID:	2LM031719	**Units:**	ug/L	**Analyst:**	CAS

Analyte	Response	Limit	Q	Expected	Found	% Drift / % Diff	UCL	Q
Perchlorate	0.8392633			1.00	0.946	-5.4	15	

* - Does not meet acceptance criteria.

MICROBAC®

Laboratory Report Number: M1J1374
Client Project ID: LHAAP

Instrument Reporting Limit Check (CRL)
FORM VIIB

Laboratory ID:	S1K0132-CRL1	**Analyzed:**	11/07/21 14:33	**Method:**	EPA 6850
Instrument:	LCMS2	**Calibration:**	21K0013	**Sequence:**	S1K0132
File ID:	2LM031682	**Units:**	ug/L		

Analyte	Expected	Found	Recovery	LCL	UCL	Q
Perchlorate	0.200	0.205	103	70	130	

* - Does not meet acceptance criteria.

MICROBAC®

Laboratory Report Number: M1J1374
Client Project ID: LHAAP

Instrument Reporting Limit Check (CRL)
FORM VIIB

Laboratory ID:	S1K0132-CRL2	**Analyzed:**	11/07/21 17:12	**Method:**	EPA 6850
Instrument:	LCMS2	**Calibration:**	21K0013	**Sequence:**	S1K0132
File ID:	2LM031694	**Units:**	ug/L		

Analyte	Expected	Found	Recovery	LCL	UCL	Q
Perchlorate	0.200	0.201	101	70	130	

* - Does not meet acceptance criteria.

MICROBAC®

Laboratory Report Number: M1J1374
Client Project ID: LHAAP

Instrument Reporting Limit Check (CRL)
FORM VIIB

Laboratory ID:	S1K0132-CRL3	**Analyzed:**	11/07/21 20:04	**Method:**	EPA 6850
Instrument:	LCMS2	**Calibration:**	21K0013	**Sequence:**	S1K0132
File ID:	2LM031707	**Units:**	ug/L		

Analyte	Expected	Found	Recovery	LCL	UCL	Q
Perchlorate	0.200	0.203	102	70	130	

* - Does not meet acceptance criteria.

MICROBAC®

Laboratory Report Number: M1J1374
Client Project ID: LHAAP

Instrument Reporting Limit Check (CRL)
FORM VIIB

Laboratory ID:	S1K0132-CRL4	**Analyzed:**	11/07/21 22:56	**Method:**	EPA 6850
Instrument:	LCMS2	**Calibration:**	21K0013	**Sequence:**	S1K0132
File ID:	2LM031720	**Units:**	ug/L		

Analyte	Expected	Found	Recovery	LCL	UCL	Q
Perchlorate	0.200	0.202	101	70	130	

* - Does not meet acceptance criteria.

MICROBAC®

Laboratory Report Number: M1J1374
Client Project ID: LHAAP

Continuing Calibration Verification (CCV)
FORM VIIB

Laboratory ID:	S1K0152-CCV1	**Analyzed:**	11/11/21 15:55	**Method:**	EPA 6850
Instrument:	LCMS2	**Calibration:**	21K0019	**Sequence:**	S1K0152
File ID:	2LM032032	**Units:**	ug/L	**Analyst:**	CAS

Analyte	Response	Limit	Q	Expected	Found	% Drift / % Diff	UCL	Q
Perchlorate	0.8615452			1.00	0.954	-4.6	15	

* - Does not meet acceptance criteria.

MICROBAC®

Laboratory Report Number: M1J1374
Client Project ID: LHAAP

Continuing Calibration Verification (CCV)
FORM VIIB

Laboratory ID:	S1K0152-CCV2	**Analyzed:**	11/11/21 18:34	**Method:**	EPA 6850
Instrument:	LCMS2	**Calibration:**	21K0019	**Sequence:**	S1K0152
File ID:	2LM032044	**Units:**	ug/L	**Analyst:**	CAS

Analyte	Response	Limit	Q	Expected	Found	% Drift / % Diff	UCL	Q
Perchlorate	0.8404123			1.00	0.931	-6.9	15	

* - Does not meet acceptance criteria.

MICROBAC®

Laboratory Report Number: M1J1374
Client Project ID: LHAAP

Continuing Calibration Verification (CCV)
FORM VIIB

Laboratory ID:	S1K0152-CCV3	**Analyzed:**	11/11/21 21:26	**Method:**	EPA 6850
Instrument:	LCMS2	**Calibration:**	21K0019	**Sequence:**	S1K0152
File ID:	2LM032057	**Units:**	ug/L	**Analyst:**	CAS

Analyte	Response	Limit	Q	Expected	Found	% Drift / % Diff	UCL	Q
Perchlorate	0.8478926			1.00	0.939	-6.1	15	

* - Does not meet acceptance criteria.

MICROBAC®

Laboratory Report Number: M1J1374
Client Project ID: LHAAP

Continuing Calibration Verification (CCV)
FORM VIIB

Laboratory ID:	S1K0152-CCV4	**Analyzed:**	11/12/21 00:18	**Method:**	EPA 6850
Instrument:	LCMS2	**Calibration:**	21K0019	**Sequence:**	S1K0152
File ID:	2LM032070	**Units:**	ug/L	**Analyst:**	CAS

Analyte	Response	Limit	Q	Expected	Found	% Drift / % Diff	UCL	Q
Perchlorate	0.8449075			1.00	0.936	-6.4	15	

* - Does not meet acceptance criteria.

MICROBAC®

Laboratory Report Number: M1J1374
Client Project ID: LHAAP

Continuing Calibration Verification (CCV)
FORM VIIB

Laboratory ID:	S1K0152-CCV5	**Analyzed:**	11/12/21 03:11	**Method:**	EPA 6850
Instrument:	LCMS2	**Calibration:**	21K0019	**Sequence:**	S1K0152
File ID:	2LM032083	**Units:**	ug/L	**Analyst:**	CAS

Analyte	Response	Limit	Q	Expected	Found	% Drift / % Diff	UCL	Q
Perchlorate	0.8425911			1.00	0.933	-6.7	15	

* - Does not meet acceptance criteria.

MICROBAC®

Laboratory Report Number: M1J1374
Client Project ID: LHAAP

Continuing Calibration Verification (CCV)
FORM VIIB

Laboratory ID:	S1K0152-CCV6	**Analyzed:**	11/12/21 06:03	**Method:**	EPA 6850
Instrument:	LCMS2	**Calibration:**	21K0019	**Sequence:**	S1K0152
File ID:	2LM032096	**Units:**	ug/L	**Analyst:**	CAS

Analyte	Response	Limit	Q	Expected	Found	% Drift / % Diff	UCL	Q
Perchlorate	0.8656951			1.00	0.959	-4.1	15	

* - Does not meet acceptance criteria.

MICROBAC®

Laboratory Report Number: M1J1374
Client Project ID: LHAAP

Instrument Reporting Limit Check (CRL)
FORM VIIB

Laboratory ID:	S1K0152-CRL1	**Analyzed:**	11/11/21 16:08	**Method:**	EPA 6850
Instrument:	LCMS2	**Calibration:**	21K0019	**Sequence:**	S1K0152
File ID:	2LM032033	**Units:**	ug/L		

Analyte	Expected	Found	Recovery	LCL	UCL	Q
Perchlorate	0.200	0.190	95.0	70	130	

* - Does not meet acceptance criteria.

MICROBAC®

Laboratory Report Number: M1J1374
Client Project ID: LHAAP

Instrument Reporting Limit Check (CRL)
FORM VIIB

Laboratory ID:	S1K0152-CRL2	**Analyzed:**	11/11/21 18:47	**Method:**	EPA 6850
Instrument:	LCMS2	**Calibration:**	21K0019	**Sequence:**	S1K0152
File ID:	2LM032045	**Units:**	ug/L		

Analyte	Expected	Found	Recovery	LCL	UCL	Q
Perchlorate	0.200	0.179	89.5	70	130	

* - Does not meet acceptance criteria.

MICROBAC®

Laboratory Report Number: M1J1374
Client Project ID: LHAAP

Instrument Reporting Limit Check (CRL)
FORM VIIB

Laboratory ID:	S1K0152-CRL3	**Analyzed:**	11/11/21 21:39	**Method:**	EPA 6850
Instrument:	LCMS2	**Calibration:**	21K0019	**Sequence:**	S1K0152
File ID:	2LM032058	**Units:**	ug/L		

Analyte	Expected	Found	Recovery	LCL	UCL	Q
Perchlorate	0.200	0.186	93.0	70	130	

* - Does not meet acceptance criteria.

MICROBAC®

Laboratory Report Number: M1J1374
Client Project ID: LHAAP

Instrument Reporting Limit Check (CRL)
FORM VIIB

Laboratory ID:	S1K0152-CRL4	**Analyzed:**	11/12/21 00:32	**Method:**	EPA 6850
Instrument:	LCMS2	**Calibration:**	21K0019	**Sequence:**	S1K0152
File ID:	2LM032071	**Units:**	ug/L		

Analyte	Expected	Found	Recovery	LCL	UCL	Q
Perchlorate	0.200	0.182	91.0	70	130	

* - Does not meet acceptance criteria.

MICROBAC®

Laboratory Report Number: M1J1374
Client Project ID: LHAAP

Instrument Reporting Limit Check (CRL)
FORM VIIB

Laboratory ID:	S1K0152-CRL5	**Analyzed:**	11/12/21 03:24	**Method:**	EPA 6850
Instrument:	LCMS2	**Calibration:**	21K0019	**Sequence:**	S1K0152
File ID:	2LM032084	**Units:**	ug/L		

Analyte	Expected	Found	Recovery	LCL	UCL	Q
Perchlorate	0.200	0.184	92.0	70	130	

* - Does not meet acceptance criteria.

MICROBAC®

Laboratory Report Number: M1J1374
Client Project ID: LHAAP

Instrument Reporting Limit Check (CRL)
FORM VIIB

Laboratory ID:	S1K0152-CRL6	**Analyzed:**	11/12/21 06:16	**Method:**	EPA 6850
Instrument:	LCMS2	**Calibration:**	21K0019	**Sequence:**	S1K0152
File ID:	2LM032097	**Units:**	ug/L		

Analyte	Expected	Found	Recovery	LCL	UCL	Q
Perchlorate	0.200	0.188	94.0	70	130	

* - Does not meet acceptance criteria.

MICROBAC®

Laboratory Report Number: M1J1374
Client Project ID: LHAAP

Continuing Calibration Verification (CCV)
FORM VIIB

Laboratory ID:	S1K0230-CCV1	**Analyzed:**	11/12/21 10:14	**Method:**	EPA 6850
Instrument:	LCMS2	**Calibration:**	21K0019	**Sequence:**	S1K0230
File ID:	2LM032100	**Units:**	ug/L	**Analyst:**	CAS

Analyte	Response	Limit	Q	Expected	Found	% Drift / % Diff	UCL	Q
Perchlorate	0.8695072			1.00	0.963	-3.7	15	

* - Does not meet acceptance criteria.

MICROBAC®

Laboratory Report Number: M1J1374
Client Project ID: LHAAP

Continuing Calibration Verification (CCV)
FORM VIIB

Laboratory ID:	S1K0230-CCV2	**Analyzed:**	11/12/21 12:00	**Method:**	EPA 6850
Instrument:	LCMS2	**Calibration:**	21K0019	**Sequence:**	S1K0230
File ID:	2LM032108	**Units:**	ug/L	**Analyst:**	CAS

Analyte	Response	Limit	Q	Expected	Found	% Drift / % Diff	UCL	Q
Perchlorate	0.8620402			1.00	0.955	-4.5	15	

* - Does not meet acceptance criteria.

MICROBAC®

Laboratory Report Number: M1J1374
Client Project ID: LHAAP

Instrument Reporting Limit Check (CRL)
FORM VIIB

Laboratory ID:	S1K0230-CRL1	**Analyzed:**	11/12/21 10:27	**Method:**	EPA 6850
Instrument:	LCMS2	**Calibration:**	21K0019	**Sequence:**	S1K0230
File ID:	2LM032101	**Units:**	ug/L		

Analyte	Expected	Found	Recovery	LCL	UCL	Q
Perchlorate	0.200	0.195	97.5	70	130	

* - Does not meet acceptance criteria.

MICROBAC®

Laboratory Report Number: M1J1374
Client Project ID: LHAAP

Instrument Reporting Limit Check (CRL)
FORM VIIB

Laboratory ID:	S1K0230-CRL2	**Analyzed:**	11/12/21 12:13	**Method:**	EPA 6850
Instrument:	LCMS2	**Calibration:**	21K0019	**Sequence:**	S1K0230
File ID:	2LM032109	**Units:**	ug/L		

Analyte	Expected	Found	Recovery	LCL	UCL	Q
Perchlorate	0.200	0.184	92.0	70	130	

* - Does not meet acceptance criteria.

MICROBAC®

Laboratory Report Number: M1J1374
Client Project ID: LHAAP

MATRIX CONDUCTIVITY TEST
FORM VII

Laboratory ID:	S1K0132-IFA1	**Run Date:**	11/07/21 14:46	**Matrix:**	Aqueous
Instrument:	LCMS2	**Calibration:**	21K0013	**Method:**	EPA 6850
File ID:	2LM031683	**Analyst:**	CAS	**Batch ID:**	S1K0132

Analyte	Known (ug/L)	Result (ug/L)	Recovery	LCL	UCL	MRL (ug/L)	Flags
Perchlorate	0.20000	0.245	123	80	120	0.4000	+

MICROBAC®

Laboratory Report Number: M1J1374
Client Project ID: LHAAP

MATRIX CONDUCTIVITY TEST
FORM VII

Laboratory ID:	S1K0152-IFA1	**Run Date:**	11/11/21 16:21	**Matrix:**	Aqueous
Instrument:	LCMS2	**Calibration:**	21K0019	**Method:**	EPA 6850
File ID:	2LM032034	**Analyst:**	CAS	**Batch ID:**	S1K0152

Analyte	Known (ug/L)	Result (ug/L)	Recovery	LCL	UCL	MRL (ug/L)	Flags
Perchlorate	0.20000	0.233	117	80	120	0.4000	

MICROBAC®

Laboratory Report Number: M1J1374
Client Project ID: LHAAP

MATRIX CONDUCTIVITY TEST
FORM VII

Laboratory ID:	S1K0230-IFA1	**Run Date:**	11/12/21 10:40	**Matrix:**	Aqueous
Instrument:	LCMS2	**Calibration:**	21K0019	**Method:**	EPA 6850
File ID:	2LM032102	**Analyst:**	CAS	**Batch ID:**	S1K0230

Analyte	Known (ug/L)	Result (ug/L)	Recovery	LCL	UCL	MRL (ug/L)	Flags
Perchlorate	0.20000	0.231	116	80	120	0.4000	

MICROBAC®

FORM VIII:
HPLC Organics
EPA 6850
Internal Standard Area and RT

Microbac Laboratories, Inc.
158 Starlite Drive | Marietta, OH 45750 | 800.373.4071 | www.microbac.com

MICROBAC®

Laboratory Report Number: M1J1374

Client Project ID: LHAAP

INTERNAL STANDARD AREA SUMMARY
FORM VIIIA

Laboratory:	Microbac Laboratories Inc., - Marietta, OH	**SDG:**	M1J1374
Client:	APTIM Tennessee	**Project:**	Longhorn AAP
Sequence:	S1K0132	**Instrument:**	LCMS2
		Calibration:	21K0013

Blank (B1K0219-BLK1)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	1316302	7.66	1246229	7.63	106	50 - 150		0.0300	+/-2.00	

LCS (B1K0219-BS1)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	1290027	7.66	1246229	7.63	104	50 - 150		0.0300	+/-2.00	

Matrix Spike (B1K0219-MS1)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	824170	7.38	1246229	7.63	66	50 - 150		-0.2600	+/-2.00	

Matrix Spike Dup (B1K0219-MSD1)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	856030	7.38	1246229	7.63	69	50 - 150		-0.2600	+/-2.00	

16WW34-211018 (M1J1374-01)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	1253375	7.48	1246229	7.63	101	50 - 150		-0.1500	+/-2.00	

16WW34-211018-FD (M1J1374-02)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	696596	7.43	1246229	7.63	56	50 - 150		-0.2000	+/-2.00	

16WW33-211018 (M1J1374-03)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	640130	7.38	1246229	7.63	51	50 - 150		-0.2500	+/-2.00	

16WW32-211018 (M1J1374-04)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	617712	7.36	1246229	7.63	50	50 - 150		-0.2700	+/-2.00	

16WW31-211018 (M1J1374-05)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	660260	7.44	1246229	7.63	53	50 - 150		-0.1900	+/-2.00	

MICROBAC®

Laboratory Report Number: M1J1374

Client Project ID: LHAAP

INTERNAL STANDARD AREA SUMMARY
FORM VIIIA

16WW46-211018 (M1J1374-06)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	644005	7.33	1246229	7.63	52	50 - 150		-0.3000	+/-2.00	

16WW27-211018 (M1J1374-07)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	598971	7.31	1246229	7.63	48	50 - 150	*	-0.3200	+/-2.00	

16WW43-211018 (M1J1374-08)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	739506	7.58	1246229	7.63	59	50 - 150		-0.0600	+/-2.00	

16RW05-211018 (M1J1374-09)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	717752	7.26	1246229	7.63	58	50 - 150		-0.3800	+/-2.00	

16WW56-211019 (M1J1374-10)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	819918	7.36	1246229	7.63	66	50 - 150		-0.2800	+/-2.00	

16WW21-211019 (M1J1374-13)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	977378	7.46	1246229	7.63	78	50 - 150		-0.1800	+/-2.00	

16WW49-211019 (M1J1374-15)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	830329	7.36	1246229	7.63	67	50 - 150		-0.2800	+/-2.00	

16WW51-211019 (M1J1374-16)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	692504	7.41	1246229	7.63	56	50 - 150		-0.2700	+/-2.00	

16IW09-211020 (M1J1374-17)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	889253	7.36	1246229	7.63	71	50 - 150		-0.3200	+/-2.00	

Calibration Blank (S1K0132-CCB1)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	918834	7.61	1246229	7.63	74	50 - 150		0.0000	+/-2.00	

Calibration Blank (S1K0132-CCB2)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	766409	7.66	1246229	7.63	61	50 - 150		0.0200	+/-2.00	

MICROBAC®

Laboratory Report Number: M1J1374

Client Project ID: LHAAP

INTERNAL STANDARD AREA SUMMARY
FORM VIIIA

Calibration Blank (S1K0132-CCB3)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	1043978	7.68	1246229	7.63	84	50 - 150		0.0000	+/-2.00	

Calibration Blank (S1K0132-CCB4)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	1172502	7.68	1246229	7.63	94	50 - 150		0.0000	+/-2.00	

Calibration Check (S1K0132-CCV1)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	1246229	7.63	1246229	7.63	100	50 - 150		0.0000	+/-2.00	

Calibration Check (S1K0132-CCV2)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	672981	7.64	1246229	7.63	54	50 - 150		0.0000	+/-2.00	

Calibration Check (S1K0132-CCV3)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	1006212	7.68	1246229	7.63	81	50 - 150		0.0000	+/-2.00	

Calibration Check (S1K0132-CCV4)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	1112142	7.68	1246229	7.63	89	50 - 150		0.0000	+/-2.00	

Instrument RL Check (S1K0132-CRL1)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	1440110	7.63	1246229	7.63	116	50 - 150		0.0000	+/-2.00	

Instrument RL Check (S1K0132-CRL2)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	706005	7.65	1246229	7.63	57	50 - 150		0.0100	+/-2.00	

Instrument RL Check (S1K0132-CRL3)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	1041209	7.68	1246229	7.63	84	50 - 150		0.0000	+/-2.00	

Instrument RL Check (S1K0132-CRL4)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	1138588	7.68	1246229	7.63	91	50 - 150		0.0000	+/-2.00	

Initial Cal Blank (S1K0132-ICB1)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	1513430	7.58	1246229	7.63	121	50 - 150		-0.0100	+/-2.00	

MICROBAC®

Laboratory Report Number: M1J1374

Client Project ID: LHAAP

INTERNAL STANDARD AREA SUMMARY
FORM VIIIA

Initial Cal Check (S1K0132-ICV1)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	984059	7.61	1246229	7.63	79	50 - 150		0.0000	+/-2.00	

Interference Check A (S1K0132-IFA1)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	1348304	7.06	1246229	7.63	108	50 - 150		-0.5700	+/-2.00	

MICROBAC®

Laboratory Report Number: M1J1374

Client Project ID: LHAAP

INTERNAL STANDARD AREA SUMMARY
FORM VIIIA

Laboratory:	Microbac Laboratories Inc., - Marietta, OH	**SDG:**	M1J1374
Client:	APTIM Tennessee	**Project:**	Longhorn AAP
Sequence:	S1K0152	**Instrument:**	LCMS2
		Calibration:	21K0019

Blank (B1K0220-BLK1)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	669033	7.39	493764	7.39	135	50 - 150		0.0000	+/-2.00	

LCS (B1K0220-BS1)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	601548	7.39	493764	7.39	122	50 - 150		0.0000	+/-2.00	

Matrix Spike (B1K0220-MS1)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	663068	6.98	493764	7.39	134	50 - 150		-0.4100	+/-2.00	

Matrix Spike Dup (B1K0220-MSD1)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	707017	6.98	493764	7.39	143	50 - 150		-0.4100	+/-2.00	

16WW22-211019 (M1J1374-11)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	633080	7.04	493764	7.39	128	50 - 150		-0.3500	+/-2.00	

16WW41-211019 (M1J1374-12)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	631813	7.34	493764	7.39	128	50 - 150		-0.0500	+/-2.00	

16WW48-211019 (M1J1374-14)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	692560	7.14	493764	7.39	140	50 - 150		-0.2500	+/-2.00	

16IW10-211020 (M1J1374-18)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	647575	6.98	493764	7.39	131	50 - 150		-0.4100	+/-2.00	

16EW01-211020 (M1J1374-19)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	698532	7.14	493764	7.39	141	50 - 150		-0.2500	+/-2.00	

MICROBAC®

Laboratory Report Number: M1J1374

Client Project ID: LHAAP

INTERNAL STANDARD AREA SUMMARY
FORM VIIIA

16EW03-211020 (M1J1374-20)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	671180	6.94	493764	7.39	136	50 - 150		-0.4400	+/-2.00	

16EW02-211020 (M1J1374-21)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	696941	6.96	493764	7.39	141	50 - 150		-0.4200	+/-2.00	

16EW04-211020 (M1J1374-22)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	702395	7.04	493764	7.39	142	50 - 150		-0.3400	+/-2.00	

16EW08-211020 (M1J1374-23)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	664953	6.99	493764	7.39	135	50 - 150		-0.3900	+/-2.00	

16RW04-211020 (M1J1374-24)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	675332	7.04	493764	7.39	137	50 - 150		-0.3400	+/-2.00	

16RW11-211021 (M1J1374-25)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	691931	6.99	493764	7.39	140	50 - 150		-0.3900	+/-2.00	

16RW11-211021-FD (M1J1374-26)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	680219	6.99	493764	7.39	138	50 - 150		-0.3900	+/-2.00	

16IW20-211021 (M1J1374-27)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	583277	6.94	493764	7.39	118	50 - 150		-0.4400	+/-2.00	

16WW40-211021 (M1J1374-28)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	570409	6.89	493764	7.39	116	50 - 150		-0.4900	+/-2.00	

16WW12-211021 (M1J1374-29)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	653413	7.13	493764	7.39	132	50 - 150		-0.2500	+/-2.00	

16EW07-211021 (M1J1374-30)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	715489	6.51	493764	7.39	145	50 - 150		-0.8500	+/-2.00	

MICROBAC®

Laboratory Report Number: M1J1374

Client Project ID: LHAAP

INTERNAL STANDARD AREA SUMMARY
FORM VIIIA

16EW05-211021 (M1J1374-31)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	852362	6.56	493764	7.39	173	50 - 150	*	-0.8000	+/-2.00	

16EW05-211021-FD (M1J1374-32)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	831097	6.54	493764	7.39	168	50 - 150	*	-0.8200	+/-2.00	

16IW03-211021 (M1J1374-34)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	995997	6.78	493764	7.39	202	50 - 150	*	-0.5800	+/-2.00	

Calibration Blank (S1K0152-CCB1)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	465704	7.39	493764	7.39	94	50 - 150		0.0800	+/-2.00	

Calibration Blank (S1K0152-CCB2)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	747106	7.39	493764	7.39	151	50 - 150	*	0.0100	+/-2.00	

Calibration Blank (S1K0152-CCB3)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	610179	7.39	493764	7.39	124	50 - 150		0.0300	+/-2.00	

Calibration Blank (S1K0152-CCB4)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	982949	7.23	493764	7.39	199	50 - 150	*	0.0000	+/-2.00	

Calibration Blank (S1K0152-CCB5)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	909222	7.16	493764	7.39	184	50 - 150	*	0.0000	+/-2.00	

Calibration Blank (S1K0152-CCB6)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	720011	7.23	493764	7.39	146	50 - 150		0.0200	+/-2.00	

Calibration Check (S1K0152-CCV1)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	493764	7.39	493764	7.39	100	50 - 150		0.0000	+/-2.00	

Calibration Check (S1K0152-CCV2)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	792135	7.38	493764	7.39	160	50 - 150	*	0.0000	+/-2.00	

MICROBAC®

Laboratory Report Number: M1J1374

Client Project ID: LHAAP

INTERNAL STANDARD AREA SUMMARY
FORM VIIIA

Calibration Check (S1K0152-CCV3)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	726914	7.36	493764	7.39	147	50 - 150		0.0000	+/-2.00	

Calibration Check (S1K0152-CCV4)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	1044422	7.23	493764	7.39	212	50 - 150	*	0.0000	+/-2.00	

Calibration Check (S1K0152-CCV5)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	896995	7.16	493764	7.39	182	50 - 150	*	0.0000	+/-2.00	

Calibration Check (S1K0152-CCV6)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	779391	7.21	493764	7.39	158	50 - 150	*	0.0000	+/-2.00	

Instrument RL Check (S1K0152-CRL1)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	495263	7.39	493764	7.39	100	50 - 150		0.0000	+/-2.00	

Instrument RL Check (S1K0152-CRL2)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	747862	7.39	493764	7.39	151	50 - 150	*	0.0100	+/-2.00	

Instrument RL Check (S1K0152-CRL3)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	669914	7.38	493764	7.39	136	50 - 150		0.0200	+/-2.00	

Instrument RL Check (S1K0152-CRL4)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	1109933	7.23	493764	7.39	225	50 - 150	*	0.0000	+/-2.00	

Instrument RL Check (S1K0152-CRL5)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	1040105	7.16	493764	7.39	211	50 - 150	*	0.0000	+/-2.00	

Instrument RL Check (S1K0152-CRL6)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	677237	7.23	493764	7.39	137	50 - 150		0.0200	+/-2.00	

Initial Cal Blank (S1K0152-ICB1)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	756431	7.31	493764	7.39	153	50 - 150	*	0.0000	+/-2.00	

MICROBAC®

Laboratory Report Number: M1J1374

Client Project ID: LHAAP

INTERNAL STANDARD AREA SUMMARY
FORM VIIIA

Initial Cal Check (S1K0152-ICV1)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	994748	7.31	493764	7.39	201	50 - 150	*	0.0000	+/-2.00	

Interference Check A (S1K0152-IFA1)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	597044	6.84	493764	7.39	121	50 - 150		-0.5500	+/-2.00	

MICROBAC®

Laboratory Report Number: M1J1374

Client Project ID: LHAAP

INTERNAL STANDARD AREA SUMMARY
FORM VIIIA

Laboratory:	Microbac Laboratories Inc., - Marietta, OH	**SDG:**	M1J1374
Client:	APTIM Tennessee	**Project:**	Longhorn AAP
Sequence:	S1K0230	**Instrument:**	LCMS2
		Calibration:	21K0019

16EW06-211021 (M1J1374-33)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	3048	7.19	618494	7.26	0	50 - 150	*	-0.0700	+/-2.00	

Calibration Blank (S1K0230-CCB1)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	1025107	7.26	784189	7.31	131	50 - 150		-0.0500	+/-2.00	

Calibration Blank (S1K0230-CCB2)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	945642	7.09	618494	7.26	153	50 - 150	*	0.0000	+/-2.00	

Calibration Check (S1K0230-CCV1)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	618494	7.26	618494	7.26	100	50 - 150		0.0000	+/-2.00	

Calibration Check (S1K0230-CCV2)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	994333	7.09	618494	7.26	161	50 - 150	*	0.0000	+/-2.00	

Instrument RL Check (S1K0230-CRL1)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	598008	7.26	618494	7.26	97	50 - 150		0.0000	+/-2.00	

Instrument RL Check (S1K0230-CRL2)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	1057097	7.09	618494	7.26	171	50 - 150	*	0.0000	+/-2.00	

Interference Check A (S1K0230-IFA1)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	699302	6.69	618494	7.26	113	50 - 150		-0.5700	+/-2.00	

MICROBAC®

Section A:
HPLC Organics
EPA 6850
Batch / Sequence Raw Data

Microbac Laboratories, Inc.
158 Starlite Drive | Marietta, OH 45750 | 800.373.4071 | www.microbac.com

Perchlorate Conductivity Check

(perchlorate1)

Conductivity Probe Calibration Check: 1415 /1410 µs/cm

Working MCT Level: 9880 µs/cm

Sample	Conductivity (µs/cm)	Pretreatment or Dilution Needed
MLJ1374-01	1282	
-02	1283	
-03	2340	
-04	1706	
-05	991	
-06	3540	
-07	5180	
-08	632	
-09	4540	
-10	3290	
-11	3790	
-12	11920	
-13	654	
-14	8030	
-15	2880	
-16	4110	
-17	1394	

Analyst: Craig A Smith

Date/Time: 11/12/21 / 1230

Perchlorate Conductivity Check
(perchlorate1)

Conductivity Probe Calibration Check: 1414 /1410 µs/cm

Working MCT Level: 9860 µs/cm

Sample	Conductivity (µs/cm)	Pretreatment or Dilution Needed
MIJ1374-18	4590	
-19	7780	
-20	6590	
-21	5040	
-22	3730	
-23	1919	
-24	1806	
-25	4380	
-26	4410	
-27	4740	
-28	6080	
-29	6050	
-30	189.9	
-31	480	
-32	471	
-33	0.15	
-34	5440	

Analyst: Craig A. Smith

Date/Time: 11/2/21 / 1410

Filename	Sample Type	Level	Sample ID	Comments	Compound	Type	Area	Ion Ratio (2.31-3.85)
2LM031671	Unknown		S1K0132-ICB1	1:1	Perchlorate	Target Compound	4599	3.910714286
2LM031671	Unknown		S1K0132-ICB1	1:1	Perchlorate	Confirming Peak	1176	
2LM031672	Cal Std	1	S1K0132-CAL1	1:1 0012469	Perchlorate	Target Compound	24800	2.962609007
2LM031672	Cal Std	1	S1K0132-CAL1	1:1 0012469	Perchlorate	Confirming Peak	8371	
2LM031673	Cal Std	2	S1K0132-CAL2	1:1 0012468	Perchlorate	Target Compound	42484	3.244043983
2LM031673	Cal Std	2	S1K0132-CAL2	1:1 0012468	Perchlorate	Confirming Peak	13096	
2LM031674	Cal Std	3	S1K0132-CAL3	1:1 0012467	Perchlorate	Target Compound	69574	2.985111769
2LM031674	Cal Std	3	S1K0132-CAL3	1:1 0012467	Perchlorate	Confirming Peak	23307	
2LM031675	Cal Std	4	S1K0132-CAL4	1:1 0012466	Perchlorate	Target Compound	156964	2.989448825
2LM031675	Cal Std	4	S1K0132-CAL4	1:1 0012466	Perchlorate	Confirming Peak	52506	
2LM031676	Cal Std	5	S1K0132-CAL5	1:1 0012465	Perchlorate	Target Compound	382143	3.06796779
2LM031676	Cal Std	5	S1K0132-CAL5	1:1 0012465	Perchlorate	Confirming Peak	124559	
2LM031677	Cal Std	6	S1K0132-CAL6	1:1 0012464	Perchlorate	Target Compound	1163476	3.166481146
2LM031677	Cal Std	6	S1K0132-CAL6	1:1 0012464	Perchlorate	Confirming Peak	367435	
2LM031678	Cal Std	7	S1K0132-CAL7	1:1 0012463	Perchlorate	Target Compound	2247068	3.182946608
2LM031678	Cal Std	7	S1K0132-CAL7	1:1 0012463	Perchlorate	Confirming Peak	705971	
2LM031679	Chk Std	ICV	S1K0132-ICV1	1:1 0012475	Perchlorate	Target Compound	174629	3.020061221
2LM031679	Chk Std	ICV	S1K0132-ICV1	1:1 0012475	Perchlorate	Confirming Peak	57823	
2LM031680	Unknown		S1K0132-CCB1	1:1	Perchlorate	Target Compound	3364	#VALUE!
2LM031680	Unknown		S1K0132-CCB1	1:1	Perchlorate	Confirming Peak	N/F	
2LM031681	Chk Std	CCV	S1K0132-CCV1	1:1 0012466	Perchlorate	Target Compound	213851	3.051309125
2LM031681	Chk Std	CCV	S1K0132-CCV1	1:1 0012466	Perchlorate	Confirming Peak	70085	
2LM031682	Chk Std	QCMRL	S1K0132-CRL1	1:1 0012468	Perchlorate	Target Compound	49910	3.098845151
2LM031682	Chk Std	QCMRL	S1K0132-CRL1	1:1 0012468	Perchlorate	Confirming Peak	16106	
2LM031683	Unknown		S1K0132-IFA1	1:1 0012477	Perchlorate	Target Compound	56309	2.855860425
2LM031683	Unknown		S1K0132-IFA1	1:1 0012477	Perchlorate	Confirming Peak	19717	
2LM031684	Unknown		B1K0219-BLK1	1:1	Perchlorate	Target Compound	3927	#VALUE!
2LM031684	Unknown		B1K0219-BLK1	1:1	Perchlorate	Confirming Peak	N/F	
2LM031685	Unknown		B1K0219-BS1	1:1 0012474	Perchlorate	Target Compound	48193	3.250354084
2LM031685	Unknown		B1K0219-BS1	1:1 0012474	Perchlorate	Confirming Peak	14827	
2LM031686	Unknown		M1J1374-01	1:1	Perchlorate	Target Compound	9470	3.236500342
2LM031686	Unknown		M1J1374-01	1:1	Perchlorate	Confirming Peak	2926	
2LM031687	Unknown		M1J1374-02	1:1	Perchlorate	Target Compound	4692	2.519871106
2LM031687	Unknown		M1J1374-02	1:1	Perchlorate	Confirming Peak	1862	
2LM031688	Unknown		M1J1374-03	1:1	Perchlorate	Target Compound	3054	4.394244604
2LM031688	Unknown		M1J1374-03	1:1	Perchlorate	Confirming Peak	695	
2LM031689	Unknown		M1J1374-04	1:1	Perchlorate	Target Compound	5264	2.251497006
2LM031689	Unknown		M1J1374-04	1:1	Perchlorate	Confirming Peak	2338	
2LM031690	Unknown		M1J1374-05	1:1	Perchlorate	Target Compound	1228	3.336956522
2LM031690	Unknown		M1J1374-05	1:1	Perchlorate	Confirming Peak	368	
2LM031691	Unknown		M1J1374-06	1:1	Perchlorate	Target Compound	2962	#VALUE!
2LM031691	Unknown		M1J1374-06	1:1	Perchlorate	Confirming Peak	N/F	
2LM031692	Unknown		M1J1374-07	1:1	Perchlorate	Target Compound	1078	#VALUE!
2LM031692	Unknown		M1J1374-07	1:1	Perchlorate	Confirming Peak	N/F	
2LM031693	Chk Std	CCV	S1K0132-CCV2	1:1 0012466	Perchlorate	Target Compound	117370	3.053409298
2LM031693	Chk Std	CCV	S1K0132-CCV2	1:1 0012466	Perchlorate	Confirming Peak	38439	
2LM031694	Chk Std	QCMRL	S1K0132-CRL2	1:1 0012468	Perchlorate	Target Compound	23899	3.082946336
2LM031694	Chk Std	QCMRL	S1K0132-CRL2	1:1 0012468	Perchlorate	Confirming Peak	7752	
2LM031695	Unknown		S1K0132-CCB2	1:1	Perchlorate	Target Compound	2522	3.102091021
2LM031695	Unknown		S1K0132-CCB2	1:1	Perchlorate	Confirming Peak	813	
2LM031696	Unknown		M1J1374-08	1:1	Perchlorate	Target Compound	1536	#VALUE!
2LM031696	Unknown		M1J1374-08	1:1	Perchlorate	Confirming Peak	N/F	
2LM031697	Unknown		M1J1374-09	1:1	Perchlorate	Target Compound	3076	#VALUE!
2LM031697	Unknown		M1J1374-09	1:1	Perchlorate	Confirming Peak	N/F	
2LM031698	Unknown		M1J1374-10	1:1	Perchlorate	Target Compound	2923	#VALUE!
2LM031698	Unknown		M1J1374-10	1:1	Perchlorate	Confirming Peak	N/F	
2LM031699	Unknown		B1K0219-MS1	1:1	Perchlorate	Target Compound	31480	3.323830641

Filename	Sample Type	Level	Sample ID	Comments	Compound	Type	Area	Ion Ratio (2.31-3.85)
2LM031699	Unknown		B1K0219-MS1	1:1	Perchlorate	Confirming Peak	9471	
2LM031700	Unknown		B1K0219-MSD1	1:1	Perchlorate	Target Compound	33024	3.024175824
2LM031700	Unknown		B1K0219-MSD1	1:1	Perchlorate	Confirming Peak	10920	
2LM031701	Unknown		M1J1374-11	1:1	Perchlorate	Target Compound	79837	3.10094772
2LM031701	Unknown		M1J1374-11	1:1	Perchlorate	Confirming Peak	25746	
2LM031702	Unknown		M1J1374-12	1:1	Perchlorate	Target Compound	14998264	3.053594548
2LM031702	Unknown		M1J1374-12	1:1	Perchlorate	Confirming Peak	4911675	
2LM031703	Unknown		M1J1374-13	1:1	Perchlorate	Target Compound	1476	1.602605863
2LM031703	Unknown		M1J1374-13	1:1	Perchlorate	Confirming Peak	921	
2LM031704	Unknown		M1J1374-14	1:1	Perchlorate	Target Compound	5136976	3.186551536
2LM031704	Unknown		M1J1374-14	1:1	Perchlorate	Confirming Peak	1612080	
2LM031705	Unknown		M1J1374-15	1:1	Perchlorate	Target Compound	1682	#VALUE!
2LM031705	Unknown		M1J1374-15	1:1	Perchlorate	Confirming Peak	N/F	
2LM031706	Chk Std	CCV	S1K0132-CCV3	1:1 0012466	Perchlorate	Target Compound	169342	3.153188716
2LM031706	Chk Std	CCV	S1K0132-CCV3	1:1 0012466	Perchlorate	Confirming Peak	53705	
2LM031707	Chk Std	QCMRL	S1K0132-CRL3	1:1 0012468	Perchlorate	Target Compound	35574	3.127659574
2LM031707	Chk Std	QCMRL	S1K0132-CRL3	1:1 0012468	Perchlorate	Confirming Peak	11374	
2LM031708	Unknown		S1K0132-CCB3	1:1	Perchlorate	Target Compound	2765	#VALUE!
2LM031708	Unknown		S1K0132-CCB3	1:1	Perchlorate	Confirming Peak	N/F	
2LM031709	Unknown		M1J1374-16	1:1	Perchlorate	Target Compound	1205	#VALUE!
2LM031709	Unknown		M1J1374-16	1:1	Perchlorate	Confirming Peak	N/F	
2LM031710	Unknown		M1J1374-17	1:1	Perchlorate	Target Compound	9313	3.221376686
2LM031710	Unknown		M1J1374-17	1:1	Perchlorate	Confirming Peak	2891	
2LM031719	Chk Std	CCV	S1K0132-CCV4	1:1	Perchlorate	Target Compound	186676	3.059861002
2LM031719	Chk Std	CCV	S1K0132-CCV4	1:1	Perchlorate	Confirming Peak	61008	
2LM031720	Chk Std	QCMRL	S1K0132-CRL4	1:1	Perchlorate	Target Compound	38786	3.353449767
2LM031720	Chk Std	QCMRL	S1K0132-CRL4	1:1	Perchlorate	Confirming Peak	11566	
2LM031721	Unknown		S1K0132-CCB4	1:1	Perchlorate	Target Compound	3708	#VALUE!
2LM031721	Unknown		S1K0132-CCB4	1:1	Perchlorate	Confirming Peak	N/F	

Filename	Sample Type	Level	Sample ID	Comments	Compound	Type	Area	IS Rec (50-150 Avg. ICAL)
2LM031671	Unknown		S1K0132-ICB1	1:1	O18LP	Internal Standard	1513430	
2LM031672	Cal Std	1	S1K0132-CAL1	1:1 0012469	O18LP	Internal Standard	1481910	
2LM031673	Cal Std	2	S1K0132-CAL2	1:1 0012468	O18LP	Internal Standard	1223382	
2LM031674	Cal Std	3	S1K0132-CAL3	1:1 0012467	O18LP	Internal Standard	811538	
2LM031675	Cal Std	4	S1K0132-CAL4	1:1 0012466	O18LP	Internal Standard	898525	1155769.286
2LM031676	Cal Std	5	S1K0132-CAL5	1:1 0012465	O18LP	Internal Standard	1126998	
2LM031677	Cal Std	6	S1K0132-CAL6	1:1 0012464	O18LP	Internal Standard	1320643	
2LM031678	Cal Std	7	S1K0132-CAL7	1:1 0012463	O18LP	Internal Standard	1227389	
2LM031679	Chk Std	ICV	S1K0132-ICV1	1:1 0012475	O18LP	Internal Standard	984059	85.14320394
2LM031680	Unknown		S1K0132-CCB1	1:1	O18LP	Internal Standard	918834	79.49977659
2LM031681	Chk Std	CCV	S1K0132-CCV1	1:1 0012466	O18LP	Internal Standard	1246229	107.8267969
2LM031682	Chk Std	QCMRL	S1K0132-CRL1	1:1 0012468	O18LP	Internal Standard	1440110	124.6018576
2LM031683	Unknown		S1K0132-IFA1	1:1 0012477	O18LP	Internal Standard	1348304	116.6585768
2LM031684	Unknown		B1K0219-BLK1	1:1	O18LP	Internal Standard	1316302	113.8896851
2LM031685	Unknown		B1K0219-BS1	1:1 0012474	O18LP	Internal Standard	1290027	111.6163075
2LM031686	Unknown		M1J1374-01	1:1	O18LP	Internal Standard	1253375	108.4450864
2LM031687	Unknown		M1J1374-02	1:1	O18LP	Internal Standard	696596	60.27119847
2LM031688	Unknown		M1J1374-03	1:1	O18LP	Internal Standard	640130	55.38562133
2LM031689	Unknown		M1J1374-04	1:1	O18LP	Internal Standard	617712	53.44596085
2LM031690	Unknown		M1J1374-05	1:1	O18LP	Internal Standard	660260	57.12731842
2LM031691	Unknown		M1J1374-06	1:1	O18LP	Internal Standard	644005	55.72089585
2LM031692	Unknown		M1J1374-07	1:1	O18LP	Internal Standard	598971	51.82444346
2LM031693	Chk Std	CCV	S1K0132-CCV2	1:1 0012466	O18LP	Internal Standard	672981	58.22797061
2LM031694	Chk Std	QCMRL	S1K0132-CRL2	1:1 0012468	O18LP	Internal Standard	706005	61.08528828
2LM031695	Unknown		S1K0132-CCB2	1:1	O18LP	Internal Standard	766409	66.31159086
2LM031696	Unknown		M1J1374-08	1:1	O18LP	Internal Standard	739506	63.98387716
2LM031697	Unknown		M1J1374-09	1:1	O18LP	Internal Standard	717752	62.1016676
2LM031698	Unknown		M1J1374-10	1:1	O18LP	Internal Standard	819918	70.94132109
2LM031699	Unknown		B1K0219-MS1	1:1	O18LP	Internal Standard	824170	71.30921458
2LM031700	Unknown		B1K0219-MSD1	1:1	O18LP	Internal Standard	856030	74.06582011
2LM031701	Unknown		M1J1374-11	1:1	O18LP	Internal Standard	888621	76.88567355
2LM031702	Unknown		M1J1374-12	1:1	O18LP	Internal Standard	514155	44.48595462
2LM031703	Unknown		M1J1374-13	1:1	O18LP	Internal Standard	977378	84.56514739
2LM031704	Unknown		M1J1374-14	1:1	O18LP	Internal Standard	657200	56.86255969
2LM031705	Unknown		M1J1374-15	1:1	O18LP	Internal Standard	830329	71.8421064
2LM031706	Chk Std	CCV	S1K0132-CCV3	1:1 0012466	O18LP	Internal Standard	1006212	87.05993596
2LM031707	Chk Std	QCMRL	S1K0132-CRL3	1:1 0012468	O18LP	Internal Standard	1041209	90.08796244
2LM031708	Unknown		S1K0132-CCB3	1:1	O18LP	Internal Standard	1043978	90.32754313
2LM031709	Unknown		M1J1374-16	1:1	O18LP	Internal Standard	692504	59.91714857
2LM031710	Unknown		M1J1374-17	1:1	O18LP	Internal Standard	889253	76.94035574
2LM031719	Chk Std	CCV	S1K0132-CCV4	1:1	O18LP	Internal Standard	1112142	96.22525998
2LM031720	Chk Std	QCMRL	S1K0132-CRL4	1:1	O18LP	Internal Standard	1138588	98.51343292
2LM031721	Unknown		S1K0132-CCB4	1:1	O18LP	Internal Standard	1172502	101.4477556

Filename	Sample Type	Level	Sample ID	Comments	Compound	Type	Area	Ion Ratio (2.31-3.85)
2LM032013	Unknown		S1K0152-ICB1	1:1	Perchlorate	Target Compound	N/F	#VALUE!
2LM032013	Unknown		S1K0152-ICB1	1:1	Perchlorate	Confirming Peak	N/F	
2LM032014	Cal Std	1	S1K0152-CAL1	1:1 0012469	Perchlorate	Target Compound	12980	3.257214555
2LM032014	Cal Std	1	S1K0152-CAL1	1:1 0012469	Perchlorate	Confirming Peak	3985	
2LM032015	Cal Std	2	S1K0152-CAL2	1:1 0012468	Perchlorate	Target Compound	27990	3.302654867
2LM032015	Cal Std	2	S1K0152-CAL2	1:1 0012468	Perchlorate	Confirming Peak	8475	
2LM032016	Cal Std	3	S1K0152-CAL3	1:1 0012467	Perchlorate	Target Compound	90519	3.069064895
2LM032016	Cal Std	3	S1K0152-CAL3	1:1 0012467	Perchlorate	Confirming Peak	29494	
2LM032017	Cal Std	4	S1K0152-CAL4	1:1 0012466	Perchlorate	Target Compound	149029	3.08350748
2LM032017	Cal Std	4	S1K0152-CAL4	1:1 0012466	Perchlorate	Confirming Peak	48331	
2LM032018	Cal Std	5	S1K0152-CAL5	1:1 0012465	Perchlorate	Target Compound	363941	3.061646659
2LM032018	Cal Std	5	S1K0152-CAL5	1:1 0012465	Perchlorate	Confirming Peak	118871	
2LM032019	Cal Std	6	S1K0152-CAL6	1:1 0012464	Perchlorate	Target Compound	919699	3.189147109
2LM032019	Cal Std	6	S1K0152-CAL6	1:1 0012464	Perchlorate	Confirming Peak	288384	
2LM032020	Cal Std	7	S1K0152-CAL7	1:1 0012463	Perchlorate	Target Compound	1811581	3.215420906
2LM032020	Cal Std	7	S1K0152-CAL7	1:1 0012463	Perchlorate	Confirming Peak	563404	
2LM032021	Chk Std	ICV	S1K0152-ICV1	1:1 0012475	Perchlorate	Target Compound	175186	3.164086911
2LM032021	Chk Std	ICV	S1K0152-ICV1	1:1 0012475	Perchlorate	Confirming Peak	55367	

Filename	Sample Type	Level	Sample ID	Comments	Compound	Type	Area	IS Rec (50-150 Avg. ICAL)
2LM032013	Unknown		S1K0152-ICB1	1:1	O18LP	Internal Standard	756431	
2LM032014	Cal Std	1	S1K0152-CAL1	1:1 0012469	O18LP	Internal Standard	791546	
2LM032015	Cal Std	2	S1K0152-CAL2	1:1 0012468	O18LP	Internal Standard	799491	
2LM032016	Cal Std	3	S1K0152-CAL3	1:1 0012467	O18LP	Internal Standard	784189	
2LM032017	Cal Std	4	S1K0152-CAL4	1:1 0012466	O18LP	Internal Standard	863453	908793.5714
2LM032018	Cal Std	5	S1K0152-CAL5	1:1 0012465	O18LP	Internal Standard	1067074	
2LM032019	Cal Std	6	S1K0152-CAL6	1:1 0012464	O18LP	Internal Standard	1079607	
2LM032020	Cal Std	7	S1K0152-CAL7	1:1 0012463	O18LP	Internal Standard	976195	
2LM032021	Chk Std	ICV	S1K0152-ICV1	1:1 0012475	O18LP	Internal Standard	994748	109.4580806

Filename	Sample Type	Level	Sample ID	Comments	Compound	Type	Area	Ion Ratio (2.31-3.85)
2LM032031	Unknown		S1K0152-CCB1	1:1	Perchlorate	Target Compound	N/F	#VALUE!
2LM032031	Unknown		S1K0152-CCB1	1:1	Perchlorate	Confirming Peak	N/F	
2LM032032	Chk Std	CCV	S1K0152-CCV1	1:1 1007581	Perchlorate	Target Compound	85080	3.274196652
2LM032032	Chk Std	CCV	S1K0152-CCV1	1:1 1007581	Perchlorate	Target Compound	25985	
2LM032033	Chk Std	QCMRL	S1K0152-CRL1	1:1 1007583	Perchlorate	Target Compound	17214	3.316763006
2LM032033	Chk Std	QCMRL	S1K0152-CRL1	1:1 1007583	Perchlorate	Target Compound	5190	
2LM032034	Unknown		S1K0152-IFA1	1:1 1006967	Perchlorate	Target Compound	25324	3.088292683
2LM032034	Unknown		S1K0152-IFA1	1:1 1006967	Perchlorate	Target Compound	8200	
2LM032035	Unknown		M1J1374-11	1:1	Perchlorate	Target Compound	55661	3.089531528
2LM032035	Unknown		M1J1374-11	1:1	Perchlorate	Target Compound	18016	
2LM032036	Unknown		M1J1374-12@100	1:100	Perchlorate	Target Compound	75922	3.09078326
2LM032036	Unknown		M1J1374-12@100	1:100	Perchlorate	Target Compound	24564	
2LM032037	Unknown		M1J1374-14@10	1:10	Perchlorate	Target Compound	472527	3.092960236
2LM032037	Unknown		M1J1374-14@10	1:10	Perchlorate	Target Compound	152775	
2LM032038	Unknown		B1K0220-BLK1	1:1	Perchlorate	Target Compound	1737	3.641509434
2LM032038	Unknown		B1K0220-BLK1	1:1	Perchlorate	Target Compound	477	
2LM032039	Unknown		B1K0220-BS1	1:1	Perchlorate	Target Compound	21567	3.064800341
2LM032039	Unknown		B1K0220-BS1	1:1	Perchlorate	Target Compound	7037	
2LM032040	Unknown		M1J1374-18	1:1	Perchlorate	Target Compound	3244	2.930442638
2LM032040	Unknown		M1J1374-18	1:1	Perchlorate	Target Compound	1107	
2LM032041	Unknown		B1K0220-MS1	1:1	Perchlorate	Target Compound	25543	3.045183596
2LM032041	Unknown		B1K0220-MS1	1:1	Perchlorate	Target Compound	8388	
2LM032042	Unknown		B1K0220-MSD1	1:1	Perchlorate	Target Compound	28363	2.898324137
2LM032042	Unknown		B1K0220-MSD1	1:1	Perchlorate	Target Compound	9786	
2LM032043	Unknown		M1J1374-19@10	1:10	Perchlorate	Target Compound	507150	3.10274576
2LM032043	Unknown		M1J1374-19@10	1:10	Perchlorate	Target Compound	163452	
2LM032044	Chk Std	CCV	S1K0152-CCV2	1:1 1007581	Perchlorate	Target Compound	133144	3.120757547
2LM032044	Chk Std	CCV	S1K0152-CCV2	1:1 1007581	Perchlorate	Target Compound	42664	
2LM032045	Chk Std	QCMRL	S1K0152-CRL2	1:1 1007583	Perchlorate	Target Compound	24483	2.986095865
2LM032045	Chk Std	QCMRL	S1K0152-CRL2	1:1 1007583	Perchlorate	Target Compound	8199	
2LM032046	Unknown		S1K0152-CCB2	1:1	Perchlorate	Target Compound	N/F	#VALUE!
2LM032046	Unknown		S1K0152-CCB2	1:1	Perchlorate	Target Compound	N/F	
2LM032047	Unknown		M1J1374-20	1:1	Perchlorate	Target Compound	7224	2.959442851
2LM032047	Unknown		M1J1374-20	1:1	Perchlorate	Target Compound	2441	
2LM032048	Unknown		M1J1374-21	1:1	Perchlorate	Target Compound	317621	3.116803721
2LM032048	Unknown		M1J1374-21	1:1	Perchlorate	Target Compound	101906	
2LM032049	Unknown		M1J1374-22	1:1	Perchlorate	Target Compound	2430	0.997536946
2LM032049	Unknown		M1J1374-22	1:1	Perchlorate	Target Compound	2436	
2LM032050	Unknown		M1J1374-23	1:1	Perchlorate	Target Compound	1669	3.285433071
2LM032050	Unknown		M1J1374-23	1:1	Perchlorate	Target Compound	508	
2LM032051	Unknown		M1J1374-24	1:1	Perchlorate	Target Compound	1246	#VALUE!
2LM032051	Unknown		M1J1374-24	1:1	Perchlorate	Target Compound	N/F	
2LM032052	Unknown		M1J1374-25	1:1	Perchlorate	Target Compound	1630	#VALUE!
2LM032052	Unknown		M1J1374-25	1:1	Perchlorate	Target Compound	N/F	
2LM032053	Unknown		M1J1374-26	1:1	Perchlorate	Target Compound	799	#VALUE!
2LM032053	Unknown		M1J1374-26	1:1	Perchlorate	Target Compound	N/F	
2LM032054	Unknown		M1J1374-27	1:1	Perchlorate	Target Compound	N/F	#VALUE!
2LM032054	Unknown		M1J1374-27	1:1	Perchlorate	Target Compound	N/F	
2LM032055	Unknown		M1J1374-28	1:1	Perchlorate	Target Compound	64126	2.972374154
2LM032055	Unknown		M1J1374-28	1:1	Perchlorate	Target Compound	21574	
2LM032056	Unknown		M1J1374-29@10	1:10	Perchlorate	Target Compound	273631	3.070710358
2LM032056	Unknown		M1J1374-29@10	1:10	Perchlorate	Target Compound	89110	
2LM032057	Chk Std	CCV	S1K0152-CCV3	1:1 1007581	Perchlorate	Target Compound	123269	3.202540854
2LM032057	Chk Std	CCV	S1K0152-CCV3	1:1 1007581	Perchlorate	Target Compound	38491	
2LM032058	Chk Std	QCMRL	S1K0152-CRL3	1:1 1007583	Perchlorate	Target Compound	22696	3.334214779
2LM032058	Chk Std	QCMRL	S1K0152-CRL3	1:1 1007583	Perchlorate	Target Compound	6807	
2LM032059	Unknown		S1K0152-CCB3	1:1	Perchlorate	Target Compound	N/F	#VALUE!

2LM032059	Unknown		S1K0152-CCB3	1:1	Perchlorate	Target Compound	N/F	
2LM032060	Unknown		M1J1374-30	1:1	Perchlorate	Target Compound	28684	3.683575189
2LM032060	Unknown		M1J1374-30	1:1	Perchlorate	Target Compound	7787	
2LM032061	Unknown		M1J1374-31	1:1	Perchlorate	Target Compound	25512	3.148852135
2LM032061	Unknown		M1J1374-31	1:1	Perchlorate	Target Compound	8102	
2LM032062	Unknown		M1J1374-32	1:1	Perchlorate	Target Compound	N/F	#VALUE!
2LM032062	Unknown		M1J1374-32	1:1	Perchlorate	Target Compound	N/F	
2LM032063	Unknown		M1J1374-33	1:1	Perchlorate	Target Compound	N/F	#VALUE!
2LM032063	Unknown		M1J1374-33	1:1	Perchlorate	Target Compound	N/F	
2LM032064	Unknown		M1J1374-34	1:1	Perchlorate	Target Compound	3103	#VALUE!
2LM032064	Unknown		M1J1374-34	1:1	Perchlorate	Target Compound	N/F	
2LM032065	Unknown		M1J0691-05@10	1:10	Perchlorate	Target Compound	328536	3.147499521
2LM032065	Unknown		M1J0691-05@10	1:10	Perchlorate	Target Compound	104380	
2LM032066	Unknown		M1J1413-01@100	1:100	Perchlorate	Target Compound	373583	3.118284865
2LM032066	Unknown		M1J1413-01@100	1:100	Perchlorate	Target Compound	119804	
2LM032067	Unknown		M1J1535-01	1:1	Perchlorate	Target Compound	45683	3.081691851
2LM032067	Unknown		M1J1535-01	1:1	Perchlorate	Target Compound	14824	
2LM032068	Unknown		B1K0221-BLK1	1:1	Perchlorate	Target Compound	4041	4.33583691
2LM032068	Unknown		B1K0221-BLK1	1:1	Perchlorate	Target Compound	932	
2LM032069	Unknown		B1K0221-BS1	1:1	Perchlorate	Target Compound	36607	3.234977024
2LM032069	Unknown		B1K0221-BS1	1:1	Perchlorate	Target Compound	11316	
2LM032070	Chk Std	CCV	S1K0152-CCV4	1:1 1007581	Perchlorate	Target Compound	176488	3.114805598
2LM032070	Chk Std	CCV	S1K0152-CCV4	1:1 1007581	Perchlorate	Target Compound	56661	
2LM032071	Chk Std	QCMRL	S1K0152-CRL4	1:1 1007583	Perchlorate	Target Compound	36808	3.073480294
2LM032071	Chk Std	QCMRL	S1K0152-CRL4	1:1 1007583	Perchlorate	Target Compound	11976	
2LM032072	Unknown		S1K0152-CCB4	1:1	Perchlorate	Target Compound	N/F	#VALUE!
2LM032072	Unknown		S1K0152-CCB4	1:1	Perchlorate	Target Compound	N/F	
2LM032073	Unknown		M1J1516-01	1:1	Perchlorate	Target Compound	4616	#VALUE!
2LM032073	Unknown		M1J1516-01	1:1	Perchlorate	Target Compound	N/F	
2LM032074	Unknown		B1K0221-MS1	1:1	Perchlorate	Target Compound	46346	3.133815674
2LM032074	Unknown		B1K0221-MS1	1:1	Perchlorate	Target Compound	14789	
2LM032075	Unknown		B1K0221-MSD1	1:1	Perchlorate	Target Compound	43704	3.280834772
2LM032075	Unknown		B1K0221-MSD1	1:1	Perchlorate	Target Compound	13321	
2LM032076	Unknown		M1J1516-02@100	1:100	Perchlorate	Target Compound	443590	3.186297749
2LM032076	Unknown		M1J1516-02@100	1:100	Perchlorate	Target Compound	139218	
2LM032077	Unknown		M1J1516-03	1:1	Perchlorate	Target Compound	3711	2.235542169
2LM032077	Unknown		M1J1516-03	1:1	Perchlorate	Target Compound	1660	
2LM032078	Unknown		M1J1516-04	1:1	Perchlorate	Target Compound	6232	3.012083132
2LM032078	Unknown		M1J1516-04	1:1	Perchlorate	Target Compound	2069	
2LM032079	Unknown		M1J1516-05	1:1	Perchlorate	Target Compound	10455	3.289804909
2LM032079	Unknown		M1J1516-05	1:1	Perchlorate	Target Compound	3178	
2LM032080	Unknown		M1J1516-06	1:1	Perchlorate	Target Compound	37318	2.660250927
2LM032080	Unknown		M1J1516-06	1:1	Perchlorate	Target Compound	14028	
2LM032081	Unknown		M1J1516-07	1:1	Perchlorate	Target Compound	1224191	3.164666224
2LM032081	Unknown		M1J1516-07	1:1	Perchlorate	Target Compound	386831	
2LM032082	Unknown		M1J1516-08	1:1	Perchlorate	Target Compound	1951	#VALUE!
2LM032082	Unknown		M1J1516-08	1:1	Perchlorate	Target Compound	N/F	
2LM032083	Chk Std	CCV	S1K0152-CCV5	1:1 1007581	Perchlorate	Target Compound	151160	3.112273261
2LM032083	Chk Std	CCV	S1K0152-CCV5	1:1 1007581	Perchlorate	Target Compound	48569	
2LM032084	Chk Std	QCMRL	S1K0152-CRL5	1:1 1007583	Perchlorate	Target Compound	34910	2.877276848
2LM032084	Chk Std	QCMRL	S1K0152-CRL5	1:1 1007583	Perchlorate	Target Compound	12133	
2LM032085	Unknown		S1K0152-CCB5	1:1	Perchlorate	Target Compound	N/F	#VALUE!
2LM032085	Unknown		S1K0152-CCB5	1:1	Perchlorate	Target Compound	N/F	
2LM032086	Unknown		M1J1516-09@100	1:100	Perchlorate	Target Compound	400552	3.117378784
2LM032086	Unknown		M1J1516-09@100	1:100	Perchlorate	Target Compound	128490	
2LM032087	Unknown		M1J1516-10@100	1:100	Perchlorate	Target Compound	489986	3.168600215
2LM032087	Unknown		M1J1516-10@100	1:100	Perchlorate	Target Compound	154638	
2LM032088	Unknown		M1J1516-11	1:1	Perchlorate	Target Compound	2528	2.371482176

2LM032088	Unknown		M1J1516-11	1:1	Perchlorate	Target Compound	1066	
2LM032089	Unknown		M1J1516-12@10	1:10	Perchlorate	Target Compound	450806	3.090103985
2LM032089	Unknown		M1J1516-12@10	1:10	Perchlorate	Target Compound	145887	
2LM032090	Unknown		M1J1516-13	1:1	Perchlorate	Target Compound	6918	3.244840525
2LM032090	Unknown		M1J1516-13	1:1	Perchlorate	Target Compound	2132	
2LM032091	Unknown		M1J1516-14	1:1	Perchlorate	Target Compound	3568	#VALUE!
2LM032091	Unknown		M1J1516-14	1:1	Perchlorate	Target Compound	N/F	
2LM032092	Unknown		M1J1516-15	1:1	Perchlorate	Target Compound	1630	#VALUE!
2LM032092	Unknown		M1J1516-15	1:1	Perchlorate	Target Compound	N/F	
2LM032093	Unknown		M1J1516-16	1:1	Perchlorate	Target Compound	1656	#VALUE!
2LM032093	Unknown		M1J1516-16	1:1	Perchlorate	Target Compound	N/F	
2LM032094	Unknown		M1J1516-17	1:1	Perchlorate	Target Compound	2478	3.446453408
2LM032094	Unknown		M1J1516-17	1:1	Perchlorate	Target Compound	719	
2LM032095	Unknown		M1J1516-18	1:1	Perchlorate	Target Compound	1003	#VALUE!
2LM032095	Unknown		M1J1516-18	1:1	Perchlorate	Target Compound	N/F	
2LM032096	Chk Std	CCV	S1K0152-CCV6	1:1 1007581	Perchlorate	Target Compound	134943	3.173486666
2LM032096	Chk Std	CCV	S1K0152-CCV6	1:1 1007581	Perchlorate	Target Compound	42522	
2LM032097	Chk Std	QCMRL	S1K0152-CRL6	1:1 1007583	Perchlorate	Target Compound	23199	3.05370541
2LM032097	Chk Std	QCMRL	S1K0152-CRL6	1:1 1007583	Perchlorate	Target Compound	7597	
2LM032098	Unknown		S1K0152-CCB6	1:1	Perchlorate	Target Compound	N/F	#VALUE!
2LM032098	Unknown		S1K0152-CCB6	1:1	Perchlorate	Target Compound	N/F	

Filename	Sample Type	Level	Sample ID	Comments	Compound	Type	Area	IS Rec (50-150 Avg. ICAL)
2LM032014	Cal Std	1	S1K0152-CAL1	1:1 0012469	O18LP	Internal Standard	791546	
2LM032015	Cal Std	2	S1K0152-CAL2	1:1 0012468	O18LP	Internal Standard	799491	
2LM032016	Cal Std	3	S1K0152-CAL3	1:1 0012467	O18LP	Internal Standard	784189	
2LM032017	Cal Std	4	S1K0152-CAL4	1:1 0012466	O18LP	Internal Standard	863453	908793.5714
2LM032018	Cal Std	5	S1K0152-CAL5	1:1 0012465	O18LP	Internal Standard	1067074	
2LM032019	Cal Std	6	S1K0152-CAL6	1:1 0012464	O18LP	Internal Standard	1079607	
2LM032020	Cal Std	7	S1K0152-CAL7	1:1 0012463	O18LP	Internal Standard	976195	
2LM032031	Unknown		S1K0152-CCB1	1:1	O18LP	Internal Standard	465704	51.24420051
2LM032032	Chk Std	CCV	S1K0152-CCV1	1:1 1007581	O18LP	Internal Standard	493764	54.33181038
2LM032033	Chk Std	QCMRL	S1K0152-CRL1	1:1 1007583	O18LP	Internal Standard	495263	54.49675433
2LM032034	Unknown		S1K0152-IFA1	1:1 1006967	O18LP	Internal Standard	597044	65.69632739
2LM032035	Unknown		M1J1374-11	1:1	O18LP	Internal Standard	633080	69.66158431
2LM032036	Unknown		M1J1374-12@100	1:100	O18LP	Internal Standard	631813	69.52216872
2LM032037	Unknown		M1J1374-14@10	1:10	O18LP	Internal Standard	692560	76.20652498
2LM032038	Unknown		B1K0220-BLK1	1:1	O18LP	Internal Standard	669033	73.61770825
2LM032039	Unknown		B1K0220-BS1	1:1	O18LP	Internal Standard	601548	66.19192949
2LM032040	Unknown		M1J1374-18	1:1	O18LP	Internal Standard	647575	71.25655598
2LM032041	Unknown		B1K0220-MS1	1:1	O18LP	Internal Standard	663068	72.96134357
2LM032042	Unknown		B1K0220-MSD1	1:1	O18LP	Internal Standard	707017	77.79731528
2LM032043	Unknown		M1J1374-19@10	1:10	O18LP	Internal Standard	698532	76.86365991
2LM032044	Chk Std	CCV	S1K0152-CCV2	1:1 1007581	O18LP	Internal Standard	792135	87.16335864
2LM032045	Chk Std	QCMRL	S1K0152-CRL2	1:1 1007583	O18LP	Internal Standard	747862	82.29173528
2LM032046	Unknown		S1K0152-CCB2	1:1	O18LP	Internal Standard	747106	82.20854807
2LM032047	Unknown		M1J1374-20	1:1	O18LP	Internal Standard	671180	73.85395552
2LM032048	Unknown		M1J1374-21	1:1	O18LP	Internal Standard	696941	76.68859265
2LM032049	Unknown		M1J1374-22	1:1	O18LP	Internal Standard	702395	77.28872893
2LM032050	Unknown		M1J1374-23	1:1	O18LP	Internal Standard	664953	73.16876141
2LM032051	Unknown		M1J1374-24	1:1	O18LP	Internal Standard	675332	74.31082495
2LM032052	Unknown		M1J1374-25	1:1	O18LP	Internal Standard	691931	76.13731234
2LM032053	Unknown		M1J1374-26	1:1	O18LP	Internal Standard	680219	74.84857083
2LM032054	Unknown		M1J1374-27	1:1	O18LP	Internal Standard	583277	64.18146192
2LM032055	Unknown		M1J1374-28	1:1	O18LP	Internal Standard	570409	62.76551881
2LM032056	Unknown		M1J1374-29@10	1:10	O18LP	Internal Standard	653413	71.89894609
2LM032057	Chk Std	CCV	S1K0152-CCV3	1:1 1007581	O18LP	Internal Standard	726914	79.98670136
2LM032058	Chk Std	QCMRL	S1K0152-CRL3	1:1 1007583	O18LP	Internal Standard	669914	73.71464996
2LM032059	Unknown		S1K0152-CCB3	1:1	O18LP	Internal Standard	610179	67.14165012
2LM032060	Unknown		M1J1374-30	1:1	O18LP	Internal Standard	715489	78.72954018
2LM032061	Unknown		M1J1374-31	1:1	O18LP	Internal Standard	852362	93.79049619
2LM032062	Unknown		M1J1374-32	1:1	O18LP	Internal Standard	831097	91.45058087
2LM032063	Unknown		M1J1374-33	1:1	O18LP	Internal Standard	98488	10.83722455
2LM032064	Unknown		M1J1374-34	1:1	O18LP	Internal Standard	995997	109.5955156
2LM032065	Unknown		M1J0691-05@10	1:10	O18LP	Internal Standard	1077468	118.5602577
2LM032066	Unknown		M1J1413-01@100	1:100	O18LP	Internal Standard	1113440	122.5184723
2LM032067	Unknown		M1J1535-01	1:1	O18LP	Internal Standard	970453	106.7847562
2LM032068	Unknown		B1K0221-BLK1	1:1	O18LP	Internal Standard	1186917	130.6035867
2LM032069	Unknown		B1K0221-BS1	1:1	O18LP	Internal Standard	1033574	113.7303379
2LM032070	Chk Std	CCV	S1K0152-CCV4	1:1 1007581	O18LP	Internal Standard	1044422	114.9240084
2LM032071	Chk Std	QCMRL	S1K0152-CRL4	1:1 1007583	O18LP	Internal Standard	1109933	122.1325761
2LM032072	Unknown		S1K0152-CCB4	1:1	O18LP	Internal Standard	982949	108.159766
2LM032073	Unknown		M1J1516-01	1:1	O18LP	Internal Standard	1370255	150.777365
2LM032074	Unknown		B1K0221-MS1	1:1	O18LP	Internal Standard	1272369	140.0063821
2LM032075	Unknown		B1K0221-MSD1	1:1	O18LP	Internal Standard	1239589	136.3994023
2LM032076	Unknown		M1J1516-02@100	1:100	O18LP	Internal Standard	1414179	155.6105858
2LM032077	Unknown		M1J1516-03	1:1	O18LP	Internal Standard	1142449	125.7105063
2LM032078	Unknown		M1J1516-04	1:1	O18LP	Internal Standard	904915	99.57321755
2LM032079	Unknown		M1J1516-05	1:1	O18LP	Internal Standard	757293	83.32948469
2LM032080	Unknown		M1J1516-06	1:1	O18LP	Internal Standard	784319	86.30331735
2LM032081	Unknown		M1J1516-07	1:1	O18LP	Internal Standard	749863	82.51191729
2LM032082	Unknown		M1J1516-08	1:1	O18LP	Internal Standard	818503	90.06478762

2LM032083	Chk Std	CCV	S1K0152-CCV5	1:1 1007581	O18LP	Internal Standard	896995	98.70173252
2LM032084	Chk Std	QCMRL	S1K0152-CRL5	1:1 1007583	O18LP	Internal Standard	1040105	114.448983
2LM032085	Unknown		S1K0152-CCB5	1:1	O18LP	Internal Standard	909222	100.0471426
2LM032086	Unknown		M1J1516-09@100	1:100	O18LP	Internal Standard	1010381	111.1782732
2LM032087	Unknown		M1J1516-10@100	1:100	O18LP	Internal Standard	1029831	113.3184732
2LM032088	Unknown		M1J1516-11	1:1	O18LP	Internal Standard	773154	85.07476553
2LM032089	Unknown		M1J1516-12@10	1:10	O18LP	Internal Standard	900505	99.08795884
2LM032090	Unknown		M1J1516-13	1:1	O18LP	Internal Standard	661159	72.75128487
2LM032091	Unknown		M1J1516-14	1:1	O18LP	Internal Standard	701543	77.19497827
2LM032092	Unknown		M1J1516-15	1:1	O18LP	Internal Standard	722465	79.49715125
2LM032093	Unknown		M1J1516-16	1:1	O18LP	Internal Standard	741167	81.55504432
2LM032094	Unknown		M1J1516-17	1:1	O18LP	Internal Standard	589713	64.88965355
2LM032095	Unknown		M1J1516-18	1:1	O18LP	Internal Standard	616853	67.87603031
2LM032096	Chk Std	CCV	S1K0152-CCV6	1:1 1007581	O18LP	Internal Standard	779391	85.76105999
2LM032097	Chk Std	QCMRL	S1K0152-CRL6	1:1 1007583	O18LP	Internal Standard	677237	74.52044351
2LM032098	Unknown		S1K0152-CCB6	1:1	O18LP	Internal Standard	720011	79.22712293

Filename	Sample Type	Level	Sample ID	Comments	Compound	Type	Area	Ion Ratio (2.31-3.85)
2LM032099	Unknown		S1K0230-CCB1	1:1	Perchlorate	Target Compound	N/F	#VALUE!
2LM032099	Unknown		S1K0230-CCB1	1:1	Perchlorate	Confirming Peak	N/F	
2LM032100	Chk Std	CCV	S1K0230-CCV1	1:1 0012466	Perchlorate	Target Compound	107557	3.171650153
2LM032100	Chk Std	CCV	S1K0230-CCV1	1:1 0012466	Perchlorate	Confirming Peak	33912	
2LM032101	Chk Std	QCMRL	S1K0230-CRL1	1:1 0012468	Perchlorate	Target Compound	21243	2.999152901
2LM032101	Chk Std	QCMRL	S1K0230-CRL1	1:1 0012468	Perchlorate	Confirming Peak	7083	
2LM032102	Unknown		S1K0230-IFA1	1:1 0012477	Perchlorate	Target Compound	29423	3.070973802
2LM032102	Unknown		S1K0230-IFA1	1:1 0012477	Perchlorate	Confirming Peak	9581	
2LM032103	Unknown		M1J1374-33	1:1	Perchlorate	Target Compound	547	0.13098659
2LM032103	Unknown		M1J1374-33	1:1	Perchlorate	Confirming Peak	4176	
2LM032104	Unknown		M1J1516-01	1:1	Perchlorate	Target Compound	1454	1.323020928
2LM032104	Unknown		M1J1516-01	1:1	Perchlorate	Confirming Peak	1099	
2LM032105	Unknown		B1K0221-MS1	1:1	Perchlorate	Target Compound	23422	3.084683261
2LM032105	Unknown		B1K0221-MS1	1:1	Perchlorate	Confirming Peak	7593	
2LM032106	Unknown		B1K0221-MSD1	1:1	Perchlorate	Target Compound	34073	3.356945813
2LM032106	Unknown		B1K0221-MSD1	1:1	Perchlorate	Confirming Peak	10150	
2LM032107	Unknown		M1J1516-02@100	1:100	Perchlorate	Target Compound	323029	3.157540272
2LM032107	Unknown		M1J1516-02@100	1:100	Perchlorate	Confirming Peak	102304	
2LM032108	Chk Std	CCV	S1K0230-CCV2	1:1 0012466	Perchlorate	Target Compound	171431	3.156178658
2LM032108	Chk Std	CCV	S1K0230-CCV2	1:1 0012466	Perchlorate	Confirming Peak	54316	
2LM032109	Chk Std	QCMRL	S1K0230-CRL2	1:1 0012468	Perchlorate	Target Compound	35440	3.151903237
2LM032109	Chk Std	QCMRL	S1K0230-CRL2	1:1 0012468	Perchlorate	Confirming Peak	11244	
2LM032110	Unknown		S1K0230-CCB2	1:1	Perchlorate	Target Compound	N/F	#VALUE!
2LM032110	Unknown		S1K0230-CCB2	1:1	Perchlorate	Confirming Peak	N/F	

Filename	Sample Type	Level	Sample ID	Comments	Compound	Type	Area	IS Rec (50-150 Avg. ICAL)
2LM032014	Cal Std	1	S1K0152-CAL1	1:1 0012469	O18LP	Internal Standard	791546	
2LM032015	Cal Std	2	S1K0152-CAL2	1:1 0012468	O18LP	Internal Standard	799491	
2LM032016	Cal Std	3	S1K0152-CAL3	1:1 0012467	O18LP	Internal Standard	784189	
2LM032017	Cal Std	4	S1K0152-CAL4	1:1 0012466	O18LP	Internal Standard	863453	908793.5714
2LM032018	Cal Std	5	S1K0152-CAL5	1:1 0012465	O18LP	Internal Standard	1067074	
2LM032019	Cal Std	6	S1K0152-CAL6	1:1 0012464	O18LP	Internal Standard	1079607	
2LM032020	Cal Std	7	S1K0152-CAL7	1:1 0012463	O18LP	Internal Standard	976195	
2LM032099	Unknown		S1K0230-CCB1	1:1	O18LP	Internal Standard	1025107	112.7986632
2LM032100	Chk Std	CCV	S1K0230-CCV1	1:1 0012466	O18LP	Internal Standard	618494	68.05659937
2LM032101	Chk Std	QCMRL	S1K0230-CRL1	1:1 0012468	O18LP	Internal Standard	598008	65.80240209
2LM032102	Unknown		S1K0230-IFA1	1:1 0012477	O18LP	Internal Standard	699302	76.94838762
2LM032103	Unknown		M1J1374-33	1:1	O18LP	Internal Standard	3048	0.335389696
2LM032104	Unknown		M1J1516-01	1:1	O18LP	Internal Standard	642655	70.71517892
2LM032105	Unknown		B1K0221-MS1	1:1	O18LP	Internal Standard	618043	68.00697314
2LM032106	Unknown		B1K0221-MSD1	1:1	O18LP	Internal Standard	895683	98.5573653
2LM032107	Unknown		M1J1516-02@100	1:100	O18LP	Internal Standard	1064592	117.1434343
2LM032108	Chk Std	CCV	S1K0230-CCV2	1:1 0012466	O18LP	Internal Standard	994333	109.4124157
2LM032109	Chk Std	QCMRL	S1K0230-CRL2	1:1 0012468	O18LP	Internal Standard	1057097	116.3187145
2LM032110	Unknown		S1K0230-CCB2	1:1	O18LP	Internal Standard	945642	104.0546533

MICROBAC®

Laboratory Report Number: M1J1374

Client Project ID: LHAAP

BATCH LOG SUMMARY
SECTION A1

Batch: B1K0219
Matrix: Aqueous
Method: EPA 6850

Prepared: 11/3/2021 12:56:00PM
Prepared By: CAS

Laboratory ID	Client / Source ID	Initial	Final						Spike(s)
B1K0219-BLK1		10.0 mL	10.0 mL						
B1K0219-BS1		10.0 mL	10.0 mL						1006965 200µL
M1J1374-01	16WW34-211018	10.0 mL	10.0 mL						
M1J1374-02	16WW34-211018-FD	10.0 mL	10.0 mL						
M1J1374-03	16WW33-211018	10.0 mL	10.0 mL						
M1J1374-04	16WW32-211018	10.0 mL	10.0 mL						
M1J1374-05	16WW31-211018	10.0 mL	10.0 mL						
M1J1374-06	16WW46-211018	10.0 mL	10.0 mL						
M1J1374-07	16WW27-211018	10.0 mL	10.0 mL						
M1J1374-08	16WW43-211018	10.0 mL	10.0 mL						
M1J1374-09	16RW05-211018	10.0 mL	10.0 mL						
M1J1374-10	16WW56-211019	10.0 mL	10.0 mL						
B1K0219-MS1	M1J1374-10	10.0 mL	10.0 mL						1006965 200µL
B1K0219-MSD1	M1J1374-10	10.0 mL	10.0 mL						1006965 200µL
M1J1374-13	16WW21-211019	10.0 mL	10.0 mL						
M1J1374-15	16WW49-211019	10.0 mL	10.0 mL						
M1J1374-16	16WW51-211019	10.0 mL	10.0 mL						
M1J1374-17	16IW09-211020	10.0 mL	10.0 mL						
M1J1374-11	16WW22-211019	10.0 mL	10.0 mL						
M1J1374-12	16WW41-211019	10.0 mL	10.0 mL						
M1J1374-14	16WW48-211019	10.0 mL	10.0 mL						

Standards used in the batch:

Standard ID	Description	Date Prepared	Prepared By
1006965	6850/331 Perchlorate Alternate Solution (10 ppb)	8/11/2021 5:13:38PM	John Richards

Reagents used in the batch:

Reagent ID	Description	Prepared	Prepared By
1000181	6850/331 Column	1/8/2021 2:36:22PM	** Vendor **
1008665	0.45 um PTFE Syringe Filter	10/11/2021 10:46:38AM	Asa Timmons

MICROBAC®

Laboratory Report Number: M1J1374

Client Project ID: LHAAP

BATCH LOG SUMMARY
SECTION A1

Batch: B1K0220
Matrix: Aqueous
Method: EPA 6850

Prepared: 11/3/2021 12:58:00PM
Prepared By: CAS

Laboratory ID	Client / Source ID	Initial	Final						Spike(s)
B1K0220-BLK1		10.0 mL	10.0 mL						
B1K0220-BS1		10.0 mL	10.0 mL						1006965 200µL
M1J1374-18	16IW10-211020	10.0 mL	10.0 mL						
B1K0220-MS1	M1J1374-18	10.0 mL	10.0 mL						1006965 200µL
B1K0220-MSD1	M1J1374-18	10.0 mL	10.0 mL						1006965 200µL
M1J1374-19	16EW01-211020	10.0 mL	10.0 mL						
M1J1374-20	16EW03-211020	10.0 mL	10.0 mL						
M1J1374-21	16EW02-211020	10.0 mL	10.0 mL						
M1J1374-22	16EW04-211020	10.0 mL	10.0 mL						
M1J1374-23	16EW08-211020	10.0 mL	10.0 mL						
M1J1374-24	16RW04-211020	10.0 mL	10.0 mL						
M1J1374-25	16RW11-211021	10.0 mL	10.0 mL						
M1J1374-26	16RW11-211021-FD	10.0 mL	10.0 mL						
M1J1374-27	16IW20-211021	10.0 mL	10.0 mL						
M1J1374-28	16WW40-211021	10.0 mL	10.0 mL						
M1J1374-29	16WW12-211021	10.0 mL	10.0 mL						
M1J1374-30	16EW07-211021	10.0 mL	10.0 mL						
M1J1374-31	16EW05-211021	10.0 mL	10.0 mL						
M1J1374-32	16EW05-211021-FD	10.0 mL	10.0 mL						
M1J1374-34	16IW03-211021	10.0 mL	10.0 mL						
M1J1374-33	16EW06-211021	10.0 mL	10.0 mL						

Standards used in the batch:

Standard ID	Description	Date Prepared	Prepared By
1006965	6850/331 Perchlorate Alternate Solution (10 ppb)	8/11/2021 5:13:38PM	John Richards

Reagents used in the batch:

Reagent ID	Description	Prepared	Prepared By
1000181	6850/331 Column	1/8/2021 2:36:22PM	** Vendor **
1008665	0.45 um PTFE Syringe Filter	10/11/2021 10:46:38AM	Asa Timmons

MICROBAC®

Laboratory Report Number: M1J1374
Client Project ID: LHAAP

SEQUENCE LOG SUMMARY
SECTION A2

Sequence: S1K0132
Instrument: LCMS2
Calibration: 21K0013

Analyst 1: CAS
Method: EPA 6850
SOP: HPLC06

#	File ID	Laboratory ID	Client ID	Analyzed	Reference	Standard
1	2LM031671	S1K0132-ICB1	Initial Cal Blank	11/07/21 12:07		
2	2LM031672	S1K0132-CAL1	Cal Standard	11/07/21 12:20		1007584
3	2LM031673	S1K0132-CAL2	Cal Standard	11/07/21 12:34		1007583
4	2LM031674	S1K0132-CAL3	Cal Standard	11/07/21 12:47		1007582
5	2LM031675	S1K0132-CAL4	Cal Standard	11/07/21 13:00		1007581
6	2LM031676	S1K0132-CAL5	Cal Standard	11/07/21 13:13		1007580
7	2LM031677	S1K0132-CAL6	Cal Standard	11/07/21 13:27		1007579
8	2LM031678	S1K0132-CAL7	Cal Standard	11/07/21 13:40		1007578
9	2LM031679	S1K0132-ICV1	Initial Cal Check	11/07/21 13:53		1006966
10	2LM031680	S1K0132-CCB1	Calibration Blank	11/07/21 14:06		
11	2LM031681	S1K0132-CCV1	Calibration Check	11/07/21 14:20		1007581
12	2LM031682	S1K0132-CRL1	Instrument RL Check	11/07/21 14:33		1007583
13	2LM031683	S1K0132-IFA1	Interference Check A	11/07/21 14:46		1006967
14	2LM031684	B1K0219-BLK1	Blank	11/07/21 14:59		
15	2LM031685	B1K0219-BS1	LCS	11/07/21 15:13		
16	2LM031686	M1J1374-01	16WW34-211018	11/07/21 15:26		
17	2LM031687	M1J1374-02	16WW34-211018-FD	11/07/21 15:39		
18	2LM031688	M1J1374-03	16WW33-211018	11/07/21 15:52		
19	2LM031689	M1J1374-04	16WW32-211018	11/07/21 16:06		
20	2LM031690	M1J1374-05	16WW31-211018	11/07/21 16:19		
21	2LM031691	M1J1374-06	16WW46-211018	11/07/21 16:32		
22	2LM031692	M1J1374-07	16WW27-211018	11/07/21 16:45		
23	2LM031693	S1K0132-CCV2	Calibration Check	11/07/21 16:59		1007581
24	2LM031694	S1K0132-CRL2	Instrument RL Check	11/07/21 17:12		1007583
25	2LM031695	S1K0132-CCB2	Calibration Blank	11/07/21 17:25		
26	2LM031696	M1J1374-08	16WW43-211018	11/07/21 17:38		
27	2LM031697	M1J1374-09	16RW05-211018	11/07/21 17:52		
28	2LM031698	M1J1374-10	16WW56-211019	11/07/21 18:05		
29	2LM031699	B1K0219-MS1	16WW56-211019	11/07/21 18:18	M1J1374-10	
30	2LM031700	B1K0219-MSD1	16WW56-211019	11/07/21 18:31	M1J1374-10	
31	2LM031703	M1J1374-13	16WW21-211019	11/07/21 19:11		
32	2LM031705	M1J1374-15	16WW49-211019	11/07/21 19:38		
33	2LM031706	S1K0132-CCV3	Calibration Check	11/07/21 19:51		1007581

MICROBAC®

Laboratory Report Number: M1J1374
Client Project ID: LHAAP

SEQUENCE LOG SUMMARY
SECTION A2

Sequence: S1K0132
Instrument: LCMS2
Calibration: 21K0013
Analyst 1: CAS
Method: EPA 6850
SOP: HPLC06

#	File ID	Laboratory ID	Client ID	Analyzed	Reference	Standard
34	2LM031707	S1K0132-CRL3	Instrument RL Check	11/07/21 20:04		1007583
35	2LM031708	S1K0132-CCB3	Calibration Blank	11/07/21 20:17		
36	2LM031709	M1J1374-16	16WW51-211019	11/07/21 20:31		
37	2LM031710	M1J1374-17	16IW09-211020	11/07/21 20:44		
38	2LM031719	S1K0132-CCV4	Calibration Check	11/07/21 22:43		1007581
39	2LM031720	S1K0132-CRL4	Instrument RL Check	11/07/21 22:56		1007583
40	2LM031721	S1K0132-CCB4	Calibration Blank	11/07/21 23:10		

Sequence Standards

Standard ID	Description	Prepared	PreparedBy	Expires
1006966	6850/331 Perchlorate ICV (1 ppb)	08/11/2021	John Richards	08/11/2022
1006967	6850 Perchlorate Alternate 0.2 ppb MCT	08/11/2021	John Richards	08/11/2022
1007578	6850/331 ICAL STD @ 10 ppb	09/07/2021	Craig Smith	09/07/2022
1007579	6850/331 ICAL STD @ 5 ppb	09/07/2021	Craig Smith	09/07/2022
1007580	6850/331 ICAL STD @ 2 ppb	09/07/2021	Craig Smith	09/07/2022
1007581	6850/331 ICAL STD-CCV @ 1 ppb	09/07/2021	Craig Smith	09/07/2022
1007582	6850/331 ICAL STD @ 0.5 ppb	09/07/2021	Craig Smith	09/07/2022
1007583	6850/331 ICAL STD-MRL @ 0.2 ppb	09/07/2021	Craig Smith	09/07/2022
1007584	6850/331 ICAL STD @ 0.1 ppb	09/07/2021	Craig Smith	09/07/2022

Sequence Internal Standard

Standard ID	Description	Prepared	PreparedBy	Expires
1000597	6850/331 IS Working (5.0 ppb)	01/20/2021	Craig Smith	01/20/2022

MICROBAC®

Laboratory Report Number: M1J1374
Client Project ID: LHAAP

SEQUENCE LOG SUMMARY
SECTION A2

Sequence: S1K0152
Instrument: LCMS2
Calibration: 21K0019

Analyst 1: CAS
Method: EPA 6850
SOP: HPLC06

#	File ID	Laboratory ID	Client ID	Analyzed	Reference	Standard
1	2LM032013	S1K0152-ICB1	Initial Cal Blank	11/11/21 10:44		
2	2LM032014	S1K0152-CAL1	Cal Standard	11/11/21 10:57		1007584
3	2LM032015	S1K0152-CAL2	Cal Standard	11/11/21 11:10		1007583
4	2LM032016	S1K0152-CAL3	Cal Standard	11/11/21 11:24		1007582
5	2LM032017	S1K0152-CAL4	Cal Standard	11/11/21 11:37		1007581
6	2LM032018	S1K0152-CAL5	Cal Standard	11/11/21 11:50		1007580
7	2LM032019	S1K0152-CAL6	Cal Standard	11/11/21 12:04		1007579
8	2LM032020	S1K0152-CAL7	Cal Standard	11/11/21 12:17		1007578
9	2LM032021	S1K0152-ICV1	Initial Cal Check	11/11/21 12:30		1006966
10	2LM032031	S1K0152-CCB1	Calibration Blank	11/11/21 15:42		
11	2LM032032	S1K0152-CCV1	Calibration Check	11/11/21 15:55		1007581
12	2LM032033	S1K0152-CRL1	Instrument RL Check	11/11/21 16:08		1007583
13	2LM032034	S1K0152-IFA1	Interference Check A	11/11/21 16:21		1006967
14	2LM032035	M1J1374-11	16WW22-211019	11/11/21 16:35		
15	2LM032036	M1J1374-12	16WW41-211019	11/11/21 16:48		
16	2LM032037	M1J1374-14	16WW48-211019	11/11/21 17:01		
17	2LM032038	B1K0220-BLK1	Blank	11/11/21 17:14		
18	2LM032039	B1K0220-BS1	LCS	11/11/21 17:28		
20	2LM032040	M1J1374-18	16IW10-211020	11/11/21 17:41		
21	2LM032041	B1K0220-MS1	16IW10-211020	11/11/21 17:54	M1J1374-18	
22	2LM032042	B1K0220-MSD1	16IW10-211020	11/11/21 18:07	M1J1374-18	
23	2LM032043	M1J1374-19	16EW01-211020	11/11/21 18:21		
24	2LM032044	S1K0152-CCV2	Calibration Check	11/11/21 18:34		1007581
25	2LM032045	S1K0152-CRL2	Instrument RL Check	11/11/21 18:47		1007583
26	2LM032046	S1K0152-CCB2	Calibration Blank	11/11/21 19:00		
27	2LM032047	M1J1374-20	16EW03-211020	11/11/21 19:14		
28	2LM032048	M1J1374-21	16EW02-211020	11/11/21 19:27		
29	2LM032049	M1J1374-22	16EW04-211020	11/11/21 19:40		
30	2LM032050	M1J1374-23	16EW08-211020	11/11/21 19:53		
31	2LM032051	M1J1374-24	16RW04-211020	11/11/21 20:07		
32	2LM032052	M1J1374-25	16RW11-211021	11/11/21 20:20		
33	2LM032053	M1J1374-26	16RW11-211021-FD	11/11/21 20:33		
34	2LM032054	M1J1374-27	16IW20-211021	11/11/21 20:46		

MICROBAC®

Laboratory Report Number: M1J1374
Client Project ID: LHAAP

SEQUENCE LOG SUMMARY
SECTION A2

Sequence: S1K0152
Instrument: LCMS2
Calibration: 21K0019

Analyst 1: CAS
Method: EPA 6850
SOP: HPLC06

#	File ID	Laboratory ID	Client ID	Analyzed	Reference	Standard
35	2LM032055	M1J1374-28	16WW40-211021	11/11/21 21:00		
36	2LM032056	M1J1374-29	16WW12-211021	11/11/21 21:13		
37	2LM032057	S1K0152-CCV3	Calibration Check	11/11/21 21:26		1007581
38	2LM032058	S1K0152-CRL3	Instrument RL Check	11/11/21 21:39		1007583
39	2LM032059	S1K0152-CCB3	Calibration Blank	11/11/21 21:53		
40	2LM032060	M1J1374-30	16EW07-211021	11/11/21 22:06		
41	2LM032061	M1J1374-31	16EW05-211021	11/11/21 22:19		
42	2LM032062	M1J1374-32	16EW05-211021-FD	11/11/21 22:32		
43	2LM032064	M1J1374-34	16IW03-211021	11/11/21 22:59		
49	2LM032070	S1K0152-CCV4	Calibration Check	11/12/21 00:18		1007581
50	2LM032071	S1K0152-CRL4	Instrument RL Check	11/12/21 00:32		1007583
51	2LM032072	S1K0152-CCB4	Calibration Blank	11/12/21 00:45		
58	2LM032083	S1K0152-CCV5	Calibration Check	11/12/21 03:11		1007581
59	2LM032084	S1K0152-CRL5	Instrument RL Check	11/12/21 03:24		1007583
60	2LM032085	S1K0152-CCB5	Calibration Blank	11/12/21 03:37		
71	2LM032096	S1K0152-CCV6	Calibration Check	11/12/21 06:03		1007581
72	2LM032097	S1K0152-CRL6	Instrument RL Check	11/12/21 06:16		1007583
73	2LM032098	S1K0152-CCB6	Calibration Blank	11/12/21 06:29		

Sequence Standards

Standard ID	Description	Prepared	PreparedBy	Expires
1006966	6850/331 Perchlorate ICV (1 ppb)	08/11/2021	John Richards	08/11/2022
1006967	6850 Perchlorate Alternate 0.2 ppb MCT	08/11/2021	John Richards	08/11/2022
1007578	6850/331 ICAL STD @ 10 ppb	09/07/2021	Craig Smith	09/07/2022
1007579	6850/331 ICAL STD @ 5 ppb	09/07/2021	Craig Smith	09/07/2022
1007580	6850/331 ICAL STD @ 2 ppb	09/07/2021	Craig Smith	09/07/2022
1007581	6850/331 ICAL STD-CCV @ 1 ppb	09/07/2021	Craig Smith	09/07/2022
1007582	6850/331 ICAL STD @ 0.5 ppb	09/07/2021	Craig Smith	09/07/2022
1007583	6850/331 ICAL STD-MRL @ 0.2 ppb	09/07/2021	Craig Smith	09/07/2022
1007584	6850/331 ICAL STD @ 0.1 ppb	09/07/2021	Craig Smith	09/07/2022

Sequence Internal Standard

Standard ID	Description	Prepared	PreparedBy	Expires
1000597	6850/331 IS Working (5.0 ppb)	01/20/2021	Craig Smith	01/20/2022

MICROBAC®

Laboratory Report Number: M1J1374
Client Project ID: LHAAP

SEQUENCE LOG SUMMARY
SECTION A2

Sequence: S1K0230
Instrument: LCMS2
Calibration: 21K0019

Analyst 1: CAS
Method: EPA 6850
SOP: HPLC06

#	File ID	Laboratory ID	Client ID	Analyzed	Reference	Standard
1	2LM032099	S1K0230-CCB1	Calibration Blank	11/12/21 10:01		
2	2LM032100	S1K0230-CCV1	Calibration Check	11/12/21 10:14		1007581
3	2LM032101	S1K0230-CRL1	Instrument RL Check	11/12/21 10:27		1007583
4	2LM032102	S1K0230-IFA1	Interference Check A	11/12/21 10:40		1006967
5	2LM032103	M1J1374-33	16EW06-211021	11/12/21 10:54		
10	2LM032108	S1K0230-CCV2	Calibration Check	11/12/21 12:00		1007581
11	2LM032109	S1K0230-CRL2	Instrument RL Check	11/12/21 12:13		1007583
12	2LM032110	S1K0230-CCB2	Calibration Blank	11/12/21 12:26		

Sequence Standards

Standard ID	Description	Prepared	PreparedBy	Expires
1006967	6850 Perchlorate Alternate 0.2 ppb MCT	08/11/2021	John Richards	08/11/2022
1007581	6850/331 ICAL STD-CCV @ 1 ppb	09/07/2021	Craig Smith	09/07/2022
1007583	6850/331 ICAL STD-MRL @ 0.2 ppb	09/07/2021	Craig Smith	09/07/2022

Sequence Internal Standard

Standard ID	Description	Prepared	PreparedBy	Expires
1000597	6850/331 IS Working (5.0 ppb)	01/20/2021	Craig Smith	01/20/2022

MICROBAC®

Section B:
HPLC Organics
EPA 6850
Sample Raw Data

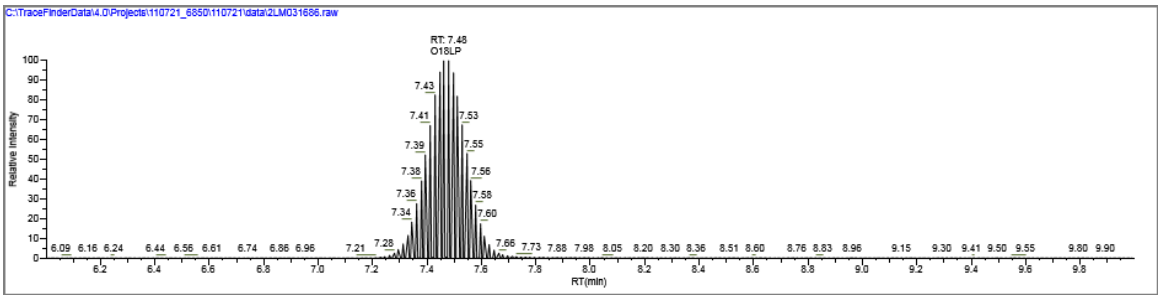
Microbac Laboratories, Inc.
158 Starlite Drive | Marietta, OH 45750 | 800.373.4071 | www.microbac.com

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 110721

Method: 110721_Perchlorate 6850
Perchlorate 6850
Cali File: 110721.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:D1	M1J1374-01	2LM031686	N/A	M1J1374-01	11/7/2021 3:26:24 PM	1:01



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.48	89	1253375			5.000	ug/L	5.000	ug/L	

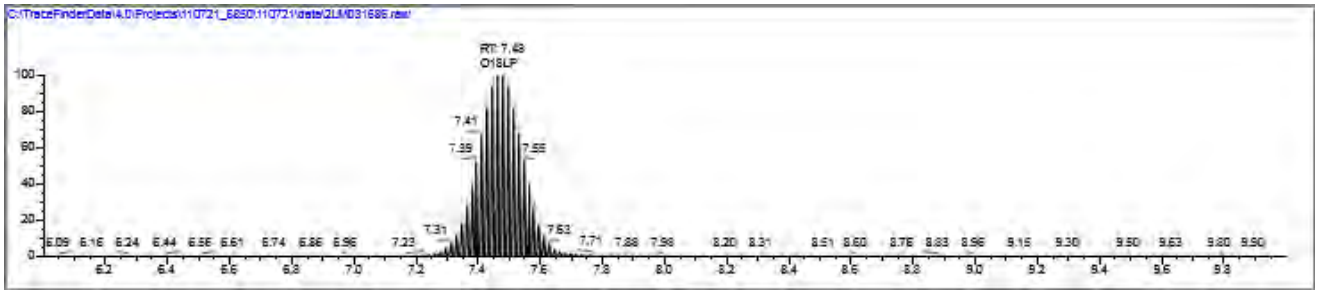
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.45	83	9470	Linear	0.008	0.054	ug/L	0.054	ug/L	

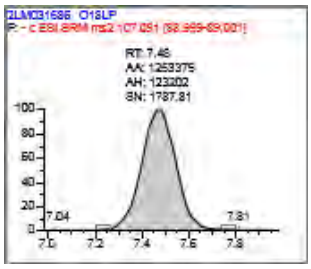
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

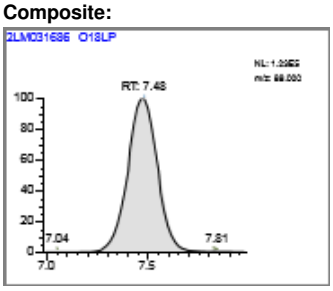
Data File:	2LM031686	Tune Report Date:	Tune report not found
Method:	110721_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	11/7/2021 3:26:24 PM
		Cali File Date:	11/8/2021 1:16:16 PM
Cali File:	110721.calx	Operator ID:	CAS
Sample ID:	M1J1374-01	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:D1
Comments:	1:01		



m/z 89.000



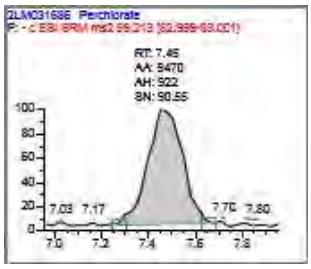
Composite:



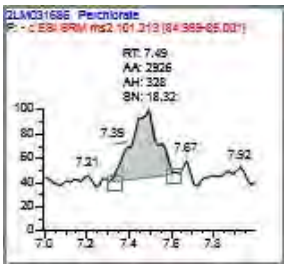
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.48	m/z 89.000	1253375	5.000		N/A

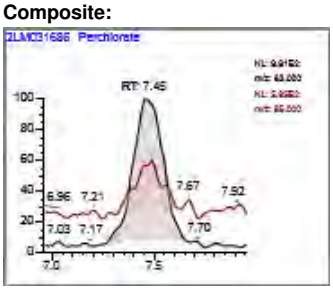
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.45	m/z 83.000	9470	0.054		N/A
7.49	m/z 85.000	2926		26.76 - 40.14	30.9

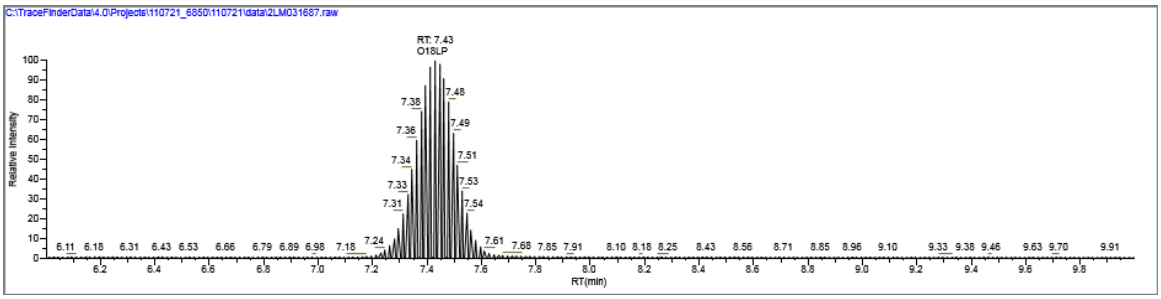
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 110721

Method: 110721_Perchlorate 6850 Perchlorate 6850
Cali File: 110721.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:D2	M1J1374-02	2LM031687	N/A	M1J1374-02	11/7/2021 3:39:38 PM	1:01



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.43	89	696596			5.000	ug/L	5.000	ug/L	

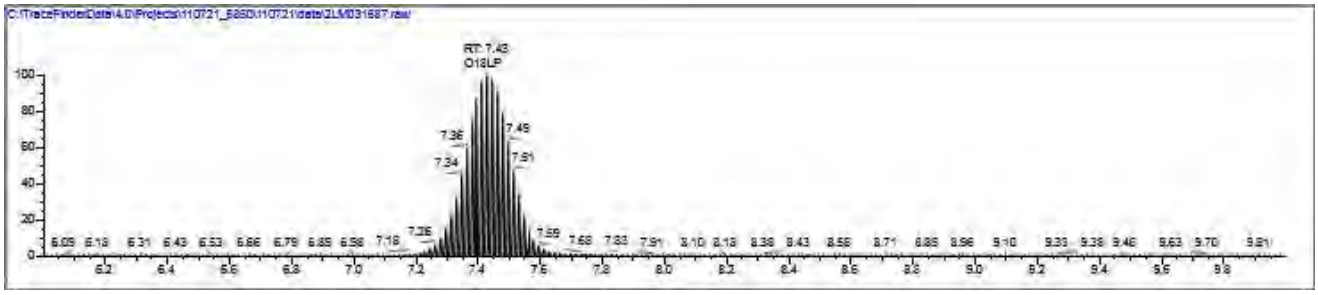
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.45	83	4692	Linear	0.007	0.05	ug/L	0.05	ug/L	

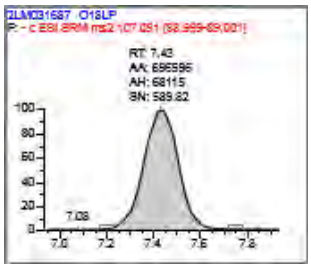
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

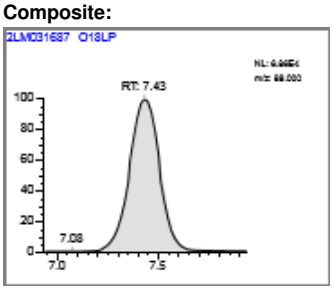
Data File:	2LM031687	Tune Report Date:	Tune report not found
Method:	110721_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	11/7/2021 3:39:38 PM
		Cali File Date:	11/8/2021 1:16:16 PM
Cali File:	110721.calx	Operator ID:	CAS
Sample ID:	M1J1374-02	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:D2
Comments:	1:01		



m/z 89.000



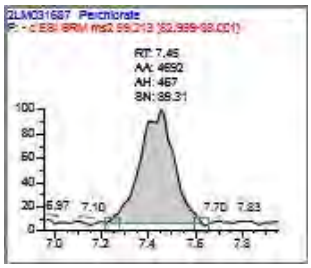
Composite:



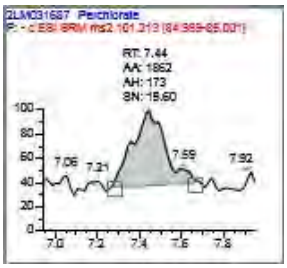
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.43	m/z 89.000	696596	5.000		N/A

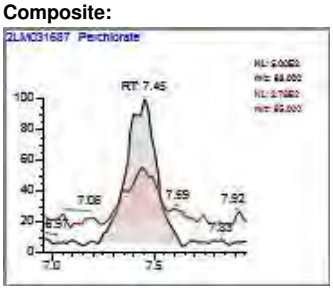
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.45	m/z 83.000	4692	0.050		N/A
7.44	m/z 85.000	1862		26.76 - 40.14	39.69

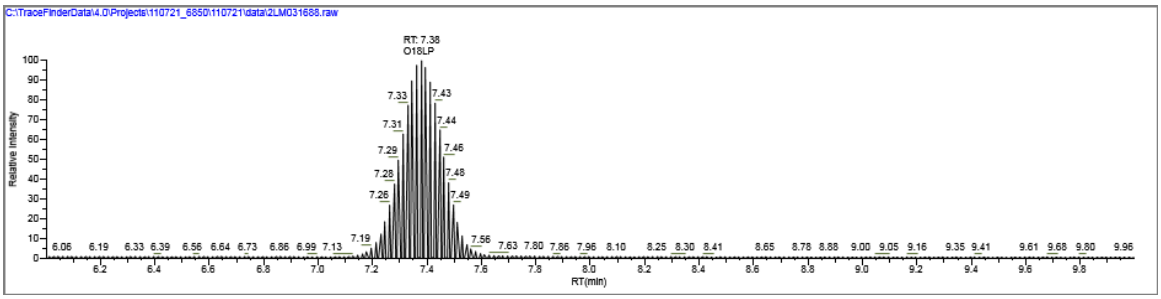
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 110721

Method: 110721_Perchlorate 6850 Perchlorate 6850
Cali File: 110721.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:D3	M1J1374-03	2LM031688	N/A	M1J1374-03	11/7/2021 3:52:53 PM	1:01



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.38	89	640130			5.000	ug/L	5.000	ug/L	

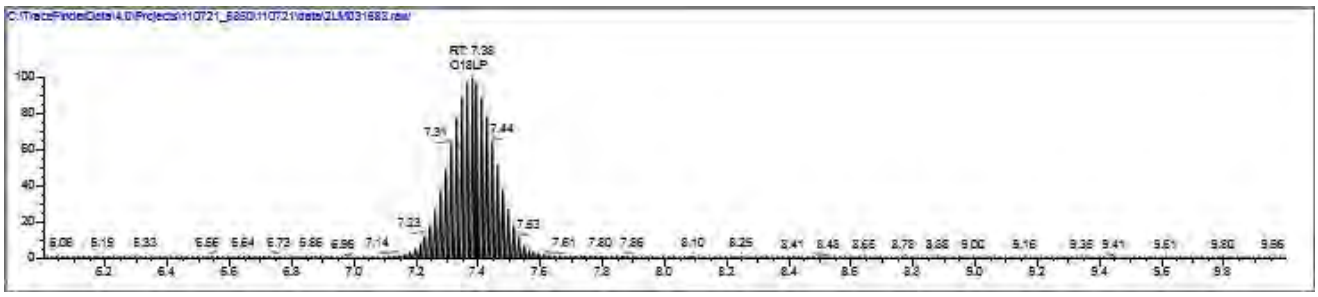
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.4	83	3054	Linear	0.005	0.039	ug/L	0.039	ug/L	I

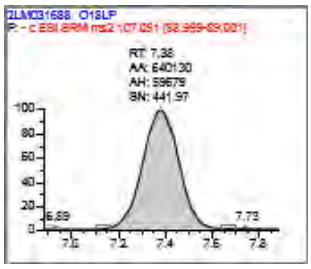
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

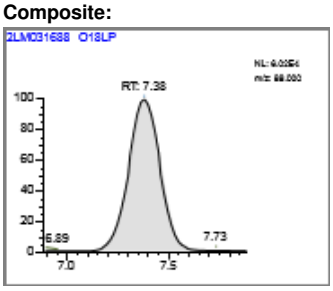
Data File:	2LM031688	Tune Report Date:	Tune report not found
Method:	110721_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	11/7/2021 3:52:53 PM
		Cali File Date:	11/8/2021 1:16:16 PM
Cali File:	110721.calx	Operator ID:	CAS
Sample ID:	M1J1374-03	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:D3
Comments:	1:01		



m/z 89.000



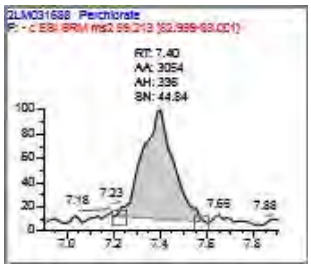
Composite:



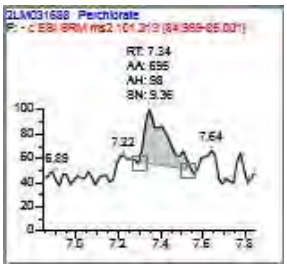
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio	
			N/A			
7.38	m/z 89.000	640130	5.000		N/A	

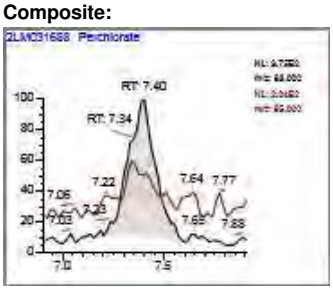
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio	
			N/A			
7.40	m/z 83.000	3054	0.039		N/A	I
7.34	m/z 85.000	695		26.76 - 40.14	22.77 *	

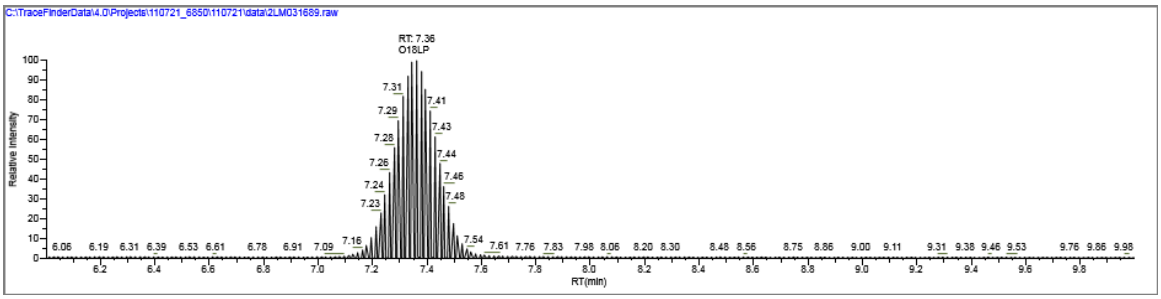
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 110721

Method: 110721_Perchlorate 6850 Perchlorate 6850
Cali File: 110721.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:D4	M1J1374-04	2LM031689	N/A	M1J1374-04	11/7/2021 4:06:07 PM	1:01



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.36	89	617712			5.000	ug/L	5.000	ug/L	

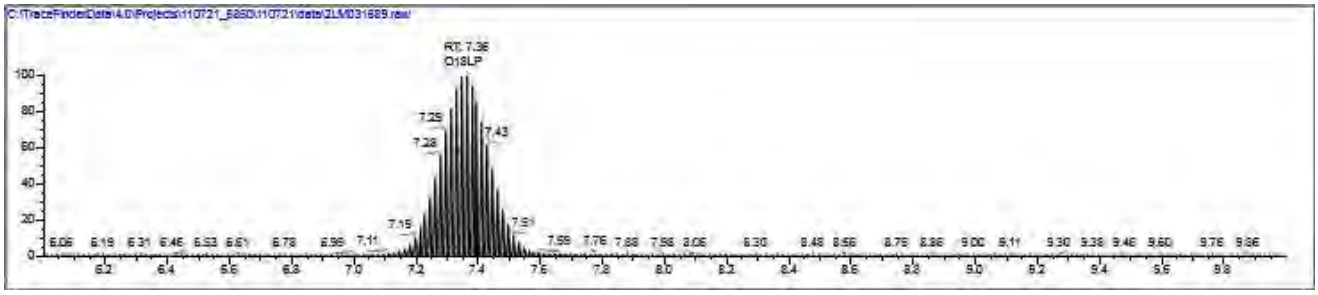
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.37	83	5264	Linear	0.009	0.06	ug/L	0.06	ug/L	I

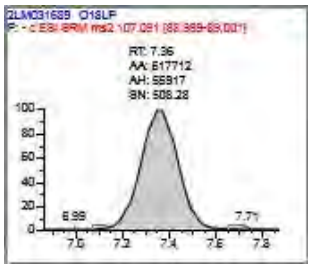
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

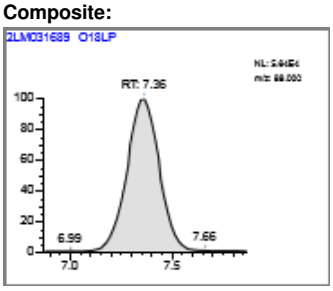
Data File:	2LM031689	Tune Report Date:	Tune report not found
Method:	110721_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	11/7/2021 4:06:07 PM
		Cali File Date:	11/8/2021 1:16:16 PM
Cali File:	110721.calx	Operator ID:	CAS
Sample ID:	M1J1374-04	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:D4
Comments:	1:01		



m/z 89.000



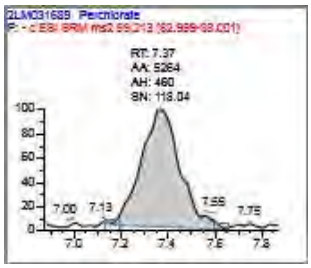
Composite:



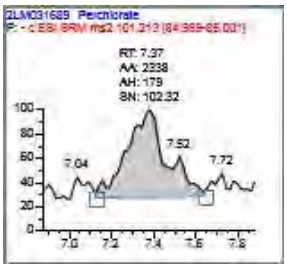
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.36	m/z 89.000	617712	5.000		N/A

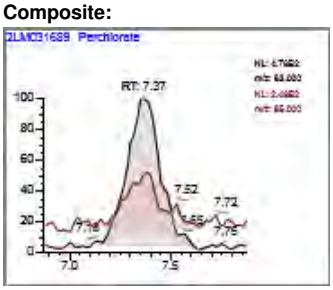
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio	
			N/A			
7.37	m/z 83.000	5264	0.060		N/A	I
7.37	m/z 85.000	2338		26.76 - 40.14	44.41 *	

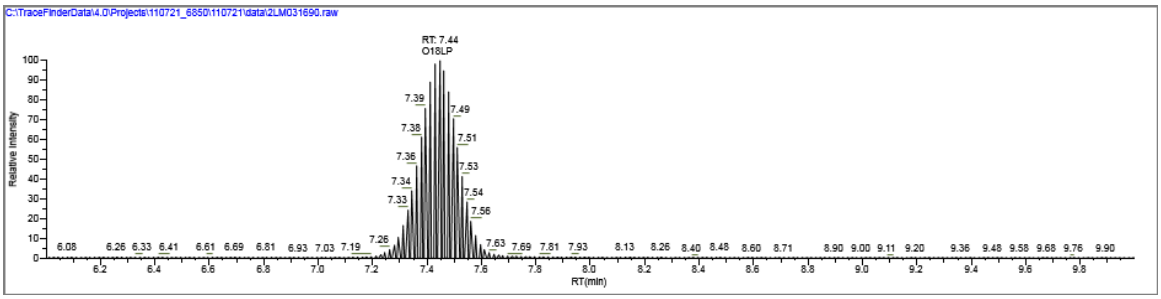
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 110721

Method: 110721_Perchlorate 6850 Perchlorate 6850
Cali File: 110721.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:D5	M1J1374-05	2LM031690	N/A	M1J1374-05	11/7/2021 4:19:22 PM	1:01



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.44	89	660260			5.000	ug/L	5.000	ug/L	

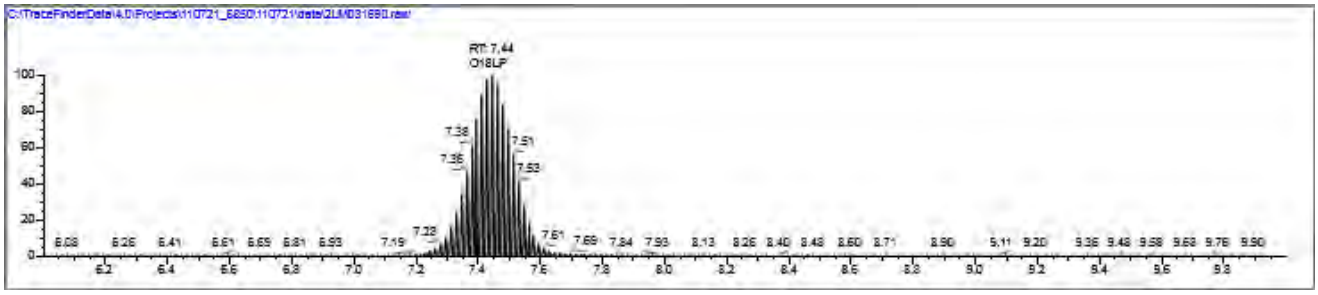
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.47	83	1228	Linear	0.002	0.023	ug/L	0.023	ug/L	

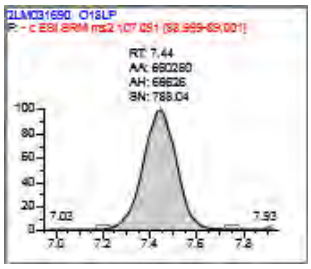
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

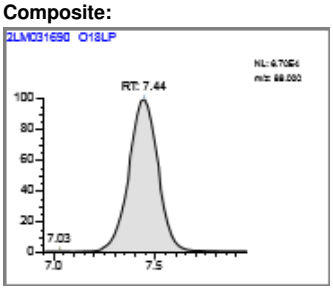
Data File:	2LM031690	Tune Report Date:	Tune report not found
Method:	110721_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	11/7/2021 4:19:22 PM
		Cali File Date:	11/8/2021 1:16:16 PM
Cali File:	110721.calx	Operator ID:	CAS
Sample ID:	M1J1374-05	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:D5
Comments:	1:01		



m/z 89.000



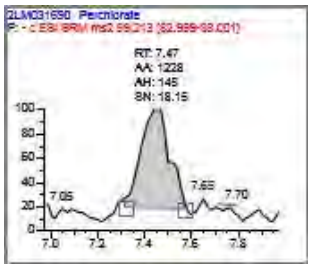
Composite:



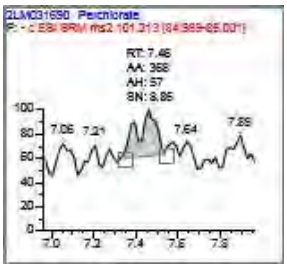
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.44	m/z 89.000	660260	5.000		N/A

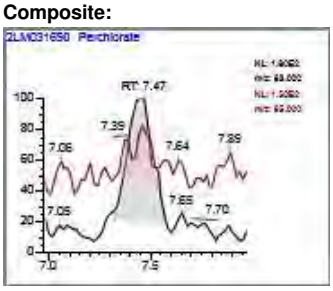
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.47	m/z 83.000	1228	0.023		N/A
7.46	m/z 85.000	368		26.76 - 40.14	30

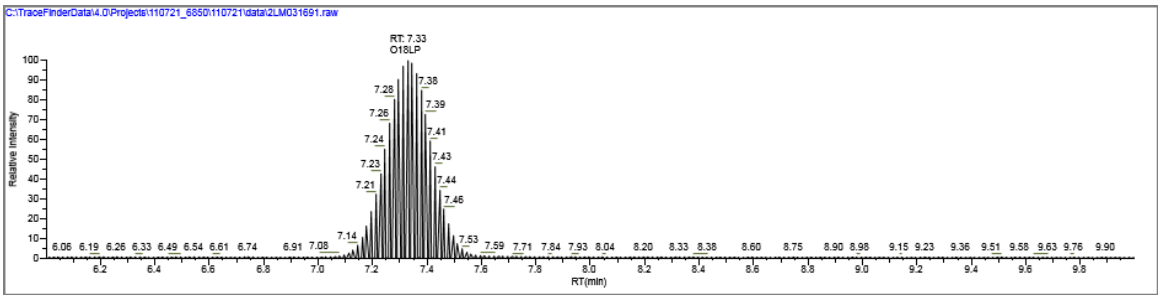
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 110721

Method: 110721_Perchlorate 6850
Perchlorate 6850
Cali File: 110721.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:D6	M1J1374-06	2LM031691	N/A	M1J1374-06	11/7/2021 4:32:37 PM	1:01



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.33	89	644005			5.000	ug/L	5.000	ug/L	

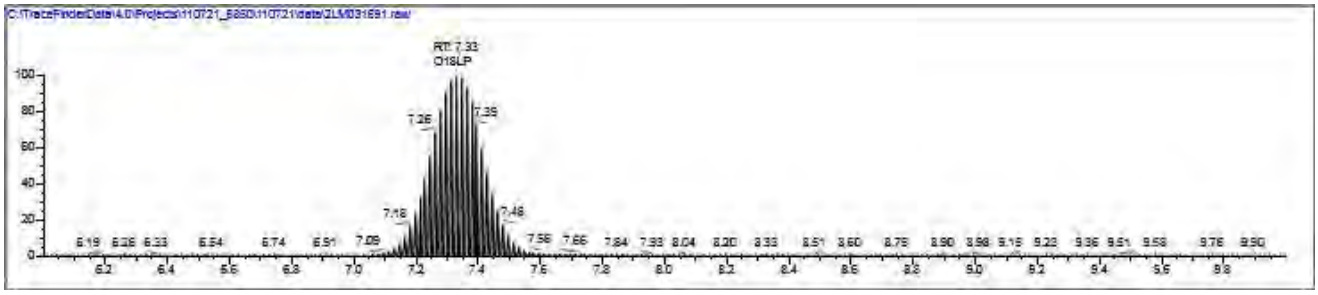
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.35	83	2962	Linear	0.005	0.038	ug/L	0.038	ug/L	I

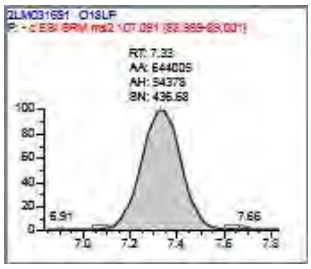
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

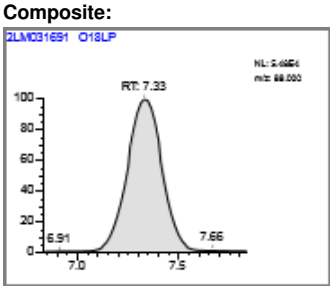
Data File:	2LM031691	Tune Report Date:	Tune report not found
Method:	110721_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	11/7/2021 4:32:37 PM
		Cali File Date:	11/8/2021 1:16:16 PM
Cali File:	110721.calx	Operator ID:	CAS
Sample ID:	M1J1374-06	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:D6
Comments:	1:01		



m/z 89.000



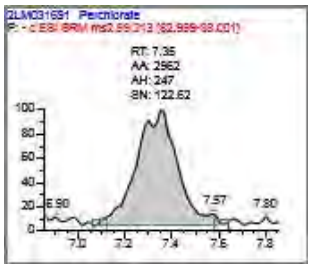
Composite:



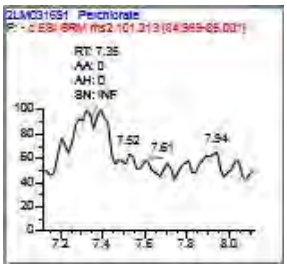
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.33	m/z 89.000	644005	5.000		N/A

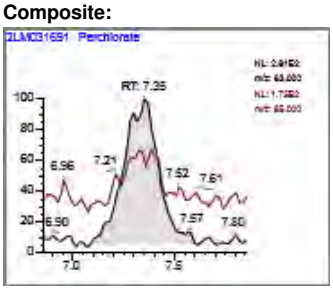
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio	
			N/A			
7.35	m/z 83.000	2962	0.038		N/A	I
7.35	m/z 85.000			26.76 - 40.14		*

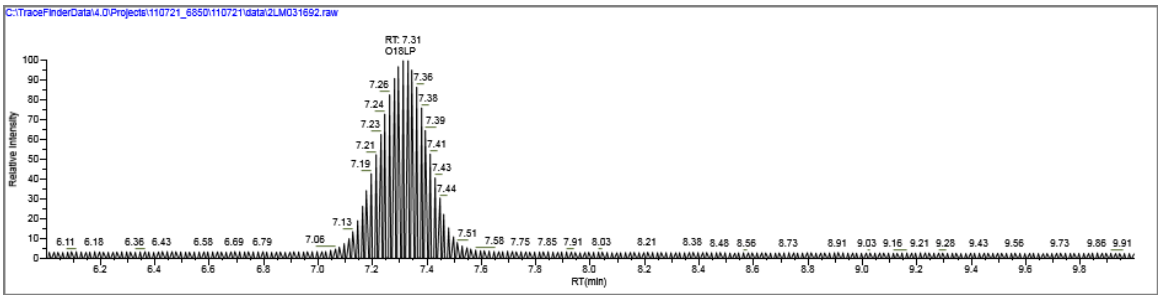
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 110721

Method: 110721_Perchlorate 6850 Perchlorate 6850
Cali File: 110721.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:D7	M1J1374-07	2LM031692	N/A	M1J1374-07	11/7/2021 4:45:52 PM	1:01



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.31	89	598971			5.000	ug/L	5.000	ug/L	

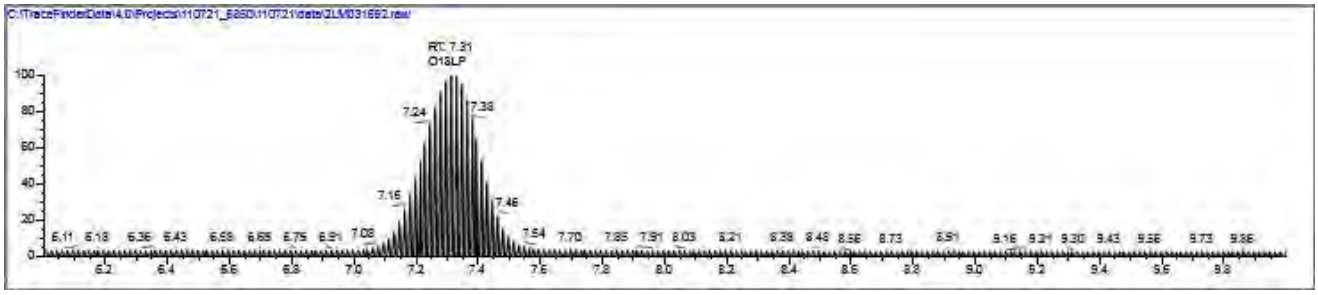
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.3	83	1078	Linear	0.002	0.022	ug/L	0.022	ug/L	I

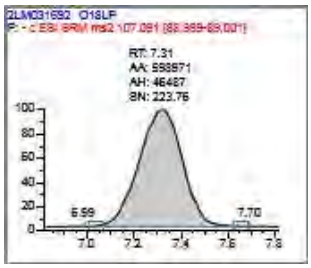
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

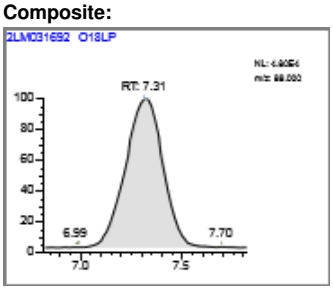
Data File:	2LM031692	Tune Report Date:	Tune report not found
Method:	110721_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	11/7/2021 4:45:52 PM
		Cali File Date:	11/8/2021 1:16:16 PM
Cali File:	110721.calx	Operator ID:	CAS
Sample ID:	M1J1374-07	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:D7
Comments:	1:01		



m/z 89.000



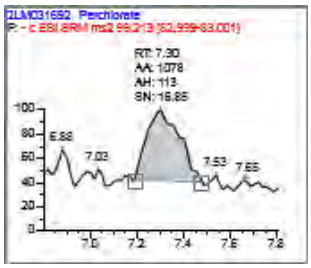
Composite:



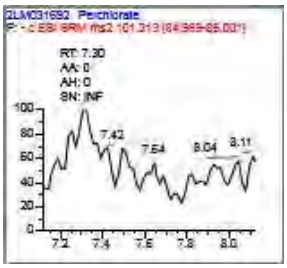
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio	
			N/A			
7.31	m/z 89.000	598971	5.000		N/A	

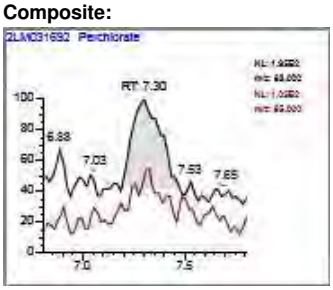
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio	
			N/A			
7.30	m/z 83.000	1078	0.022		N/A	I
7.30	m/z 85.000			26.76 - 40.14	*	

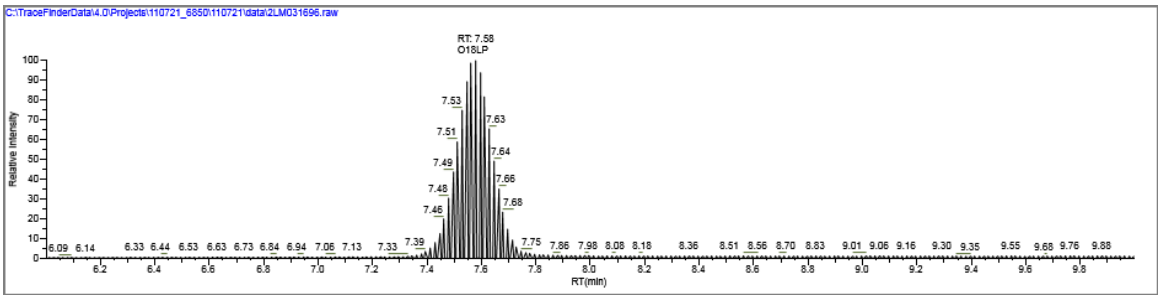
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 110721

Method: 110721_Perchlorate 6850 Perchlorate 6850
Cali File: 110721.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:D8	M1J1374-08	2LM031696	N/A	M1J1374-08	11/7/2021 5:38:52 PM	1:01



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.58	89	739506			5.000	ug/L	5.000	ug/L	

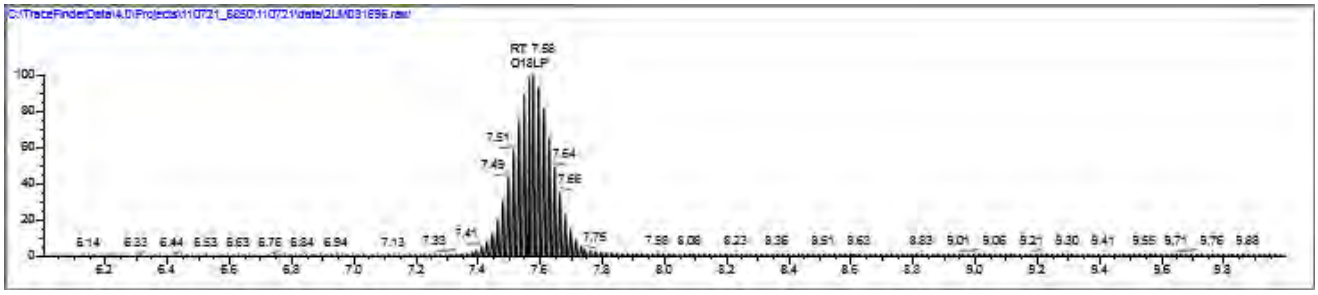
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.6	83	1536	Linear	0.002	0.024	ug/L	0.024	ug/L	I

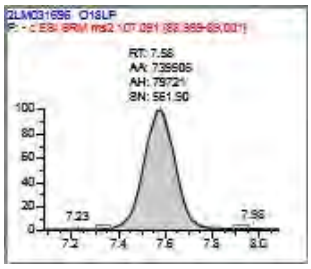
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

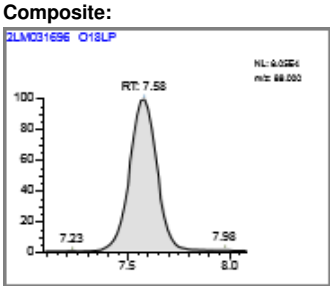
Data File:	2LM031696	Tune Report Date:	Tune report not found
Method:	110721_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	11/7/2021 5:38:52 PM
		Cali File Date:	11/8/2021 1:16:16 PM
Cali File:	110721.calx	Operator ID:	CAS
Sample ID:	M1J1374-08	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:D8
Comments:	1:01		



m/z 89.000



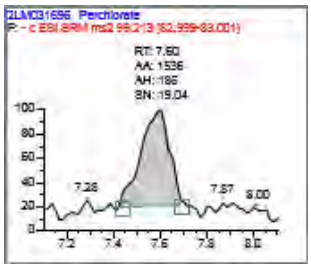
Composite:



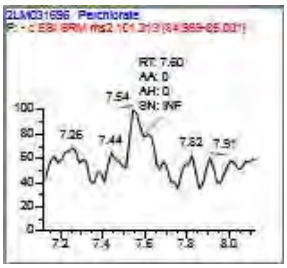
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio	
			N/A			
7.58	m/z 89.000	739506	5.000		N/A	

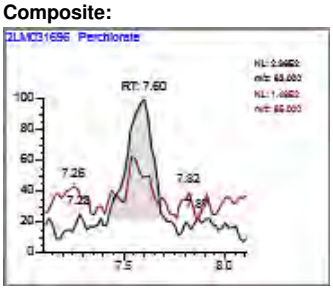
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio	
			N/A			
7.60	m/z 83.000	1536	0.024		N/A	I
7.60	m/z 85.000			26.76 - 40.14	*	

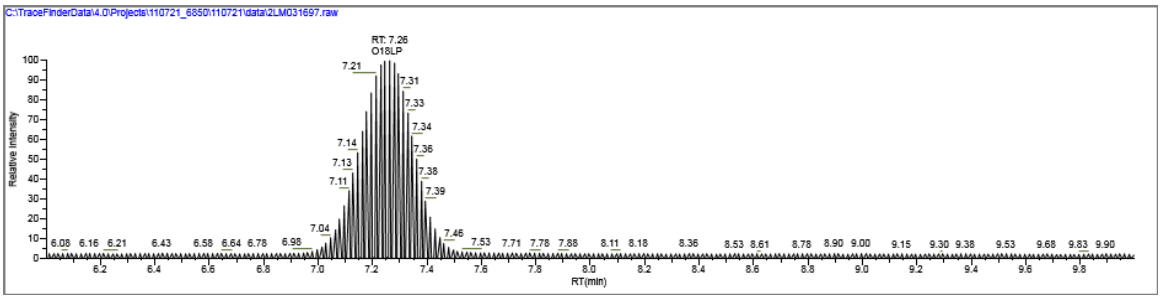
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 110721

Method: 110721_Perchlorate 6850 Perchlorate 6850
Cali File: 110721.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:D9	M1J1374-09	2LM031697	N/A	M1J1374-09	11/7/2021 5:52:07 PM	1:01



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.26	89	717752			5.000	ug/L	5.000	ug/L	

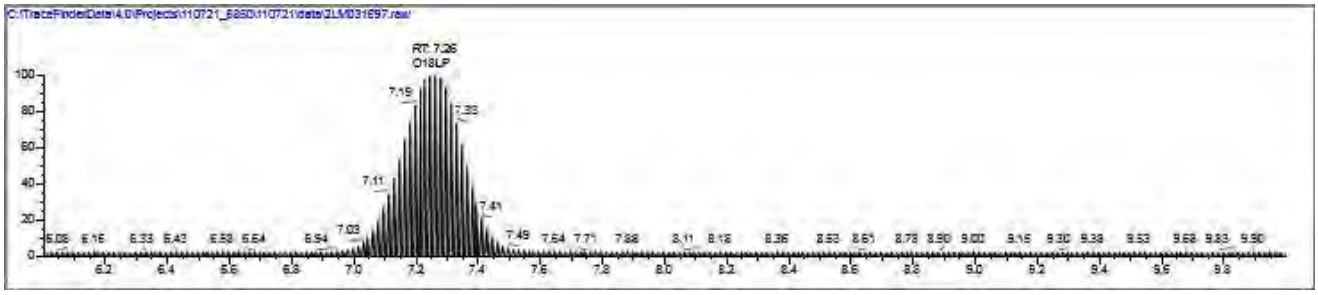
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.25	83	3076	Linear	0.004	0.036	ug/L	0.036	ug/L	I

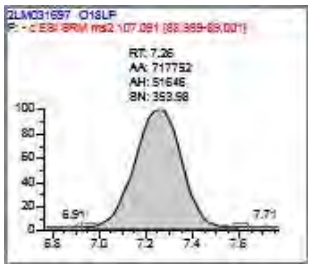
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

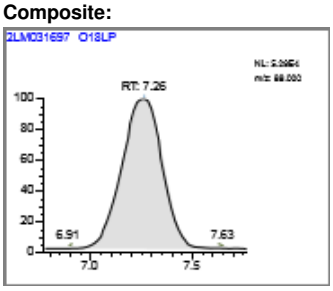
Data File:	2LM031697	Tune Report Date:	Tune report not found
Method:	110721_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	11/7/2021 5:52:07 PM
		Cali File Date:	11/8/2021 1:16:16 PM
Cali File:	110721.calx	Operator ID:	CAS
Sample ID:	M1J1374-09	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:D9
Comments:	1:01		



m/z 89.000



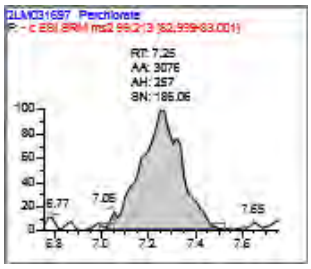
Composite:



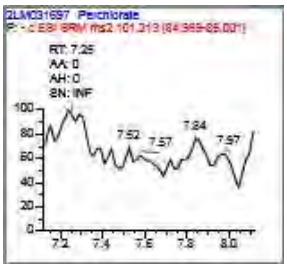
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.26	m/z 89.000	717752	5.000		N/A

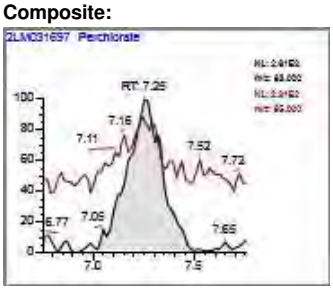
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio	
			N/A			
7.25	m/z 83.000	3076	0.036		N/A	I
7.25	m/z 85.000			26.76 - 40.14	*	

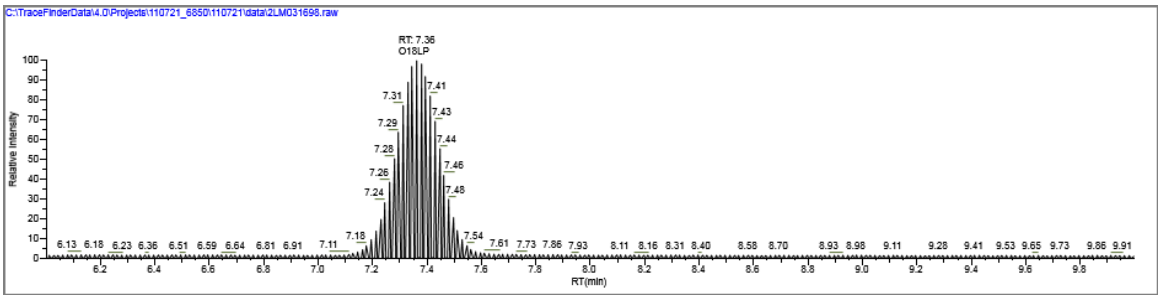
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 110721

Method: 110721_Perchlorate 6850 Perchlorate 6850
Cali File: 110721.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:E1	M1J1374-10	2LM031698	N/A	M1J1374-10	11/7/2021 6:05:22 PM	1:01



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.36	89	819918			5.000	ug/L	5.000	ug/L	

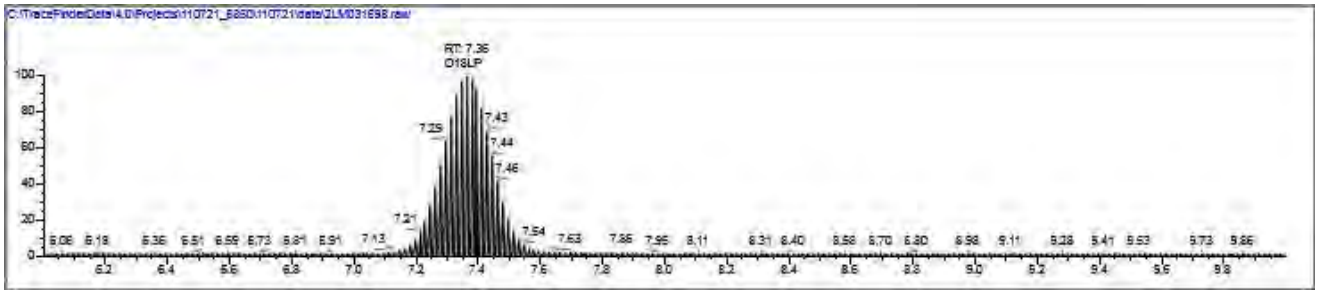
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.37	83	2923	Linear	0.004	0.032	ug/L	0.032	ug/L	I

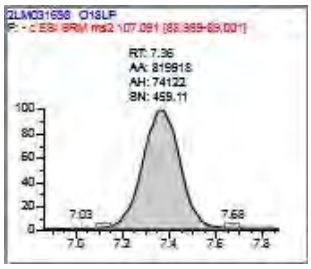
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

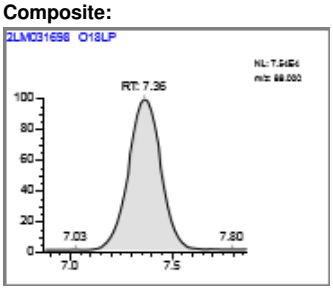
Data File:	2LM031698	Tune Report Date:	Tune report not found
Method:	110721_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	11/7/2021 6:05:22 PM
		Cali File Date:	11/8/2021 1:16:16 PM
Cali File:	110721.calx	Operator ID:	CAS
Sample ID:	M1J1374-10	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:E1
Comments:	1:01		



m/z 89.000



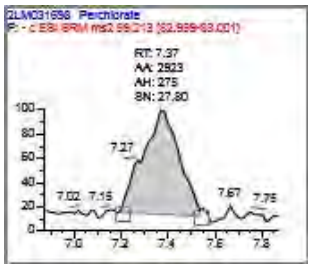
Composite:



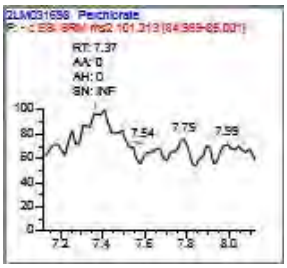
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.36	m/z 89.000	819918	5.000		N/A

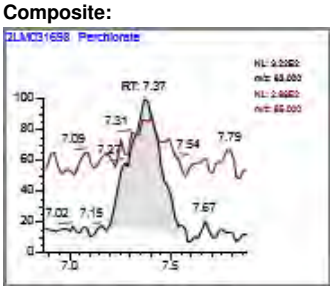
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio	
			N/A			
7.37	m/z 83.000	2923	0.032		N/A	I
7.37	m/z 85.000			26.76 - 40.14	*	

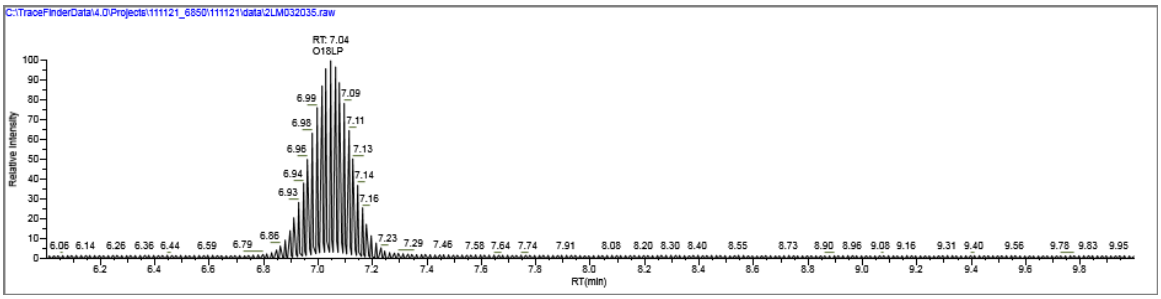
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 111121

Method: 111121_Perchlorate 6850 Perchlorate 6850
Cali File: 111121T2_111121.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:B4	M1J1374-11	2LM032035	N/A	M1J1374-11	11/11/2021 4:35:09 PM	1:01



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.04	89	633080			5.000	ug/L	5.000	ug/L	

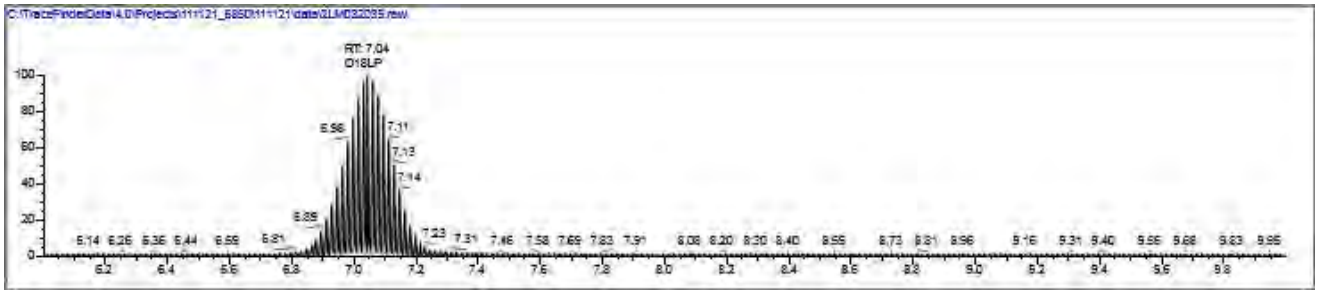
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.05	83	55661	Linear	0.088	0.486	ug/L	0.486	ug/L	

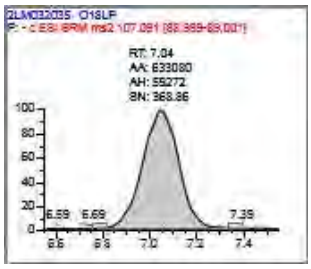
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

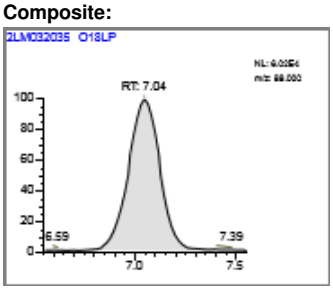
Data File:	2LM032035	Tune Report Date:	Tune report not found
Method:	111121_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	11/11/2021 4:35:09 PM
		Cali File Date:	11/12/2021 9:17:06 AM
Cali File:	111121T2_111121.calx	Operator ID:	CAS
Sample ID:	M1J1374-11	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:B4
Comments:	1:01		



m/z 89.000



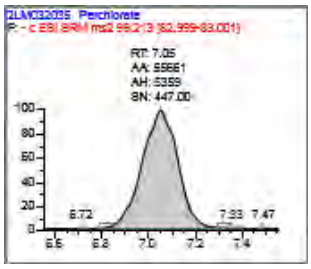
Composite:

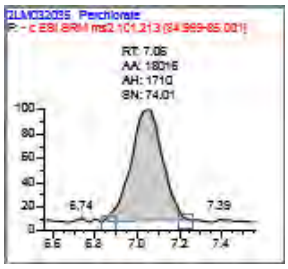


O18LP

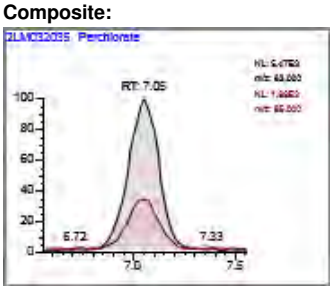
RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.04	m/z 89.000	633080	5.000		N/A

m/z 83.000 **m/z 85.000**





Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.05	m/z 83.000	55661	0.486		N/A
7.06	m/z 85.000	18016		25.94 - 38.92	32.37

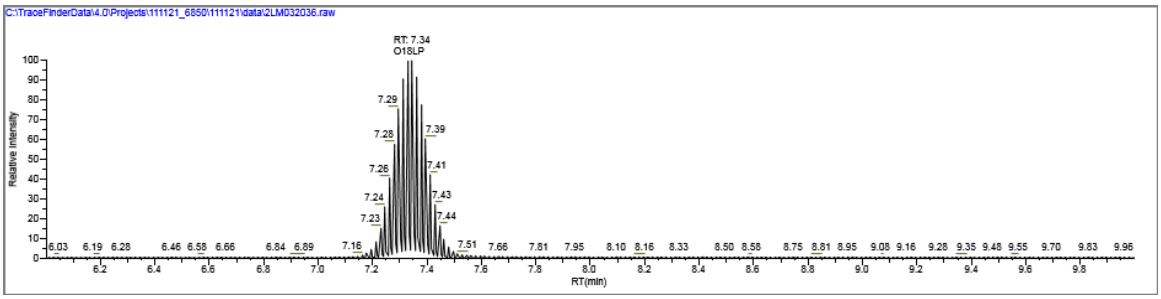
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 111121

Method: 111121_Perchlorate 6850
Perchlorate 6850
Cali File: 111121T2_111121.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:B5	M1J1374-12@100	2LM032036	N/A	M1J1374-12@100	11/11/2021 4:48:24 PM	1:100



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.34	89	631813			5.000	ug/L	5.000	ug/L	

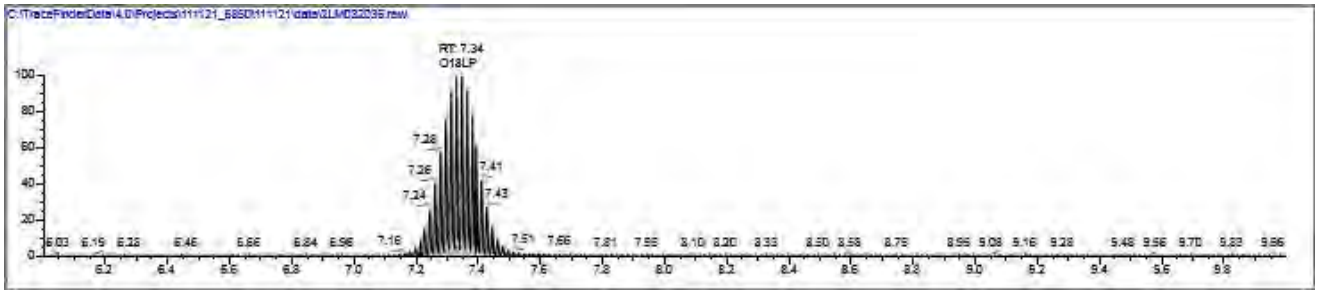
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.33	83	75922	Linear	0.120	0.665	ug/L	0.665	ug/L	

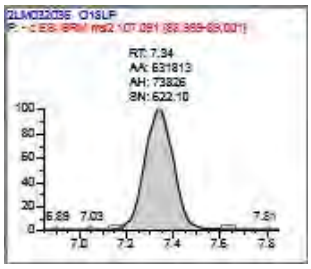
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

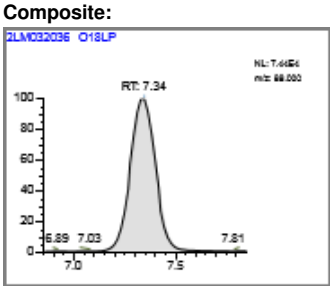
Data File:	2LM032036	Tune Report Date:	Tune report not found
Method:	111121_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	11/11/2021 4:48:24 PM
		Cali File Date:	11/12/2021 9:17:06 AM
Cali File:	111121T2_111121.calx	Operator ID:	CAS
Sample ID:	M1J1374-12@100	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:B5
Comments:	1:100		



m/z 89.000



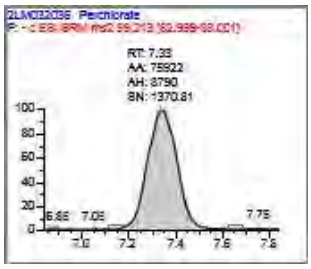
Composite:



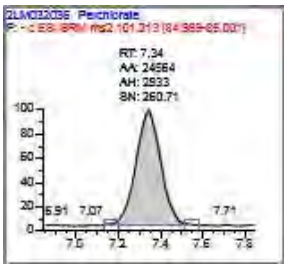
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.34	m/z 89.000	631813	5.000		N/A

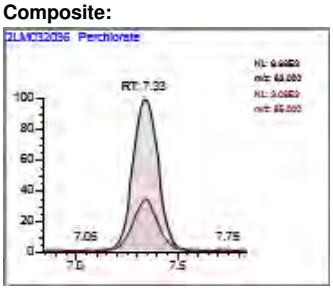
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.33	m/z 83.000	75922	0.665		N/A
7.34	m/z 85.000	24564		25.94 - 38.92	32.35

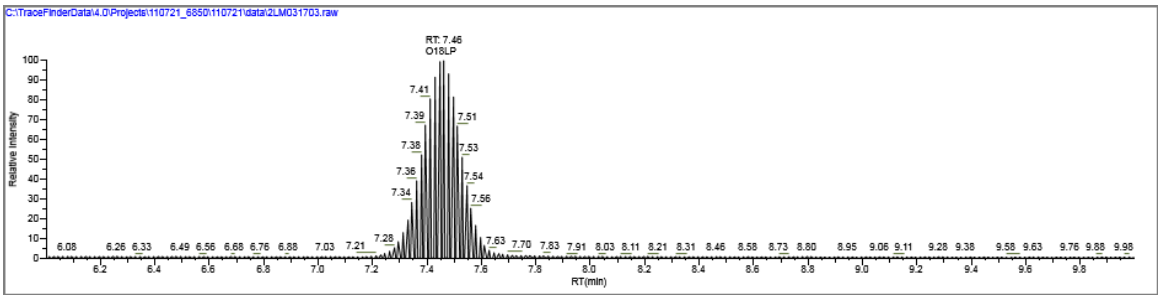
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 110721

Method: 110721_Perchlorate 6850
Perchlorate 6850
Cali File: 110721.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:E6	M1J1374-13	2LM031703	N/A	M1J1374-13	11/7/2021 7:11:36 PM	1:01



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.46	89	977378			5.000	ug/L	5.000	ug/L	

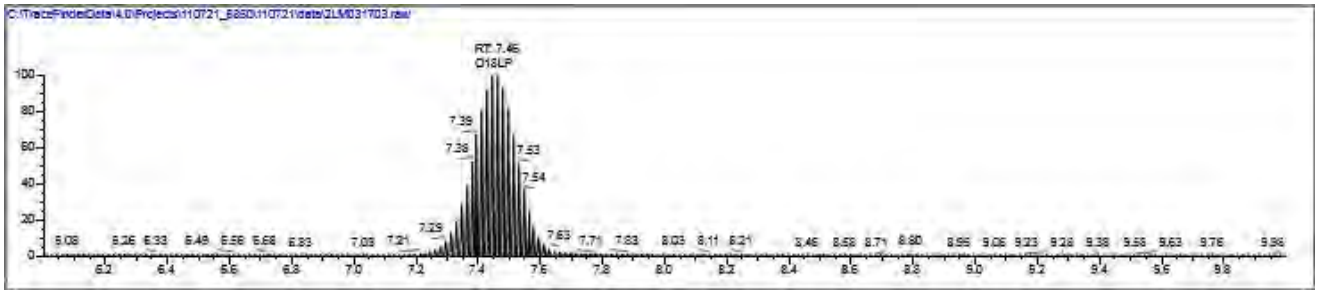
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.47	83	1476	Linear	0.002	0.021	ug/L	0.021	ug/L	I

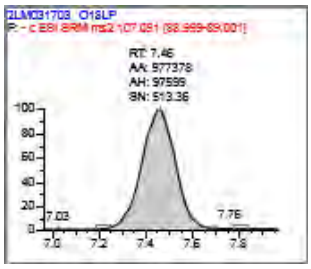
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

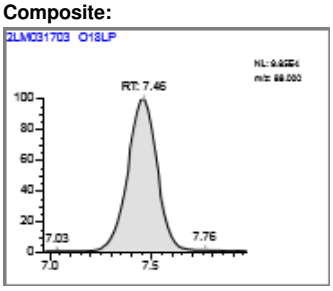
Data File:	2LM031703	Tune Report Date:	Tune report not found
Method:	110721_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	11/7/2021 7:11:36 PM
		Cali File Date:	11/8/2021 1:16:16 PM
Cali File:	110721.calx	Operator ID:	CAS
Sample ID:	M1J1374-13	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:E6
Comments:	1:01		



m/z 89.000



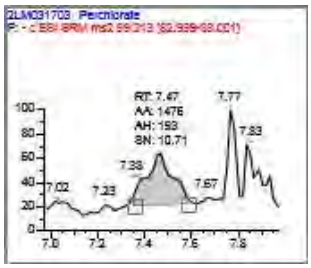
Composite:



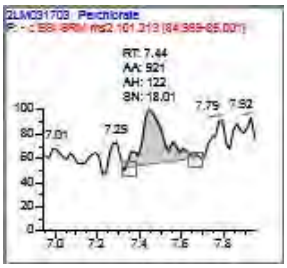
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.46	m/z 89.000	977378	5.000		N/A

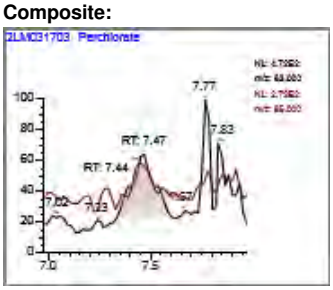
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio	
			N/A			
7.47	m/z 83.000	1476	0.021		N/A	I
7.44	m/z 85.000	921		26.76 - 40.14	62.39 *	

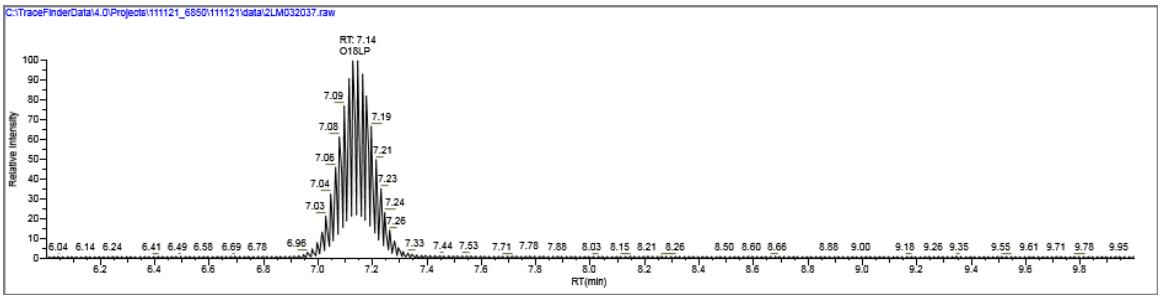
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 111121

Method: 111121_Perchlorate 6850 Perchlorate 6850
Cali File: 111121T2_111121.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:B6	M1J1374-14@10	2LM032037	N/A	M1J1374-14@10	11/11/2021 5:01:39 PM	1:10



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.14	89	692560			5.000	ug/L	5.000	ug/L	

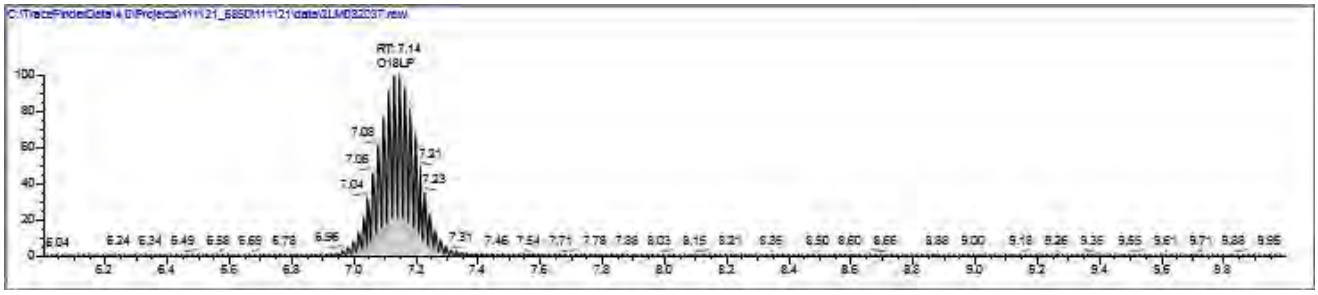
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.15	83	472527	Linear	0.682	3.787	ug/L	3.787	ug/L	

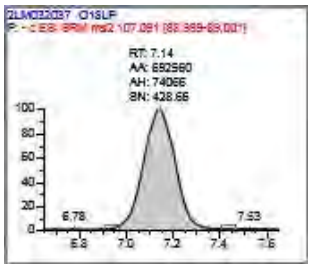
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

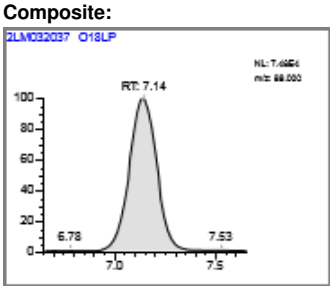
Data File:	2LM032037	Tune Report Date:	Tune report not found
Method:	111121_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	11/11/2021 5:01:39 PM
		Cali File Date:	11/12/2021 9:17:06 AM
Cali File:	111121T2_111121.calx	Operator ID:	CAS
Sample ID:	M1J1374-14@10	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:B6
Comments:	1:10		



m/z 89.000



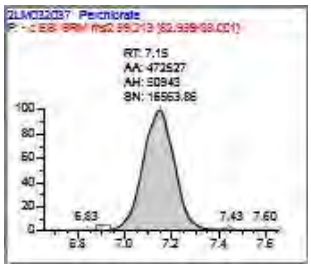
Composite:



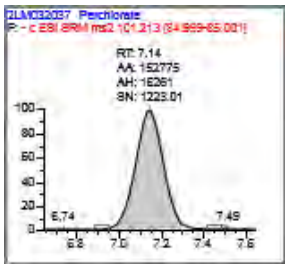
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.14	m/z 89.000	692560	5.000		N/A

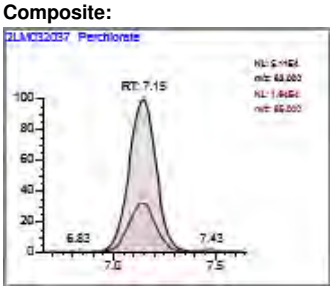
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.15	m/z 83.000	472527	3.787		N/A
7.14	m/z 85.000	152775		25.94 - 38.92	32.33

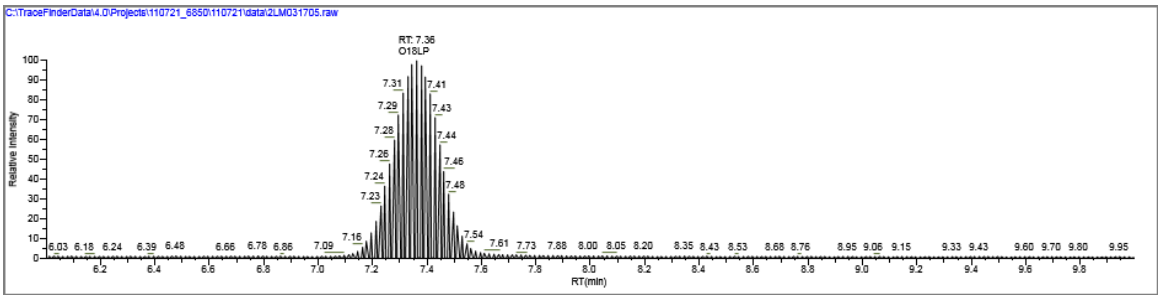
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 110721

Method: 110721_Perchlorate 6850
Perchlorate 6850
Cali File: 110721.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:E8	M1J1374-15	2LM031705	N/A	M1J1374-15	11/7/2021 7:38:06 PM	1:01



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.36	89	830329			5.000	ug/L	5.000	ug/L	

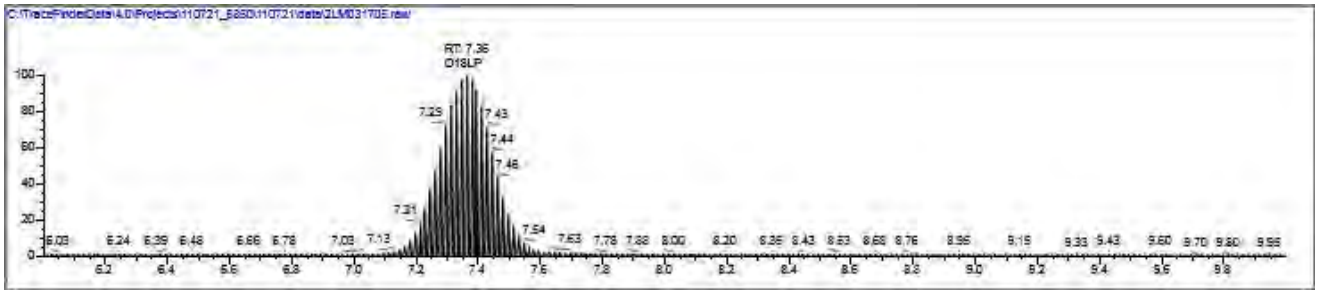
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.35	83	1682	Linear	0.002	0.024	ug/L	0.024	ug/L	I

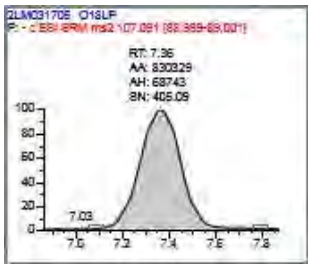
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

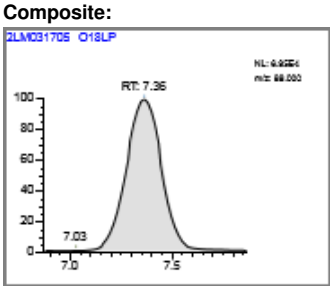
Data File:	2LM031705	Tune Report Date:	Tune report not found
Method:	110721_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	11/7/2021 7:38:06 PM
		Cali File Date:	11/8/2021 1:16:16 PM
Cali File:	110721.calx	Operator ID:	CAS
Sample ID:	M1J1374-15	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:E8
Comments:	1:01		



m/z 89.000



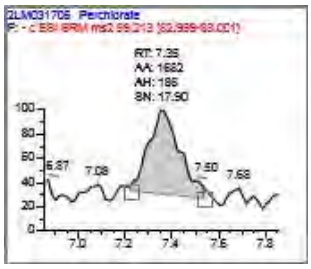
Composite:



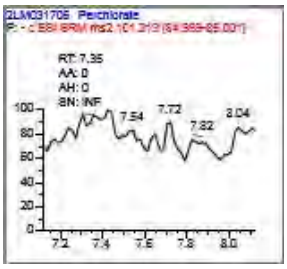
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio	
			N/A			
7.36	m/z 89.000	830329	5.000		N/A	

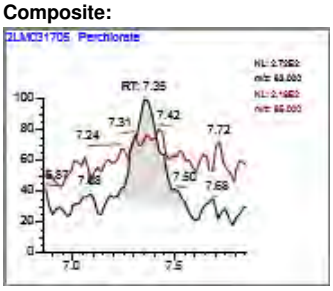
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio	
			N/A			
7.35	m/z 83.000	1682	0.024		N/A	I
7.35	m/z 85.000			26.76 - 40.14	*	

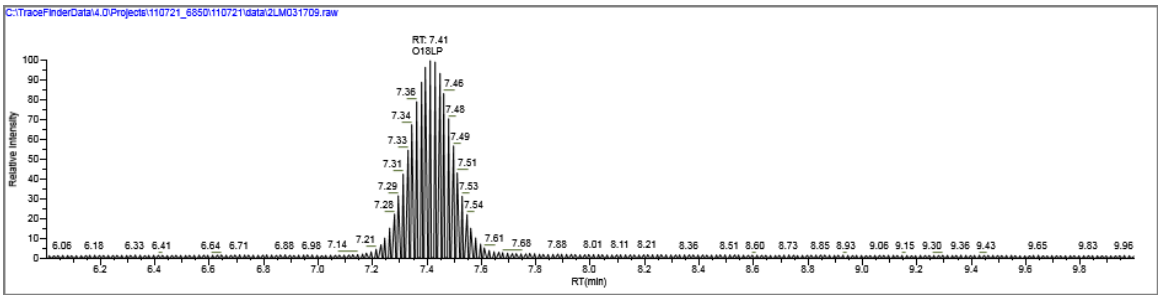
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 110721

Method: 110721_Perchlorate 6850
Perchlorate 6850
Cali File: 110721.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:E9	M1J1374-16	2LM031709	N/A	M1J1374-16	11/7/2021 8:31:06 PM	1:01



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.41	89	692504			5.000	ug/L	5.000	ug/L	

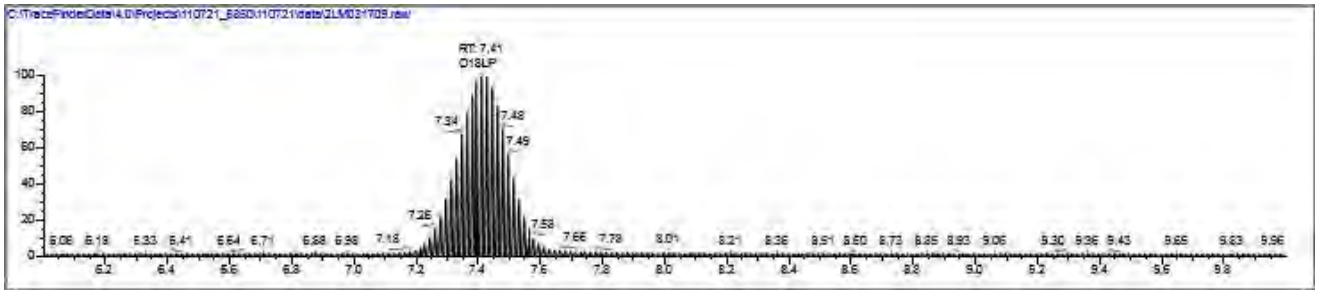
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.4	83	1205	Linear	0.002	0.022	ug/L	0.022	ug/L	I

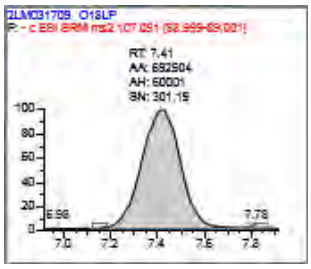
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

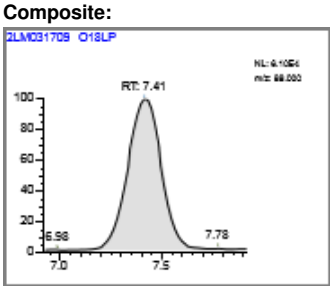
Data File:	2LM031709	Tune Report Date:	Tune report not found
Method:	110721_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	11/7/2021 8:31:06 PM
		Cali File Date:	11/8/2021 1:16:16 PM
Cali File:	110721.calx	Operator ID:	CAS
Sample ID:	M1J1374-16	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:E9
Comments:	1:01		



m/z 89.000



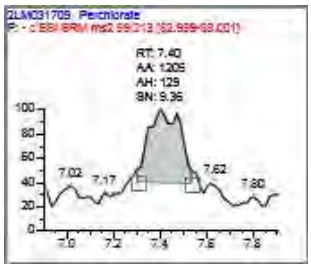
Composite:



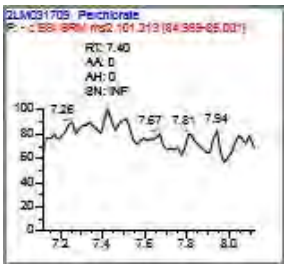
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio	
			N/A			
7.41	m/z 89.000	692504	5.000		N/A	

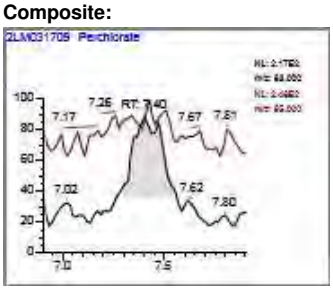
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio	
			N/A			
7.40	m/z 83.000	1205	0.022		N/A	I
7.40	m/z 85.000			26.76 - 40.14	*	

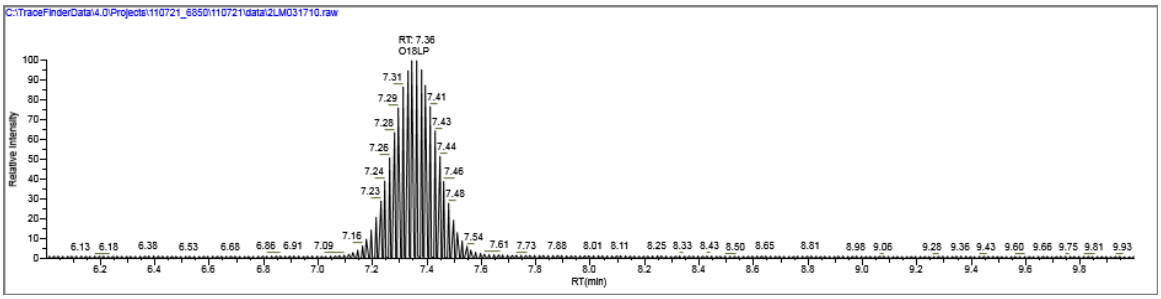
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 110721

Method: 110721_Perchlorate 6850 Perchlorate 6850
Cali File: 110721.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:F1	M1J1374-17	2LM031710	N/A	M1J1374-17	11/7/2021 8:44:24 PM	1:01



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.36	89	889253			5.000	ug/L	5.000	ug/L	

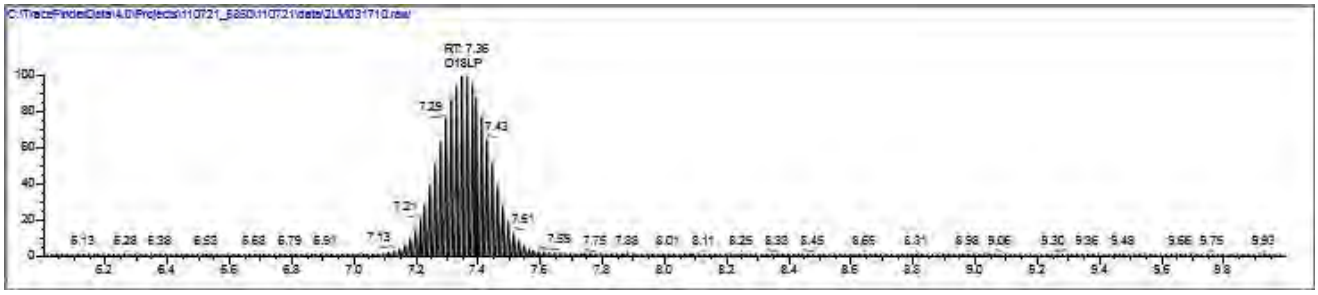
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.37	83	9313	Linear	0.010	0.071	ug/L	0.071	ug/L	

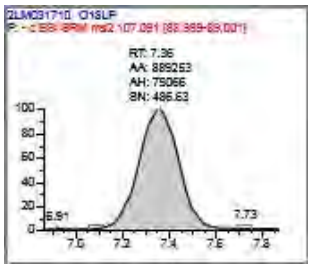
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

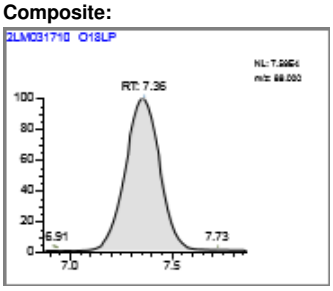
Data File:	2LM031710	Tune Report Date:	Tune report not found
Method:	110721_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	11/7/2021 8:44:24 PM
		Cali File Date:	11/8/2021 1:16:16 PM
Cali File:	110721.calx	Operator ID:	CAS
Sample ID:	M1J1374-17	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:F1
Comments:	1:01		



m/z 89.000



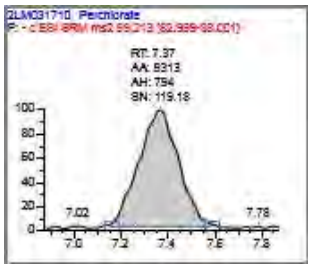
Composite:



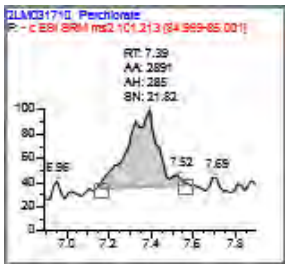
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.36	m/z 89.000	889253	5.000		N/A

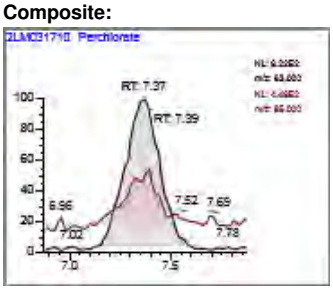
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.37	m/z 83.000	9313	0.071		N/A
7.39	m/z 85.000	2891		26.76 - 40.14	31.04

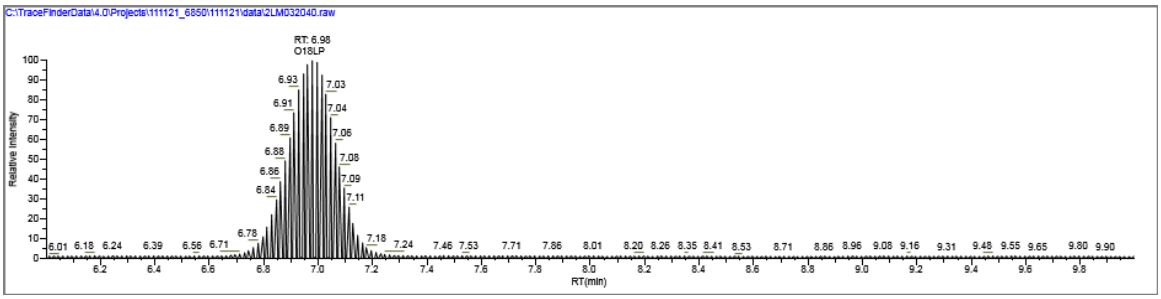
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 111121

Method: 111121_Perchlorate 6850 Perchlorate 6850
Cali File: 111121T2_111121.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:B7	M1J1374-18	2LM032040	N/A	M1J1374-18	11/11/2021 5:41:24 PM	1:01



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	6.98	89	647575			5.000	ug/L	5.000	ug/L	

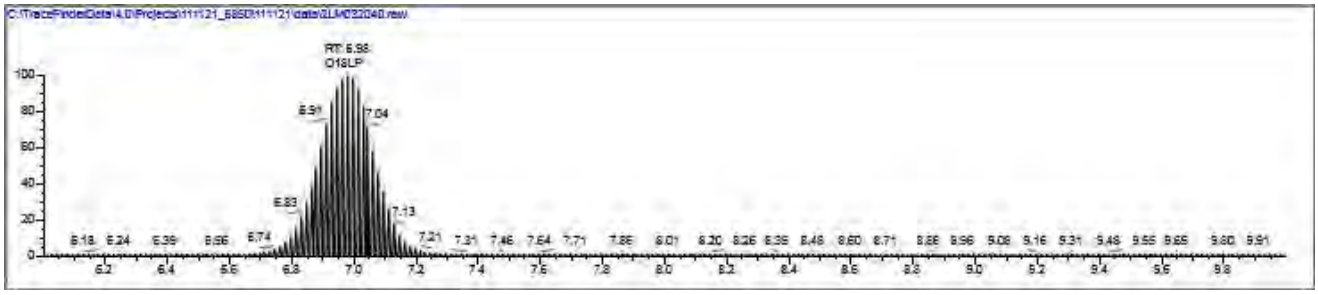
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	6.97	83	3244	Linear	0.005	0.025	ug/L	0.025	ug/L	

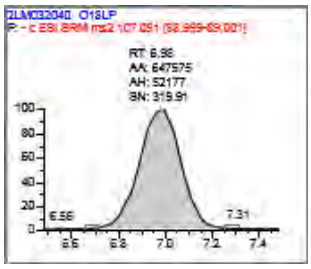
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

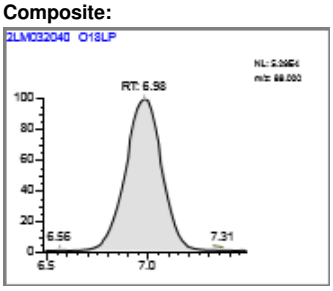
Data File:	2LM032040	Tune Report Date:	Tune report not found
Method:	111121_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	11/11/2021 5:41:24 PM
		Cali File Date:	11/12/2021 9:17:06 AM
Cali File:	111121T2_111121.calx	Operator ID:	CAS
Sample ID:	M1J1374-18	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:B7
Comments:	1:01		



m/z 89.000



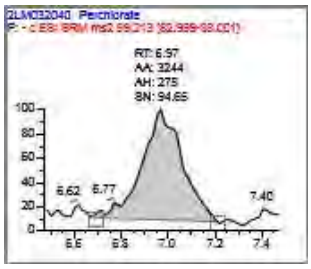
Composite:



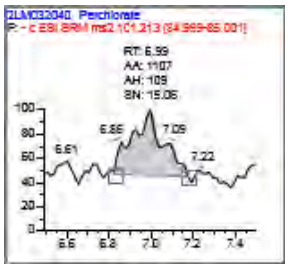
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
6.98	m/z 89.000	647575	5.000		N/A

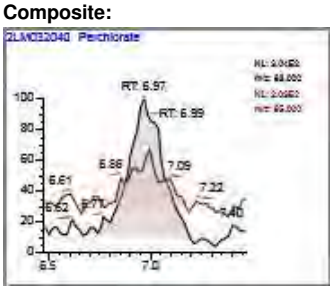
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
6.97	m/z 83.000	3244	0.025		N/A
6.99	m/z 85.000	1107		25.94 - 38.92	34.12

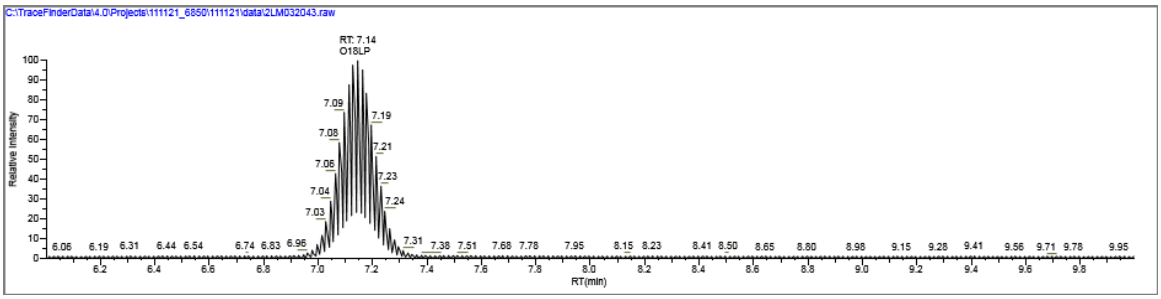
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 111121

Method: 111121_Perchlorate 6850
Perchlorate 6850
Cali File: 111121T2_111121.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:C1	M1J1374-19@10	2LM032043	N/A	M1J1374-19@10	11/11/2021 6:21:08 PM	1:10



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.14	89	698532			5.000	ug/L	5.000	ug/L	

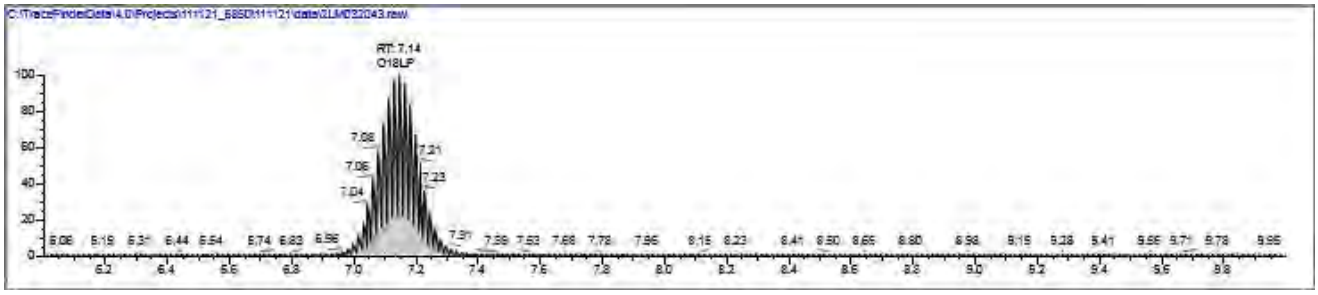
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.15	83	507150	Linear	0.726	4.03	ug/L	4.03	ug/L	

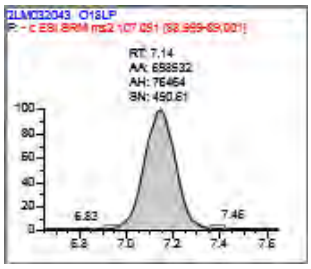
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

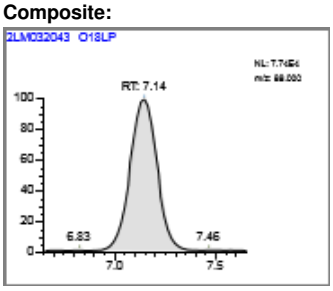
Data File:	2LM032043	Tune Report Date:	Tune report not found
Method:	111121_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	11/11/2021 6:21:08 PM
		Cali File Date:	11/12/2021 9:17:06 AM
Cali File:	111121T2_111121.calx	Operator ID:	CAS
Sample ID:	M1J1374-19@10	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:C1
Comments:	1:10		



m/z 89.000



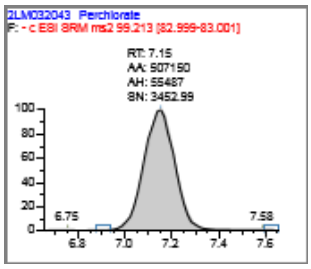
Composite:



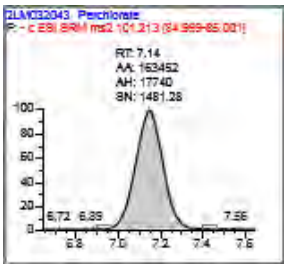
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.14	m/z 89.000	698532	5.000		N/A

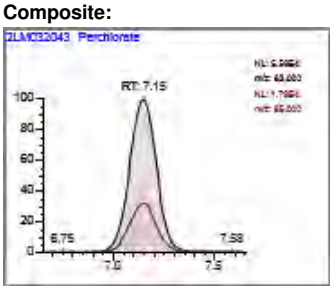
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.15	m/z 83.000	507150	4.030		N/A
7.14	m/z 85.000	163452		25.94 - 38.92	32.23

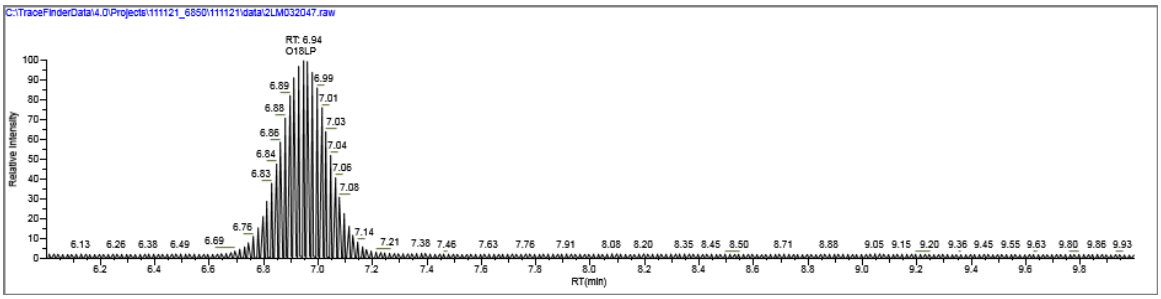
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 111121

Method: 111121_Perchlorate 6850
Perchlorate 6850
Cali File: 111121T2_111121.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:C2	M1J1374-20	2LM032047	N/A	M1J1374-20	11/11/2021 7:14:09 PM	1:01



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	6.94	89	671180			5.000	ug/L	5.000	ug/L	

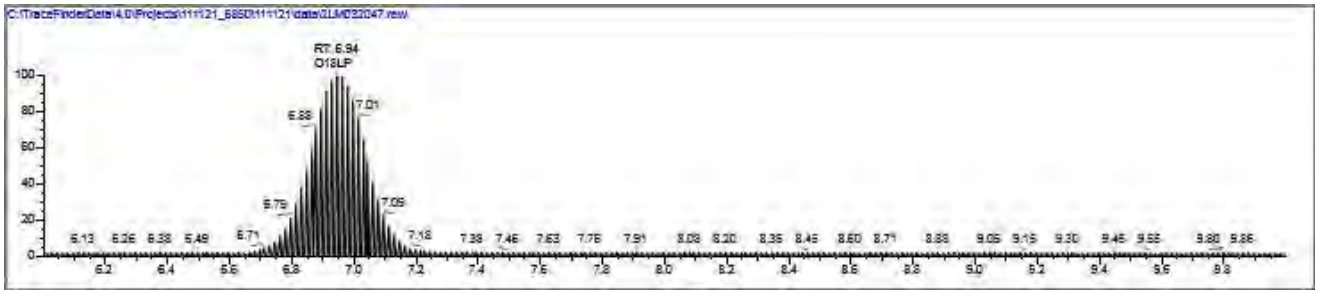
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	6.95	83	7224	Linear	0.011	0.057	ug/L	0.057	ug/L	

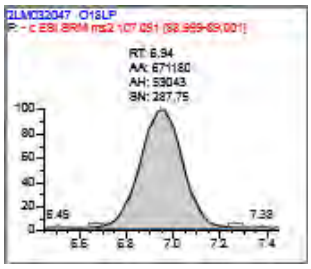
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

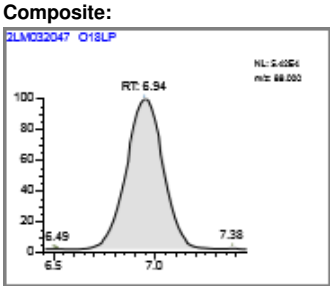
Data File:	2LM032047	Tune Report Date:	Tune report not found
Method:	111121_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	11/11/2021 7:14:09 PM
		Cali File Date:	11/12/2021 9:17:06 AM
Cali File:	111121T2_111121.calx	Operator ID:	CAS
Sample ID:	M1J1374-20	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:C2
Comments:	1:01		



m/z 89.000



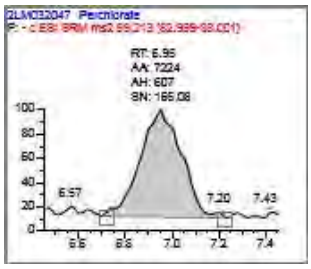
Composite:



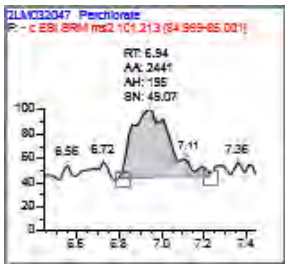
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
6.94	m/z 89.000	671180	5.000		N/A

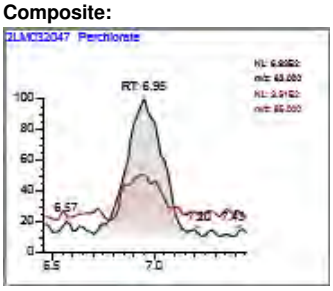
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
6.95	m/z 83.000	7224	0.057		N/A
6.94	m/z 85.000	2441		25.94 - 38.92	33.79

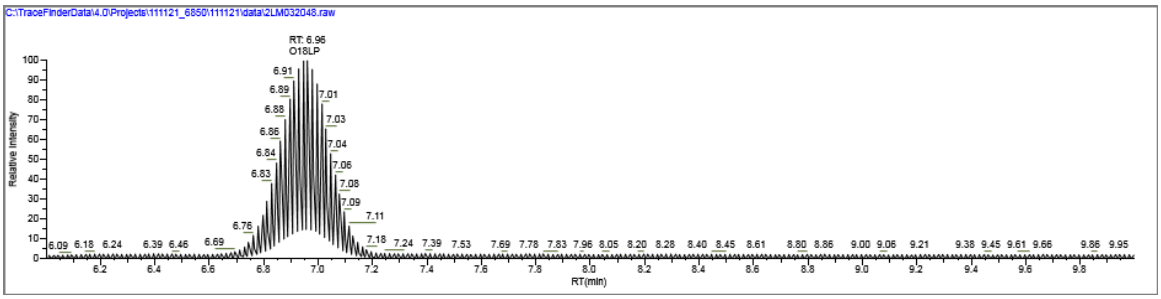
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 111121

Method: 111121_Perchlorate 6850
Perchlorate 6850
Cali File: 111121T2_111121.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:C3	M1J1374-21	2LM032048	N/A	M1J1374-21	11/11/2021 7:27:23 PM	1:01



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	6.96	89	696941			5.000	ug/L	5.000	ug/L	

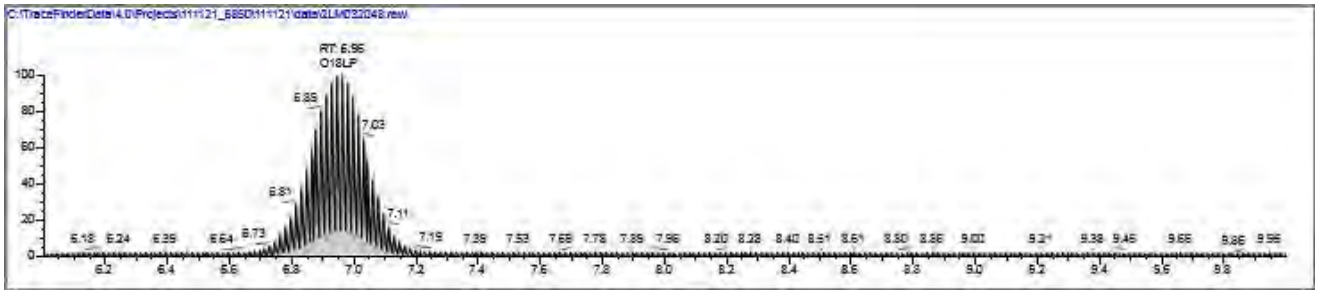
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	6.95	83	317621	Linear	0.456	2.529	ug/L	2.529	ug/L	

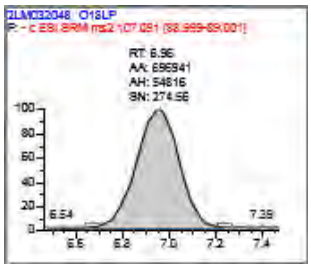
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

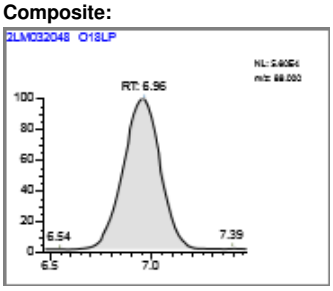
Data File:	2LM032048	Tune Report Date:	Tune report not found
Method:	111121_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	11/11/2021 7:27:23 PM
		Cali File Date:	11/12/2021 9:17:06 AM
Cali File:	111121T2_111121.calx	Operator ID:	CAS
Sample ID:	M1J1374-21	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:C3
Comments:	1:01		



m/z 89.000



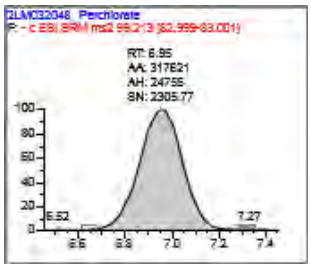
Composite:



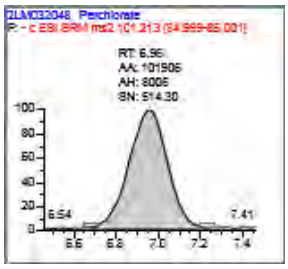
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
6.96	m/z 89.000	696941	5.000		N/A

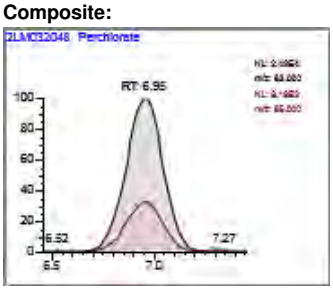
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
6.95	m/z 83.000	317621	2.529		N/A
6.96	m/z 85.000	101906		25.94 - 38.92	32.08

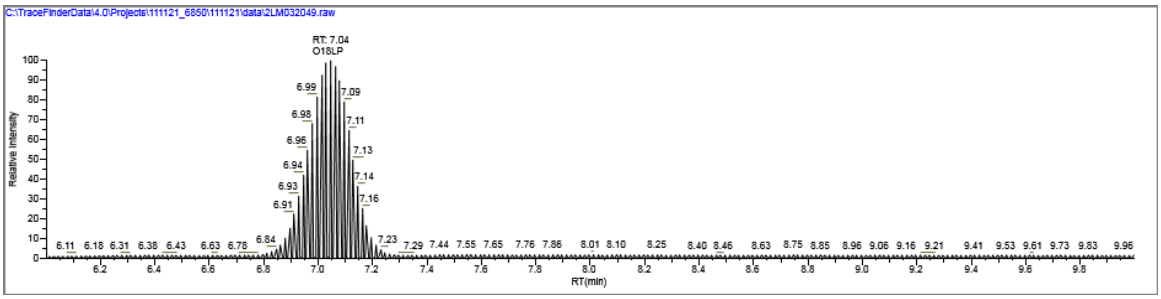
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 111121

Method: 111121_Perchlorate 6850 Perchlorate 6850
Cali File: 111121T2_111121.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:C4	M1J1374-22	2LM032049	N/A	M1J1374-22	11/11/2021 7:40:37 PM	1:01



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.04	89	702395			5.000	ug/L	5.000	ug/L	

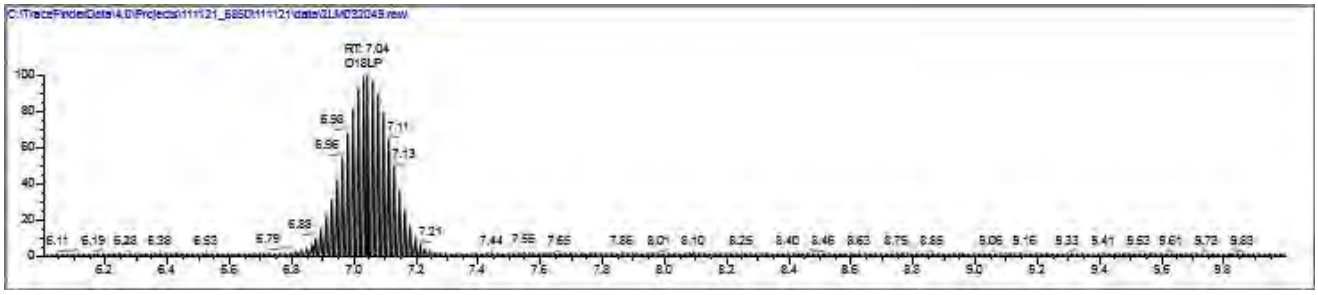
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.03	83	2430	Linear	0.003	0.017	ug/L	0.017	ug/L	I

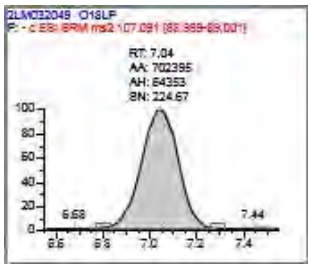
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

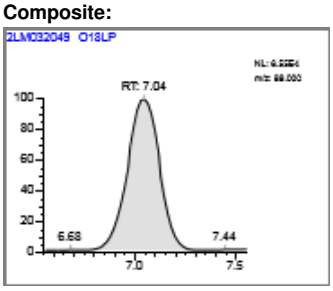
Data File:	2LM032049	Tune Report Date:	Tune report not found
Method:	111121_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	11/11/2021 7:40:37 PM
		Cali File Date:	11/12/2021 9:17:06 AM
Cali File:	111121T2_111121.calx	Operator ID:	CAS
Sample ID:	M1J1374-22	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:C4
Comments:	1:01		



m/z 89.000



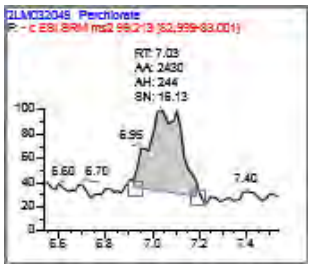
Composite:



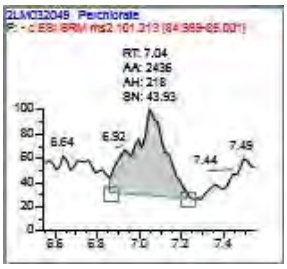
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.04	m/z 89.000	702395	5.000		N/A

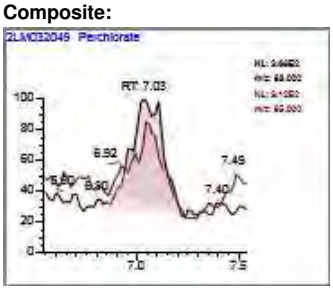
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio	
			N/A			
7.03	m/z 83.000	2430	0.017		N/A	I
7.04	m/z 85.000	2436		25.94 - 38.92	100.27 *	

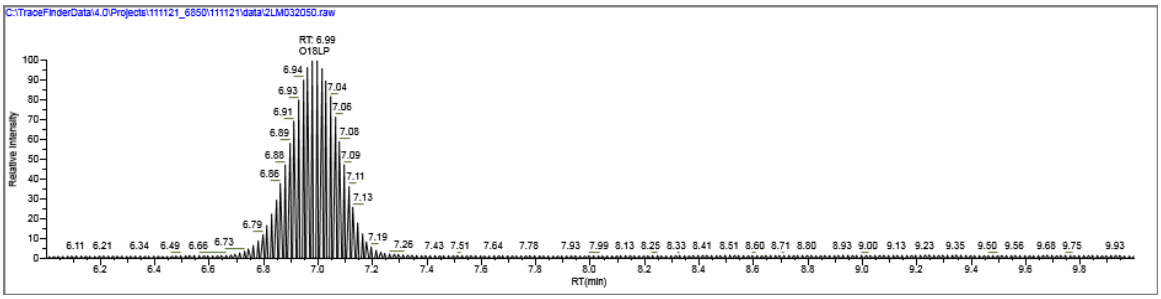
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 111121

Method: 111121_Perchlorate 6850 Perchlorate 6850
Cali File: 111121T2_111121.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:C5	M1J1374-23	2LM032050	N/A	M1J1374-23	11/11/2021 7:53:53 PM	1:01



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	6.99	89	664953			5.000	ug/L	5.000	ug/L	

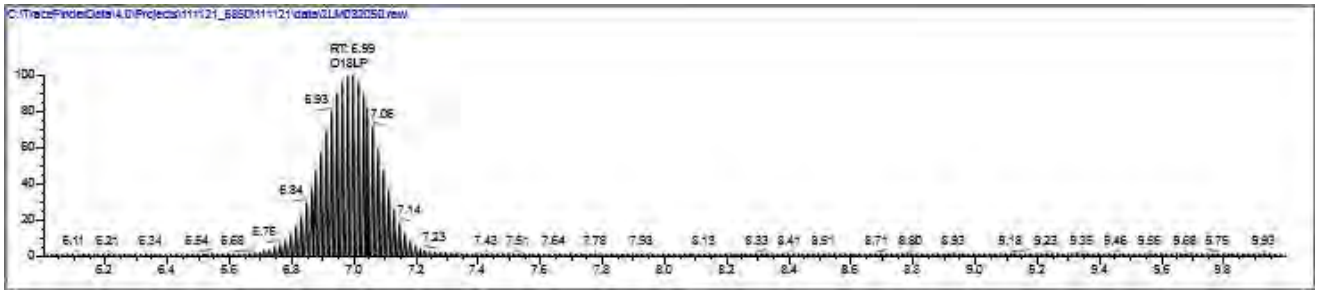
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7	83	1669	Linear	0.003	0.011	ug/L	0.011	ug/L	

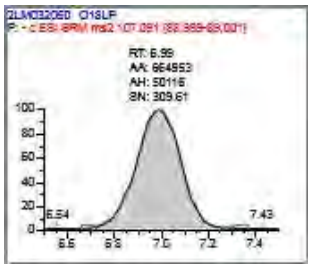
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

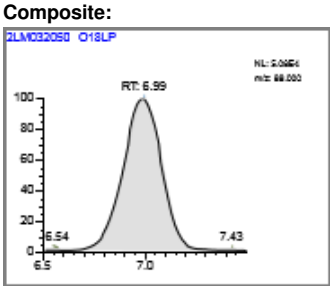
Data File:	2LM032050	Tune Report Date:	Tune report not found
Method:	111121_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	11/11/2021 7:53:53 PM
		Cali File Date:	11/12/2021 9:17:06 AM
Cali File:	111121T2_111121.calx	Operator ID:	CAS
Sample ID:	M1J1374-23	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:C5
Comments:	1:01		



m/z 89.000



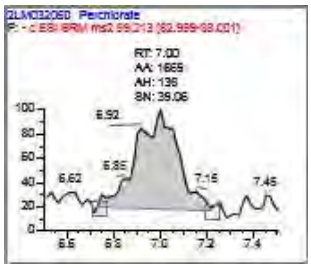
Composite:



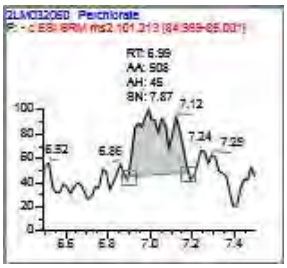
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
6.99	m/z 89.000	664953	5.000		N/A

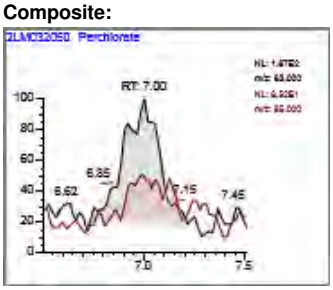
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.00	m/z 83.000	1669	0.011		N/A
6.99	m/z 85.000	508		25.94 - 38.92	30.44

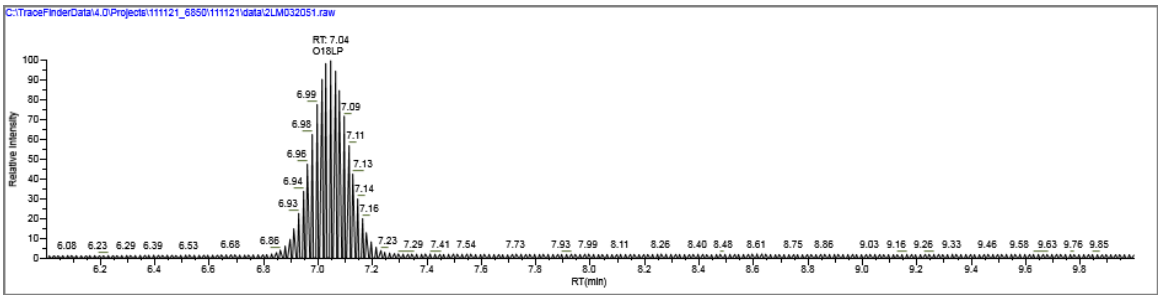
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 111121

Method: 111121_Perchlorate 6850 Perchlorate 6850
Cali File: 111121T2_111121.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:C6	M1J1374-24	2LM032051	N/A	M1J1374-24	11/11/2021 8:07:08 PM	1:01



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.04	89	675332			5.000	ug/L	5.000	ug/L	

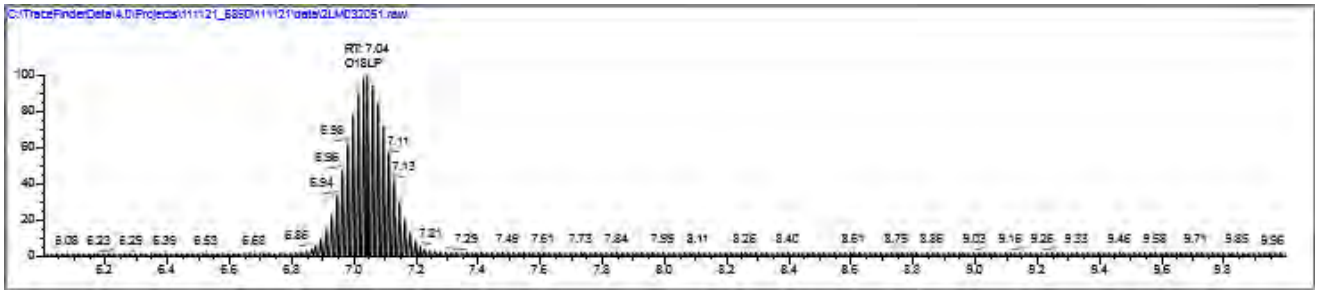
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.05	83	1246	Linear	0.002	0.008	ug/L	0.008	ug/L	I

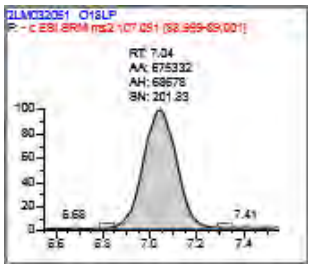
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

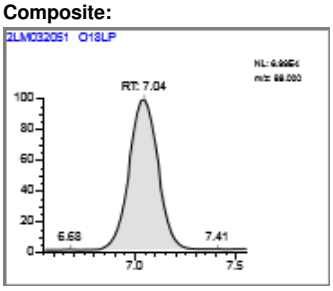
Data File:	2LM032051	Tune Report Date:	Tune report not found
Method:	111121_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	11/11/2021 8:07:08 PM
		Cali File Date:	11/12/2021 9:17:06 AM
Cali File:	111121T2_111121.calx	Operator ID:	CAS
Sample ID:	M1J1374-24	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:C6
Comments:	1:01		



m/z 89.000



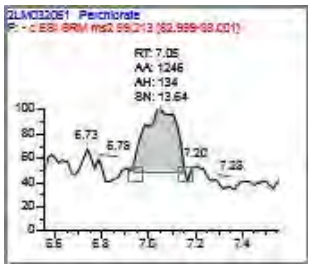
Composite:



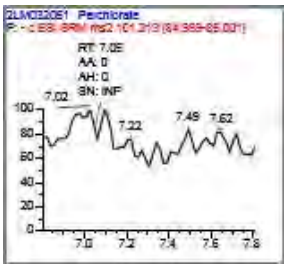
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio	
			N/A			
7.04	m/z 89.000	675332	5.000		N/A	

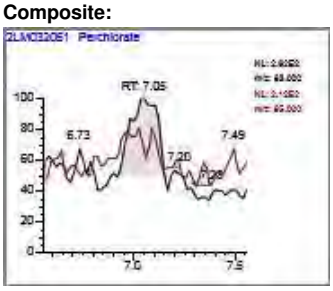
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio	
			N/A			
7.05	m/z 83.000	1246	0.008		N/A	I
7.05	m/z 85.000			25.94 - 38.92	*	

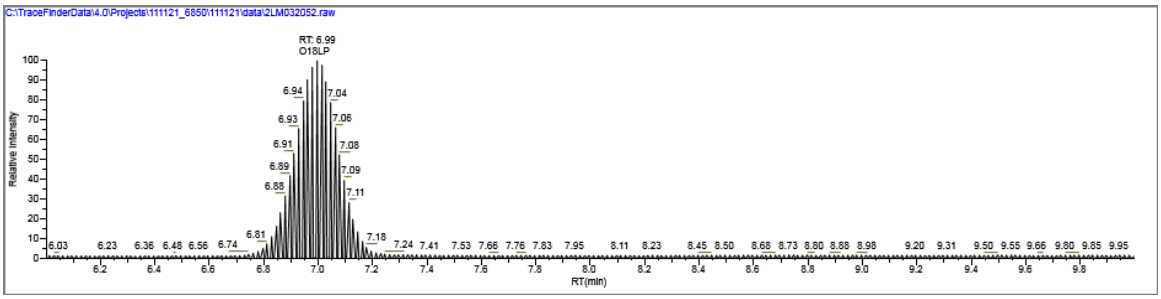
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 111121

Method: 111121_Perchlorate 6850
Perchlorate 6850
Cali File: 111121T2_111121.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:C7	M1J1374-25	2LM032052	N/A	M1J1374-25	11/11/2021 8:20:22 PM	1:01



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	6.99	89	691931			5.000	ug/L	5.000	ug/L	

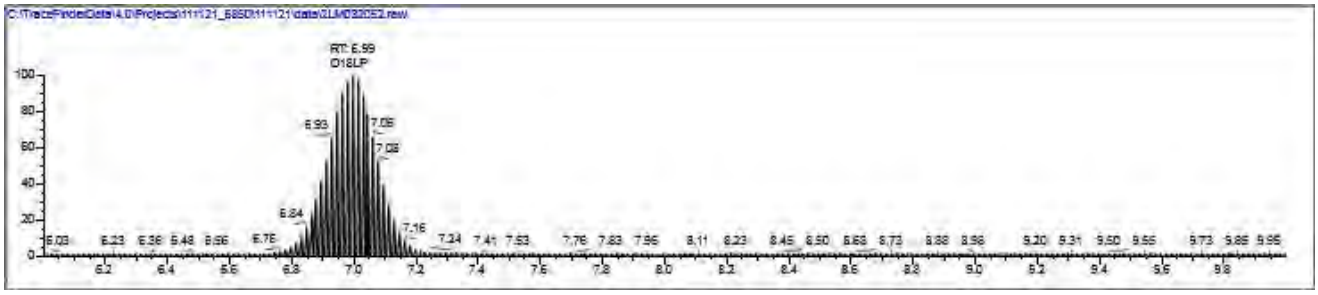
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.02	83	1630	Linear	0.002	0.011	ug/L	0.011	ug/L	I

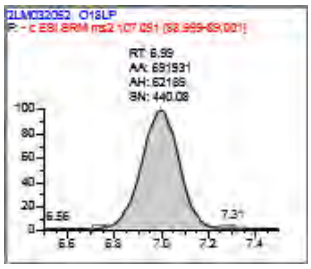
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

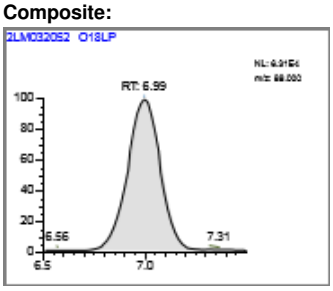
Data File:	2LM032052	Tune Report Date:	Tune report not found
Method:	111121_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	11/11/2021 8:20:22 PM
		Cali File Date:	11/12/2021 9:17:06 AM
Cali File:	111121T2_111121.calx	Operator ID:	CAS
Sample ID:	M1J1374-25	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:C7
Comments:	1:01		



m/z 89.000



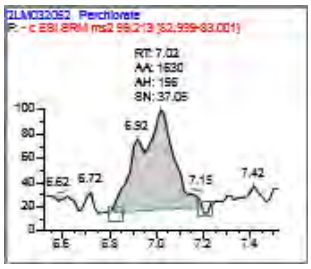
Composite:



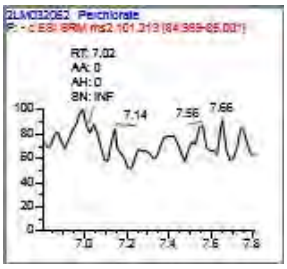
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
6.99	m/z 89.000	691931	5.000		N/A

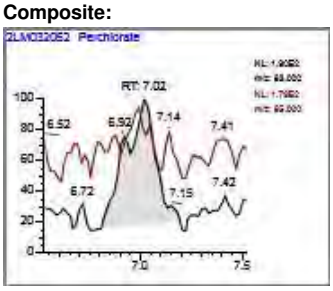
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio	
			N/A			
7.02	m/z 83.000	1630	0.011		N/A	I
7.02	m/z 85.000			25.94 - 38.92	*	

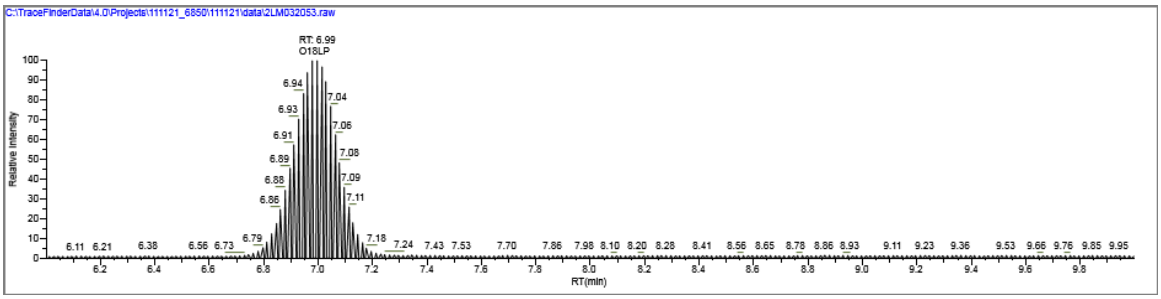
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 111121

Method: 111121_Perchlorate 6850
Perchlorate 6850
Cali File: 111121T2_111121.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:C8	M1J1374-26	2LM032053	N/A	M1J1374-26	11/11/2021 8:33:37 PM	1:01



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	6.99	89	680219			5.000	ug/L	5.000	ug/L	

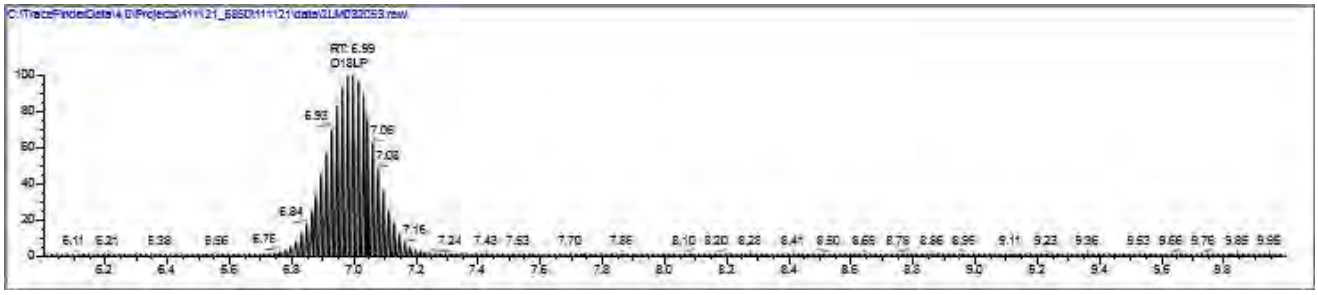
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.02	83	799	Linear	0.001	0.004	ug/L	0.004	ug/L	I

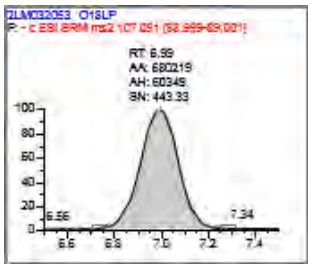
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

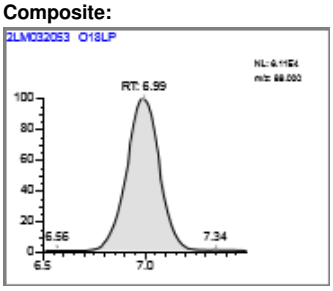
Data File:	2LM032053	Tune Report Date:	Tune report not found
Method:	111121_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	11/11/2021 8:33:37 PM
		Cali File Date:	11/12/2021 9:17:06 AM
Cali File:	111121T2_111121.calx	Operator ID:	CAS
Sample ID:	M1J1374-26	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:C8
Comments:	1:01		



m/z 89.000



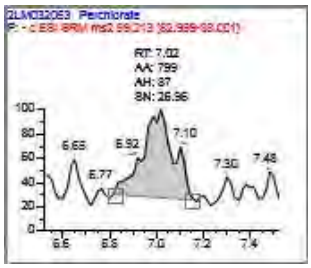
Composite:



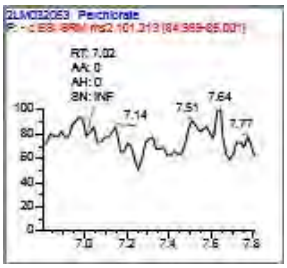
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
6.99	m/z 89.000	680219	5.000		N/A

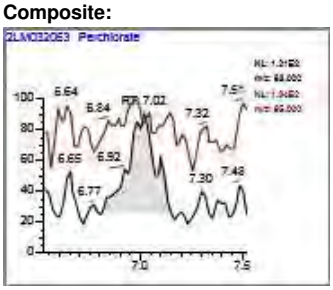
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio	
			N/A			
7.02	m/z 83.000	799	0.004		N/A	I
7.02	m/z 85.000			25.94 - 38.92		*

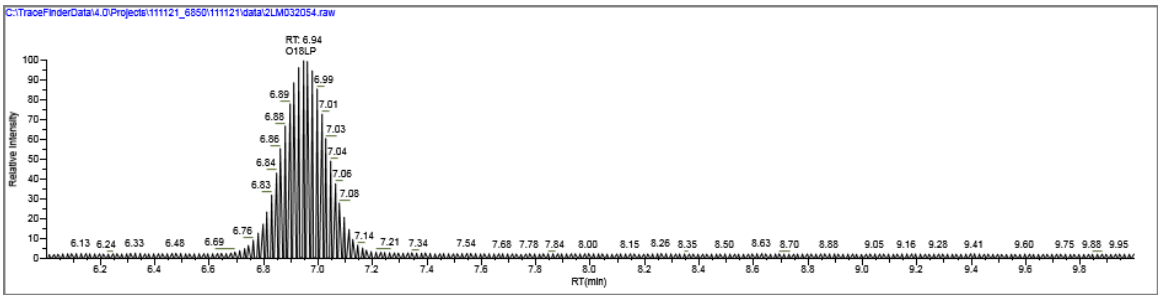
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 111121

Method: 111121_Perchlorate 6850
Perchlorate 6850
Cali File: 111121T2_111121.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:C9	M1J1374-27	2LM032054	N/A	M1J1374-27	11/11/2021 8:46:52 PM	1:01



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	6.94	89	583277			5.000	ug/L	5.000	ug/L	

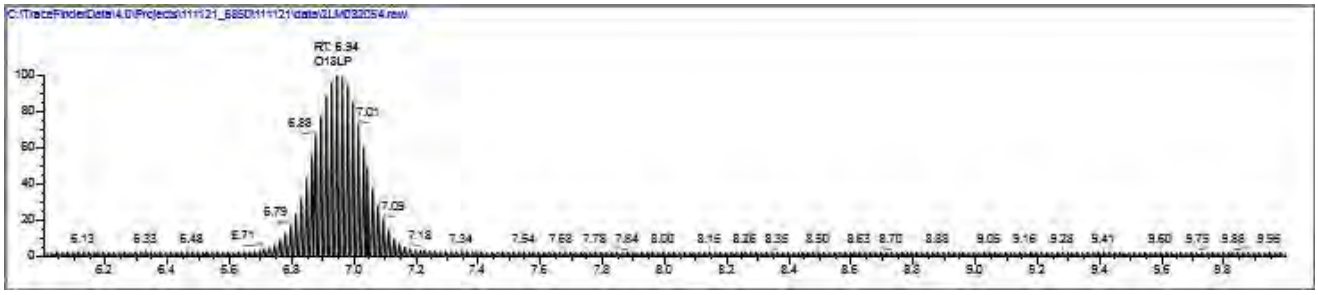
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	N/F	N/F	N/F	Linear	0.000	N/F	ug/L	N/F	ug/L	

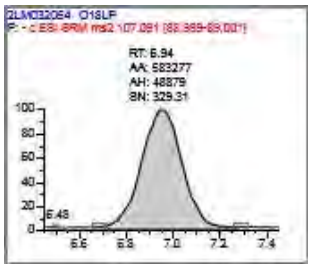
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

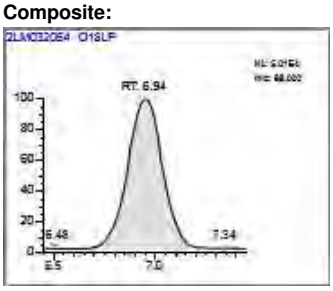
Data File:	2LM032054	Tune Report Date:	Tune report not found
Method:	111121_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	11/11/2021 8:46:52 PM
		Cali File Date:	11/12/2021 9:17:06 AM
Cali File:	111121T2_111121.calx	Operator ID:	CAS
Sample ID:	M1J1374-27	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:C9
Comments:	1:01		



m/z 89.000



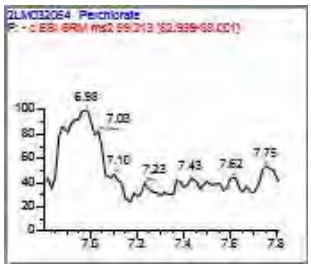
Composite:



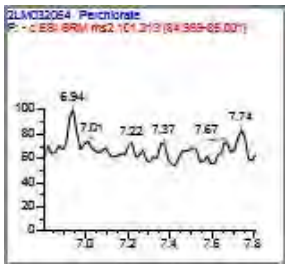
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
6.94	m/z 89.000	583277	5.000		N/A

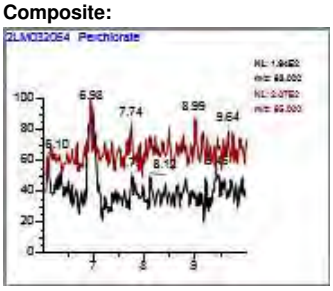
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
			Compound Not Found		
0.00	m/z 83.000		N/A		
	m/z 85.000				

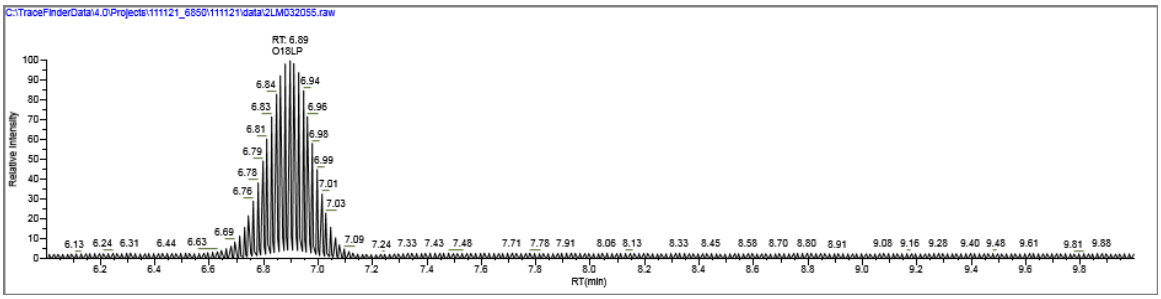
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 111121

Method: 111121_Perchlorate 6850
Perchlorate 6850
Cali File: 111121T2_111121.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:D1	M1J1374-28	2LM032055	N/A	M1J1374-28	11/11/2021 9:00:08 PM	1:01



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	6.89	89	570409			5.000	ug/L	5.000	ug/L	

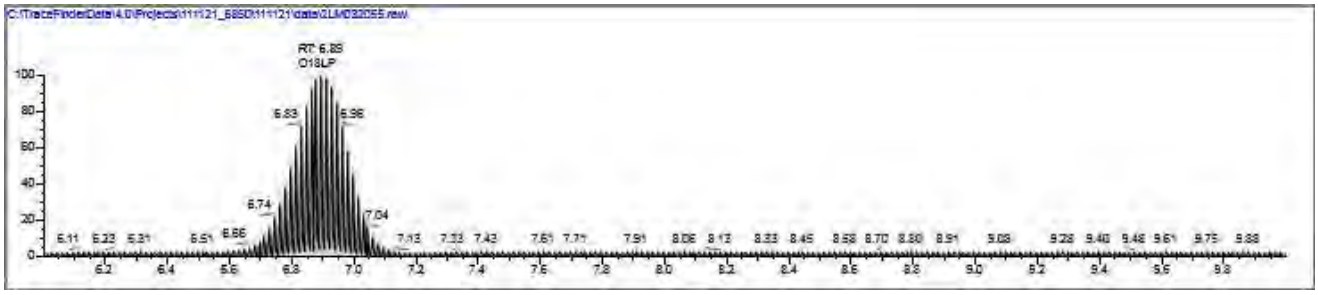
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	6.92	83	64126	Linear	0.112	0.622	ug/L	0.622	ug/L	

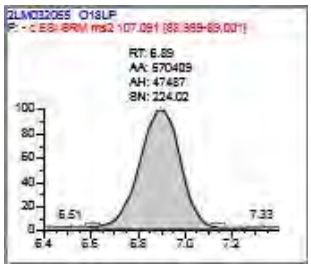
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

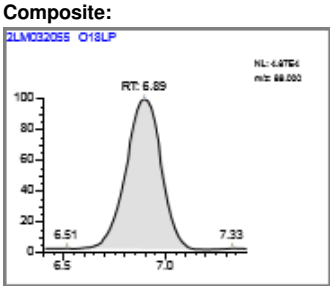
Data File:	2LM032055	Tune Report Date:	Tune report not found
Method:	111121_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	11/11/2021 9:00:08 PM
		Cali File Date:	11/12/2021 9:17:06 AM
Cali File:	111121T2_111121.calx	Operator ID:	CAS
Sample ID:	M1J1374-28	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:D1
Comments:	1:01		



m/z 89.000



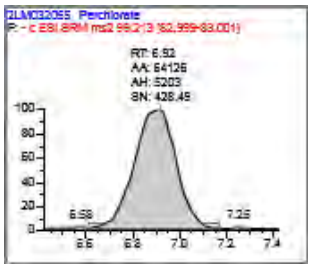
Composite:



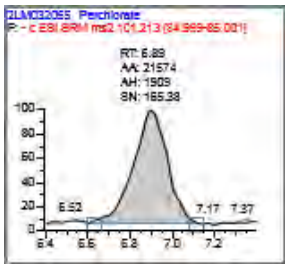
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
6.89	m/z 89.000	570409	5.000		N/A

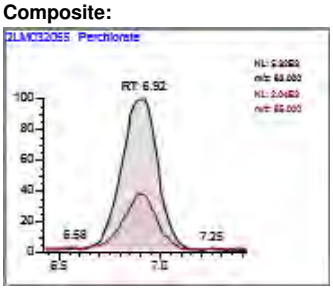
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
6.92	m/z 83.000	64126	0.622		N/A
6.89	m/z 85.000	21574		25.94 - 38.92	33.64

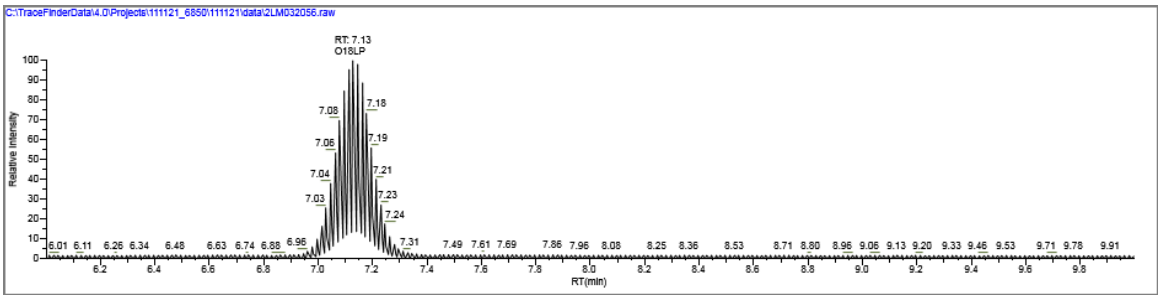
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 111121

Method: 111121_Perchlorate 6850 Perchlorate 6850
Cali File: 111121T2_111121.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:D2	M1J1374-29@10	2LM032056	N/A	M1J1374-29@10	11/11/2021 9:13:22 PM	1:10



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.13	89	653413			5.000	ug/L	5.000	ug/L	

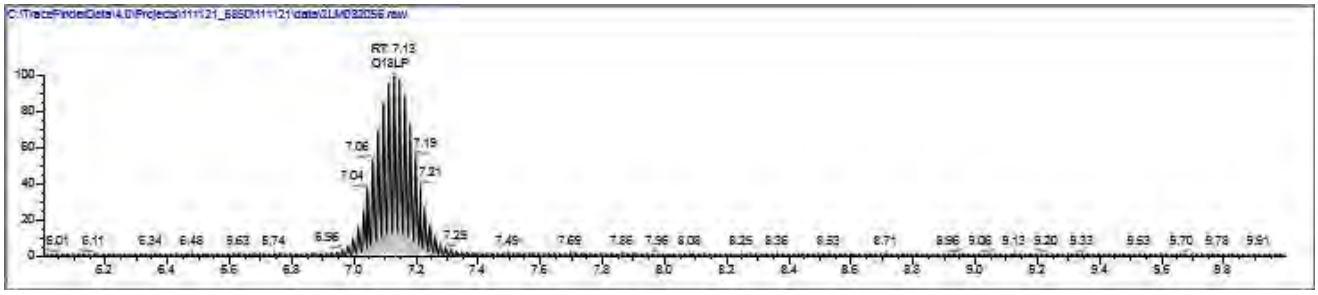
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.13	83	273631	Linear	0.419	2.323	ug/L	2.323	ug/L	

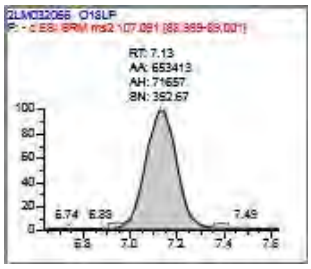
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

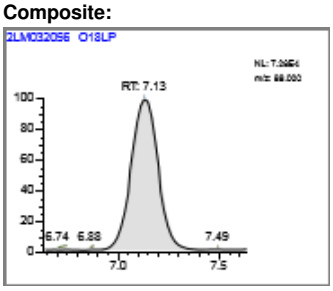
Data File:	2LM032056	Tune Report Date:	Tune report not found
Method:	111121_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	11/11/2021 9:13:22 PM
		Cali File Date:	11/12/2021 9:17:06 AM
Cali File:	111121T2_111121.calx	Operator ID:	CAS
Sample ID:	M1J1374-29@10	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:D2
Comments:	1:10		



m/z 89.000



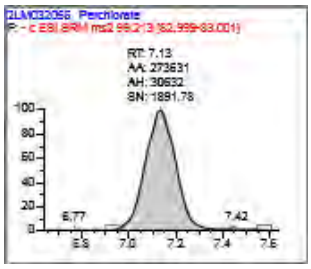
Composite:



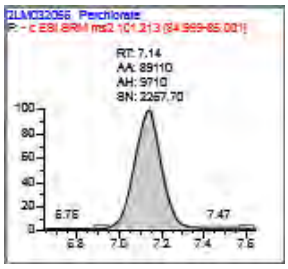
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.13	m/z 89.000	653413	5.000		N/A

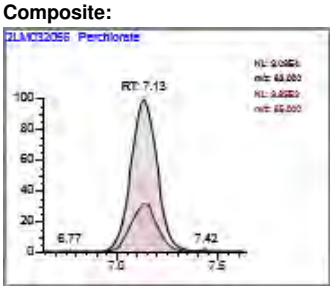
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.13	m/z 83.000	273631	2.323		N/A
7.14	m/z 85.000	89110		25.94 - 38.92	32.57

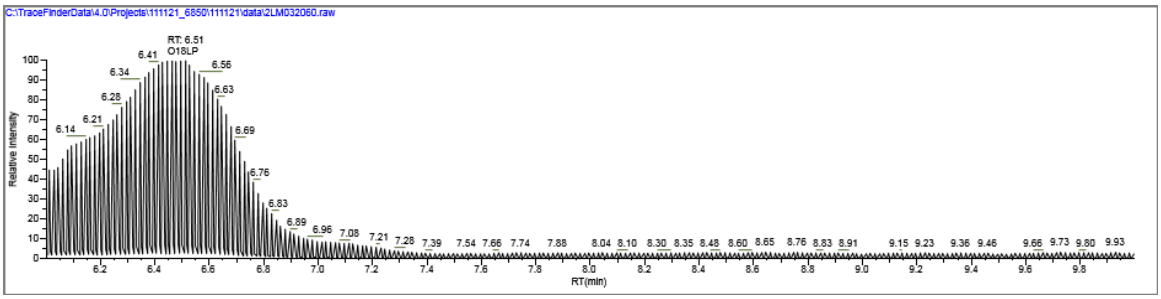
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 111121

Method: 111121_Perchlorate 6850
Perchlorate 6850
Cali File: 111121T2_111121.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:D3	M1J1374-30	2LM032060	N/A	M1J1374-30	11/11/2021 10:06:21 PM	1:01



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	6.51	89	715489			5.000	ug/L	5.000	ug/L	

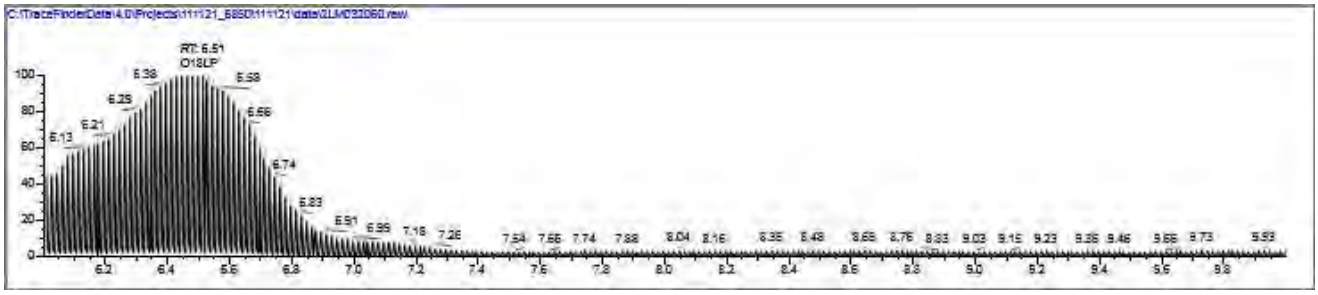
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	6.52	83	28684	Linear	0.040	0.22	ug/L	0.22	ug/L	

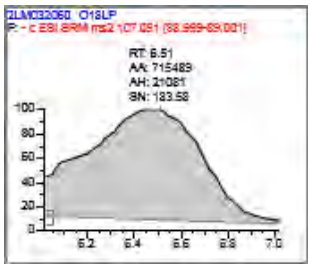
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

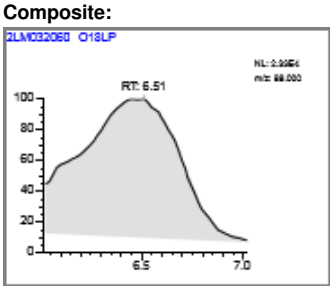
Data File:	2LM032060	Tune Report Date:	Tune report not found
Method:	111121_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	11/11/2021 10:06:21 PM
		Cali File Date:	11/12/2021 9:17:06 AM
Cali File:	111121T2_111121.calx	Operator ID:	CAS
Sample ID:	M1J1374-30	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:D3
Comments:	1:01		



m/z 89.000



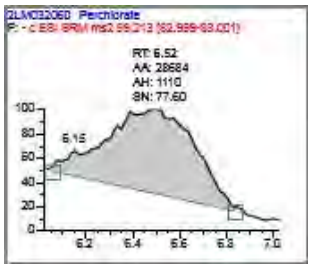
Composite:



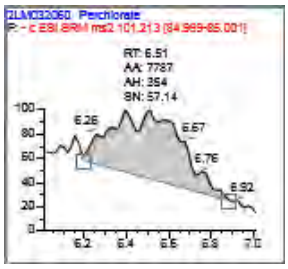
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
6.51	m/z 89.000	715489	5.000		N/A

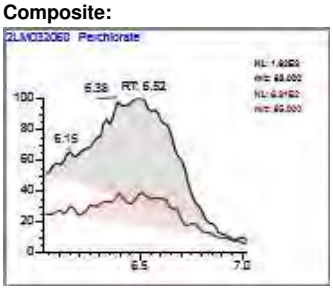
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
6.52	m/z 83.000	28684	0.220		N/A
6.51	m/z 85.000	7787		25.94 - 38.92	27.15

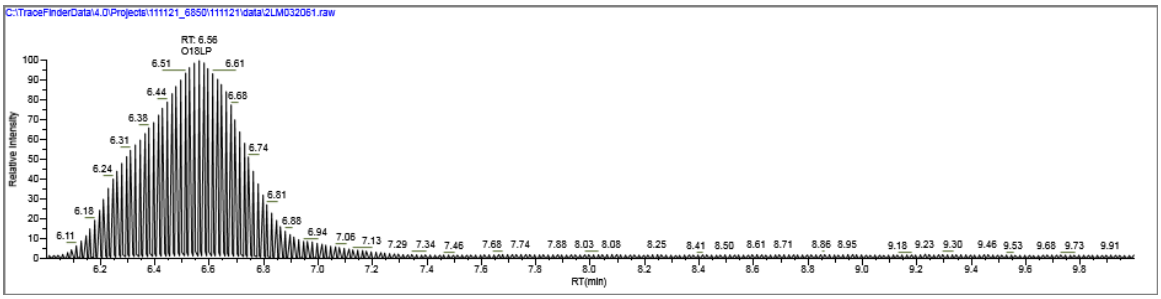
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 111121

Method: 111121_Perchlorate 6850
Perchlorate 6850
Cali File: 111121T2_111121.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:D4	M1J1374-31	2LM032061	N/A	M1J1374-31	11/11/2021 10:19:36 PM	1:01



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	6.56	89	852362			5.000	ug/L	5.000	ug/L	

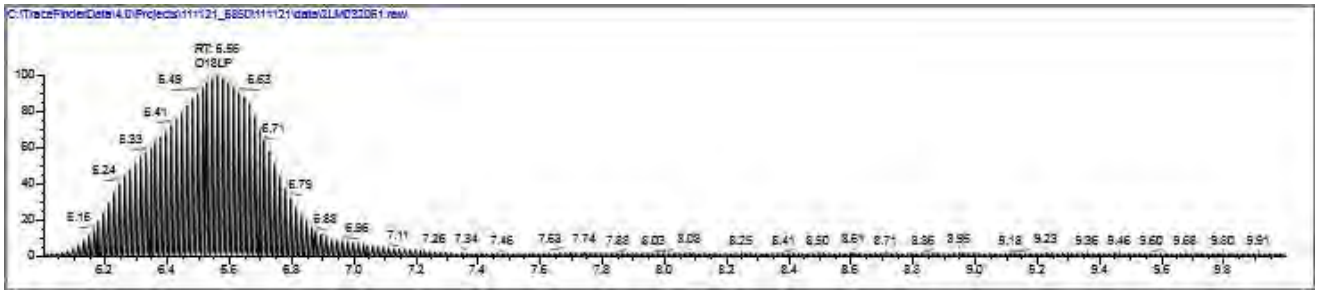
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	6.57	83	25512	Linear	0.030	0.164	ug/L	0.164	ug/L	

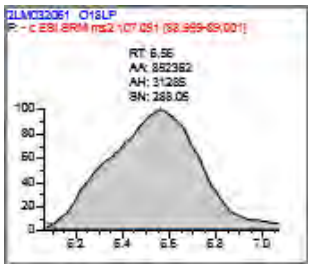
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

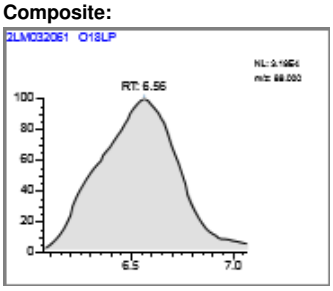
Data File:	2LM032061	Tune Report Date:	Tune report not found
Method:	111121_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	11/11/2021 10:19:36 PM
		Cali File Date:	11/12/2021 9:17:06 AM
Cali File:	111121T2_111121.calx	Operator ID:	CAS
Sample ID:	M1J1374-31	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:D4
Comments:	1:01		



m/z 89.000



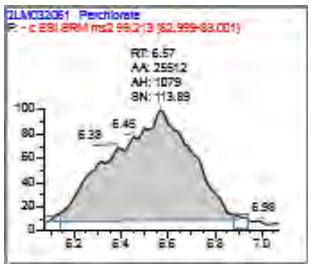
Composite:



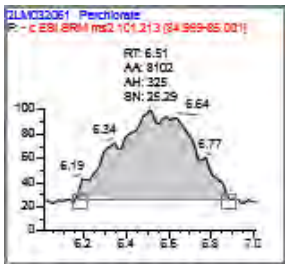
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
6.56	m/z 89.000	852362	5.000		N/A

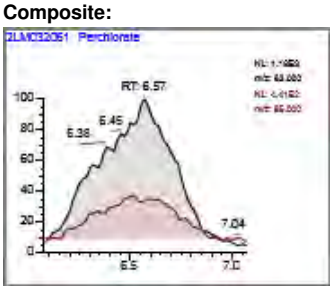
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
6.57	m/z 83.000	25512	0.164		N/A
6.51	m/z 85.000	8102		25.94 - 38.92	31.76

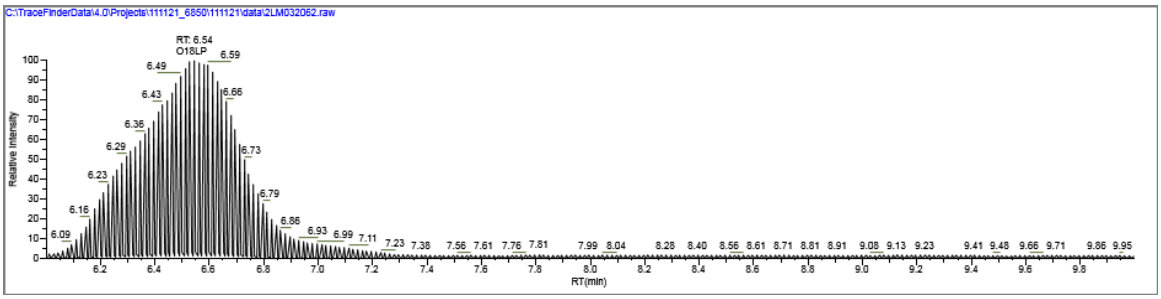
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 111121

Method: 111121_Perchlorate 6850 Perchlorate 6850
Cali File: 111121T2_111121.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:D5	M1J1374-32	2LM032062	N/A	M1J1374-32	11/11/2021 10:32:51 PM	1:01



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	6.54	89	831097			5.000	ug/L	5.000	ug/L	

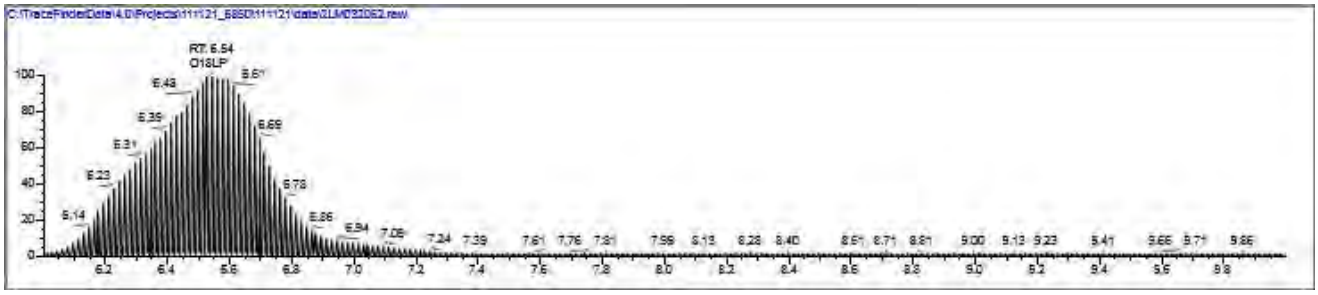
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	N/F	N/F	N/F	Linear	0.000	N/F	ug/L	N/F	ug/L	

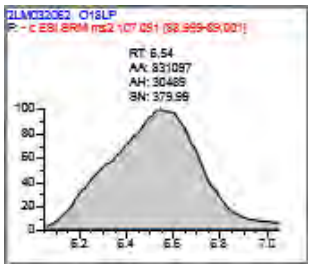
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

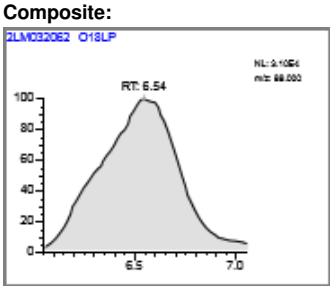
Data File:	2LM032062	Tune Report Date:	Tune report not found
Method:	111121_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	11/11/2021 10:32:51 PM
		Cali File Date:	11/12/2021 9:17:06 AM
Cali File:	111121T2_111121.calx	Operator ID:	CAS
Sample ID:	M1J1374-32	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:D5
Comments:	1:01		



m/z 89.000



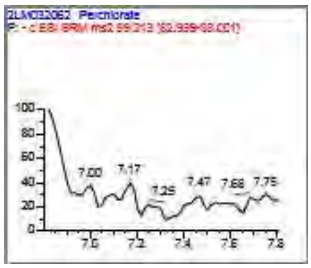
Composite:



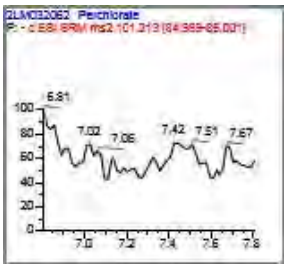
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
6.54	m/z 89.000	831097	5.000		N/A

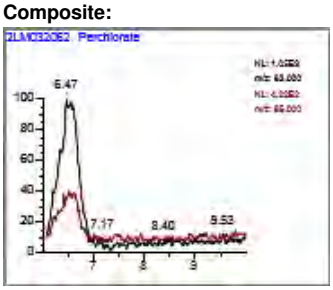
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
			Compound Not Found		
0.00	m/z 83.000		N/A		
	m/z 85.000				

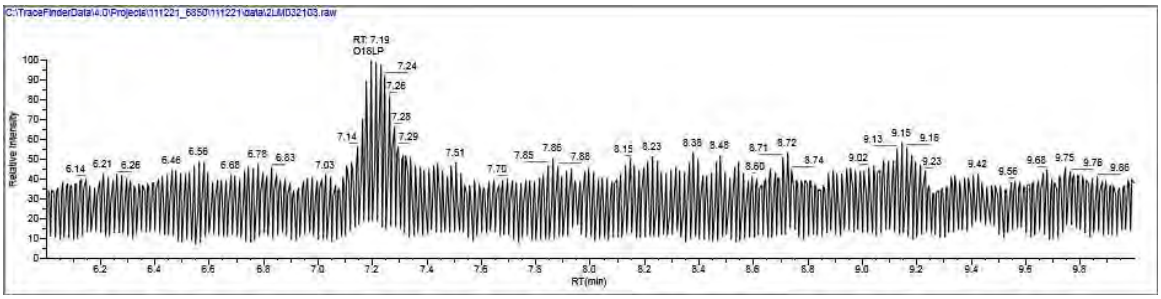
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 111221

Method: 111221_Perchlorate 6850
Perchlorate 6850
Cali File: 111121T2_111221.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
G:B1	M1J1374-33	2LM032103	N/A	M1J1374-33	11/12/2021 10:54:14 AM	1:01



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.19	89	3048			5.000	ug/L	5.000	ug/L	

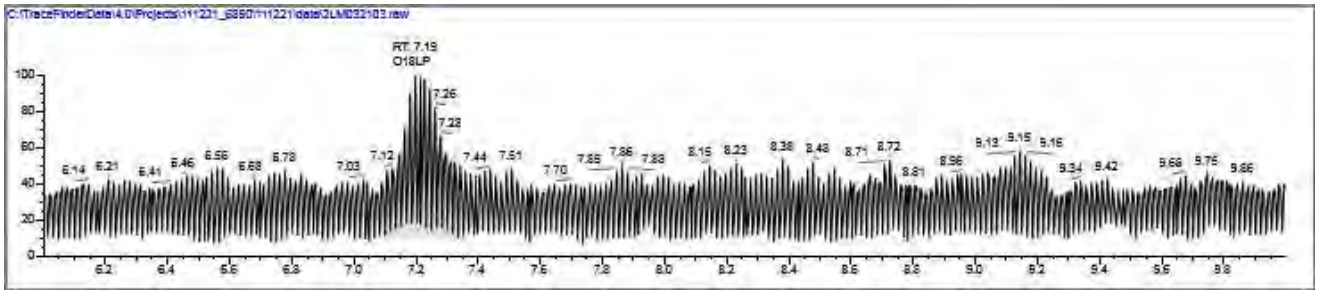
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.2	83	547	Linear	0.179	0.994	ug/L	0.994	ug/L	I

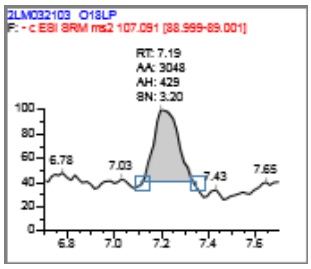
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

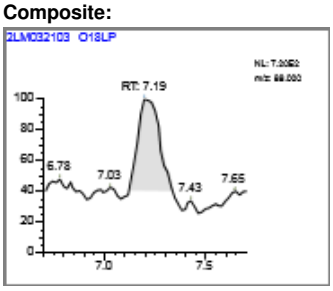
Data File:	2LM032103	Tune Report Date:	Tune report not found
Method:	111221_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	11/12/2021 10:54:14 AM
		Cali File Date:	11/12/2021 10:44:10 AM
Cali File:	111121T2_111221.calx	Operator ID:	CAS
Sample ID:	M1J1374-33	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	G:B1
Comments:	1:01		



m/z 89.000



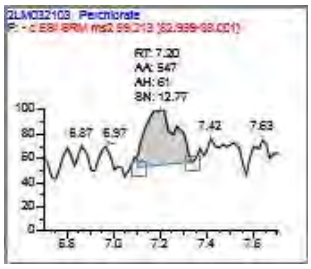
Composite:



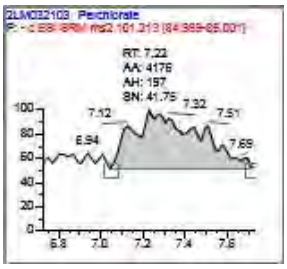
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.19	m/z 89.000	3048	5.000		N/A

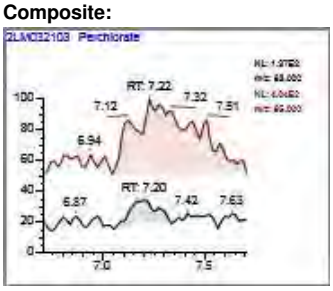
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio	
			N/A			
7.20	m/z 83.000	547	0.994		N/A	I
7.22	m/z 85.000	4176		25.94 - 38.92	763.27 *	

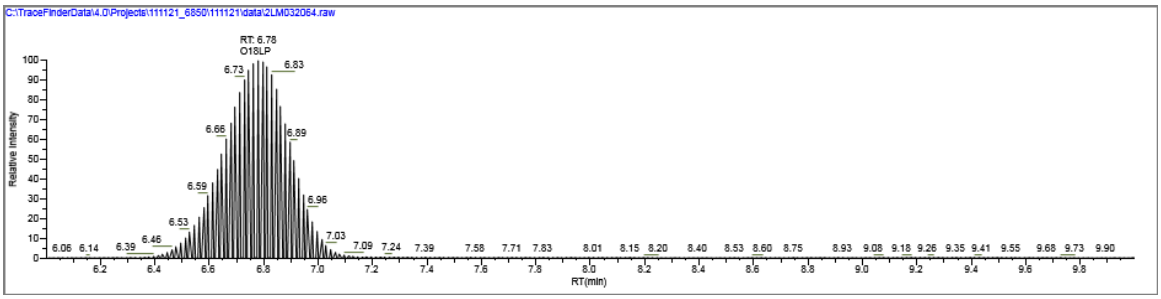
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 111121

Method: 111121_Perchlorate 6850 Perchlorate 6850
Cali File: 111121T2_111121.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:D7	M1J1374-34	2LM032064	N/A	M1J1374-34	11/11/2021 10:59:21 PM	1:01



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	6.78	89	995997			5.000	ug/L	5.000	ug/L	

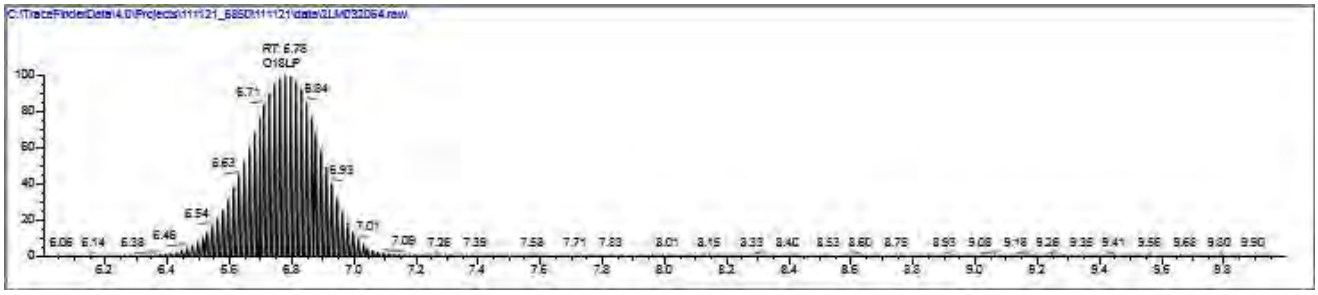
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	6.75	83	3103	Linear	0.003	0.015	ug/L	0.015	ug/L	I

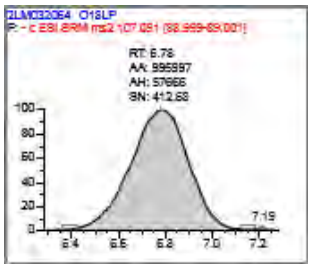
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

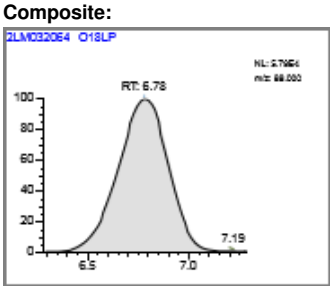
Data File:	2LM032064	Tune Report Date:	Tune report not found
Method:	111121_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	11/11/2021 10:59:21 PM
		Cali File Date:	11/12/2021 9:17:06 AM
Cali File:	111121T2_111121.calx	Operator ID:	CAS
Sample ID:	M1J1374-34	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:D7
Comments:	1:01		



m/z 89.000



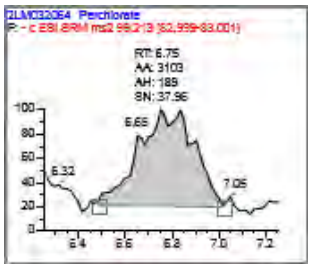
Composite:



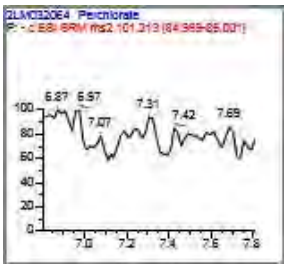
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio	
			N/A			
6.78	m/z 89.000	995997	5.000		N/A	

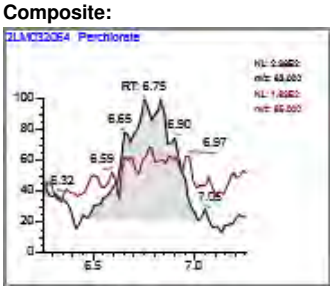
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio	
			N/A			
6.75	m/z 83.000	3103	0.015		N/A	I
6.75	m/z 85.000			25.94 - 38.92	*	

Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

MICROBAC®

Section C:
HPLC Organics
EPA 6850
QC Sample Raw Data

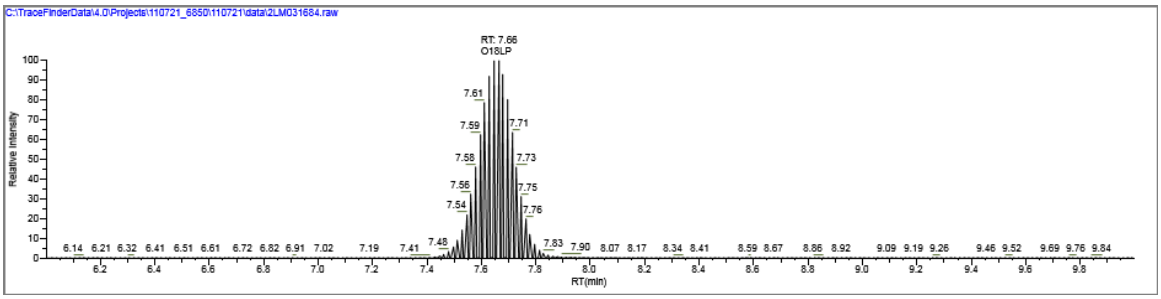
Microbac Laboratories, Inc.
158 Starlite Drive | Marietta, OH 45750 | 800.373.4071 | www.microbac.com

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 110721

Method: 110721_Perchlorate 6850 Perchlorate 6850
Cali File: 110721.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:C8	B1K0219-BLK1	2LM031684	N/A	BLANK	11/7/2021 2:59:53 PM	1:01



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.66	89	1316302			5.000	ug/L	5.000	ug/L	

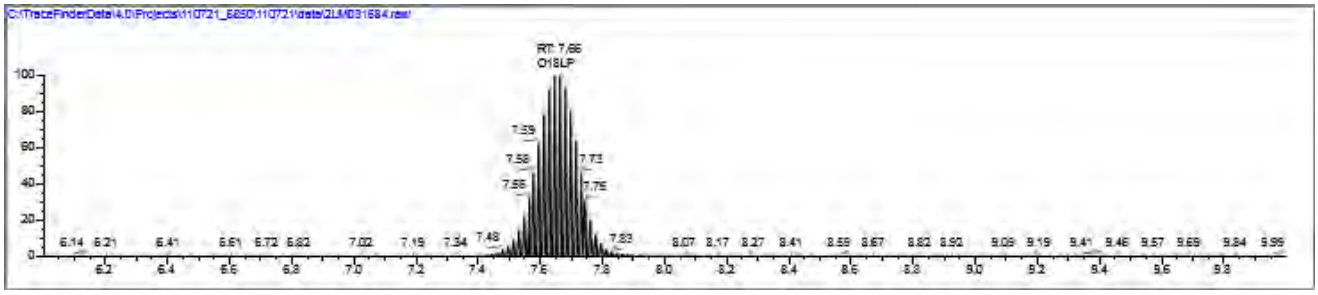
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.65	83	3927	Linear	0.003	0.029	ug/L	0.029	ug/L	I

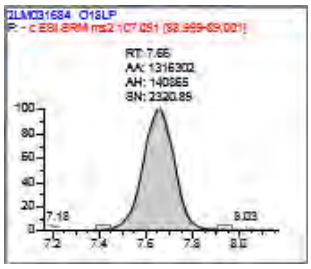
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

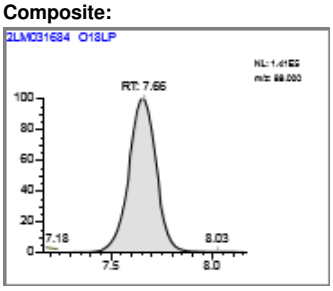
Data File:	2LM031684	Tune Report Date:	Tune report not found
Method:	110721_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	11/7/2021 2:59:53 PM
		Cali File Date:	11/8/2021 1:16:16 PM
Cali File:	110721.calx	Operator ID:	CAS
Sample ID:	B1K0219-BLK1	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:C8
Comments:	1:01		



m/z 89.000



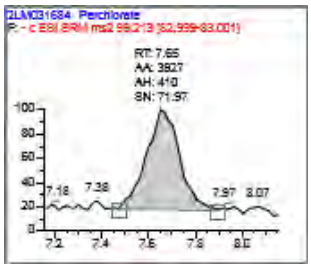
Composite:



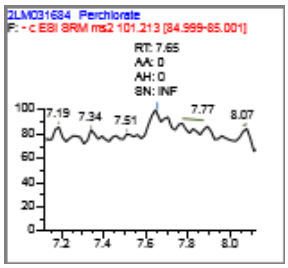
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.66	m/z 89.000	1316302	5.000		N/A

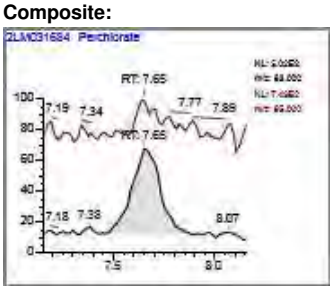
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio	
			N/A			
7.65	m/z 83.000	3927	0.029		N/A	I
7.65	m/z 85.000			26.76 - 40.14		*

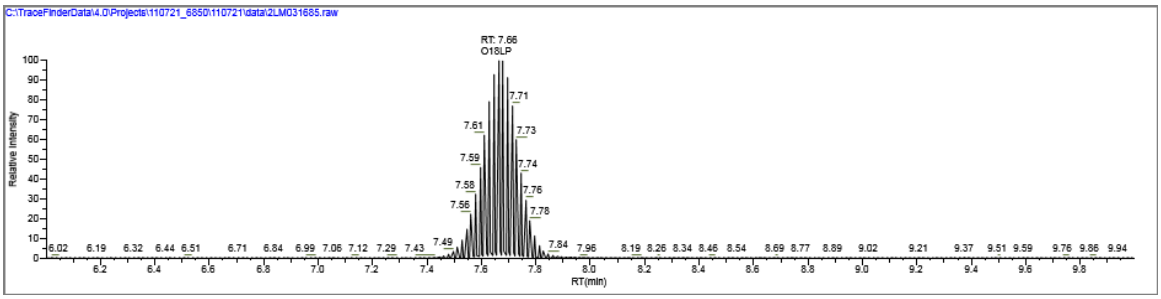
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 110721

Method: 110721_Perchlorate 6850 Perchlorate 6850
Cali File: 110721.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:C9	B1K0219-BS1	2LM031685	N/A	LCS (0.2ug/L)	11/7/2021 3:13:08 PM	1:1 0012474



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.66	89	1290027			5.000	ug/L	5.000	ug/L	

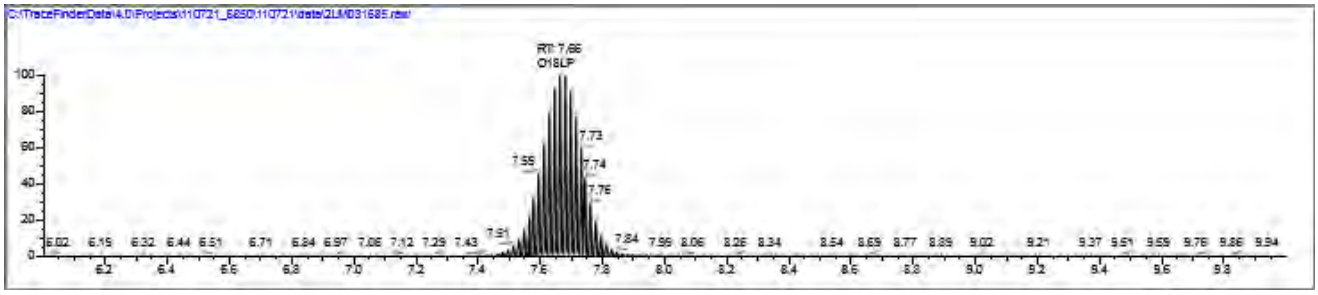
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.67	83	48193	Linear	0.037	0.22	ug/L	0.22	ug/L	

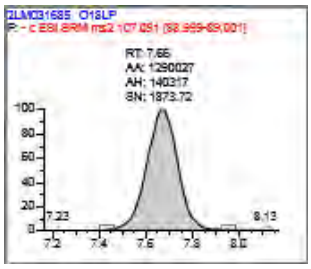
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

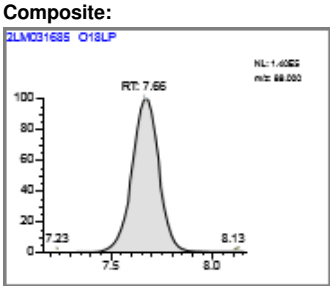
Data File:	2LM031685	Tune Report Date:	Tune report not found
Method:	110721_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	11/7/2021 3:13:08 PM
		Cali File Date:	11/8/2021 1:16:16 PM
Cali File:	110721.calx	Operator ID:	CAS
Sample ID:	B1K0219-BS1	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:C9
Comments:	1:1 0012474		



m/z 89.000



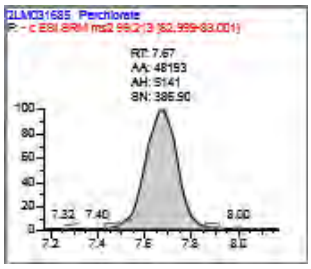
Composite:



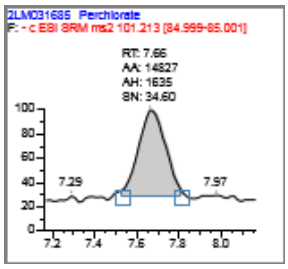
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.66	m/z 89.000	1290027	5.000		N/A

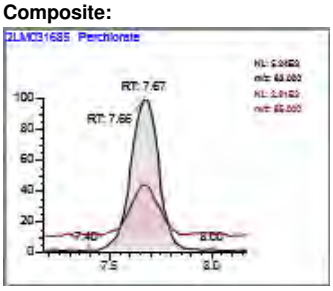
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.67	m/z 83.000	48193	0.220		N/A
7.66	m/z 85.000	14827		26.76 - 40.14	30.77

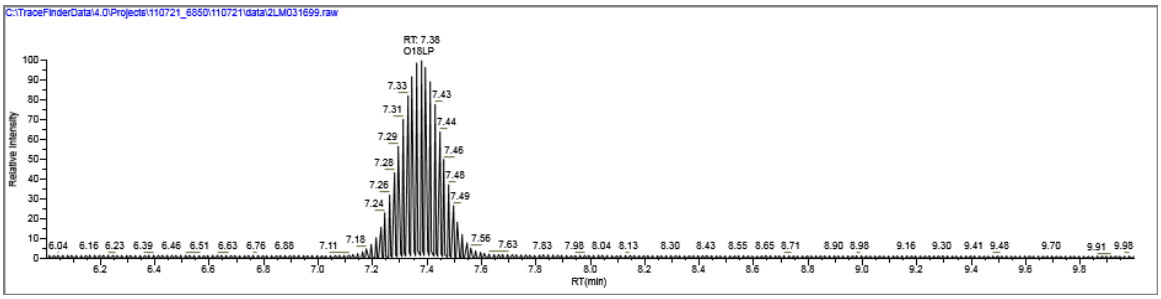
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 110721

Method: 110721_Perchlorate 6850 Perchlorate 6850
Cali File: 110721.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:E2	B1K0219-MS1	2LM031699	N/A	MATRIX SPIKE	11/7/2021 6:18:36 PM	1:01



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.38	89	824170			5.000	ug/L	5.000	ug/L	

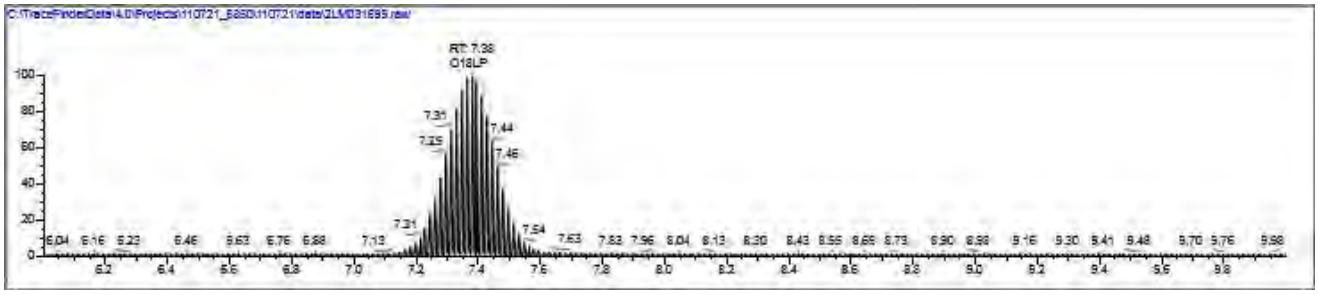
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.38	83	31480	Linear	0.038	0.225	ug/L	0.225	ug/L	

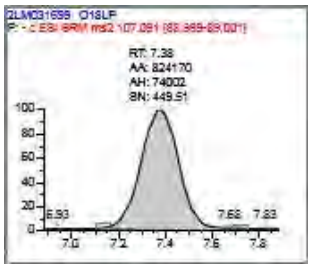
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

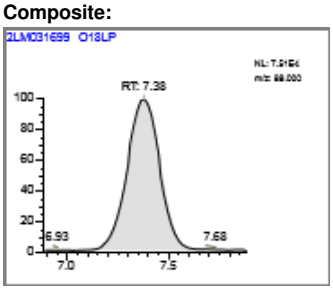
Data File:	2LM031699	Tune Report Date:	Tune report not found
Method:	110721_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	11/7/2021 6:18:36 PM
		Cali File Date:	11/8/2021 1:16:16 PM
Cali File:	110721.calx	Operator ID:	CAS
Sample ID:	B1K0219-MS1	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:E2
Comments:	1:01		



m/z 89.000



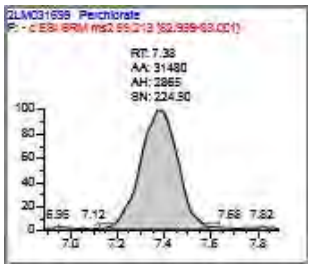
Composite:



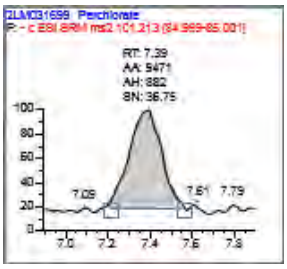
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.38	m/z 89.000	824170	5.000		N/A

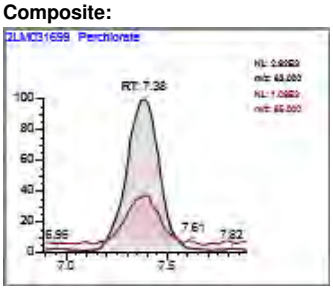
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.38	m/z 83.000	31480	0.225		N/A
7.39	m/z 85.000	9471		26.76 - 40.14	30.09

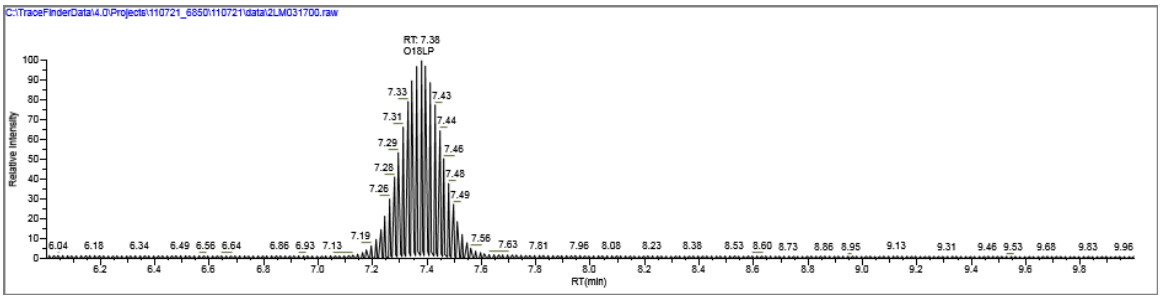
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 110721

Method: 110721_Perchlorate 6850 Perchlorate 6850
Cali File: 110721.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:E3	B1K0219-MSD1	2LM031700	N/A	MATRIX SPIKE DUP	11/7/2021 6:31:51 PM	1:01



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.38	89	856030			5.000	ug/L	5.000	ug/L	

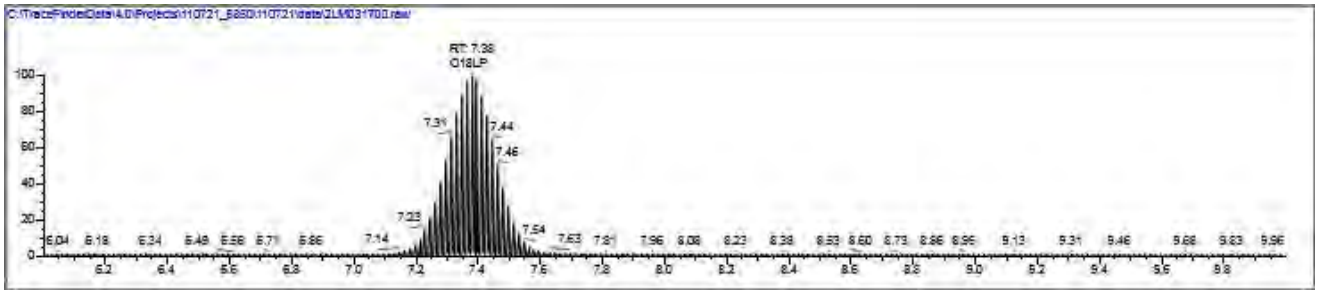
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.38	83	33024	Linear	0.039	0.227	ug/L	0.227	ug/L	

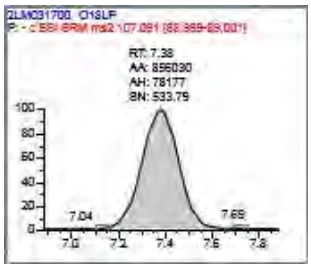
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

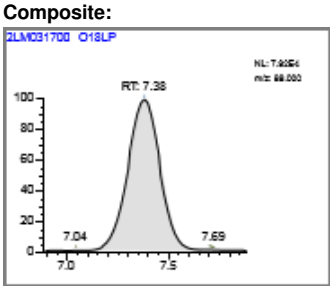
Data File:	2LM031700	Tune Report Date:	Tune report not found
Method:	110721_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	11/7/2021 6:31:51 PM
		Cali File Date:	11/8/2021 1:16:16 PM
Cali File:	110721.calx	Operator ID:	CAS
Sample ID:	B1K0219-MSD1	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:E3
Comments:	1:01		



m/z 89.000



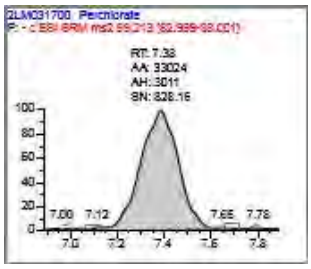
Composite:



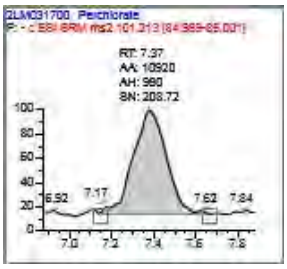
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.38	m/z 89.000	856030	5.000		N/A

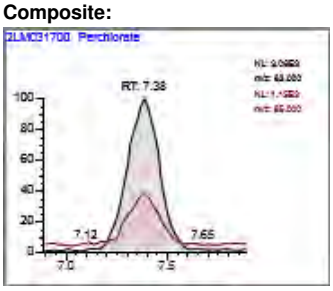
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.38	m/z 83.000	33024	0.227		N/A
7.37	m/z 85.000	10920		26.76 - 40.14	33.07

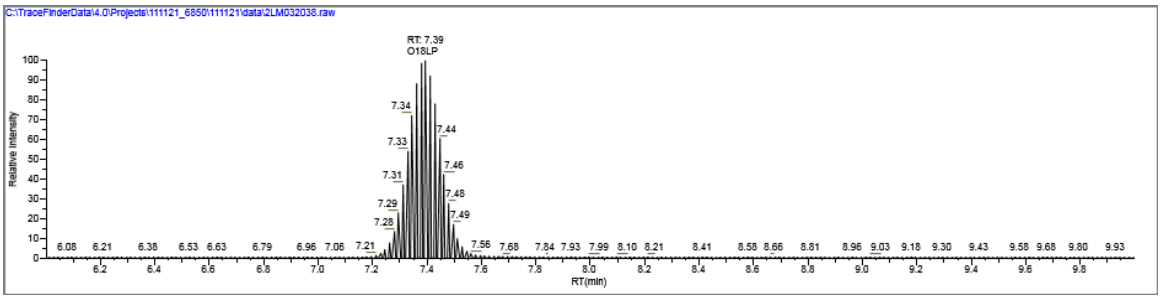
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 111121

Method: 111121_Perchlorate 6850 Perchlorate 6850
Cali File: 111121T2_111121.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:B2	B1K0220-BLK1	2LM032038	N/A	BLANK	11/11/2021 5:14:54 PM	1:01



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.39	89	669033			5.000	ug/L	5.000	ug/L	

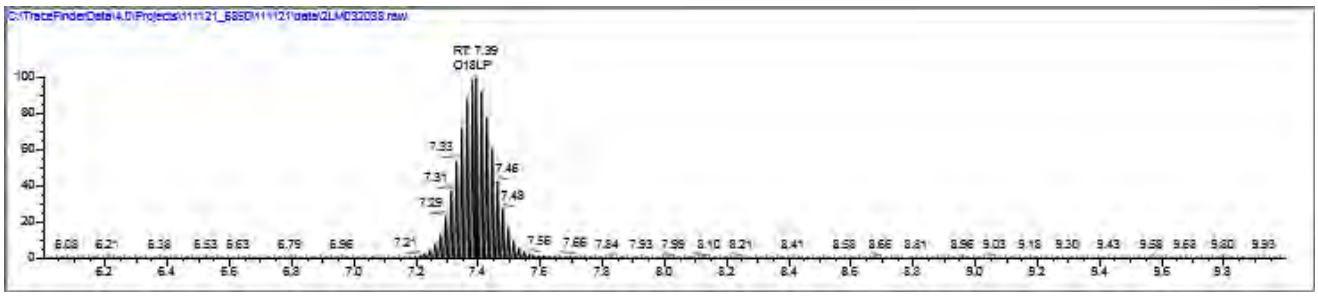
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.38	83	1737	Linear	0.003	0.012	ug/L	0.012	ug/L	

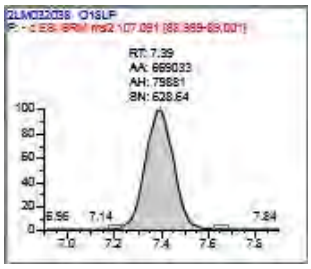
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

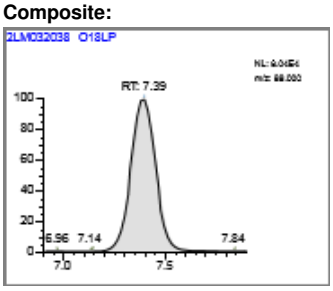
Data File:	2LM032038	Tune Report Date:	Tune report not found
Method:	111121_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	11/11/2021 5:14:54 PM
		Cali File Date:	11/12/2021 9:17:06 AM
Cali File:	111121T2_111121.calx	Operator ID:	CAS
Sample ID:	B1K0220-BLK1	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:B2
Comments:	1:01		



m/z 89.000



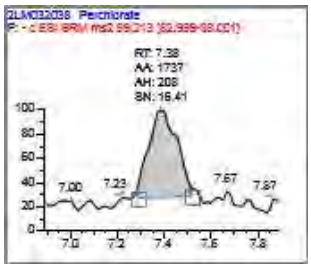
Composite:



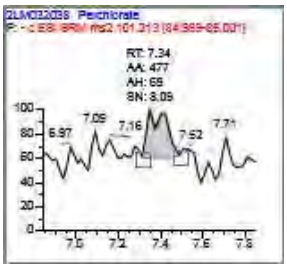
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.39	m/z 89.000	669033	5.000		N/A

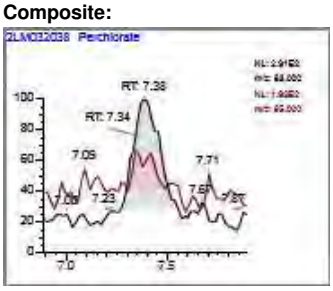
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.38	m/z 83.000	1737	0.012		N/A
7.34	m/z 85.000	477		25.94 - 38.92	27.46

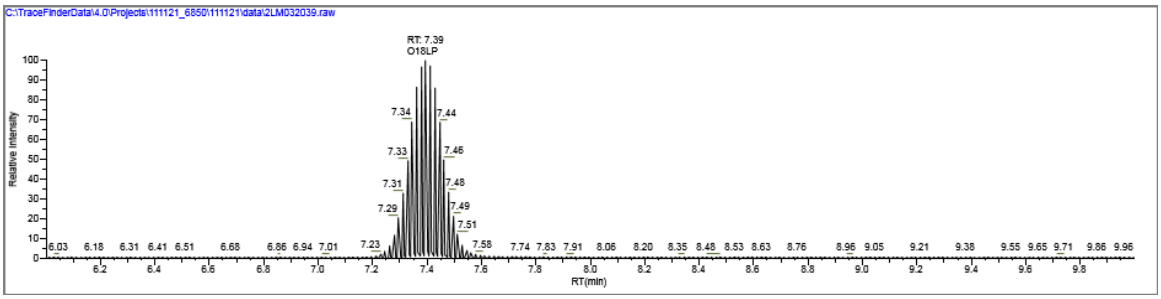
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 111121

Method: 111121_Perchlorate 6850 Perchlorate 6850
Cali File: 111121T2_111121.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:B3	B1K0220-BS1	2LM032039	N/A	LCS (0.2ug/L)	11/11/2021 5:28:08 PM	1:01



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.39	89	601548			5.000	ug/L	5.000	ug/L	

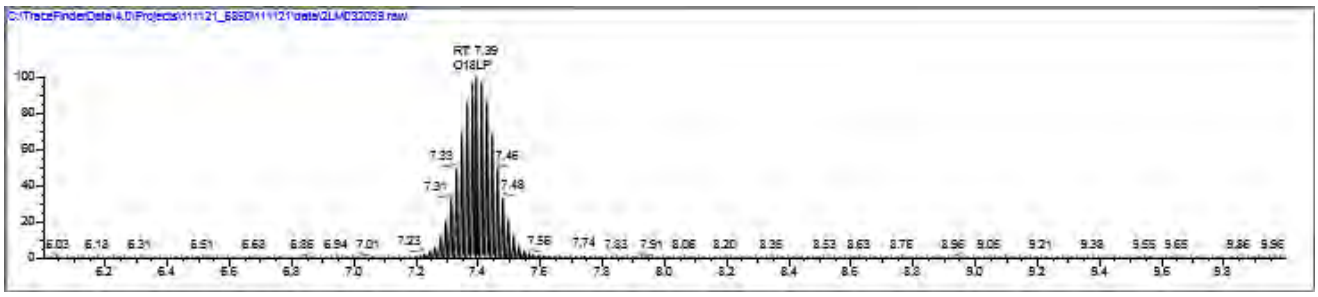
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.4	83	21567	Linear	0.036	0.197	ug/L	0.197	ug/L	

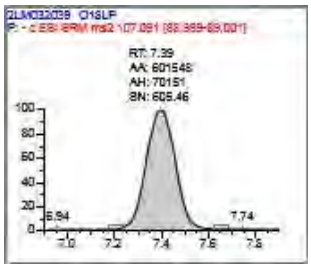
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

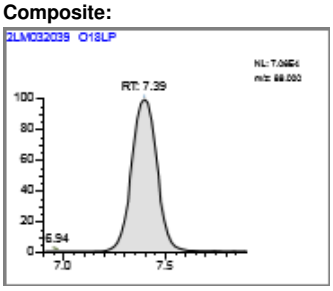
Data File:	2LM032039	Tune Report Date:	Tune report not found
Method:	111121_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	11/11/2021 5:28:08 PM
		Cali File Date:	11/12/2021 9:17:06 AM
Cali File:	111121T2_111121.calx	Operator ID:	CAS
Sample ID:	B1K0220-BS1	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:B3
Comments:	1:01		



m/z 89.000



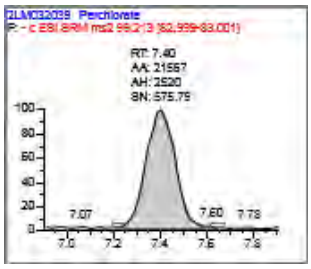
Composite:



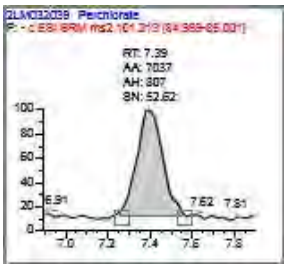
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.39	m/z 89.000	601548	5.000		N/A

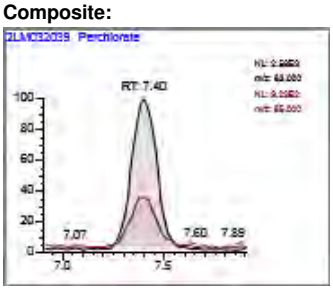
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.40	m/z 83.000	21567	0.197		N/A
7.39	m/z 85.000	7037		25.94 - 38.92	32.63

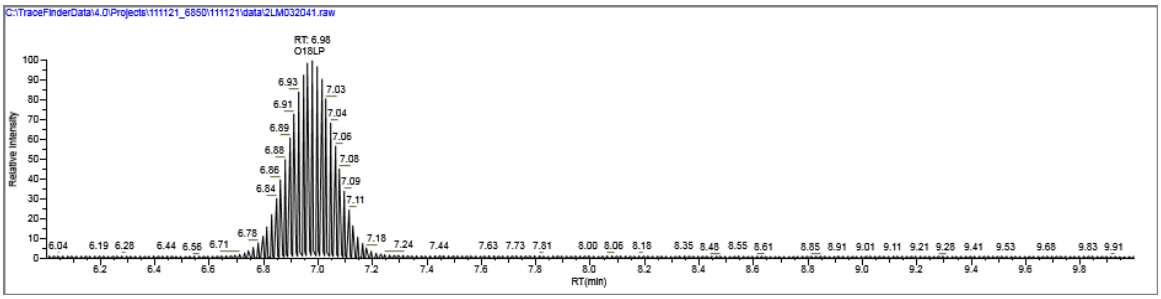
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 111121

Method: 111121_Perchlorate 6850
Perchlorate 6850
Cali File: 111121T2_111121.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:B8	B1K0220-MS1	2LM032041	N/A	MATRIX SPIKE	11/11/2021 5:54:39 PM	1:01



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	6.98	89	663068			5.000	ug/L	5.000	ug/L	

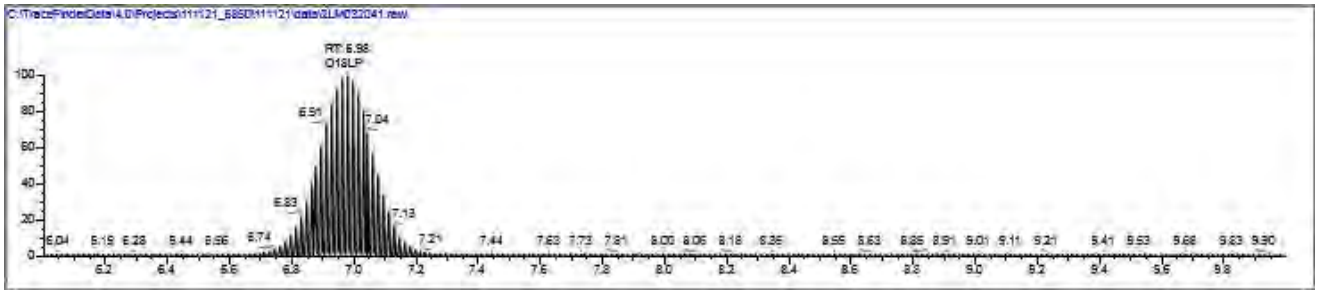
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	6.98	83	25543	Linear	0.039	0.211	ug/L	0.211	ug/L	

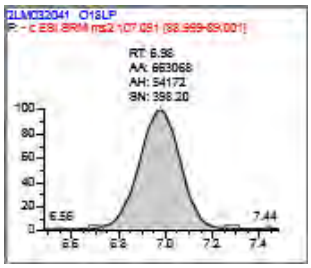
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

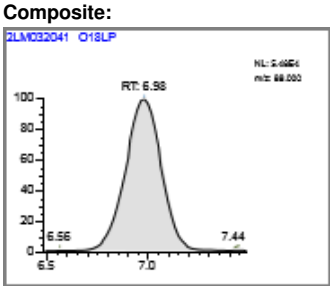
Data File:	2LM032041	Tune Report Date:	Tune report not found
Method:	111121_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	11/11/2021 5:54:39 PM
		Cali File Date:	11/12/2021 9:17:06 AM
Cali File:	111121T2_111121.calx	Operator ID:	CAS
Sample ID:	B1K0220-MS1	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:B8
Comments:	1:01		



m/z 89.000



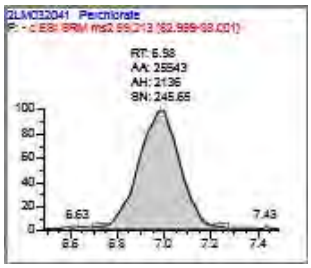
Composite:



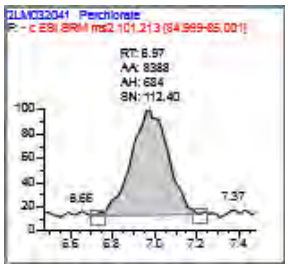
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
6.98	m/z 89.000	663068	5.000		N/A

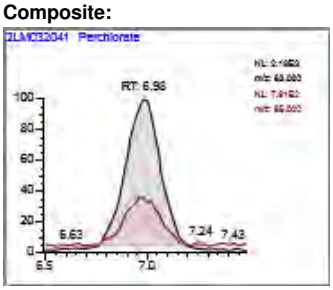
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
6.98	m/z 83.000	25543	0.211		N/A
6.97	m/z 85.000	8388		25.94 - 38.92	32.84

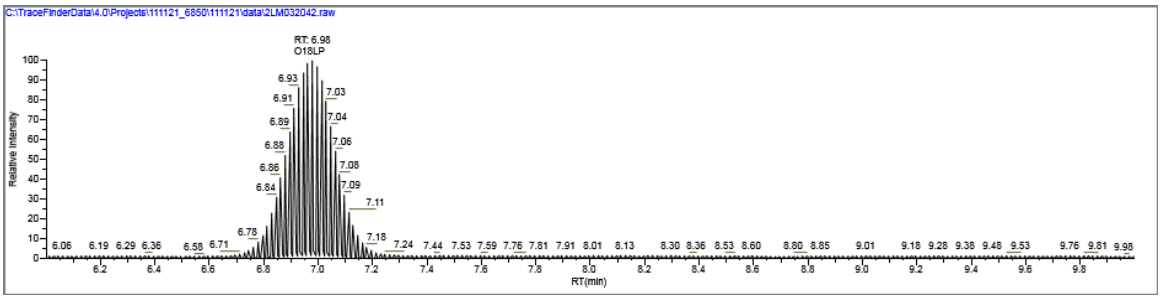
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 111121

Method: 111121_Perchlorate 6850
Perchlorate 6850
Cali File: 111121T2_111121.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:B9	B1K0220-MSD1	2LM032042	N/A	MATRIX SPIKE DUP	11/11/2021 6:07:54 PM	1:01



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	6.98	89	707017			5.000	ug/L	5.000	ug/L	

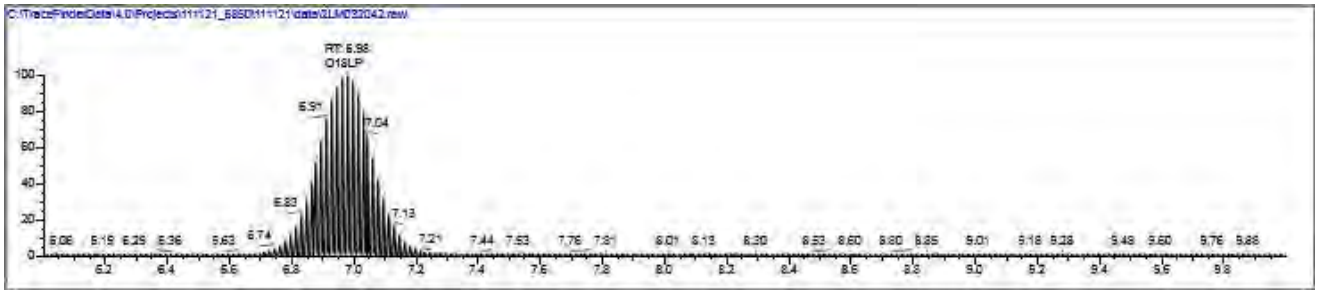
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	6.98	83	28363	Linear	0.040	0.22	ug/L	0.22	ug/L	

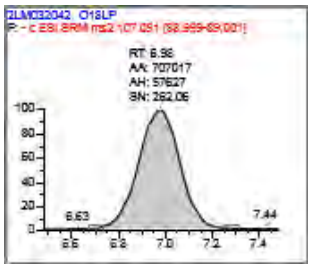
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

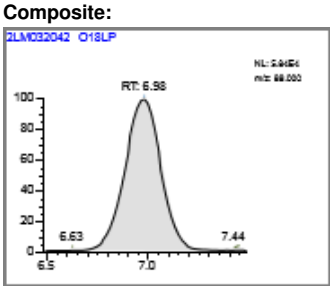
Data File:	2LM032042	Tune Report Date:	Tune report not found
Method:	111121_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	11/11/2021 6:07:54 PM
		Cali File Date:	11/12/2021 9:17:06 AM
Cali File:	111121T2_111121.calx	Operator ID:	CAS
Sample ID:	B1K0220-MSD1	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:B9
Comments:	1:01		



m/z 89.000



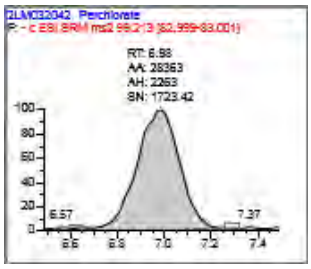
Composite:



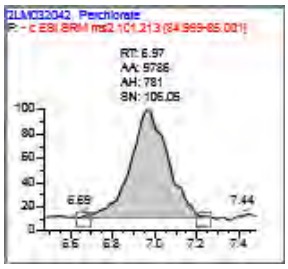
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
6.98	m/z 89.000	707017	5.000		N/A

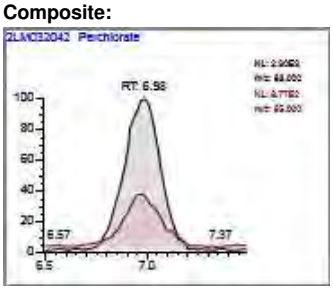
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
6.98	m/z 83.000	28363	0.220		N/A
6.97	m/z 85.000	9786		25.94 - 38.92	34.5

Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

MICROBAC®

Section D:
HPLC Organics
EPA 6850
Calibration Raw Data

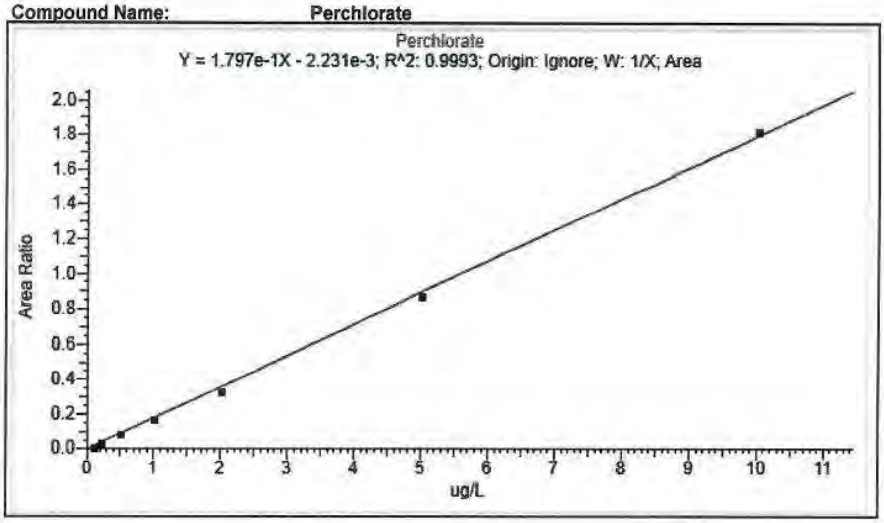
Microbac Laboratories, Inc.
158 Starlite Drive | Marietta, OH 45750 | 800.373.4071 | www.microbac.com

Compound Calibration Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 110721.00

Method: 110721_Perchlorate 6850
Perchlorate 6850
Cali File: 110721.calx

Compound Name: **Perchlorate**



Linear
Pass

Level	Std Amount	Std Area	IS Amount	IS Area	Resp factor/ ratio	Calc Amount	Units	% CV	% RSD
1	0.1	24800	5	1481910	0.017	0.106	ug/L	N/A	N/A
2	0.2	42484	5	1223382	0.035	0.206	ug/L	N/A	N/A
3	0.5	69574	5	811538	0.086	0.489	ug/L	N/A	N/A
4	1	156964	5	898525	0.175	0.985	ug/L	N/A	N/A
5	2	382143	5	1126998	0.339	1.899	ug/L	N/A	N/A
6	5	1163476	5	1320643	0.881	4.915	ug/L	N/A	N/A
7	10	2247068	5	1227389	1.831	10.2	ug/L	N/A	N/A

Bordered cell = Manually Integrated; Calibration flags: D=RSD; F=Response factor; R=R Squared; A=Amount.

Compound Calibration Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 110721.00

Method: 110721_Perchlorate 6850
Perchlorate 6850
Cali File: 110721.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A2	S1K0132-CAL1	2LM031672	1	CAL STD 1	11/7/2021 12:20:55 PM	1:1 0012469
R:A3	S1K0132-CAL2	2LM031673	2	CAL STD 2	11/7/2021 12:34:09 PM	1:1 0012468
R:A4	S1K0132-CAL3	2LM031674	3	CAL STD 3	11/7/2021 12:47:24 PM	1:1 0012467
R:A5	S1K0132-CAL4	2LM031675	4	CAL STD 4	11/7/2021 1:00:39 PM	1:1 0012466
R:A6	S1K0132-CAL5	2LM031676	5	CAL STD 5	11/7/2021 1:13:54 PM	1:1 0012465
R:A7	S1K0132-CAL6	2LM031677	6	CAL STD 6	11/7/2021 1:27:09 PM	1:1 0012464
R:A8	S1K0132-CAL7	2LM031678	7	CAL STD 7	11/7/2021 1:40:24 PM	1:1 0012463

Bordered cell = Manually Integrated; Calibration flags: D=RSD; F=Response factor; R=R Squared; A=Amount.

Data Review Report

Printed: 11/08/2021 1:51 pm

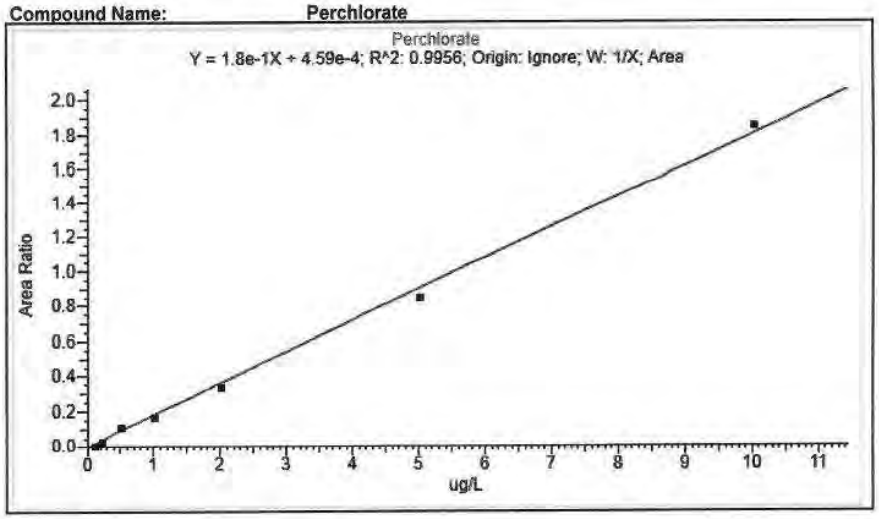
Analysis	Analyte	CalResult	True Value	% D	% Rec
Lab ID: S1K0132-CAL1 Cal Standard					
6850 Perchlorate DOD	Perchlorate	0.11	0.10000	5.54	105.54
Lab ID: S1K0132-CAL2 Cal Standard					
6850 Perchlorate DOD	Perchlorate	0.21	0.20000	2.83	102.83
Lab ID: S1K0132-CAL3 Cal Standard					
6850 Perchlorate DOD	Perchlorate	0.49	0.50000	-2.10	97.90
Lab ID: S1K0132-CAL4 Cal Standard					
6850 Perchlorate DOD	Perchlorate	0.98	1.0000	-1.55	98.45
Lab ID: S1K0132-CAL5 Cal Standard					
6850 Perchlorate DOD	Perchlorate	1.90	2.0000	-5.03	94.97
Lab ID: S1K0132-CAL6 Cal Standard					
6850 Perchlorate DOD	Perchlorate	4.92	5.0000	-1.70	98.30
Lab ID: S1K0132-CAL7 Cal Standard					
6850 Perchlorate DOD	Perchlorate	10.20	10.000	2.00	102.00

Compound Calibration Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 111121T2

Method: 111121T2_Perchlorate 6850
Perchlorate 6850
Cali File: 111121T2.calx

Compound Name: Perchlorate



Linear
Fail A

Level	Std Amount	Std Area	IS Amount	IS Area	Resp factor/ ratio	Calc Amount	Units	% CV	% RSD
1	0.1	12980	5	791546	0.016	0.089	ug/L	N/A	N/A
2	0.2	27990	5	799491	0.035	0.192	ug/L	N/A	N/A
3	0.5	90519	5	784189	0.115	0.639	ug/L	N/A	N/A A
4	1	149029	5	863453	0.173	0.956	ug/L	N/A	N/A
5	2	363941	5	1067074	0.341	1.892	ug/L	N/A	N/A
6	5	919699	5	1079607	0.852	4.729	ug/L	N/A	N/A
7	10	1811581	5	976195	1.856	10.304	ug/L	N/A	N/A

Bordered cell = Manually Integrated; Calibration flags: D=RSD; F=Response factor; R=R Squared; A=Amount.

Compound Calibration Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 111121T2

Method: 111121T2_Perchlorate 6850
Perchlorate 6850
Cali File: 111121T2.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A2	S1K0152-CAL1	2LM032014	1	CAL STD 1	11/11/2021 10:57:44 AM	1:1 0012469
R:A3	S1K0152-CAL2	2LM032015	2	CAL STD 2	11/11/2021 11:10:58 AM	1:1 0012468
R:A4	S1K0152-CAL3	2LM032016	3	CAL STD 3	11/11/2021 11:24:13 AM	1:1 0012467
R:A5	S1K0152-CAL4	2LM032017	4	CAL STD 4	11/11/2021 11:37:37 AM	1:1 0012466
R:A6	S1K0152-CAL5	2LM032018	5	CAL STD 5	11/11/2021 11:50:52 AM	1:1 0012465
R:A7	S1K0152-CAL6	2LM032019	6	CAL STD 6	11/11/2021 12:04:07 PM	1:1 0012464
R:A8	S1K0152-CAL7	2LM032020	7	CAL STD 7	11/11/2021 12:17:22 PM	1:1 0012463

Bordered cell = Manually Integrated; Calibration flags: D=RSD; F=Response factor; R=R Squared; A=Amount.

Data Review Report

Printed: 11/12/2021 11:12 am

Analysis	Analyte	CalResult	True Value	% D	% Rec
Lab ID: S1K0152-CAL1 Cal Standard					
6850 Perchlorate	Perchlorate	0.09	0.10000	-11.47	88.53
6850 Perchlorate DOD	Perchlorate	0.09	0.10000	-11.47	88.53
Lab ID: S1K0152-CAL2 Cal Standard					
6850 Perchlorate	Perchlorate	0.19	0.20000	-4.05	95.95
6850 Perchlorate DOD	Perchlorate	0.19	0.20000	-4.05	95.95
Lab ID: S1K0152-CAL3 Cal Standard					
6850 Perchlorate	Perchlorate	0.64	0.50000	27.71	127.71
6850 Perchlorate DOD	Perchlorate	0.64	0.50000	27.71	127.71
Lab ID: S1K0152-CAL4 Cal Standard					
6850 Perchlorate	Perchlorate	0.96	1.0000	-4.39	95.61
6850 Perchlorate DOD	Perchlorate	0.96	1.0000	-4.39	95.61
Lab ID: S1K0152-CAL5 Cal Standard					
6850 Perchlorate	Perchlorate	1.89	2.0000	-5.41	94.59
6850 Perchlorate DOD	Perchlorate	1.89	2.0000	-5.41	94.59
Lab ID: S1K0152-CAL6 Cal Standard					
6850 Perchlorate	Perchlorate	4.73	5.0000	-5.42	94.58
6850 Perchlorate DOD	Perchlorate	4.73	5.0000	-5.42	94.58
Lab ID: S1K0152-CAL7 Cal Standard					
6850 Perchlorate	Perchlorate	10.30	10.000	3.04	103.04
6850 Perchlorate DOD	Perchlorate	10.30	10.000	3.04	103.04

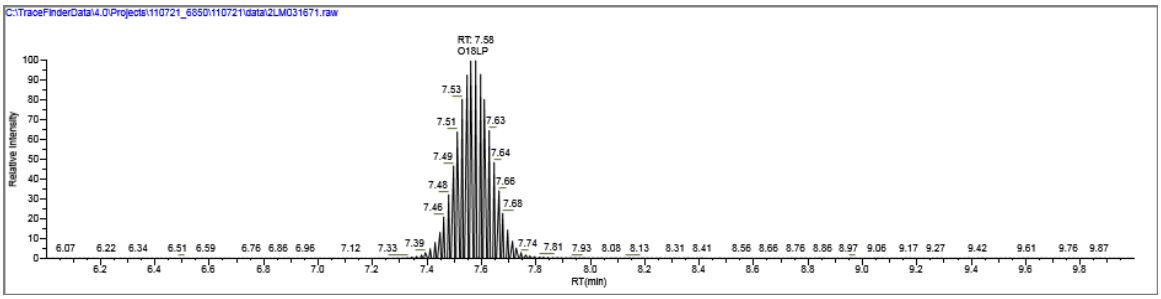
Section E:
HPLC Organics
EPA 6850
Sequence QC Sample Raw Data

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 110721

Method: 110721_Perchlorate 6850 Perchlorate 6850
Cali File: 110721.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A1	S1K0132-ICB1	2LM031671	N/A	CCB	11/7/2021 12:07:39 PM	1:01



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.58	89	1513430			5.000	ug/L	5.000	ug/L	

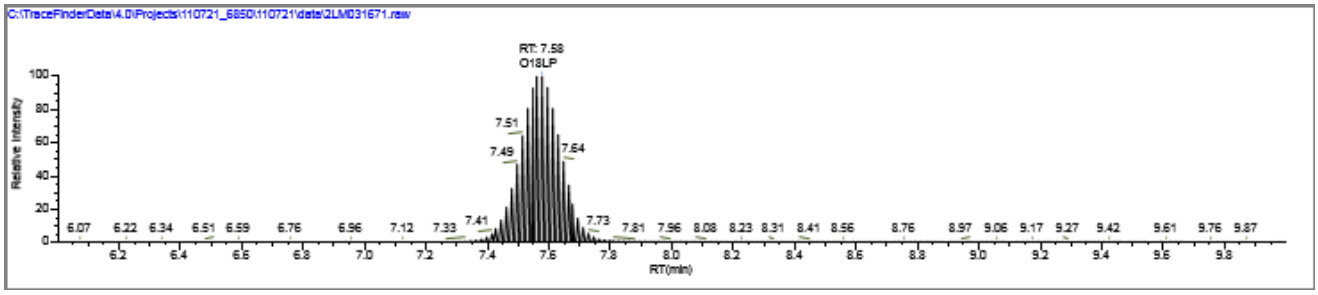
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.58	83	4599	Linear	0.003	0.029	ug/L	0.029	ug/L	I

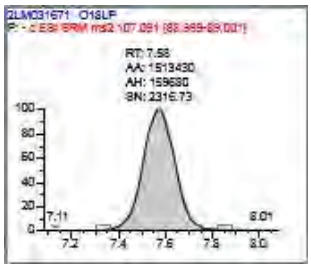
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

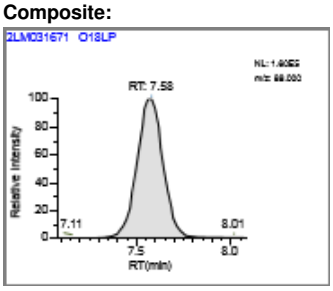
Data File:	2LM031671	Tune Report Date:	Tune report not found
Method:	110721_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	11/7/2021 12:07:39 PM
		Cali File Date:	11/8/2021 1:16:16 PM
Cali File:	110721.calx	Operator ID:	CAS
Sample ID:	S1K0132-ICB1	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:A1
Comments:	1:01		



m/z 89.000



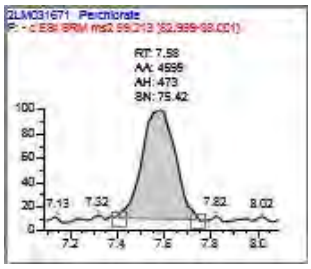
Composite:



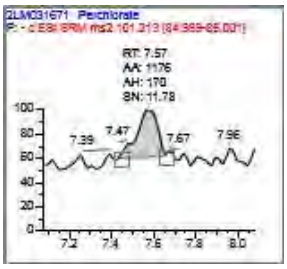
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.58	m/z 89.000	1513430	5.000		N/A

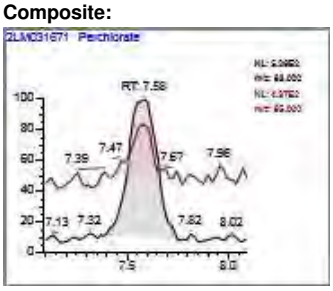
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio	
			N/A			
7.58	m/z 83.000	4599	0.029		N/A	I
7.57	m/z 85.000	1176		26.76 - 40.14	25.58 *	

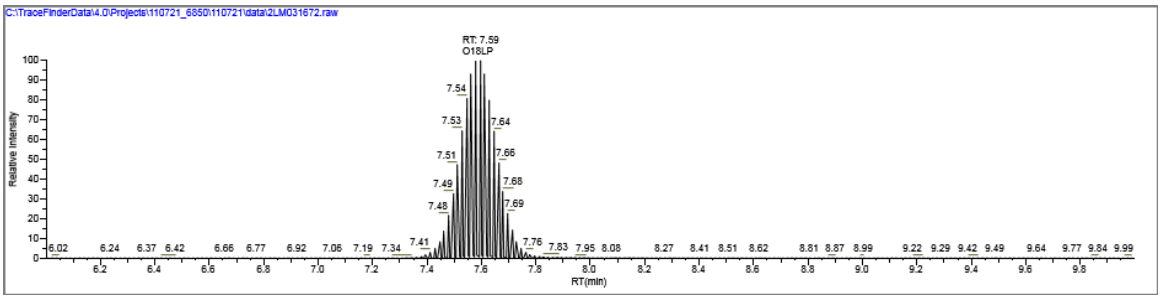
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 110721

Method: 110721_Perchlorate 6850
Perchlorate 6850
Cali File: 110721.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A2	S1K0132-CAL1	2LM031672	1	CAL STD 1	11/7/2021 12:20:55 PM	1:1 0012469



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.59	89	1481910			5.000	ug/L	5.000	ug/L	

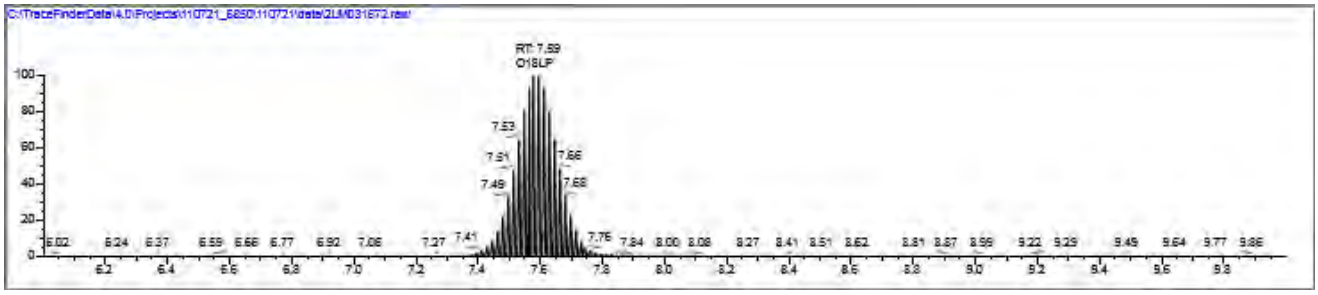
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.58	83	24800	Linear	0.017	0.106	ug/L	0.106	ug/L	

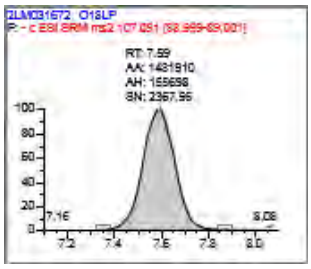
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

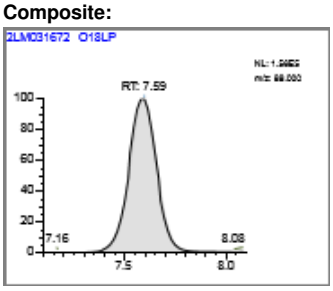
Data File:	2LM031672	Tune Report Date:	Tune report not found
Method:	110721_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	11/7/2021 12:20:55 PM
		Cali File Date:	11/8/2021 1:16:16 PM
Cali File:	110721.calx	Operator ID:	CAS
Sample ID:	S1K0132-CAL1	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:A2
Comments:	1:1 0012469		



m/z 89.000



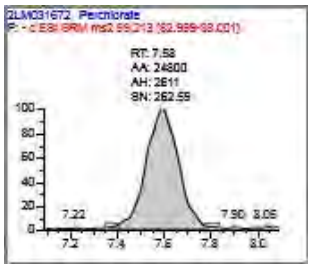
Composite:



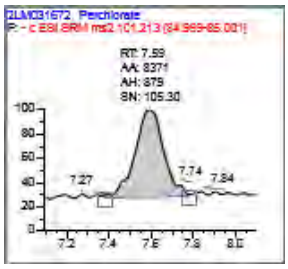
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.59	m/z 89.000	1481910	5.000		N/A

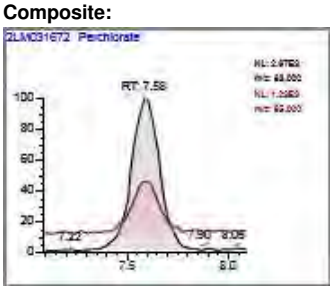
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			Cal: 0.100	0.080 - 2.100	
7.58	m/z 83.000	24800	0.106		N/A
7.59	m/z 85.000	8371		26.76 - 40.14	33.75

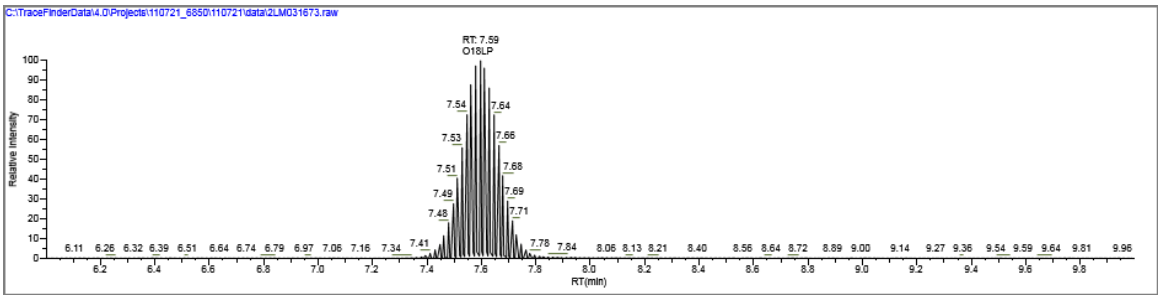
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 110721

Method: 110721_Perchlorate 6850 Perchlorate 6850
Cali File: 110721.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A3	S1K0132-CAL2	2LM031673	2	CAL STD 2	11/7/2021 12:34:09 PM	1:1 0012468



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.59	89	1223382			5.000	ug/L	5.000	ug/L	

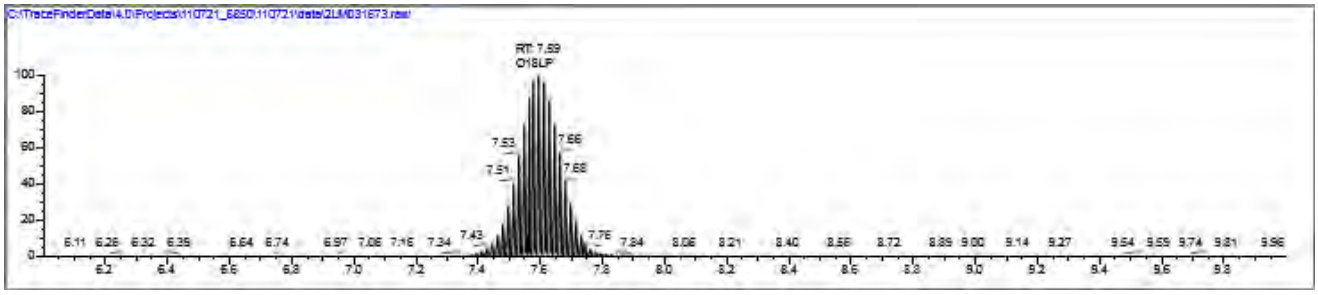
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.6	83	42484	Linear	0.035	0.206	ug/L	0.206	ug/L	

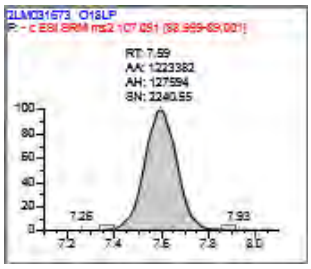
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

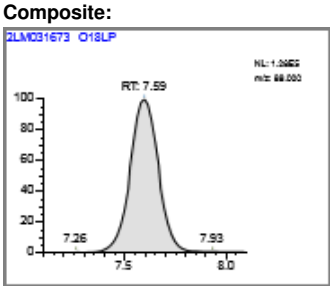
Data File:	2LM031673	Tune Report Date:	Tune report not found
Method:	110721_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	11/7/2021 12:34:09 PM
		Cali File Date:	11/8/2021 1:16:16 PM
Cali File:	110721.calx	Operator ID:	CAS
Sample ID:	S1K0132-CAL2	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:A3
Comments:	1:1 0012468		



m/z 89.000



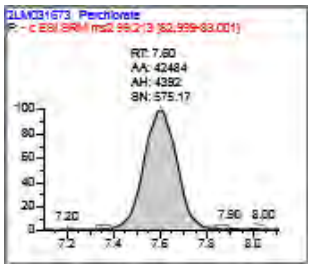
Composite:



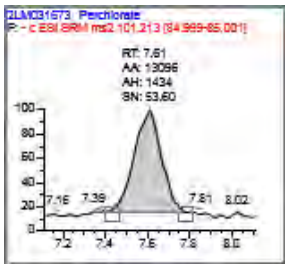
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.59	m/z 89.000	1223382	5.000		N/A

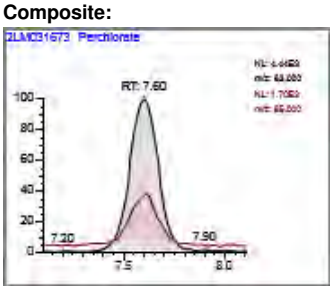
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			Cal: 0.200	0.160 - 4.200	
7.60	m/z 83.000	42484	0.206		N/A
7.61	m/z 85.000	13096		26.76 - 40.14	30.83

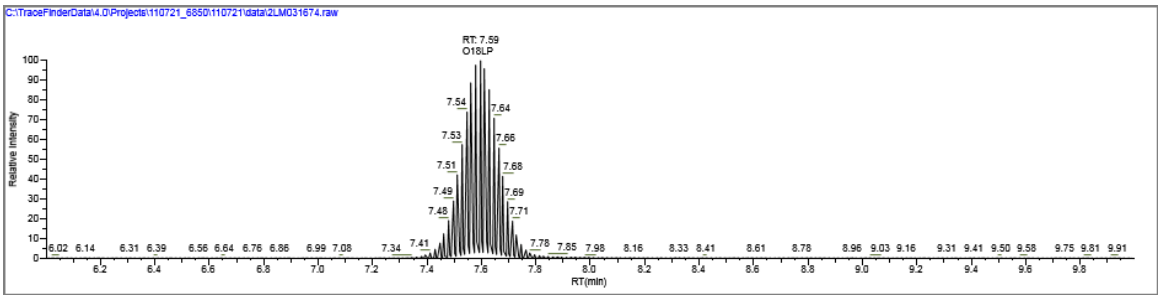
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 110721

Method: 110721_Perchlorate 6850 Perchlorate 6850
Cali File: 110721.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A4	S1K0132-CAL3	2LM031674	3	CAL STD 3	11/7/2021 12:47:24 PM	1:1 0012467



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.59	89	811538			5.000	ug/L	5.000	ug/L	

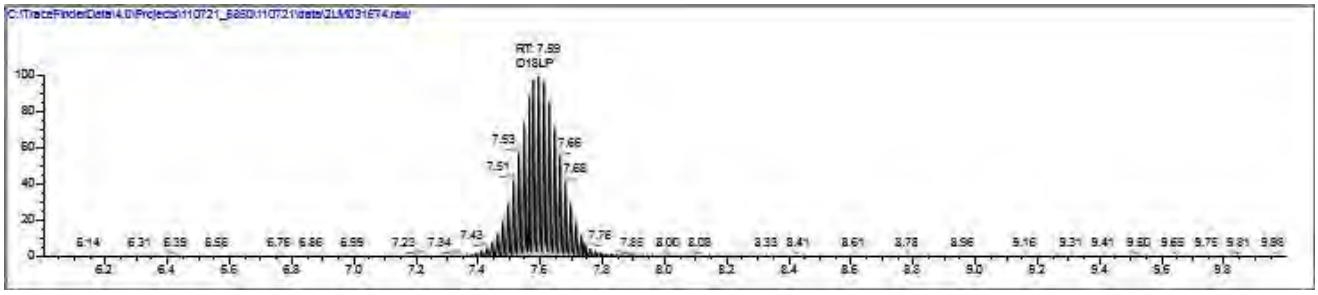
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.6	83	69574	Linear	0.086	0.489	ug/L	0.489	ug/L	

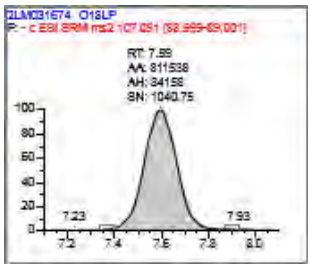
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

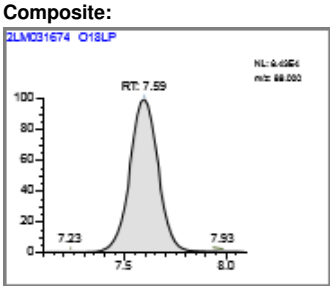
Data File:	2LM031674	Tune Report Date:	Tune report not found
Method:	110721_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	11/7/2021 12:47:24 PM
		Cali File Date:	11/8/2021 1:16:16 PM
Cali File:	110721.calx	Operator ID:	CAS
Sample ID:	S1K0132-CAL3	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:A4
Comments:	1:1 0012467		



m/z 89.000



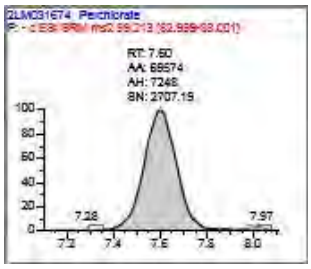
Composite:



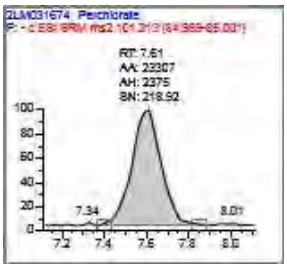
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.59	m/z 89.000	811538	5.000		N/A

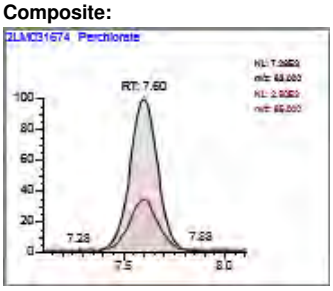
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			Cal: 0.500	0.400 - 10.500	
7.60	m/z 83.000	69574	0.489		N/A
7.61	m/z 85.000	23307		26.76 - 40.14	33.5

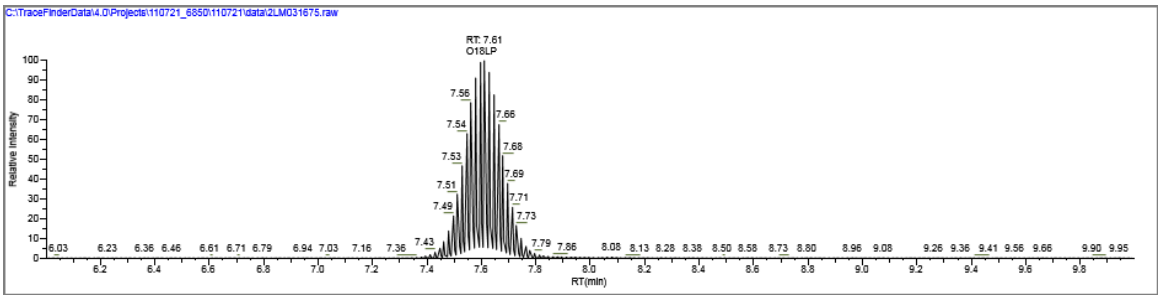
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 110721

Method: 110721_Perchlorate 6850
Perchlorate 6850
Cali File: 110721.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A5	S1K0132-CAL4	2LM031675	4	CAL STD 4	11/7/2021 1:00:39 PM	1:1 0012466



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.61	89	898525			5.000	ug/L	5.000	ug/L	

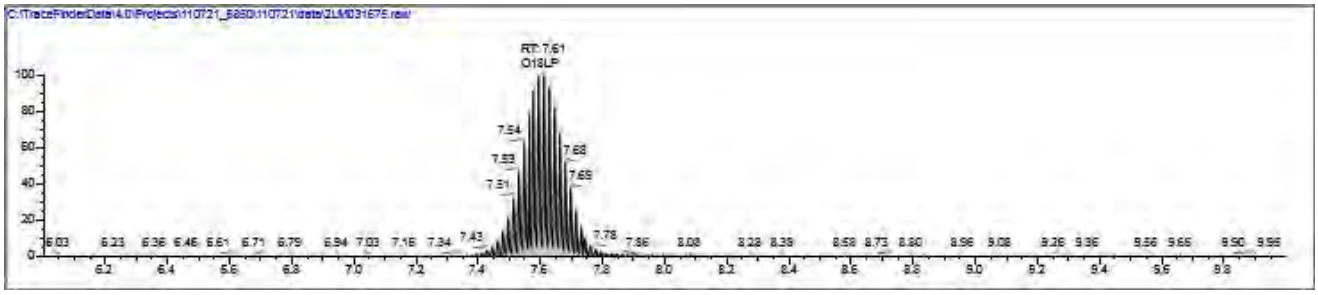
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.62	83	156964	Linear	0.175	0.985	ug/L	0.985	ug/L	

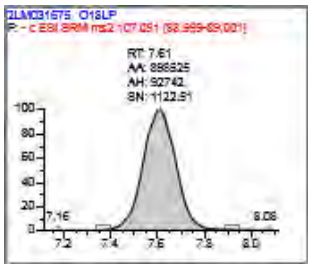
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

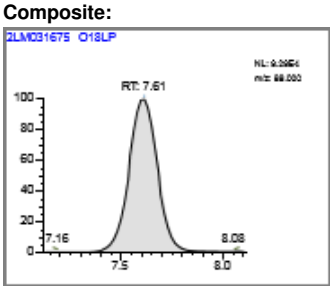
Data File:	2LM031675	Tune Report Date:	Tune report not found
Method:	110721_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	11/7/2021 1:00:39 PM
		Cali File Date:	11/8/2021 1:16:16 PM
Cali File:	110721.calx	Operator ID:	CAS
Sample ID:	S1K0132-CAL4	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:A5
Comments:	1:1 0012466		



m/z 89.000



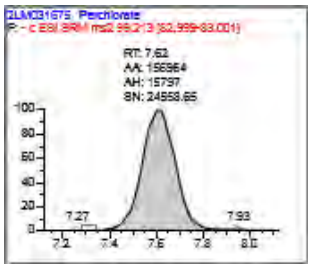
Composite:



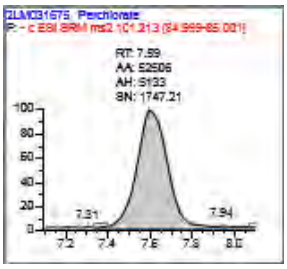
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.61	m/z 89.000	898525	5.000		N/A

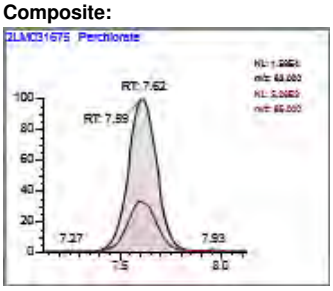
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			Cal: 1.000	0.800 - 21.000	
7.62	m/z 83.000	156964	0.985		N/A
7.59	m/z 85.000	52506		26.76 - 40.14	33.45

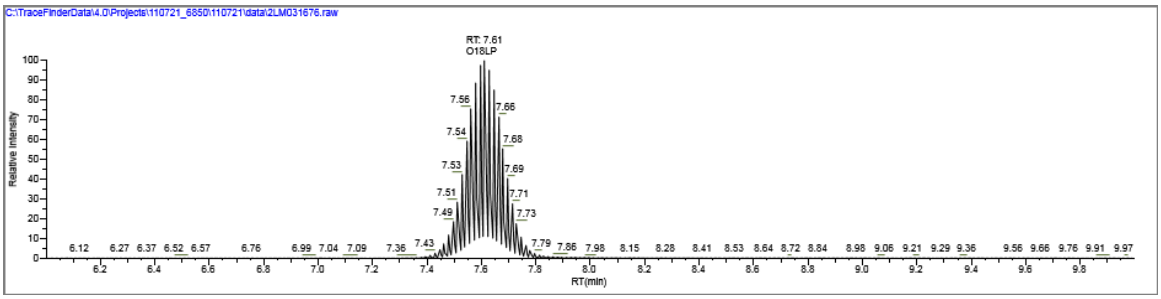
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 110721

Method: 110721_Perchlorate 6850 Perchlorate 6850
Cali File: 110721.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A6	S1K0132-CAL5	2LM031676	5	CAL STD 5	11/7/2021 1:13:54 PM	1:1 0012465



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.61	89	1126998			5.000	ug/L	5.000	ug/L	

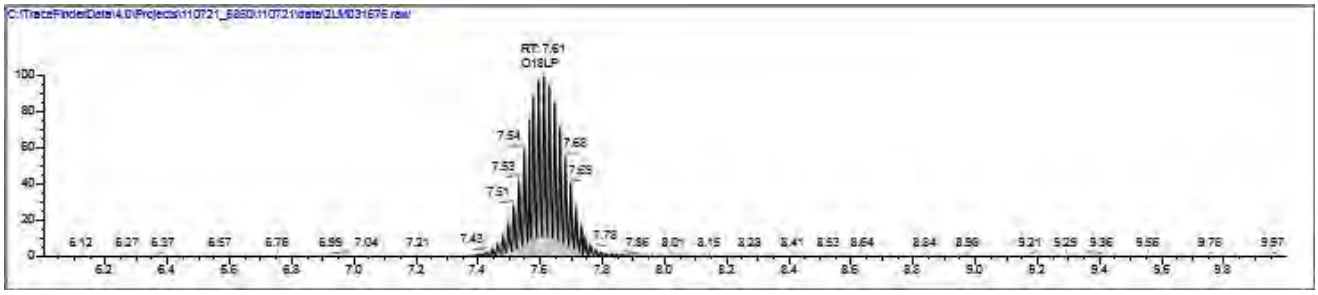
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.62	83	382143	Linear	0.339	1.899	ug/L	1.899	ug/L	

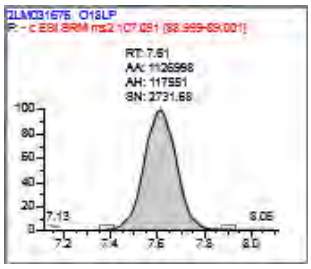
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

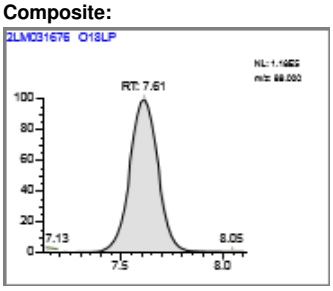
Data File:	2LM031676	Tune Report Date:	Tune report not found
Method:	110721_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	11/7/2021 1:13:54 PM
		Cali File Date:	11/8/2021 1:16:16 PM
Cali File:	110721.calx	Operator ID:	CAS
Sample ID:	S1K0132-CAL5	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:A6
Comments:	1:1 0012465		



m/z 89.000



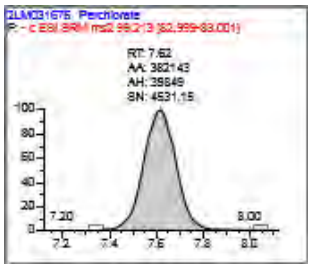
Composite:



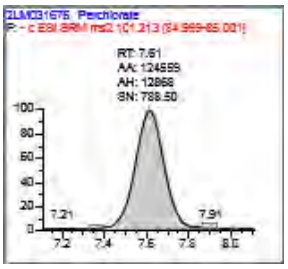
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.61	m/z 89.000	1126998	5.000		N/A

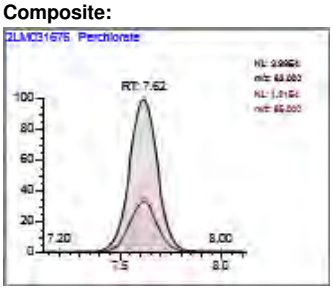
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			Cal: 2.000	1.600 - 42.000	
7.62	m/z 83.000	382143	1.899		N/A
7.61	m/z 85.000	124559		26.76 - 40.14	32.59

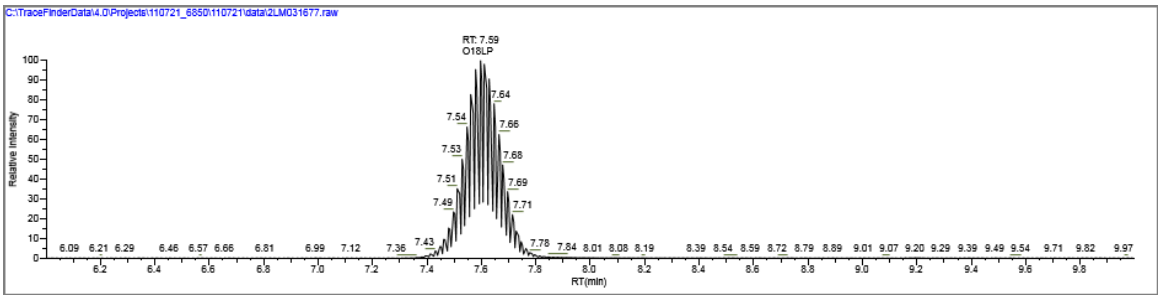
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 110721

Method: 110721_Perchlorate 6850 Perchlorate 6850
Cali File: 110721.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A7	S1K0132-CAL6	2LM031677	6	CAL STD 6	11/7/2021 1:27:09 PM	1:1 0012464



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.59	89	1320643			5.000	ug/L	5.000	ug/L	

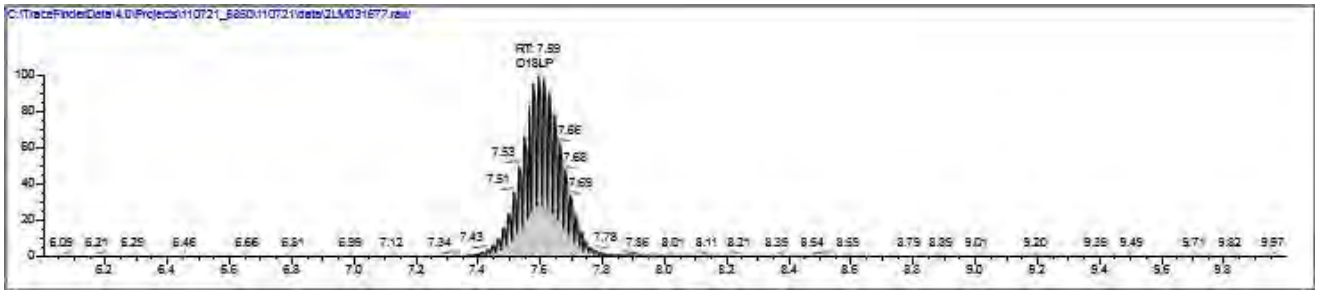
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.6	83	1163476	Linear	0.881	4.915	ug/L	4.915	ug/L	

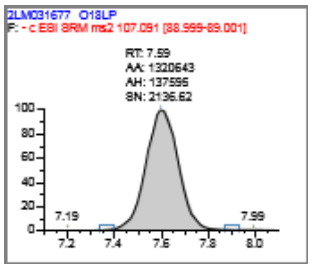
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

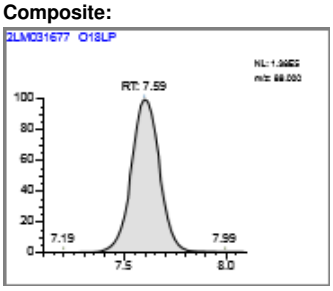
Data File:	2LM031677	Tune Report Date:	Tune report not found
Method:	110721_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	11/7/2021 1:27:09 PM
		Cali File Date:	11/8/2021 1:16:16 PM
Cali File:	110721.calx	Operator ID:	CAS
Sample ID:	S1K0132-CAL6	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:A7
Comments:	1:1 0012464		



m/z 89.000



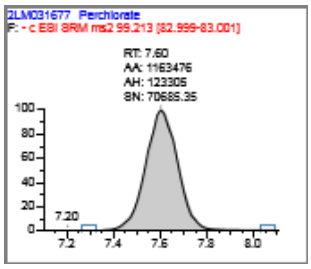
Composite:



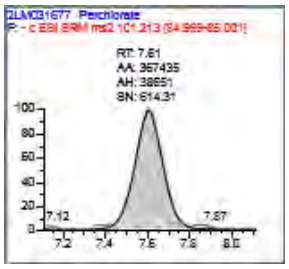
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.59	m/z 89.000	1320643	5.000		N/A

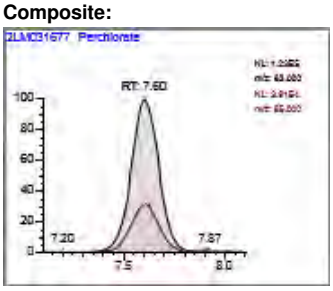
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			Cal: 5.000	4.000 - 105.000	
7.60	m/z 83.000	1163476	4.915		N/A
7.61	m/z 85.000	367435		26.76 - 40.14	31.58

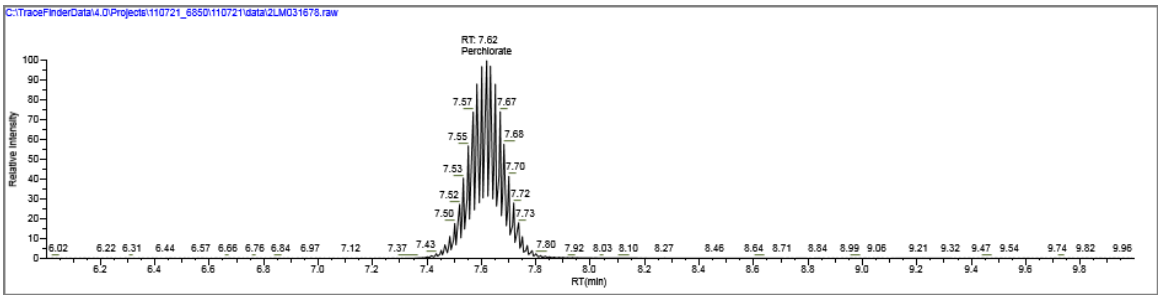
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 110721

Method: 110721_Perchlorate 6850 Perchlorate 6850
Cali File: 110721.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A8	S1K0132-CAL7	2LM031678	7	CAL STD 7	11/7/2021 1:40:24 PM	1:1 0012463



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.61	89	1227389			5.000	ug/L	5.000	ug/L	

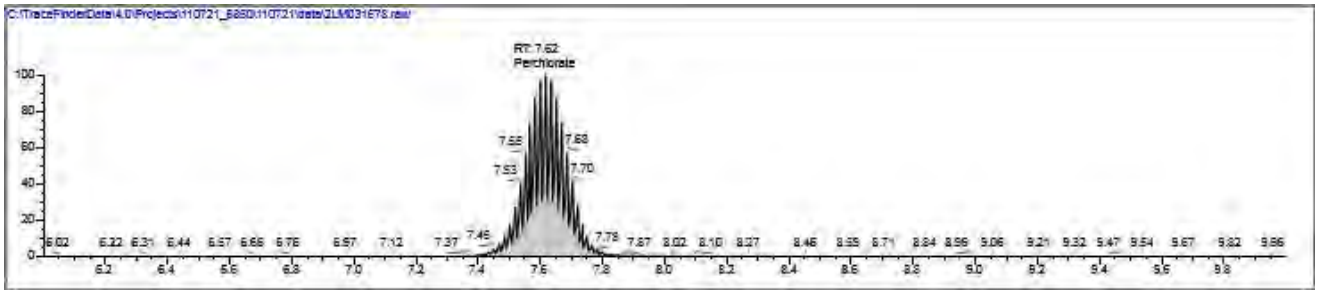
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.62	83	2247068	Linear	1.831	10.2	ug/L	10.2	ug/L	

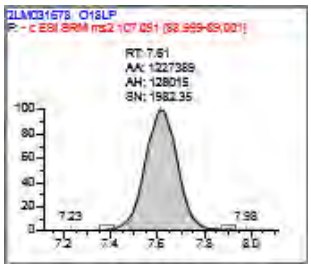
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

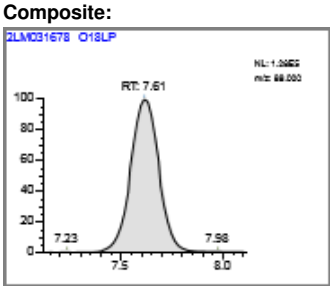
Data File:	2LM031678	Tune Report Date:	Tune report not found
Method:	110721_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	11/7/2021 1:40:24 PM
		Cali File Date:	11/8/2021 1:16:16 PM
Cali File:	110721.calx	Operator ID:	CAS
Sample ID:	S1K0132-CAL7	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:A8
Comments:	1:1 0012463		



m/z 89.000



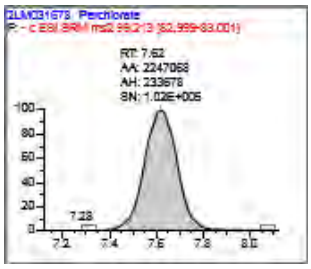
Composite:



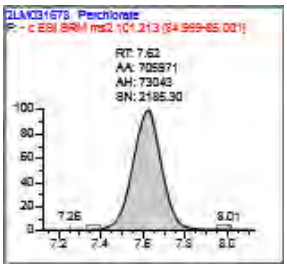
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.61	m/z 89.000	1227389	5.000		N/A

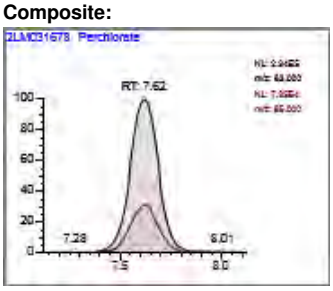
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			Cal: 10.000	8.000 - 210.000	
7.62	m/z 83.000	2247068	10.200		N/A
7.62	m/z 85.000	705971		26.76 - 40.14	31.42

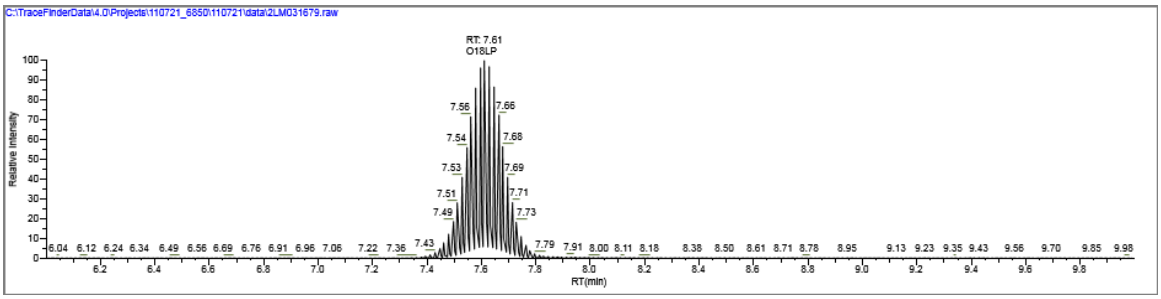
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 110721

Method: 110721_Perchlorate 6850
Perchlorate 6850
Cali File: 110721.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A9	S1K0132-ICV1	2LM031679	ICV	ICV	11/7/2021 1:53:39 PM	1:1 0012475



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.61	89	984059			5.000	ug/L	5.000	ug/L	

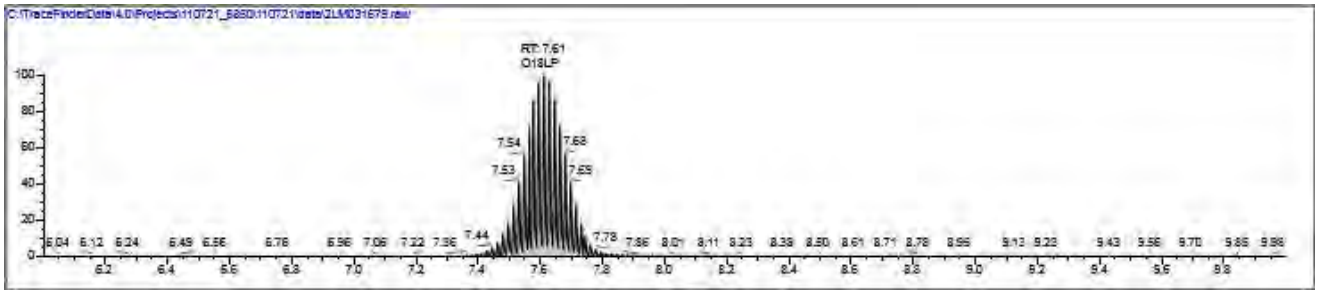
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.62	83	174629	Linear	0.177	1	ug/L	1	ug/L	

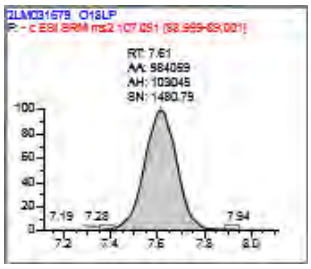
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

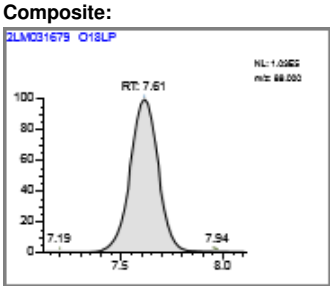
Data File:	2LM031679	Tune Report Date:	Tune report not found
Method:	110721_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	11/7/2021 1:53:39 PM
		Cali File Date:	11/8/2021 1:16:16 PM
Cali File:	110721.calx	Operator ID:	CAS
Sample ID:	S1K0132-ICV1	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:A9
Comments:	1:1 0012475		



m/z 89.000



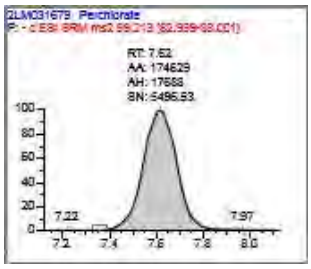
Composite:



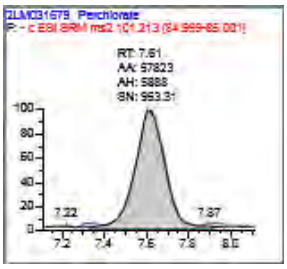
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.61	m/z 89.000	984059	5.000		N/A

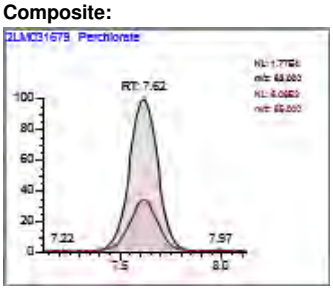
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			QC: 1.000	0.850 - 1.150	
7.62	m/z 83.000	174629	1.000		N/A
7.61	m/z 85.000	57823		26.76 - 40.14	33.11

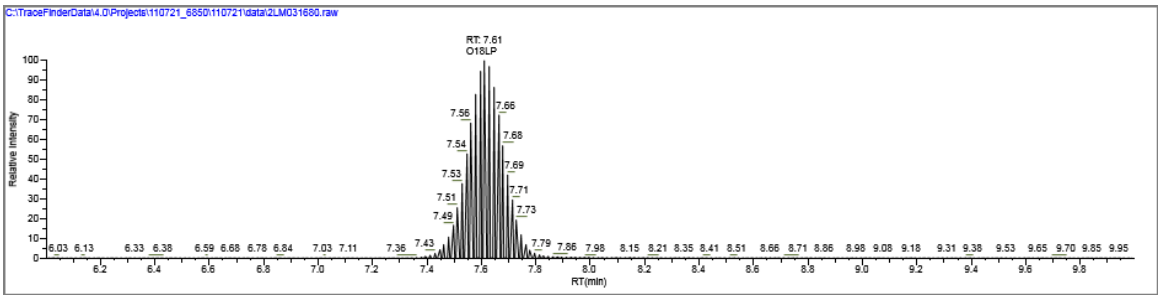
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 110721

Method: 110721_Perchlorate 6850
Perchlorate 6850
Cali File: 110721.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A1	S1K0132-CCB1	2LM031680	N/A	CCB	11/7/2021 2:06:53 PM	1:01



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.61	89	918834			5.000	ug/L	5.000	ug/L	

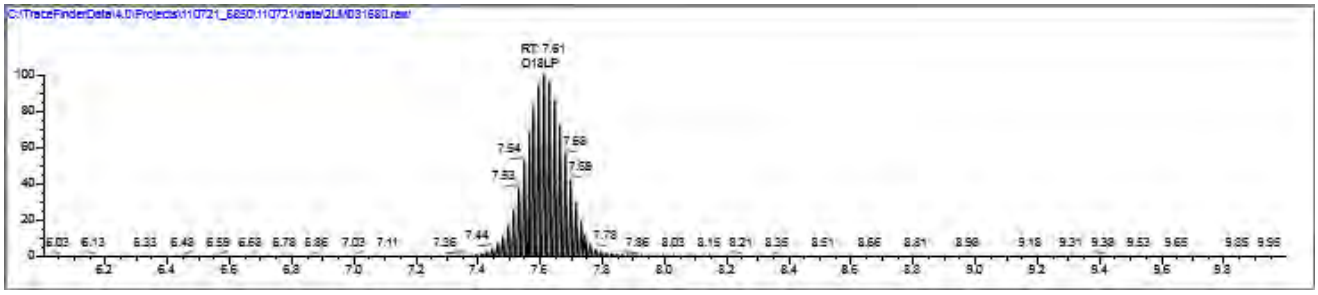
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.58	83	3364	Linear	0.004	0.033	ug/L	0.033	ug/L	I

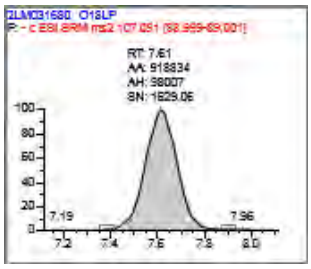
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

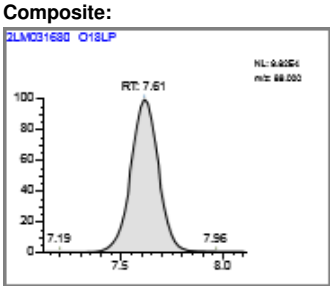
Data File:	2LM031680	Tune Report Date:	Tune report not found
Method:	110721_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	11/7/2021 2:06:53 PM
		Cali File Date:	11/8/2021 1:16:16 PM
Cali File:	110721.calx	Operator ID:	CAS
Sample ID:	S1K0132-CCB1	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:A1
Comments:	1:01		



m/z 89.000



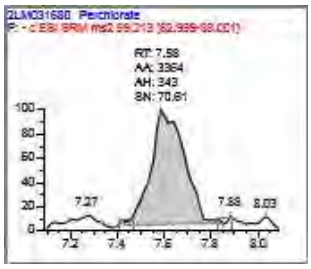
Composite:



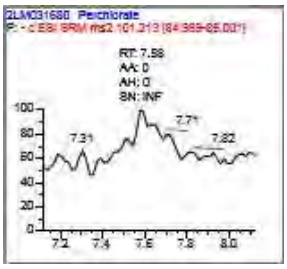
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio	
			N/A			
7.61	m/z 89.000	918834	5.000		N/A	

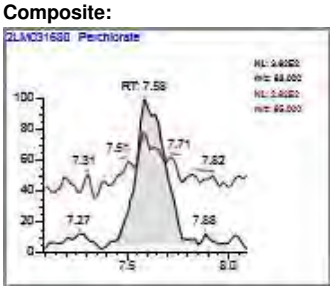
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio	
			N/A			
7.58	m/z 83.000	3364	0.033		N/A	I
7.58	m/z 85.000			26.76 - 40.14	*	

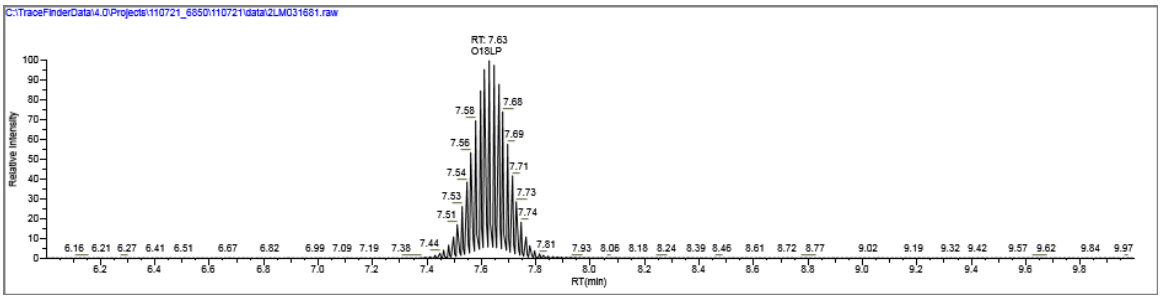
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 110721

Method: 110721_Perchlorate 6850 Perchlorate 6850
Cali File: 110721.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A5	S1K0132-CCV1	2LM031681	CCV	CCV 1.0 ug/L	11/7/2021 2:20:08 PM	1:1 0012466



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.63	89	1246229			5.000	ug/L	5.000	ug/L	

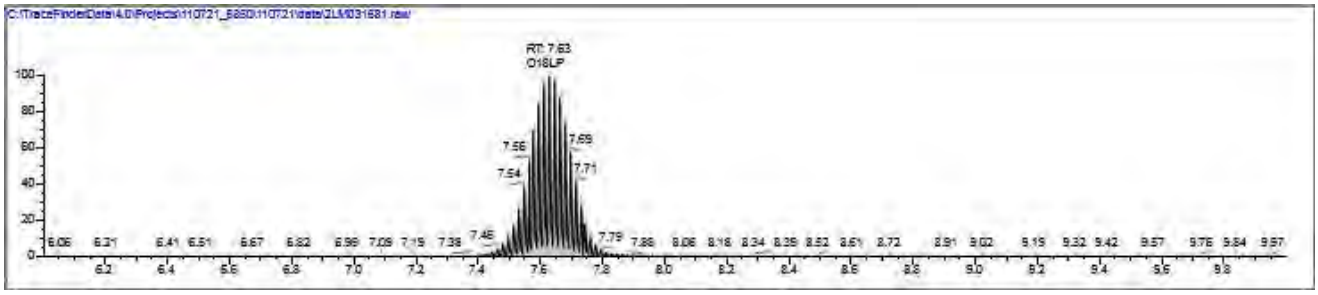
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.63	83	213851	Linear	0.172	0.967	ug/L	0.967	ug/L	

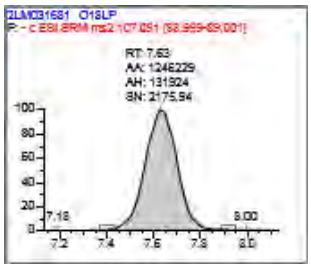
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

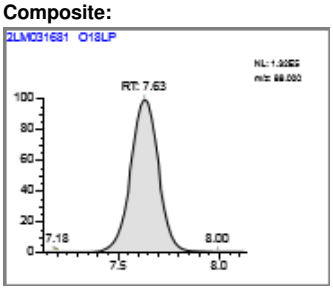
Data File:	2LM031681	Tune Report Date:	Tune report not found
Method:	110721_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	11/7/2021 2:20:08 PM
		Cali File Date:	11/8/2021 1:16:16 PM
Cali File:	110721.calx	Operator ID:	CAS
Sample ID:	S1K0132-CCV1	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:A5
Comments:	1:1 0012466		



m/z 89.000



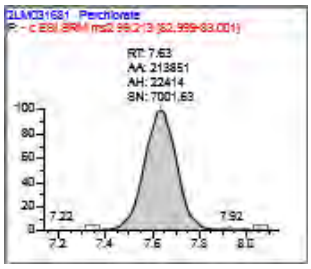
Composite:



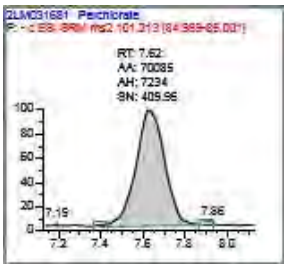
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.63	m/z 89.000	1246229	5.000		N/A

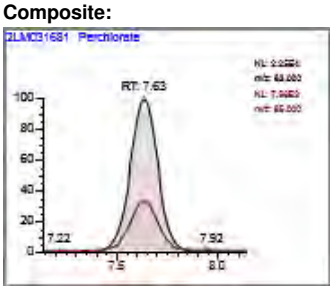
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			QC: 1.000	0.850 - 1.150	
7.63	m/z 83.000	213851	0.967		N/A
7.62	m/z 85.000	70085		26.76 - 40.14	32.77

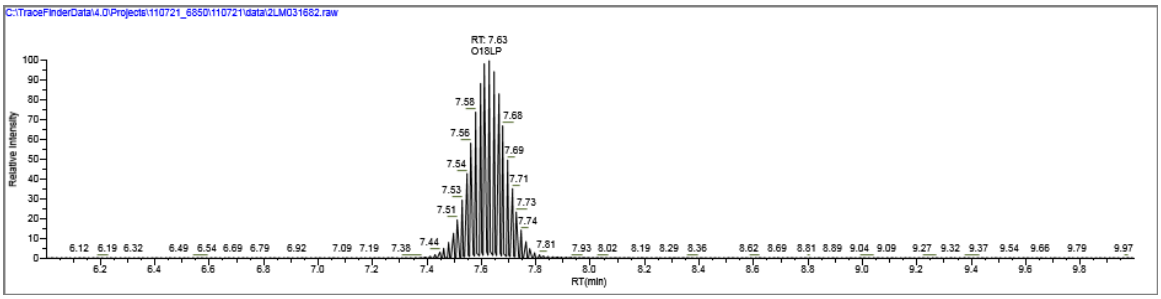
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 110721

Method: 110721_Perchlorate 6850 Perchlorate 6850
Cali File: 110721.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A3	S1K0132-CRL1	2LM031682	QCMRL	QCMRL 0.2 ug/L	11/7/2021 2:33:23 PM	1:1 0012468



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.63	89	1440110			5.000	ug/L	5.000	ug/L	

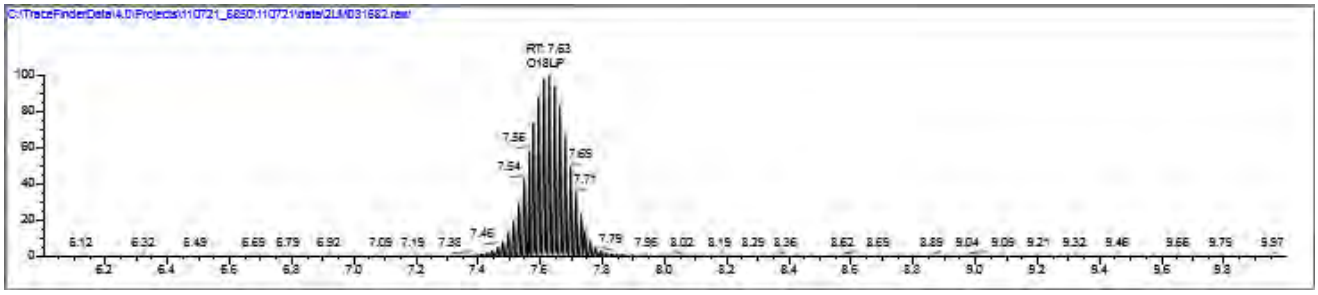
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.62	83	49910	Linear	0.035	0.205	ug/L	0.205	ug/L	

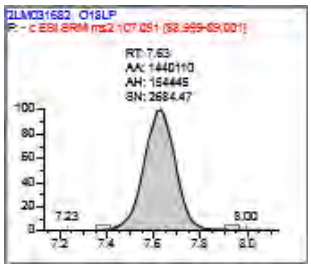
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

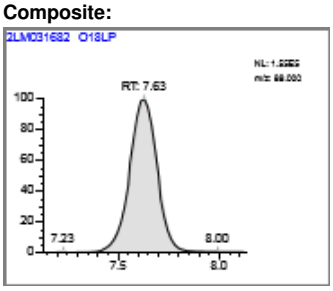
Data File:	2LM031682	Tune Report Date:	Tune report not found
Method:	110721_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	11/7/2021 2:33:23 PM
		Cali File Date:	11/8/2021 1:16:16 PM
Cali File:	110721.calx	Operator ID:	CAS
Sample ID:	S1K0132-CRL1	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:A3
Comments:	1:1 0012468		



m/z 89.000



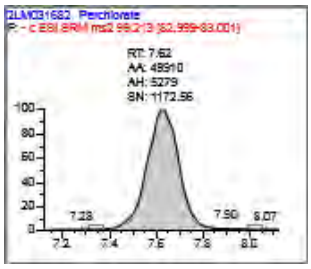
Composite:



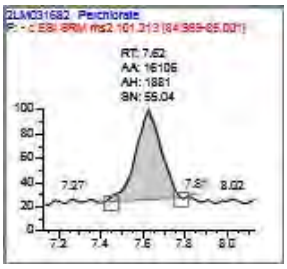
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.63	m/z 89.000	1440110	5.000		N/A

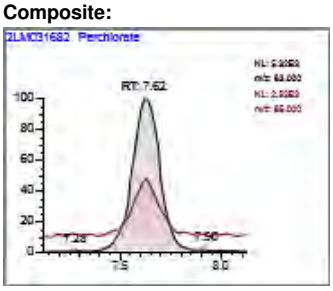
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			QC: 0.200	0.140 - 0.260	
7.62	m/z 83.000	49910	0.205		N/A
7.62	m/z 85.000	16106		26.76 - 40.14	32.27

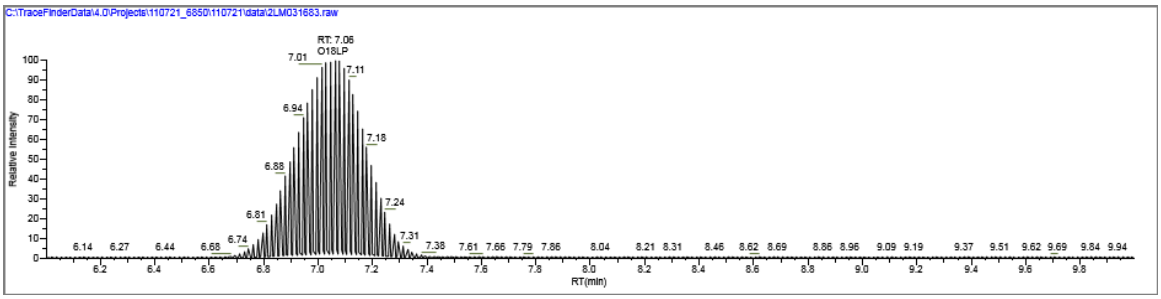
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 110721

Method: 110721_Perchlorate 6850 Perchlorate 6850
Cali File: 110721.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:C7	S1K0132-IFA1	2LM031683	N/A	MCT 0.2 ug/L	11/7/2021 2:46:38 PM	1:1 0012477



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.06	89	1348304			5.000	ug/L	5.000	ug/L	

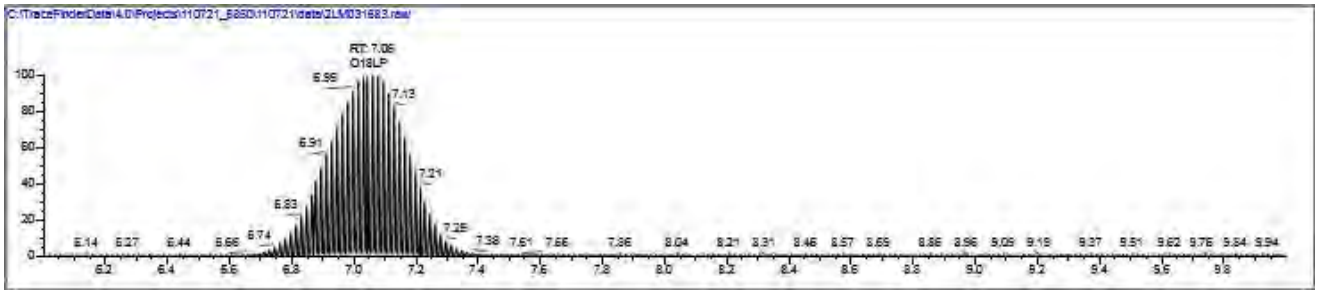
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.07	83	56309	Linear	0.042	0.245	ug/L	0.245	ug/L	

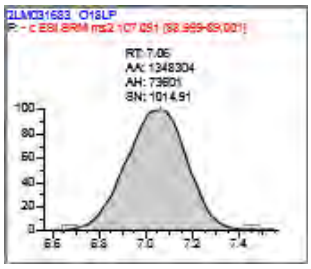
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

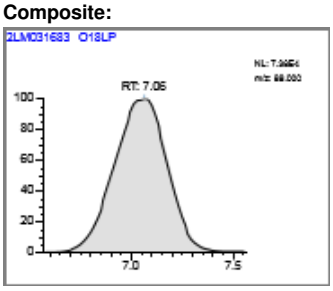
Data File:	2LM031683	Tune Report Date:	Tune report not found
Method:	110721_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	11/7/2021 2:46:38 PM
		Cali File Date:	11/8/2021 1:16:16 PM
Cali File:	110721.calx	Operator ID:	CAS
Sample ID:	S1K0132-IFA1	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:C7
Comments:	1:1 0012477		



m/z 89.000



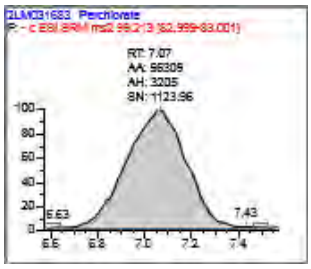
Composite:



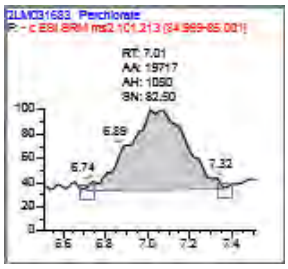
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.06	m/z 89.000	1348304	5.000		N/A

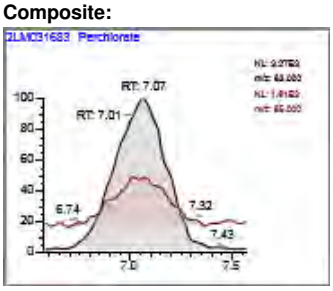
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.07	m/z 83.000	56309	0.245		N/A
7.01	m/z 85.000	19717		26.76 - 40.14	35.01

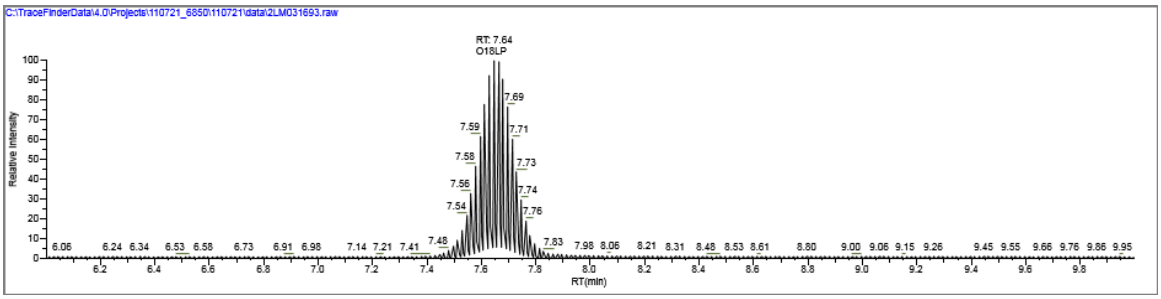
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 110721

Method: 110721_Perchlorate 6850
Perchlorate 6850
Cali File: 110721.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A5	S1K0132-CCV2	2LM031693	CCV	CCV 1.0 ug/L	11/7/2021 4:59:07 PM	1:1 0012466



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.64	89	672981			5.000	ug/L	5.000	ug/L	

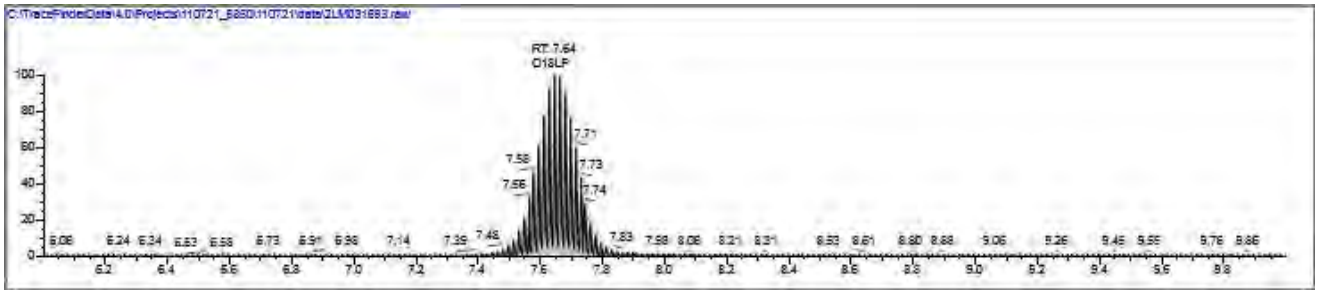
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.65	83	117370	Linear	0.174	0.983	ug/L	0.983	ug/L	

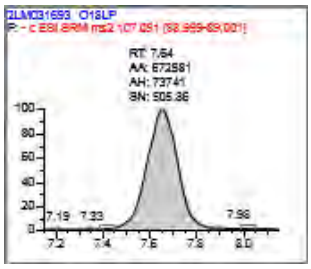
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

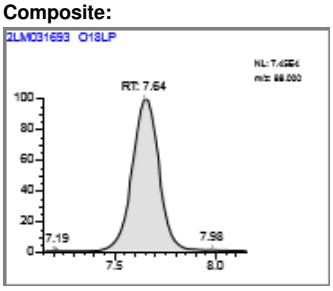
Data File:	2LM031693	Tune Report Date:	Tune report not found
Method:	110721_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	11/7/2021 4:59:07 PM
		Cali File Date:	11/8/2021 1:16:16 PM
Cali File:	110721.calx	Operator ID:	CAS
Sample ID:	S1K0132-CCV2	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:A5
Comments:	1:1 0012466		



m/z 89.000



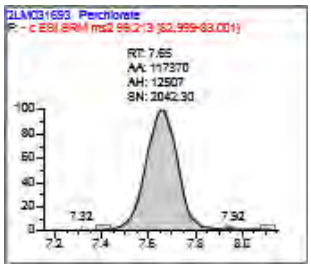
Composite:



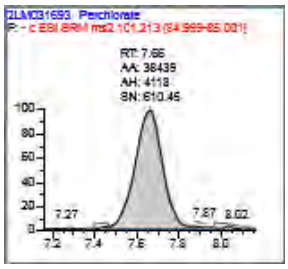
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.64	m/z 89.000	672981	5.000		N/A

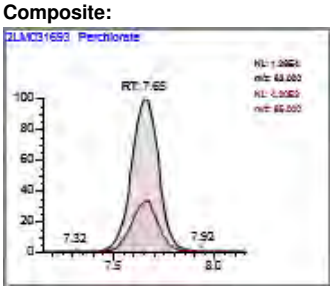
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			QC: 1.000	0.850 - 1.150	
7.65	m/z 83.000	117370	0.983		N/A
7.66	m/z 85.000	38439		26.76 - 40.14	32.75

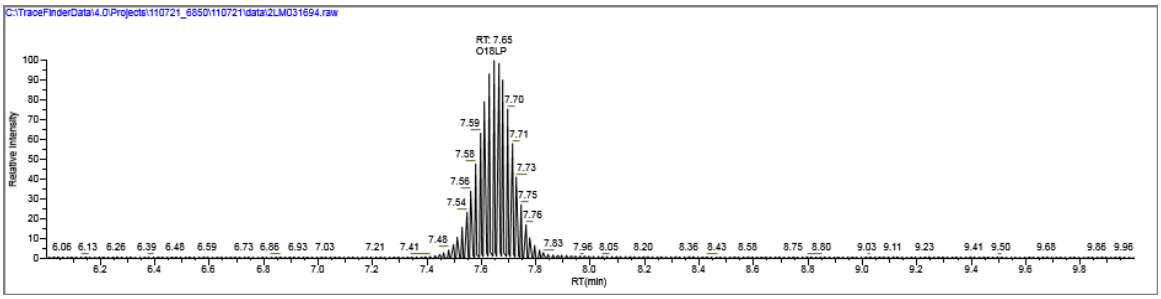
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 110721

Method: 110721_Perchlorate 6850
Perchlorate 6850
Cali File: 110721.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A3	S1K0132-CRL2	2LM031694	QCMRL	QCMRL 0.2 ug/L	11/7/2021 5:12:22 PM	1:1 0012468



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.65	89	706005			5.000	ug/L	5.000	ug/L	

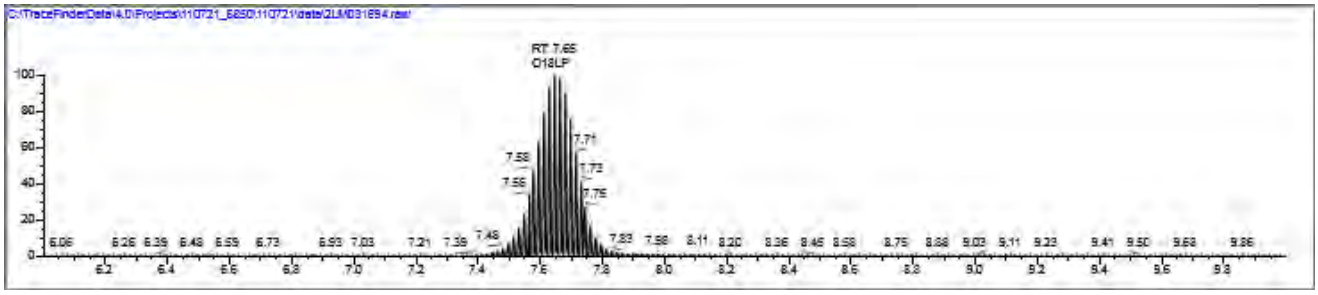
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.63	83	23899	Linear	0.034	0.201	ug/L	0.201	ug/L	

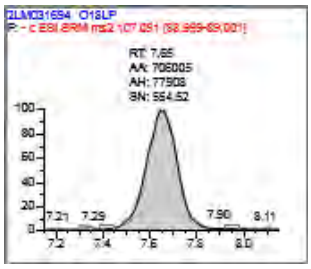
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

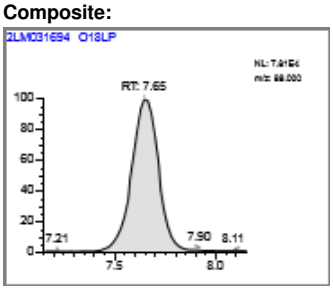
Data File:	2LM031694	Tune Report Date:	Tune report not found
Method:	110721_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	11/7/2021 5:12:22 PM
		Cali File Date:	11/8/2021 1:16:16 PM
Cali File:	110721.calx	Operator ID:	CAS
Sample ID:	S1K0132-CRL2	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:A3
Comments:	1:1 0012468		



m/z 89.000



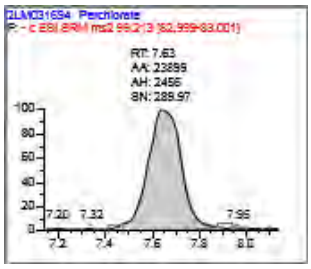
Composite:



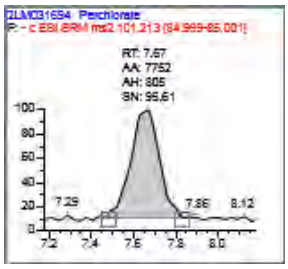
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.65	m/z 89.000	706005	5.000		N/A

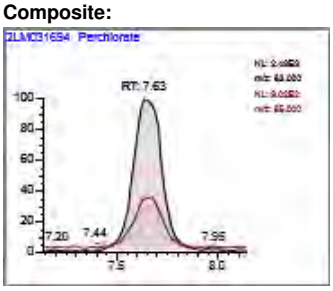
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			QC: 0.200	0.140 - 0.260	
7.63	m/z 83.000	23899	0.201		N/A
7.67	m/z 85.000	7752		26.76 - 40.14	32.44

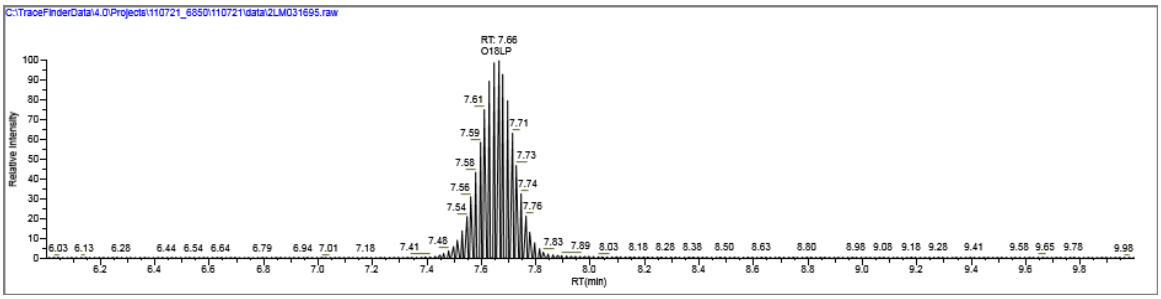
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 110721

Method: 110721_Perchlorate 6850
Perchlorate 6850
Cali File: 110721.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A1	S1K0132-CCB2	2LM031695	N/A	CCB	11/7/2021 5:25:37 PM	1:01



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.66	89	766409			5.000	ug/L	5.000	ug/L	

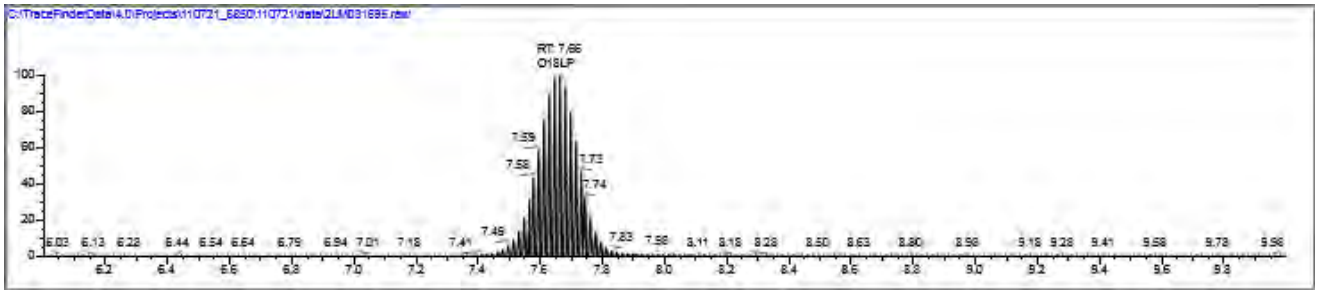
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.65	83	2522	Linear	0.003	0.031	ug/L	0.031	ug/L	

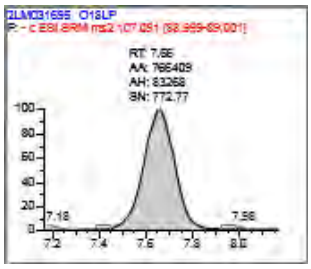
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

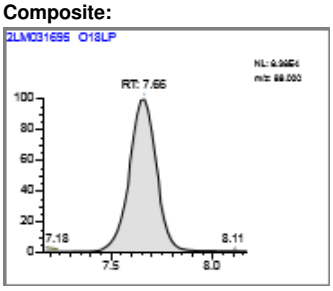
Data File:	2LM031695	Tune Report Date:	Tune report not found
Method:	110721_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	11/7/2021 5:25:37 PM
		Cali File Date:	11/8/2021 1:16:16 PM
Cali File:	110721.calx	Operator ID:	CAS
Sample ID:	S1K0132-CCB2	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:A1
Comments:	1:01		



m/z 89.000



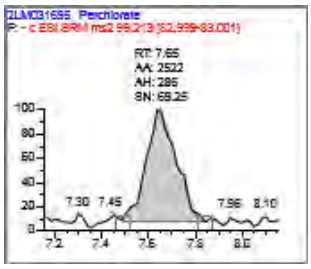
Composite:



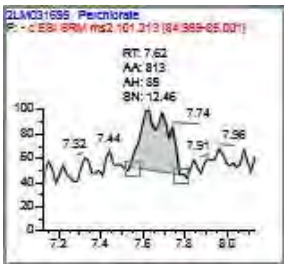
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.66	m/z 89.000	766409	5.000		N/A

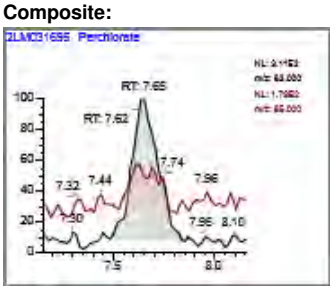
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.65	m/z 83.000	2522	0.031		N/A
7.62	m/z 85.000	813		26.76 - 40.14	32.23

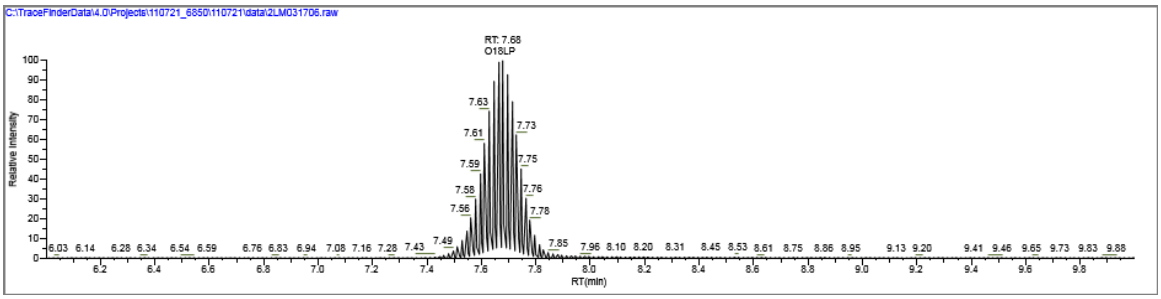
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 110721

Method: 110721_Perchlorate 6850
Perchlorate 6850
Cali File: 110721.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A5	S1K0132-CCV3	2LM031706	CCV	CCV 1.0 ug/L	11/7/2021 7:51:21 PM	1:1 0012466



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.68	89	1006212			5.000	ug/L	5.000	ug/L	

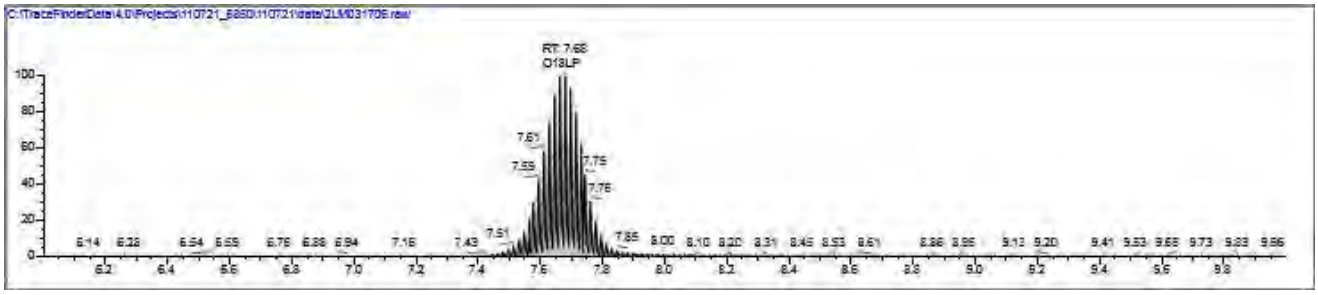
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.67	83	169342	Linear	0.168	0.949	ug/L	0.949	ug/L	

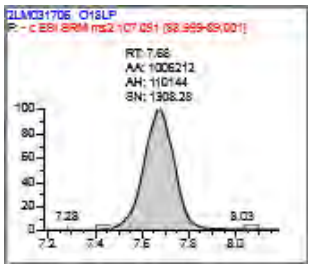
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

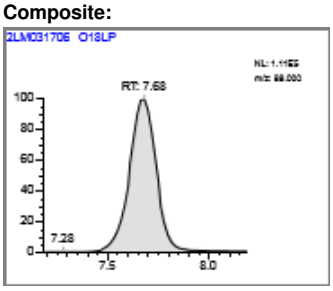
Data File:	2LM031706	Tune Report Date:	Tune report not found
Method:	110721_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	11/7/2021 7:51:21 PM
		Cali File Date:	11/8/2021 1:16:16 PM
Cali File:	110721.calx	Operator ID:	CAS
Sample ID:	S1K0132-CCV3	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:A5
Comments:	1:1 0012466		



m/z 89.000



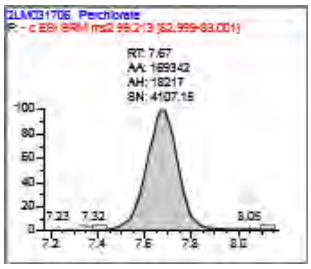
Composite:



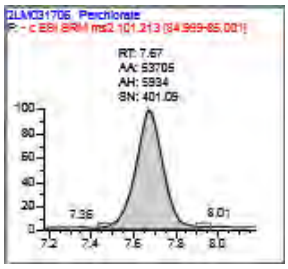
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.68	m/z 89.000	1006212	5.000		N/A

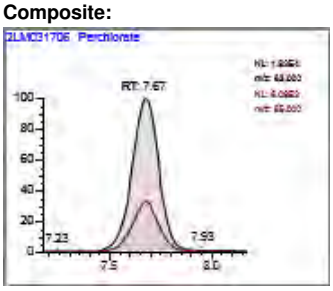
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			QC: 1.000	0.850 - 1.150	
7.67	m/z 83.000	169342	0.949		N/A
7.67	m/z 85.000	53705		26.76 - 40.14	31.71

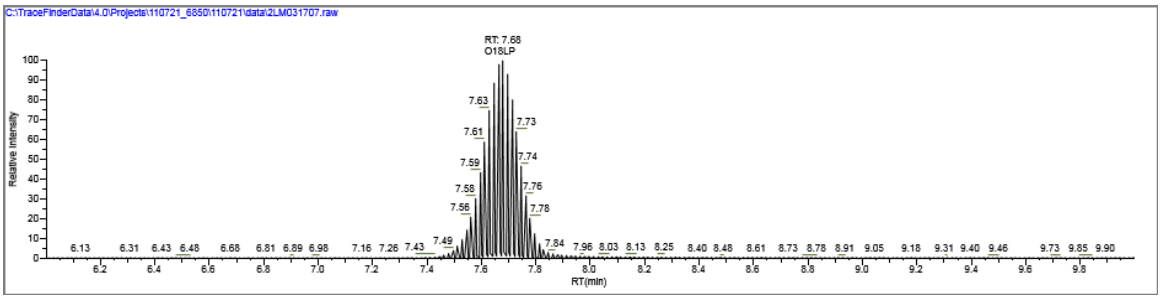
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 110721

Method: 110721_Perchlorate 6850 Perchlorate 6850
Cali File: 110721.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A3	S1K0132-CRL3	2LM031707	QCMRL	QCMRL 0.2 ug/L	11/7/2021 8:04:36 PM	1:1 0012468



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.68	89	1041209			5.000	ug/L	5.000	ug/L	

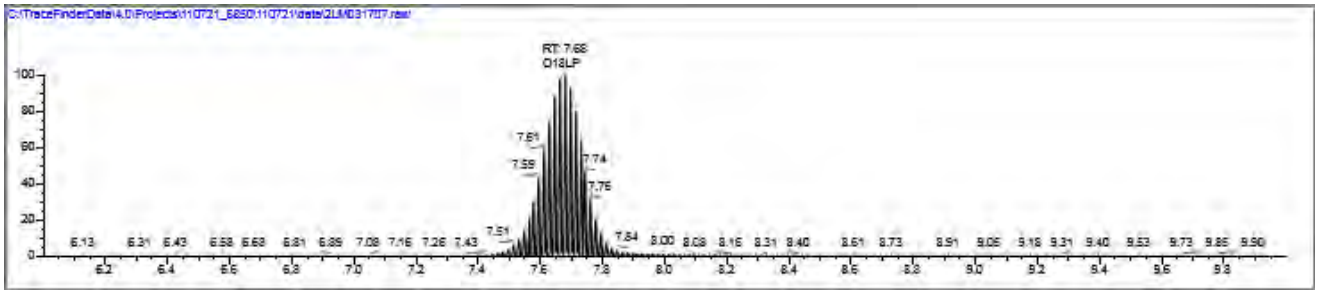
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.67	83	35574	Linear	0.034	0.203	ug/L	0.203	ug/L	

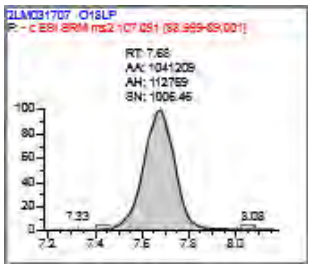
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

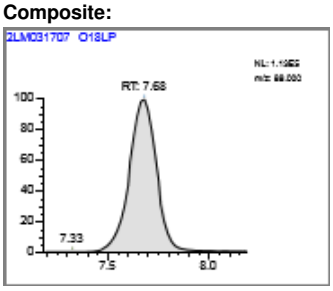
Data File:	2LM031707	Tune Report Date:	Tune report not found
Method:	110721_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	11/7/2021 8:04:36 PM
		Cali File Date:	11/8/2021 1:16:16 PM
Cali File:	110721.calx	Operator ID:	CAS
Sample ID:	S1K0132-CRL3	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:A3
Comments:	1:1 0012468		



m/z 89.000



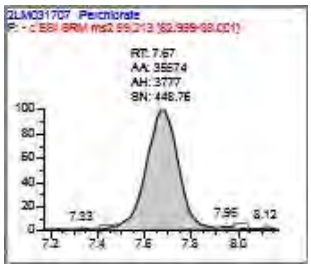
Composite:



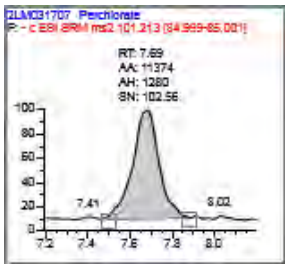
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.68	m/z 89.000	1041209	5.000		N/A

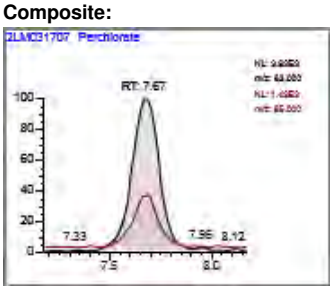
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			QC: 0.200	0.140 - 0.260	
7.67	m/z 83.000	35574	0.203		N/A
7.69	m/z 85.000	11374		26.76 - 40.14	31.97

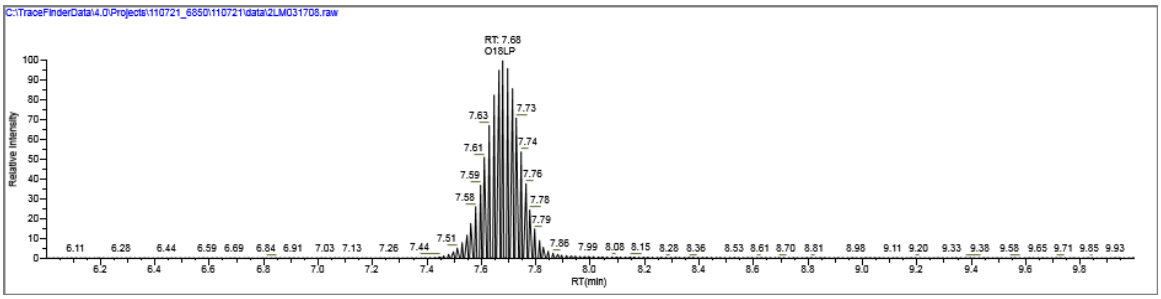
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 110721

Method: 110721_Perchlorate 6850 Perchlorate 6850
Cali File: 110721.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A1	S1K0132-CCB3	2LM031708	N/A	CCB	11/7/2021 8:17:51 PM	1:01



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.68	89	1043978			5.000	ug/L	5.000	ug/L	

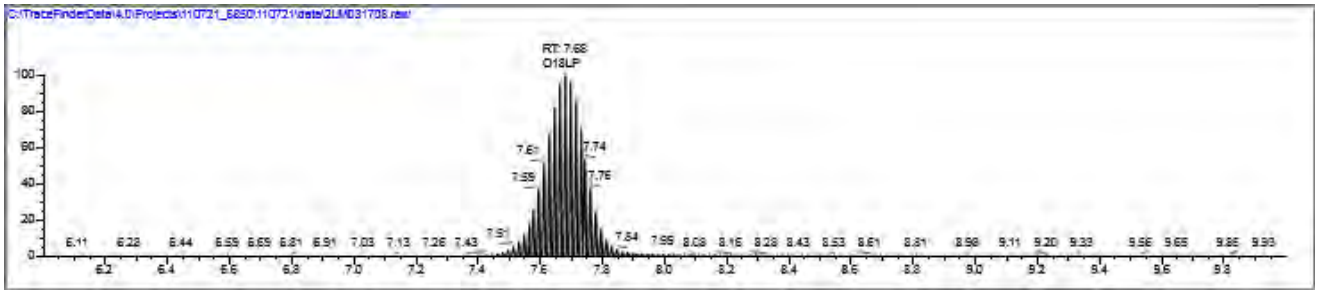
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.68	83	2765	Linear	0.003	0.027	ug/L	0.027	ug/L	I

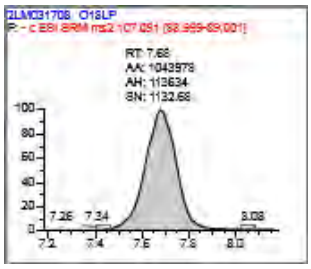
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

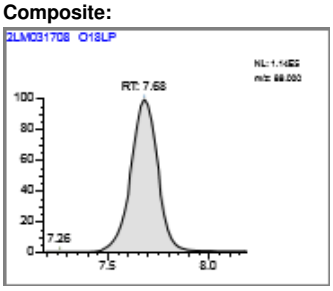
Data File:	2LM031708	Tune Report Date:	Tune report not found
Method:	110721_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	11/7/2021 8:17:51 PM
		Cali File Date:	11/8/2021 1:16:16 PM
Cali File:	110721.calx	Operator ID:	CAS
Sample ID:	S1K0132-CCB3	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:A1
Comments:	1:01		



m/z 89.000



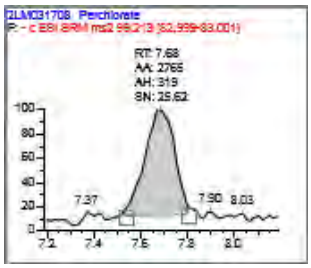
Composite:



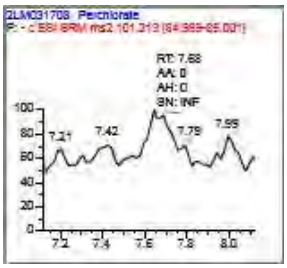
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio	
			N/A			
7.68	m/z 89.000	1043978	5.000		N/A	

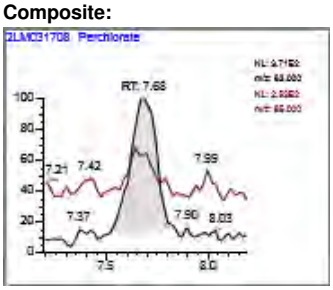
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio	
			N/A			
7.68	m/z 83.000	2765	0.027		N/A	I
7.68	m/z 85.000			26.76 - 40.14	*	

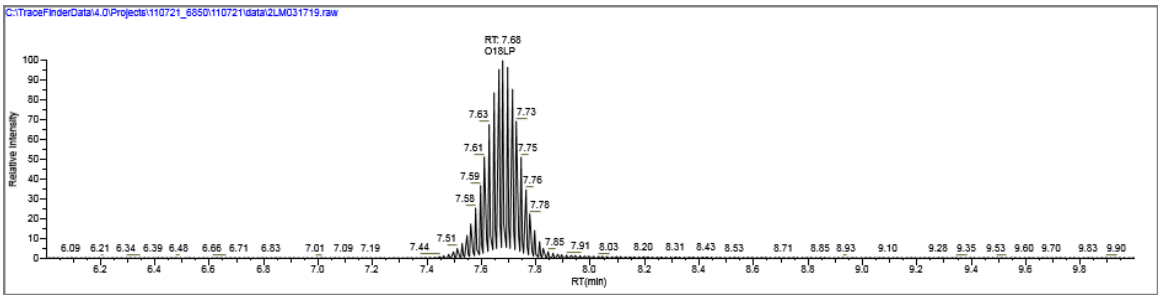
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 110721

Method: 110721_Perchlorate 6850
Perchlorate 6850
Cali File: 110721.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A5	S1K0132-CCV4	2LM031719	CCV	CCV 1.0 ug/L	11/7/2021 10:43:41 PM	1:01



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.68	89	1112142			5.000	ug/L	5.000	ug/L	

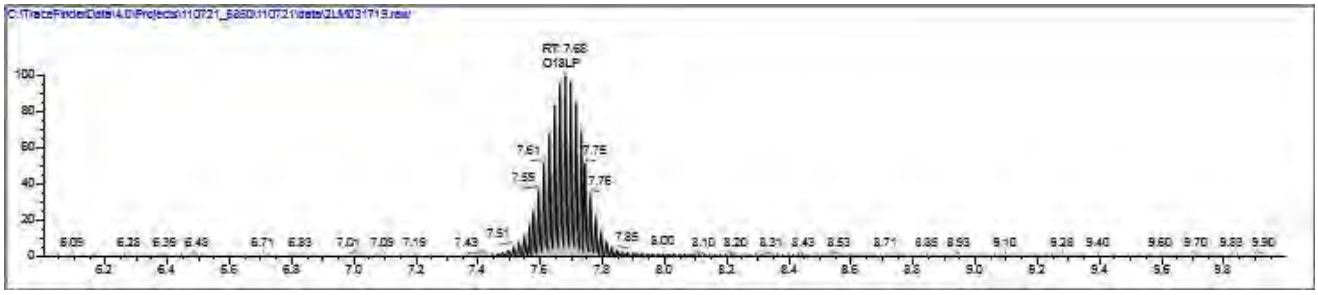
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.68	83	186676	Linear	0.168	0.946	ug/L	0.946	ug/L	

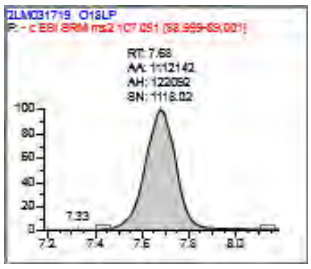
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

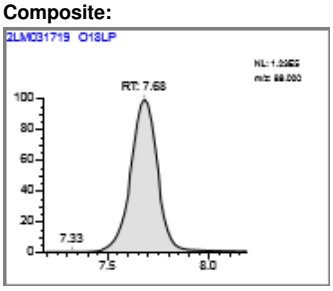
Data File:	2LM031719	Tune Report Date:	Tune report not found
Method:	110721_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	11/7/2021 10:43:41 PM
		Cali File Date:	11/8/2021 1:16:16 PM
Cali File:	110721.calx	Operator ID:	CAS
Sample ID:	S1K0132-CCV4	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:A5
Comments:	1:01		



m/z 89.000



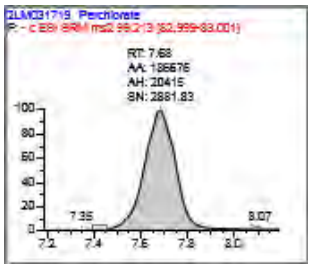
Composite:



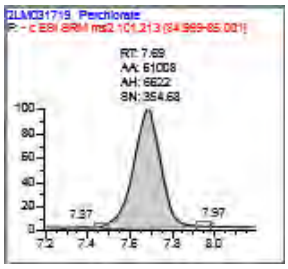
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.68	m/z 89.000	1112142	5.000		N/A

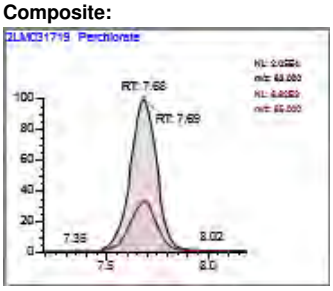
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			QC: 1.000	0.850 - 1.150	
7.68	m/z 83.000	186676	0.946		N/A
7.69	m/z 85.000	61008		26.76 - 40.14	32.68

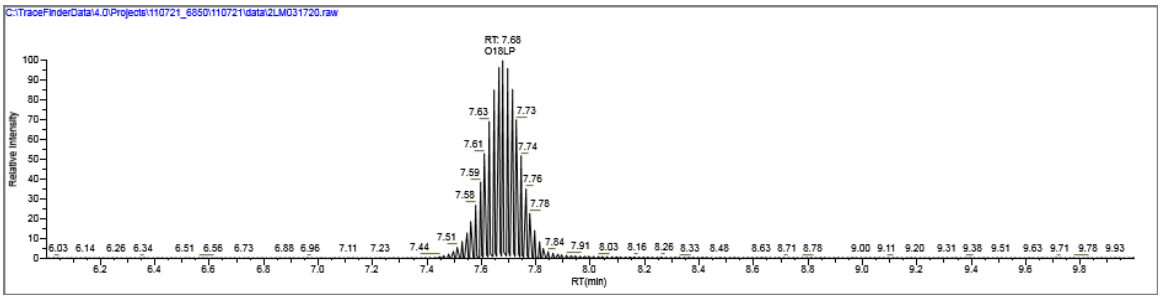
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 110721

Method: 110721_Perchlorate 6850 Perchlorate 6850
Cali File: 110721.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A3	S1K0132-CRL4	2LM031720	QCMRL	QCMRL 0.2 ug/L	11/7/2021 10:56:56 PM	1:01



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.68	89	1138588			5.000	ug/L	5.000	ug/L	

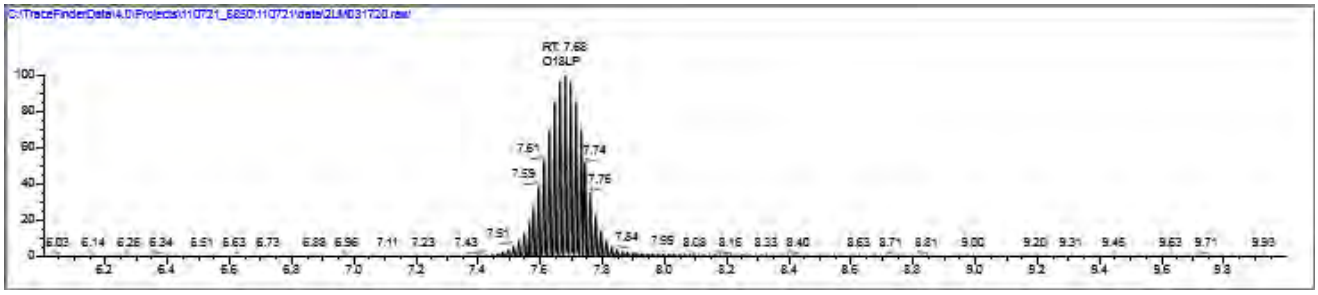
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.68	83	38786	Linear	0.034	0.202	ug/L	0.202	ug/L	

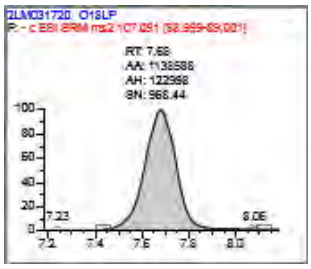
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

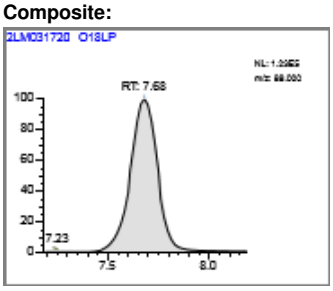
Data File:	2LM031720	Tune Report Date:	Tune report not found
Method:	110721_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	11/7/2021 10:56:56 PM
		Cali File Date:	11/8/2021 1:16:16 PM
Cali File:	110721.calx	Operator ID:	CAS
Sample ID:	S1K0132-CRL4	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:A3
Comments:	1:01		



m/z 89.000



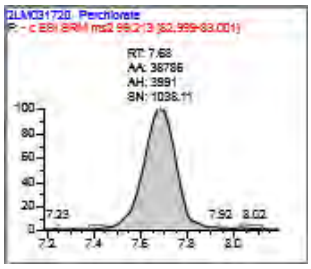
Composite:



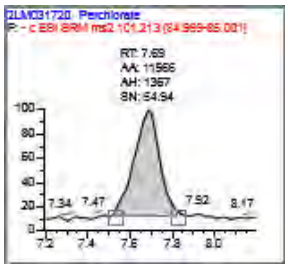
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.68	m/z 89.000	1138588	5.000		N/A

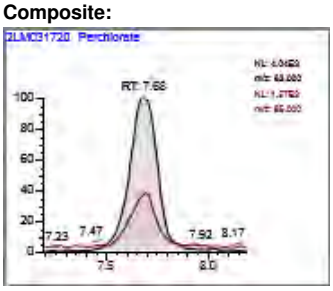
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			QC: 0.200	0.140 - 0.260	
7.68	m/z 83.000	38786	0.202		N/A
7.69	m/z 85.000	11566		26.76 - 40.14	29.82

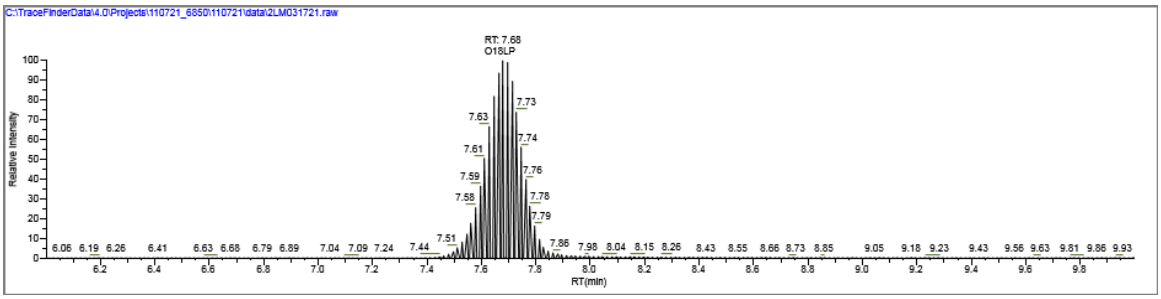
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 110721

Method: 110721_Perchlorate 6850 Perchlorate 6850
Cali File: 110721.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A1	S1K0132-CCB4	2LM031721	N/A	CCB	11/7/2021 11:10:10 PM	1:01



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.68	89	1172502			5.000	ug/L	5.000	ug/L	

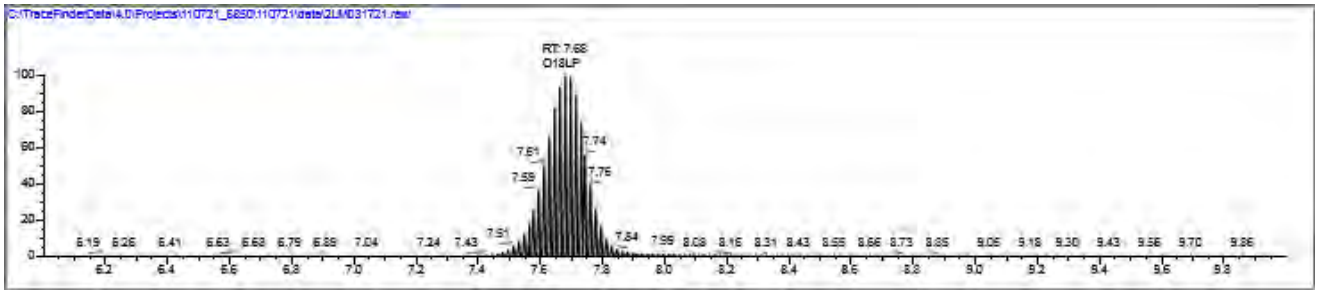
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.7	83	3708	Linear	0.003	0.03	ug/L	0.03	ug/L	I

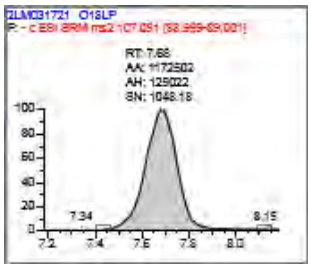
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

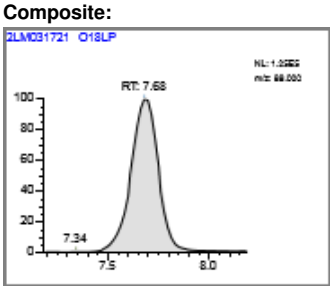
Data File:	2LM031721	Tune Report Date:	Tune report not found
Method:	110721_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	11/7/2021 11:10:10 PM
		Cali File Date:	11/8/2021 1:16:16 PM
Cali File:	110721.calx	Operator ID:	CAS
Sample ID:	S1K0132-CCB4	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:A1
Comments:	1:01		



m/z 89.000



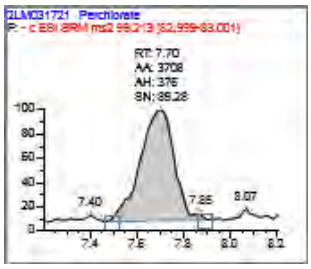
Composite:



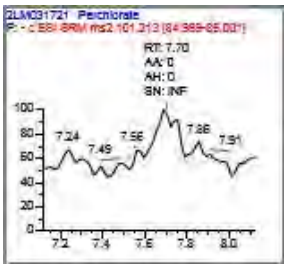
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio	
			N/A			
7.68	m/z 89.000	1172502	5.000		N/A	

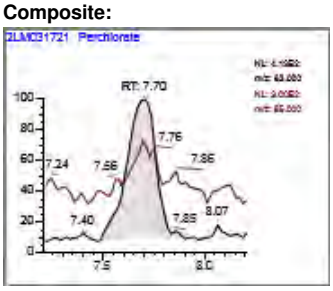
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio	
			N/A			
7.70	m/z 83.000	3708	0.030		N/A	I
7.70	m/z 85.000			26.76 - 40.14	*	

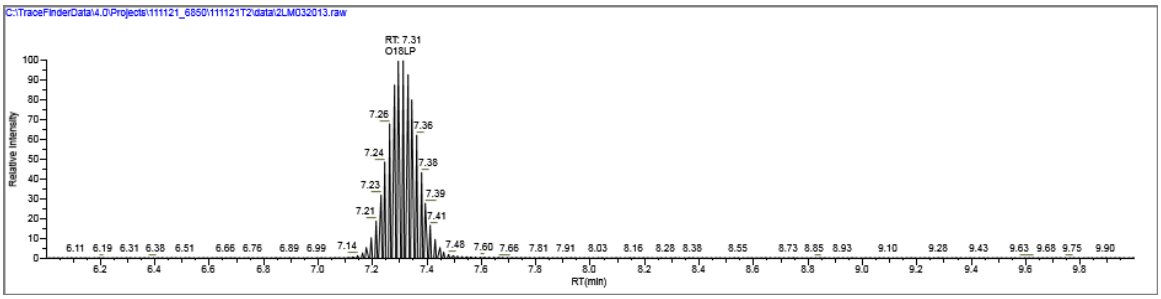
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 111121T2

Method: 111121T2_Perchlorate 6850 Perchlorate 6850
Cali File: 111121T2.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A1	S1K0152-ICB1	2LM032013	N/A	CCB	11/11/2021 10:44:28 AM	1:01



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.31	89	756431			5.000	ug/L	5.000	ug/L	

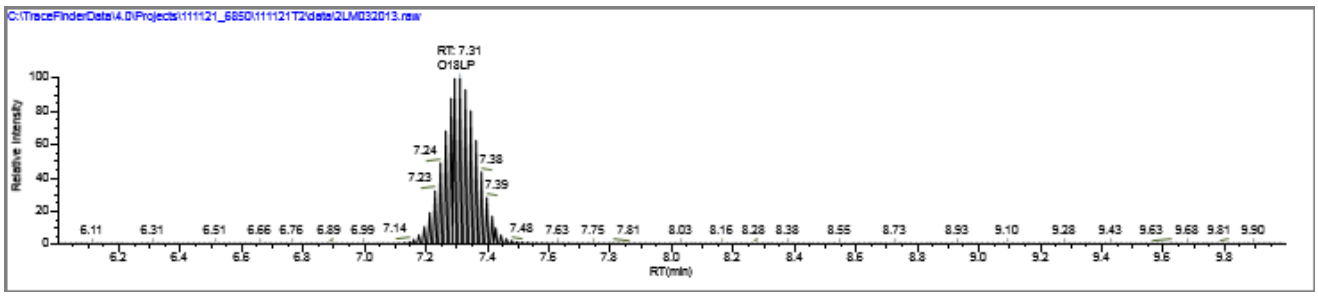
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	N/F	N/F	N/F	Linear	0.000	N/F	ug/L	N/F	ug/L	

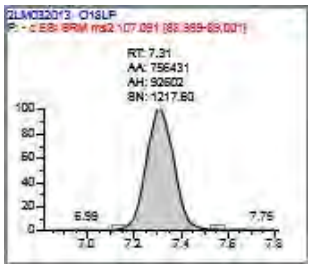
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

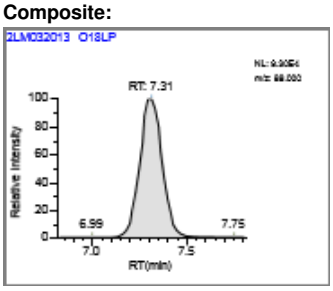
Data File:	2LM032013	Tune Report Date:	Tune report not found
Method:	111121T2_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	11/11/2021 10:44:28 AM
		Cali File Date:	11/12/2021 9:17:06 AM
Cali File:	111121T2.calx	Operator ID:	CAS
Sample ID:	S1K0152-ICB1	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:A1
Comments:	1:01		



m/z 89.000



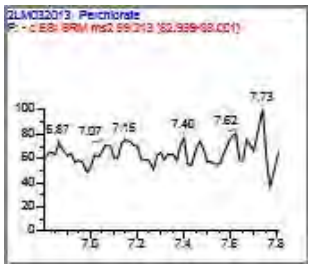
Composite:



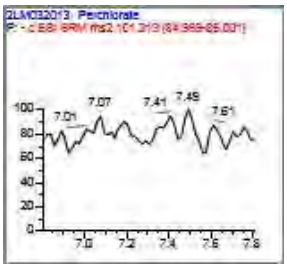
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.31	m/z 89.000	756431	5.000		N/A

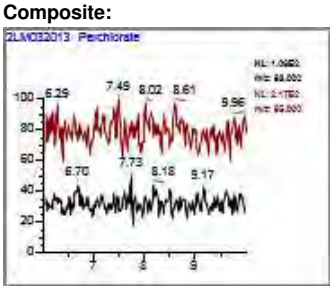
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
			Compound Not Found		
0.00	m/z 83.000 m/z 85.000		N/A		

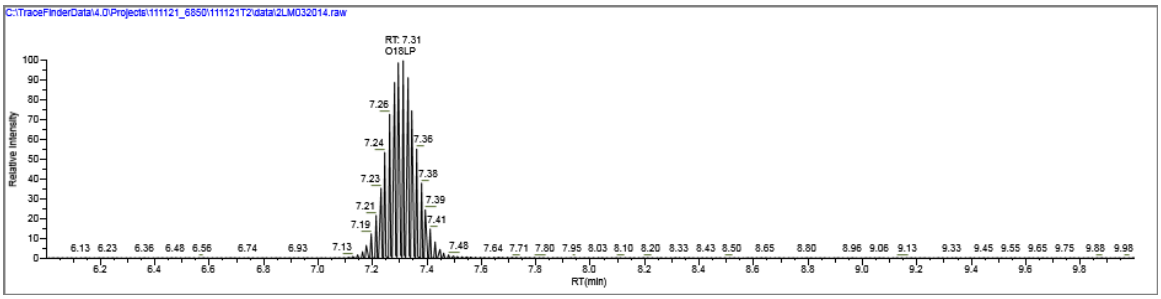
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 111121T2

Method: 111121T2_Perchlorate 6850 Perchlorate 6850
Cali File: 111121T2.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A2	S1K0152-CAL1	2LM032014	1	CAL STD 1	11/11/2021 10:57:44 AM	1:1 0012469



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.31	89	791546			5.000	ug/L	5.000	ug/L	

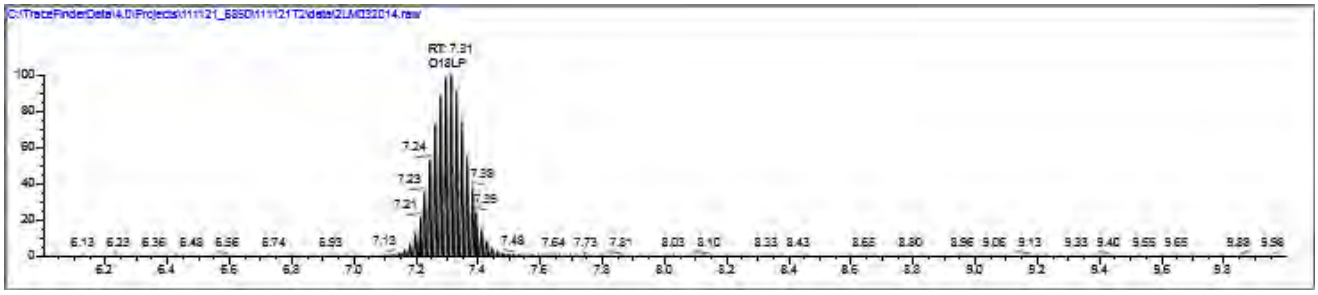
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.3	83	12980	Linear	0.016	0.089	ug/L	0.089	ug/L	

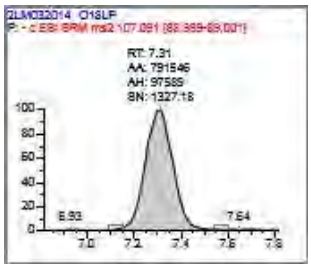
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

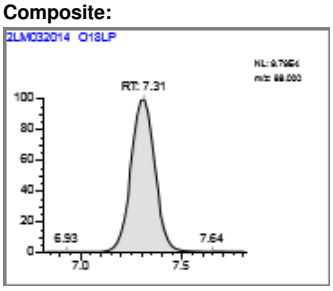
Data File:	2LM032014	Tune Report Date:	Tune report not found
Method:	111121T2_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	11/11/2021 10:57:44 AM
		Cali File Date:	11/12/2021 9:17:06 AM
Cali File:	111121T2.calx	Operator ID:	CAS
Sample ID:	S1K0152-CAL1	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:A2
Comments:	1:1 0012469		



m/z 89.000



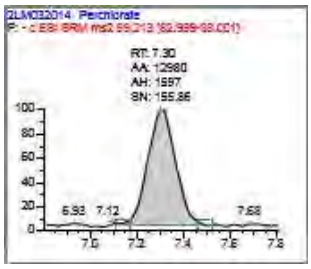
Composite:



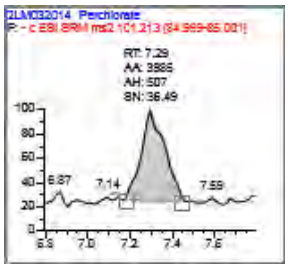
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.31	m/z 89.000	791546	5.000		N/A

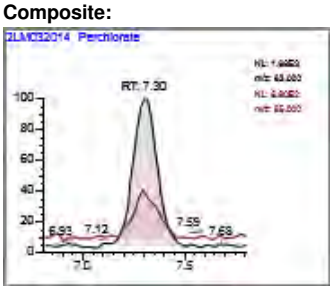
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			Cal: 0.100	0.080 - 2.100	
7.30	m/z 83.000	12980	0.089		N/A
7.29	m/z 85.000	3985		25.94 - 38.92	30.7

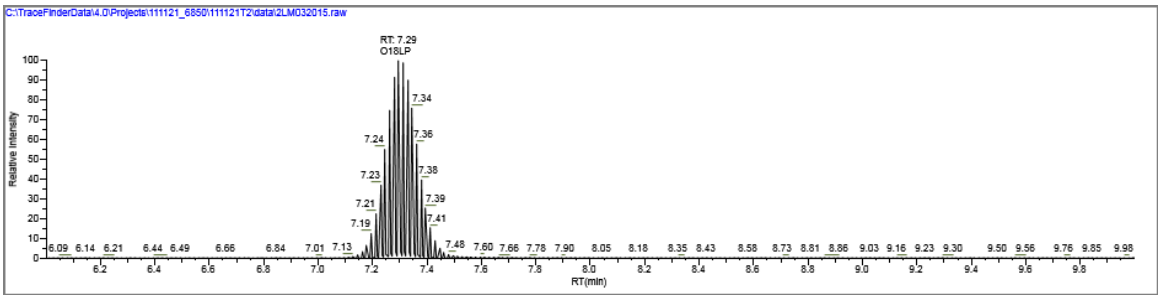
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 111121T2

Method: 111121T2_Perchlorate 6850 Perchlorate 6850
Cali File: 111121T2.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A3	S1K0152-CAL2	2LM032015	2	CAL STD 2	11/11/2021 11:10:58 AM	1:1 0012468



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.29	89	799491			5.000	ug/L	5.000	ug/L	

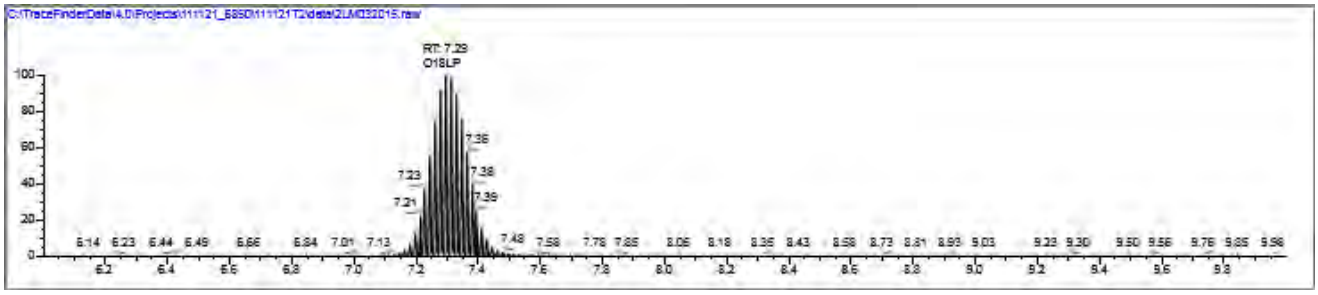
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.32	83	27990	Linear	0.035	0.192	ug/L	0.192	ug/L	

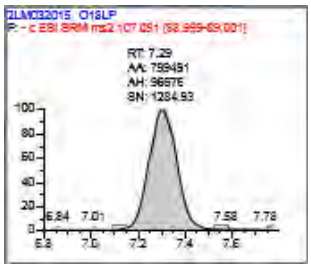
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

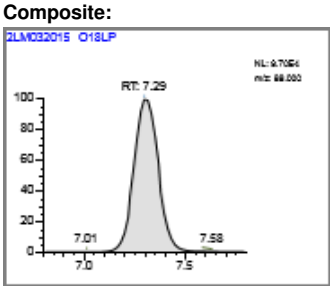
Data File:	2LM032015	Tune Report Date:	Tune report not found
Method:	111121T2_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	11/11/2021 11:10:58 AM
		Cali File Date:	11/12/2021 9:17:06 AM
Cali File:	111121T2.calx	Operator ID:	CAS
Sample ID:	S1K0152-CAL2	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:A3
Comments:	1:1 0012468		



m/z 89.000



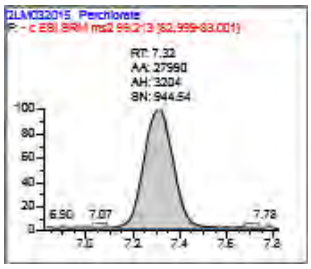
Composite:



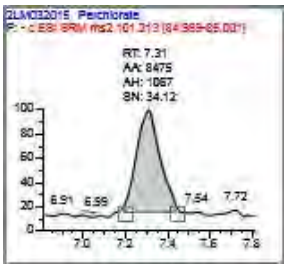
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.29	m/z 89.000	799491	5.000		N/A

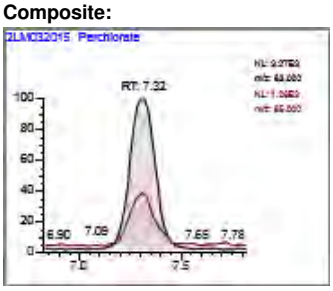
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			Cal: 0.200	0.160 - 4.200	
7.32	m/z 83.000	27990	0.192		N/A
7.31	m/z 85.000	8475		25.94 - 38.92	30.28

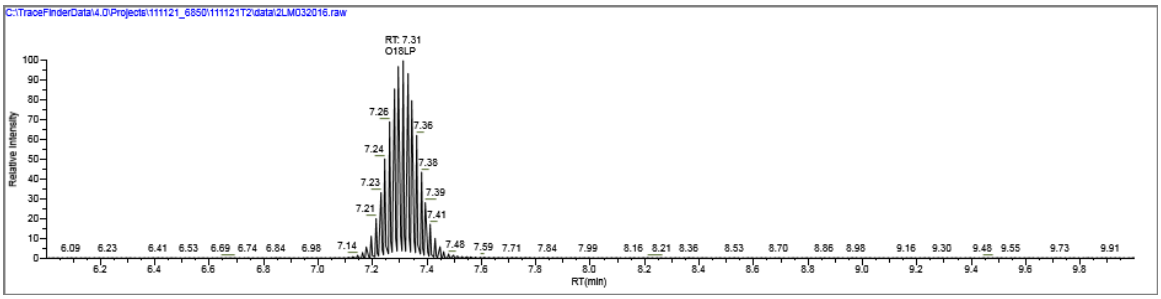
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 111121T2

Method: 111121T2_Perchlorate 6850 Perchlorate 6850
Cali File: 111121T2.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A4	S1K0152-CAL3	2LM032016	3	CAL STD 3	11/11/2021 11:24:13 AM	1:1 0012467



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.31	89	784189			5.000	ug/L	5.000	ug/L	

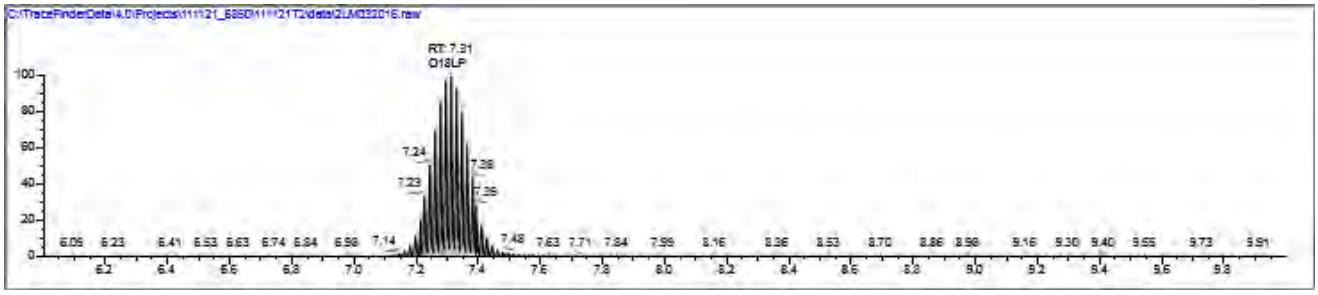
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.32	83	90519	Linear	0.115	0.639	ug/L	0.639	ug/L	

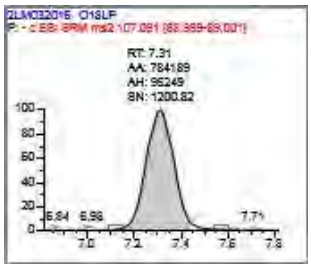
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

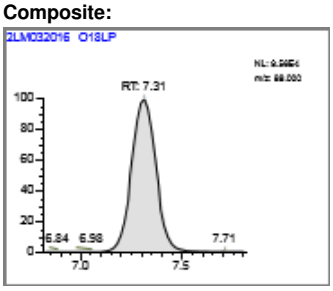
Data File:	2LM032016	Tune Report Date:	Tune report not found
Method:	111121T2_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	11/11/2021 11:24:13 AM
		Cali File Date:	11/12/2021 9:17:06 AM
Cali File:	111121T2.calx	Operator ID:	CAS
Sample ID:	S1K0152-CAL3	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:A4
Comments:	1:1 0012467		



m/z 89.000



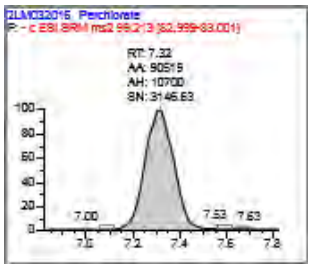
Composite:



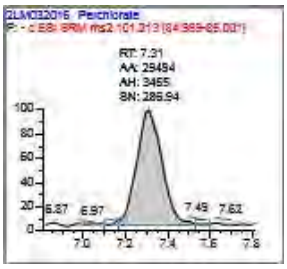
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.31	m/z 89.000	784189	5.000		N/A

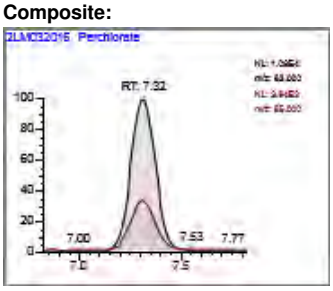
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			Cal: 0.500	0.400 - 10.500	
7.32	m/z 83.000	90519	0.639		N/A
7.31	m/z 85.000	29494		25.94 - 38.92	32.58

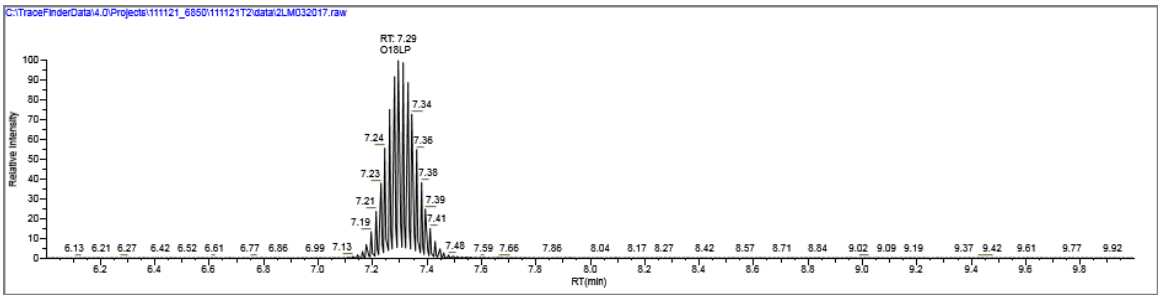
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 111121T2

Method: 111121T2_Perchlorate 6850 Perchlorate 6850
Cali File: 111121T2.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A5	S1K0152-CAL4	2LM032017	4	CAL STD 4	11/11/2021 11:37:37 AM	1:1 0012466



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.29	89	863453			5.000	ug/L	5.000	ug/L	

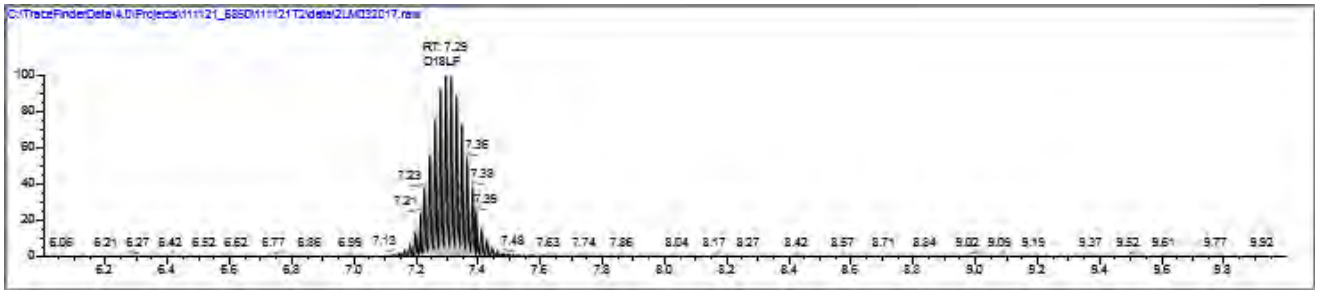
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.3	83	149029	Linear	0.173	0.956	ug/L	0.956	ug/L	

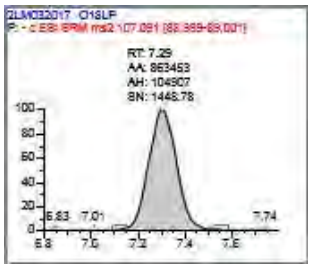
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

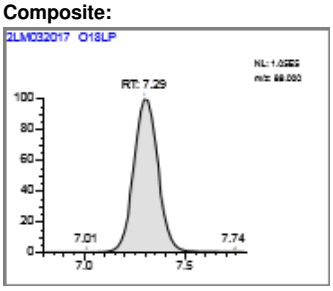
Data File:	2LM032017	Tune Report Date:	Tune report not found
Method:	111121T2_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	11/11/2021 11:37:37 AM
		Cali File Date:	11/12/2021 9:17:06 AM
Cali File:	111121T2.calx	Operator ID:	CAS
Sample ID:	S1K0152-CAL4	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:A5
Comments:	1:1 0012466		



m/z 89.000



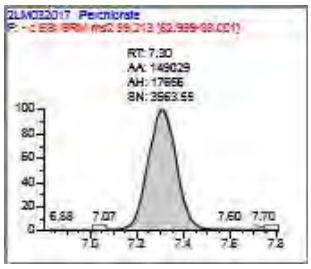
Composite:



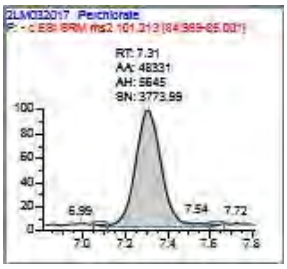
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.29	m/z 89.000	863453	5.000		N/A

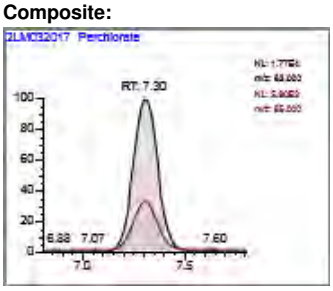
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			Cal: 1.000	0.800 - 21.000	
7.30	m/z 83.000	149029	0.956		N/A
7.31	m/z 85.000	48331		25.94 - 38.92	32.43

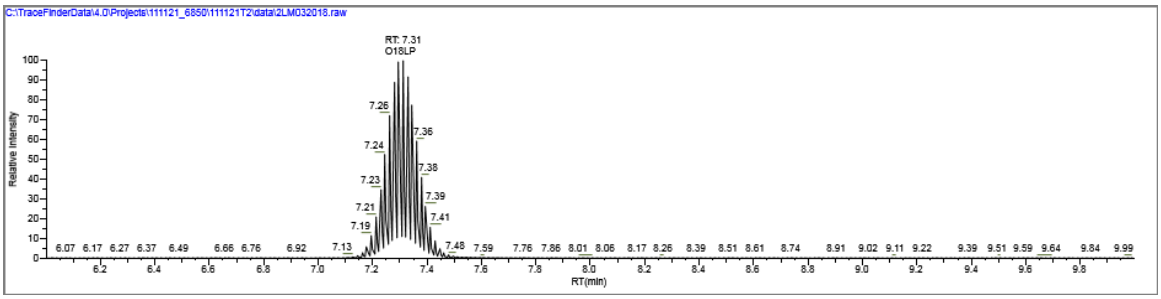
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 111121T2

Method: 111121T2_Perchlorate 6850 Perchlorate 6850
Cali File: 111121T2.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A6	S1K0152-CAL5	2LM032018	5	CAL STD 5	11/11/2021 11:50:52 AM	1:1 0012465



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.31	89	1067074			5.000	ug/L	5.000	ug/L	

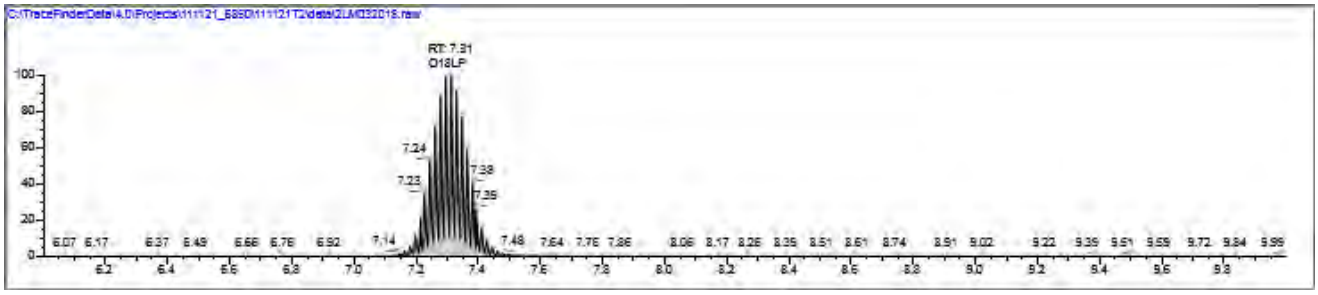
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.32	83	363941	Linear	0.341	1.892	ug/L	1.892	ug/L	

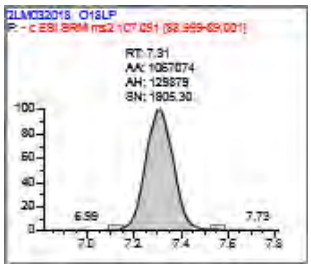
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

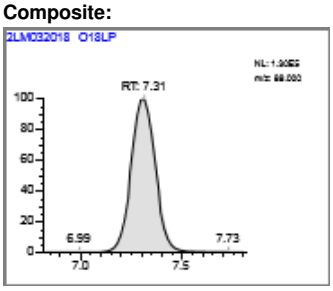
Data File:	2LM032018	Tune Report Date:	Tune report not found
Method:	111121T2_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	11/11/2021 11:50:52 AM
		Cali File Date:	11/12/2021 9:17:06 AM
Cali File:	111121T2.calx	Operator ID:	CAS
Sample ID:	S1K0152-CAL5	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:A6
Comments:	1:1 0012465		



m/z 89.000



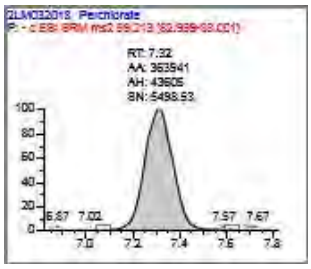
Composite:



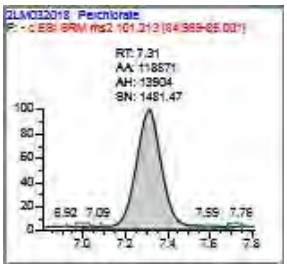
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.31	m/z 89.000	1067074	5.000		N/A

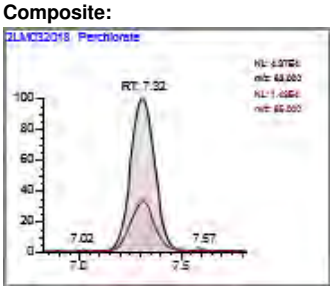
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			Cal: 2.000	1.600 - 42.000	
7.32	m/z 83.000	363941	1.892		N/A
7.31	m/z 85.000	118871		25.94 - 38.92	32.66

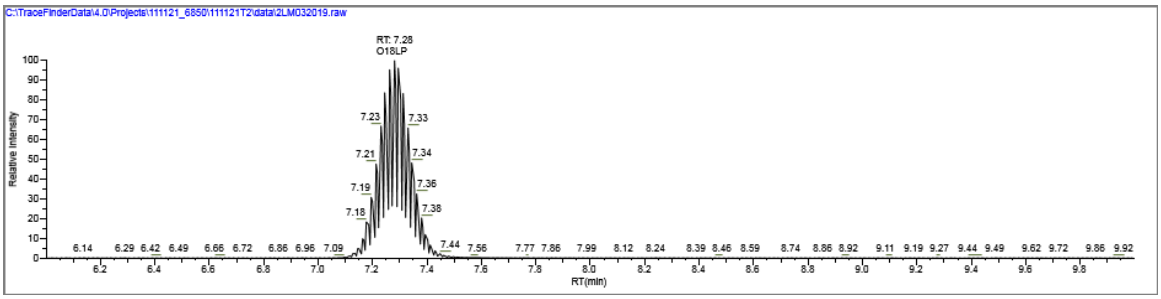
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 111121T2

Method: 111121T2_Perchlorate 6850 Perchlorate 6850
Cali File: 111121T2.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A7	S1K0152-CAL6	2LM032019	6	CAL STD 6	11/11/2021 12:04:07 PM	1:1 0012464



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.28	89	1079607			5.000	ug/L	5.000	ug/L	

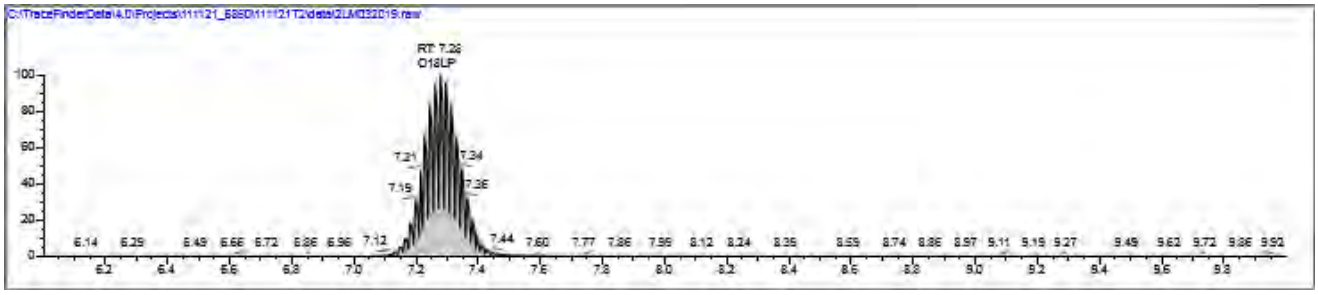
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.28	83	919699	Linear	0.852	4.729	ug/L	4.729	ug/L	

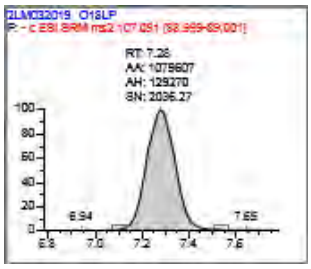
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

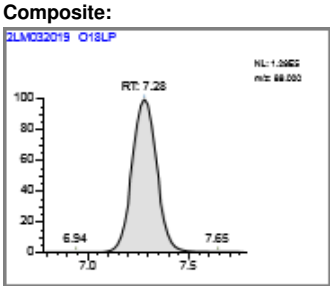
Data File:	2LM032019	Tune Report Date:	Tune report not found
Method:	111121T2_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	11/11/2021 12:04:07 PM
		Cali File Date:	11/12/2021 9:17:06 AM
Cali File:	111121T2.calx	Operator ID:	CAS
Sample ID:	S1K0152-CAL6	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:A7
Comments:	1:1 0012464		



m/z 89.000



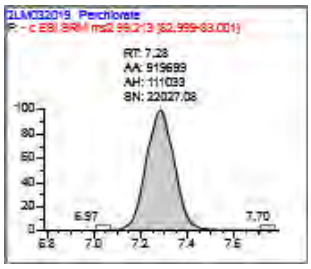
Composite:



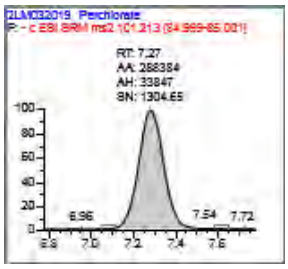
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.28	m/z 89.000	1079607	5.000		N/A

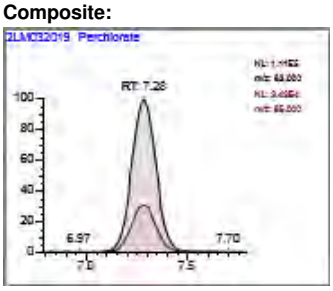
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			Cal: 5.000	4.000 - 105.000	
7.28	m/z 83.000	919699	4.729		N/A
7.27	m/z 85.000	288384		25.94 - 38.92	31.36

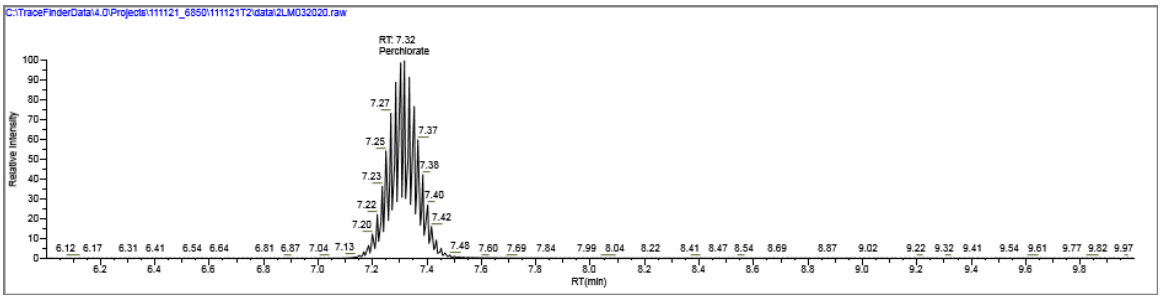
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 111121T2

Method: 111121T2_Perchlorate 6850
Perchlorate 6850
Cali File: 111121T2.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A8	S1K0152-CAL7	2LM032020	7	CAL STD 7	11/11/2021 12:17:22 PM	1:1 0012463



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.31	89	976195			5.000	ug/L	5.000	ug/L	

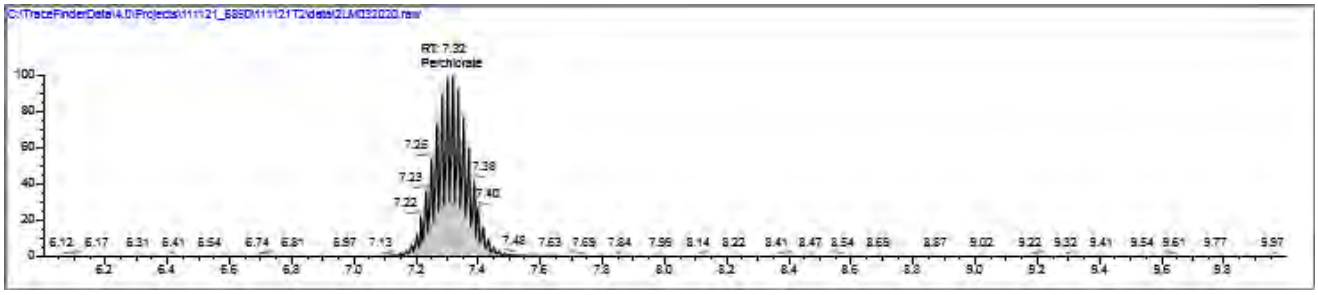
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.32	83	1811581	Linear	1.856	10.304	ug/L	10.304	ug/L	

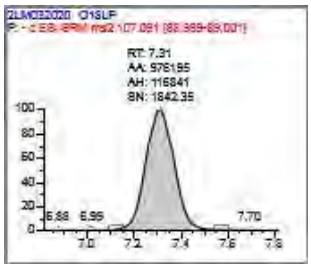
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

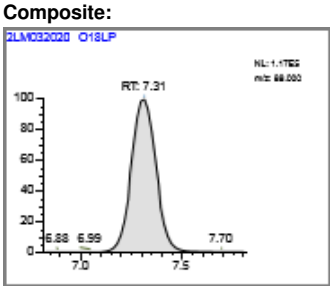
Data File:	2LM032020	Tune Report Date:	Tune report not found
Method:	111121T2_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	11/11/2021 12:17:22 PM
		Cali File Date:	11/12/2021 9:17:06 AM
Cali File:	111121T2.calx	Operator ID:	CAS
Sample ID:	S1K0152-CAL7	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:A8
Comments:	1:1 0012463		



m/z 89.000



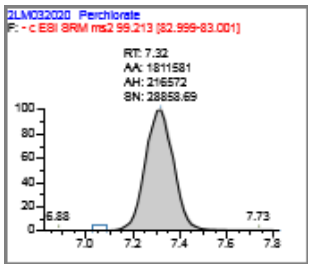
Composite:



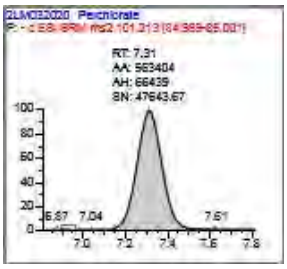
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.31	m/z 89.000	976195	5.000		N/A

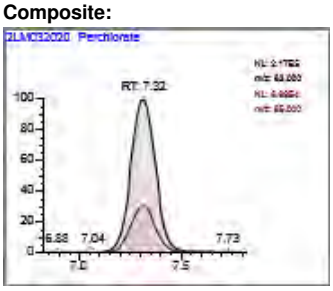
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			Cal: 10.000	8.000 - 210.000	
7.32	m/z 83.000	1811581	10.304		N/A
7.31	m/z 85.000	563404		25.94 - 38.92	31.1

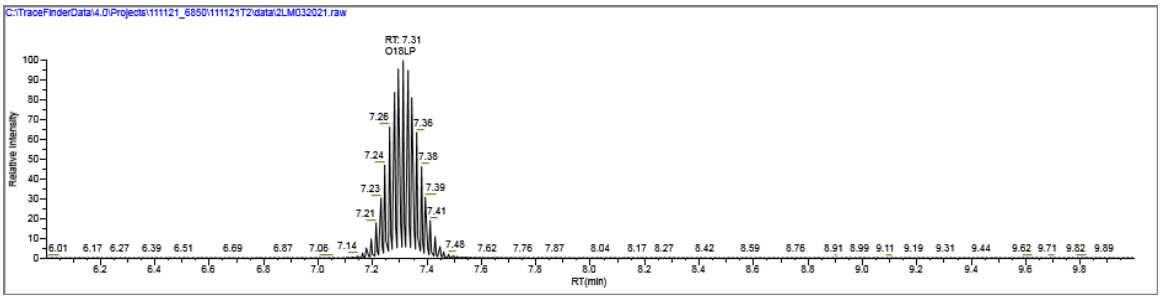
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 111121T2

Method: 111121T2_Perchlorate 6850 Perchlorate 6850
Cali File: 111121T2.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A9	S1K0152-ICV1	2LM032021	ICV	ICV	11/11/2021 12:30:37 PM	1:1 0012475



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.31	89	994748			5.000	ug/L	5.000	ug/L	

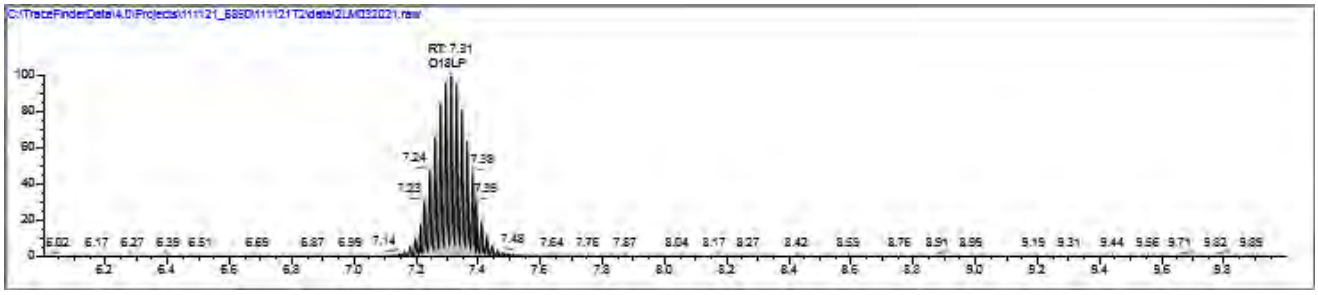
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.32	83	175186	Linear	0.176	0.976	ug/L	0.976	ug/L	

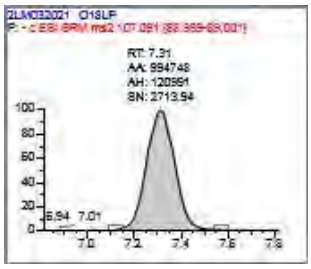
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

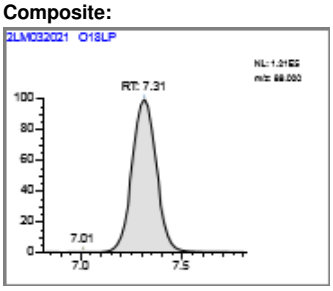
Data File:	2LM032021	Tune Report Date:	Tune report not found
Method:	111121T2_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	11/11/2021 12:30:37 PM
		Cali File Date:	11/12/2021 9:17:06 AM
Cali File:	111121T2.calx	Operator ID:	CAS
Sample ID:	S1K0152-ICV1	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:A9
Comments:	1:1 0012475		



m/z 89.000



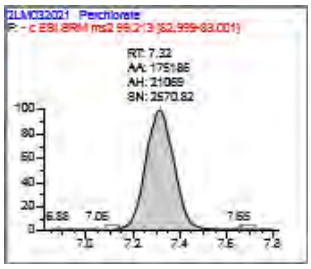
Composite:



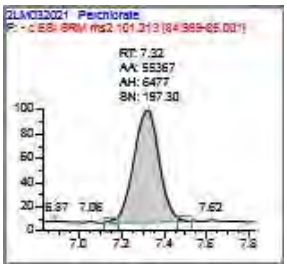
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.31	m/z 89.000	994748	5.000		N/A

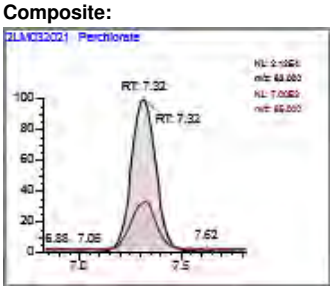
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			QC: 1.000	0.850 - 1.150	
7.32	m/z 83.000	175186	0.976		N/A
7.32	m/z 85.000	55367		25.94 - 38.92	31.61

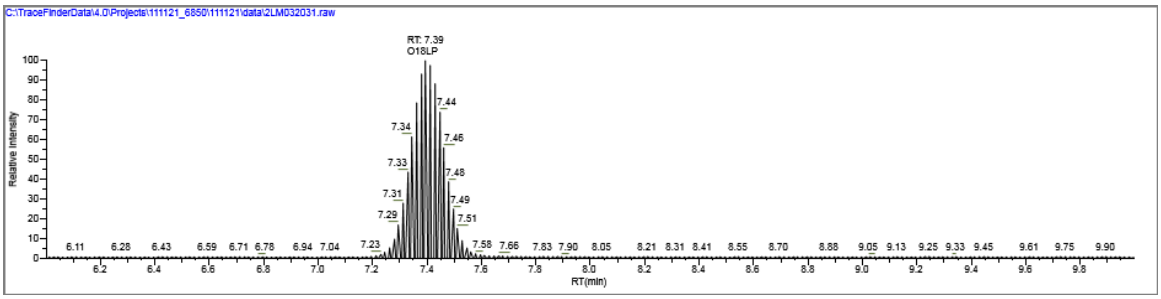
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 111121

Method: 111121_Perchlorate 6850 Perchlorate 6850
Cali File: 111121T2_111121.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A1	S1K0152-CCB1	2LM032031	N/A	CCB	11/11/2021 3:42:09 PM	1:01



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.39	89	465704			5.000	ug/L	5.000	ug/L	

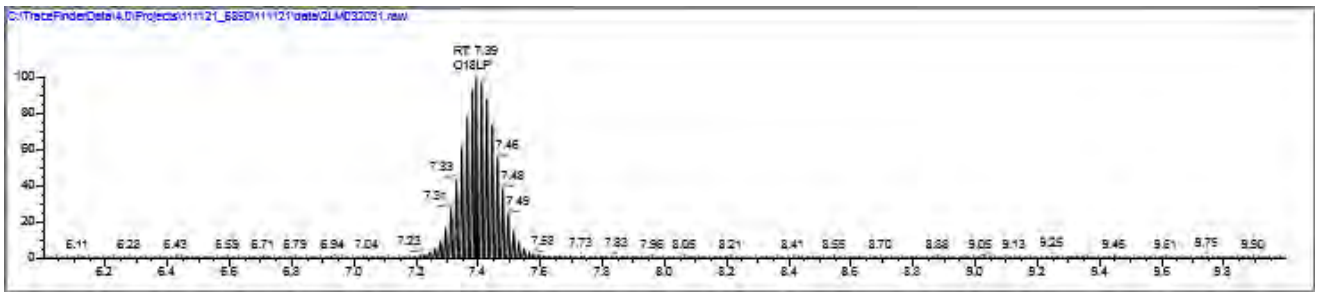
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	N/F	N/F	N/F	Linear	0.000	N/F	ug/L	N/F	ug/L	

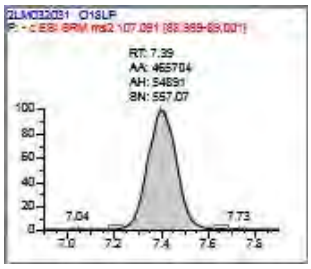
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

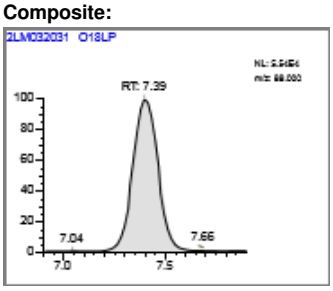
Data File:	2LM032031	Tune Report Date:	Tune report not found
Method:	111121_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	11/11/2021 3:42:09 PM
		Cali File Date:	11/12/2021 9:17:06 AM
Cali File:	111121T2_111121.calx	Operator ID:	CAS
Sample ID:	S1K0152-CCB1	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:A1
Comments:	1:01		



m/z 89.000



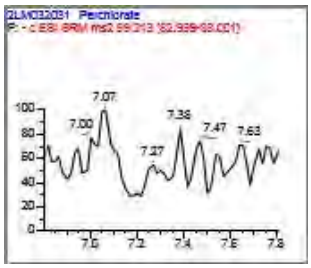
Composite:



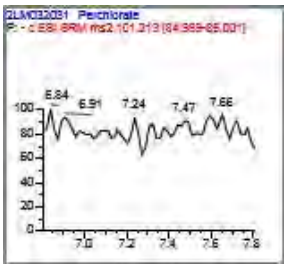
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.39	m/z 89.000	465704	5.000		N/A

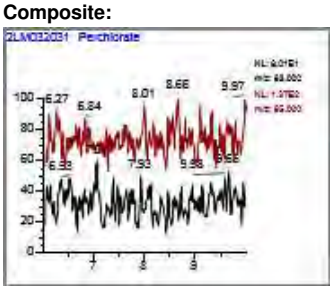
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
			Compound Not Found		
0.00	m/z 83.000		N/A		
	m/z 85.000				

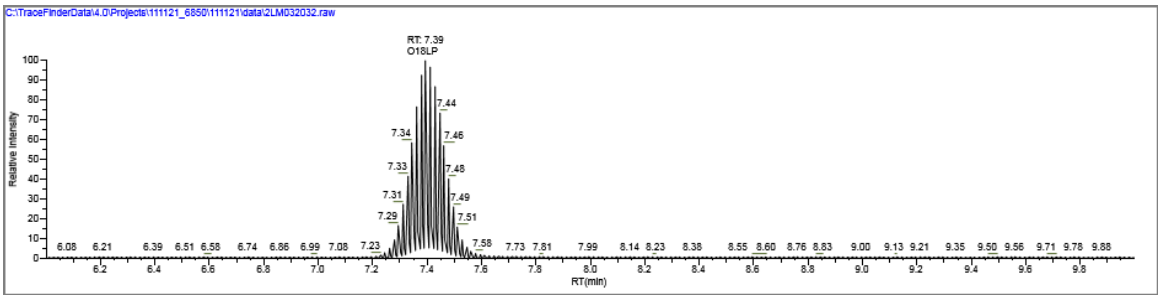
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 111121

Method: 111121_Perchlorate 6850 Perchlorate 6850
Cali File: 111121T2_111121.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A5	S1K0152-CCV1	2LM032032	CCV	CCV 1.0 ug/L	11/11/2021 3:55:24 PM	1:1 1007581



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.39	89	493764			5.000	ug/L	5.000	ug/L	

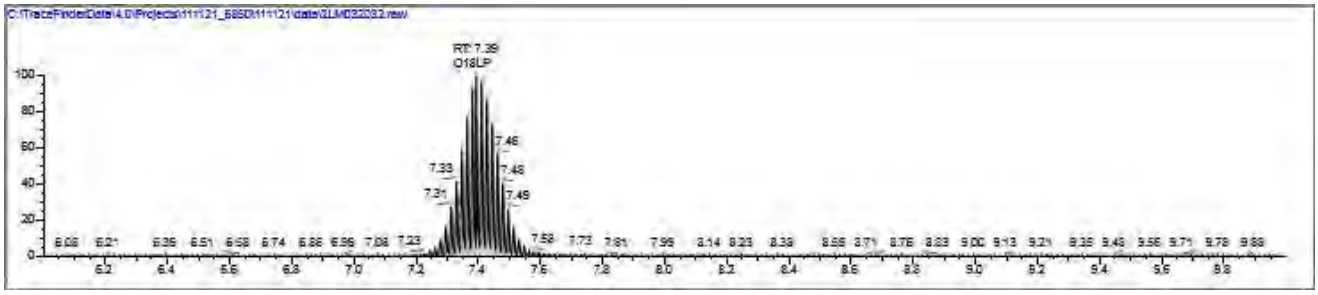
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.4	83	85080	Linear	0.172	0.954	ug/L	0.954	ug/L	

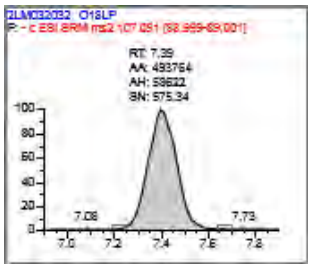
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

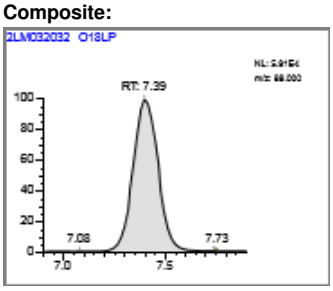
Data File:	2LM032032	Tune Report Date:	Tune report not found
Method:	111121_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	11/11/2021 3:55:24 PM
		Cali File Date:	11/12/2021 9:17:06 AM
Cali File:	111121T2_111121.calx	Operator ID:	CAS
Sample ID:	S1K0152-CCV1	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:A5
Comments:	1:1 1007581		



m/z 89.000



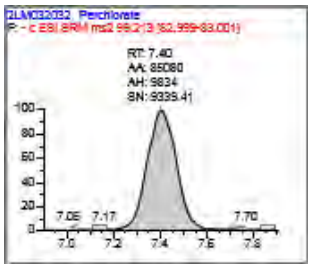
Composite:



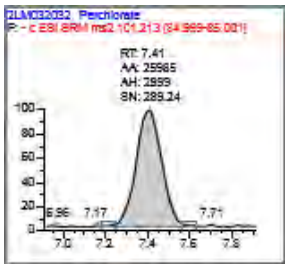
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.39	m/z 89.000	493764	5.000		N/A

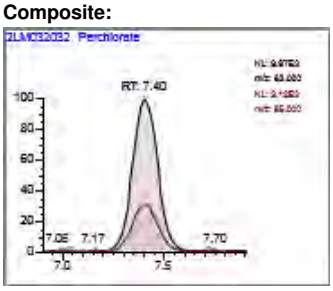
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			QC: 1.000	0.850 - 1.150	
7.40	m/z 83.000	85080	0.954		N/A
7.41	m/z 85.000	25985		25.94 - 38.92	30.54

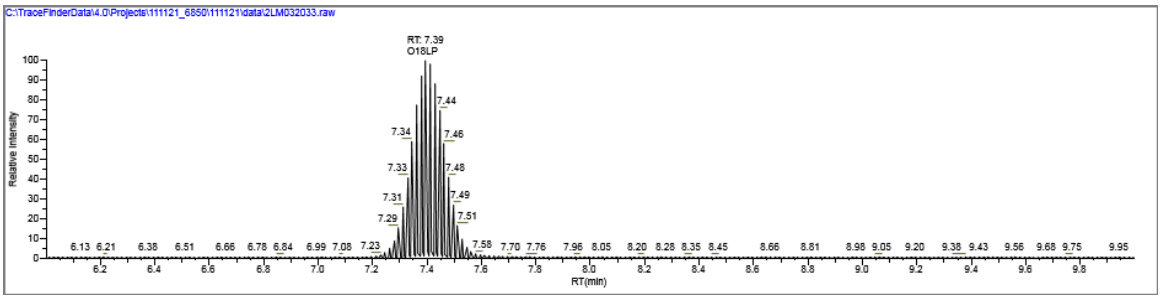
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 111121

Method: 111121_Perchlorate 6850
Perchlorate 6850
Cali File: 111121T2_111121.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A3	S1K0152-CRL1	2LM032033	QCMRL	QCMRL 0.2 ug/L	11/11/2021 4:08:39 PM	1:1 1007583



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.39	89	495263			5.000	ug/L	5.000	ug/L	

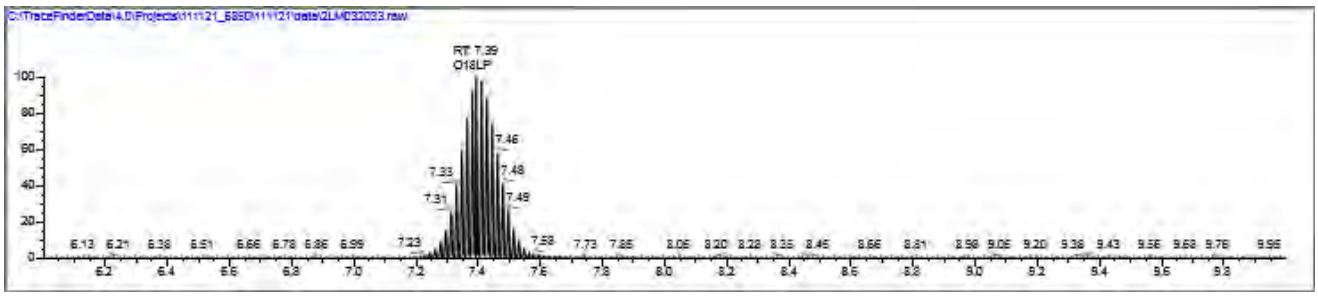
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.4	83	17214	Linear	0.035	0.19	ug/L	0.19	ug/L	

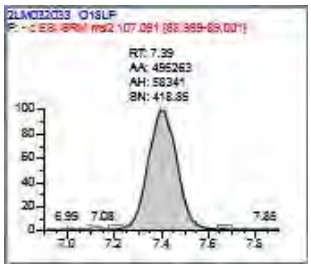
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

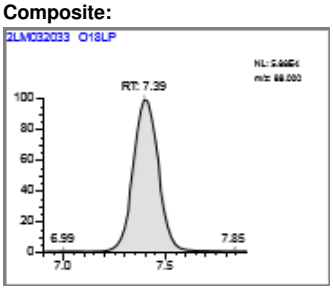
Data File:	2LM032033	Tune Report Date:	Tune report not found
Method:	111121_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	11/11/2021 4:08:39 PM
		Cali File Date:	11/12/2021 9:17:06 AM
Cali File:	111121T2_111121.calx	Operator ID:	CAS
Sample ID:	S1K0152-CRL1	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:A3
Comments:	1:1 1007583		



m/z 89.000



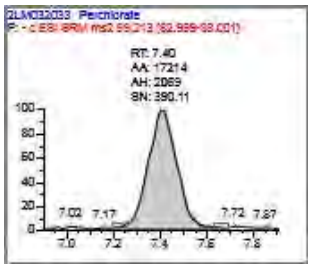
Composite:



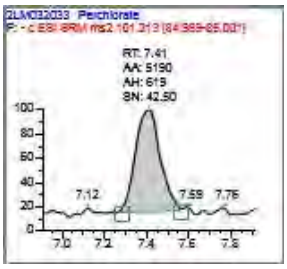
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.39	m/z 89.000	495263	5.000		N/A

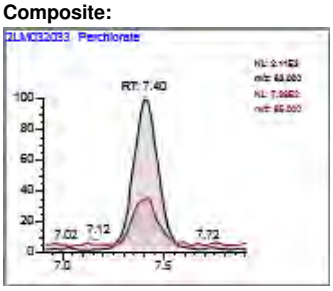
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			QC: 0.200	0.140 - 0.260	
7.40	m/z 83.000	17214	0.190		N/A
7.41	m/z 85.000	5190		25.94 - 38.92	30.15

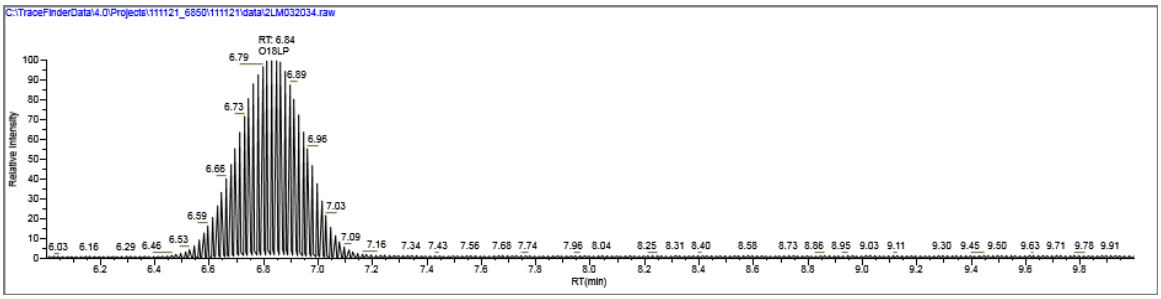
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 111121

Method: 111121_Perchlorate 6850
Perchlorate 6850
Cali File: 111121T2_111121.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:B1	S1K0152-IFA1	2LM032034	N/A	MCT 0.2 ug/L	11/11/2021 4:21:54 PM	1:1 1006967



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	6.84	89	597044			5.000	ug/L	5.000	ug/L	

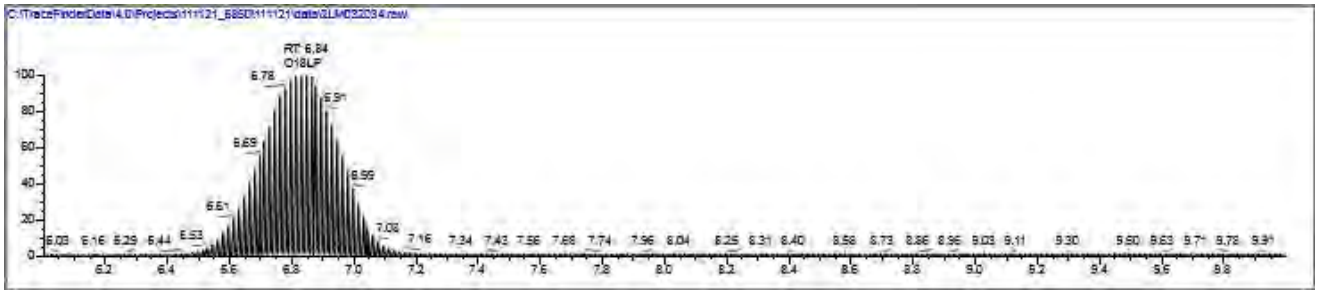
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	6.85	83	25324	Linear	0.042	0.233	ug/L	0.233	ug/L	

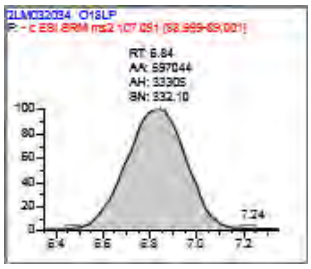
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

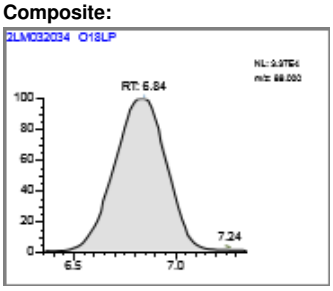
Data File:	2LM032034	Tune Report Date:	Tune report not found
Method:	111121_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	11/11/2021 4:21:54 PM
		Cali File Date:	11/12/2021 9:17:06 AM
Cali File:	111121T2_111121.calx	Operator ID:	CAS
Sample ID:	S1K0152-IFA1	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:B1
Comments:	1:1 1006967		



m/z 89.000



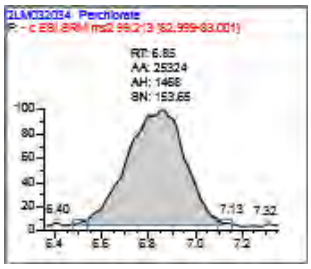
Composite:



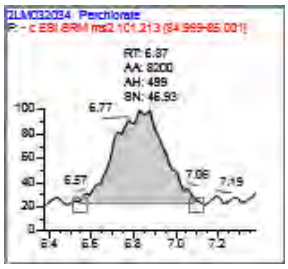
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
6.84	m/z 89.000	597044	5.000		N/A

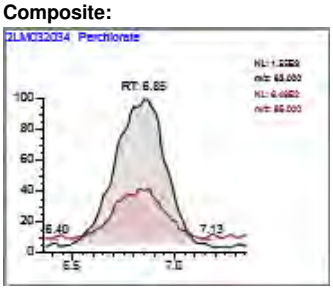
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
6.85	m/z 83.000	25324	0.233		N/A
6.87	m/z 85.000	8200		25.94 - 38.92	32.38

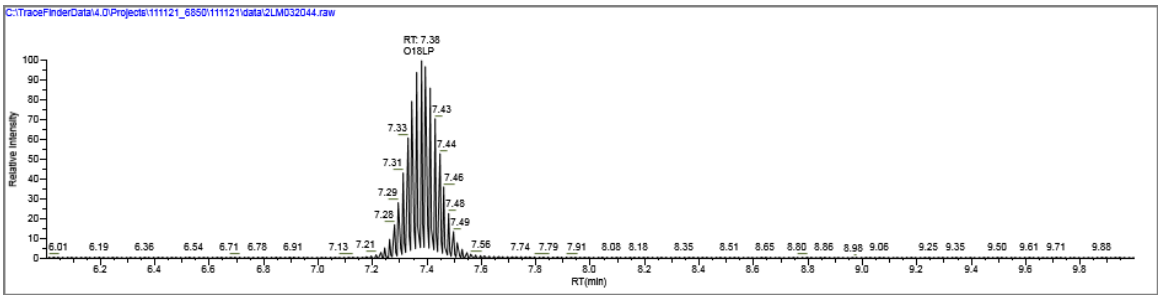
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 111121

Method: 111121_Perchlorate 6850 Perchlorate 6850
Cali File: 111121T2_111121.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A5	S1K0152-CCV2	2LM032044	CCV	CCV 1.0 ug/L	11/11/2021 6:34:23 PM	1:1 1007581



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.38	89	792135			5.000	ug/L	5.000	ug/L	

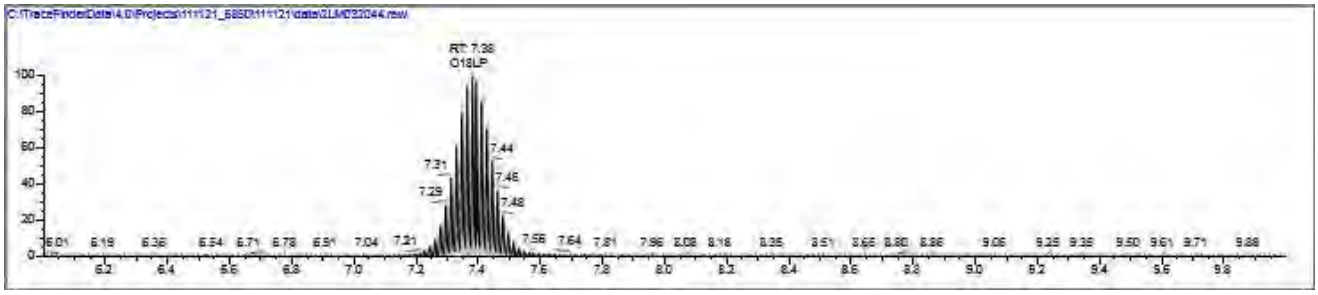
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.38	83	133144	Linear	0.168	0.931	ug/L	0.931	ug/L	

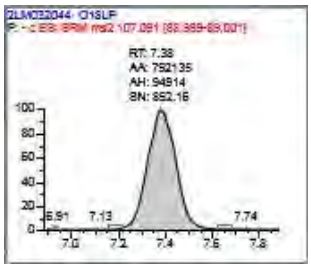
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

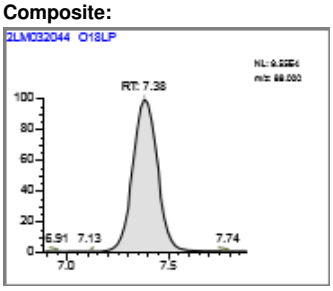
Data File:	2LM032044	Tune Report Date:	Tune report not found
Method:	111121_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	11/11/2021 6:34:23 PM
		Cali File Date:	11/12/2021 9:17:06 AM
Cali File:	111121T2_111121.calx	Operator ID:	CAS
Sample ID:	S1K0152-CCV2	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:A5
Comments:	1:1 1007581		



m/z 89.000



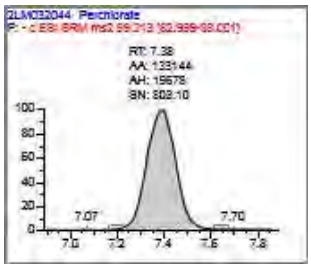
Composite:



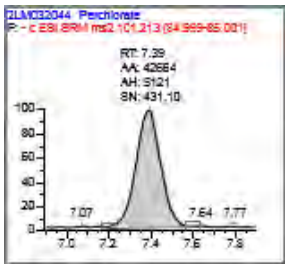
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.38	m/z 89.000	792135	5.000		N/A

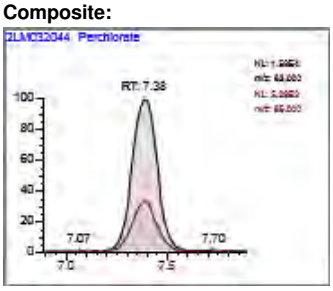
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			QC: 1.000	0.850 - 1.150	
7.38	m/z 83.000	133144	0.931		N/A
7.39	m/z 85.000	42664		25.94 - 38.92	32.04

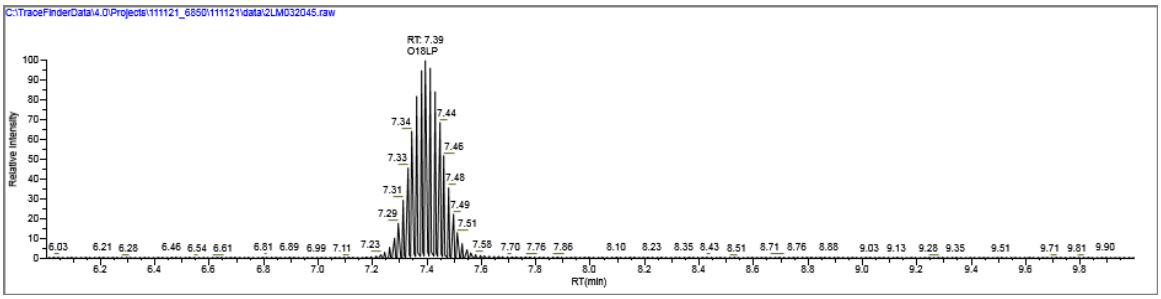
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 111121

Method: 111121_Perchlorate 6850 Perchlorate 6850
Cali File: 111121T2_111121.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A3	S1K0152-CRL2	2LM032045	QCMRL	QCMRL 0.2 ug/L	11/11/2021 6:47:38 PM	1:1 1007583



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.39	89	747862			5.000	ug/L	5.000	ug/L	

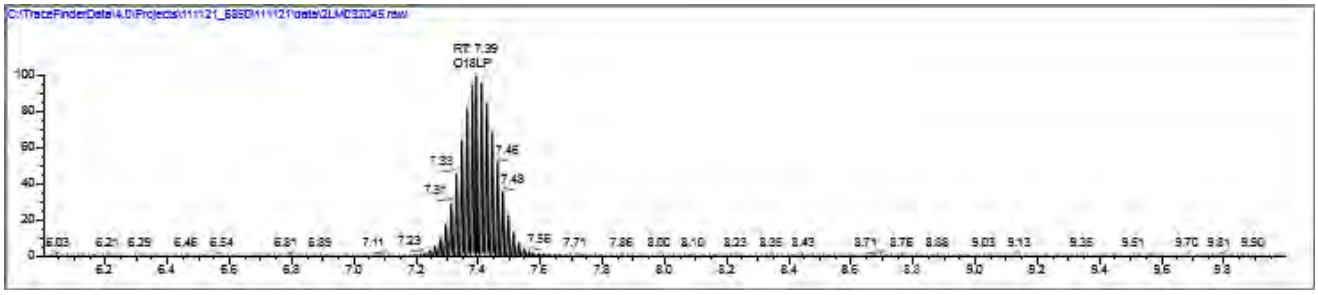
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.4	83	24483	Linear	0.033	0.179	ug/L	0.179	ug/L	

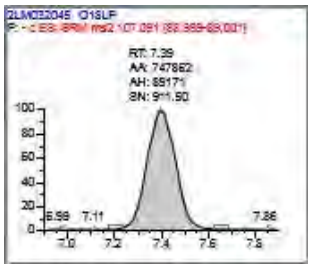
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

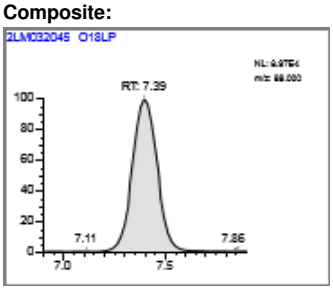
Data File:	2LM032045	Tune Report Date:	Tune report not found
Method:	111121_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	11/11/2021 6:47:38 PM
		Cali File Date:	11/12/2021 9:17:06 AM
Cali File:	111121T2_111121.calx	Operator ID:	CAS
Sample ID:	S1K0152-CRL2	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:A3
Comments:	1:1 1007583		



m/z 89.000



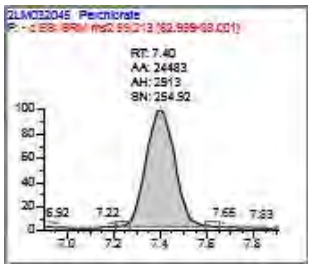
Composite:



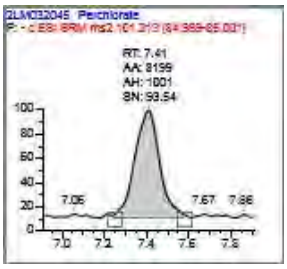
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.39	m/z 89.000	747862	5.000		N/A

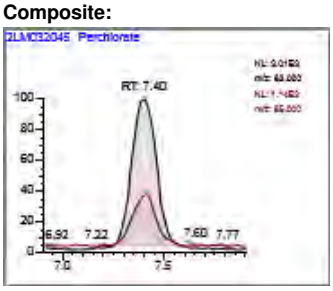
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			QC: 0.200	0.140 - 0.260	
7.40	m/z 83.000	24483	0.179		N/A
7.41	m/z 85.000	8199		25.94 - 38.92	33.49

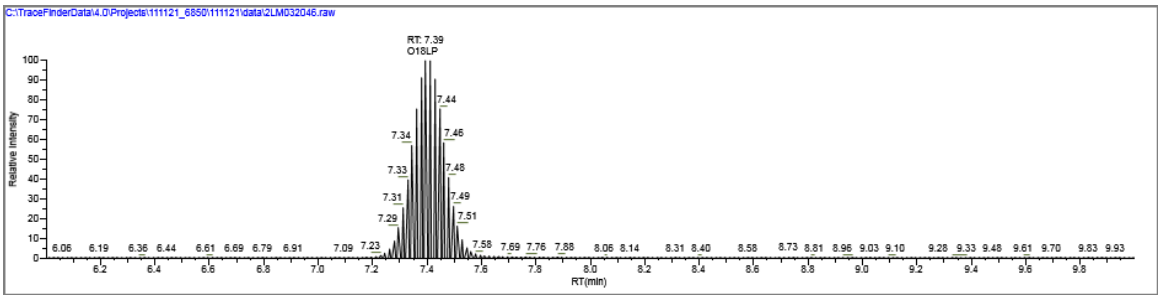
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 111121

Method: 111121_Perchlorate 6850
Perchlorate 6850
Cali File: 111121T2_111121.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A1	S1K0152-CCB2	2LM032046	N/A	CCB	11/11/2021 7:00:53 PM	1:01



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.39	89	747106			5.000	ug/L	5.000	ug/L	

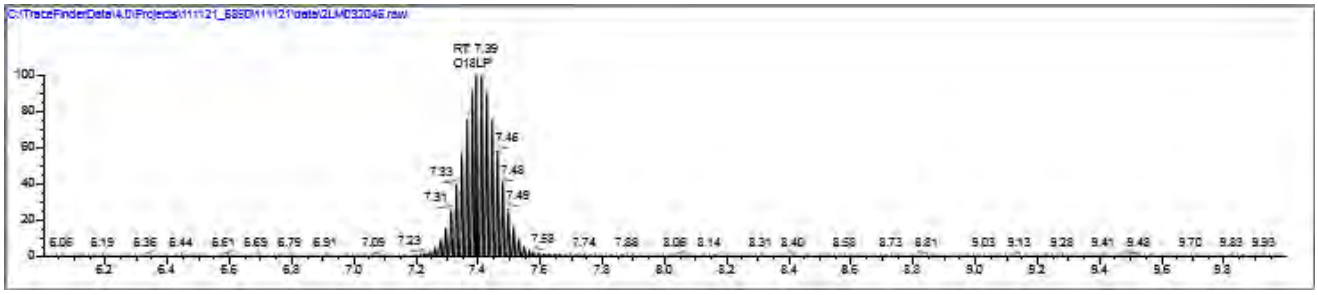
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	N/F	N/F	N/F	Linear	0.000	N/F	ug/L	N/F	ug/L	

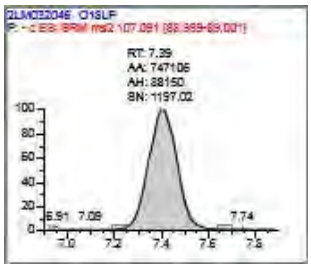
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

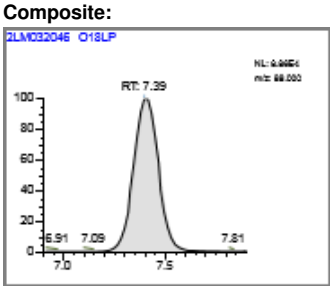
Data File:	2LM032046	Tune Report Date:	Tune report not found
Method:	111121_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	11/11/2021 7:00:53 PM
		Cali File Date:	11/12/2021 9:17:06 AM
Cali File:	111121T2_111121.calx	Operator ID:	CAS
Sample ID:	S1K0152-CCB2	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:A1
Comments:	1:01		



m/z 89.000



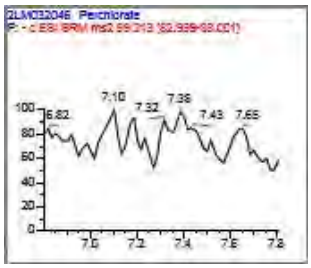
Composite:



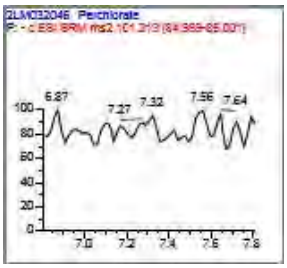
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.39	m/z 89.000	747106	5.000		N/A

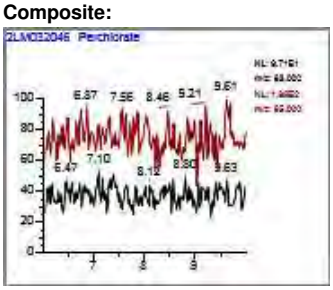
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
			Compound Not Found		
0.00	m/z 83.000 m/z 85.000		N/A		

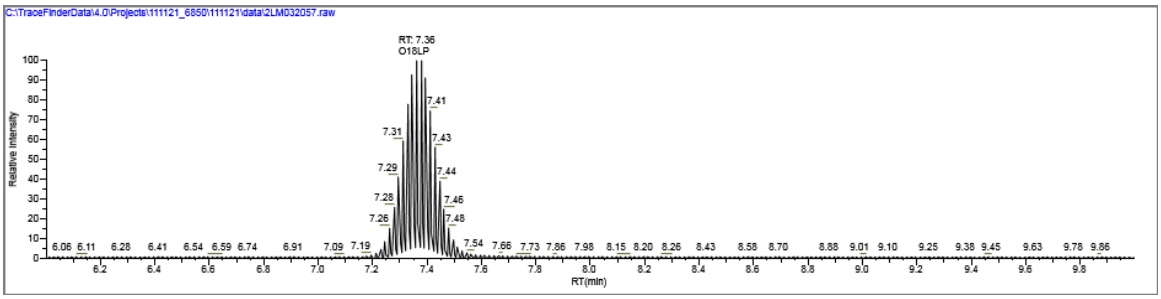
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 111121

Method: 111121_Perchlorate 6850
Perchlorate 6850
Cali File: 111121T2_111121.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A5	S1K0152-CCV3	2LM032057	CCV	CCV 1.0 ug/L	11/11/2021 9:26:37 PM	1:1 1007581



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.36	89	726914			5.000	ug/L	5.000	ug/L	

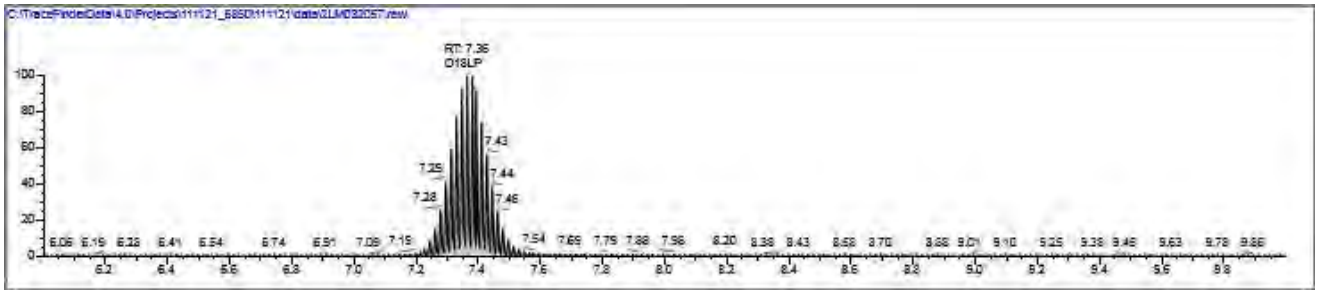
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.37	83	123269	Linear	0.170	0.939	ug/L	0.939	ug/L	

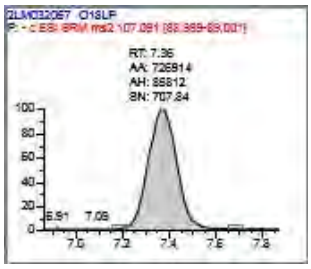
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

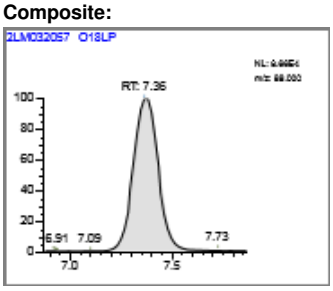
Data File:	2LM032057	Tune Report Date:	Tune report not found
Method:	111121_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	11/11/2021 9:26:37 PM
		Cali File Date:	11/12/2021 9:17:06 AM
Cali File:	111121T2_111121.calx	Operator ID:	CAS
Sample ID:	S1K0152-CCV3	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:A5
Comments:	1:1 1007581		



m/z 89.000



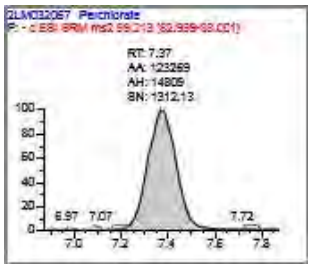
Composite:



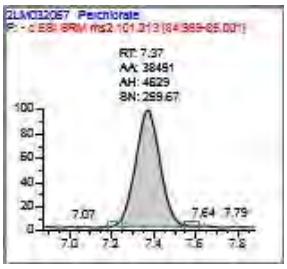
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.36	m/z 89.000	726914	5.000		N/A

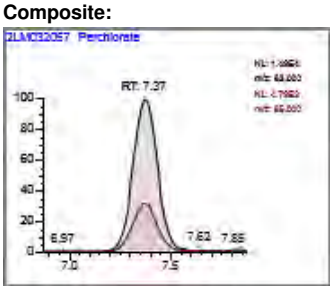
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			QC: 1.000	0.850 - 1.150	
7.37	m/z 83.000	123269	0.939		N/A
7.37	m/z 85.000	38491		25.94 - 38.92	31.23

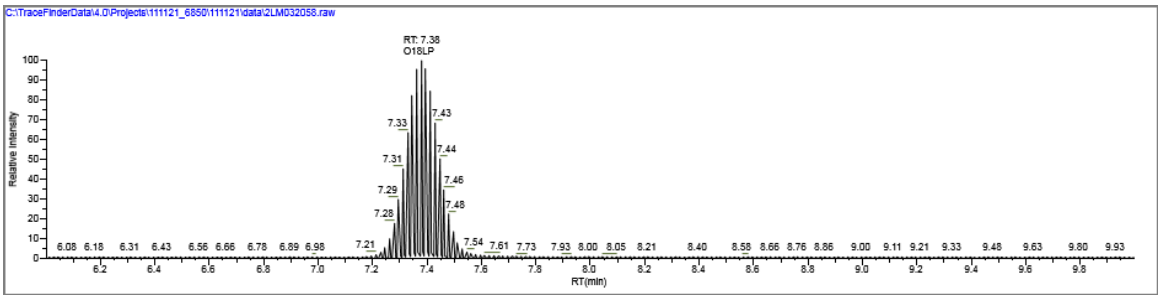
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 111121

Method: 111121_Perchlorate 6850 Perchlorate 6850
Cali File: 111121T2_111121.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A3	S1K0152-CRL3	2LM032058	QCMRL	QCMRL 0.2 ug/L	11/11/2021 9:39:52 PM	1:1 1007583



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.38	89	669914			5.000	ug/L	5.000	ug/L	

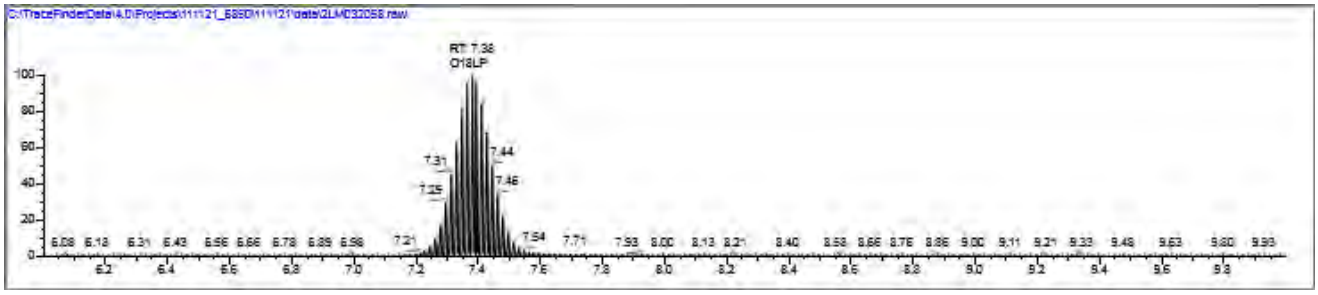
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.38	83	22696	Linear	0.034	0.186	ug/L	0.186	ug/L	

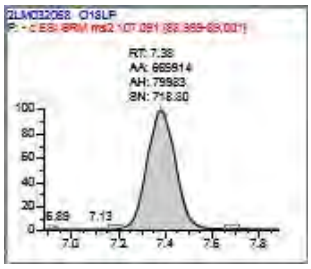
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

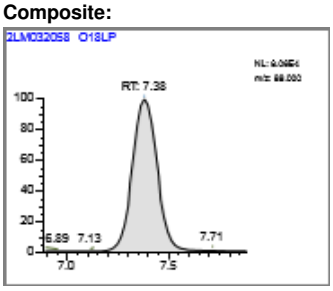
Data File:	2LM032058	Tune Report Date:	Tune report not found
Method:	111121_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	11/11/2021 9:39:52 PM
		Cali File Date:	11/12/2021 9:17:06 AM
Cali File:	111121T2_111121.calx	Operator ID:	CAS
Sample ID:	S1K0152-CRL3	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:A3
Comments:	1:1 1007583		



m/z 89.000



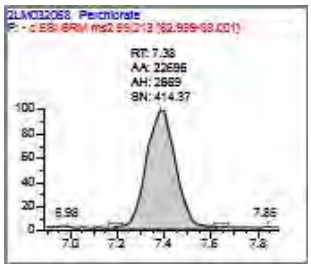
Composite:



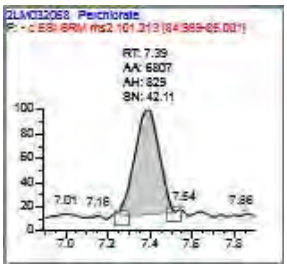
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.38	m/z 89.000	669914	5.000		N/A

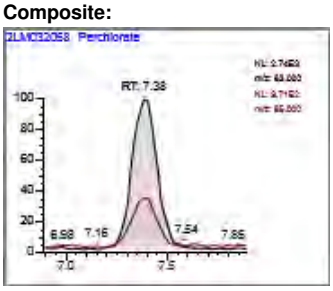
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			QC: 0.200	0.140 - 0.260	
7.38	m/z 83.000	22696	0.186		N/A
7.39	m/z 85.000	6807		25.94 - 38.92	29.99

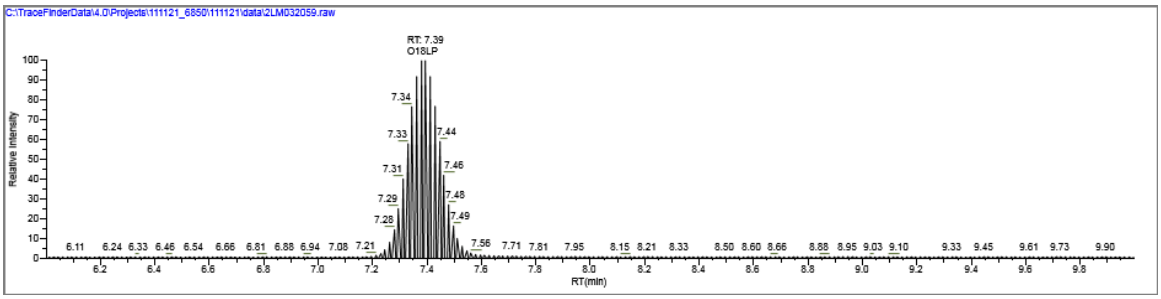
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 111121

Method: 111121_Perchlorate 6850
Perchlorate 6850
Cali File: 111121T2_111121.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A1	S1K0152-CCB3	2LM032059	N/A	CCB	11/11/2021 9:53:06 PM	1:01



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.39	89	610179			5.000	ug/L	5.000	ug/L	

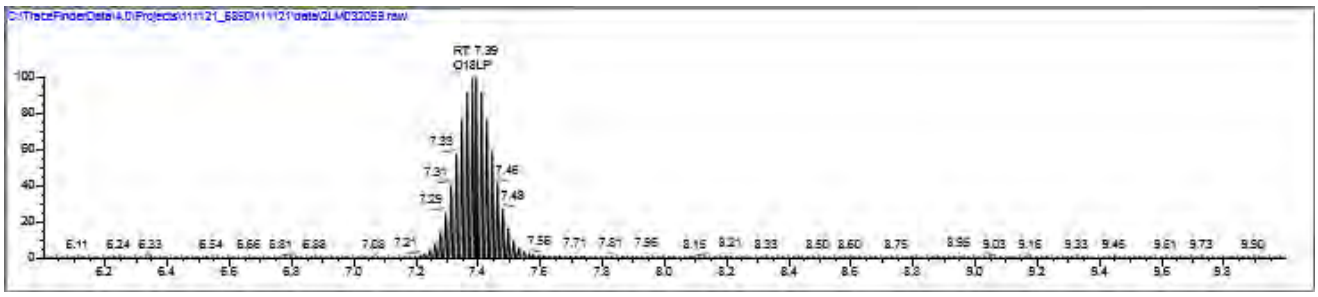
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	N/F	N/F	N/F	Linear	0.000	N/F	ug/L	N/F	ug/L	

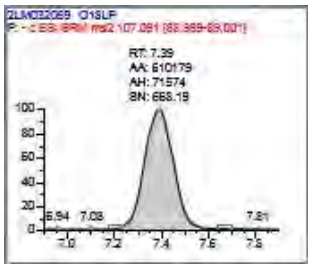
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

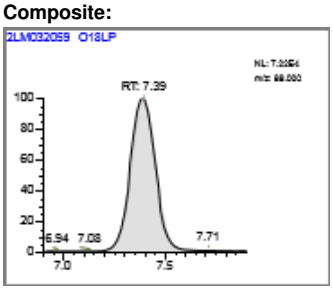
Data File:	2LM032059	Tune Report Date:	Tune report not found
Method:	111121_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	11/11/2021 9:53:06 PM
		Cali File Date:	11/12/2021 9:17:06 AM
Cali File:	111121T2_111121.calx	Operator ID:	CAS
Sample ID:	S1K0152-CCB3	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:A1
Comments:	1:01		



m/z 89.000



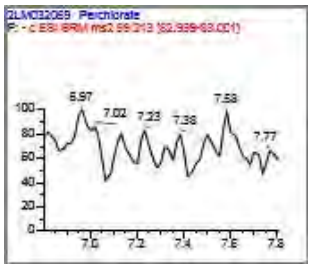
Composite:



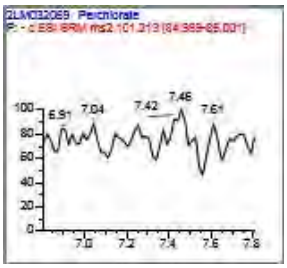
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.39	m/z 89.000	610179	5.000		N/A

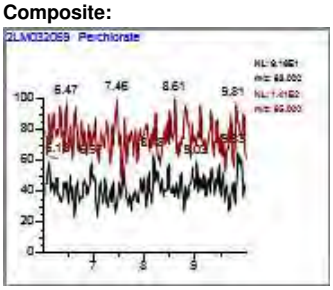
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
			Compound Not Found		
0.00	m/z 83.000		N/A		
	m/z 85.000				

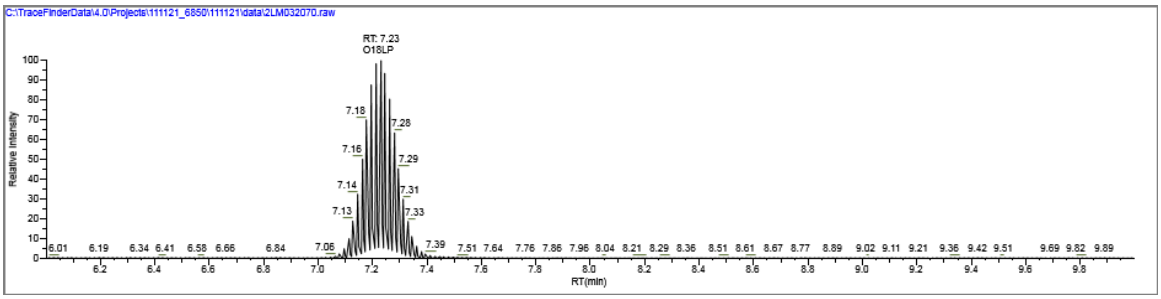
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 111121

Method: 111121_Perchlorate 6850 Perchlorate 6850
Cali File: 111121T2_111121.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A5	S1K0152-CCV4	2LM032070	CCV	CCV 1.0 ug/L	11/12/2021 12:18:53 AM	1:1 1007581



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.23	89	1044422			5.000	ug/L	5.000	ug/L	

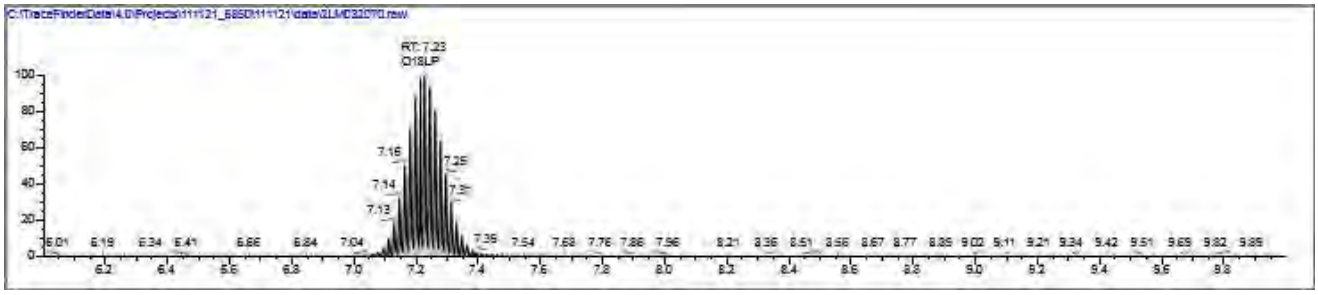
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.23	83	176488	Linear	0.169	0.936	ug/L	0.936	ug/L	

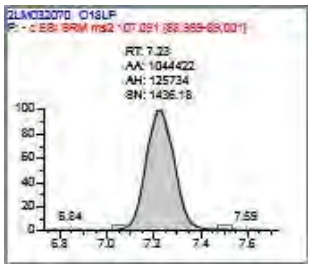
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

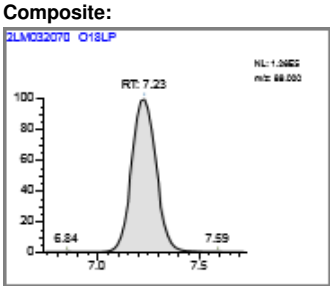
Data File:	2LM032070	Tune Report Date:	Tune report not found
Method:	111121_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	11/12/2021 12:18:53 AM
		Cali File Date:	11/12/2021 9:17:06 AM
Cali File:	111121T2_111121.calx	Operator ID:	CAS
Sample ID:	S1K0152-CCV4	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:A5
Comments:	1:1 1007581		



m/z 89.000



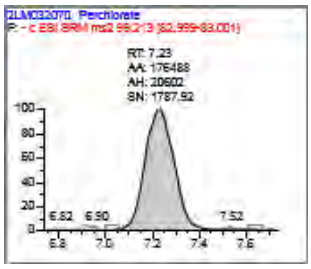
Composite:



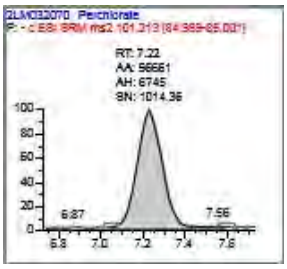
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.23	m/z 89.000	1044422	5.000		N/A

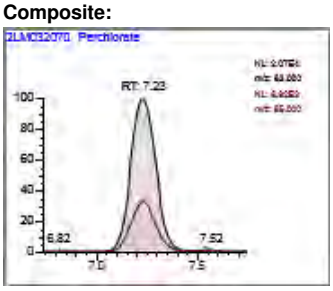
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			QC: 1.000	0.850 - 1.150	
7.23	m/z 83.000	176488	0.936		N/A
7.22	m/z 85.000	56661		25.94 - 38.92	32.1

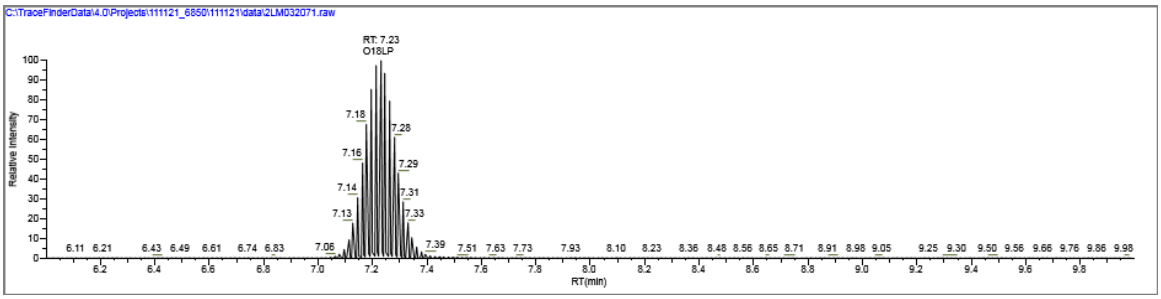
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 111121

Method: 111121_Perchlorate 6850
Perchlorate 6850
Cali File: 111121T2_111121.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A3	S1K0152-CRL4	2LM032071	QCMRL	QCMRL 0.2 ug/L	11/12/2021 12:32:07 AM	1:1 1007583



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.23	89	1109933			5.000	ug/L	5.000	ug/L	

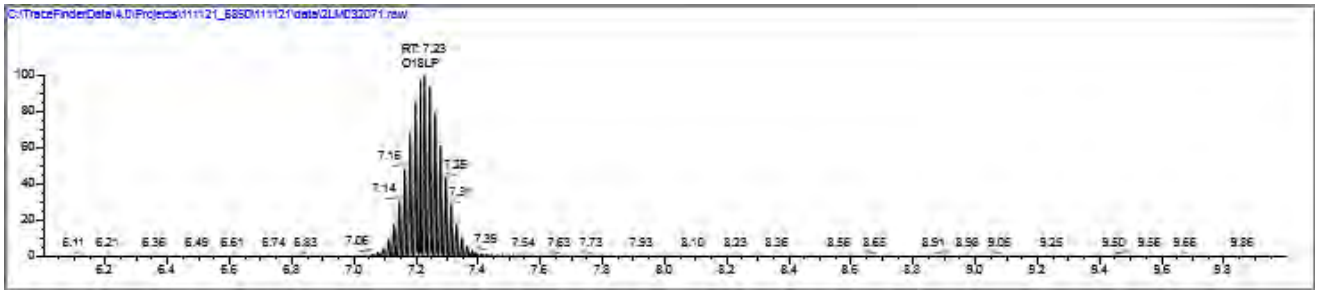
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.22	83	36808	Linear	0.033	0.182	ug/L	0.182	ug/L	

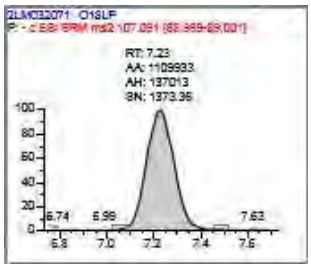
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

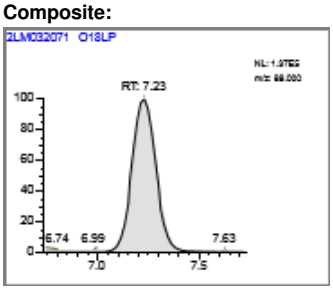
Data File:	2LM032071	Tune Report Date:	Tune report not found
Method:	111121_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	11/12/2021 12:32:07 AM
		Cali File Date:	11/12/2021 9:17:06 AM
Cali File:	111121T2_111121.calx	Operator ID:	CAS
Sample ID:	S1K0152-CRL4	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:A3
Comments:	1:1 1007583		



m/z 89.000



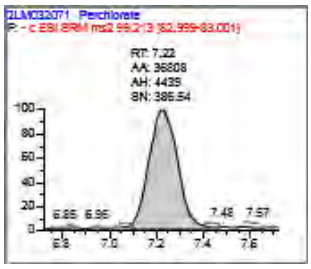
Composite:



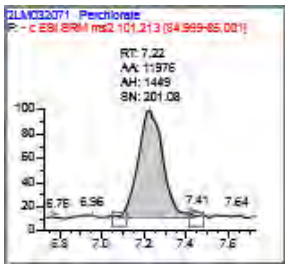
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.23	m/z 89.000	1109933	5.000		N/A

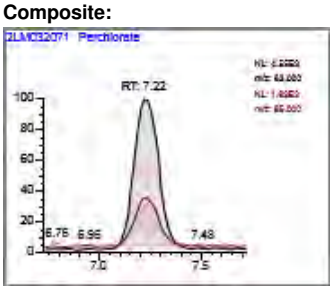
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			QC: 0.200	0.140 - 0.260	
7.22	m/z 83.000	36808	0.182		N/A
7.22	m/z 85.000	11976		25.94 - 38.92	32.54

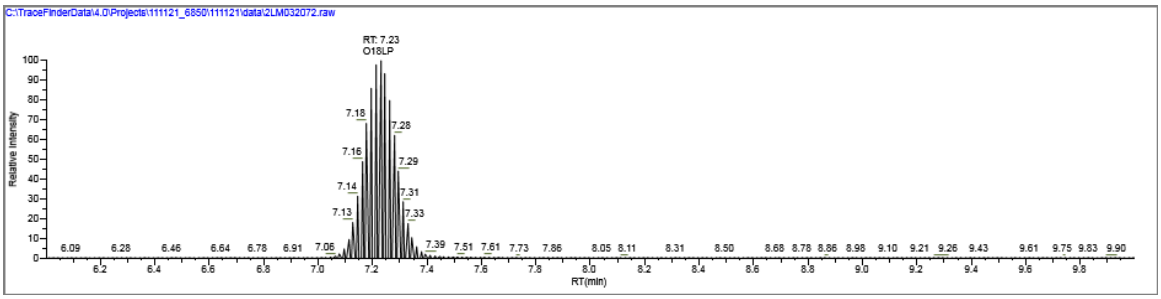
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 111121

Method: 111121_Perchlorate 6850 Perchlorate 6850
Cali File: 111121T2_111121.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A1	S1K0152-CCB4	2LM032072	N/A	CCB	11/12/2021 12:45:22 AM	1:01



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.23	89	982949			5.000	ug/L	5.000	ug/L	

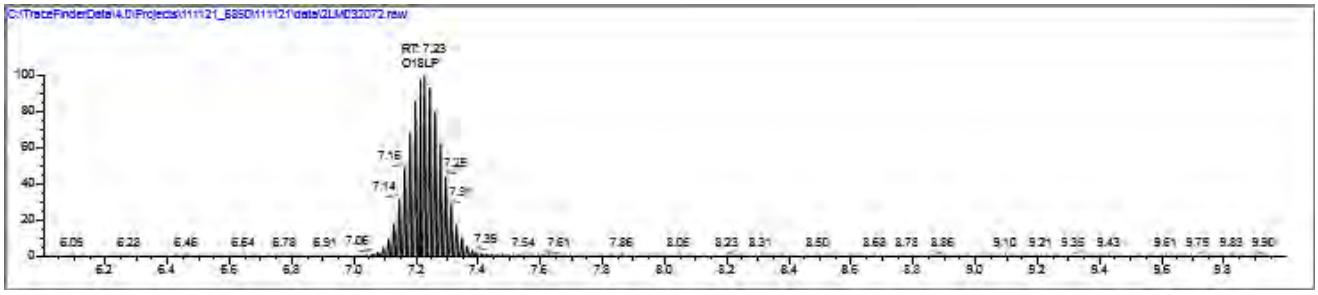
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	N/F	N/F	N/F	Linear	0.000	N/F	ug/L	N/F	ug/L	

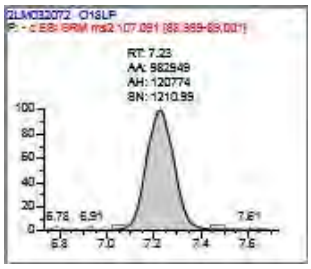
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

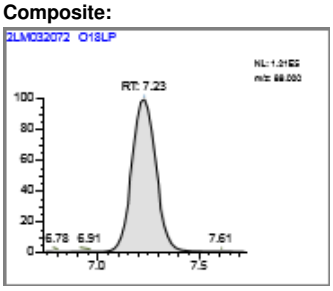
Data File:	2LM032072	Tune Report Date:	Tune report not found
Method:	111121_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	11/12/2021 12:45:22 AM
		Cali File Date:	11/12/2021 9:17:06 AM
Cali File:	111121T2_111121.calx	Operator ID:	CAS
Sample ID:	S1K0152-CCB4	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:A1
Comments:	1:01		



m/z 89.000



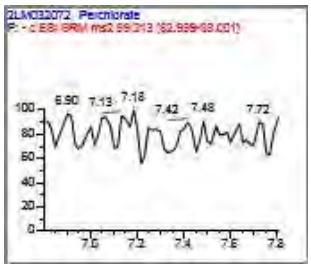
Composite:



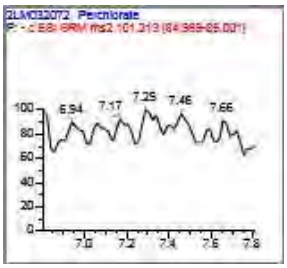
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.23	m/z 89.000	982949	5.000		N/A

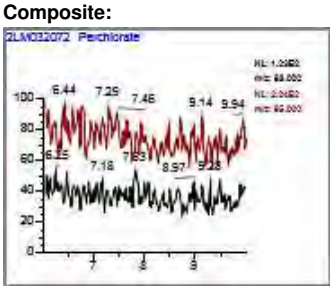
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
			Compound Not Found		
0.00	m/z 83.000 m/z 85.000		N/A		

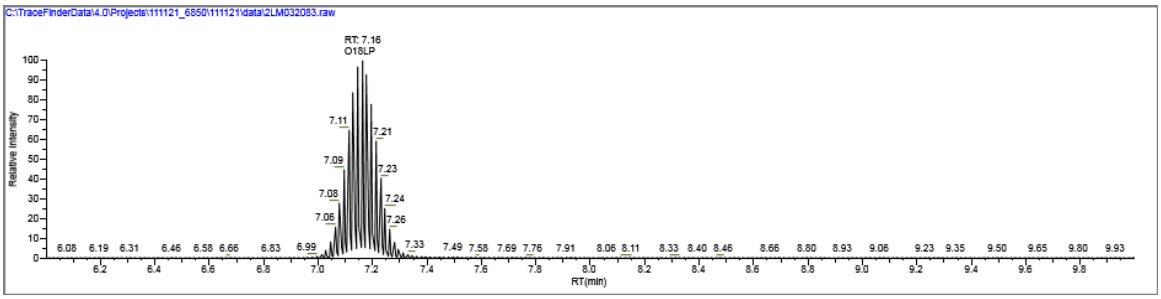
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 111121

Method: 111121_Perchlorate 6850
Perchlorate 6850
Cali File: 111121T2_111121.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A5	S1K0152-CCV5	2LM032083	CCV	CCV 1.0 ug/L	11/12/2021 3:11:14 AM	1:1 1007581



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.16	89	896995			5.000	ug/L	5.000	ug/L	

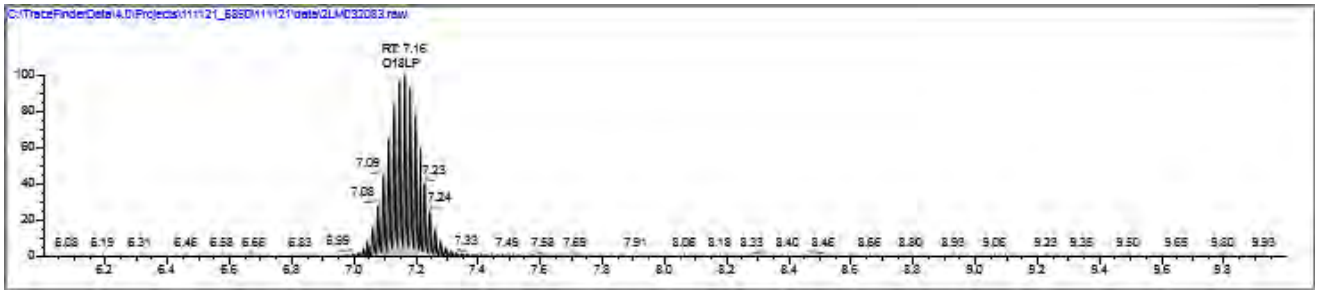
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.17	83	151160	Linear	0.169	0.933	ug/L	0.933	ug/L	

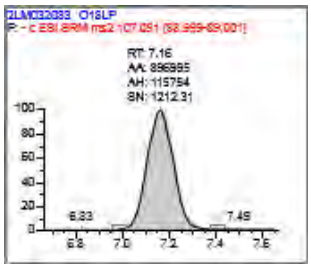
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

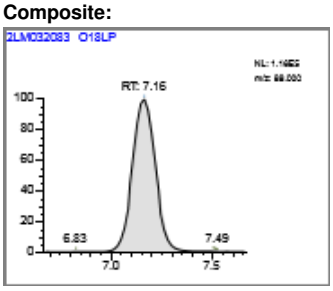
Data File:	2LM032083	Tune Report Date:	Tune report not found
Method:	111121_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	11/12/2021 3:11:14 AM
		Cali File Date:	11/12/2021 9:17:06 AM
Cali File:	111121T2_111121.calx	Operator ID:	CAS
Sample ID:	S1K0152-CCV5	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:A5
Comments:	1:1 1007581		



m/z 89.000



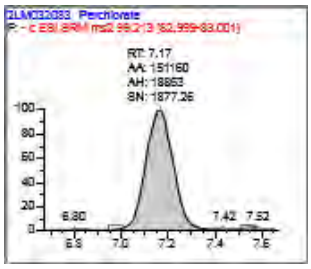
Composite:



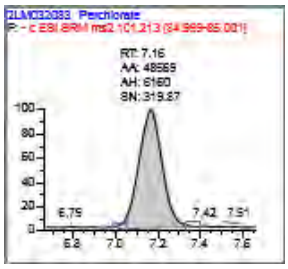
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.16	m/z 89.000	896995	5.000		N/A

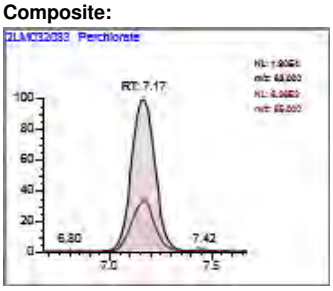
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			QC: 1.000	0.850 - 1.150	
7.17	m/z 83.000	151160	0.933		N/A
7.16	m/z 85.000	48569		25.94 - 38.92	32.13

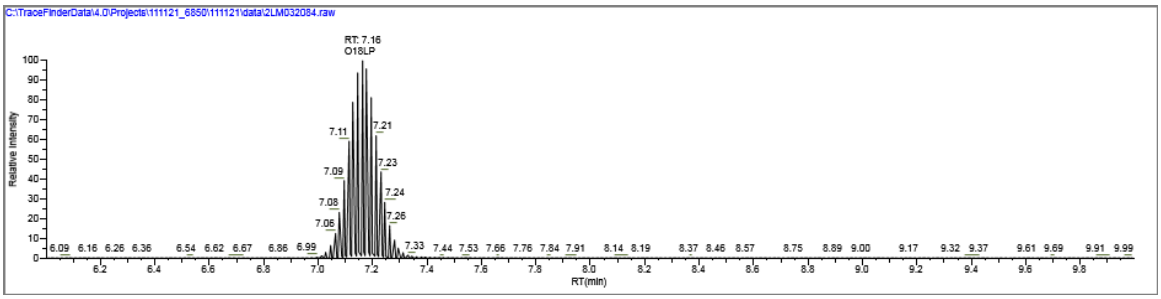
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 111121

Method: 111121_Perchlorate 6850
Perchlorate 6850
Cali File: 111121T2_111121.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A3	S1K0152-CRL5	2LM032084	QCMRL	QCMRL 0.2 ug/L	11/12/2021 3:24:29 AM	1:1 1007583



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.16	89	1040105			5.000	ug/L	5.000	ug/L	

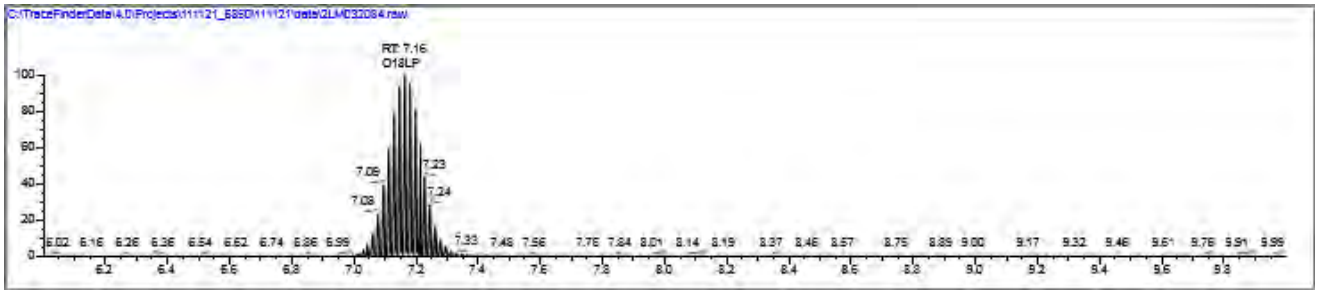
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.17	83	34910	Linear	0.034	0.184	ug/L	0.184	ug/L	

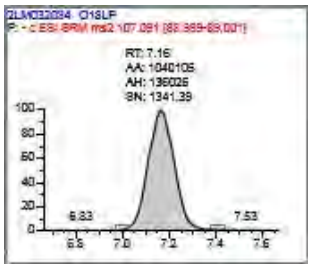
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

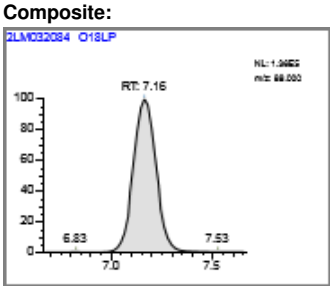
Data File:	2LM032084	Tune Report Date:	Tune report not found
Method:	111121_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	11/12/2021 3:24:29 AM
Cali File:	111121T2_111121.calx	Cali File Date:	11/12/2021 9:17:06 AM
Sample ID:	S1K0152-CRL5	Operator ID:	CAS
Diln Factor:	1.00	Instrument ID:	LCMS2
Comments:	1:1 1007583	Vial Number:	R:A3



m/z 89.000



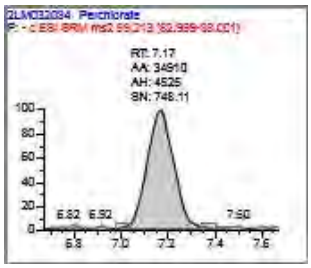
Composite:



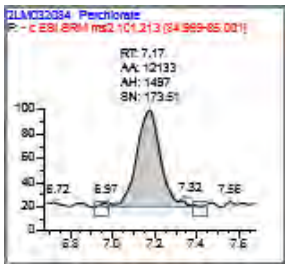
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.16	m/z 89.000	1040105	5.000		N/A

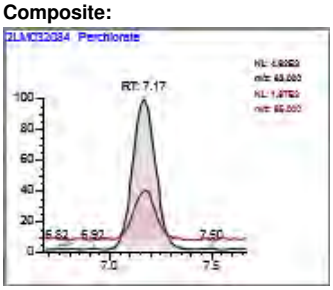
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			QC: 0.200	0.140 - 0.260	
7.17	m/z 83.000	34910	0.184		N/A
7.17	m/z 85.000	12133		25.94 - 38.92	34.76

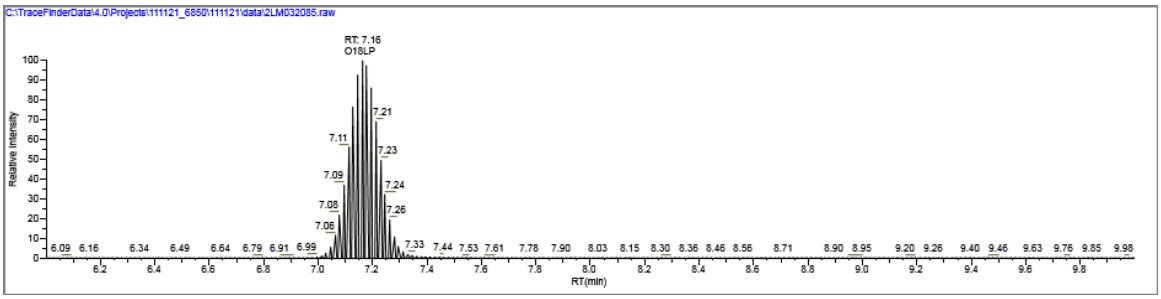
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 111121

Method: 111121_Perchlorate 6850
Perchlorate 6850
Cali File: 111121T2_111121.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A1	S1K0152-CCB5	2LM032085	N/A	CCB	11/12/2021 3:37:44 AM	1:01



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.16	89	909222			5.000	ug/L	5.000	ug/L	

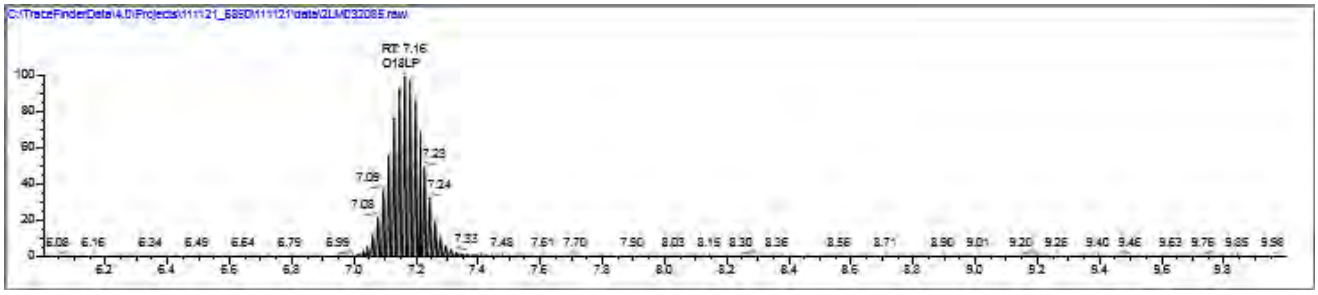
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	N/F	N/F	N/F	Linear	0.000	N/F	ug/L	N/F	ug/L	

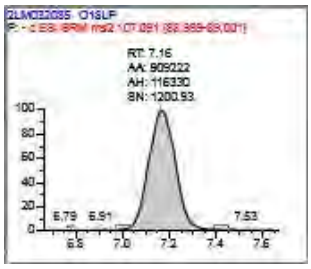
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

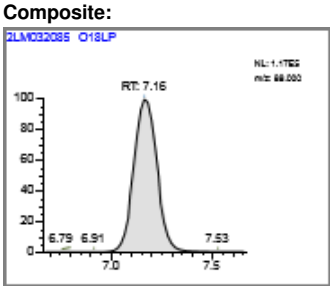
Data File:	2LM032085	Tune Report Date:	Tune report not found
Method:	111121_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	11/12/2021 3:37:44 AM
		Cali File Date:	11/12/2021 9:17:06 AM
Cali File:	111121T2_111121.calx	Operator ID:	CAS
Sample ID:	S1K0152-CCB5	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:A1
Comments:	1:01		



m/z 89.000



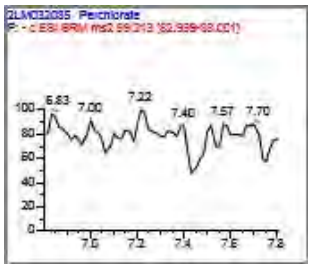
Composite:



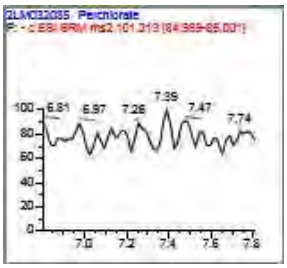
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.16	m/z 89.000	909222	5.000		N/A

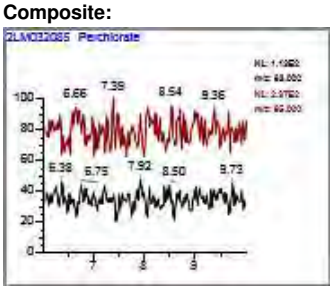
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
			Compound Not Found		
0.00	m/z 83.000		N/A		
	m/z 85.000				

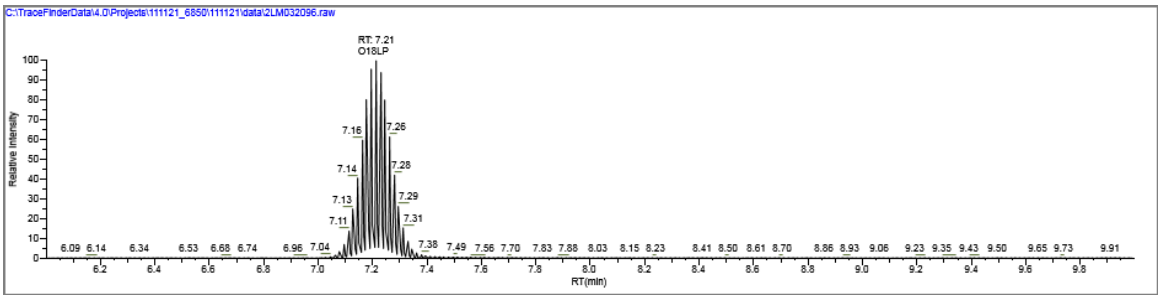
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 111121

Method: 111121_Perchlorate 6850
Perchlorate 6850
Cali File: 111121T2_111121.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A5	S1K0152-CCV6	2LM032096	CCV	CCV 1.0 ug/L	11/12/2021 6:03:27 AM	1:1 1007581



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.21	89	779391			5.000	ug/L	5.000	ug/L	

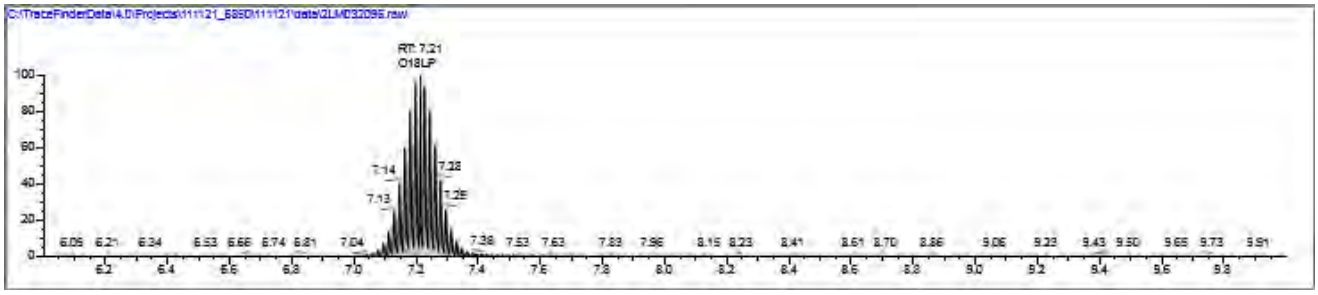
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.22	83	134943	Linear	0.173	0.959	ug/L	0.959	ug/L	

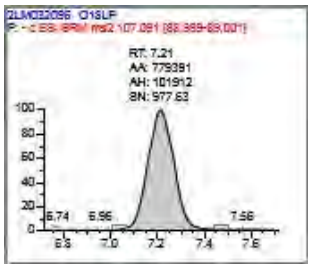
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

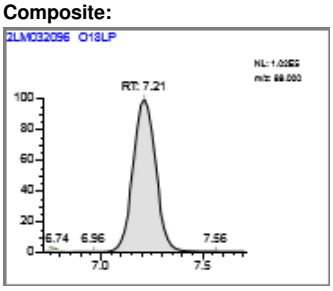
Data File:	2LM032096	Tune Report Date:	Tune report not found
Method:	111121_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	11/12/2021 6:03:27 AM
		Cali File Date:	11/12/2021 9:17:06 AM
Cali File:	111121T2_111121.calx	Operator ID:	CAS
Sample ID:	S1K0152-CCV6	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:A5
Comments:	1:1 1007581		



m/z 89.000



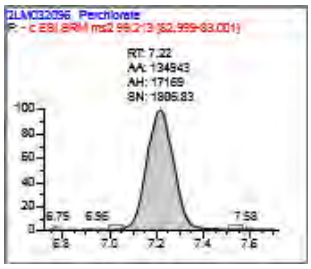
Composite:



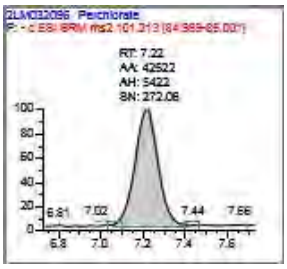
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.21	m/z 89.000	779391	5.000		N/A

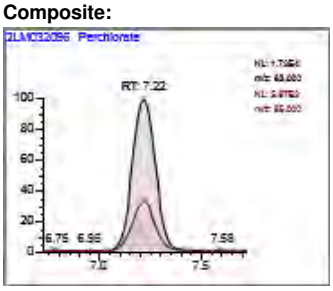
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			QC: 1.000	0.850 - 1.150	
7.22	m/z 83.000	134943	0.959		N/A
7.22	m/z 85.000	42522		25.94 - 38.92	31.51

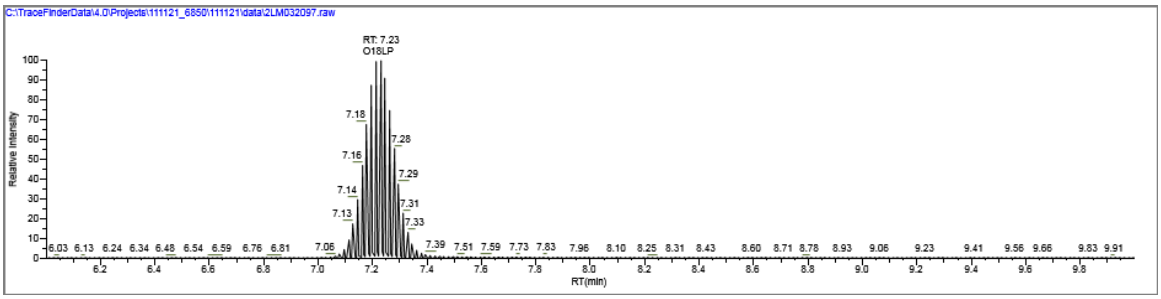
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 111121

Method: 111121_Perchlorate 6850 Perchlorate 6850
Cali File: 111121T2_111121.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A3	S1K0152-CRL6	2LM032097	QCMRL	QCMRL 0.2 ug/L	11/12/2021 6:16:41 AM	1:1 1007583



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.23	89	677237			5.000	ug/L	5.000	ug/L	

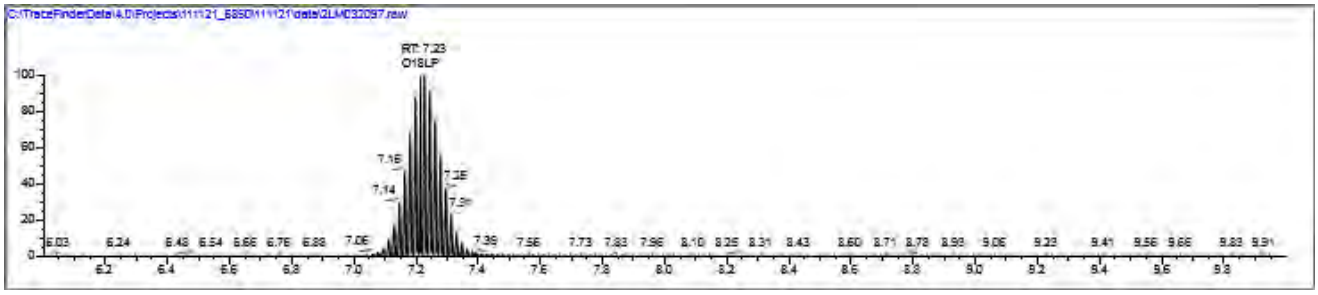
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.23	83	23199	Linear	0.034	0.188	ug/L	0.188	ug/L	

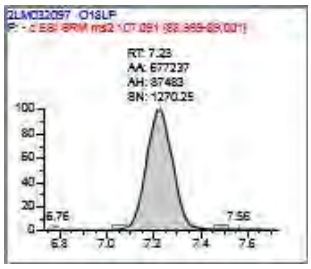
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

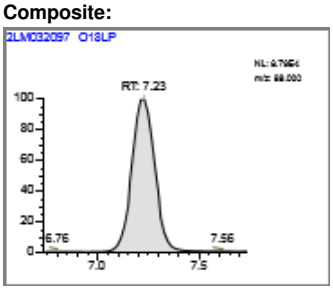
Data File:	2LM032097	Tune Report Date:	Tune report not found
Method:	111121_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	11/12/2021 6:16:41 AM
		Cali File Date:	11/12/2021 9:17:06 AM
Cali File:	111121T2_111121.calx	Operator ID:	CAS
Sample ID:	S1K0152-CRL6	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:A3
Comments:	1:1 1007583		



m/z 89.000



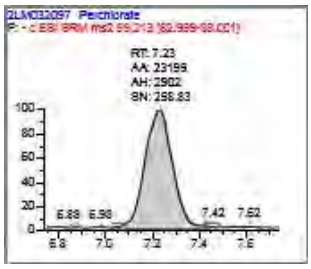
Composite:



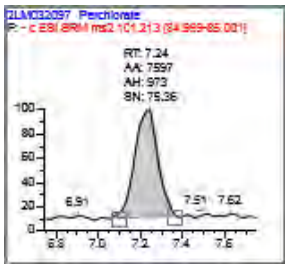
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.23	m/z 89.000	677237	5.000		N/A

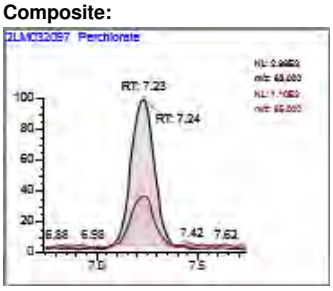
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			QC: 0.200	0.140 - 0.260	
7.23	m/z 83.000	23199	0.188		N/A
7.24	m/z 85.000	7597		25.94 - 38.92	32.75

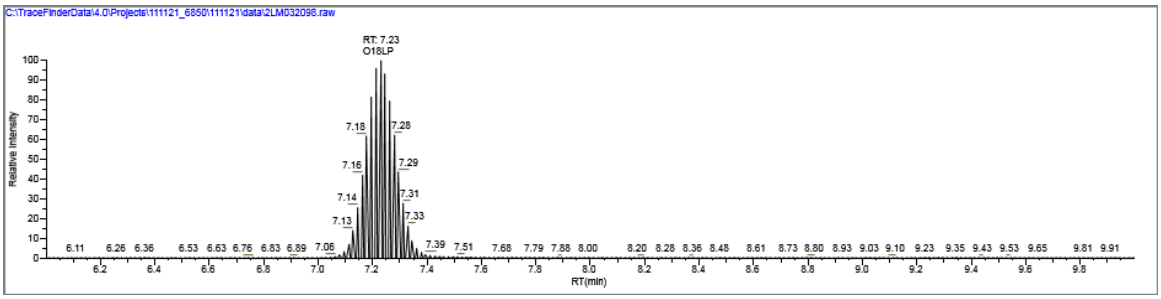
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 111121

Method: 111121_Perchlorate 6850
Perchlorate 6850
Cali File: 111121T2_111121.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A1	S1K0152-CCB6	2LM032098	N/A	CCB	11/12/2021 6:29:56 AM	1:01



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.23	89	720011			5.000	ug/L	5.000	ug/L	

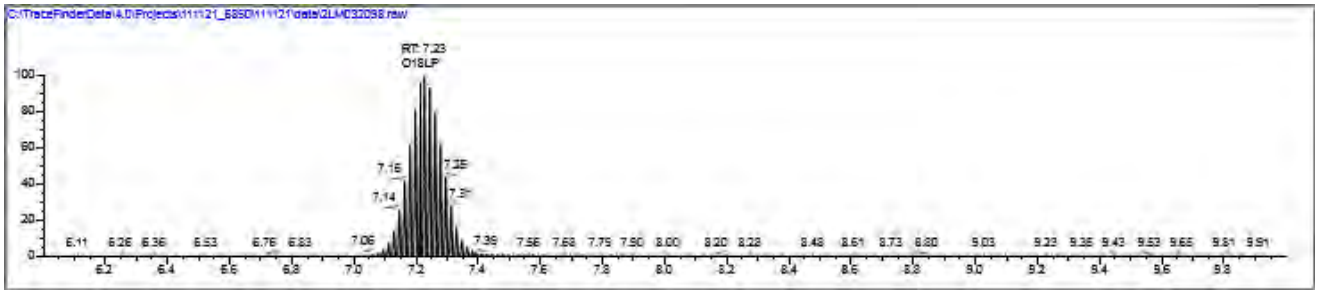
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	N/F	N/F	N/F	Linear	0.000	N/F	ug/L	N/F	ug/L	

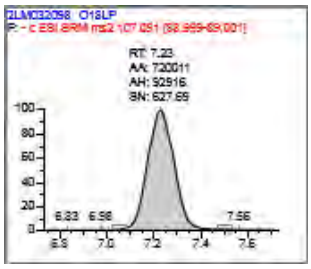
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

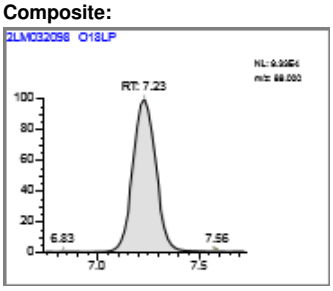
Data File:	2LM032098	Tune Report Date:	Tune report not found
Method:	111121_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	11/12/2021 6:29:56 AM
		Cali File Date:	11/12/2021 9:17:06 AM
Cali File:	111121T2_111121.calx	Operator ID:	CAS
Sample ID:	S1K0152-CCB6	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:A1
Comments:	1:01		



m/z 89.000



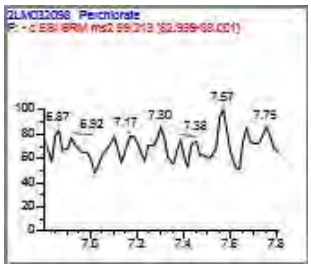
Composite:



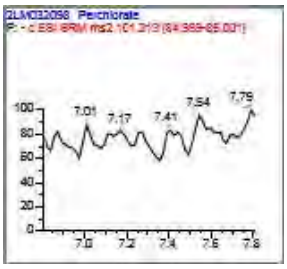
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.23	m/z 89.000	720011	5.000		N/A

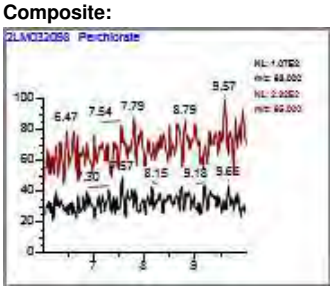
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
			Compound Not Found		
0.00	m/z 83.000		N/A		
	m/z 85.000				

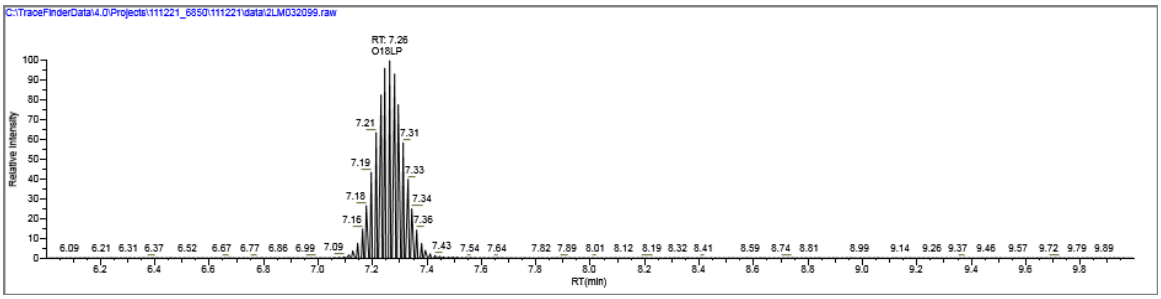
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 111221

Method: 111221_Perchlorate 6850
Perchlorate 6850
Cali File: 111121T2_111221.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A1	S1K0230-CCB1	2LM032099	N/A	CCB	11/12/2021 10:01:16 AM	1:01



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.26	89	1025107			5.000	ug/L	5.000	ug/L	

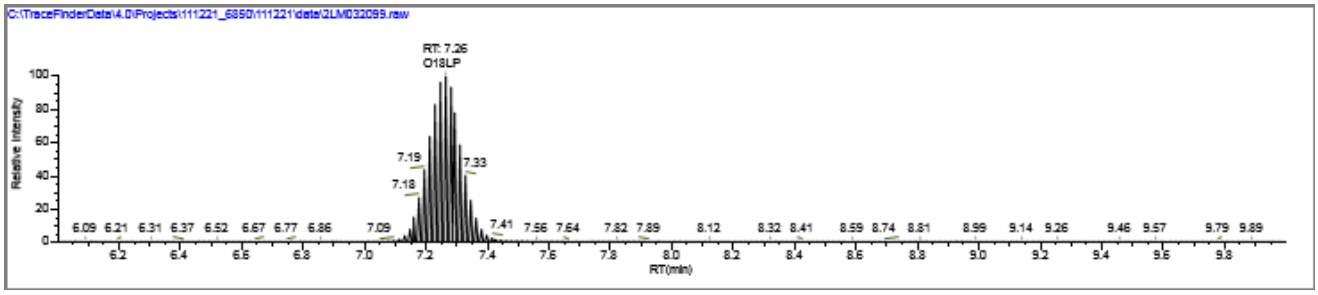
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	N/F	N/F	N/F	Linear	0.000	N/F	ug/L	N/F	ug/L	

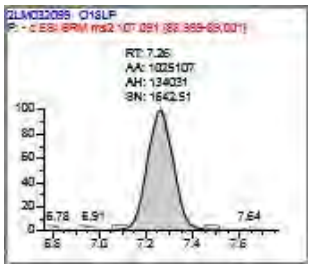
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

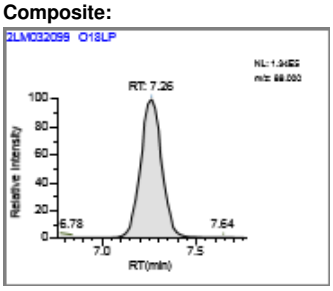
Data File:	2LM032099	Tune Report Date:	Tune report not found
Method:	111221_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	11/12/2021 10:01:16 AM
		Cali File Date:	11/12/2021 10:44:10 AM
Cali File:	111121T2_111221.calx	Operator ID:	CAS
Sample ID:	S1K0230-CCB1	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:A1
Comments:	1:01		



m/z 89.000



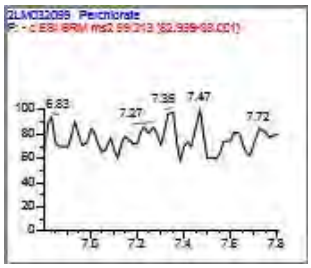
Composite:



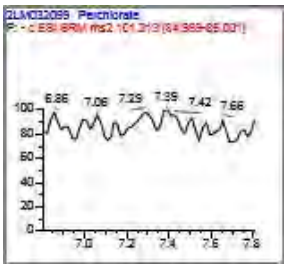
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.26	m/z 89.000	1025107	5.000		N/A

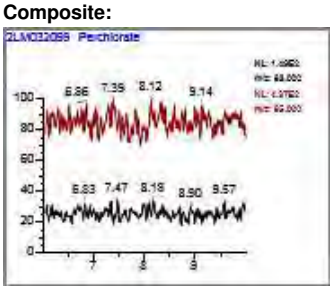
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
			Compound Not Found		
0.00	m/z 83.000		N/A		
	m/z 85.000				

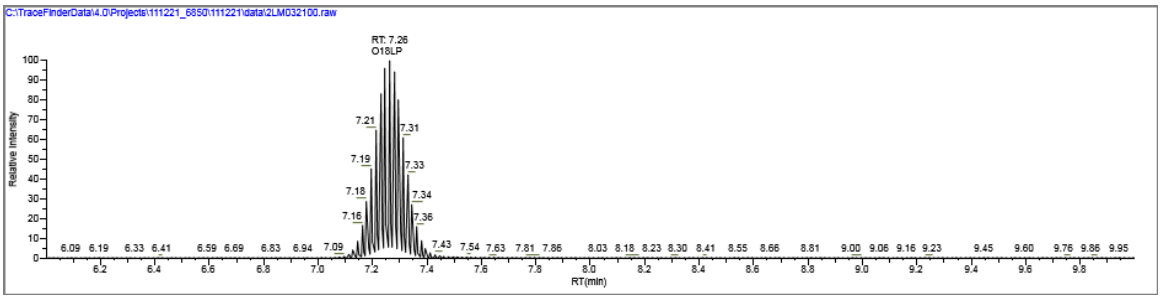
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 111221

Method: 111221_Perchlorate 6850
Perchlorate 6850
Cali File: 111121T2_111221.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A5	S1K0230-CCV1	2LM032100	CCV	CCV 1.0 ug/L	11/12/2021 10:14:29 AM	1:1 0012466



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.26	89	618494			5.000	ug/L	5.000	ug/L	

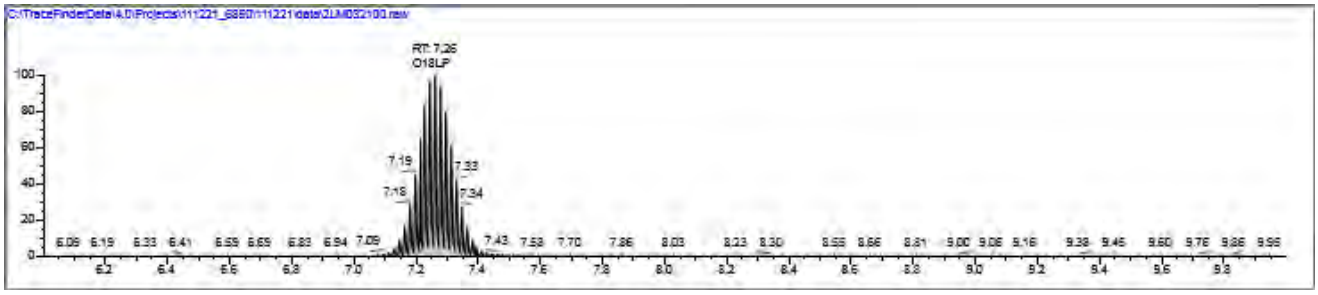
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.27	83	107557	Linear	0.174	0.963	ug/L	0.963	ug/L	

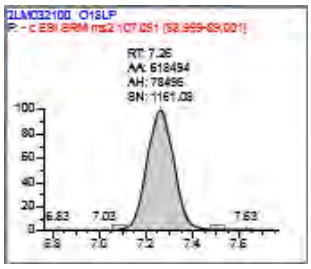
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

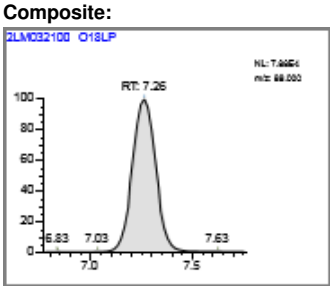
Data File:	2LM032100	Tune Report Date:	Tune report not found
Method:	111221_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	11/12/2021 10:14:29 AM
		Cali File Date:	11/12/2021 10:44:10 AM
Cali File:	111121T2_111221.calx	Operator ID:	CAS
Sample ID:	S1K0230-CCV1	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:A5
Comments:	1:1 0012466		



m/z 89.000



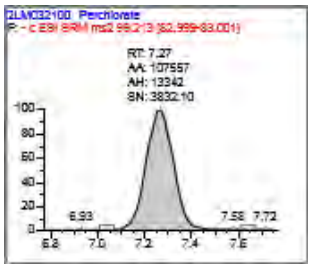
Composite:



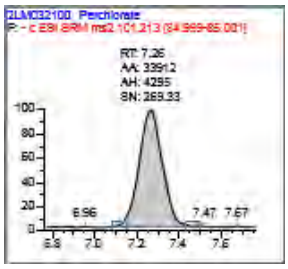
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.26	m/z 89.000	618494	5.000		N/A

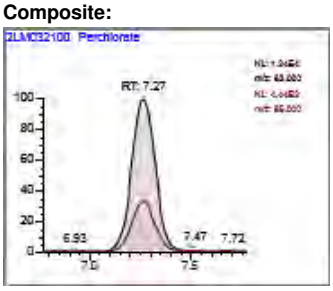
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			QC: 1.000	0.850 - 1.150	
7.27	m/z 83.000	107557	0.963		N/A
7.26	m/z 85.000	33912		25.94 - 38.92	31.53

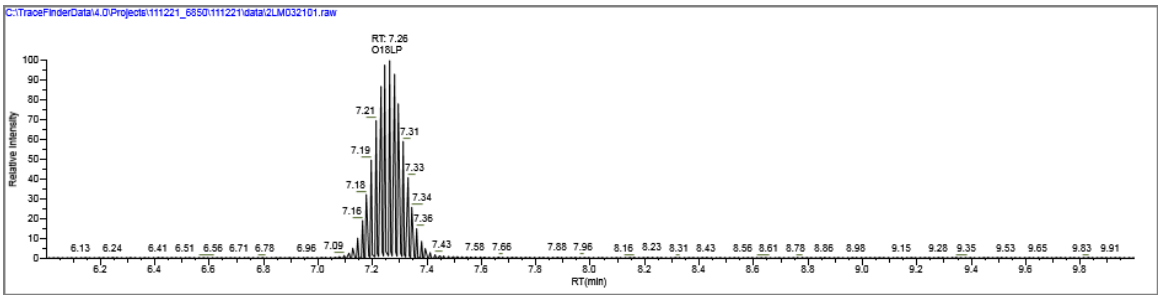
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 111221

Method: 111221_Perchlorate 6850
Perchlorate 6850
Cali File: 111121T2_111221.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A3	S1K0230-CRL1	2LM032101	QCMRL	QCMRL 0.2 ug/L	11/12/2021 10:27:44 AM	1:1 0012468



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.26	89	598008			5.000	ug/L	5.000	ug/L	

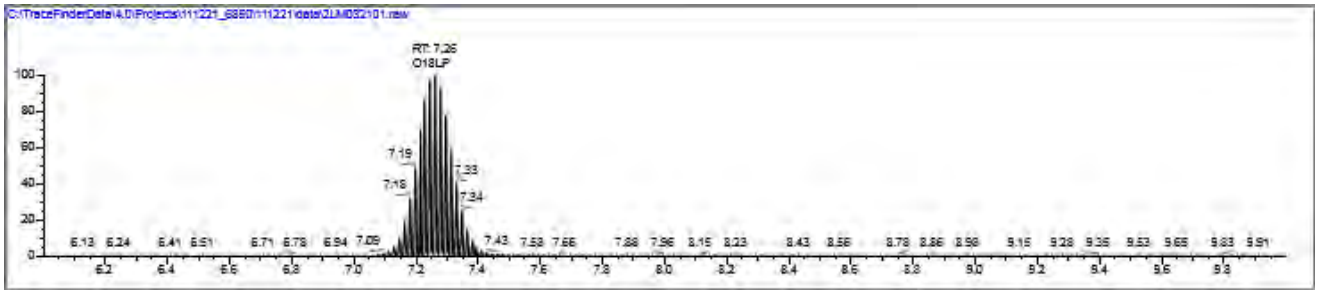
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.27	83	21243	Linear	0.036	0.195	ug/L	0.195	ug/L	

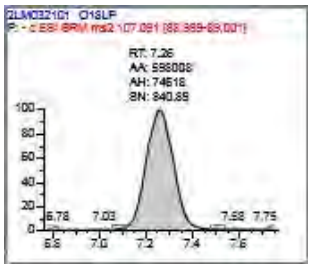
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

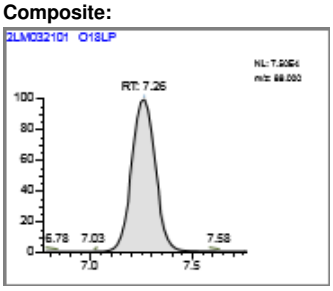
Data File:	2LM032101	Tune Report Date:	Tune report not found
Method:	111221_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	11/12/2021 10:27:44 AM
		Cali File Date:	11/12/2021 10:44:10 AM
Cali File:	111121T2_111221.calx	Operator ID:	CAS
Sample ID:	S1K0230-CRL1	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:A3
Comments:	1:1 0012468		



m/z 89.000



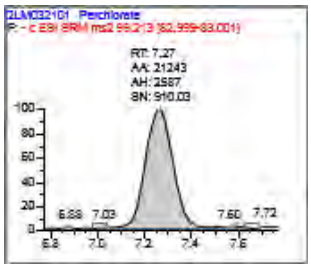
Composite:



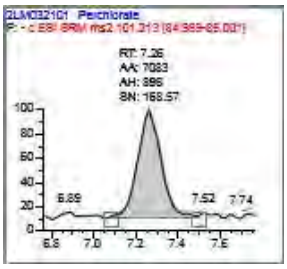
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.26	m/z 89.000	598008	5.000		N/A

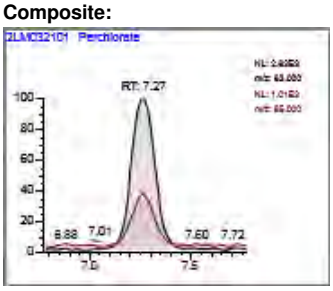
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			QC: 0.200	0.140 - 0.260	
7.27	m/z 83.000	21243	0.195		N/A
7.26	m/z 85.000	7083		25.94 - 38.92	33.34

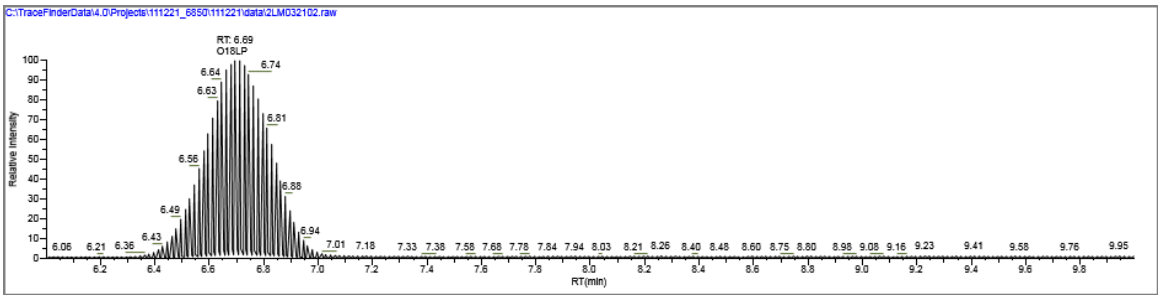
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 111221

Method: 111221_Perchlorate 6850
Perchlorate 6850
Cali File: 111121T2_111221.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:B1	S1K0230-IFA1	2LM032102	N/A	MCT 0.2 ug/L	11/12/2021 10:40:59 AM	1:1 0012477



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	6.69	89	699302			5.000	ug/L	5.000	ug/L	

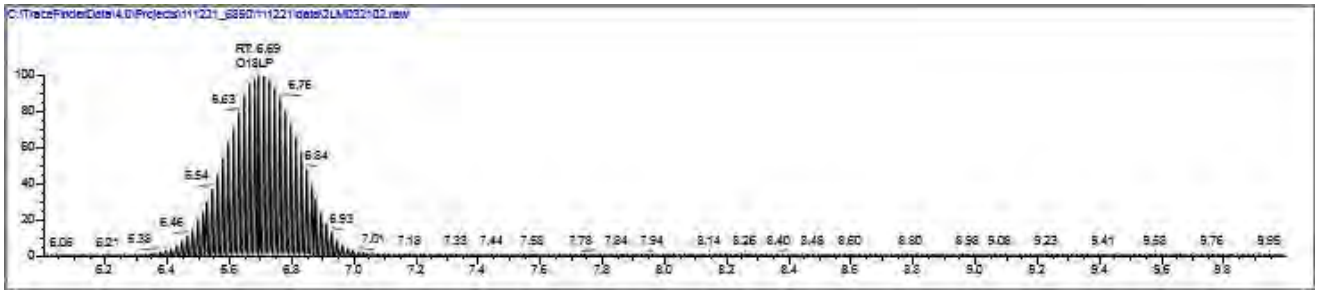
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	6.72	83	29423	Linear	0.042	0.231	ug/L	0.231	ug/L	

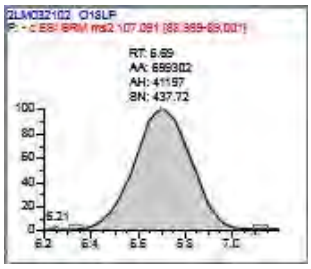
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

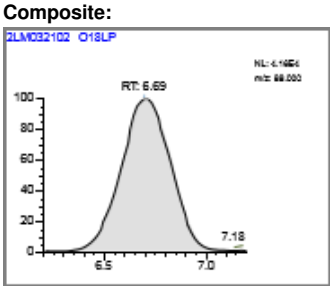
Data File:	2LM032102	Tune Report Date:	Tune report not found
Method:	111221_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	11/12/2021 10:40:59 AM
		Cali File Date:	11/12/2021 10:44:10 AM
Cali File:	111121T2_111221.calx	Operator ID:	CAS
Sample ID:	S1K0230-IFA1	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:B1
Comments:	1:1 0012477		



m/z 89.000



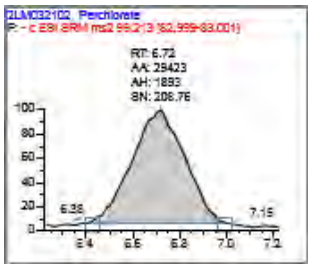
Composite:



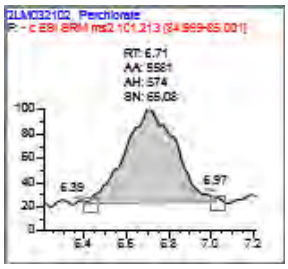
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
6.69	m/z 89.000	699302	5.000		N/A

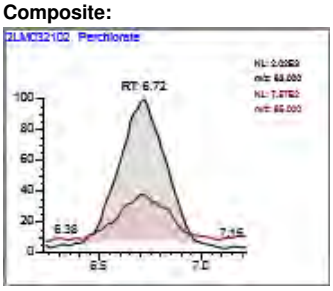
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
6.72	m/z 83.000	29423	0.231		N/A
6.71	m/z 85.000	9581		25.94 - 38.92	32.56

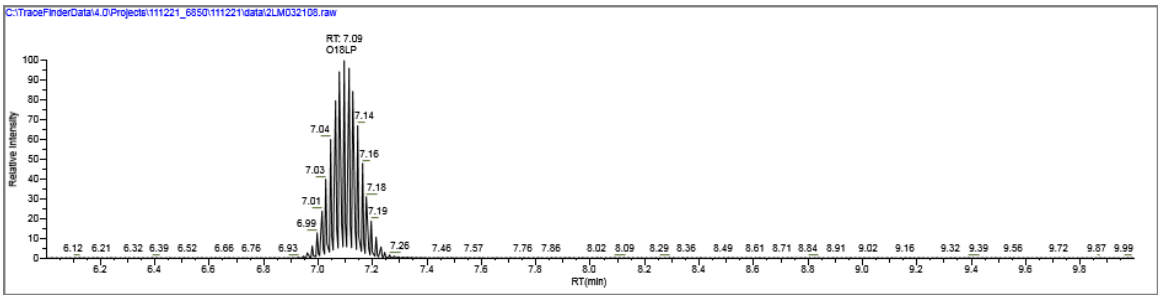
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 111221

Method: 111221_Perchlorate 6850
Perchlorate 6850
Cali File: 111121T2_111221.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A5	S1K0230-CCV2	2LM032108	CCV	CCV 1.0 ug/L	11/12/2021 12:00:29 PM	1:1 0012466



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.09	89	994333			5.000	ug/L	5.000	ug/L	

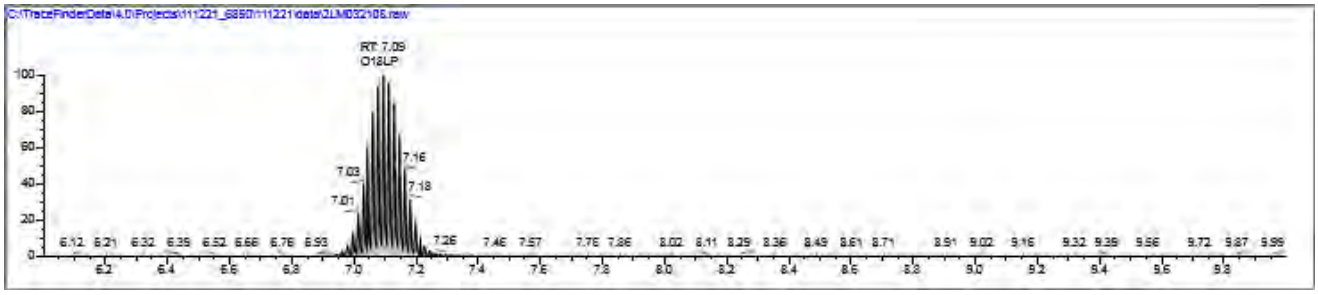
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.1	83	171431	Linear	0.172	0.955	ug/L	0.955	ug/L	

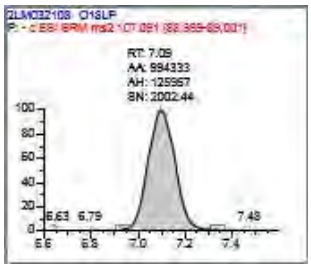
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

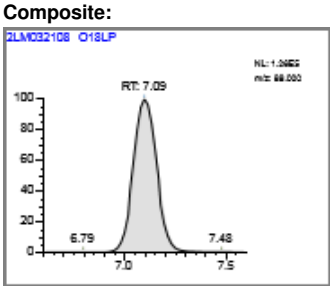
Data File:	2LM032108	Tune Report Date:	Tune report not found
Method:	111221_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	11/12/2021 12:00:29 PM
		Cali File Date:	11/12/2021 10:44:10 AM
Cali File:	111121T2_111221.calx	Operator ID:	CAS
Sample ID:	S1K0230-CCV2	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:A5
Comments:	1:1 0012466		



m/z 89.000



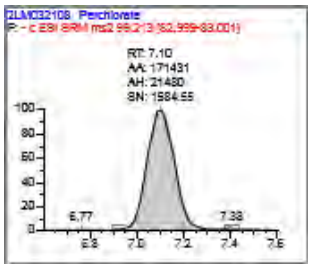
Composite:



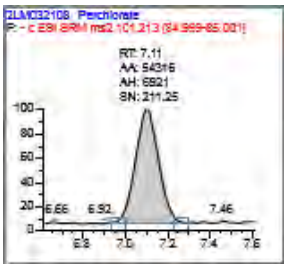
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.09	m/z 89.000	994333	5.000		N/A

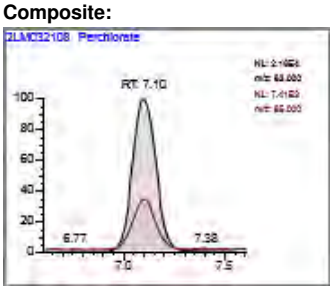
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			QC: 1.000	0.850 - 1.150	
7.10	m/z 83.000	171431	0.955		N/A
7.11	m/z 85.000	54316		25.94 - 38.92	31.68

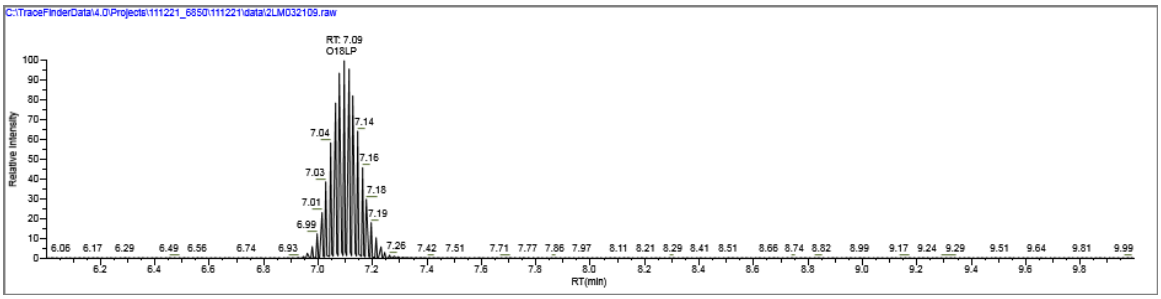
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 111221

Method: 111221_Perchlorate 6850
Perchlorate 6850
Cali File: 111121T2_111221.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A3	S1K0230-CRL2	2LM032109	QCMRL	QCMRL 0.2 ug/L	11/12/2021 12:13:43 PM	1:1 0012468



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.09	89	1057097			5.000	ug/L	5.000	ug/L	

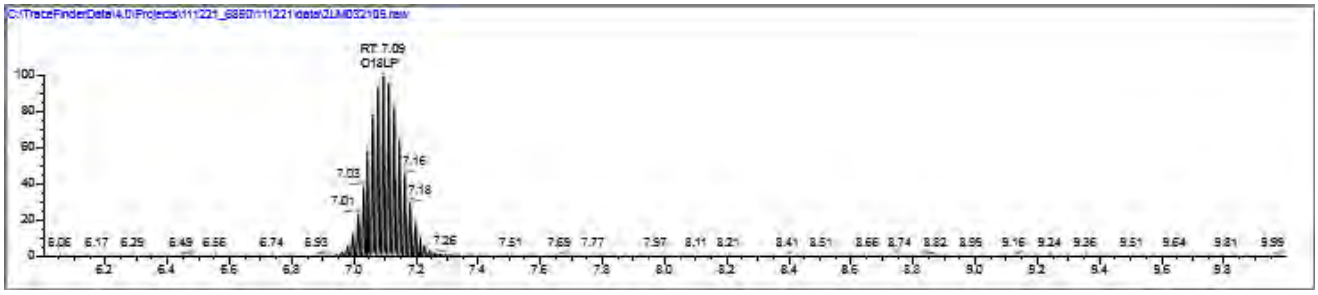
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.1	83	35440	Linear	0.034	0.184	ug/L	0.184	ug/L	

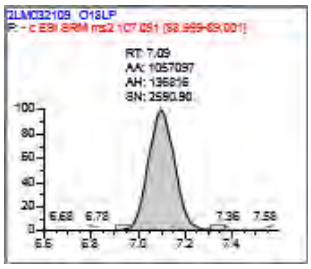
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

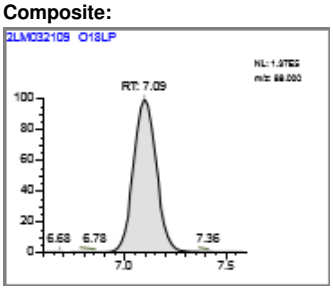
Data File:	2LM032109	Tune Report Date:	Tune report not found
Method:	111221_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	11/12/2021 12:13:43 PM
		Cali File Date:	11/12/2021 10:44:10 AM
Cali File:	111121T2_111221.calx	Operator ID:	CAS
Sample ID:	S1K0230-CRL2	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:A3
Comments:	1:1 0012468		



m/z 89.000



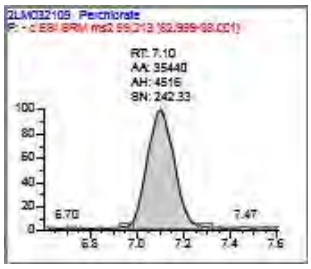
Composite:



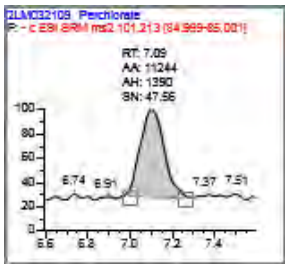
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.09	m/z 89.000	1057097	5.000		N/A

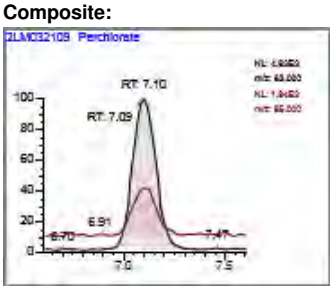
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			QC: 0.200	0.140 - 0.260	
7.10	m/z 83.000	35440	0.184		N/A
7.09	m/z 85.000	11244		25.94 - 38.92	31.73

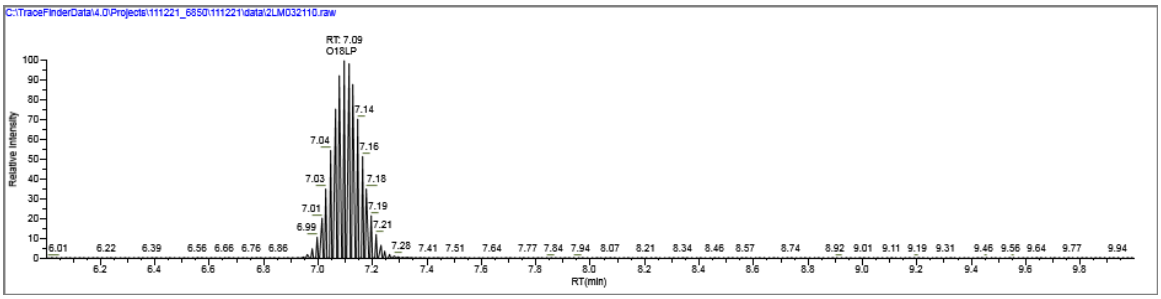
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 111221

Method: 111221_Perchlorate 6850 Perchlorate 6850
Cali File: 111121T2_111221.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A1	S1K0230-CCB2	2LM032110	N/A	CCB	11/12/2021 12:26:58 PM	1:01



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.09	89	945642			5.000	ug/L	5.000	ug/L	

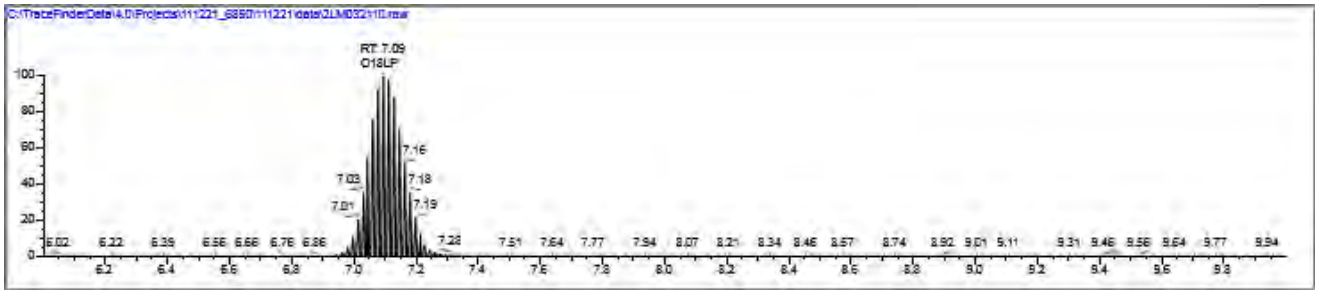
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	N/F	N/F	N/F	Linear	0.000	N/F	ug/L	N/F	ug/L	

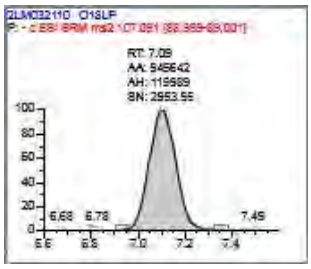
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

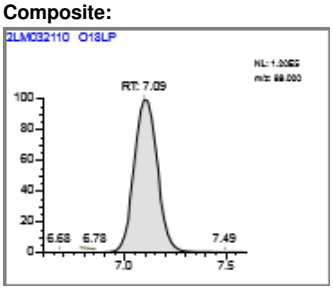
Data File:	2LM032110	Tune Report Date:	Tune report not found
Method:	111221_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	11/12/2021 12:26:58 PM
		Cali File Date:	11/12/2021 10:44:10 AM
Cali File:	111121T2_111221.calx	Operator ID:	CAS
Sample ID:	S1K0230-CCB2	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:A1
Comments:	1:01		



m/z 89.000



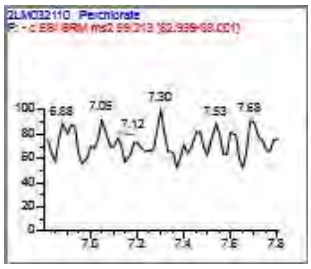
Composite:



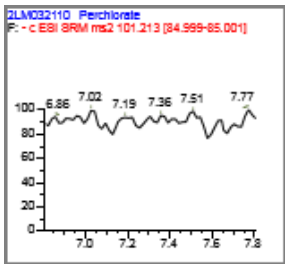
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.09	m/z 89.000	945642	5.000		N/A

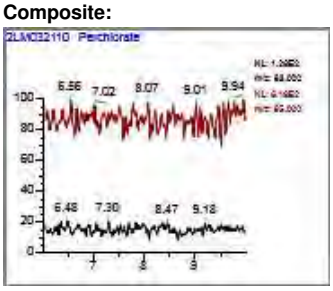
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
			Compound Not Found		
0.00	m/z 83.000 m/z 85.000		N/A		

Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

CHAIN OF CUSTODY

Name Of Lab Shipping To: Microbac 158 Starlite Drive Marietta, OH. 45750 (304) 299-4976 Cell (740)-373-4071 Office ATTN: Stephanie Mossburg

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

Project No. 501032

Job: LHAAP 16 October 2021

Prepared By: Scott Beesinger

P.O. Number

Field Sample I.D.	Sample Matrix	Date / Time	MS / MSD	No. OF CONTAINERS	Analyses: Perchlorate by SW6850	Remarks (Preservatives, etc.)	Lab I.D.#
16WW34-211018	WG	10/18/21/0800		1	X		
16WW34-211018-FD	WG	10/18/21/0800		1	X		
16WW33-211018	WG	10/18/21/0840		1	X		
16WW32-211018	WG	10/18/21/0930		1	X		
16WW31-211018	WG	10/18/21/1010		1	X		
16WW46-211018	WG	10/28/21/1050		1	X		
16WW27-211018	WG	10/18/21/1140		1	X		
16WW43-211018	WG	10/18/21/1225		1	X		

M 1 J 1 3 7 4

APTIM Tennessee
Rec'd 10/22/2021 09:40
By: Stephanie Murphy
Temp 4.4 (Signature)

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

Relinquished By:	Date	Time	Received By:	Date	Time	Relinquished By:	Date	Time	Received By:	Date	Time
Scott Beesinger	10/22/21	1430							Stephanie Murphy	10/22/21	0940

For Lab Use Only

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

Remarks:

01171674

CHAIN OF CUSTODY

Name Of Lab Shipping To: Microbac 158 Starlite Drive Marietta, OH. 45750 (304) 299-4976 Cell (740)-373-4071 Office ATTN: Stephanie Mossburg

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

Project No. 501032

Job: LHAAP 16 October 2021

Prepared By: Scott Beesinger

P.O. Number

Field Sample I.D. Time	Sample Matrix	Date /	MS / MSD	No. OF CONTAINERS	Analyses: Perchlorate by SW6850	Remarks (Preservatives, etc.)	Lab I.D.#
16RW05-211018	~~10~~ WG	10/18/21/1315		1	X		
16WW56-211019	WG	10/19/21/0745		1	X		
16WW56-211019-MS	WG	10/19/21/0745		1	X		
16WW56-211019-MSD	WG	10/19/21/0745		1	X		
16WW22-211019	WG	10/19/21/0840		1	X		
16WW41-211019	WG	10/19/21/0935		1	X		
16WW21-211019	WG	10/19/21/1040		1	X		
16WW48-211019	WG	10/19/21/1125		1	X		

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

Relinquished By:	Date	Time	Received By:	Date	Time	Relinquished By:	Date	Time	Received By:	Date	Time
Scott Beesinger	10/21/21	1730							Stephanie Murphy	10/22/21	~~10:10~~ 0940

For Lab Use Only

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

Remarks:

CHAIN OF CUSTODY

Name Of Lab Shipping To: Microbac 158 Starlite Drive Marietta, OH. 45750 (304) 299-4976 Cell (740)-373-4071 Office ATTN: Stephanie Mossburg

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

Project No. 501032

Job: LHAAP 16 October 2021

Prepared By: Scott Beesinger

P.O. Number

Field Sample I.D. / Time	Sample Matrix	Date / Time	MS / MSD	No. OF CONTAINERS	Analyses: Perchlorate by SW6850	Remarks (Preservatives, etc.)	Lab I.D.#
16WW49-211019	WG	10/19/21/1215		1	X		
16WW51-211019	WG	10/19/21/1255		1	X		
16IW09-211020	WG	10/20/21/0755		1	X		
16IW10-211020	WG	10/20/21/0905		1	X		
16IW10-211020-MS	WG	10/20/21/0905		1	X		
16IW10-211020-MSD	WG	10/20/21/0905		1	X		
16EW01-211020	WG	10/20/21/1010		1	X		
16EW03-211020	WG	10/20/21/1100		1	X		

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

Relinquished By:	Date	Time	Received By:	Date	Time	Relinquished By:	Date	Time	Received By:	Date	Time
Scott Beesinger	10/21/21	1430							Stephanie Murphy	10/22/21	0940

For Lab Use Only

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

Remarks:

CHAIN OF CUSTODY

Name Of Lab Shipping To: Microbac 158 Starlite Drive Marietta, OH. 45750 (304) 299-4976 Cell (740)-373-4071 Office ATTN: Stephanie Mossburg

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

Project No. 501032

Job: LHAAP 16 October 2021

Prepared By: Scott Beesinger

P.O. Number

Field Sample I.D. Time	Sample Matrix	Date /	MS / MSD	No. OF CONTAINERS	Analyses: Perchlorate by SW6850	Remarks (Preservatives, etc.)	Lab I.D.#
16EW02-211020	WG	10/20/21/1150		1	X		
16EW04-211020	WG	10/20/21/1230		1	X		
16EW08-211020	WG	10/20/21/1310		1	X		
16RW04-211020	WG	10/20/21/1350		1	X		
16RW11-211021	WG	10/21/21/0745		1	X		
16RW11-211021-FD	WG	10/21/21/0745		1	X		
16IW20-211021	WG	10/21/21/0825		1	X		
16WW40-211021	WG	10/21/21/0910		1	X		

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

Relinquished By:	Date	Time	Received By:	Date	Time	Relinquished By:	Date	Time	Received By:	Date	Time
Scott Beesinger	10/21/21	1430							Stephanie Murphy	10/22/21	0940

For Lab Use Only

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

Remarks:

CHAIN OF CUSTODY

Name Of Lab Shipping To: Microbac 158 Starlite Drive Marietta, OH. 45750 (304) 299-4976 Cell (740)-373-4071 Office ATTN: Stephanie Mossburg

Page 1 of 1

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

Project No. 501032

Job: LHAAP 16 October 2021

Prepared By: Scott Beesinger

P.O. Number

Field Sample I.D. / Time	Sample Matrix	Date / Time	MS / MSD	No. OF CONTAINERS	Analyses: Perchlorate by SW6850	Remarks (Preservatives, etc.)	Lab I.D.#
16WW12-211021	WG	10/21/21/1000		1	X		
16EW07-211021	WG	10/21/21/1045		1	X		
16EW05-211021	WG	10/21/21/1130		1	X		
16EW05-211021-FD	WG	10/21/21/1130		1	X		
16EW06-211021	WG	10/21/21/1225		1	X		
16IW03-211021	WG	10/21/21/1315		1	X		

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

Relinquished By:	Date	Time	Received By:	Date	Time	Relinquished By:	Date	Time	Received By:	Date	Time
Scott Beesinger	10/21/21	1430							Stephanie Murphy	10/22/21	0940

For Lab Use Only

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

Remarks:

MICROBAC®

Work Order # 411378

COOLER TEMP >6° C LOG

SAMPLE ID	Bottle 1 °C	Bottle 2 °C	Bottle 3 °C	Bottle 4 °C	Bottle 5 °C	Bottle 6 °C

10/22/2021 SM

pH Lot # HC157843 pH Exceptions

SAMPLE ID	Bottle 1	Bottle 2	Bottle 3	Bottle 4	Bottle 5	Bottle 6

10/22/2021 SM

PRESERVATIVE EXCEPTIONS

~~NONE~~

AS NOTED

10/22/2021 SM

Document Control # 1957
Last 04-10-2019

Issued to: Document Master File

MICROBAC®

Microbac Laboratories Inc., - Marietta, OH

Level IV QA/QC Data Package

Laboratory Report Number:

M1J1516

Client Project ID:

LHAAP

For:

Vicki Graves

APTIM Tennesee

2410 Cherahala BLVD

Knoxville, TN 37932

Project Requested Certification:

Microbac Laboratories Inc., - Marietta, OH 2936.01 American Association for Laboratory Accreditation

Project State of Origin: Texas

All test results meet the requirements of the QAPP and other applicable contract terms and conditions. Any exceptions are attached to this cover page or addressed in the method narratives presented in the report. I certify that all test results meet all of the requirements of the accrediting authority listed within this report. Analytical results are reported on a 'as received' basis unless specified otherwise. Analytical results for solids with units ending in (dry) are reported on a dry weight basis. A statement of uncertainty for each analysis is available upon request. This laboratory report shall not be reproduced, except in full, without the written approval of Microbac Laboratories. The reported results are related only to the samples analyzed as received. ***The services were provided under and subject to Microbac's standard terms and conditions which can be located and reviewed at <https://www.microbac.com/standard-terms-conditions>.***

Laboratory Project Manager:

Stephanie Mossburg

Stephanie Mossburg
Customer Relations Manager
Stephanie.Mossburg@microbac.com

Authorized By:

Stephanie Mossburg

Stephanie Mossburg
Customer Relations Manager
Issued: 12/06/2021

MICROBAC®

Laboratory Report Number: M1J1516

Client Project ID: LHAAP

Microbac Laboratories Inc., - Marietta, OH

Cooler Receipt Log

Cooler ID: Default Cooler Temp: 0.7°C

Cooler Inspection Checklist

Ice Present or not required?	Yes	Shipping containers sealed or not required?	Yes
Custody seals intact or not required?	Yes	Chain of Custody (COC) Present?	Yes
COC includes customer information?	Yes	Relinquished and received signature on COC?	Yes
Sample collector identified on COC?	Yes	Sample type identified on COC?	Yes
Correct type of Containers Received	Yes	Correct number of containers listed on COC?	Yes
Containers Intact?	Yes	COC includes requested analyses?	Yes
Enough sample volume for indicated tests received?	Yes	Sample labels match COC (Name, Date & Time?)	Yes
Samples arrived within hold time?	Yes	Correct preservatives on COC or not required?	Yes
Chemical preservations checked or not required?	Yes	Preservation checks meet method requirements?	Yes
VOA vials have zero headspace, or not recd.?	Yes		

Table of Contents

Analysis Class (HPLC Organics) 8

Analysis (EPA 6850) 10

Form I, Certificate of Analysis (EPA 6850) 11

Form III, BS BSD MS MSD DUP Summary (EPA 6850) 30

Form IV, Blank Summary (EPA 6850) 33

Form VII, ICV CCV Summary (EPA 6850) 36

Form VIII, Internal Standard and RT Summary (EPA 6850) 56

Section A, Batch and Sequence Raw Data (EPA 6850) 63

Section B, Sample Raw Data (EPA 6850) 79

Section C, QC Sample Raw Data (EPA 6850) 116

Section D, Calibration Raw Data (EPA 6850) 125

Section E, Sequence Raw Data (EPA 6850) 129

Sample Summary

MICROBAC®

Sample Summary

Laboratory Report Number: M1J1516

Client Project ID: LHAAP

Microbac Laboratories Inc., - Marietta, OH

Client Sample ID:	Lab Sample ID:	Sampled:
16WW44-211025	M1J1516-01	10/25/21 07:35
16WW37-211025	M1J1516-02	10/25/21 08:20
16WW38-211025	M1J1516-03	10/25/21 09:05
16WW14-211025	M1J1516-04	10/25/21 09:50
16RW06-211025	M1J1516-05	10/25/21 10:30
16RW07-211025	M1J1516-06	10/25/21 11:10
16WW39-211025	M1J1516-07	10/25/21 11:55
16PM02-211025	M1J1516-08	10/25/21 12:40
16PM03-211025	M1J1516-09	10/25/21 13:20
16PM03-211025-FD	M1J1516-10	10/25/21 13:20
16RW09-211026	M1J1516-11	10/26/21 07:40
16RW10-211026	M1J1516-12	10/26/21 08:40
16RW01-211026	M1J1516-13	10/26/21 09:25
16WW13-211026	M1J1516-14	10/26/21 10:05
16WW42-211026	M1J1516-15	10/26/21 10:45
16PM09-211026	M1J1516-16	10/26/21 11:30
16PM06-211026	M1J1516-17	10/26/21 12:10
16PM14-211026	M1J1516-18	10/26/21 12:50

Holding Time Summary

MICROBAC®

Specific Method: EPA 6850 **Hold Time**

Laboratory Report Number: M1J1516

Matrix: Aqueous

Client Project ID: LHAAP

Microbac Laboratories Inc., - Marietta, OH

Laboratory ID	Date Collected	Date Received	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
16WW44-211025	10/25/21 07:35	10/27/21 10:25	11/12/21 11:07	18.15	28.00	
16WW37-211025	10/25/21 08:20	10/27/21 10:25	11/12/21 11:47	18.14	28.00	
16WW38-211025	10/25/21 09:05	10/27/21 10:25	11/12/21 01:51	17.70	28.00	
16WW14-211025	10/25/21 09:50	10/27/21 10:25	11/12/21 02:04	17.68	28.00	
16RW06-211025	10/25/21 10:30	10/27/21 10:25	11/12/21 02:18	17.66	28.00	
16RW07-211025	10/25/21 11:10	10/27/21 10:25	11/12/21 02:31	17.64	28.00	
16WW39-211025	10/25/21 11:55	10/27/21 10:25	11/12/21 02:44	17.62	28.00	
16PM02-211025	10/25/21 12:40	10/27/21 10:25	11/12/21 02:58	17.60	28.00	
16PM03-211025	10/25/21 13:20	10/27/21 10:25	11/12/21 03:50	17.60	28.00	
16PM03-211025-FD	10/25/21 13:20	10/27/21 10:25	11/12/21 04:04	17.61	28.00	
16RW09-211026	10/26/21 07:40	10/27/21 10:25	11/12/21 04:17	16.86	28.00	
16RW10-211026	10/26/21 08:40	10/27/21 10:25	11/12/21 04:30	16.83	28.00	
16RW01-211026	10/26/21 09:25	10/27/21 10:25	11/12/21 04:43	16.80	28.00	
16WW13-211026	10/26/21 10:05	10/27/21 10:25	11/12/21 04:57	16.79	28.00	
16WW42-211026	10/26/21 10:45	10/27/21 10:25	11/12/21 05:10	16.77	28.00	
16PM09-211026	10/26/21 11:30	10/27/21 10:25	11/12/21 05:23	16.75	28.00	
16PM06-211026	10/26/21 12:10	10/27/21 10:25	11/12/21 05:36	16.73	28.00	
16PM14-211026	10/26/21 12:50	10/27/21 10:25	11/12/21 05:50	16.71	28.00	

* - Holding time exceeded.

MICROBAC®

Analysis Class

HPLC Organics

Microbac Laboratories, Inc.
158 Starlite Drive | Marietta, OH 45750 | 800.373.4071 | www.microbac.com

MICROBAC®

HPLC Organics - Class Narrative and Notes

All test results meet the requirements of the QAPP and other applicable contract terms and conditions . Any exceptions are listed below in the sample and qc notes sections. Analytical results are reported on a 'as received' basis unless specified otherwise. Analytical results for solids with units ending in (dry) are reported on a dry weight basis. A statement of uncertainty for each analysis is available upon request.

Sample Notes

EPA 6850

D3	**Dilution was performed due to high target analyte concentration.**

M1J1516-02	16WW37-211025	M1J1516-09	16PM03-211025
M1J1516-10	16PM03-211025-FD	M1J1516-12	16RW10-211026

QC Sample Notes

U	**The analyte was analyzed for but was not detected above the reported quantitation limit. The quantitation limit has been adjusted for any dilution or concentration of the sample.**

EPA 6850

Perchlorate

S1K0152-CCB1	Calibration Blank	S1K0152-CCB2	Calibration Blank
S1K0152-CCB3	Calibration Blank	S1K0152-CCB4	Calibration Blank
S1K0152-CCB5	Calibration Blank	S1K0152-CCB6	Calibration Blank
S1K0152-ICB1	Initial Cal Blank	S1K0230-CCB1	Calibration Blank
S1K0230-CCB2	Calibration Blank		

MICROBAC®

HPLC Organics
EPA 6850

Microbac Laboratories, Inc.
158 Starlite Drive | Marietta, OH 45750 | 800.373.4071 | www.microbac.com

MICROBAC®

FORM I:
HPLC Organics
EPA 6850
RESULTS SUMMARY

Microbac Laboratories, Inc.
158 Starlite Drive | Marietta, OH 45750 | 800.373.4071 | www.microbac.com

MICROBAC®

Laboratory Report Number: M1J1516

CERTIFICATE OF ANALYSIS
FORM I

Client Project ID: LHAAP

Microbac Laboratories Inc., - Marietta, OH

Perchlorate by LCMS

Client ID:	16WW44-211025			**Collection Date:**	10/25/2021 07:35
Laboratory ID:	M1J1516-01			**Prep Date:**	11/03/2021 13:00
Matrix:	Aqueous			**Analyzed:**	11/12/2021 11:07
Batch / Sequence:	B1K0221 / S1K0230	**Analytical Method:**	EPA 6850	**Calibration:**	21K0019
Instrument:	LCMS2	**Units:**	ug/L	**File ID:**	2LM032104
Analyst:	CAS	**Dilution:**	1		

Analyte	CAS Number	Result	DL	LOD	LOQ	Flag	Qual
Perchlorate	14797-73-0	0.200	0.100	0.200	0.400	U	

Notes and Definitions

DL: Detection Limit
LOD: Limit of Detection
LOQ: Limit of Quantitation
U: The analyte was analyzed for but was not detected above the reported quantitation limit. The quantitation limit has been adjusted for any dilution or concentration of the sample.
ug/L: Micrograms per Liter

MICROBAC®

Laboratory Report Number: M1J1516

CERTIFICATE OF ANALYSIS
FORM I

Client Project ID: LHAAP

Microbac Laboratories Inc., - Marietta, OH

Perchlorate by LCMS

Client ID:	16WW37-211025			**Collection Date:**	10/25/2021 08:20
Laboratory ID:	M1J1516-02			**Prep Date:**	11/03/2021 13:00
Matrix:	Aqueous			**Analyzed:**	11/12/2021 11:47
Batch / Sequence:	B1K0221 / S1K0230	**Analytical Method:**	EPA 6850	**Calibration:**	21K0019
Instrument:	LCMS2	**Units:**	ug/L	**File ID:**	2LM032107
Analyst:	CAS	**Dilution:**	100		

Sample Notes: D3

Analyte	CAS Number	Result	DL	LOD	LOQ	Flag	Qual
Perchlorate	14797-73-0	168	10.0	20.0	40.0		

Notes and Definitions

DL: Detection Limit
LOD: Limit of Detection
LOQ: Limit of Quantitation
D3: Dilution was performed due to high target analyte concentration.
ug/L: Micrograms per Liter

MICROBAC®

Laboratory Report Number: M1J1516

CERTIFICATE OF ANALYSIS
FORM I

Client Project ID: LHAAP

Microbac Laboratories Inc., - Marietta, OH

Perchlorate by LCMS

Client ID:	16WW38-211025			**Collection Date:**	10/25/2021 09:05
Laboratory ID:	M1J1516-03			**Prep Date:**	11/03/2021 13:00
Matrix:	Aqueous			**Analyzed:**	11/12/2021 01:51
Batch / Sequence:	B1K0221 / S1K0152	**Analytical Method:**	EPA 6850	**Calibration:**	21K0019
Instrument:	LCMS2	**Units:**	ug/L	**File ID:**	2LM032077
Analyst:	CAS	**Dilution:**	1		

Analyte	CAS Number	Result	DL	LOD	LOQ	Flag	Qual
Perchlorate	14797-73-0	0.200	0.100	0.200	0.400	U	

Notes and Definitions

DL: Detection Limit
LOD: Limit of Detection
LOQ: Limit of Quantitation
U: The analyte was analyzed for but was not detected above the reported quantitation limit. The quantitation limit has been adjusted for any dilution or concentration of the sample.
ug/L: Micrograms per Liter

MICROBAC®

Laboratory Report Number: M1J1516

CERTIFICATE OF ANALYSIS
FORM I

Client Project ID: LHAAP

Microbac Laboratories Inc., - Marietta, OH

Perchlorate by LCMS

Client ID:	16WW14-211025			**Collection Date:**	10/25/2021 09:50
Laboratory ID:	M1J1516-04			**Prep Date:**	11/03/2021 13:00
Matrix:	Aqueous			**Analyzed:**	11/12/2021 02:04
Batch / Sequence:	B1K0221 / S1K0152	**Analytical Method:**	EPA 6850	**Calibration:**	21K0019
Instrument:	LCMS2	**Units:**	ug/L	**File ID:**	2LM032078
Analyst:	CAS	**Dilution:**	1		

Analyte	CAS Number	Result	DL	LOD	LOQ	Flag	Qual
Perchlorate	14797-73-0	0.200	0.100	0.200	0.400	U	

Notes and Definitions

DL: Detection Limit
LOD: Limit of Detection
LOQ: Limit of Quantitation
U: The analyte was analyzed for but was not detected above the reported quantitation limit. The quantitation limit has been adjusted for any dilution or concentration of the sample.
ug/L: Micrograms per Liter

MICROBAC®

Laboratory Report Number: M1J1516

CERTIFICATE OF ANALYSIS
FORM I

Client Project ID: LHAAP

Microbac Laboratories Inc., - Marietta, OH

Perchlorate by LCMS

Client ID:	16RW06-211025			**Collection Date:**	10/25/2021 10:30
Laboratory ID:	M1J1516-05			**Prep Date:**	11/03/2021 13:00
Matrix:	Aqueous			**Analyzed:**	11/12/2021 02:18
Batch / Sequence:	B1K0221 / S1K0152	**Analytical Method:**	EPA 6850	**Calibration:**	21K0019
Instrument:	LCMS2	**Units:**	ug/L	**File ID:**	2LM032079
Analyst:	CAS	**Dilution:**	1		

Analyte	CAS Number	Result	DL	LOD	LOQ	Flag	Qual
Perchlorate	14797-73-0	0.200	0.100	0.200	0.400	U	

Notes and Definitions

DL: Detection Limit
LOD: Limit of Detection
LOQ: Limit of Quantitation
U: The analyte was analyzed for but was not detected above the reported quantitation limit. The quantitation limit has been adjusted for any dilution or concentration of the sample.
ug/L: Micrograms per Liter

MICROBAC®

Laboratory Report Number: M1J1516

CERTIFICATE OF ANALYSIS
FORM I

Client Project ID: LHAAP

Microbac Laboratories Inc., - Marietta, OH

Perchlorate by LCMS

Client ID:	16RW07-211025			**Collection Date:**	10/25/2021 11:10
Laboratory ID:	M1J1516-06			**Prep Date:**	11/03/2021 13:00
Matrix:	Aqueous			**Analyzed:**	11/12/2021 02:31
Batch / Sequence:	B1K0221 / S1K0152	**Analytical Method:**	EPA 6850	**Calibration:**	21K0019
Instrument:	LCMS2	**Units:**	ug/L	**File ID:**	2LM032080
Analyst:	CAS	**Dilution:**	1		

Analyte	CAS Number	Result	DL	LOD	LOQ	Flag	Qual
Perchlorate	14797-73-0	0.262	0.100	0.200	0.400	J	

Notes and Definitions

DL: Detection Limit
LOD: Limit of Detection
LOQ: Limit of Quantitation
J: The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
ug/L: Micrograms per Liter

MICROBAC®

Laboratory Report Number: M1J1516

CERTIFICATE OF ANALYSIS
FORM I

Client Project ID: LHAAP

Microbac Laboratories Inc., - Marietta, OH

Perchlorate by LCMS

Client ID:	16WW39-211025			**Collection Date:**	10/25/2021 11:55
Laboratory ID:	M1J1516-07			**Prep Date:**	11/03/2021 13:00
Matrix:	Aqueous			**Analyzed:**	11/12/2021 02:44
Batch / Sequence:	B1K0221 / S1K0152	**Analytical Method:**	EPA 6850	**Calibration:**	21K0019
Instrument:	LCMS2	**Units:**	ug/L	**File ID:**	2LM032081
Analyst:	CAS	**Dilution:**	1		

Analyte	CAS Number	Result	DL	LOD	LOQ	Flag	Qual
Perchlorate	14797-73-0	9.07	0.100	0.200	0.400		

Notes and Definitions

DL: Detection Limit
LOD: Limit of Detection
LOQ: Limit of Quantitation
ug/L: Micrograms per Liter

MICROBAC®

Laboratory Report Number: M1J1516

CERTIFICATE OF ANALYSIS
FORM I

Client Project ID: LHAAP

Microbac Laboratories Inc., - Marietta, OH

Perchlorate by LCMS

Client ID:	16PM02-211025			**Collection Date:**	10/25/2021 12:40
Laboratory ID:	M1J1516-08			**Prep Date:**	11/03/2021 13:00
Matrix:	Aqueous			**Analyzed:**	11/12/2021 02:58
Batch / Sequence:	B1K0221 / S1K0152	**Analytical Method:**	EPA 6850	**Calibration:**	21K0019
Instrument:	LCMS2	**Units:**	ug/L	**File ID:**	2LM032082
Analyst:	CAS	**Dilution:**	1		

Analyte	CAS Number	Result	DL	LOD	LOQ	Flag	Qual
Perchlorate	14797-73-0	0.200	0.100	0.200	0.400	U	

Notes and Definitions

DL: Detection Limit
LOD: Limit of Detection
LOQ: Limit of Quantitation
U: The analyte was analyzed for but was not detected above the reported quantitation limit. The quantitation limit has been adjusted for any dilution or concentration of the sample.
ug/L: Micrograms per Liter

MICROBAC®

Laboratory Report Number: M1J1516

CERTIFICATE OF ANALYSIS
FORM I

Client Project ID: LHAAP

Microbac Laboratories Inc., - Marietta, OH

Perchlorate by LCMS

Client ID:	16PM03-211025			**Collection Date:**	10/25/2021 13:20
Laboratory ID:	M1J1516-09			**Prep Date:**	11/03/2021 13:00
Matrix:	Aqueous			**Analyzed:**	11/12/2021 03:50
Batch / Sequence:	B1K0221 / S1K0152	**Analytical Method:**	EPA 6850	**Calibration:**	21K0019
Instrument:	LCMS2	**Units:**	ug/L	**File ID:**	2LM032086
Analyst:	CAS	**Dilution:**	100		

Sample Notes: D3

Analyte	CAS Number	Result	DL	LOD	LOQ	Flag	Qual
Perchlorate	14797-73-0	220	10.0	20.0	40.0		

Notes and Definitions

DL: Detection Limit
LOD: Limit of Detection
LOQ: Limit of Quantitation
D3: Dilution was performed due to high target analyte concentration.
ug/L: Micrograms per Liter

MICROBAC®

Laboratory Report Number: M1J1516

CERTIFICATE OF ANALYSIS
FORM I

Client Project ID: LHAAP

Microbac Laboratories Inc., - Marietta, OH

Perchlorate by LCMS

Client ID:	16PM03-211025-FD			**Collection Date:**	10/25/2021 13:20
Laboratory ID:	M1J1516-10			**Prep Date:**	11/03/2021 13:00
Matrix:	Aqueous			**Analyzed:**	11/12/2021 04:04
Batch / Sequence:	B1K0221 / S1K0152	**Analytical Method:**	EPA 6850	**Calibration:**	21K0019
Instrument:	LCMS2	**Units:**	ug/L	**File ID:**	2LM032087
Analyst:	CAS	**Dilution:**	100		

Sample Notes: D3

Analyte	CAS Number	Result	DL	LOD	LOQ	Flag	Qual
Perchlorate	14797-73-0	264	10.0	20.0	40.0		

Notes and Definitions

DL: Detection Limit
LOD: Limit of Detection
LOQ: Limit of Quantitation
D3: Dilution was performed due to high target analyte concentration.
ug/L: Micrograms per Liter

MICROBAC®

Laboratory Report Number: M1J1516

CERTIFICATE OF ANALYSIS
FORM I

Client Project ID: LHAAP

Microbac Laboratories Inc., - Marietta, OH

Perchlorate by LCMS

Client ID:	16RW09-211026			**Collection Date:**	10/26/2021 07:40
Laboratory ID:	M1J1516-11			**Prep Date:**	11/03/2021 13:00
Matrix:	Aqueous			**Analyzed:**	11/12/2021 04:17
Batch / Sequence:	B1K0221 / S1K0152	**Analytical Method:**	EPA 6850	**Calibration:**	21K0019
Instrument:	LCMS2	**Units:**	ug/L	**File ID:**	2LM032088
Analyst:	CAS	**Dilution:**	1		

Analyte	CAS Number	Result	DL	LOD	LOQ	Flag	Qual
Perchlorate	14797-73-0	0.200	0.100	0.200	0.400	U	

Notes and Definitions

DL: Detection Limit
LOD: Limit of Detection
LOQ: Limit of Quantitation
U: The analyte was analyzed for but was not detected above the reported quantitation limit. The quantitation limit has been adjusted for any dilution or concentration of the sample.
ug/L: Micrograms per Liter

MICROBAC®

Laboratory Report Number: M1J1516

CERTIFICATE OF ANALYSIS
FORM I

Client Project ID: LHAAP

Microbac Laboratories Inc., - Marietta, OH

Perchlorate by LCMS

Client ID:	16RW10-211026			**Collection Date:**	10/26/2021 08:40
Laboratory ID:	M1J1516-12			**Prep Date:**	11/03/2021 13:00
Matrix:	Aqueous			**Analyzed:**	11/12/2021 04:30
Batch / Sequence:	B1K0221 / S1K0152	**Analytical Method:**	EPA 6850	**Calibration:**	21K0019
Instrument:	LCMS2	**Units:**	ug/L	**File ID:**	2LM032089
Analyst:	CAS	**Dilution:**	10		

Sample Notes: D3

Analyte	CAS Number	Result	DL	LOD	LOQ	Flag	Qual
Perchlorate	14797-73-0	27.8	1.00	2.00	4.00		

Notes and Definitions

DL: Detection Limit
LOD: Limit of Detection
LOQ: Limit of Quantitation
D3: Dilution was performed due to high target analyte concentration.
ug/L: Micrograms per Liter

MICROBAC®

Laboratory Report Number: M1J1516

CERTIFICATE OF ANALYSIS
FORM I

Client Project ID: LHAAP

Microbac Laboratories Inc., - Marietta, OH

Perchlorate by LCMS

Client ID:	16RW01-211026			**Collection Date:**	10/26/2021 09:25
Laboratory ID:	M1J1516-13			**Prep Date:**	11/03/2021 13:00
Matrix:	Aqueous			**Analyzed:**	11/12/2021 04:43
Batch / Sequence:	B1K0221 / S1K0152	**Analytical Method:**	EPA 6850	**Calibration:**	21K0019
Instrument:	LCMS2	**Units:**	ug/L	**File ID:**	2LM032090
Analyst:	CAS	**Dilution:**	1		

Analyte	CAS Number	Result	DL	LOD	LOQ	Flag	Qual
Perchlorate	14797-73-0	0.200	0.100	0.200	0.400	U	

Notes and Definitions

DL: Detection Limit
LOD: Limit of Detection
LOQ: Limit of Quantitation
U: The analyte was analyzed for but was not detected above the reported quantitation limit. The quantitation limit has been adjusted for any dilution or concentration of the sample.
ug/L: Micrograms per Liter

MICROBAC®

Laboratory Report Number: M1J1516

CERTIFICATE OF ANALYSIS
FORM I

Client Project ID: LHAAP

Microbac Laboratories Inc., - Marietta, OH

Perchlorate by LCMS

Client ID:	16WW13-211026			**Collection Date:**	10/26/2021 10:05
Laboratory ID:	M1J1516-14			**Prep Date:**	11/03/2021 13:00
Matrix:	Aqueous			**Analyzed:**	11/12/2021 04:57
Batch / Sequence:	B1K0221 / S1K0152	**Analytical Method:**	EPA 6850	**Calibration:**	21K0019
Instrument:	LCMS2	**Units:**	ug/L	**File ID:**	2LM032091
Analyst:	CAS	**Dilution:**	1		

Analyte	CAS Number	Result	DL	LOD	LOQ	Flag	Qual
Perchlorate	14797-73-0	0.200	0.100	0.200	0.400	U	

Notes and Definitions

DL: Detection Limit
LOD: Limit of Detection
LOQ: Limit of Quantitation
U: The analyte was analyzed for but was not detected above the reported quantitation limit. The quantitation limit has been adjusted for any dilution or concentration of the sample.
ug/L: Micrograms per Liter

MICROBAC®

Laboratory Report Number: M1J1516

CERTIFICATE OF ANALYSIS
FORM I

Client Project ID: LHAAP

Microbac Laboratories Inc., - Marietta, OH

Perchlorate by LCMS

Client ID:	16WW42-211026			**Collection Date:**	10/26/2021 10:45
Laboratory ID:	M1J1516-15			**Prep Date:**	11/03/2021 13:00
Matrix:	Aqueous			**Analyzed:**	11/12/2021 05:10
Batch / Sequence:	B1K0221 / S1K0152	**Analytical Method:**	EPA 6850	**Calibration:**	21K0019
Instrument:	LCMS2	**Units:**	ug/L	**File ID:**	2LM032092
Analyst:	CAS	**Dilution:**	1		

Analyte	CAS Number	Result	DL	LOD	LOQ	Flag	Qual
Perchlorate	14797-73-0	0.200	0.100	0.200	0.400	U	

Notes and Definitions

DL: Detection Limit
LOD: Limit of Detection
LOQ: Limit of Quantitation
U: The analyte was analyzed for but was not detected above the reported quantitation limit. The quantitation limit has been adjusted for any dilution or concentration of the sample.
ug/L: Micrograms per Liter

MICROBAC®

Laboratory Report Number: M1J1516

CERTIFICATE OF ANALYSIS
FORM I

Client Project ID: LHAAP

Microbac Laboratories Inc., - Marietta, OH

Perchlorate by LCMS

Client ID:	16PM09-211026			**Collection Date:**	10/26/2021 11:30
Laboratory ID:	M1J1516-16			**Prep Date:**	11/03/2021 13:00
Matrix:	Aqueous			**Analyzed:**	11/12/2021 05:23
Batch / Sequence:	B1K0221 / S1K0152	**Analytical Method:**	EPA 6850	**Calibration:**	21K0019
Instrument:	LCMS2	**Units:**	ug/L	**File ID:**	2LM032093
Analyst:	CAS	**Dilution:**	1		

Analyte	CAS Number	Result	DL	LOD	LOQ	Flag	Qual
Perchlorate	14797-73-0	0.200	0.100	0.200	0.400	U	

Notes and Definitions

DL: Detection Limit
LOD: Limit of Detection
LOQ: Limit of Quantitation
U: The analyte was analyzed for but was not detected above the reported quantitation limit. The quantitation limit has been adjusted for any dilution or concentration of the sample.
ug/L: Micrograms per Liter

MICROBAC®

Laboratory Report Number: M1J1516

CERTIFICATE OF ANALYSIS
FORM I

Client Project ID: LHAAP

Microbac Laboratories Inc., - Marietta, OH

Perchlorate by LCMS

Client ID:	16PM06-211026			**Collection Date:**	10/26/2021 12:10
Laboratory ID:	M1J1516-17			**Prep Date:**	11/03/2021 13:00
Matrix:	Aqueous			**Analyzed:**	11/12/2021 05:36
Batch / Sequence:	B1K0221 / S1K0152	**Analytical Method:**	EPA 6850	**Calibration:**	21K0019
Instrument:	LCMS2	**Units:**	ug/L	**File ID:**	2LM032094
Analyst:	CAS	**Dilution:**	1		

Analyte	CAS Number	Result	DL	LOD	LOQ	Flag	Qual
Perchlorate	14797-73-0	0.200	0.100	0.200	0.400	U	

Notes and Definitions

DL: Detection Limit
LOD: Limit of Detection
LOQ: Limit of Quantitation
U: The analyte was analyzed for but was not detected above the reported quantitation limit. The quantitation limit has been adjusted for any dilution or concentration of the sample.
ug/L: Micrograms per Liter

MICROBAC®

Laboratory Report Number: M1J1516

CERTIFICATE OF ANALYSIS
FORM I

Client Project ID: LHAAP

Microbac Laboratories Inc., - Marietta, OH

Perchlorate by LCMS

Client ID:	16PM14-211026			**Collection Date:**	10/26/2021 12:50
Laboratory ID:	M1J1516-18			**Prep Date:**	11/03/2021 13:00
Matrix:	Aqueous			**Analyzed:**	11/12/2021 05:50
Batch / Sequence:	B1K0221 / S1K0152	**Analytical Method:**	EPA 6850	**Calibration:**	21K0019
Instrument:	LCMS2	**Units:**	ug/L	**File ID:**	2LM032095
Analyst:	CAS	**Dilution:**	1		

Analyte	CAS Number	Result	DL	LOD	LOQ	Flag	Qual
Perchlorate	14797-73-0	0.200	0.100	0.200	0.400	U	

Notes and Definitions

DL: Detection Limit
LOD: Limit of Detection
LOQ: Limit of Quantitation
U: The analyte was analyzed for but was not detected above the reported quantitation limit. The quantitation limit has been adjusted for any dilution or concentration of the sample.
ug/L: Micrograms per Liter

MICROBAC®

FORM III:
HPLC Organics
EPA 6850
BS/BSD, MS/MSD, DUP

Microbac Laboratories, Inc.
158 Starlite Drive | Marietta, OH 45750 | 800.373.4071 | www.microbac.com

MICROBAC®

Laboratory Report Number: M1J1516
Client Project ID: LHAAP

Matrix Spike/Duplicate (MS/MSD)
FORM IIIA

		Parent	Spike	Duplicate
Method:	EPA 6850			
Batch:	B1K0221	**Sample ID:** M1J1516-01	B1K0221-MS1	B1K0221-MSD1
Matrix:	Aqueous	**Prepared:** 11/03/2021 13:00	11/03/21 13:00	11/03/21 13:00
Units:	ug/L	**Analyzed:** 11/12/2021 11:07	11/12/21 11:20	11/12/21 11:33
Instrument:	LCMS2	**File ID:** 2LM032104	2LM032105	2LM032106
Calibration:	21K0019	**Dilution:** 1	1	1
Analyst:	CAS			

Analyte	Parent	MS Spiked	MS Found	MS %Rec	MSD Spiked	MSD Found	MSD %Rec	%RPD	%Rec Limts	RPD Limit	Q
Perchlorate	ND	0.200	0.208	104	0.200	0.209	105	0.480	84 - 119	15	

* - Exceeds %Rec Limit
\# - Exceeds RPD Limit

MICROBAC®

Laboratory Report Number: M1J1516

BLANK SPIKE (BS)

Client Project ID: LHAAP

FORM IIIB

Method:	EPA 6850		**Blank Spike**
Batch:	B1K0221	**Spike ID:**	B1K0221-BS1
Analyst:	CAS	**Prepared:**	11/03/21 13:00
Matrix:	Aqueous	**Analyzed:**	11/12/21 00:05
Units:	ug/L	**File ID:**	2LM032069
Instrument:	LCMS2	**Initial/Final:**	10mL/10mL
Calibration:	21K0019		

Analyte	BS Spiked	BS Found	BS %Rec	%Rec Limts	Q
Perchlorate	0.200	0.194	97.0	84 - 119	

* - Does not meet %Rec acceptance criteria.
\# - Does not meet RPD acceptance criteria.
NS - Analyte Not Spiked

MICROBAC®

FORM IV:
HPLC Organics
EPA 6850
METHOD BLANK SUMMARY

Microbac Laboratories, Inc.
158 Starlite Drive | Marietta, OH 45750 | 800.373.4071 | www.microbac.com

MICROBAC®

Laboratory Report Number: M1J1516
Client Project ID: LHAAP

METHOD BLANK SUMMARY
FORM IVA

Blank ID:	B1K0221-BLK1	**Batch:**	B1K0221
Blank File ID:	2LM032068	**Instrument:**	LCMS2
Prepared:	11/03/2021 13:00	**Method:**	EPA 6850
Analyzed:	11/11/2021 23:52	**Analyst:**	CAS

This Method Blank Applies To The Following Samples:

Client Sample ID	Laboratory Sample ID	Lab File ID	Time Analyzed
Blank	B1K0221-BLK1	2LM032068	11/11/2021 23:52
LCS	B1K0221-BS1	2LM032069	11/12/2021 0:05
16WW38-211025	M1J1516-03	2LM032077	11/12/2021 1:51
16WW14-211025	M1J1516-04	2LM032078	11/12/2021 2:04
16RW06-211025	M1J1516-05	2LM032079	11/12/2021 2:18
16RW07-211025	M1J1516-06	2LM032080	11/12/2021 2:31
16WW39-211025	M1J1516-07	2LM032081	11/12/2021 2:44
16PM02-211025	M1J1516-08	2LM032082	11/12/2021 2:58
16PM03-211025	M1J1516-09	2LM032086	11/12/2021 3:50
16PM03-211025-FD	M1J1516-10	2LM032087	11/12/2021 4:04
16RW09-211026	M1J1516-11	2LM032088	11/12/2021 4:17
16RW10-211026	M1J1516-12	2LM032089	11/12/2021 4:30
16RW01-211026	M1J1516-13	2LM032090	11/12/2021 4:43
16WW13-211026	M1J1516-14	2LM032091	11/12/2021 4:57
16WW42-211026	M1J1516-15	2LM032092	11/12/2021 5:10
16PM09-211026	M1J1516-16	2LM032093	11/12/2021 5:23
16PM06-211026	M1J1516-17	2LM032094	11/12/2021 5:36
16PM14-211026	M1J1516-18	2LM032095	11/12/2021 5:50
16WW44-211025	M1J1516-01	2LM032104	11/12/2021 11:07
Matrix Spike	B1K0221-MS1	2LM032105	11/12/2021 11:20
Matrix Spike Dup	B1K0221-MSD1	2LM032106	11/12/2021 11:33
16WW37-211025	M1J1516-02	2LM032107	11/12/2021 11:47

MICROBAC®

Laboratory Report Number: M1J1516

Client Project ID: LHAAP

METHOD BLANK
FORM IVB

Sample ID:	B1K0221-BLK1	**Prep Date:**	11/03/21 13:00	**Matrix:**	Aqueous
Instrument:	LCMS2	**Analyzed:**	11/11/21 23:52	**Method:**	EPA 6850
File ID:	2LM032068	**Sequence:**	S1K0152	**Analyst:**	CAS
Batch:	B1K0221	**Units:**	ug/L	**Calibration:**	21K0019

Analyte	Result	DL	LOD	LOQ	Dilution	Flag	Q
Perchlorate	0.200	0.100	0.200	0.400	1	U	

Notes and Definitions

* - Detected in the associated method Blank at a concentration >= 1/2xRL

U: The analyte was analyzed for but was not detected above the reported quantitation limit. The quantitation limit has been adjusted for any dilution or concentration of the sample.

MICROBAC®

FORM VII:
HPLC Organics
EPA 6850
ICV/CCV

Microbac Laboratories, Inc.
158 Starlite Drive | Marietta, OH 45750 | 800.373.4071 | www.microbac.com

MICROBAC®

Laboratory Report Number: M1J1516
Client Project ID: LHAAP

Initial Calibration Verification (ICV)
FORM VIIA

Sample ID:	S1K0152-ICV1	**Analyzed:**	11/11/21 12:30	**Method:**	EPA 6850
Instrument:	LCMS2	**Calibration:**	21K0019	**Sequence:**	S1K0152
File ID:	2LM032021	**Units:**	ug/L	**Analyst:**	CAS

Analyte	Response	Limit	Q	Expected	Found	% Drift / % Diff	UCL	Q
Perchlorate	0.8805547			1.00	0.976	-2.4	15	

* - Does not meet acceptance criteria.

MICROBAC®

Laboratory Report Number: M1J1516
Client Project ID: LHAAP

Continuing Calibration Verification (CCV)
FORM VIIB

Laboratory ID:	S1K0152-CCV1	**Analyzed:**	11/11/21 15:55	**Method:**	EPA 6850
Instrument:	LCMS2	**Calibration:**	21K0019	**Sequence:**	S1K0152
File ID:	2LM032032	**Units:**	ug/L	**Analyst:**	CAS

Analyte	Response	Limit	Q	Expected	Found	% Drift / % Diff	UCL	Q
Perchlorate	0.8615452			1.00	0.954	-4.6	15	

* - Does not meet acceptance criteria.

MICROBAC®

Laboratory Report Number: M1J1516
Client Project ID: LHAAP

Continuing Calibration Verification (CCV)
FORM VIIB

Laboratory ID:	S1K0152-CCV2	**Analyzed:**	11/11/21 18:34	**Method:**	EPA 6850
Instrument:	LCMS2	**Calibration:**	21K0019	**Sequence:**	S1K0152
File ID:	2LM032044	**Units:**	ug/L	**Analyst:**	CAS

Analyte	Response	Limit	Q	Expected	Found	% Drift / % Diff	UCL	Q
Perchlorate	0.8404123			1.00	0.931	-6.9	15	

* - Does not meet acceptance criteria.

MICROBAC®

Laboratory Report Number: M1J1516
Client Project ID: LHAAP

Continuing Calibration Verification (CCV)
FORM VIIB

Laboratory ID:	S1K0152-CCV3	**Analyzed:**	11/11/21 21:26	**Method:**	EPA 6850
Instrument:	LCMS2	**Calibration:**	21K0019	**Sequence:**	S1K0152
File ID:	2LM032057	**Units:**	ug/L	**Analyst:**	CAS

Analyte	Response	Limit	Q	Expected	Found	% Drift / % Diff	UCL	Q
Perchlorate	0.8478926			1.00	0.939	-6.1	15	

* - Does not meet acceptance criteria.

MICROBAC®

Laboratory Report Number: M1J1516
Client Project ID: LHAAP

Continuing Calibration Verification (CCV)
FORM VIIB

Laboratory ID:	S1K0152-CCV4	**Analyzed:**	11/12/21 00:18	**Method:**	EPA 6850
Instrument:	LCMS2	**Calibration:**	21K0019	**Sequence:**	S1K0152
File ID:	2LM032070	**Units:**	ug/L	**Analyst:**	CAS

Analyte	Response	Limit	Q	Expected	Found	% Drift / % Diff	UCL	Q
Perchlorate	0.8449075			1.00	0.936	-6.4	15	

* - Does not meet acceptance criteria.

MICROBAC®

Laboratory Report Number: M1J1516
Client Project ID: LHAAP

Continuing Calibration Verification (CCV)
FORM VIIB

Laboratory ID:	S1K0152-CCV5	**Analyzed:**	11/12/21 03:11	**Method:**	EPA 6850
Instrument:	LCMS2	**Calibration:**	21K0019	**Sequence:**	S1K0152
File ID:	2LM032083	**Units:**	ug/L	**Analyst:**	CAS

Analyte	Response	Limit	Q	Expected	Found	% Drift / % Diff	UCL	Q
Perchlorate	0.8425911			1.00	0.933	-6.7	15	

* - Does not meet acceptance criteria.

MICROBAC®

Laboratory Report Number: M1J1516
Client Project ID: LHAAP

Continuing Calibration Verification (CCV)
FORM VIIB

Laboratory ID:	S1K0152-CCV6	**Analyzed:**	11/12/21 06:03	**Method:**	EPA 6850
Instrument:	LCMS2	**Calibration:**	21K0019	**Sequence:**	S1K0152
File ID:	2LM032096	**Units:**	ug/L	**Analyst:**	CAS

Analyte	Response	Limit	Q	Expected	Found	% Drift / % Diff	UCL	Q
Perchlorate	0.8656951			1.00	0.959	-4.1	15	

* - Does not meet acceptance criteria.

MICROBAC®

Laboratory Report Number: M1J1516
Client Project ID: LHAAP

Instrument Reporting Limit Check (CRL)
FORM VIIB

Laboratory ID:	S1K0152-CRL1	**Analyzed:**	11/11/21 16:08	**Method:**	EPA 6850
Instrument:	LCMS2	**Calibration:**	21K0019	**Sequence:**	S1K0152
File ID:	2LM032033	**Units:**	ug/L		

Analyte	Expected	Found	Recovery	LCL	UCL	Q
Perchlorate	0.200	0.190	95.0	70	130	

* - Does not meet acceptance criteria.

MICROBAC®

Laboratory Report Number: M1J1516
Client Project ID: LHAAP

Instrument Reporting Limit Check (CRL)
FORM VIIB

Laboratory ID:	S1K0152-CRL2	**Analyzed:**	11/11/21 18:47	**Method:**	EPA 6850
Instrument:	LCMS2	**Calibration:**	21K0019	**Sequence:**	S1K0152
File ID:	2LM032045	**Units:**	ug/L		

Analyte	Expected	Found	Recovery	LCL	UCL	Q
Perchlorate	0.200	0.179	89.5	70	130	

* - Does not meet acceptance criteria.

MICROBAC®

Laboratory Report Number: M1J1516
Client Project ID: LHAAP

Instrument Reporting Limit Check (CRL)
FORM VIIB

Laboratory ID:	S1K0152-CRL3	**Analyzed:**	11/11/21 21:39	**Method:**	EPA 6850
Instrument:	LCMS2	**Calibration:**	21K0019	**Sequence:**	S1K0152
File ID:	2LM032058	**Units:**	ug/L		

Analyte	Expected	Found	Recovery	LCL	UCL	Q
Perchlorate	0.200	0.186	93.0	70	130	

* - Does not meet acceptance criteria.

MICROBAC®

Laboratory Report Number: M1J1516
Client Project ID: LHAAP

Instrument Reporting Limit Check (CRL)
FORM VIIB

Laboratory ID:	S1K0152-CRL4	**Analyzed:**	11/12/21 00:32	**Method:**	EPA 6850
Instrument:	LCMS2	**Calibration:**	21K0019	**Sequence:**	S1K0152
File ID:	2LM032071	**Units:**	ug/L		

Analyte	Expected	Found	Recovery	LCL	UCL	Q
Perchlorate	0.200	0.182	91.0	70	130	

* - Does not meet acceptance criteria.

MICROBAC®

Laboratory Report Number: M1J1516
Client Project ID: LHAAP

Instrument Reporting Limit Check (CRL)
FORM VIIB

Laboratory ID:	S1K0152-CRL5	**Analyzed:**	11/12/21 03:24	**Method:**	EPA 6850
Instrument:	LCMS2	**Calibration:**	21K0019	**Sequence:**	S1K0152
File ID:	2LM032084	**Units:**	ug/L		

Analyte	Expected	Found	Recovery	LCL	UCL	Q
Perchlorate	0.200	0.184	92.0	70	130	

* - Does not meet acceptance criteria.

MICROBAC®

Laboratory Report Number: M1J1516
Client Project ID: LHAAP

Instrument Reporting Limit Check (CRL)
FORM VIIB

Laboratory ID:	S1K0152-CRL6	**Analyzed:**	11/12/21 06:16	**Method:**	EPA 6850
Instrument:	LCMS2	**Calibration:**	21K0019	**Sequence:**	S1K0152
File ID:	2LM032097	**Units:**	ug/L		

Analyte	Expected	Found	Recovery	LCL	UCL	Q
Perchlorate	0.200	0.188	94.0	70	130	

* - Does not meet acceptance criteria.

MICROBAC®

Laboratory Report Number: M1J1516
Client Project ID: LHAAP

Continuing Calibration Verification (CCV)
FORM VIIB

Laboratory ID:	S1K0230-CCV1	**Analyzed:**	11/12/21 10:14	**Method:**	EPA 6850
Instrument:	LCMS2	**Calibration:**	21K0019	**Sequence:**	S1K0230
File ID:	2LM032100	**Units:**	ug/L	**Analyst:**	CAS

Analyte	Response	Limit	Q	Expected	Found	% Drift / % Diff	UCL	Q
Perchlorate	0.8695072			1.00	0.963	-3.7	15	

* - Does not meet acceptance criteria.

MICROBAC®

Laboratory Report Number: M1J1516
Client Project ID: LHAAP

Continuing Calibration Verification (CCV)
FORM VIIB

Laboratory ID:	S1K0230-CCV2	**Analyzed:**	11/12/21 12:00	**Method:**	EPA 6850
Instrument:	LCMS2	**Calibration:**	21K0019	**Sequence:**	S1K0230
File ID:	2LM032108	**Units:**	ug/L	**Analyst:**	CAS

Analyte	Response	Limit	Q	Expected	Found	% Drift / % Diff	UCL	Q
Perchlorate	0.8620402			1.00	0.955	-4.5	15	

* - Does not meet acceptance criteria.

MICROBAC®

Laboratory Report Number: M1J1516
Client Project ID: LHAAP

Instrument Reporting Limit Check (CRL)
FORM VIIB

Laboratory ID:	S1K0230-CRL1	**Analyzed:**	11/12/21 10:27	**Method:**	EPA 6850
Instrument:	LCMS2	**Calibration:**	21K0019	**Sequence:**	S1K0230
File ID:	2LM032101	**Units:**	ug/L		

Analyte	Expected	Found	Recovery	LCL	UCL	Q
Perchlorate	0.200	0.195	97.5	70	130	

* - Does not meet acceptance criteria.

MICROBAC®

Laboratory Report Number: M1J1516
Client Project ID: LHAAP

Instrument Reporting Limit Check (CRL)
FORM VIIB

Laboratory ID:	S1K0230-CRL2	**Analyzed:**	11/12/21 12:13	**Method:**	EPA 6850
Instrument:	LCMS2	**Calibration:**	21K0019	**Sequence:**	S1K0230
File ID:	2LM032109	**Units:**	ug/L		

Analyte	Expected	Found	Recovery	LCL	UCL	Q
Perchlorate	0.200	0.184	92.0	70	130	

* - Does not meet acceptance criteria.

MICROBAC®

Laboratory Report Number: M1J1516
Client Project ID: LHAAP

MATRIX CONDUCTIVITY TEST
FORM VII

Laboratory ID:	S1K0152-IFA1	**Run Date:**	11/11/21 16:21	**Matrix:**	Aqueous
Instrument:	LCMS2	**Calibration:**	21K0019	**Method:**	EPA 6850
File ID:	2LM032034	**Analyst:**	CAS	**Batch ID:**	S1K0152

Analyte	Known (ug/L)	Result (ug/L)	Recovery	LCL	UCL	MRL (ug/L)	Flags
Perchlorate	0.20000	0.233	117	80	120	0.4000	

MICROBAC®

Laboratory Report Number: M1J1516
Client Project ID: LHAAP

MATRIX CONDUCTIVITY TEST
FORM VII

Laboratory ID:	S1K0230-IFA1	**Run Date:**	11/12/21 10:40	**Matrix:**	Aqueous
Instrument:	LCMS2	**Calibration:**	21K0019	**Method:**	EPA 6850
File ID:	2LM032102	**Analyst:**	CAS	**Batch ID:**	S1K0230

Analyte	Known (ug/L)	Result (ug/L)	Recovery	LCL	UCL	MRL (ug/L)	Flags
Perchlorate	0.20000	0.231	116	80	120	0.4000	

MICROBAC®

FORM VIII:
HPLC Organics
EPA 6850
Internal Standard Area and RT

Microbac Laboratories, Inc.
158 Starlite Drive | Marietta, OH 45750 | 800.373.4071 | www.microbac.com

MICROBAC®

Laboratory Report Number: M1J1516

Client Project ID: LHAAP

INTERNAL STANDARD AREA SUMMARY
FORM VIIIA

Laboratory:	Microbac Laboratories Inc., - Marietta, OH	**SDG:**	M1J1516
Client:	APTIM Tennessee	**Project:**	Longhorn AAP
Sequence:	S1K0152	**Instrument:**	LCMS2
		Calibration:	21K0019

Blank (B1K0221-BLK1)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	1186917	7.23	493764	7.39	240	50 - 150	*	-0.1300	+/-2.00	

LCS (B1K0221-BS1)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	1033574	7.23	493764	7.39	209	50 - 150	*	-0.1300	+/-2.00	

16WW38-211025 (M1J1516-03)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	1142449	6.93	493764	7.39	231	50 - 150	*	-0.3000	+/-2.00	

16WW14-211025 (M1J1516-04)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	904915	6.81	493764	7.39	183	50 - 150	*	-0.4200	+/-2.00	

16RW06-211025 (M1J1516-05)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	757293	6.78	493764	7.39	153	50 - 150	*	-0.4500	+/-2.00	

16RW07-211025 (M1J1516-06)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	784319	6.79	493764	7.39	159	50 - 150	*	-0.4400	+/-2.00	

16WW39-211025 (M1J1516-07)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	749863	6.74	493764	7.39	152	50 - 150	*	-0.4900	+/-2.00	

16PM02-211025 (M1J1516-08)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	818503	6.86	493764	7.39	166	50 - 150	*	-0.3700	+/-2.00	

16PM03-211025 (M1J1516-09)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	1010381	7.14	493764	7.39	205	50 - 150	*	-0.0200	+/-2.00	

MICROBAC®

Laboratory Report Number: M1J1516

Client Project ID: LHAAP

INTERNAL STANDARD AREA SUMMARY
FORM VIIIA

16PM03-211025-FD (M1J1516-10)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	1029831	7.14	493764	7.39	209	50 - 150	*	-0.0200	+/-2.00	

16RW09-211026 (M1J1516-11)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	773154	6.76	493764	7.39	157	50 - 150	*	-0.4000	+/-2.00	

16RW10-211026 (M1J1516-12)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	900505	6.98	493764	7.39	182	50 - 150	*	-0.1800	+/-2.00	

16RW01-211026 (M1J1516-13)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	661159	6.83	493764	7.39	134	50 - 150		-0.3300	+/-2.00	

16WW13-211026 (M1J1516-14)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	701543	6.79	493764	7.39	142	50 - 150		-0.3700	+/-2.00	

16WW42-211026 (M1J1516-15)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	722465	6.83	493764	7.39	146	50 - 150		-0.3300	+/-2.00	

16PM09-211026 (M1J1516-16)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	741167	6.91	493764	7.39	150	50 - 150		-0.2500	+/-2.00	

16PM06-211026 (M1J1516-17)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	589713	6.84	493764	7.39	119	50 - 150		-0.3200	+/-2.00	

16PM14-211026 (M1J1516-18)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	616853	6.78	493764	7.39	125	50 - 150		-0.3800	+/-2.00	

Calibration Blank (S1K0152-CCB1)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	465704	7.39	493764	7.39	94	50 - 150		0.0800	+/-2.00	

Calibration Blank (S1K0152-CCB2)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	747106	7.39	493764	7.39	151	50 - 150	*	0.0100	+/-2.00	

MICROBAC®

Laboratory Report Number: M1J1516

Client Project ID: LHAAP

INTERNAL STANDARD AREA SUMMARY
FORM VIIIA

Calibration Blank (S1K0152-CCB3)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	610179	7.39	493764	7.39	124	50 - 150		0.0300	+/-2.00	

Calibration Blank (S1K0152-CCB4)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	982949	7.23	493764	7.39	199	50 - 150	*	0.0000	+/-2.00	

Calibration Blank (S1K0152-CCB5)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	909222	7.16	493764	7.39	184	50 - 150	*	0.0000	+/-2.00	

Calibration Blank (S1K0152-CCB6)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	720011	7.23	493764	7.39	146	50 - 150		0.0200	+/-2.00	

Calibration Check (S1K0152-CCV1)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	493764	7.39	493764	7.39	100	50 - 150		0.0000	+/-2.00	

Calibration Check (S1K0152-CCV2)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	792135	7.38	493764	7.39	160	50 - 150	*	0.0000	+/-2.00	

Calibration Check (S1K0152-CCV3)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	726914	7.36	493764	7.39	147	50 - 150		0.0000	+/-2.00	

Calibration Check (S1K0152-CCV4)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	1044422	7.23	493764	7.39	212	50 - 150	*	0.0000	+/-2.00	

Calibration Check (S1K0152-CCV5)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	896995	7.16	493764	7.39	182	50 - 150	*	0.0000	+/-2.00	

Calibration Check (S1K0152-CCV6)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	779391	7.21	493764	7.39	158	50 - 150	*	0.0000	+/-2.00	

Instrument RL Check (S1K0152-CRL1)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	495263	7.39	493764	7.39	100	50 - 150		0.0000	+/-2.00	

MICROBAC®

Laboratory Report Number: M1J1516

Client Project ID: LHAAP

INTERNAL STANDARD AREA SUMMARY
FORM VIIIA

Instrument RL Check (S1K0152-CRL2)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	747862	7.39	493764	7.39	151	50 - 150	*	0.0100	+/-2.00	

Instrument RL Check (S1K0152-CRL3)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	669914	7.38	493764	7.39	136	50 - 150		0.0200	+/-2.00	

Instrument RL Check (S1K0152-CRL4)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	1109933	7.23	493764	7.39	225	50 - 150	*	0.0000	+/-2.00	

Instrument RL Check (S1K0152-CRL5)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	1040105	7.16	493764	7.39	211	50 - 150	*	0.0000	+/-2.00	

Instrument RL Check (S1K0152-CRL6)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	677237	7.23	493764	7.39	137	50 - 150		0.0200	+/-2.00	

Initial Cal Blank (S1K0152-ICB1)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	756431	7.31	493764	7.39	153	50 - 150	*	0.0000	+/-2.00	

Initial Cal Check (S1K0152-ICV1)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	994748	7.31	493764	7.39	201	50 - 150	*	0.0000	+/-2.00	

Interference Check A (S1K0152-IFA1)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	597044	6.84	493764	7.39	121	50 - 150		-0.5500	+/-2.00	

MICROBAC®

Laboratory Report Number: M1J1516

Client Project ID: LHAAP

INTERNAL STANDARD AREA SUMMARY
FORM VIIIA

Laboratory:	Microbac Laboratories Inc., - Marietta, OH	**SDG:**	M1J1516
Client:	APTIM Tennessee	**Project:**	Longhorn AAP
Sequence:	S1K0230	**Instrument:**	LCMS2
		Calibration:	21K0019

Matrix Spike (B1K0221-MS1)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	618043	7.09	618494	7.26	100	50 - 150		-0.1700	+/-2.00	

Matrix Spike Dup (B1K0221-MSD1)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	895683	7.06	618494	7.26	145	50 - 150		-0.2000	+/-2.00	

16WW44-211025 (M1J1516-01)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	642655	7.14	618494	7.26	104	50 - 150		-0.1200	+/-2.00	

16WW37-211025 (M1J1516-02)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	1064592	7.09	618494	7.26	172	50 - 150	*	-0.1700	+/-2.00	

Calibration Blank (S1K0230-CCB1)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	1025107	7.26	784189	7.31	131	50 - 150		-0.0500	+/-2.00	

Calibration Blank (S1K0230-CCB2)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	945642	7.09	618494	7.26	153	50 - 150	*	0.0000	+/-2.00	

Calibration Check (S1K0230-CCV1)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	618494	7.26	618494	7.26	100	50 - 150		0.0000	+/-2.00	

Calibration Check (S1K0230-CCV2)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	994333	7.09	618494	7.26	161	50 - 150	*	0.0000	+/-2.00	

Instrument RL Check (S1K0230-CRL1)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	598008	7.26	618494	7.26	97	50 - 150		0.0000	+/-2.00	

MICROBAC®

Laboratory Report Number: M1J1516

Client Project ID: LHAAP

INTERNAL STANDARD AREA SUMMARY
FORM VIIIA

Instrument RL Check (S1K0230-CRL2)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	1057097	7.09	618494	7.26	171	50 - 150	*	0.0000	+/-2.00	

Interference Check A (S1K0230-IFA1)

Analyte	Resp	RT	RefResp	RefRT	Area%	ISAreaLimit	Flg	RTDiff	RTDiffLimit	Flg
O18LP	699302	6.69	618494	7.26	113	50 - 150		-0.5700	+/-2.00	

MICROBAC®

Section A:
HPLC Organics
EPA 6850
Batch / Sequence Raw Data

Microbac Laboratories, Inc.
158 Starlite Drive | Marietta, OH 45750 | 800.373.4071 | www.microbac.com

Perchlorate Conductivity Check
(perchlorate1)

Conductivity Probe
Calibration Check: 1409 /1410 µs/cm

Working MCT Level: 9850 µs/cm

Sample	Conductivity (µs/cm)	Pretreatment or Dilution Needed
MTI5L6-01	173.9	
-02	4700	
-03	1207	
-04	3440	
-05	4540	
-06	3260	
-07	6130	
-08	1245	
-09	5120	
-10	5120	
-11	4490	
-12	5320	
-13	1789	
-14	5170	
-15	5300	
-16	1497	
-17	4900	
-18	7040	

Analyst: Craig A. Smith

Date/Time: _____/_____

Filename	Sample Type	Level	Sample ID	Comments	Compound	Type	Area	Ion Ratio (2.31-3.85)
2LM032013	Unknown		S1K0152-ICB1	1:1	Perchlorate	Target Compound	N/F	#VALUE!
2LM032013	Unknown		S1K0152-ICB1	1:1	Perchlorate	Confirming Peak	N/F	
2LM032014	Cal Std	1	S1K0152-CAL1	1:1 0012469	Perchlorate	Target Compound	12980	3.257214555
2LM032014	Cal Std	1	S1K0152-CAL1	1:1 0012469	Perchlorate	Confirming Peak	3985	
2LM032015	Cal Std	2	S1K0152-CAL2	1:1 0012468	Perchlorate	Target Compound	27990	3.302654867
2LM032015	Cal Std	2	S1K0152-CAL2	1:1 0012468	Perchlorate	Confirming Peak	8475	
2LM032016	Cal Std	3	S1K0152-CAL3	1:1 0012467	Perchlorate	Target Compound	90519	3.069064895
2LM032016	Cal Std	3	S1K0152-CAL3	1:1 0012467	Perchlorate	Confirming Peak	29494	
2LM032017	Cal Std	4	S1K0152-CAL4	1:1 0012466	Perchlorate	Target Compound	149029	3.08350748
2LM032017	Cal Std	4	S1K0152-CAL4	1:1 0012466	Perchlorate	Confirming Peak	48331	
2LM032018	Cal Std	5	S1K0152-CAL5	1:1 0012465	Perchlorate	Target Compound	363941	3.061646659
2LM032018	Cal Std	5	S1K0152-CAL5	1:1 0012465	Perchlorate	Confirming Peak	118871	
2LM032019	Cal Std	6	S1K0152-CAL6	1:1 0012464	Perchlorate	Target Compound	919699	3.189147109
2LM032019	Cal Std	6	S1K0152-CAL6	1:1 0012464	Perchlorate	Confirming Peak	288384	
2LM032020	Cal Std	7	S1K0152-CAL7	1:1 0012463	Perchlorate	Target Compound	1811581	3.215420906
2LM032020	Cal Std	7	S1K0152-CAL7	1:1 0012463	Perchlorate	Confirming Peak	563404	
2LM032021	Chk Std	ICV	S1K0152-ICV1	1:1 0012475	Perchlorate	Target Compound	175186	3.164086911
2LM032021	Chk Std	ICV	S1K0152-ICV1	1:1 0012475	Perchlorate	Confirming Peak	55367	

Filename	Sample Type	Level	Sample ID	Comments	Compound	Type	Area	IS Rec (50-150 Avg. ICAL)
2LM032013	Unknown		S1K0152-ICB1	1:1	O18LP	Internal Standard	756431	
2LM032014	Cal Std	1	S1K0152-CAL1	1:1 0012469	O18LP	Internal Standard	791546	
2LM032015	Cal Std	2	S1K0152-CAL2	1:1 0012468	O18LP	Internal Standard	799491	
2LM032016	Cal Std	3	S1K0152-CAL3	1:1 0012467	O18LP	Internal Standard	784189	
2LM032017	Cal Std	4	S1K0152-CAL4	1:1 0012466	O18LP	Internal Standard	863453	908793.5714
2LM032018	Cal Std	5	S1K0152-CAL5	1:1 0012465	O18LP	Internal Standard	1067074	
2LM032019	Cal Std	6	S1K0152-CAL6	1:1 0012464	O18LP	Internal Standard	1079607	
2LM032020	Cal Std	7	S1K0152-CAL7	1:1 0012463	O18LP	Internal Standard	976195	
2LM032021	Chk Std	ICV	S1K0152-ICV1	1:1 0012475	O18LP	Internal Standard	994748	109.4580806

Filename	Sample Type	Level	Sample ID	Comments	Compound	Type	Area	Ion Ratio (2.31-3.85)
2LM032031	Unknown		S1K0152-CCB1	1:1	Perchlorate	Target Compound	N/F	#VALUE!
2LM032031	Unknown		S1K0152-CCB1	1:1	Perchlorate	Confirming Peak	N/F	
2LM032032	Chk Std	CCV	S1K0152-CCV1	1:1 1007581	Perchlorate	Target Compound	85080	3.274196652
2LM032032	Chk Std	CCV	S1K0152-CCV1	1:1 1007581	Perchlorate	Target Compound	25985	
2LM032033	Chk Std	QCMRL	S1K0152-CRL1	1:1 1007583	Perchlorate	Target Compound	17214	3.316763006
2LM032033	Chk Std	QCMRL	S1K0152-CRL1	1:1 1007583	Perchlorate	Target Compound	5190	
2LM032034	Unknown		S1K0152-IFA1	1:1 1006967	Perchlorate	Target Compound	25324	3.088292683
2LM032034	Unknown		S1K0152-IFA1	1:1 1006967	Perchlorate	Target Compound	8200	
2LM032035	Unknown		M1J1374-11	1:1	Perchlorate	Target Compound	55661	3.089531528
2LM032035	Unknown		M1J1374-11	1:1	Perchlorate	Target Compound	18016	
2LM032036	Unknown		M1J1374-12@100	1:100	Perchlorate	Target Compound	75922	3.09078326
2LM032036	Unknown		M1J1374-12@100	1:100	Perchlorate	Target Compound	24564	
2LM032037	Unknown		M1J1374-14@10	1:10	Perchlorate	Target Compound	472527	3.092960236
2LM032037	Unknown		M1J1374-14@10	1:10	Perchlorate	Target Compound	152775	
2LM032038	Unknown		B1K0220-BLK1	1:1	Perchlorate	Target Compound	1737	3.641509434
2LM032038	Unknown		B1K0220-BLK1	1:1	Perchlorate	Target Compound	477	
2LM032039	Unknown		B1K0220-BS1	1:1	Perchlorate	Target Compound	21567	3.064800341
2LM032039	Unknown		B1K0220-BS1	1:1	Perchlorate	Target Compound	7037	
2LM032040	Unknown		M1J1374-18	1:1	Perchlorate	Target Compound	3244	2.930442638
2LM032040	Unknown		M1J1374-18	1:1	Perchlorate	Target Compound	1107	
2LM032041	Unknown		B1K0220-MS1	1:1	Perchlorate	Target Compound	25543	3.045183596
2LM032041	Unknown		B1K0220-MS1	1:1	Perchlorate	Target Compound	8388	
2LM032042	Unknown		B1K0220-MSD1	1:1	Perchlorate	Target Compound	28363	2.898324137
2LM032042	Unknown		B1K0220-MSD1	1:1	Perchlorate	Target Compound	9786	
2LM032043	Unknown		M1J1374-19@10	1:10	Perchlorate	Target Compound	507150	3.10274576
2LM032043	Unknown		M1J1374-19@10	1:10	Perchlorate	Target Compound	163452	
2LM032044	Chk Std	CCV	S1K0152-CCV2	1:1 1007581	Perchlorate	Target Compound	133144	3.120757547
2LM032044	Chk Std	CCV	S1K0152-CCV2	1:1 1007581	Perchlorate	Target Compound	42664	
2LM032045	Chk Std	QCMRL	S1K0152-CRL2	1:1 1007583	Perchlorate	Target Compound	24483	2.986095865
2LM032045	Chk Std	QCMRL	S1K0152-CRL2	1:1 1007583	Perchlorate	Target Compound	8199	
2LM032046	Unknown		S1K0152-CCB2	1:1	Perchlorate	Target Compound	N/F	#VALUE!
2LM032046	Unknown		S1K0152-CCB2	1:1	Perchlorate	Target Compound	N/F	
2LM032047	Unknown		M1J1374-20	1:1	Perchlorate	Target Compound	7224	2.959442851
2LM032047	Unknown		M1J1374-20	1:1	Perchlorate	Target Compound	2441	
2LM032048	Unknown		M1J1374-21	1:1	Perchlorate	Target Compound	317621	3.116803721
2LM032048	Unknown		M1J1374-21	1:1	Perchlorate	Target Compound	101906	
2LM032049	Unknown		M1J1374-22	1:1	Perchlorate	Target Compound	2430	0.997536946
2LM032049	Unknown		M1J1374-22	1:1	Perchlorate	Target Compound	2436	
2LM032050	Unknown		M1J1374-23	1:1	Perchlorate	Target Compound	1669	3.285433071
2LM032050	Unknown		M1J1374-23	1:1	Perchlorate	Target Compound	508	
2LM032051	Unknown		M1J1374-24	1:1	Perchlorate	Target Compound	1246	#VALUE!
2LM032051	Unknown		M1J1374-24	1:1	Perchlorate	Target Compound	N/F	
2LM032052	Unknown		M1J1374-25	1:1	Perchlorate	Target Compound	1630	#VALUE!
2LM032052	Unknown		M1J1374-25	1:1	Perchlorate	Target Compound	N/F	
2LM032053	Unknown		M1J1374-26	1:1	Perchlorate	Target Compound	799	#VALUE!
2LM032053	Unknown		M1J1374-26	1:1	Perchlorate	Target Compound	N/F	
2LM032054	Unknown		M1J1374-27	1:1	Perchlorate	Target Compound	N/F	#VALUE!
2LM032054	Unknown		M1J1374-27	1:1	Perchlorate	Target Compound	N/F	
2LM032055	Unknown		M1J1374-28	1:1	Perchlorate	Target Compound	64126	2.972374154
2LM032055	Unknown		M1J1374-28	1:1	Perchlorate	Target Compound	21574	
2LM032056	Unknown		M1J1374-29@10	1:10	Perchlorate	Target Compound	273631	3.070710358
2LM032056	Unknown		M1J1374-29@10	1:10	Perchlorate	Target Compound	89110	
2LM032057	Chk Std	CCV	S1K0152-CCV3	1:1 1007581	Perchlorate	Target Compound	123269	3.202540854
2LM032057	Chk Std	CCV	S1K0152-CCV3	1:1 1007581	Perchlorate	Target Compound	38491	
2LM032058	Chk Std	QCMRL	S1K0152-CRL3	1:1 1007583	Perchlorate	Target Compound	22696	3.334214779
2LM032058	Chk Std	QCMRL	S1K0152-CRL3	1:1 1007583	Perchlorate	Target Compound	6807	
2LM032059	Unknown		S1K0152-CCB3	1:1	Perchlorate	Target Compound	N/F	#VALUE!

2LM032059	Unknown		S1K0152-CCB3	1:1	Perchlorate	Target Compound	N/F	
2LM032060	Unknown		M1J1374-30	1:1	Perchlorate	Target Compound	28684	3.683575189
2LM032060	Unknown		M1J1374-30	1:1	Perchlorate	Target Compound	7787	
2LM032061	Unknown		M1J1374-31	1:1	Perchlorate	Target Compound	25512	3.148852135
2LM032061	Unknown		M1J1374-31	1:1	Perchlorate	Target Compound	8102	
2LM032062	Unknown		M1J1374-32	1:1	Perchlorate	Target Compound	N/F	#VALUE!
2LM032062	Unknown		M1J1374-32	1:1	Perchlorate	Target Compound	N/F	
2LM032063	Unknown		M1J1374-33	1:1	Perchlorate	Target Compound	N/F	#VALUE!
2LM032063	Unknown		M1J1374-33	1:1	Perchlorate	Target Compound	N/F	
2LM032064	Unknown		M1J1374-34	1:1	Perchlorate	Target Compound	3103	#VALUE!
2LM032064	Unknown		M1J1374-34	1:1	Perchlorate	Target Compound	N/F	
2LM032065	Unknown		M1J0691-05@10	1:10	Perchlorate	Target Compound	328536	3.147499521
2LM032065	Unknown		M1J0691-05@10	1:10	Perchlorate	Target Compound	104380	
2LM032066	Unknown		M1J1413-01@100	1:100	Perchlorate	Target Compound	373583	3.118284865
2LM032066	Unknown		M1J1413-01@100	1:100	Perchlorate	Target Compound	119804	
2LM032067	Unknown		M1J1535-01	1:1	Perchlorate	Target Compound	45683	3.081691851
2LM032067	Unknown		M1J1535-01	1:1	Perchlorate	Target Compound	14824	
2LM032068	Unknown		B1K0221-BLK1	1:1	Perchlorate	Target Compound	4041	4.33583691
2LM032068	Unknown		B1K0221-BLK1	1:1	Perchlorate	Target Compound	932	
2LM032069	Unknown		B1K0221-BS1	1:1	Perchlorate	Target Compound	36607	3.234977024
2LM032069	Unknown		B1K0221-BS1	1:1	Perchlorate	Target Compound	11316	
2LM032070	Chk Std	CCV	S1K0152-CCV4	1:1 1007581	Perchlorate	Target Compound	176488	3.114805598
2LM032070	Chk Std	CCV	S1K0152-CCV4	1:1 1007581	Perchlorate	Target Compound	56661	
2LM032071	Chk Std	QCMRL	S1K0152-CRL4	1:1 1007583	Perchlorate	Target Compound	36808	3.073480294
2LM032071	Chk Std	QCMRL	S1K0152-CRL4	1:1 1007583	Perchlorate	Target Compound	11976	
2LM032072	Unknown		S1K0152-CCB4	1:1	Perchlorate	Target Compound	N/F	#VALUE!
2LM032072	Unknown		S1K0152-CCB4	1:1	Perchlorate	Target Compound	N/F	
2LM032073	Unknown		M1J1516-01	1:1	Perchlorate	Target Compound	4616	#VALUE!
2LM032073	Unknown		M1J1516-01	1:1	Perchlorate	Target Compound	N/F	
2LM032074	Unknown		B1K0221-MS1	1:1	Perchlorate	Target Compound	46346	3.133815674
2LM032074	Unknown		B1K0221-MS1	1:1	Perchlorate	Target Compound	14789	
2LM032075	Unknown		B1K0221-MSD1	1:1	Perchlorate	Target Compound	43704	3.280834772
2LM032075	Unknown		B1K0221-MSD1	1:1	Perchlorate	Target Compound	13321	
2LM032076	Unknown		M1J1516-02@100	1:100	Perchlorate	Target Compound	443590	3.186297749
2LM032076	Unknown		M1J1516-02@100	1:100	Perchlorate	Target Compound	139218	
2LM032077	Unknown		M1J1516-03	1:1	Perchlorate	Target Compound	3711	2.235542169
2LM032077	Unknown		M1J1516-03	1:1	Perchlorate	Target Compound	1660	
2LM032078	Unknown		M1J1516-04	1:1	Perchlorate	Target Compound	6232	3.012083132
2LM032078	Unknown		M1J1516-04	1:1	Perchlorate	Target Compound	2069	
2LM032079	Unknown		M1J1516-05	1:1	Perchlorate	Target Compound	10455	3.289804909
2LM032079	Unknown		M1J1516-05	1:1	Perchlorate	Target Compound	3178	
2LM032080	Unknown		M1J1516-06	1:1	Perchlorate	Target Compound	37318	2.660250927
2LM032080	Unknown		M1J1516-06	1:1	Perchlorate	Target Compound	14028	
2LM032081	Unknown		M1J1516-07	1:1	Perchlorate	Target Compound	1224191	3.164666224
2LM032081	Unknown		M1J1516-07	1:1	Perchlorate	Target Compound	386831	
2LM032082	Unknown		M1J1516-08	1:1	Perchlorate	Target Compound	1951	#VALUE!
2LM032082	Unknown		M1J1516-08	1:1	Perchlorate	Target Compound	N/F	
2LM032083	Chk Std	CCV	S1K0152-CCV5	1:1 1007581	Perchlorate	Target Compound	151160	3.112273261
2LM032083	Chk Std	CCV	S1K0152-CCV5	1:1 1007581	Perchlorate	Target Compound	48569	
2LM032084	Chk Std	QCMRL	S1K0152-CRL5	1:1 1007583	Perchlorate	Target Compound	34910	2.877276848
2LM032084	Chk Std	QCMRL	S1K0152-CRL5	1:1 1007583	Perchlorate	Target Compound	12133	
2LM032085	Unknown		S1K0152-CCB5	1:1	Perchlorate	Target Compound	N/F	#VALUE!
2LM032085	Unknown		S1K0152-CCB5	1:1	Perchlorate	Target Compound	N/F	
2LM032086	Unknown		M1J1516-09@100	1:100	Perchlorate	Target Compound	400552	3.117378784
2LM032086	Unknown		M1J1516-09@100	1:100	Perchlorate	Target Compound	128490	
2LM032087	Unknown		M1J1516-10@100	1:100	Perchlorate	Target Compound	489986	3.168600215
2LM032087	Unknown		M1J1516-10@100	1:100	Perchlorate	Target Compound	154638	
2LM032088	Unknown		M1J1516-11	1:1	Perchlorate	Target Compound	2528	2.371482176

2LM032088	Unknown		M1J1516-11	1:1	Perchlorate	Target Compound	1066	
2LM032089	Unknown		M1J1516-12@10	1:10	Perchlorate	Target Compound	450806	3.090103985
2LM032089	Unknown		M1J1516-12@10	1:10	Perchlorate	Target Compound	145887	
2LM032090	Unknown		M1J1516-13	1:1	Perchlorate	Target Compound	6918	3.244840525
2LM032090	Unknown		M1J1516-13	1:1	Perchlorate	Target Compound	2132	
2LM032091	Unknown		M1J1516-14	1:1	Perchlorate	Target Compound	3568	#VALUE!
2LM032091	Unknown		M1J1516-14	1:1	Perchlorate	Target Compound	N/F	
2LM032092	Unknown		M1J1516-15	1:1	Perchlorate	Target Compound	1630	#VALUE!
2LM032092	Unknown		M1J1516-15	1:1	Perchlorate	Target Compound	N/F	
2LM032093	Unknown		M1J1516-16	1:1	Perchlorate	Target Compound	1656	#VALUE!
2LM032093	Unknown		M1J1516-16	1:1	Perchlorate	Target Compound	N/F	
2LM032094	Unknown		M1J1516-17	1:1	Perchlorate	Target Compound	2478	3.446453408
2LM032094	Unknown		M1J1516-17	1:1	Perchlorate	Target Compound	719	
2LM032095	Unknown		M1J1516-18	1:1	Perchlorate	Target Compound	1003	#VALUE!
2LM032095	Unknown		M1J1516-18	1:1	Perchlorate	Target Compound	N/F	
2LM032096	Chk Std	CCV	S1K0152-CCV6	1:1 1007581	Perchlorate	Target Compound	134943	3.173486666
2LM032096	Chk Std	CCV	S1K0152-CCV6	1:1 1007581	Perchlorate	Target Compound	42522	
2LM032097	Chk Std	QCMRL	S1K0152-CRL6	1:1 1007583	Perchlorate	Target Compound	23199	3.05370541
2LM032097	Chk Std	QCMRL	S1K0152-CRL6	1:1 1007583	Perchlorate	Target Compound	7597	
2LM032098	Unknown		S1K0152-CCB6	1:1	Perchlorate	Target Compound	N/F	#VALUE!
2LM032098	Unknown		S1K0152-CCB6	1:1	Perchlorate	Target Compound	N/F	

Filename	Sample Type	Level	Sample ID	Comments	Compound	Type	Area	IS Rec (50-150 Avg. ICAL)
2LM032014	Cal Std	1	S1K0152-CAL1	1:1 0012469	O18LP	Internal Standard	791546	
2LM032015	Cal Std	2	S1K0152-CAL2	1:1 0012468	O18LP	Internal Standard	799491	
2LM032016	Cal Std	3	S1K0152-CAL3	1:1 0012467	O18LP	Internal Standard	784189	
2LM032017	Cal Std	4	S1K0152-CAL4	1:1 0012466	O18LP	Internal Standard	863453	908793.5714
2LM032018	Cal Std	5	S1K0152-CAL5	1:1 0012465	O18LP	Internal Standard	1067074	
2LM032019	Cal Std	6	S1K0152-CAL6	1:1 0012464	O18LP	Internal Standard	1079607	
2LM032020	Cal Std	7	S1K0152-CAL7	1:1 0012463	O18LP	Internal Standard	976195	
2LM032031	Unknown		S1K0152-CCB1	1:1	O18LP	Internal Standard	465704	51.24420051
2LM032032	Chk Std	CCV	S1K0152-CCV1	1:1 1007581	O18LP	Internal Standard	493764	54.33181038
2LM032033	Chk Std	QCMRL	S1K0152-CRL1	1:1 1007583	O18LP	Internal Standard	495263	54.49675433
2LM032034	Unknown		S1K0152-IFA1	1:1 1006967	O18LP	Internal Standard	597044	65.69632739
2LM032035	Unknown		M1J1374-11	1:1	O18LP	Internal Standard	633080	69.66158431
2LM032036	Unknown		M1J1374-12@100	1:100	O18LP	Internal Standard	631813	69.52216872
2LM032037	Unknown		M1J1374-14@10	1:10	O18LP	Internal Standard	692560	76.20652498
2LM032038	Unknown		B1K0220-BLK1	1:1	O18LP	Internal Standard	669033	73.61770825
2LM032039	Unknown		B1K0220-BS1	1:1	O18LP	Internal Standard	601548	66.19192949
2LM032040	Unknown		M1J1374-18	1:1	O18LP	Internal Standard	647575	71.25655598
2LM032041	Unknown		B1K0220-MS1	1:1	O18LP	Internal Standard	663068	72.96134357
2LM032042	Unknown		B1K0220-MSD1	1:1	O18LP	Internal Standard	707017	77.79731528
2LM032043	Unknown		M1J1374-19@10	1:10	O18LP	Internal Standard	698532	76.86365991
2LM032044	Chk Std	CCV	S1K0152-CCV2	1:1 1007581	O18LP	Internal Standard	792135	87.16335864
2LM032045	Chk Std	QCMRL	S1K0152-CRL2	1:1 1007583	O18LP	Internal Standard	747862	82.29173528
2LM032046	Unknown		S1K0152-CCB2	1:1	O18LP	Internal Standard	747106	82.20854807
2LM032047	Unknown		M1J1374-20	1:1	O18LP	Internal Standard	671180	73.85395552
2LM032048	Unknown		M1J1374-21	1:1	O18LP	Internal Standard	696941	76.68859265
2LM032049	Unknown		M1J1374-22	1:1	O18LP	Internal Standard	702395	77.28872893
2LM032050	Unknown		M1J1374-23	1:1	O18LP	Internal Standard	664953	73.16876141
2LM032051	Unknown		M1J1374-24	1:1	O18LP	Internal Standard	675332	74.31082495
2LM032052	Unknown		M1J1374-25	1:1	O18LP	Internal Standard	691931	76.13731234
2LM032053	Unknown		M1J1374-26	1:1	O18LP	Internal Standard	680219	74.84857083
2LM032054	Unknown		M1J1374-27	1:1	O18LP	Internal Standard	583277	64.18146192
2LM032055	Unknown		M1J1374-28	1:1	O18LP	Internal Standard	570409	62.76551881
2LM032056	Unknown		M1J1374-29@10	1:10	O18LP	Internal Standard	653413	71.89894609
2LM032057	Chk Std	CCV	S1K0152-CCV3	1:1 1007581	O18LP	Internal Standard	726914	79.98670136
2LM032058	Chk Std	QCMRL	S1K0152-CRL3	1:1 1007583	O18LP	Internal Standard	669914	73.71464996
2LM032059	Unknown		S1K0152-CCB3	1:1	O18LP	Internal Standard	610179	67.14165012
2LM032060	Unknown		M1J1374-30	1:1	O18LP	Internal Standard	715489	78.72954018
2LM032061	Unknown		M1J1374-31	1:1	O18LP	Internal Standard	852362	93.79049619
2LM032062	Unknown		M1J1374-32	1:1	O18LP	Internal Standard	831097	91.45058087
2LM032063	Unknown		M1J1374-33	1:1	O18LP	Internal Standard	98488	10.83722455
2LM032064	Unknown		M1J1374-34	1:1	O18LP	Internal Standard	995997	109.5955156
2LM032065	Unknown		M1J0691-05@10	1:10	O18LP	Internal Standard	1077468	118.5602577
2LM032066	Unknown		M1J1413-01@100	1:100	O18LP	Internal Standard	1113440	122.5184723
2LM032067	Unknown		M1J1535-01	1:1	O18LP	Internal Standard	970453	106.7847562
2LM032068	Unknown		B1K0221-BLK1	1:1	O18LP	Internal Standard	1186917	130.6035867
2LM032069	Unknown		B1K0221-BS1	1:1	O18LP	Internal Standard	1033574	113.7303379
2LM032070	Chk Std	CCV	S1K0152-CCV4	1:1 1007581	O18LP	Internal Standard	1044422	114.9240084
2LM032071	Chk Std	QCMRL	S1K0152-CRL4	1:1 1007583	O18LP	Internal Standard	1109933	122.1325761
2LM032072	Unknown		S1K0152-CCB4	1:1	O18LP	Internal Standard	982949	108.159766
2LM032073	Unknown		M1J1516-01	1:1	O18LP	Internal Standard	1370255	150.777365
2LM032074	Unknown		B1K0221-MS1	1:1	O18LP	Internal Standard	1272369	140.0063821
2LM032075	Unknown		B1K0221-MSD1	1:1	O18LP	Internal Standard	1239589	136.3994023
2LM032076	Unknown		M1J1516-02@100	1:100	O18LP	Internal Standard	1414179	155.6105858
2LM032077	Unknown		M1J1516-03	1:1	O18LP	Internal Standard	1142449	125.7105063
2LM032078	Unknown		M1J1516-04	1:1	O18LP	Internal Standard	904915	99.57321755
2LM032079	Unknown		M1J1516-05	1:1	O18LP	Internal Standard	757293	83.32948469
2LM032080	Unknown		M1J1516-06	1:1	O18LP	Internal Standard	784319	86.30331735
2LM032081	Unknown		M1J1516-07	1:1	O18LP	Internal Standard	749863	82.51191729
2LM032082	Unknown		M1J1516-08	1:1	O18LP	Internal Standard	818503	90.06478762

2LM032083	Chk Std	CCV	S1K0152-CCV5	1:1 1007581	O18LP	Internal Standard	896995	98.70173252
2LM032084	Chk Std	QCMRL	S1K0152-CRL5	1:1 1007583	O18LP	Internal Standard	1040105	114.448983
2LM032085	Unknown		S1K0152-CCB5	1:1	O18LP	Internal Standard	909222	100.0471426
2LM032086	Unknown		M1J1516-09@100	1:100	O18LP	Internal Standard	1010381	111.1782732
2LM032087	Unknown		M1J1516-10@100	1:100	O18LP	Internal Standard	1029831	113.3184732
2LM032088	Unknown		M1J1516-11	1:1	O18LP	Internal Standard	773154	85.07476553
2LM032089	Unknown		M1J1516-12@10	1:10	O18LP	Internal Standard	900505	99.08795884
2LM032090	Unknown		M1J1516-13	1:1	O18LP	Internal Standard	661159	72.75128487
2LM032091	Unknown		M1J1516-14	1:1	O18LP	Internal Standard	701543	77.19497827
2LM032092	Unknown		M1J1516-15	1:1	O18LP	Internal Standard	722465	79.49715125
2LM032093	Unknown		M1J1516-16	1:1	O18LP	Internal Standard	741167	81.55504432
2LM032094	Unknown		M1J1516-17	1:1	O18LP	Internal Standard	589713	64.88965355
2LM032095	Unknown		M1J1516-18	1:1	O18LP	Internal Standard	616853	67.87603031
2LM032096	Chk Std	CCV	S1K0152-CCV6	1:1 1007581	O18LP	Internal Standard	779391	85.76105999
2LM032097	Chk Std	QCMRL	S1K0152-CRL6	1:1 1007583	O18LP	Internal Standard	677237	74.52044351
2LM032098	Unknown		S1K0152-CCB6	1:1	O18LP	Internal Standard	720011	79.22712293

Filename	Sample Type	Level	Sample ID	Comments	Compound	Type	Area	Ion Ratio (2.31-3.85)
2LM032099	Unknown		S1K0230-CCB1	1:1	Perchlorate	Target Compound	N/F	#VALUE!
2LM032099	Unknown		S1K0230-CCB1	1:1	Perchlorate	Confirming Peak	N/F	
2LM032100	Chk Std	CCV	S1K0230-CCV1	1:1 0012466	Perchlorate	Target Compound	107557	3.171650153
2LM032100	Chk Std	CCV	S1K0230-CCV1	1:1 0012466	Perchlorate	Confirming Peak	33912	
2LM032101	Chk Std	QCMRL	S1K0230-CRL1	1:1 0012468	Perchlorate	Target Compound	21243	2.999152901
2LM032101	Chk Std	QCMRL	S1K0230-CRL1	1:1 0012468	Perchlorate	Confirming Peak	7083	
2LM032102	Unknown		S1K0230-IFA1	1:1 0012477	Perchlorate	Target Compound	29423	3.070973802
2LM032102	Unknown		S1K0230-IFA1	1:1 0012477	Perchlorate	Confirming Peak	9581	
2LM032103	Unknown		M1J1374-33	1:1	Perchlorate	Target Compound	547	0.13098659
2LM032103	Unknown		M1J1374-33	1:1	Perchlorate	Confirming Peak	4176	
2LM032104	Unknown		M1J1516-01	1:1	Perchlorate	Target Compound	1454	1.323020928
2LM032104	Unknown		M1J1516-01	1:1	Perchlorate	Confirming Peak	1099	
2LM032105	Unknown		B1K0221-MS1	1:1	Perchlorate	Target Compound	23422	3.084683261
2LM032105	Unknown		B1K0221-MS1	1:1	Perchlorate	Confirming Peak	7593	
2LM032106	Unknown		B1K0221-MSD1	1:1	Perchlorate	Target Compound	34073	3.356945813
2LM032106	Unknown		B1K0221-MSD1	1:1	Perchlorate	Confirming Peak	10150	
2LM032107	Unknown		M1J1516-02@100	1:100	Perchlorate	Target Compound	323029	3.157540272
2LM032107	Unknown		M1J1516-02@100	1:100	Perchlorate	Confirming Peak	102304	
2LM032108	Chk Std	CCV	S1K0230-CCV2	1:1 0012466	Perchlorate	Target Compound	171431	3.156178658
2LM032108	Chk Std	CCV	S1K0230-CCV2	1:1 0012466	Perchlorate	Confirming Peak	54316	
2LM032109	Chk Std	QCMRL	S1K0230-CRL2	1:1 0012468	Perchlorate	Target Compound	35440	3.151903237
2LM032109	Chk Std	QCMRL	S1K0230-CRL2	1:1 0012468	Perchlorate	Confirming Peak	11244	
2LM032110	Unknown		S1K0230-CCB2	1:1	Perchlorate	Target Compound	N/F	#VALUE!
2LM032110	Unknown		S1K0230-CCB2	1:1	Perchlorate	Confirming Peak	N/F	

Filename	Sample Type	Level	Sample ID	Comments	Compound	Type	Area	IS Rec (50-150 Avg. ICAL)
2LM032014	Cal Std	1	S1K0152-CAL1	1:1 0012469	O18LP	Internal Standard	791546	
2LM032015	Cal Std	2	S1K0152-CAL2	1:1 0012468	O18LP	Internal Standard	799491	
2LM032016	Cal Std	3	S1K0152-CAL3	1:1 0012467	O18LP	Internal Standard	784189	
2LM032017	Cal Std	4	S1K0152-CAL4	1:1 0012466	O18LP	Internal Standard	863453	908793.5714
2LM032018	Cal Std	5	S1K0152-CAL5	1:1 0012465	O18LP	Internal Standard	1067074	
2LM032019	Cal Std	6	S1K0152-CAL6	1:1 0012464	O18LP	Internal Standard	1079607	
2LM032020	Cal Std	7	S1K0152-CAL7	1:1 0012463	O18LP	Internal Standard	976195	
2LM032099	Unknown		S1K0230-CCB1	1:1	O18LP	Internal Standard	1025107	112.7986632
2LM032100	Chk Std	CCV	S1K0230-CCV1	1:1 0012466	O18LP	Internal Standard	618494	68.05659937
2LM032101	Chk Std	QCMRL	S1K0230-CRL1	1:1 0012468	O18LP	Internal Standard	598008	65.80240209
2LM032102	Unknown		S1K0230-IFA1	1:1 0012477	O18LP	Internal Standard	699302	76.94838762
2LM032103	Unknown		M1J1374-33	1:1	O18LP	Internal Standard	3048	0.335389696
2LM032104	Unknown		M1J1516-01	1:1	O18LP	Internal Standard	642655	70.71517892
2LM032105	Unknown		B1K0221-MS1	1:1	O18LP	Internal Standard	618043	68.00697314
2LM032106	Unknown		B1K0221-MSD1	1:1	O18LP	Internal Standard	895683	98.5573653
2LM032107	Unknown		M1J1516-02@100	1:100	O18LP	Internal Standard	1064592	117.1434343
2LM032108	Chk Std	CCV	S1K0230-CCV2	1:1 0012466	O18LP	Internal Standard	994333	109.4124157
2LM032109	Chk Std	QCMRL	S1K0230-CRL2	1:1 0012468	O18LP	Internal Standard	1057097	116.3187145
2LM032110	Unknown		S1K0230-CCB2	1:1	O18LP	Internal Standard	945642	104.0546533

MICROBAC®

Laboratory Report Number: M1J1516

Client Project ID: LHAAP

BATCH LOG SUMMARY
SECTION A1

Batch: B1K0221
Matrix: Aqueous
Method: EPA 6850

Prepared: 11/3/2021 1:00:00PM
Prepared By: CAS

Laboratory ID	Client / Source ID	Initial	Final						Spike(s)
B1K0221-BLK1		10.0 mL	10.0 mL						
B1K0221-BS1		10.0 mL	10.0 mL						1006965 200µL
M1J1516-03	16WW38-211025	10.0 mL	10.0 mL						
M1J1516-04	16WW14-211025	10.0 mL	10.0 mL						
M1J1516-05	16RW06-211025	10.0 mL	10.0 mL						
M1J1516-06	16RW07-211025	10.0 mL	10.0 mL						
M1J1516-07	16WW39-211025	10.0 mL	10.0 mL						
M1J1516-08	16PM02-211025	10.0 mL	10.0 mL						
M1J1516-09	16PM03-211025	10.0 mL	10.0 mL						
M1J1516-10	16PM03-211025-FD	10.0 mL	10.0 mL						
M1J1516-11	16RW09-211026	10.0 mL	10.0 mL						
M1J1516-12	16RW10-211026	10.0 mL	10.0 mL						
M1J1516-13	16RW01-211026	10.0 mL	10.0 mL						
M1J1516-14	16WW13-211026	10.0 mL	10.0 mL						
M1J1516-15	16WW42-211026	10.0 mL	10.0 mL						
M1J1516-16	16PM09-211026	10.0 mL	10.0 mL						
M1J1516-17	16PM06-211026	10.0 mL	10.0 mL						
M1J1516-18	16PM14-211026	10.0 mL	10.0 mL						
M1J1516-01	16WW44-211025	10.0 mL	10.0 mL						
B1K0221-MS1	M1J1516-01	10.0 mL	10.0 mL						1006965 200µL
B1K0221-MSD1	M1J1516-01	10.0 mL	10.0 mL						1006965 200µL
M1J1516-02	16WW37-211025	10.0 mL	10.0 mL						

Standards used in the batch:

Standard ID	Description	Date Prepared	Prepared By
1006965	6850/331 Perchlorate Alternate Solution (10 ppb)	8/11/2021 5:13:38PM	John Richards

Reagents used in the batch:

Reagent ID	Description	Prepared	Prepared By
1000181	6850/331 Column	1/8/2021 2:36:22PM	** Vendor **
1008665	0.45 um PTFE Syringe Filter	10/11/2021 10:46:38AM	Asa Timmons

MICROBAC®

Laboratory Report Number: M1J1516

Client Project ID: LHAAP

BATCH LOG SUMMARY
SECTION A1

MICROBAC®

Laboratory Report Number: M1J1516

Client Project ID: LHAAP

SEQUENCE LOG SUMMARY
SECTION A2

Sequence: S1K0152
Instrument: LCMS2
Calibration: 21K0019

Analyst 1: CAS
Method: EPA 6850
SOP: HPLC06

#	File ID	Laboratory ID	Client ID	Analyzed	Reference	Standard
1	2LM032013	S1K0152-ICB1	Initial Cal Blank	11/11/21 10:44		
2	2LM032014	S1K0152-CAL1	Cal Standard	11/11/21 10:57		1007584
3	2LM032015	S1K0152-CAL2	Cal Standard	11/11/21 11:10		1007583
4	2LM032016	S1K0152-CAL3	Cal Standard	11/11/21 11:24		1007582
5	2LM032017	S1K0152-CAL4	Cal Standard	11/11/21 11:37		1007581
6	2LM032018	S1K0152-CAL5	Cal Standard	11/11/21 11:50		1007580
7	2LM032019	S1K0152-CAL6	Cal Standard	11/11/21 12:04		1007579
8	2LM032020	S1K0152-CAL7	Cal Standard	11/11/21 12:17		1007578
9	2LM032021	S1K0152-ICV1	Initial Cal Check	11/11/21 12:30		1006966
10	2LM032031	S1K0152-CCB1	Calibration Blank	11/11/21 15:42		
11	2LM032032	S1K0152-CCV1	Calibration Check	11/11/21 15:55		1007581
12	2LM032033	S1K0152-CRL1	Instrument RL Check	11/11/21 16:08		1007583
13	2LM032034	S1K0152-IFA1	Interference Check A	11/11/21 16:21		1006967
24	2LM032044	S1K0152-CCV2	Calibration Check	11/11/21 18:34		1007581
25	2LM032045	S1K0152-CRL2	Instrument RL Check	11/11/21 18:47		1007583
26	2LM032046	S1K0152-CCB2	Calibration Blank	11/11/21 19:00		
37	2LM032057	S1K0152-CCV3	Calibration Check	11/11/21 21:26		1007581
38	2LM032058	S1K0152-CRL3	Instrument RL Check	11/11/21 21:39		1007583
39	2LM032059	S1K0152-CCB3	Calibration Blank	11/11/21 21:53		
47	2LM032068	B1K0221-BLK1	Blank	11/11/21 23:52		
48	2LM032069	B1K0221-BS1	LCS	11/12/21 00:05		
49	2LM032070	S1K0152-CCV4	Calibration Check	11/12/21 00:18		1007581
50	2LM032071	S1K0152-CRL4	Instrument RL Check	11/12/21 00:32		1007583
51	2LM032072	S1K0152-CCB4	Calibration Blank	11/12/21 00:45		
52	2LM032077	M1J1516-03	16WW38-211025	11/12/21 01:51		
53	2LM032078	M1J1516-04	16WW14-211025	11/12/21 02:04		
54	2LM032079	M1J1516-05	16RW06-211025	11/12/21 02:18		
55	2LM032080	M1J1516-06	16RW07-211025	11/12/21 02:31		
56	2LM032081	M1J1516-07	16WW39-211025	11/12/21 02:44		
57	2LM032082	M1J1516-08	16PM02-211025	11/12/21 02:58		
58	2LM032083	S1K0152-CCV5	Calibration Check	11/12/21 03:11		1007581
59	2LM032084	S1K0152-CRL5	Instrument RL Check	11/12/21 03:24		1007583
60	2LM032085	S1K0152-CCB5	Calibration Blank	11/12/21 03:37		

MICROBAC®

Laboratory Report Number: M1J1516
Client Project ID: LHAAP

SEQUENCE LOG SUMMARY
SECTION A2

Sequence: S1K0152
Instrument: LCMS2
Calibration: 21K0019
Analyst 1: CAS
Method: EPA 6850
SOP: HPLC06

#	File ID	Laboratory ID	Client ID	Analyzed	Reference	Standard
61	2LM032086	M1J1516-09	16PM03-211025	11/12/21 03:50		
62	2LM032087	M1J1516-10	16PM03-211025-FD	11/12/21 04:04		
63	2LM032088	M1J1516-11	16RW09-211026	11/12/21 04:17		
64	2LM032089	M1J1516-12	16RW10-211026	11/12/21 04:30		
65	2LM032090	M1J1516-13	16RW01-211026	11/12/21 04:43		
66	2LM032091	M1J1516-14	16WW13-211026	11/12/21 04:57		
67	2LM032092	M1J1516-15	16WW42-211026	11/12/21 05:10		
68	2LM032093	M1J1516-16	16PM09-211026	11/12/21 05:23		
69	2LM032094	M1J1516-17	16PM06-211026	11/12/21 05:36		
70	2LM032095	M1J1516-18	16PM14-211026	11/12/21 05:50		
71	2LM032096	S1K0152-CCV6	Calibration Check	11/12/21 06:03		1007581
72	2LM032097	S1K0152-CRL6	Instrument RL Check	11/12/21 06:16		1007583
73	2LM032098	S1K0152-CCB6	Calibration Blank	11/12/21 06:29		

Sequence Standards

Standard ID	Description	Prepared	PreparedBy	Expires
1006966	6850/331 Perchlorate ICV (1 ppb)	08/11/2021	John Richards	08/11/2022
1006967	6850 Perchlorate Alternate 0.2 ppb MCT	08/11/2021	John Richards	08/11/2022
1007578	6850/331 ICAL STD @ 10 ppb	09/07/2021	Craig Smith	09/07/2022
1007579	6850/331 ICAL STD @ 5 ppb	09/07/2021	Craig Smith	09/07/2022
1007580	6850/331 ICAL STD @ 2 ppb	09/07/2021	Craig Smith	09/07/2022
1007581	6850/331 ICAL STD-CCV @ 1 ppb	09/07/2021	Craig Smith	09/07/2022
1007582	6850/331 ICAL STD @ 0.5 ppb	09/07/2021	Craig Smith	09/07/2022
1007583	6850/331 ICAL STD-MRL @ 0.2 ppb	09/07/2021	Craig Smith	09/07/2022
1007584	6850/331 ICAL STD @ 0.1 ppb	09/07/2021	Craig Smith	09/07/2022

Sequence Internal Standard

Standard ID	Description	Prepared	PreparedBy	Expires
1000597	6850/331 IS Working (5.0 ppb)	01/20/2021	Craig Smith	01/20/2022

MICROBAC®

Laboratory Report Number: M1J1516

Client Project ID: LHAAP

SEQUENCE LOG SUMMARY
SECTION A2

Sequence: S1K0230
Instrument: LCMS2
Calibration: 21K0019

Analyst 1: CAS
Method: EPA 6850
SOP: HPLC06

#	File ID	Laboratory ID	Client ID	Analyzed	Reference	Standard
1	2LM032099	S1K0230-CCB1	Calibration Blank	11/12/21 10:01		
2	2LM032100	S1K0230-CCV1	Calibration Check	11/12/21 10:14		1007581
3	2LM032101	S1K0230-CRL1	Instrument RL Check	11/12/21 10:27		1007583
4	2LM032102	S1K0230-IFA1	Interference Check A	11/12/21 10:40		1006967
6	2LM032104	M1J1516-01	16WW44-211025	11/12/21 11:07		
7	2LM032105	B1K0221-MS1	16WW44-211025	11/12/21 11:20	M1J1516-01	
8	2LM032106	B1K0221-MSD1	16WW44-211025	11/12/21 11:33	M1J1516-01	
9	2LM032107	M1J1516-02	16WW37-211025	11/12/21 11:47		
10	2LM032108	S1K0230-CCV2	Calibration Check	11/12/21 12:00		1007581
11	2LM032109	S1K0230-CRL2	Instrument RL Check	11/12/21 12:13		1007583
12	2LM032110	S1K0230-CCB2	Calibration Blank	11/12/21 12:26		

Sequence Standards

Standard ID	Description	Prepared	PreparedBy	Expires
1006967	6850 Perchlorate Alternate 0.2 ppb MCT	08/11/2021	John Richards	08/11/2022
1007581	6850/331 ICAL STD-CCV @ 1 ppb	09/07/2021	Craig Smith	09/07/2022
1007583	6850/331 ICAL STD-MRL @ 0.2 ppb	09/07/2021	Craig Smith	09/07/2022

Sequence Internal Standard

Standard ID	Description	Prepared	PreparedBy	Expires
1000597	6850/331 IS Working (5.0 ppb)	01/20/2021	Craig Smith	01/20/2022

MICROBAC®

Section B:
HPLC Organics
EPA 6850
Sample Raw Data

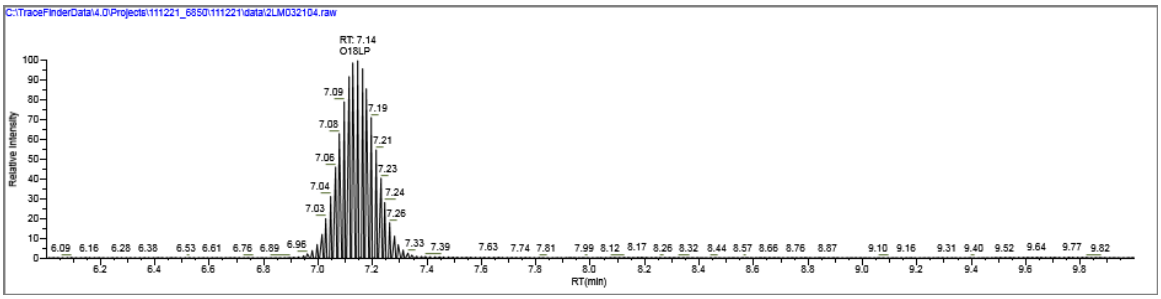
Microbac Laboratories, Inc.
158 Starlite Drive | Marietta, OH 45750 | 800.373.4071 | www.microbac.com

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 111221

Method: 111221_Perchlorate 6850
Perchlorate 6850
Cali File: 111121T2_111221.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
G:B2	M1J1516-01	2LM032104	N/A	M1J1516-01	11/12/2021 11:07:29 AM	1:01



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.14	89	642655			5.000	ug/L	5.000	ug/L	

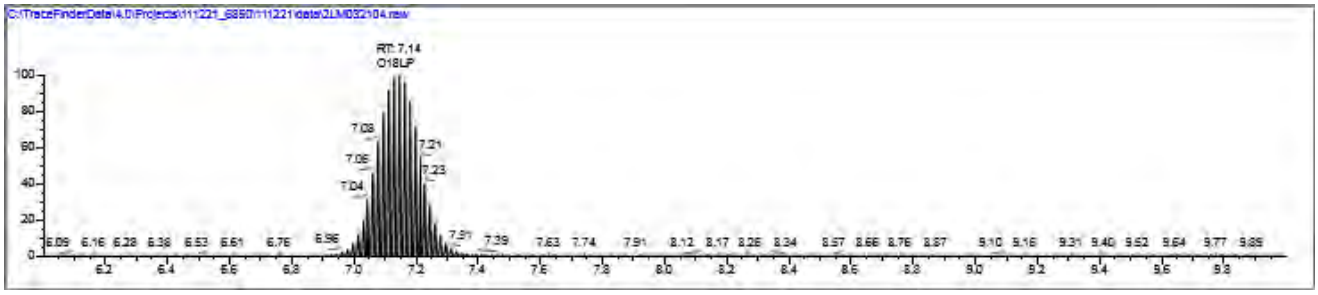
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.15	83	1454	Linear	0.002	0.01	ug/L	0.01	ug/L	I

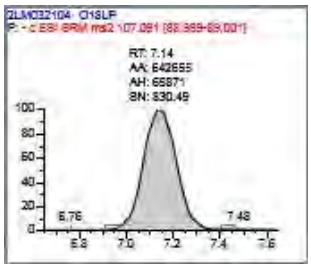
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

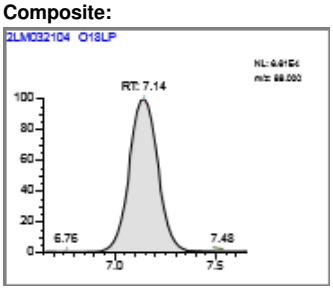
Data File:	2LM032104	Tune Report Date:	Tune report not found
Method:	111221_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	11/12/2021 11:07:29 AM
		Cali File Date:	11/12/2021 10:44:10 AM
Cali File:	111121T2_111221.calx	Operator ID:	CAS
Sample ID:	M1J1516-01	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	G:B2
Comments:	1:01		



m/z 89.000



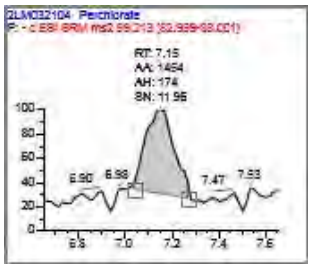
Composite:



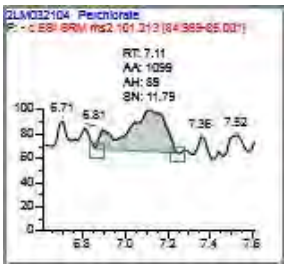
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.14	m/z 89.000	642655	5.000		N/A

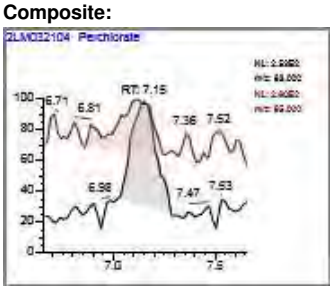
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio	
			N/A			
7.15	m/z 83.000	1454	0.010		N/A	I
7.11	m/z 85.000	1099		25.94 - 38.92	75.61 *	

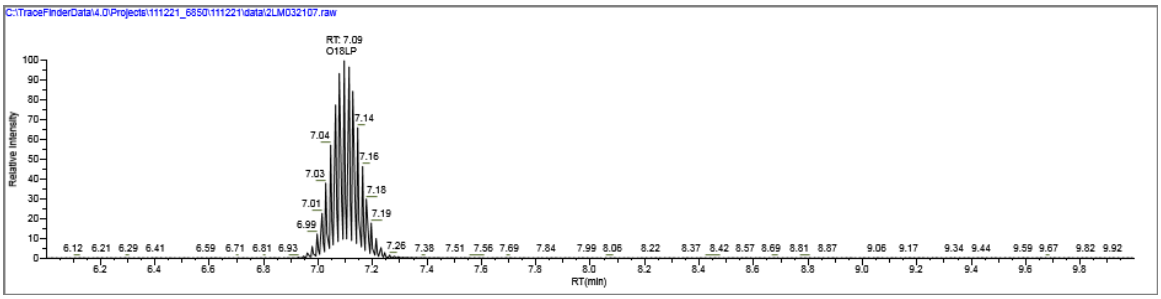
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 111221

Method: 111221_Perchlorate 6850
Perchlorate 6850
Cali File: 111121T2_111221.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
G:B5	M1J1516-02@100	2LM032107	N/A	M1J1516-02@100	11/12/2021 11:47:13 AM	1:100



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.09	89	1064592			5.000	ug/L	5.000	ug/L	

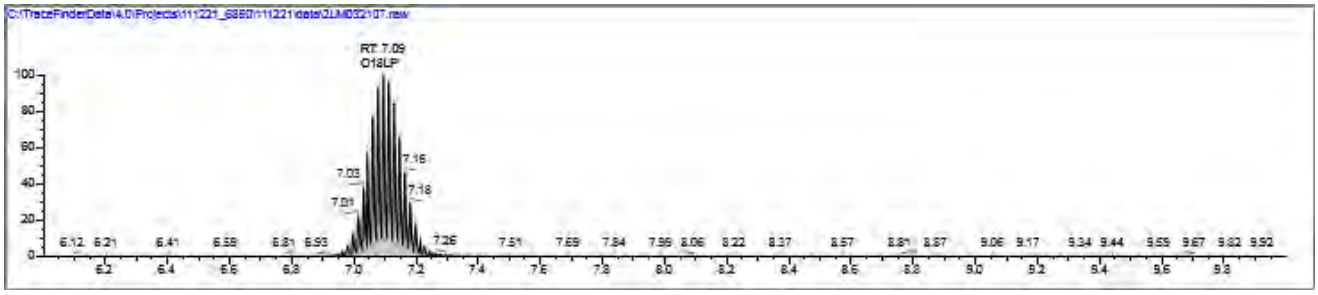
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.1	83	323029	Linear	0.303	1.683	ug/L	1.683	ug/L	

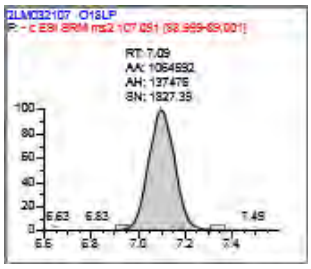
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

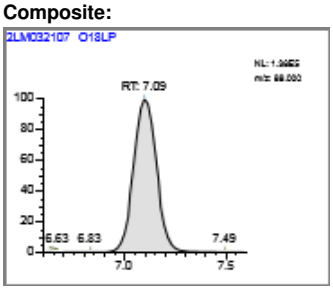
Data File:	2LM032107	Tune Report Date:	Tune report not found
Method:	111221_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	11/12/2021 11:47:13 AM
		Cali File Date:	11/12/2021 10:44:10 AM
Cali File:	111121T2_111221.calx	Operator ID:	CAS
Sample ID:	M1J1516-02@100	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	G:B5
Comments:	1:100		



m/z 89.000



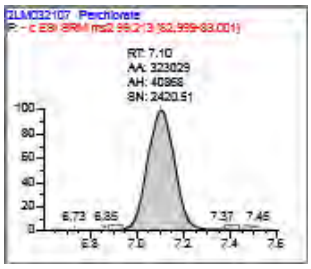
Composite:



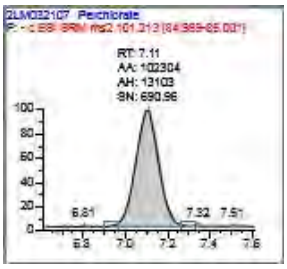
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.09	m/z 89.000	1064592	5.000		N/A

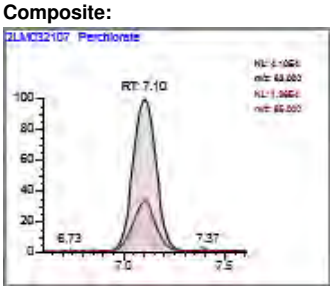
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.10	m/z 83.000	323029	1.683		N/A
7.11	m/z 85.000	102304		25.94 - 38.92	31.67

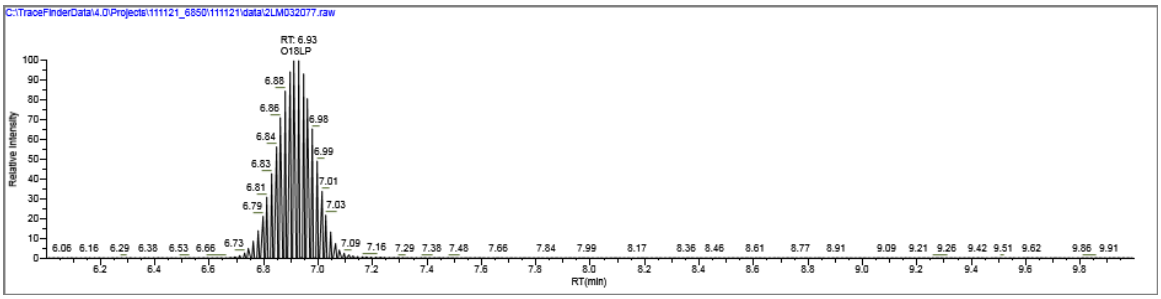
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 111121

Method: 111121_Perchlorate 6850
Perchlorate 6850
Cali File: 111121T2_111121.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:E6	M1J1516-03	2LM032077	N/A	M1J1516-03	11/12/2021 1:51:37 AM	1:01



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	6.93	89	1142449			5.000	ug/L	5.000	ug/L	

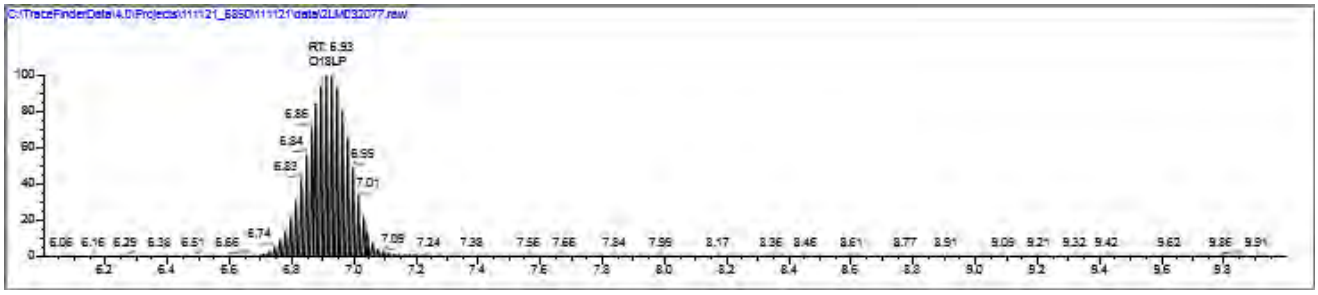
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	6.92	83	3711	Linear	0.003	0.015	ug/L	0.015	ug/L	I

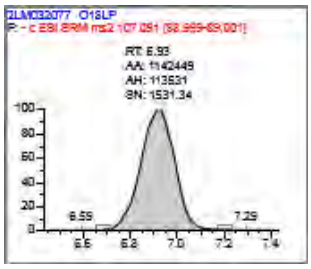
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

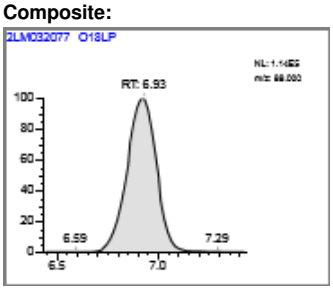
Data File:	2LM032077	Tune Report Date:	Tune report not found
Method:	111121_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	11/12/2021 1:51:37 AM
		Cali File Date:	11/12/2021 9:17:06 AM
Cali File:	111121T2_111121.calx	Operator ID:	CAS
Sample ID:	M1J1516-03	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:E6
Comments:	1:01		



m/z 89.000



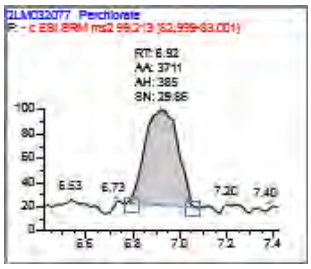
Composite:



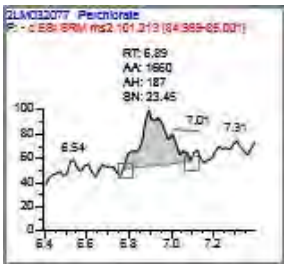
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
6.93	m/z 89.000	1142449	5.000		N/A

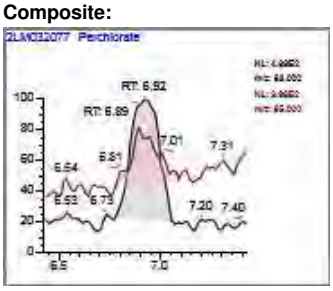
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio	
			N/A			
6.92	m/z 83.000	3711	0.015		N/A	I
6.89	m/z 85.000	1660		25.94 - 38.92	44.73 *	

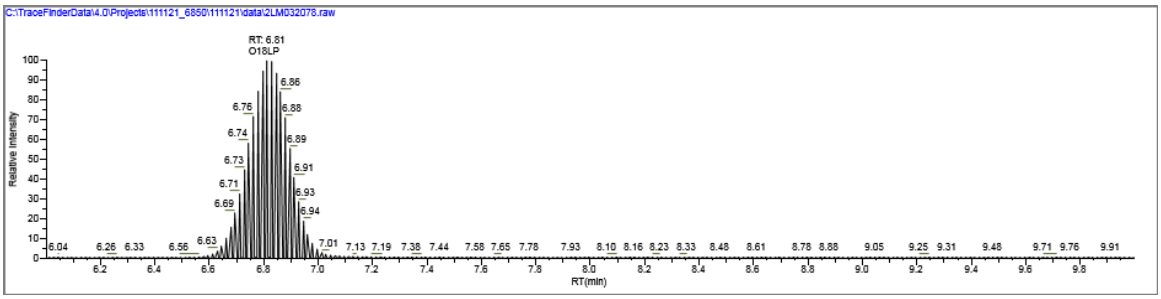
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 111121

Method: 111121_Perchlorate 6850
Perchlorate 6850
Cali File: 111121T2_111121.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:E7	M1J1516-04	2LM032078	N/A	M1J1516-04	11/12/2021 2:04:52 AM	1:01



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	6.81	89	904915			5.000	ug/L	5.000	ug/L	

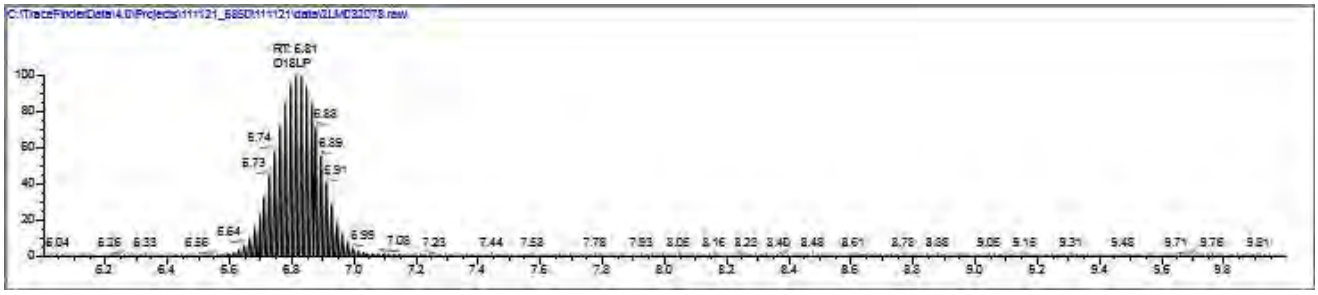
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	6.8	83	6232	Linear	0.007	0.036	ug/L	0.036	ug/L	

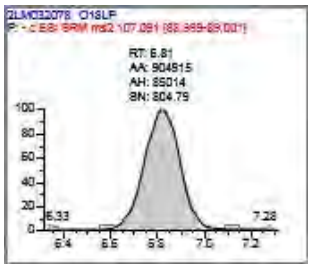
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

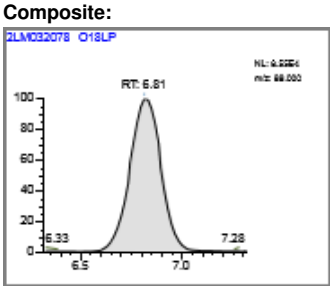
Data File:	2LM032078	Tune Report Date:	Tune report not found
Method:	111121_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	11/12/2021 2:04:52 AM
		Cali File Date:	11/12/2021 9:17:06 AM
Cali File:	111121T2_111121.calx	Operator ID:	CAS
Sample ID:	M1J1516-04	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:E7
Comments:	1:01		



m/z 89.000



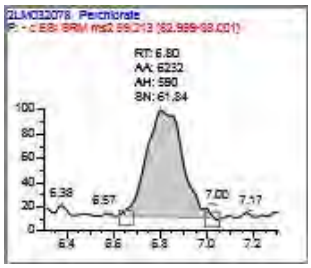
Composite:



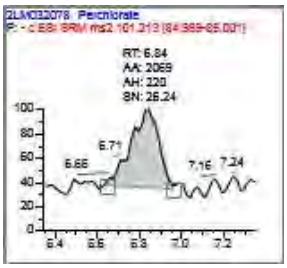
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
6.81	m/z 89.000	904915	5.000		N/A

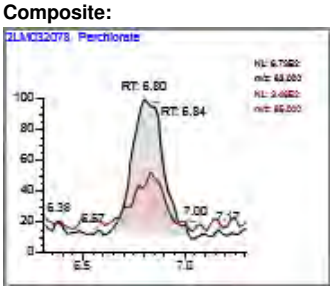
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
6.80	m/z 83.000	6232	0.036		N/A
6.84	m/z 85.000	2069		25.94 - 38.92	33.2

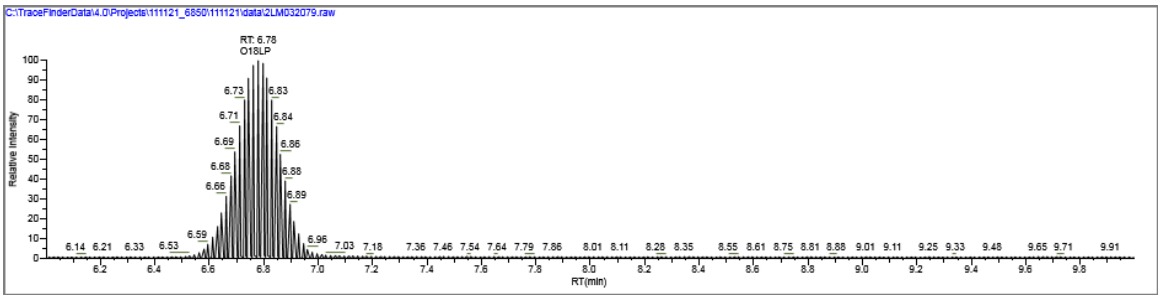
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 111121

Method: 111121_Perchlorate 6850
Perchlorate 6850
Cali File: 111121T2_111121.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:E8	M1J1516-05	2LM032079	N/A	M1J1516-05	11/12/2021 2:18:07 AM	1:01



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	6.78	89	757293			5.000	ug/L	5.000	ug/L	

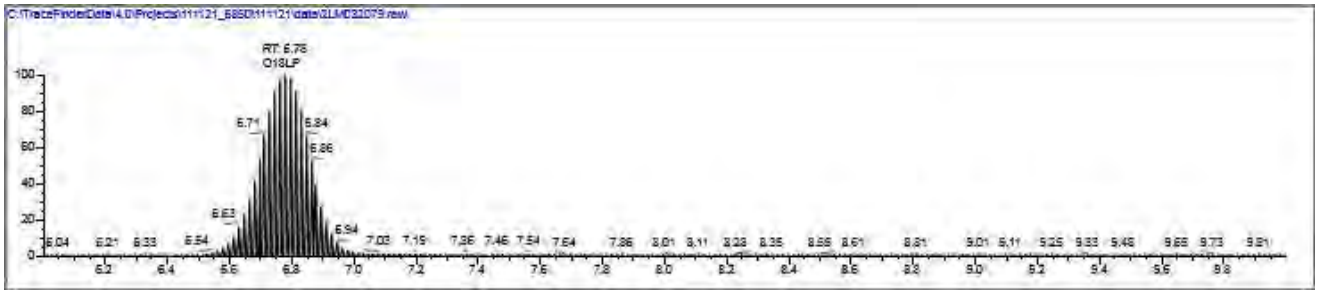
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	6.8	83	10455	Linear	0.014	0.074	ug/L	0.074	ug/L	

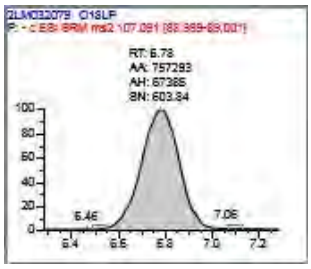
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

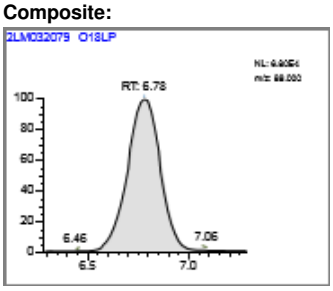
Data File:	2LM032079	Tune Report Date:	Tune report not found
Method:	111121_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	11/12/2021 2:18:07 AM
Cali File:	111121T2_111121.calx	Cali File Date:	11/12/2021 9:17:06 AM
Sample ID:	M1J1516-05	Operator ID:	CAS
Diln Factor:	1.00	Instrument ID:	LCMS2
Comments:	1:01	Vial Number:	R:E8



m/z 89.000



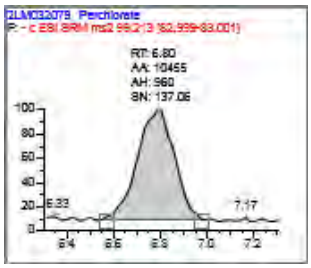
Composite:



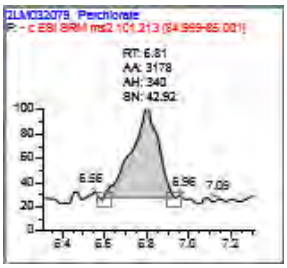
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
6.78	m/z 89.000	757293	5.000		N/A

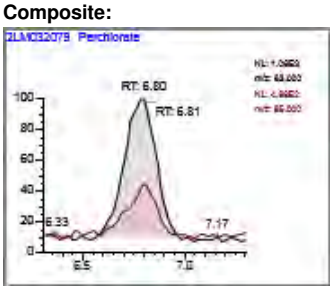
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
6.80	m/z 83.000	10455	0.074		N/A
6.81	m/z 85.000	3178		25.94 - 38.92	30.4

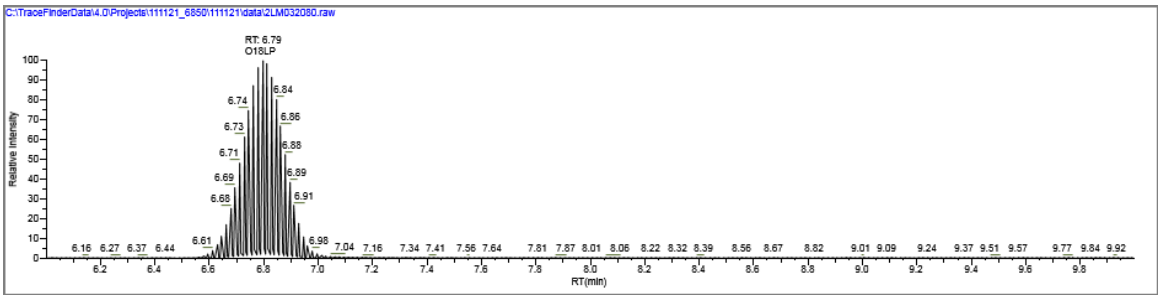
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 111121

Method: 111121_Perchlorate 6850
Perchlorate 6850
Cali File: 111121T2_111121.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:E9	M1J1516-06	2LM032080	N/A	M1J1516-06	11/12/2021 2:31:22 AM	1:01



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	6.79	89	784319			5.000	ug/L	5.000	ug/L	

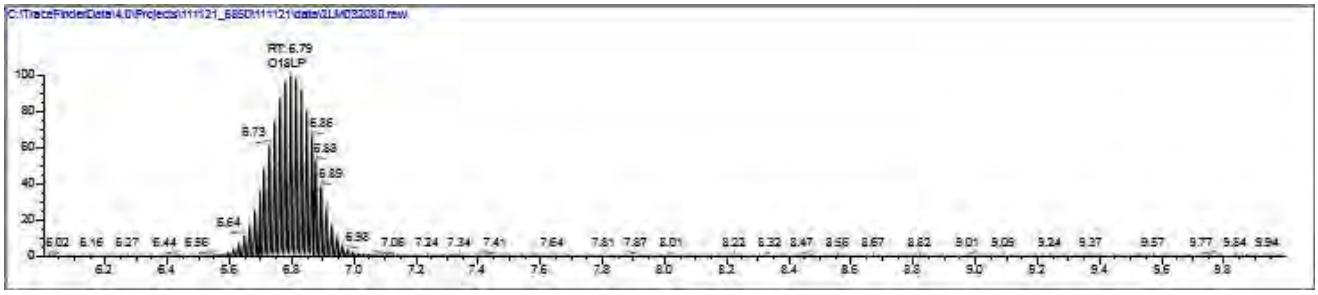
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	6.8	83	37318	Linear	0.048	0.262	ug/L	0.262	ug/L	

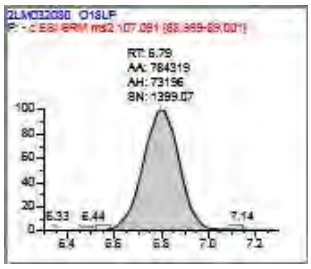
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

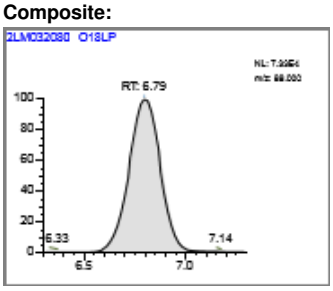
Data File:	2LM032080	Tune Report Date:	Tune report not found
Method:	111121_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	11/12/2021 2:31:22 AM
		Cali File Date:	11/12/2021 9:17:06 AM
Cali File:	111121T2_111121.calx	Operator ID:	CAS
Sample ID:	M1J1516-06	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:E9
Comments:	1:01		



m/z 89.000



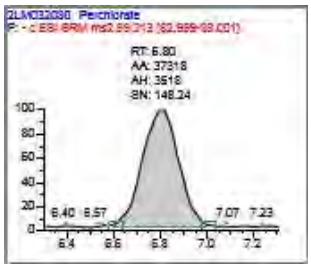
Composite:



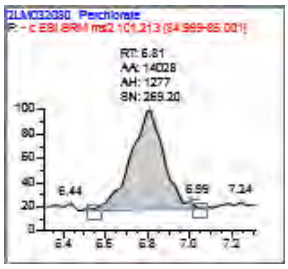
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
6.79	m/z 89.000	784319	5.000		N/A

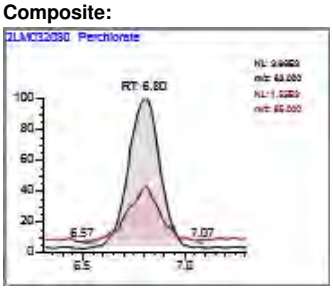
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
6.80	m/z 83.000	37318	0.262		N/A
6.81	m/z 85.000	14028		25.94 - 38.92	37.59

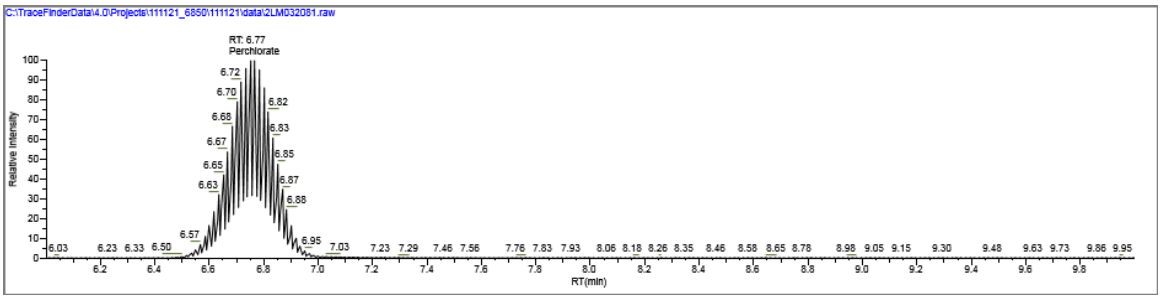
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 111121

Method: 111121_Perchlorate 6850
Perchlorate 6850
Cali File: 111121T2_111121.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:F1	M1J1516-07	2LM032081	N/A	M1J1516-07	11/12/2021 2:44:40 AM	1:01



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	6.74	89	749863			5.000	ug/L	5.000	ug/L	

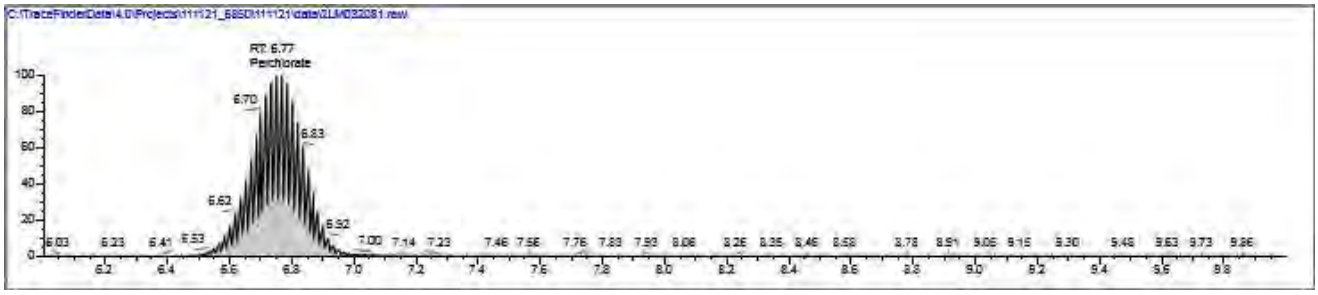
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	6.77	83	1224191	Linear	1.633	9.065	ug/L	9.065	ug/L	

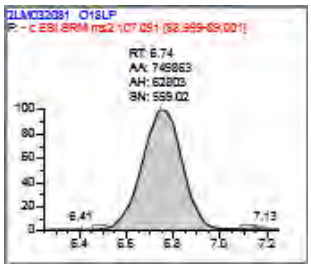
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

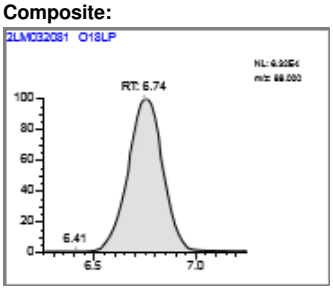
Data File:	2LM032081	Tune Report Date:	Tune report not found
Method:	111121_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	11/12/2021 2:44:40 AM
		Cali File Date:	11/12/2021 9:17:06 AM
Cali File:	111121T2_111121.calx	Operator ID:	CAS
Sample ID:	M1J1516-07	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:F1
Comments:	1:01		



m/z 89.000



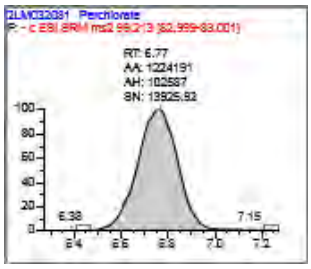
Composite:



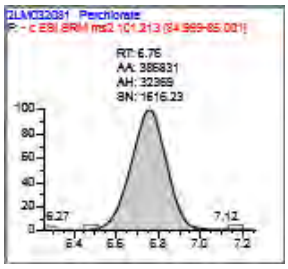
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
6.74	m/z 89.000	749863	5.000		N/A

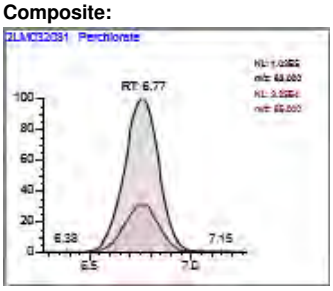
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
6.77	m/z 83.000	1224191	9.065		N/A
6.76	m/z 85.000	386831		25.94 - 38.92	31.6

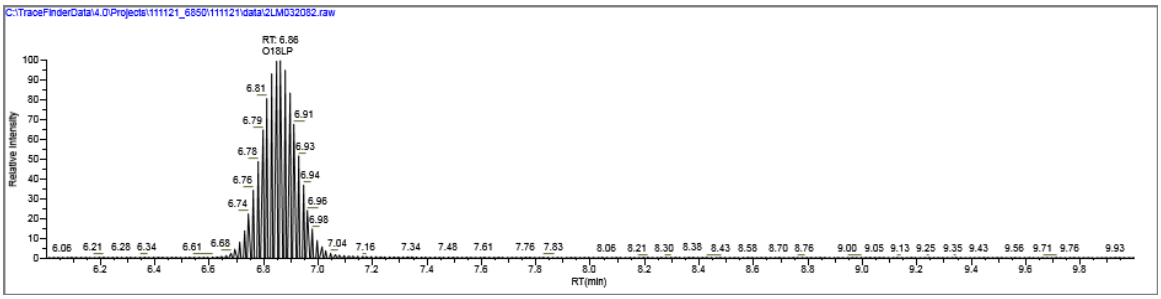
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 111121

Method: 111121_Perchlorate 6850
Perchlorate 6850
Cali File: 111121T2_111121.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:F2	M1J1516-08	2LM032082	N/A	M1J1516-08	11/12/2021 2:58:00 AM	1:01



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	6.86	89	818503			5.000	ug/L	5.000	ug/L	

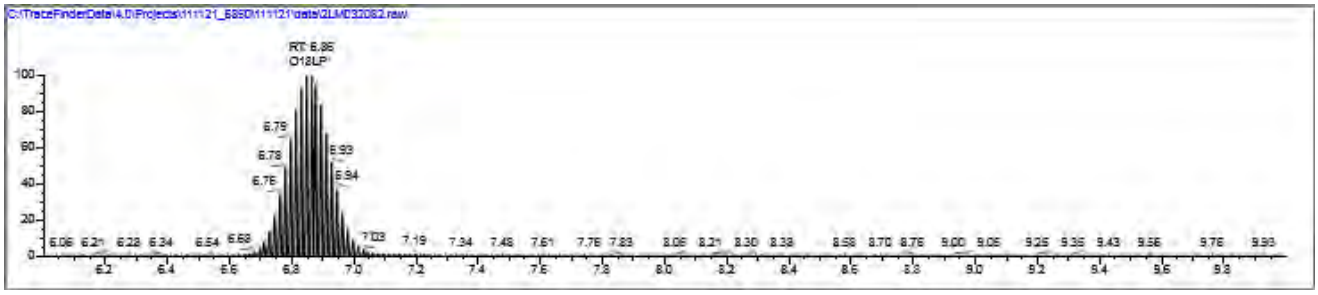
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	6.87	83	1951	Linear	0.002	0.011	ug/L	0.011	ug/L	I

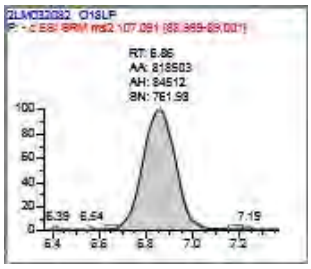
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

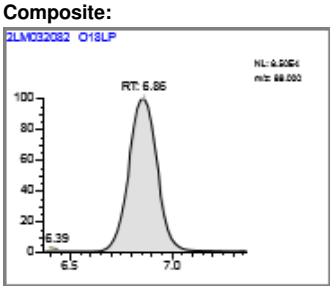
Data File:	2LM032082	Tune Report Date:	Tune report not found
Method:	111121_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	11/12/2021 2:58:00 AM
		Cali File Date:	11/12/2021 9:17:06 AM
Cali File:	111121T2_111121.calx	Operator ID:	CAS
Sample ID:	M1J1516-08	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:F2
Comments:	1:01		



m/z 89.000



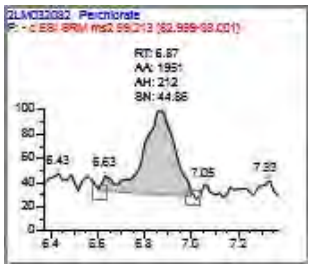
Composite:



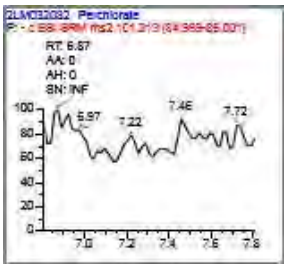
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
6.86	m/z 89.000	818503	5.000		N/A

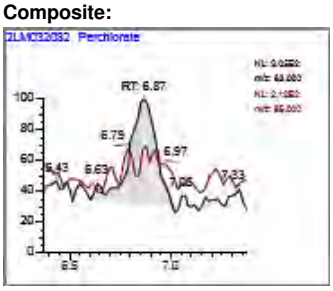
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio	
			N/A			
6.87	m/z 83.000	1951	0.011		N/A	I
6.87	m/z 85.000			25.94 - 38.92	*	

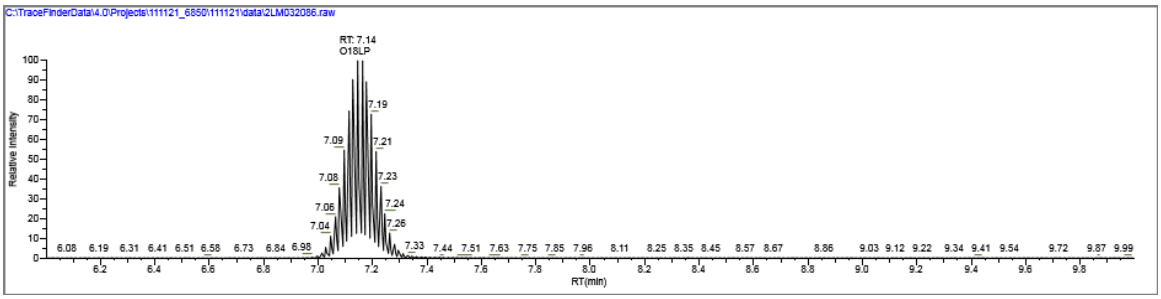
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 111121

Method: 111121_Perchlorate 6850
Perchlorate 6850
Cali File: 111121T2_111121.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:F3	M1J1516-09@100	2LM032086	N/A	M1J1516-09@100	11/12/2021 3:50:59 AM	1:100



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.14	89	1010381			5.000	ug/L	5.000	ug/L	

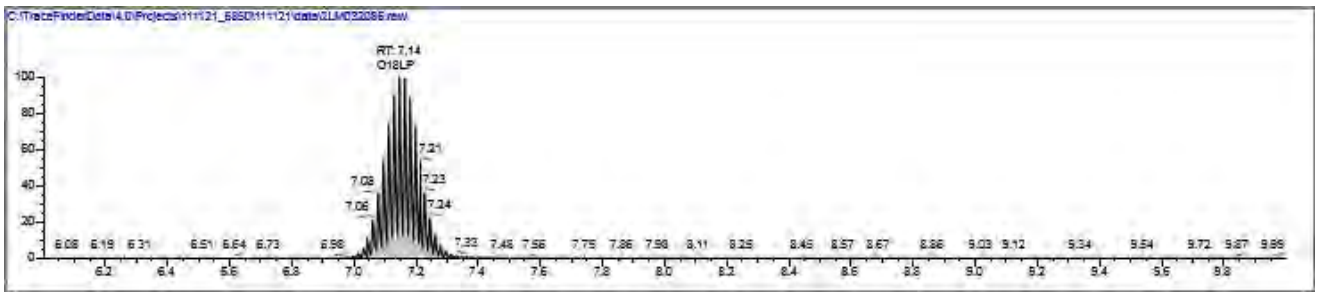
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.15	83	400552	Linear	0.396	2.199	ug/L	2.199	ug/L	

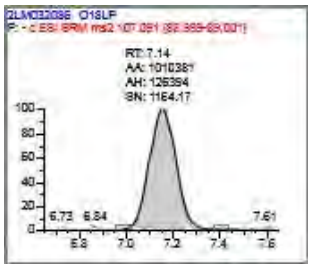
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

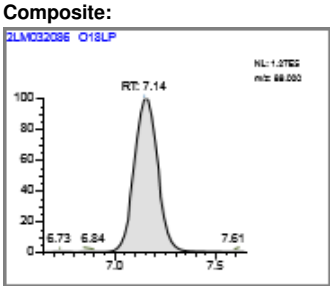
Data File:	2LM032086	Tune Report Date:	Tune report not found
Method:	111121_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	11/12/2021 3:50:59 AM
		Cali File Date:	11/12/2021 9:17:06 AM
Cali File:	111121T2_111121.calx	Operator ID:	CAS
Sample ID:	M1J1516-09@100	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:F3
Comments:	1:100		



m/z 89.000



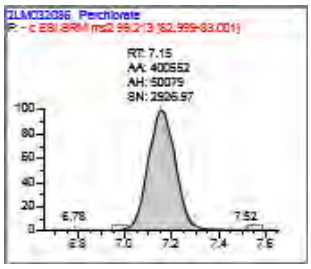
Composite:



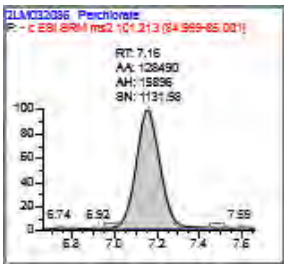
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.14	m/z 89.000	1010381	5.000		N/A

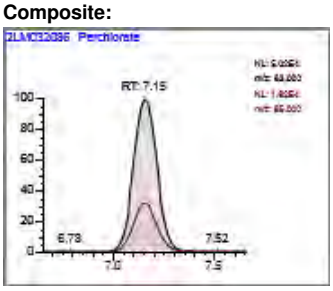
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.15	m/z 83.000	400552	2.199		N/A
7.16	m/z 85.000	128490		25.94 - 38.92	32.08

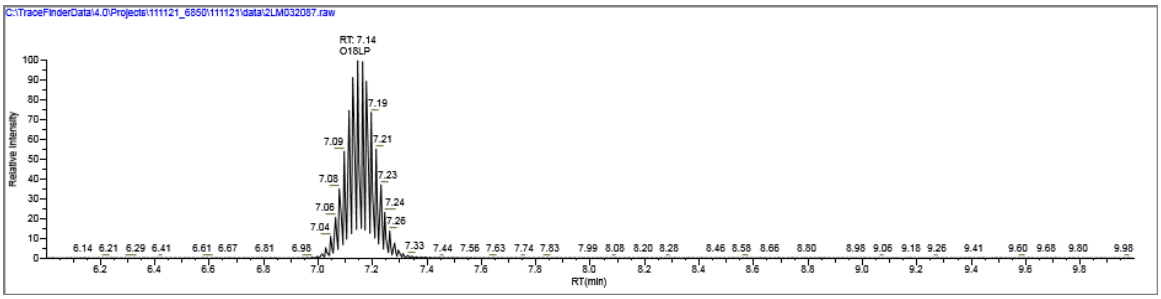
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 111121

Method: 111121_Perchlorate 6850
Perchlorate 6850
Cali File: 111121T2_111121.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:F4	M1J1516-10@100	2LM032087	N/A	M1J1516-10@100	11/12/2021 4:04:14 AM	1:100



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.14	89	1029831			5.000	ug/L	5.000	ug/L	

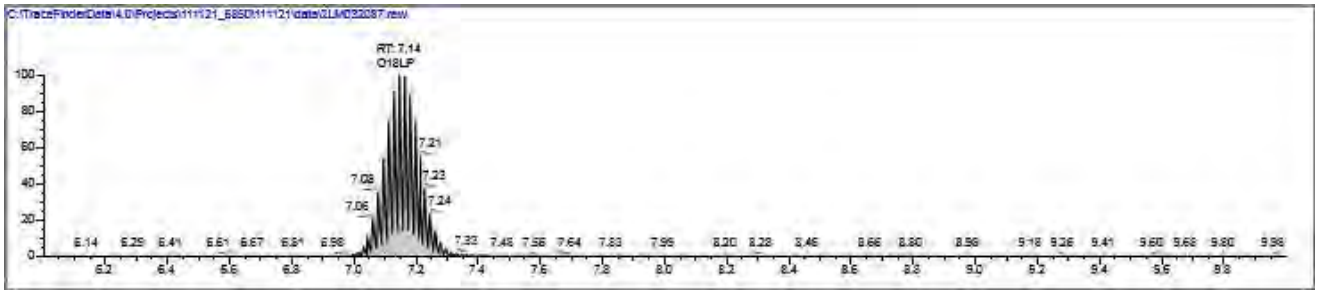
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.15	83	489986	Linear	0.476	2.64	ug/L	2.64	ug/L	

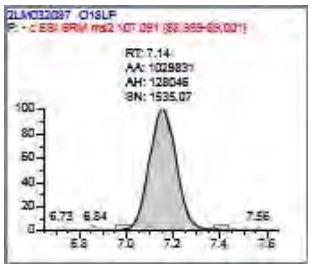
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

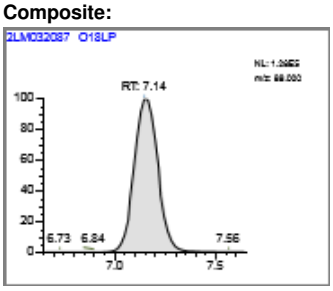
Data File:	2LM032087	Tune Report Date:	Tune report not found
Method:	111121_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	11/12/2021 4:04:14 AM
		Cali File Date:	11/12/2021 9:17:06 AM
Cali File:	111121T2_111121.calx	Operator ID:	CAS
Sample ID:	M1J1516-10@100	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:F4
Comments:	1:100		



m/z 89.000



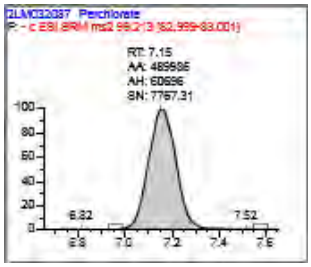
Composite:



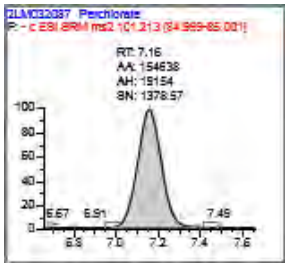
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.14	m/z 89.000	1029831	5.000		N/A

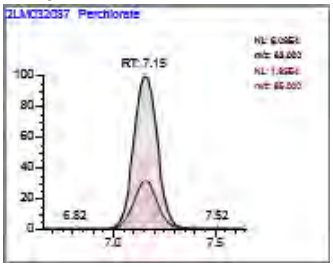
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.15	m/z 83.000	489986	2.640		N/A
7.16	m/z 85.000	154638		25.94 - 38.92	31.56

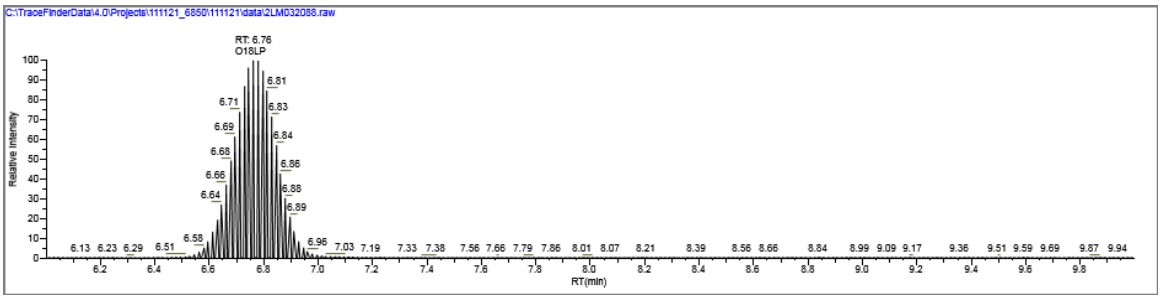
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 111121

Method: 111121_Perchlorate 6850
Perchlorate 6850
Cali File: 111121T2_111121.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:F5	M1J1516-11	2LM032088	N/A	M1J1516-11	11/12/2021 4:17:29 AM	1:01



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	6.76	89	773154			5.000	ug/L	5.000	ug/L	

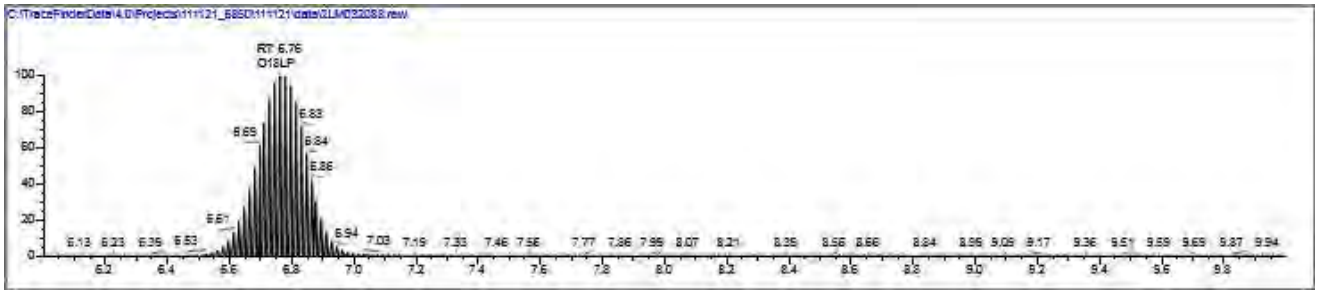
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	6.78	83	2528	Linear	0.003	0.016	ug/L	0.016	ug/L	I

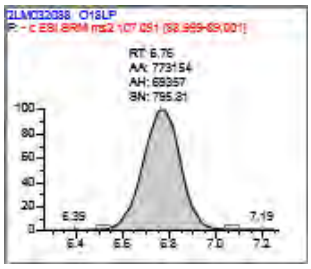
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

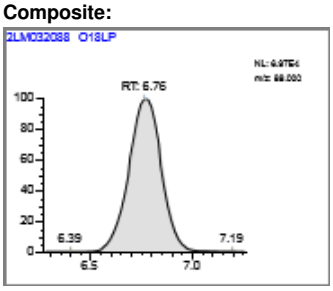
Data File:	2LM032088	Tune Report Date:	Tune report not found
Method:	111121_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	11/12/2021 4:17:29 AM
		Cali File Date:	11/12/2021 9:17:06 AM
Cali File:	111121T2_111121.calx	Operator ID:	CAS
Sample ID:	M1J1516-11	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:F5
Comments:	1:01		



m/z 89.000



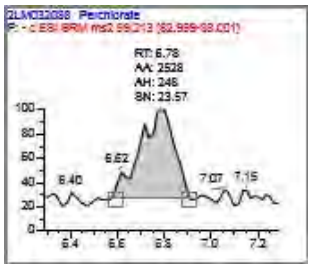
Composite:



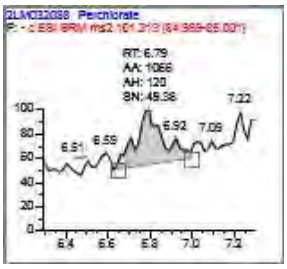
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
6.76	m/z 89.000	773154	5.000		N/A

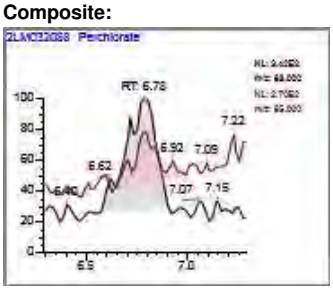
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio	
			N/A			
6.78	m/z 83.000	2528	0.016		N/A	I
6.79	m/z 85.000	1066		25.94 - 38.92	42.15 *	

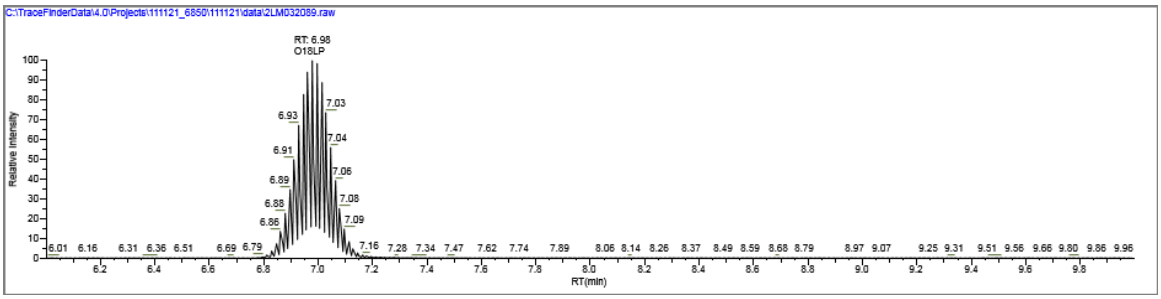
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 111121

Method: 111121_Perchlorate 6850
Perchlorate 6850
Cali File: 111121T2_111121.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:F6	M1J1516-12@10	2LM032089	N/A	M1J1516-12@10	11/12/2021 4:30:44 AM	1:10



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	6.98	89	900505			5.000	ug/L	5.000	ug/L	

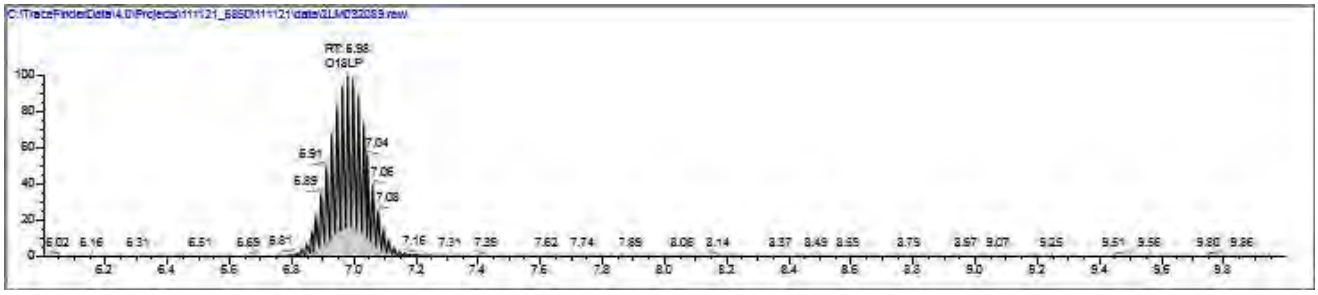
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	6.98	83	450806	Linear	0.501	2.778	ug/L	2.778	ug/L	

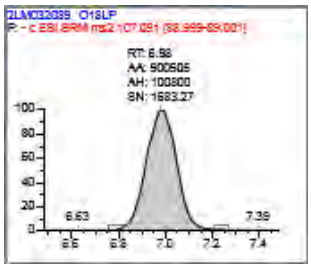
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

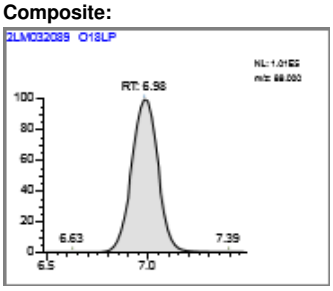
Data File:	2LM032089	Tune Report Date:	Tune report not found
Method:	111121_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	11/12/2021 4:30:44 AM
		Cali File Date:	11/12/2021 9:17:06 AM
Cali File:	111121T2_111121.calx	Operator ID:	CAS
Sample ID:	M1J1516-12@10	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:F6
Comments:	1:10		



m/z 89.000



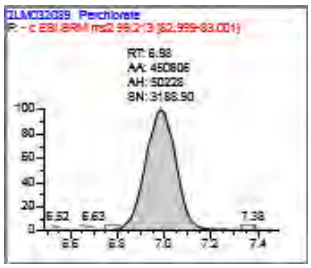
Composite:



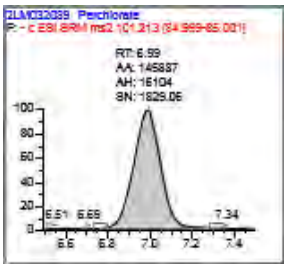
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
6.98	m/z 89.000	900505	5.000		N/A

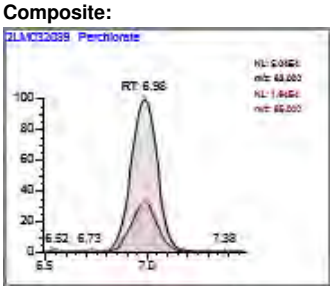
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
6.98	m/z 83.000	450806	2.778		N/A
6.99	m/z 85.000	145887		25.94 - 38.92	32.36

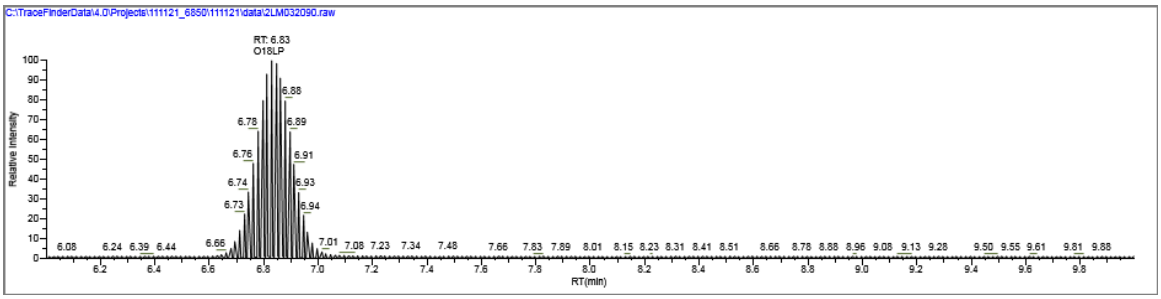
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 111121

Method: 111121_Perchlorate 6850
Perchlorate 6850
Cali File: 111121T2_111121.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:F7	M1J1516-13	2LM032090	N/A	M1J1516-13	11/12/2021 4:43:59 AM	1:01



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	6.83	89	661159			5.000	ug/L	5.000	ug/L	

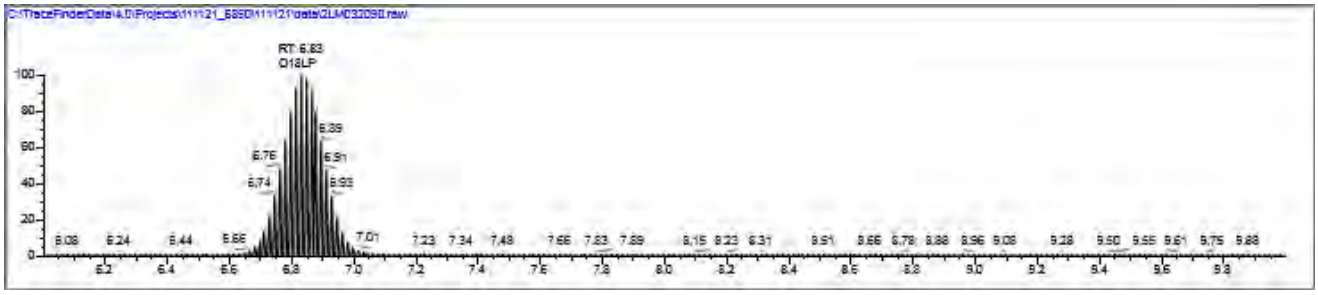
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	6.85	83	6918	Linear	0.010	0.056	ug/L	0.056	ug/L	

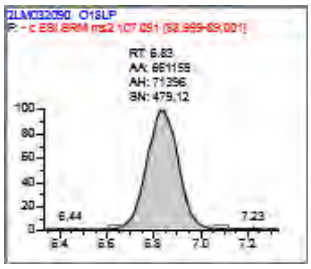
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

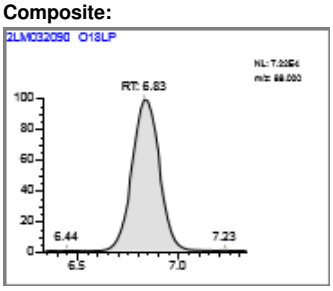
Data File:	2LM032090	Tune Report Date:	Tune report not found
Method:	111121_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	11/12/2021 4:43:59 AM
		Cali File Date:	11/12/2021 9:17:06 AM
Cali File:	111121T2_111121.calx	Operator ID:	CAS
Sample ID:	M1J1516-13	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:F7
Comments:	1:01		



m/z 89.000



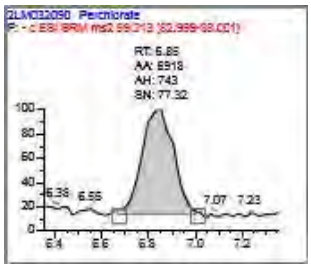
Composite:



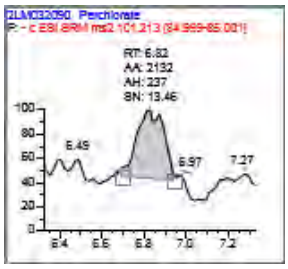
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
6.83	m/z 89.000	661159	5.000		N/A

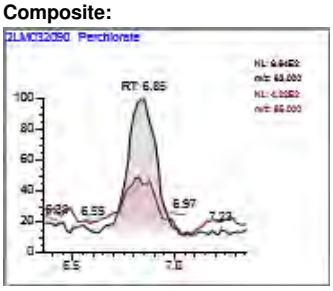
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
6.85	m/z 83.000	6918	0.056		N/A
6.82	m/z 85.000	2132		25.94 - 38.92	30.82

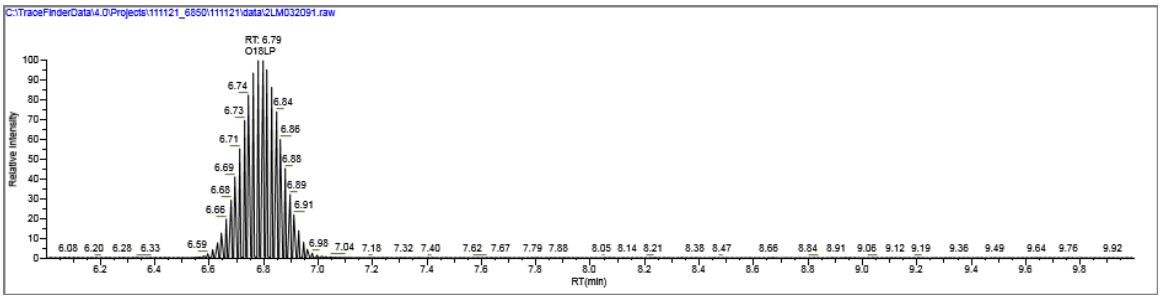
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 111121

Method: 111121_Perchlorate 6850
Perchlorate 6850
Cali File: 111121T2_111121.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:F8	M1J1516-14	2LM032091	N/A	M1J1516-14	11/12/2021 4:57:14 AM	1:01



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	6.79	89	701543			5.000	ug/L	5.000	ug/L	

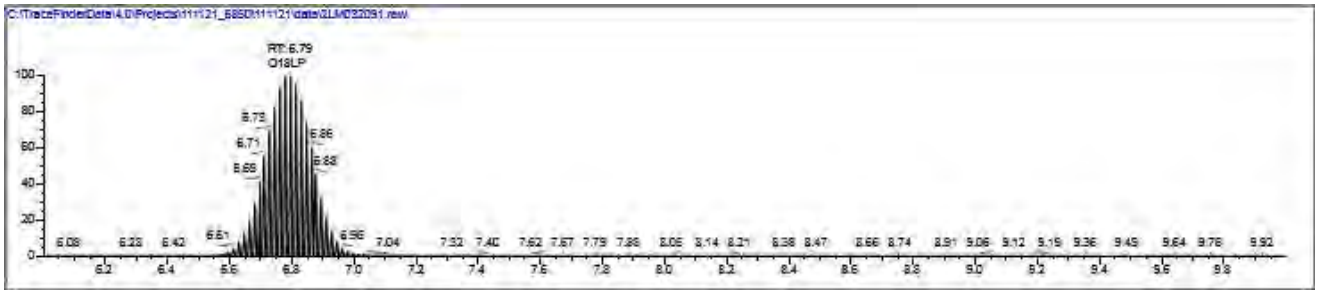
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	6.77	83	3568	Linear	0.005	0.026	ug/L	0.026	ug/L	I

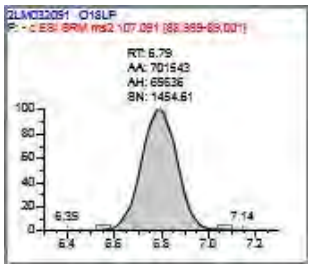
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

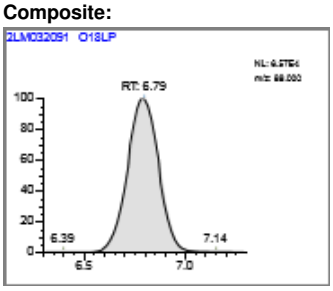
Data File:	2LM032091	Tune Report Date:	Tune report not found
Method:	111121_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	11/12/2021 4:57:14 AM
		Cali File Date:	11/12/2021 9:17:06 AM
Cali File:	111121T2_111121.calx	Operator ID:	CAS
Sample ID:	M1J1516-14	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:F8
Comments:	1:01		



m/z 89.000



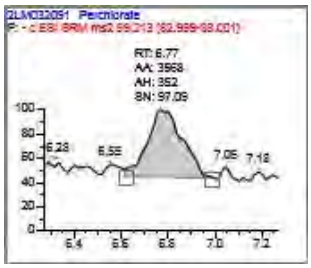
Composite:



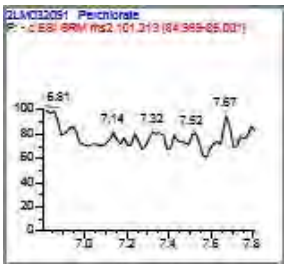
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio	
			N/A			
6.79	m/z 89.000	701543	5.000		N/A	

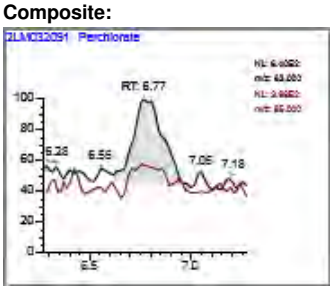
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio	
			N/A			
6.77	m/z 83.000	3568	0.026		N/A	I
6.77	m/z 85.000			25.94 - 38.92	*	

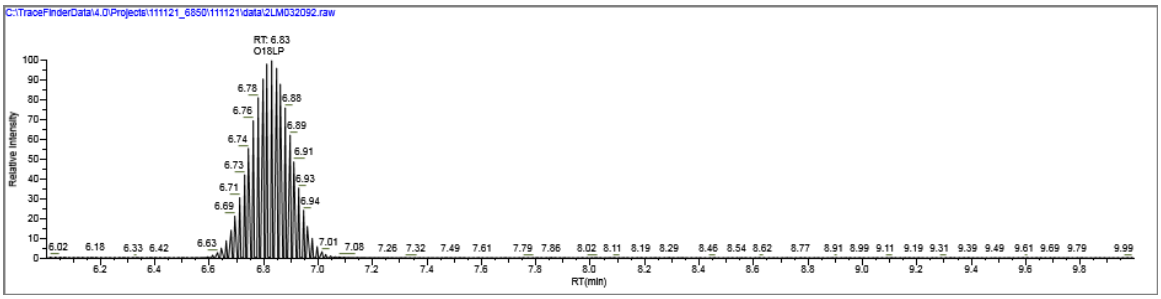
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 111121

Method: 111121_Perchlorate 6850
Perchlorate 6850
Cali File: 111121T2_111121.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:F9	M1J1516-15	2LM032092	N/A	M1J1516-15	11/12/2021 5:10:29 AM	1:01



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	6.83	89	722465			5.000	ug/L	5.000	ug/L	

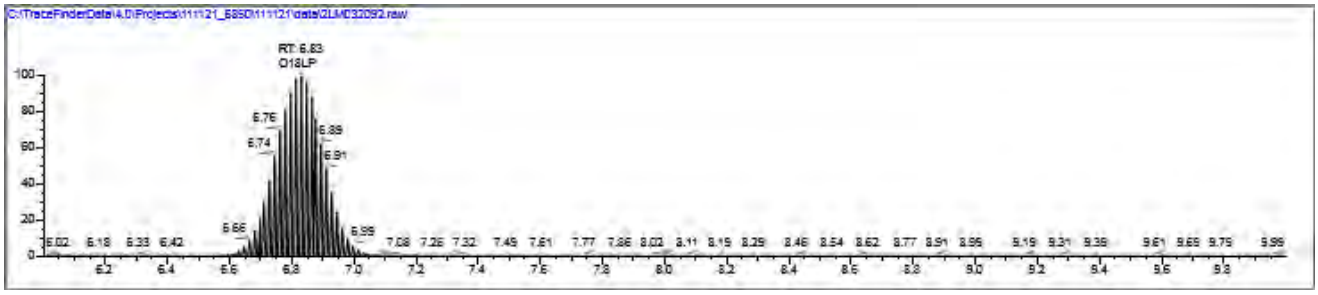
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	6.83	83	1630	Linear	0.002	0.01	ug/L	0.01	ug/L	I

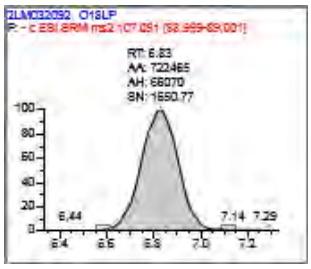
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

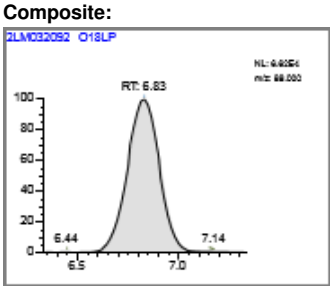
Data File:	2LM032092	Tune Report Date:	Tune report not found
Method:	111121_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	11/12/2021 5:10:29 AM
		Cali File Date:	11/12/2021 9:17:06 AM
Cali File:	111121T2_111121.calx	Operator ID:	CAS
Sample ID:	M1J1516-15	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:F9
Comments:	1:01		



m/z 89.000



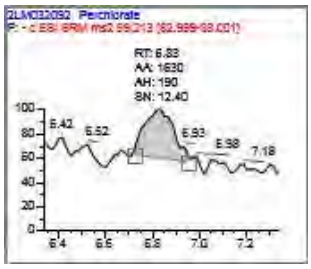
Composite:



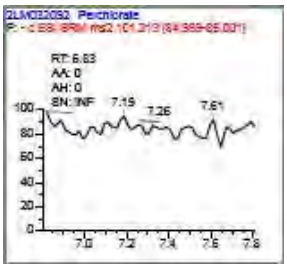
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
6.83	m/z 89.000	722465	5.000		N/A

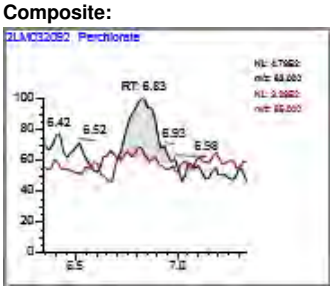
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio	
			N/A			
6.83	m/z 83.000	1630	0.010		N/A	I
6.83	m/z 85.000			25.94 - 38.92	*	

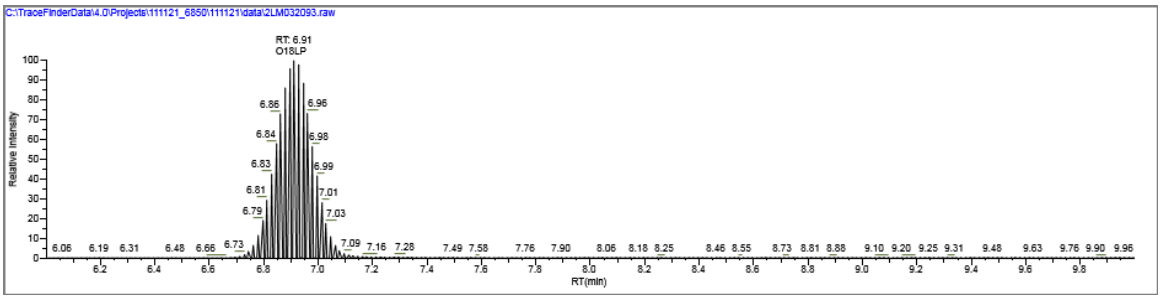
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 111121

Method: 111121_Perchlorate 6850
Perchlorate 6850
Cali File: 111121T2_111121.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
G:A1	M1J1516-16	2LM032093	N/A	M1J1516-16	11/12/2021 5:23:44 AM	1:01



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	6.91	89	741167			5.000	ug/L	5.000	ug/L	

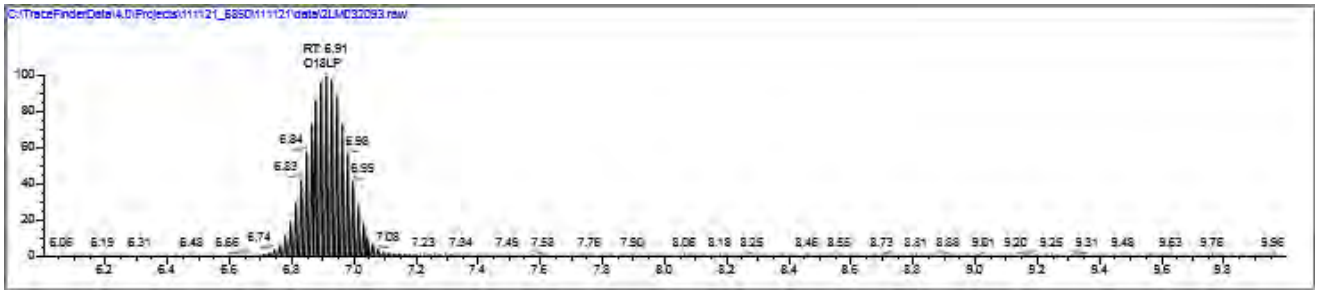
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	6.93	83	1656	Linear	0.002	0.01	ug/L	0.01	ug/L	I

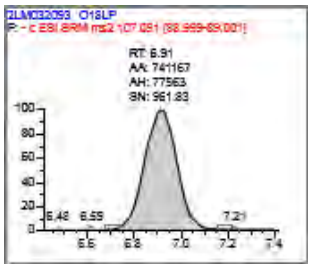
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

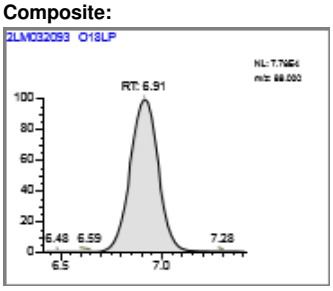
Data File:	2LM032093	Tune Report Date:	Tune report not found
Method:	111121_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	11/12/2021 5:23:44 AM
		Cali File Date:	11/12/2021 9:17:06 AM
Cali File:	111121T2_111121.calx	Operator ID:	CAS
Sample ID:	M1J1516-16	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	G:A1
Comments:	1:01		



m/z 89.000



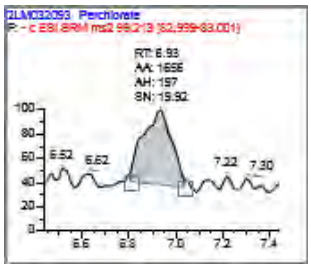
Composite:



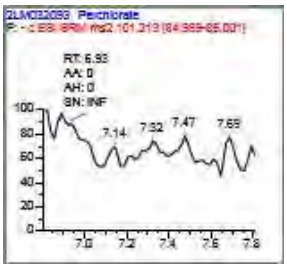
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio	
			N/A			
6.91	m/z 89.000	741167	5.000		N/A	

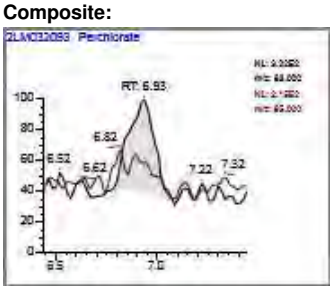
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio	
			N/A			
6.93	m/z 83.000	1656	0.010		N/A	I
6.93	m/z 85.000			25.94 - 38.92	*	

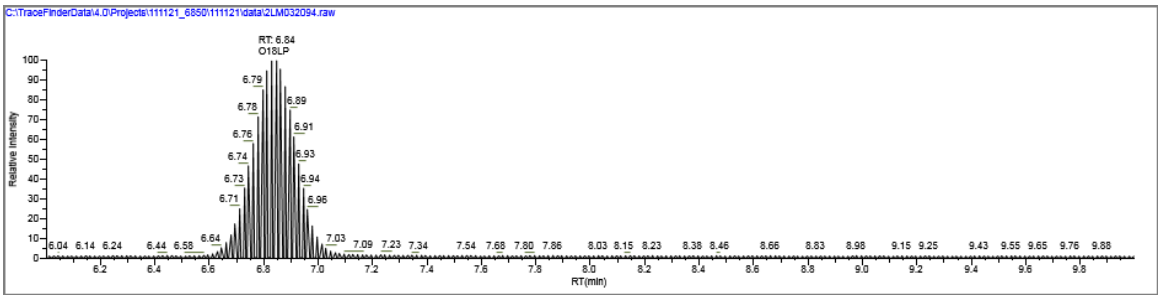
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 111121

Method: 111121_Perchlorate 6850
Perchlorate 6850
Cali File: 111121T2_111121.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
G:A2	M1J1516-17	2LM032094	N/A	M1J1516-17	11/12/2021 5:36:59 AM	1:01



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	6.84	89	589713			5.000	ug/L	5.000	ug/L	

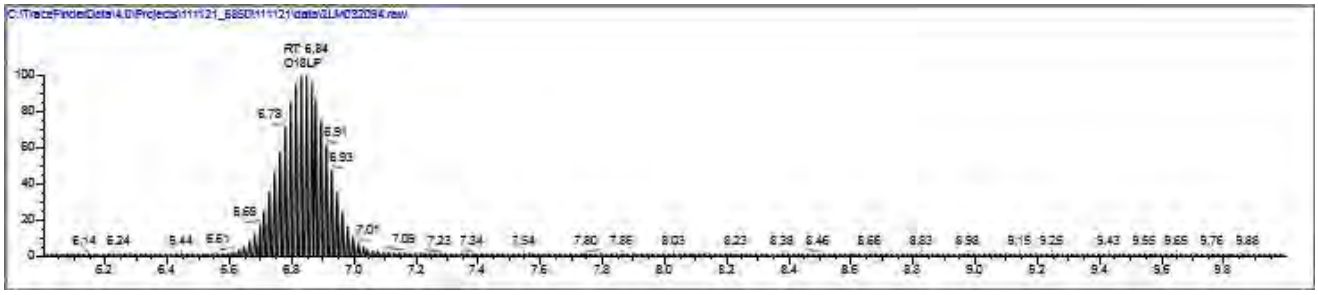
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	6.87	83	2478	Linear	0.004	0.021	ug/L	0.021	ug/L	

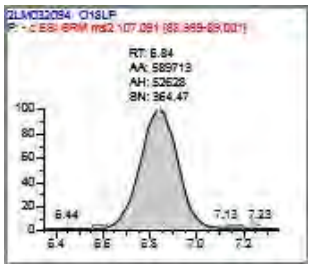
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

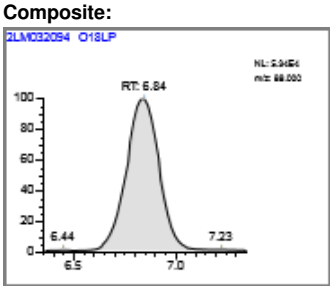
Data File:	2LM032094	Tune Report Date:	Tune report not found
Method:	111121_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	11/12/2021 5:36:59 AM
		Cali File Date:	11/12/2021 9:17:06 AM
Cali File:	111121T2_111121.calx	Operator ID:	CAS
Sample ID:	M1J1516-17	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	G:A2
Comments:	1:01		



m/z 89.000



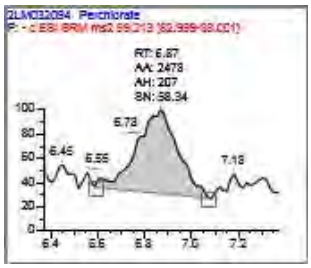
Composite:



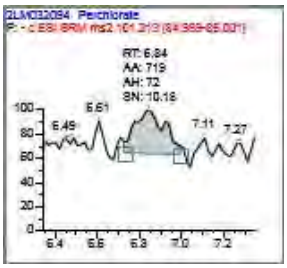
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
6.84	m/z 89.000	589713	5.000		N/A

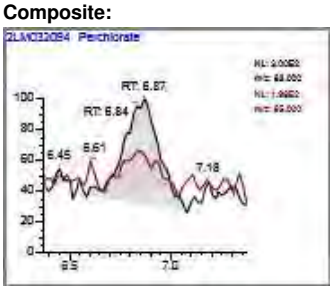
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
6.87	m/z 83.000	2478	0.021		N/A
6.84	m/z 85.000	719		25.94 - 38.92	29

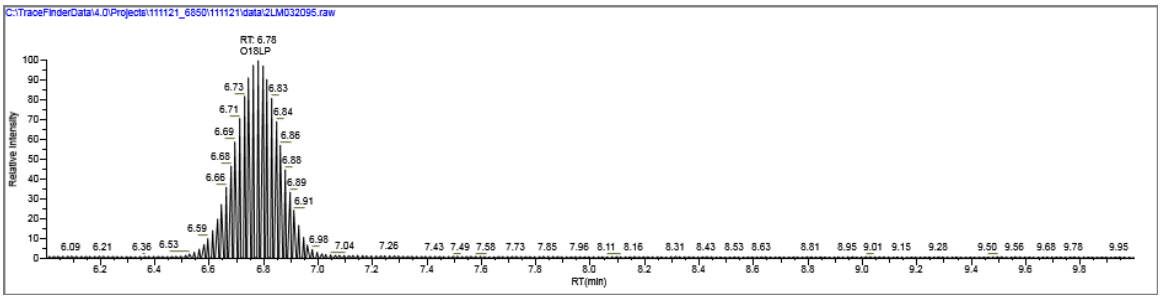
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 111121

Method: 111121_Perchlorate 6850
Perchlorate 6850
Cali File: 111121T2_111121.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
G:A3	M1J1516-18	2LM032095	N/A	M1J1516-18	11/12/2021 5:50:13 AM	1:01



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	6.78	89	616853			5.000	ug/L	5.000	ug/L	

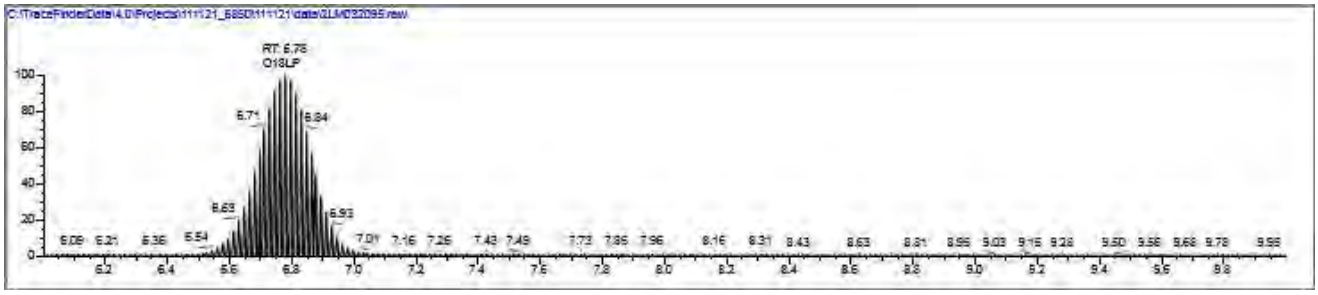
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	6.77	83	1003	Linear	0.002	0.006	ug/L	0.006	ug/L	I

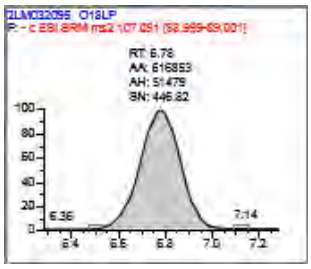
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

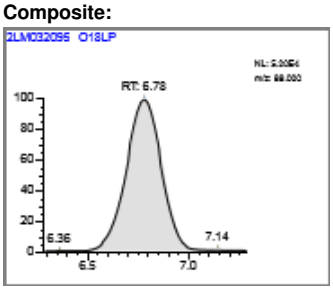
Data File:	2LM032095	Tune Report Date:	Tune report not found
Method:	111121_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	11/12/2021 5:50:13 AM
		Cali File Date:	11/12/2021 9:17:06 AM
Cali File:	111121T2_111121.calx	Operator ID:	CAS
Sample ID:	M1J1516-18	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	G:A3
Comments:	1:01		



m/z 89.000



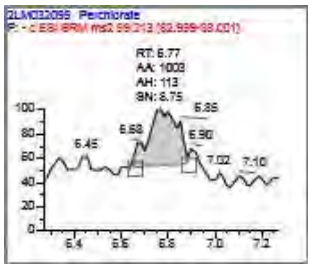
Composite:



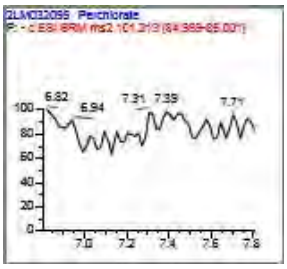
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
6.78	m/z 89.000	616853	5.000		N/A

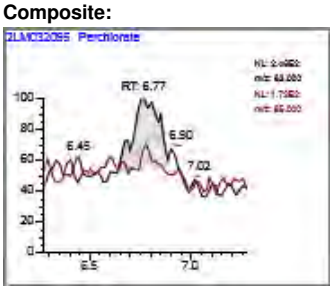
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio	
			N/A			
6.77	m/z 83.000	1003	0.006		N/A	I
6.77	m/z 85.000			25.94 - 38.92	*	

Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

MICROBAC®

Section C:
HPLC Organics
EPA 6850
QC Sample Raw Data

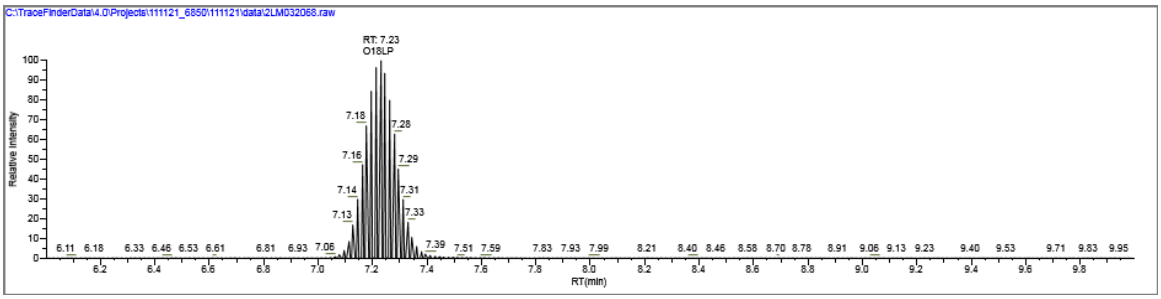
Microbac Laboratories, Inc.
158 Starlite Drive | Marietta, OH 45750 | 800.373.4071 | www.microbac.com

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 111121

Method: 111121_Perchlorate 6850
Perchlorate 6850
Cali File: 111121T2_111121.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:B2	B1K0221-BLK1	2LM032068	N/A	BLANK	11/11/2021 11:52:22 PM	1:01



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.23	89	1186917			5.000	ug/L	5.000	ug/L	

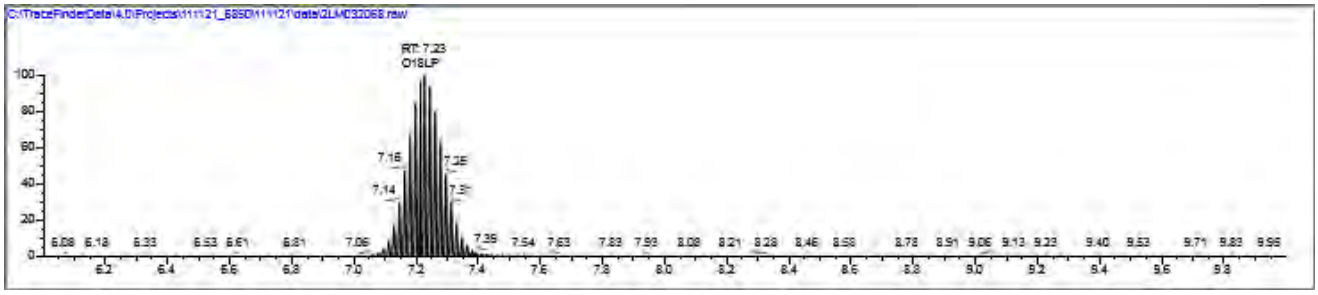
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.23	83	4041	Linear	0.003	0.016	ug/L	0.016	ug/L	I

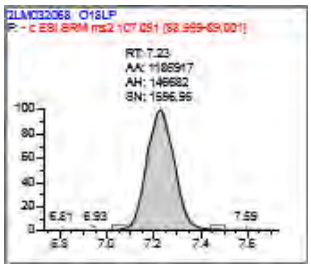
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

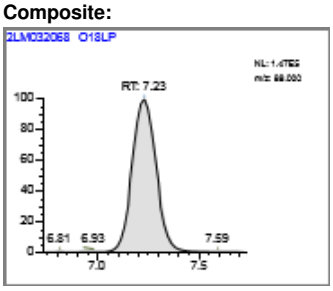
Data File:	2LM032068	Tune Report Date:	Tune report not found
Method:	111121_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	11/11/2021 11:52:22 PM
		Cali File Date:	11/12/2021 9:17:06 AM
Cali File:	111121T2_111121.calx	Operator ID:	CAS
Sample ID:	B1K0221-BLK1	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:B2
Comments:	1:01		



m/z 89.000



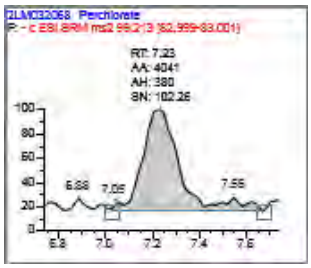
Composite:



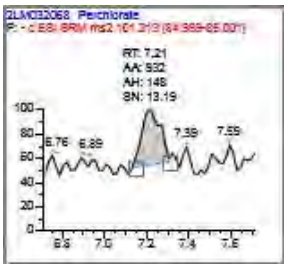
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio	
			N/A			
7.23	m/z 89.000	1186917	5.000		N/A	

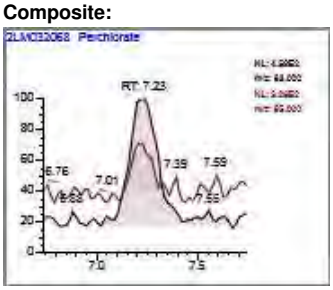
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio	
			N/A			
7.23	m/z 83.000	4041	0.016		N/A	I
7.21	m/z 85.000	932		25.94 - 38.92	23.05 *	

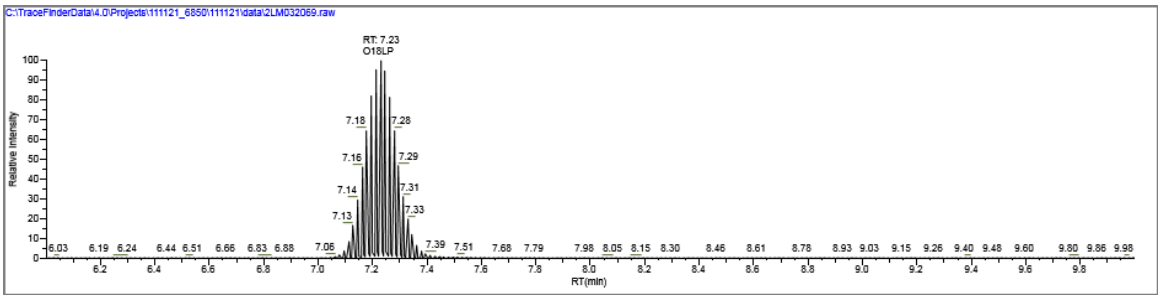
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 111121

Method: 111121_Perchlorate 6850
Perchlorate 6850
Cali File: 111121T2_111121.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:B3	B1K0221-BS1	2LM032069	N/A	LCS (0.2ug/L)	11/12/2021 12:05:37 AM	1:01



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.23	89	1033574			5.000	ug/L	5.000	ug/L	

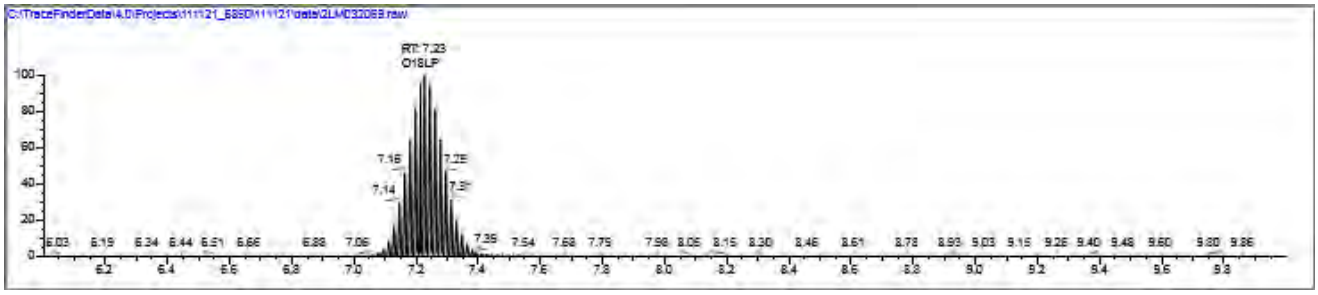
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.23	83	36607	Linear	0.035	0.194	ug/L	0.194	ug/L	

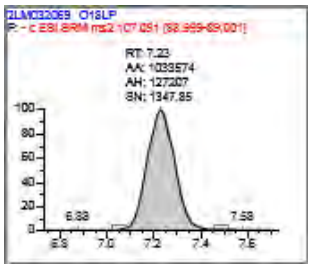
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

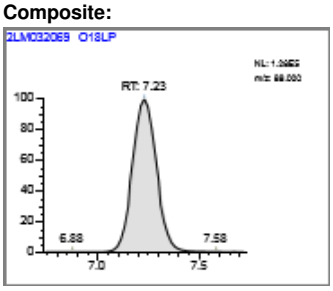
Data File:	2LM032069	Tune Report Date:	Tune report not found
Method:	111121_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	11/12/2021 12:05:37 AM
		Cali File Date:	11/12/2021 9:17:06 AM
Cali File:	111121T2_111121.calx	Operator ID:	CAS
Sample ID:	B1K0221-BS1	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:B3
Comments:	1:01		



m/z 89.000



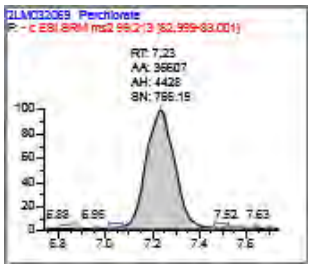
Composite:



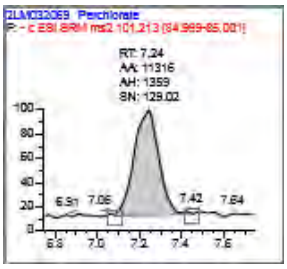
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.23	m/z 89.000	1033574	5.000		N/A

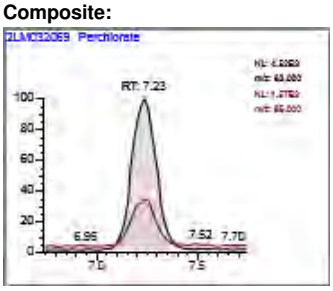
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.23	m/z 83.000	36607	0.194		N/A
7.24	m/z 85.000	11316		25.94 - 38.92	30.91

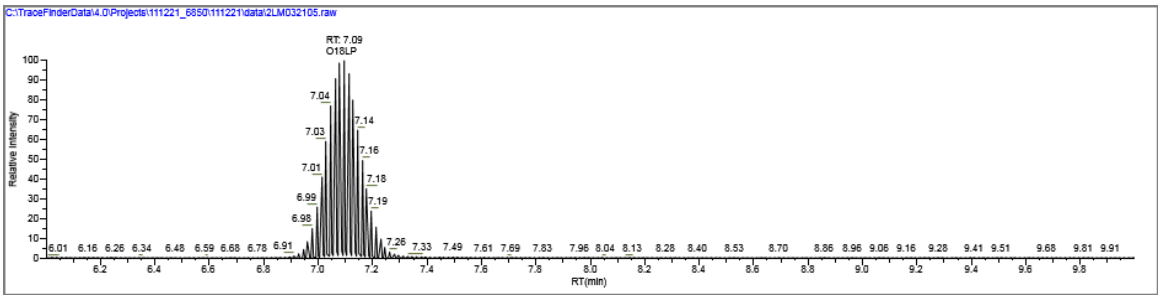
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 111221

Method: 111221_Perchlorate 6850 Perchlorate 6850
Cali File: 111121T2_111221.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
G:B3	B1K0221-MS1	2LM032105	N/A	MATRIX SPIKE	11/12/2021 11:20:43 AM	1:01



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.09	89	618043			5.000	ug/L	5.000	ug/L	

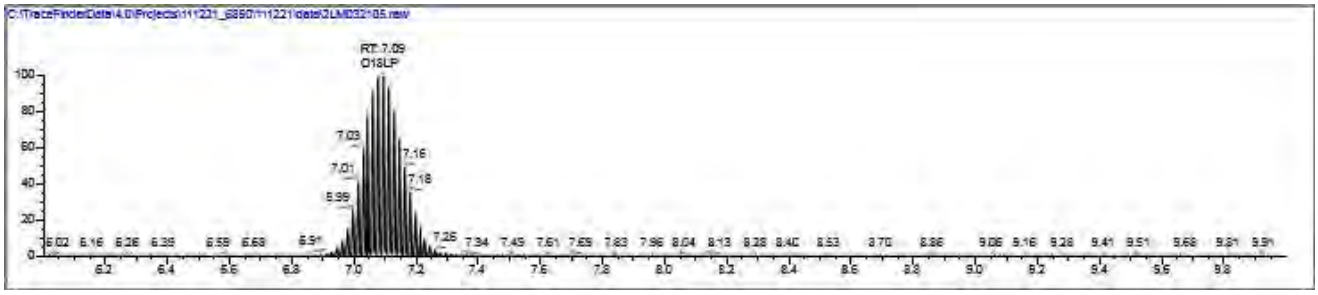
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.08	83	23422	Linear	0.038	0.208	ug/L	0.208	ug/L	

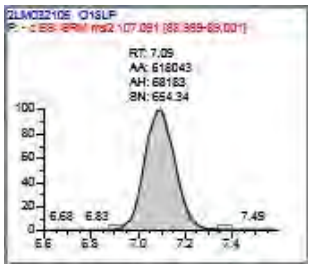
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

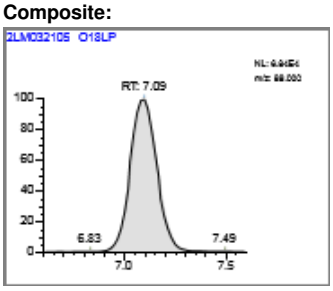
Data File:	2LM032105	Tune Report Date:	Tune report not found
Method:	111221_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	11/12/2021 11:20:43 AM
		Cali File Date:	11/12/2021 10:44:10 AM
Cali File:	111121T2_111221.calx	Operator ID:	CAS
Sample ID:	B1K0221-MS1	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	G:B3
Comments:	1:01		



m/z 89.000



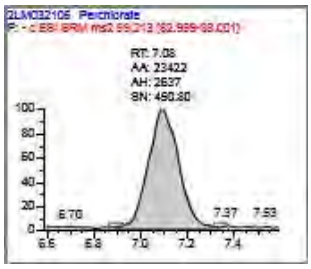
Composite:



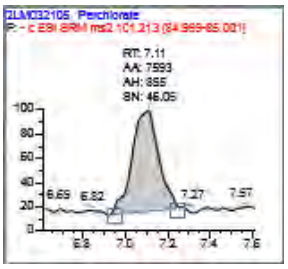
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.09	m/z 89.000	618043	5.000		N/A

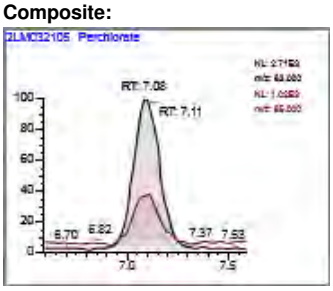
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.08	m/z 83.000	23422	0.208		N/A
7.11	m/z 85.000	7593		25.94 - 38.92	32.42

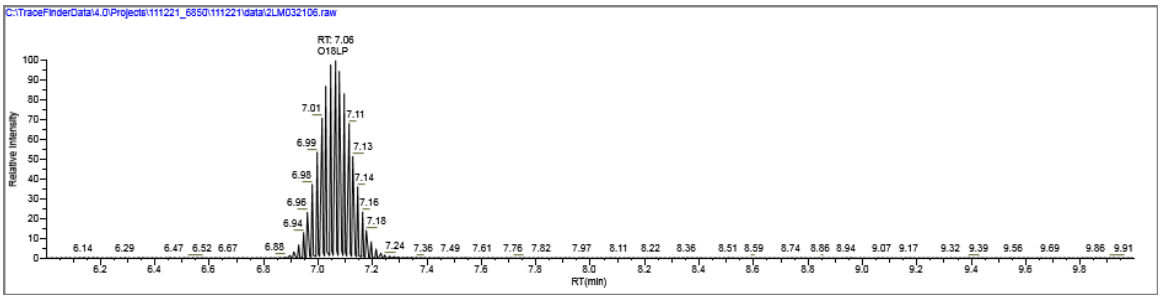
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 111221

Method: 111221_Perchlorate 6850
Perchlorate 6850
Cali File: 111121T2_111221.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
G:B4	B1K0221-MSD1	2LM032106	N/A	MARTIX SPIKE DUP	11/12/2021 11:33:58 AM	1:01



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.06	89	895683			5.000	ug/L	5.000	ug/L	

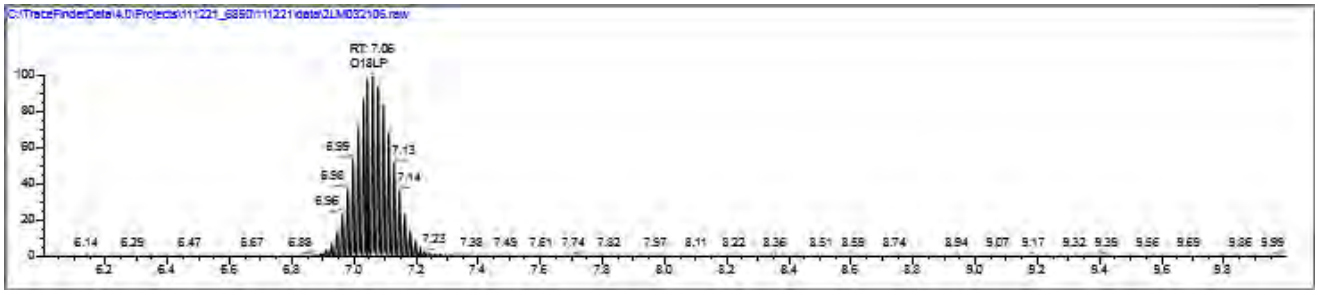
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.07	83	34073	Linear	0.038	0.209	ug/L	0.209	ug/L	

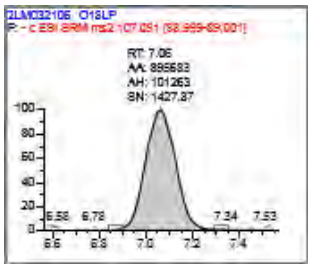
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

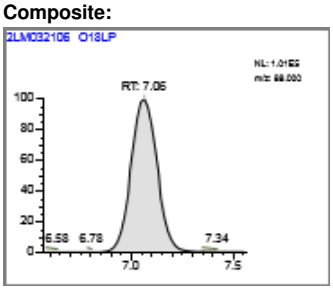
Data File:	2LM032106	Tune Report Date:	Tune report not found
Method:	111221_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	11/12/2021 11:33:58 AM
		Cali File Date:	11/12/2021 10:44:10 AM
Cali File:	111121T2_111221.calx	Operator ID:	CAS
Sample ID:	B1K0221-MSD1	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	G:B4
Comments:	1:01		



m/z 89.000



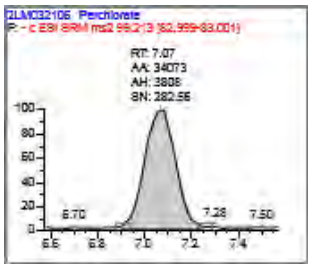
Composite:



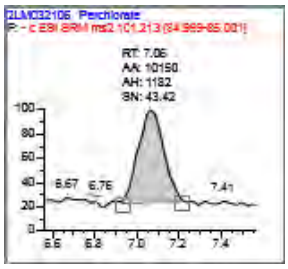
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.06	m/z 89.000	895683	5.000		N/A

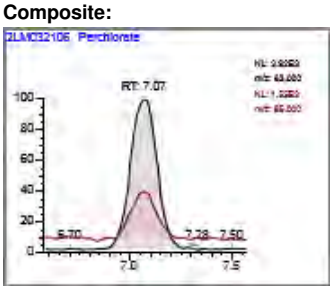
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.07	m/z 83.000	34073	0.209		N/A
7.06	m/z 85.000	10150		25.94 - 38.92	29.79

Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

MICROBAC®

Section D:
HPLC Organics
EPA 6850
Calibration Raw Data

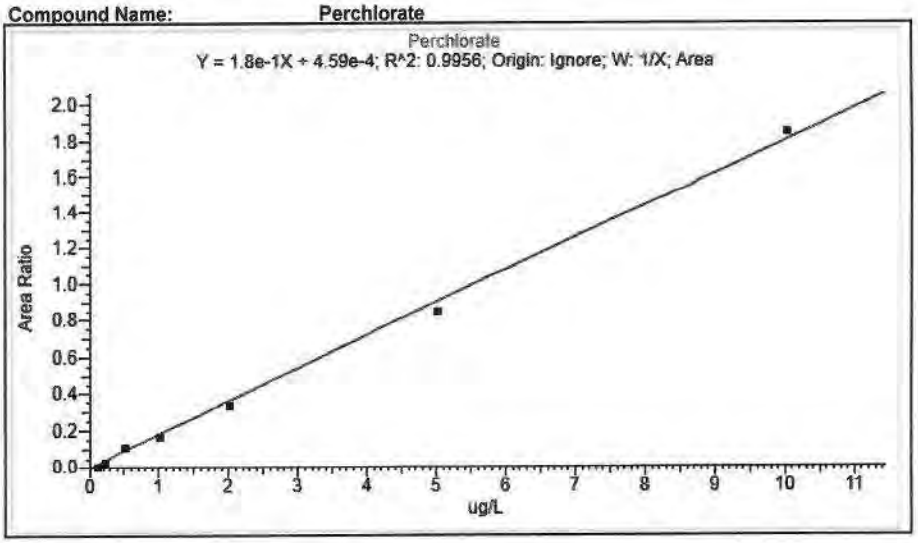
Microbac Laboratories, Inc.
158 Starlite Drive | Marietta, OH 45750 | 800.373.4071 | www.microbac.com

Compound Calibration Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 111121T2

Method: 111121T2_Perchlorate 6850
Perchlorate 6850
Cali File: 111121T2.calx

Compound Name: Perchlorate



Linear
Fail A

Level	Std Amount	Std Area	IS Amount	IS Area	Resp factor/ ratio	Calc Amount	Units	% CV	% RSD
1	0.1	12980	5	791546	0.016	0.089	ug/L	N/A	N/A
2	0.2	27990	5	799491	0.035	0.192	ug/L	N/A	N/A
3	0.5	90519	5	784189	0.115	0.639	ug/L	N/A	N/A A
4	1	149029	5	863453	0.173	0.956	ug/L	N/A	N/A
5	2	363941	5	1067074	0.341	1.892	ug/L	N/A	N/A
6	5	919699	5	1079607	0.852	4.729	ug/L	N/A	N/A
7	10	1811581	5	976195	1.856	10.304	ug/L	N/A	N/A

Bordered cell = Manually Integrated; Calibration flags: D=RSD; F=Response factor; R=R Squared; A=Amount.

Compound Calibration Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 111121T2

Method: 111121T2_Perchlorate 6850
Perchlorate 6850
Cali File: 111121T2.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A2	S1K0152-CAL1	2LM032014	1	CAL STD 1	11/11/2021 10:57:44 AM	1:1 0012469
R:A3	S1K0152-CAL2	2LM032015	2	CAL STD 2	11/11/2021 11:10:58 AM	1:1 0012468
R:A4	S1K0152-CAL3	2LM032016	3	CAL STD 3	11/11/2021 11:24:13 AM	1:1 0012467
R:A5	S1K0152-CAL4	2LM032017	4	CAL STD 4	11/11/2021 11:37:37 AM	1:1 0012466
R:A6	S1K0152-CAL5	2LM032018	5	CAL STD 5	11/11/2021 11:50:52 AM	1:1 0012465
R:A7	S1K0152-CAL6	2LM032019	6	CAL STD 6	11/11/2021 12:04:07 PM	1:1 0012464
R:A8	S1K0152-CAL7	2LM032020	7	CAL STD 7	11/11/2021 12:17:22 PM	1:1 0012463

Bordered cell = Manually Integrated; Calibration flags: D=RSD; F=Response factor; R=R Squared; A=Amount.

Data Review Report

Printed: 11/12/2021 11:12 am

Analysis	Analyte	CalResult	True Value	% D	% Rec
Lab ID: S1K0152-CAL1 Cal Standard					
6850 Perchlorate	Perchlorate	0.09	0.10000	-11.47	88.53
6850 Perchlorate DOD	Perchlorate	0.09	0.10000	-11.47	88.53
Lab ID: S1K0152-CAL2 Cal Standard					
6850 Perchlorate	Perchlorate	0.19	0.20000	-4.05	95.95
6850 Perchlorate DOD	Perchlorate	0.19	0.20000	-4.05	95.95
Lab ID: S1K0152-CAL3 Cal Standard					
6850 Perchlorate	Perchlorate	0.64	0.50000	27.71	127.71
6850 Perchlorate DOD	Perchlorate	0.64	0.50000	27.71	127.71
Lab ID: S1K0152-CAL4 Cal Standard					
6850 Perchlorate	Perchlorate	0.96	1.0000	-4.39	95.61
6850 Perchlorate DOD	Perchlorate	0.96	1.0000	-4.39	95.61
Lab ID: S1K0152-CAL5 Cal Standard					
6850 Perchlorate	Perchlorate	1.89	2.0000	-5.41	94.59
6850 Perchlorate DOD	Perchlorate	1.89	2.0000	-5.41	94.59
Lab ID: S1K0152-CAL6 Cal Standard					
6850 Perchlorate	Perchlorate	4.73	5.0000	-5.42	94.58
6850 Perchlorate DOD	Perchlorate	4.73	5.0000	-5.42	94.58
Lab ID: S1K0152-CAL7 Cal Standard					
6850 Perchlorate	Perchlorate	10.30	10.000	3.04	103.04
6850 Perchlorate DOD	Perchlorate	10.30	10.000	3.04	103.04

MICROBAC®

Section E:
HPLC Organics
EPA 6850
Sequence QC Sample Raw Data

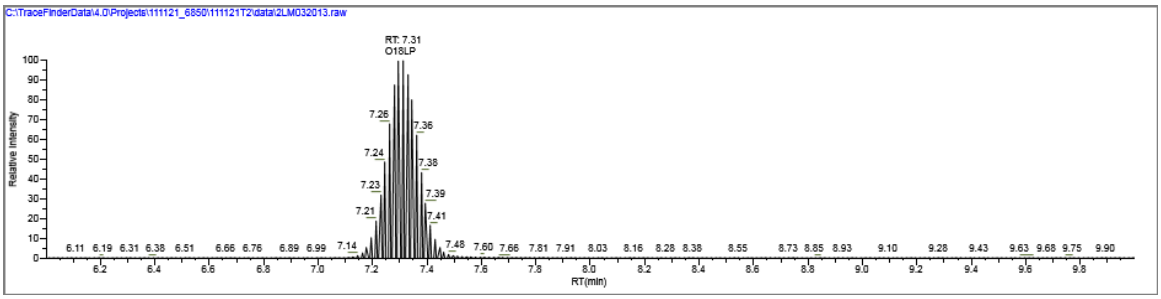
Microbac Laboratories, Inc.
158 Starlite Drive | Marietta, OH 45750 | 800.373.4071 | www.microbac.com

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 111121T2

Method: 111121T2_Perchlorate 6850 Perchlorate 6850
Cali File: 111121T2.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A1	S1K0152-ICB1	2LM032013	N/A	CCB	11/11/2021 10:44:28 AM	1:01



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.31	89	756431			5.000	ug/L	5.000	ug/L	

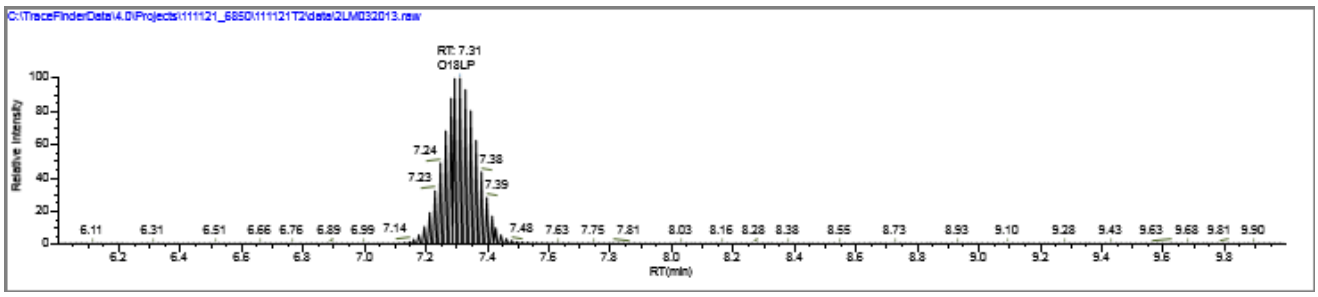
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	N/F	N/F	N/F	Linear	0.000	N/F	ug/L	N/F	ug/L	

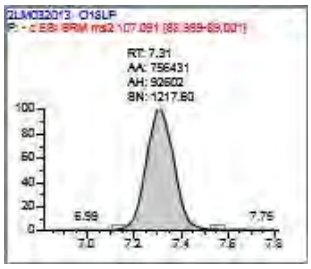
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

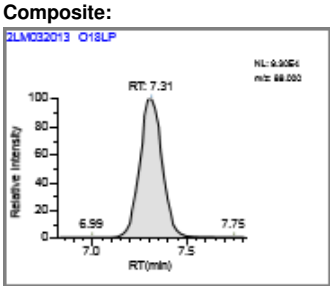
Data File:	2LM032013	Tune Report Date:	Tune report not found
Method:	111121T2_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	11/11/2021 10:44:28 AM
		Cali File Date:	11/12/2021 9:17:06 AM
Cali File:	111121T2.calx	Operator ID:	CAS
Sample ID:	S1K0152-ICB1	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:A1
Comments:	1:01		



m/z 89.000



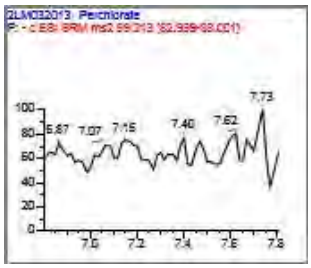
Composite:



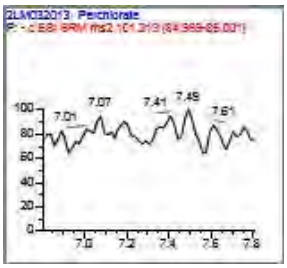
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.31	m/z 89.000	756431	5.000		N/A

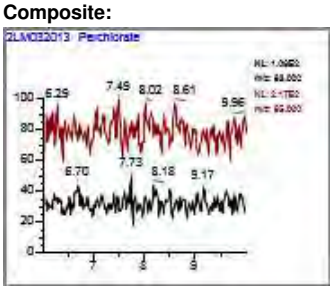
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
			Compound Not Found		
0.00	m/z 83.000 m/z 85.000		N/A		

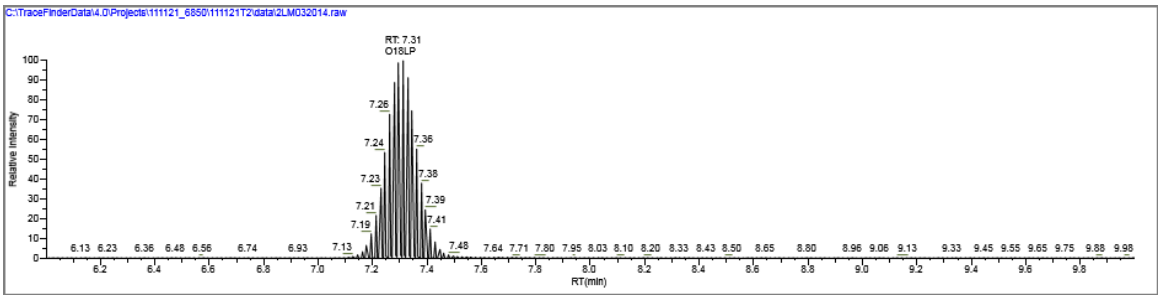
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 111121T2

Method: 111121T2_Perchlorate 6850 Perchlorate 6850
Cali File: 111121T2.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A2	S1K0152-CAL1	2LM032014	1	CAL STD 1	11/11/2021 10:57:44 AM	1:1 0012469



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.31	89	791546			5.000	ug/L	5.000	ug/L	

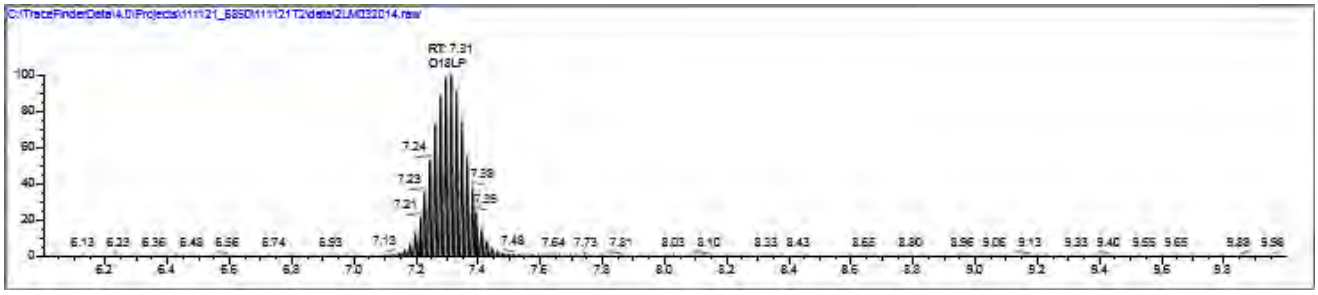
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.3	83	12980	Linear	0.016	0.089	ug/L	0.089	ug/L	

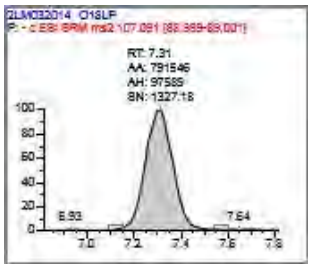
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

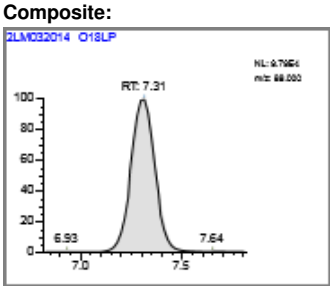
Data File:	2LM032014	Tune Report Date:	Tune report not found
Method:	111121T2_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	11/11/2021 10:57:44 AM
		Cali File Date:	11/12/2021 9:17:06 AM
Cali File:	111121T2.calx	Operator ID:	CAS
Sample ID:	S1K0152-CAL1	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:A2
Comments:	1:1 0012469		



m/z 89.000



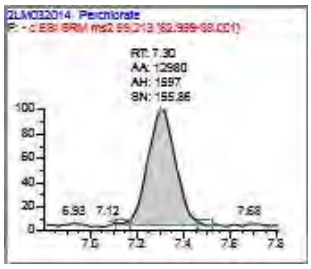
Composite:



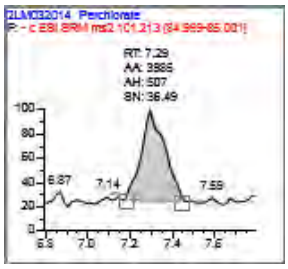
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.31	m/z 89.000	791546	5.000		N/A

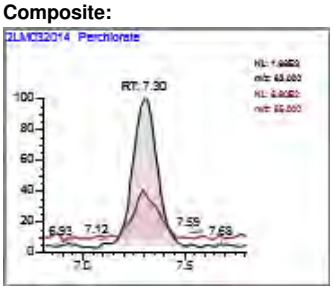
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			Cal: 0.100	0.080 - 2.100	
7.30	m/z 83.000	12980	0.089		N/A
7.29	m/z 85.000	3985		25.94 - 38.92	30.7

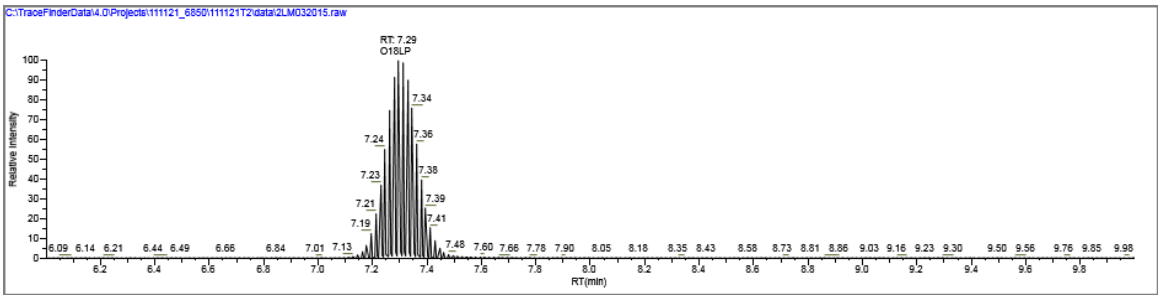
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 111121T2

Method: 111121T2_Perchlorate 6850 Perchlorate 6850
Cali File: 111121T2.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A3	S1K0152-CAL2	2LM032015	2	CAL STD 2	11/11/2021 11:10:58 AM	1:1 0012468



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.29	89	799491			5.000	ug/L	5.000	ug/L	

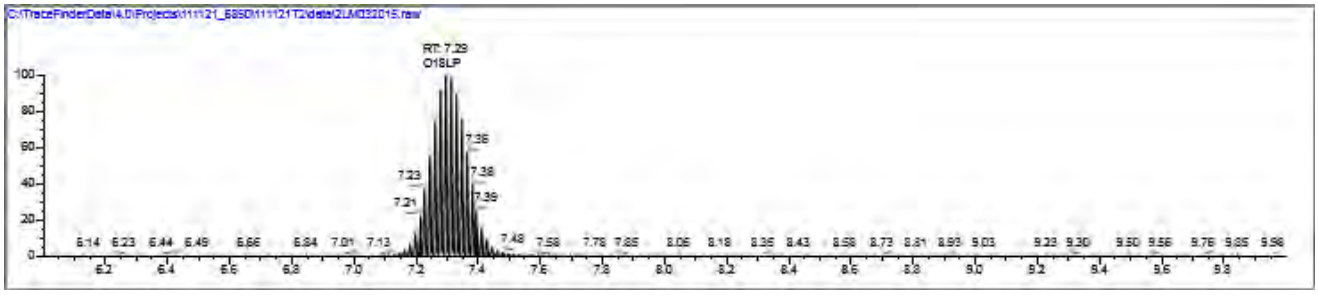
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.32	83	27990	Linear	0.035	0.192	ug/L	0.192	ug/L	

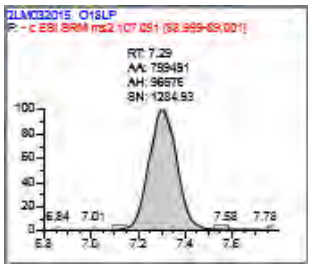
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

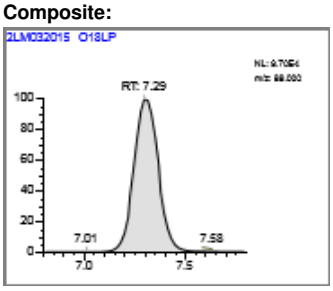
Data File:	2LM032015	Tune Report Date:	Tune report not found
Method:	111121T2_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	11/11/2021 11:10:58 AM
		Cali File Date:	11/12/2021 9:17:06 AM
Cali File:	111121T2.calx	Operator ID:	CAS
Sample ID:	S1K0152-CAL2	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:A3
Comments:	1:1 0012468		



m/z 89.000



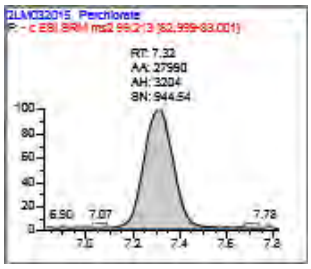
Composite:



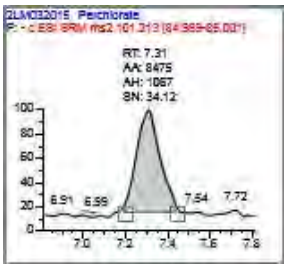
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.29	m/z 89.000	799491	5.000		N/A

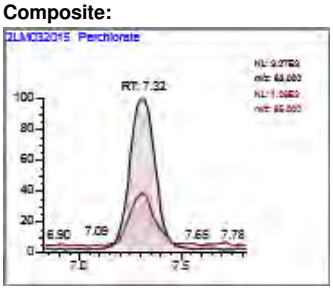
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			Cal: 0.200	0.160 - 4.200	
7.32	m/z 83.000	27990	0.192		N/A
7.31	m/z 85.000	8475		25.94 - 38.92	30.28

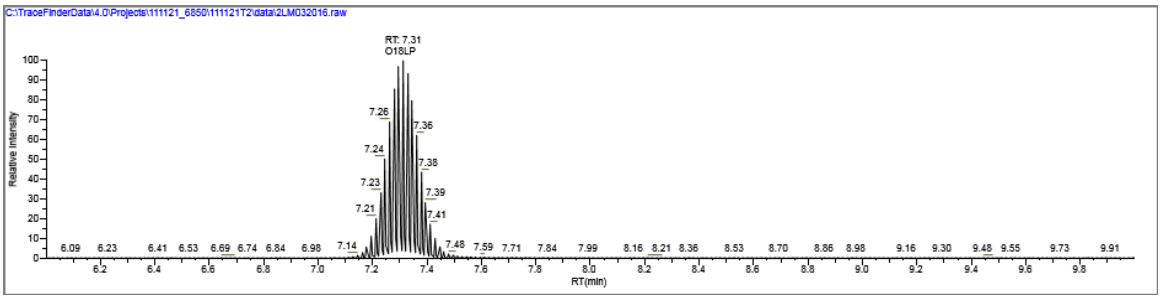
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 111121T2

Method: 111121T2_Perchlorate 6850 Perchlorate 6850
Cali File: 111121T2.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A4	S1K0152-CAL3	2LM032016	3	CAL STD 3	11/11/2021 11:24:13 AM	1:1 0012467



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.31	89	784189			5.000	ug/L	5.000	ug/L	

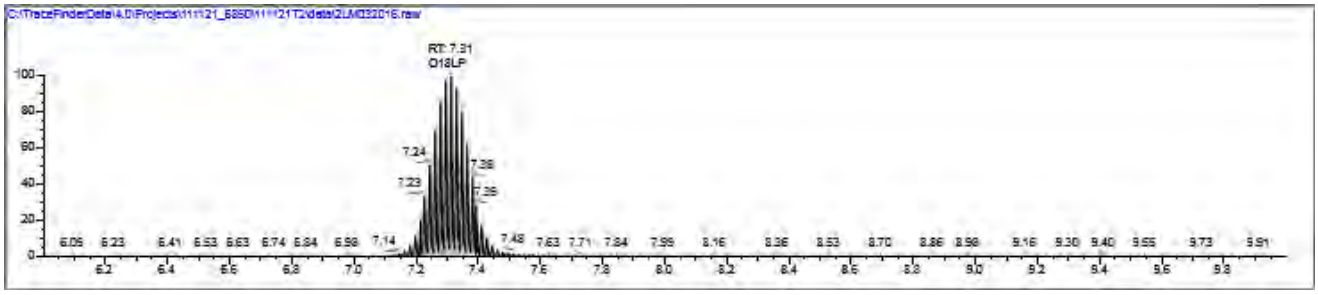
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.32	83	90519	Linear	0.115	0.639	ug/L	0.639	ug/L	

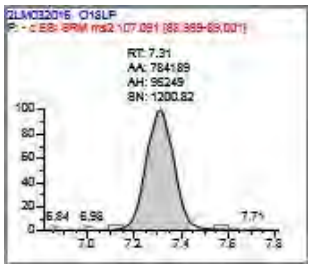
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

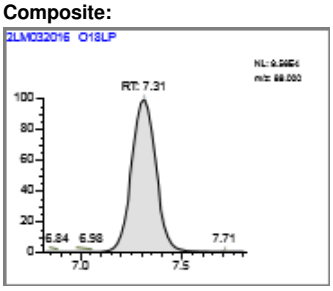
Data File:	2LM032016	Tune Report Date:	Tune report not found
Method:	111121T2_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	11/11/2021 11:24:13 AM
		Cali File Date:	11/12/2021 9:17:06 AM
Cali File:	111121T2.calx	Operator ID:	CAS
Sample ID:	S1K0152-CAL3	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:A4
Comments:	1:1 0012467		



m/z 89.000



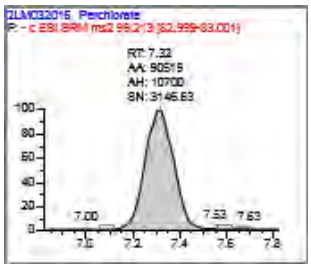
Composite:



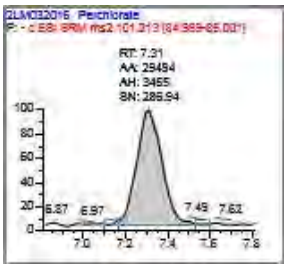
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.31	m/z 89.000	784189	5.000		N/A

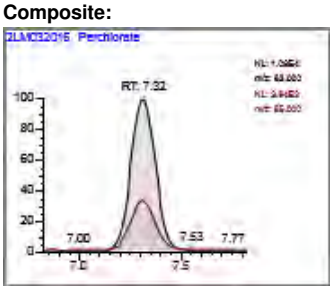
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			Cal: 0.500	0.400 - 10.500	
7.32	m/z 83.000	90519	0.639		N/A
7.31	m/z 85.000	29494		25.94 - 38.92	32.58

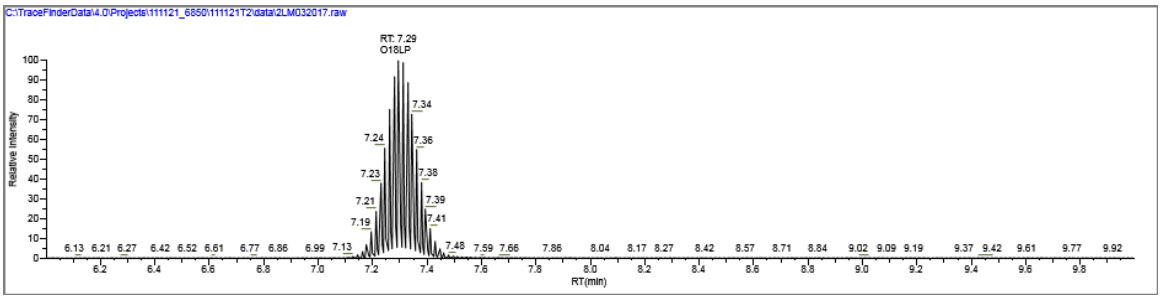
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 111121T2

Method: 111121T2_Perchlorate 6850
Perchlorate 6850
Cali File: 111121T2.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A5	S1K0152-CAL4	2LM032017	4	CAL STD 4	11/11/2021 11:37:37 AM	1:1 0012466



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.29	89	863453			5.000	ug/L	5.000	ug/L	

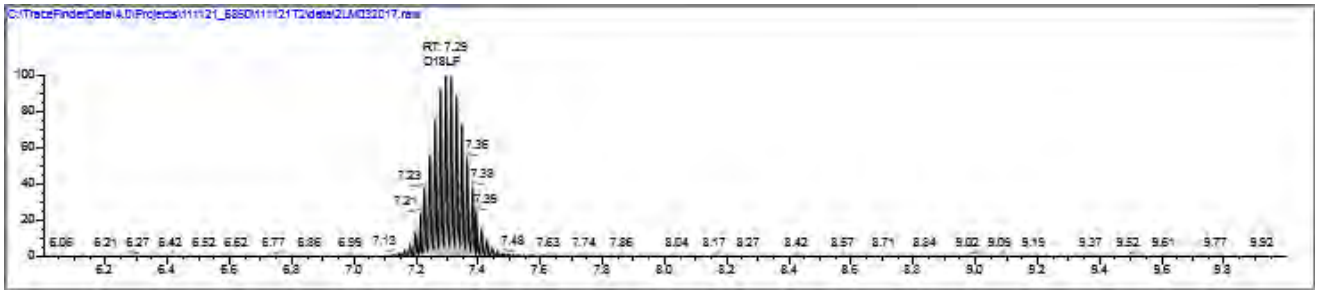
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.3	83	149029	Linear	0.173	0.956	ug/L	0.956	ug/L	

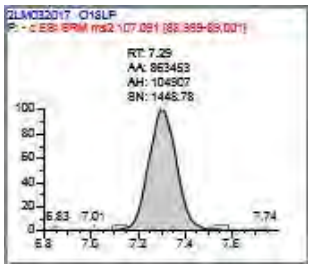
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

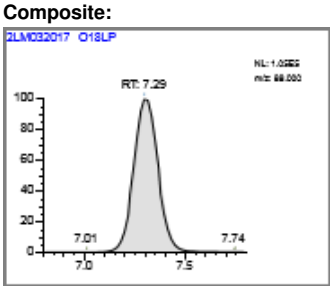
Data File:	2LM032017	Tune Report Date:	Tune report not found
Method:	111121T2_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	11/11/2021 11:37:37 AM
		Cali File Date:	11/12/2021 9:17:06 AM
Cali File:	111121T2.calx	Operator ID:	CAS
Sample ID:	S1K0152-CAL4	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:A5
Comments:	1:1 0012466		



m/z 89.000



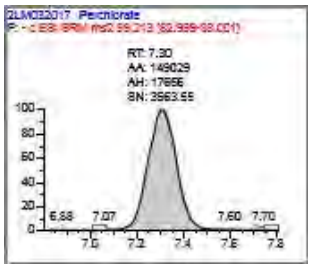
Composite:



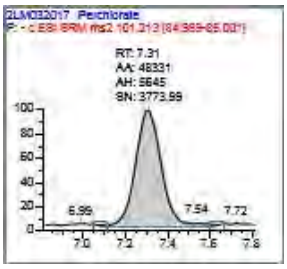
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.29	m/z 89.000	863453	5.000		N/A

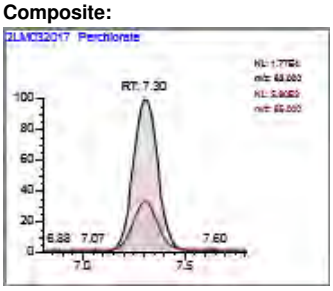
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			Cal: 1.000	0.800 - 21.000	
7.30	m/z 83.000	149029	0.956		N/A
7.31	m/z 85.000	48331		25.94 - 38.92	32.43

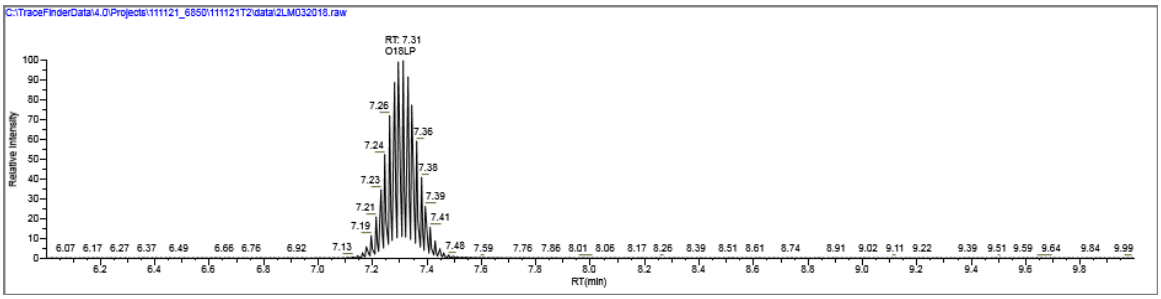
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 111121T2

Method: 111121T2_Perchlorate 6850 Perchlorate 6850
Cali File: 111121T2.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A6	S1K0152-CAL5	2LM032018	5	CAL STD 5	11/11/2021 11:50:52 AM	1:1 0012465



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.31	89	1067074			5.000	ug/L	5.000	ug/L	

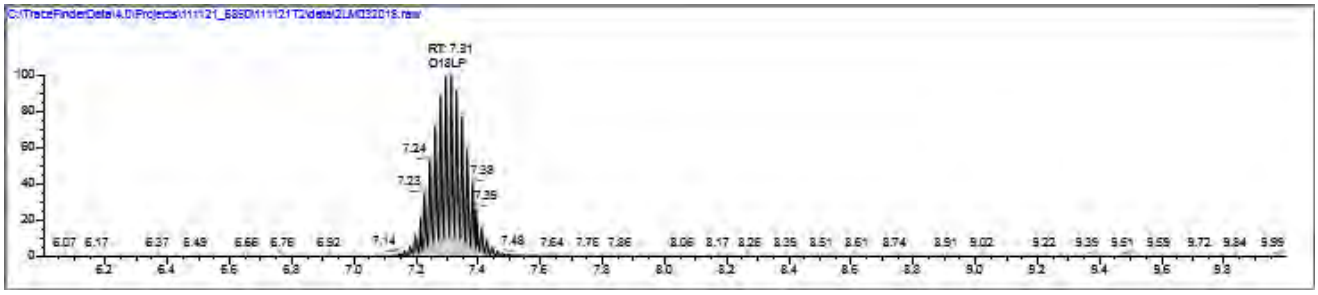
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.32	83	363941	Linear	0.341	1.892	ug/L	1.892	ug/L	

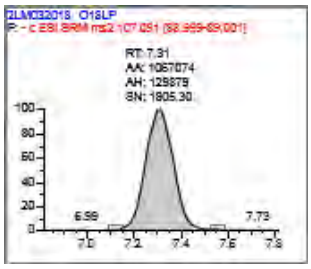
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

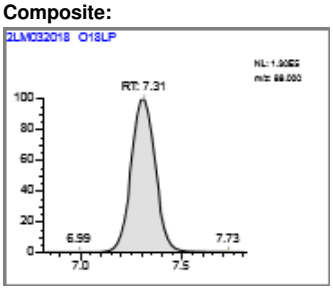
Data File:	2LM032018	Tune Report Date:	Tune report not found
Method:	111121T2_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	11/11/2021 11:50:52 AM
		Cali File Date:	11/12/2021 9:17:06 AM
Cali File:	111121T2.calx	Operator ID:	CAS
Sample ID:	S1K0152-CAL5	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:A6
Comments:	1:1 0012465		



m/z 89.000



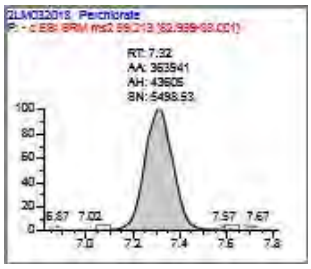
Composite:



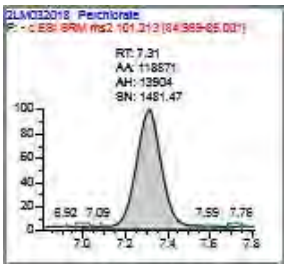
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.31	m/z 89.000	1067074	5.000		N/A

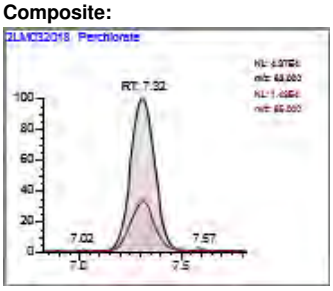
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			Cal: 2.000	1.600 - 42.000	
7.32	m/z 83.000	363941	1.892		N/A
7.31	m/z 85.000	118871		25.94 - 38.92	32.66

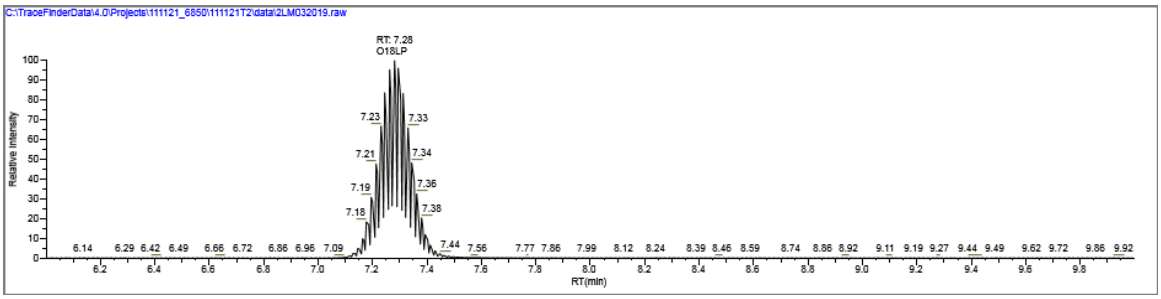
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 111121T2

Method: 111121T2_Perchlorate 6850 Perchlorate 6850
Cali File: 111121T2.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A7	S1K0152-CAL6	2LM032019	6	CAL STD 6	11/11/2021 12:04:07 PM	1:1 0012464



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.28	89	1079607			5.000	ug/L	5.000	ug/L	

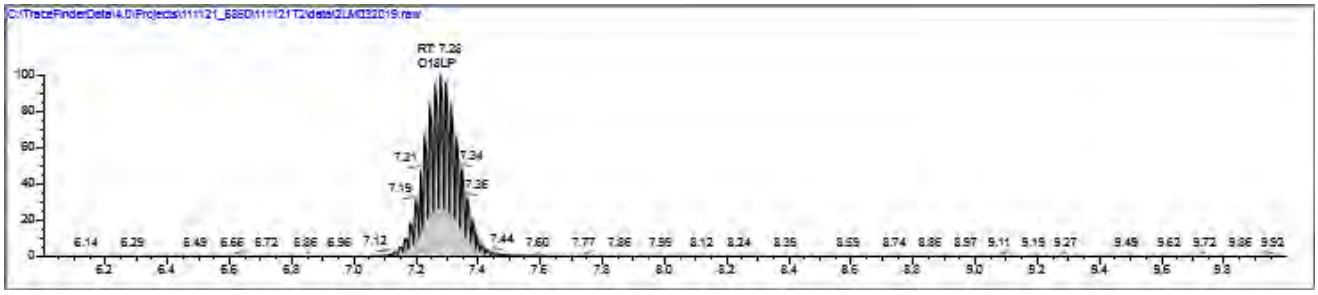
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.28	83	919699	Linear	0.852	4.729	ug/L	4.729	ug/L	

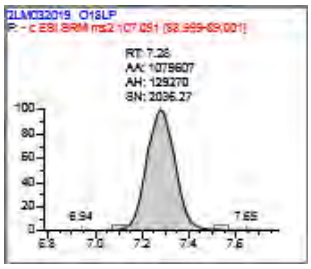
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

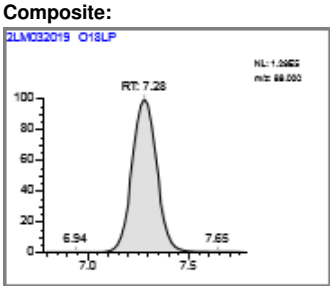
Data File:	2LM032019	Tune Report Date:	Tune report not found
Method:	111121T2_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	11/11/2021 12:04:07 PM
		Cali File Date:	11/12/2021 9:17:06 AM
Cali File:	111121T2.calx	Operator ID:	CAS
Sample ID:	S1K0152-CAL6	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:A7
Comments:	1:1 0012464		



m/z 89.000



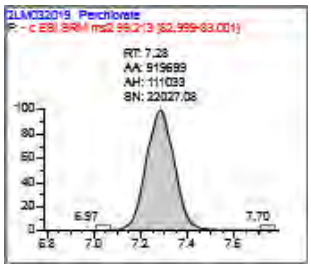
Composite:



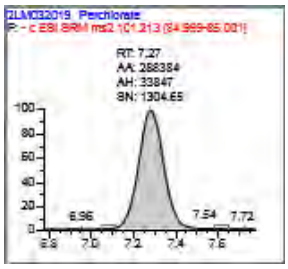
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.28	m/z 89.000	1079607	5.000		N/A

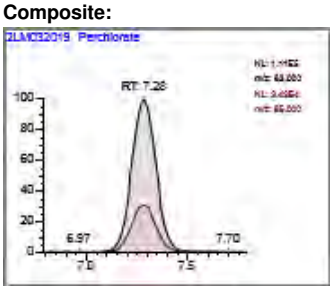
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			Cal: 5.000	4.000 - 105.000	
7.28	m/z 83.000	919699	4.729		N/A
7.27	m/z 85.000	288384		25.94 - 38.92	31.36

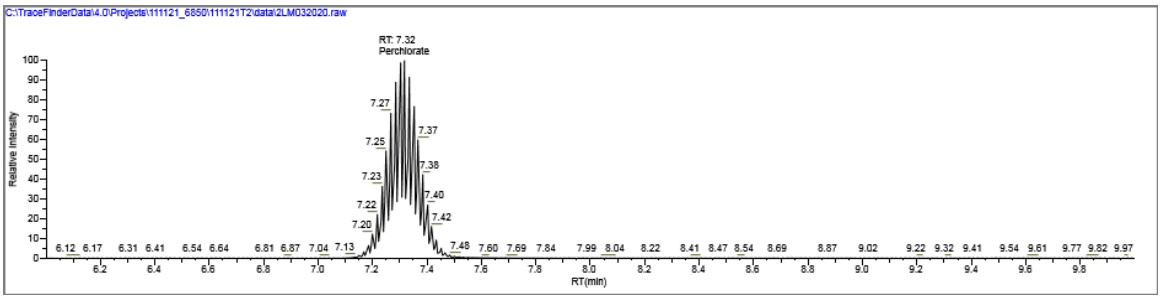
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 111121T2

Method: 111121T2_Perchlorate 6850 Perchlorate 6850
Cali File: 111121T2.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A8	S1K0152-CAL7	2LM032020	7	CAL STD 7	11/11/2021 12:17:22 PM	1:1 0012463



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.31	89	976195			5.000	ug/L	5.000	ug/L	

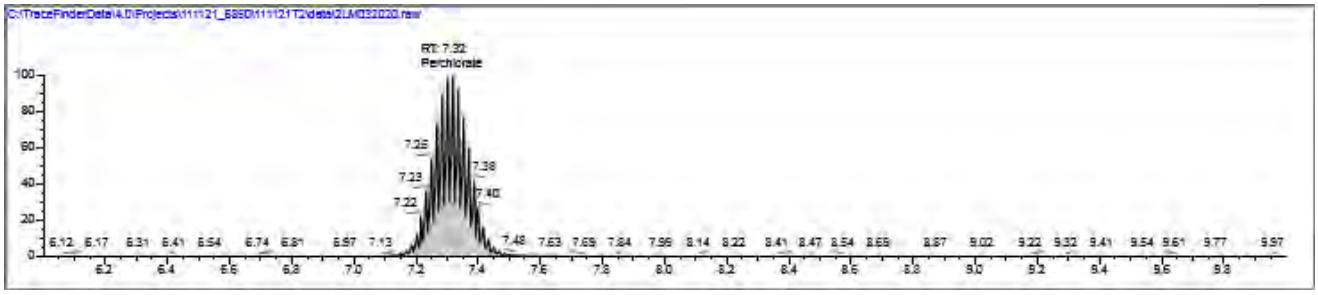
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.32	83	1811581	Linear	1.856	10.304	ug/L	10.304	ug/L	

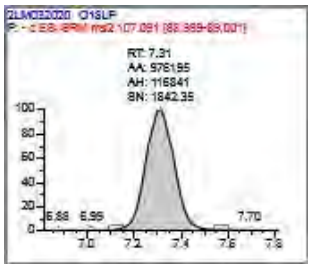
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

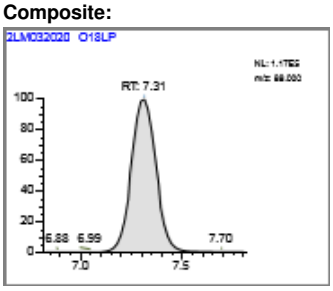
Data File:	2LM032020	Tune Report Date:	Tune report not found
Method:	111121T2_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	11/11/2021 12:17:22 PM
		Cali File Date:	11/12/2021 9:17:06 AM
Cali File:	111121T2.calx	Operator ID:	CAS
Sample ID:	S1K0152-CAL7	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:A8
Comments:	1:1 0012463		



m/z 89.000



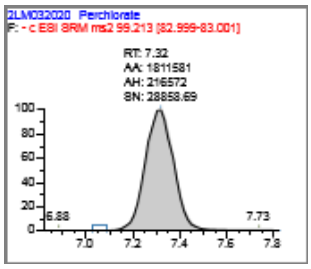
Composite:



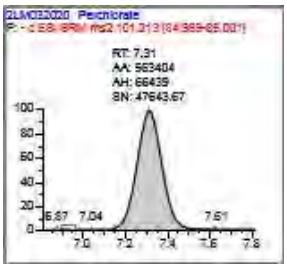
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.31	m/z 89.000	976195	5.000		N/A

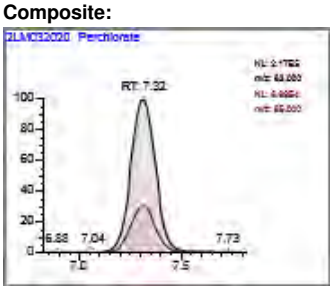
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			Cal: 10.000	8.000 - 210.000	
7.32	m/z 83.000	1811581	10.304		N/A
7.31	m/z 85.000	563404		25.94 - 38.92	31.1

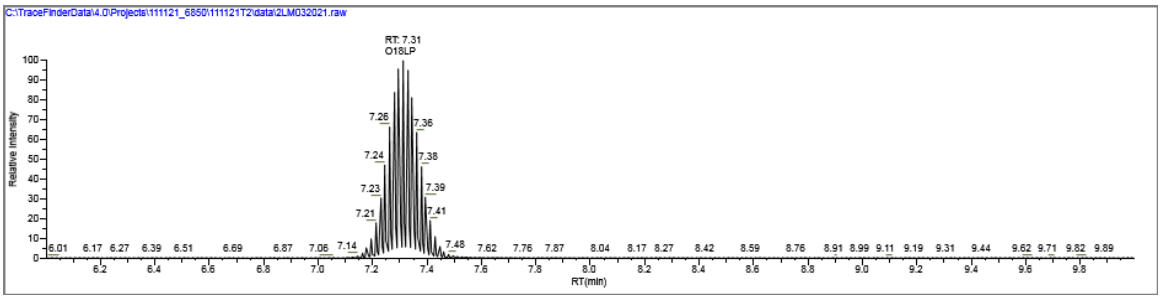
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 111121T2

Method: 111121T2_Perchlorate 6850
Perchlorate 6850
Cali File: 111121T2.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A9	S1K0152-ICV1	2LM032021	ICV	ICV	11/11/2021 12:30:37 PM	1:1 0012475



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.31	89	994748			5.000	ug/L	5.000	ug/L	

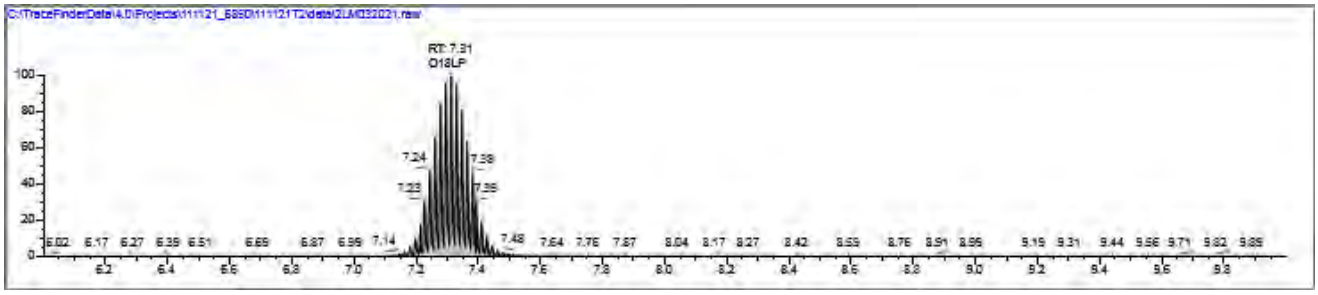
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.32	83	175186	Linear	0.176	0.976	ug/L	0.976	ug/L	

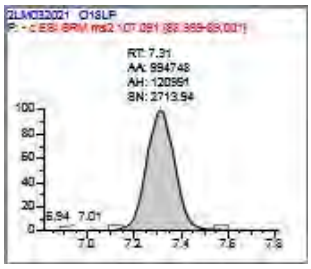
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

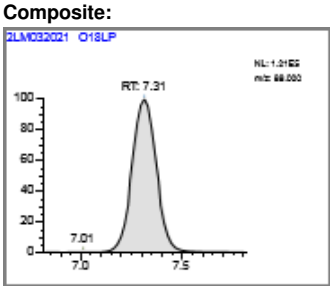
Data File:	2LM032021	Tune Report Date:	Tune report not found
Method:	111121T2_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	11/11/2021 12:30:37 PM
		Cali File Date:	11/12/2021 9:17:06 AM
Cali File:	111121T2.calx	Operator ID:	CAS
Sample ID:	S1K0152-ICV1	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:A9
Comments:	1:1 0012475		



m/z 89.000



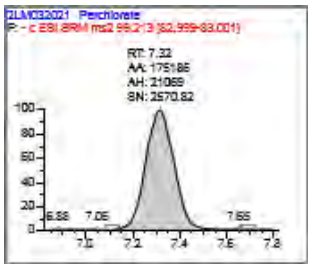
Composite:



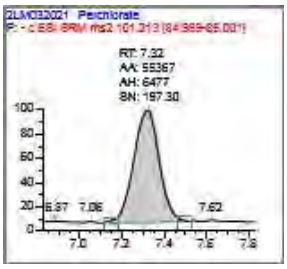
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.31	m/z 89.000	994748	5.000		N/A

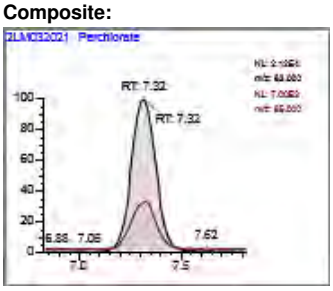
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			QC: 1.000	0.850 - 1.150	
7.32	m/z 83.000	175186	0.976		N/A
7.32	m/z 85.000	55367		25.94 - 38.92	31.61

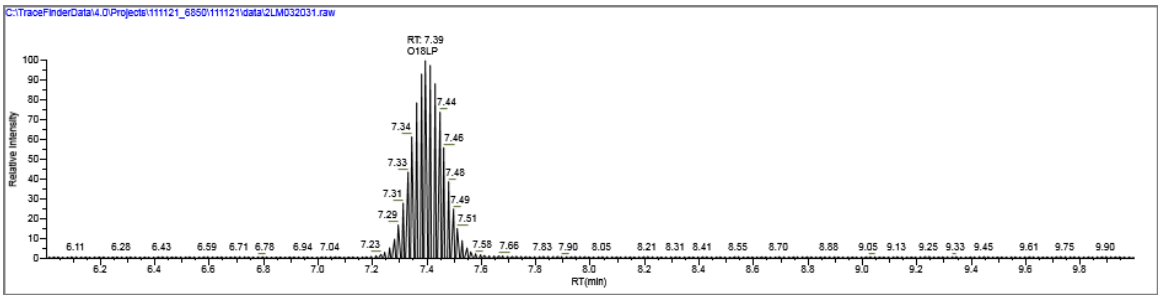
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 111121

Method: 111121_Perchlorate 6850 Perchlorate 6850
Cali File: 111121T2_111121.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A1	S1K0152-CCB1	2LM032031	N/A	CCB	11/11/2021 3:42:09 PM	1:01



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.39	89	465704			5.000	ug/L	5.000	ug/L	

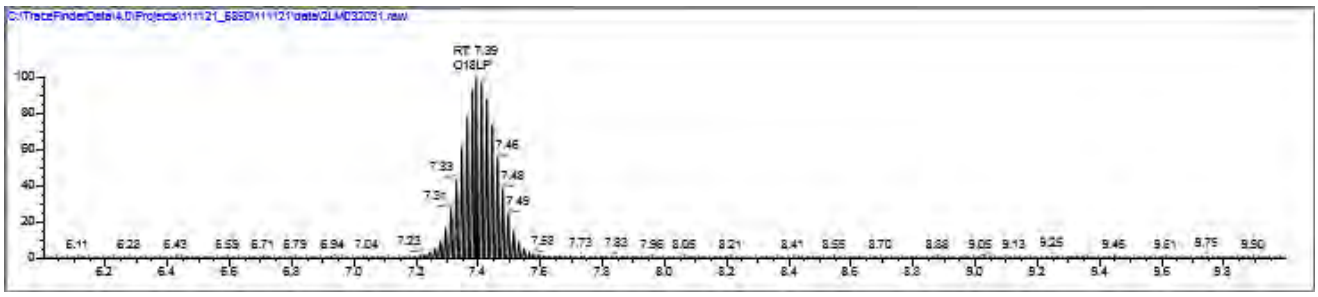
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	N/F	N/F	N/F	Linear	0.000	N/F	ug/L	N/F	ug/L	

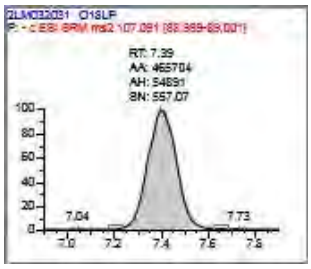
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

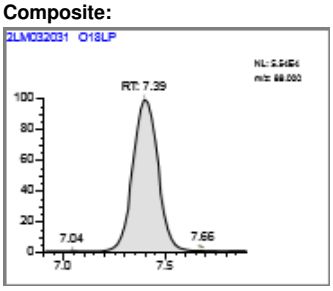
Data File:	2LM032031	Tune Report Date:	Tune report not found
Method:	111121_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	11/11/2021 3:42:09 PM
		Cali File Date:	11/12/2021 9:17:06 AM
Cali File:	111121T2_111121.calx	Operator ID:	CAS
Sample ID:	S1K0152-CCB1	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:A1
Comments:	1:01		



m/z 89.000



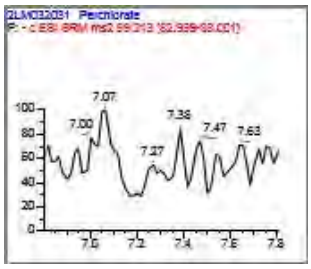
Composite:



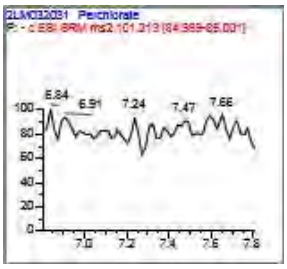
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.39	m/z 89.000	465704	5.000		N/A

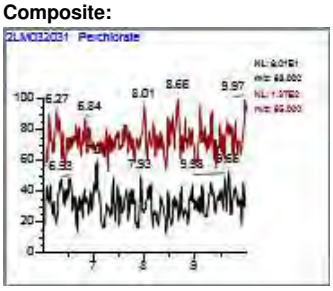
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
			Compound Not Found		
0.00	m/z 83.000		N/A		
	m/z 85.000				

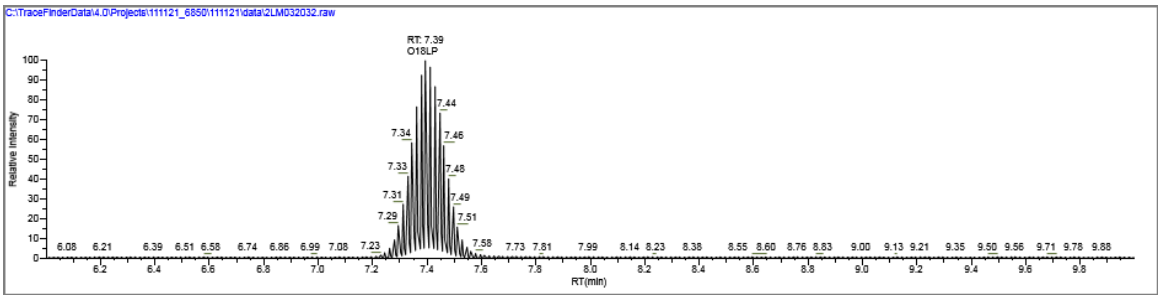
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 111121

Method: 111121_Perchlorate 6850 Perchlorate 6850
Cali File: 111121T2_111121.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A5	S1K0152-CCV1	2LM032032	CCV	CCV 1.0 ug/L	11/11/2021 3:55:24 PM	1:1 1007581



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.39	89	493764			5.000	ug/L	5.000	ug/L	

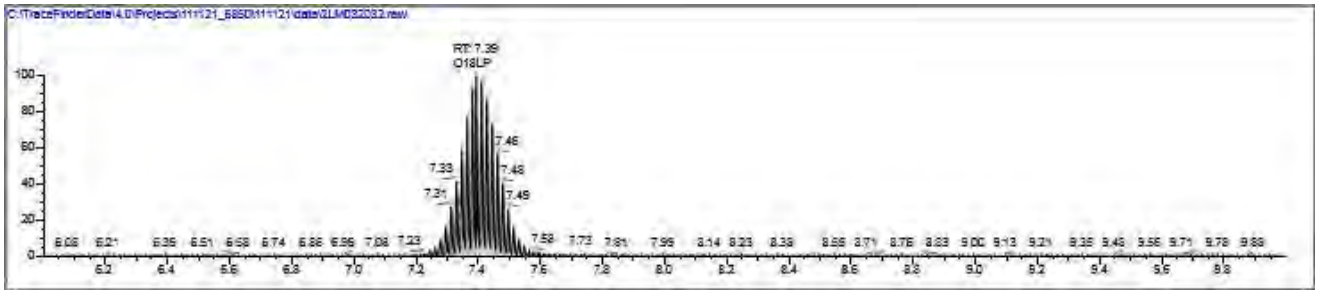
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.4	83	85080	Linear	0.172	0.954	ug/L	0.954	ug/L	

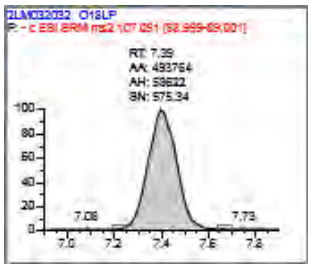
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

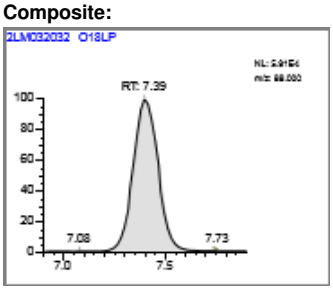
Data File:	2LM032032	Tune Report Date:	Tune report not found
Method:	111121_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	11/11/2021 3:55:24 PM
		Cali File Date:	11/12/2021 9:17:06 AM
Cali File:	111121T2_111121.calx	Operator ID:	CAS
Sample ID:	S1K0152-CCV1	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:A5
Comments:	1:1 1007581		



m/z 89.000



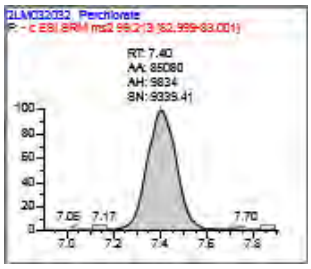
Composite:



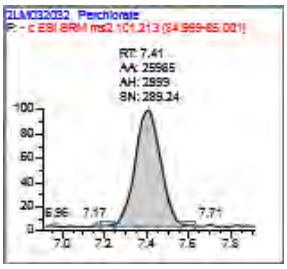
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.39	m/z 89.000	493764	5.000		N/A

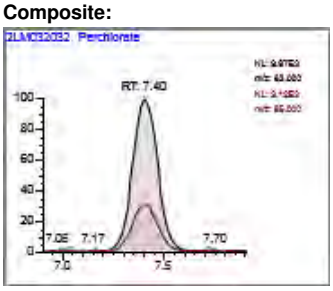
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			QC: 1.000	0.850 - 1.150	
7.40	m/z 83.000	85080	0.954		N/A
7.41	m/z 85.000	25985		25.94 - 38.92	30.54

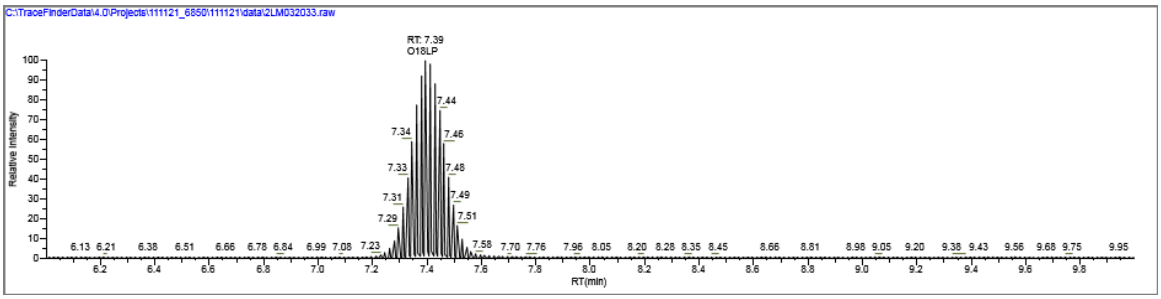
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 111121

Method: 111121_Perchlorate 6850 Perchlorate 6850
Cali File: 111121T2_111121.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A3	S1K0152-CRL1	2LM032033	QCMRL	QCMRL 0.2 ug/L	11/11/2021 4:08:39 PM	1:1 1007583



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.39	89	495263			5.000	ug/L	5.000	ug/L	

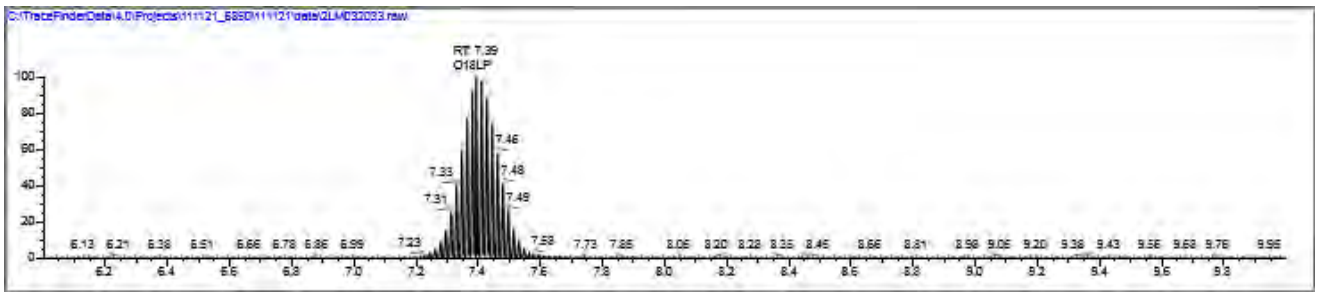
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.4	83	17214	Linear	0.035	0.19	ug/L	0.19	ug/L	

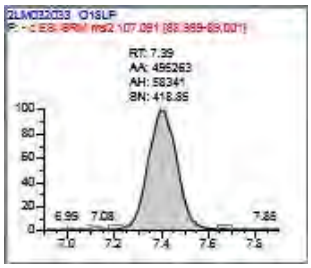
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

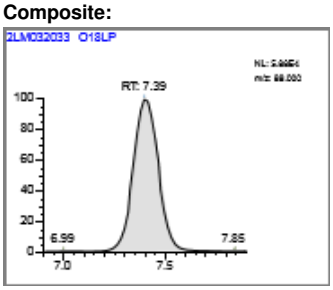
Data File:	2LM032033	Tune Report Date:	Tune report not found
Method:	111121_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	11/11/2021 4:08:39 PM
		Cali File Date:	11/12/2021 9:17:06 AM
Cali File:	111121T2_111121.calx	Operator ID:	CAS
Sample ID:	S1K0152-CRL1	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:A3
Comments:	1:1 1007583		



m/z 89.000



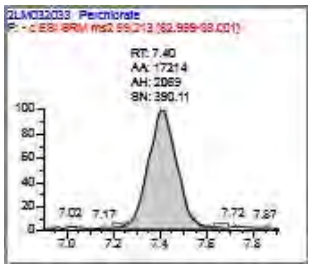
Composite:



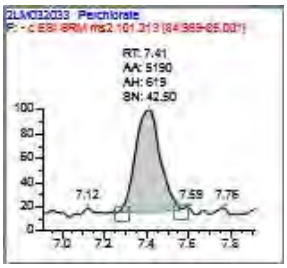
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.39	m/z 89.000	495263	5.000		N/A

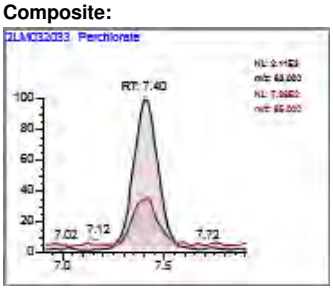
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			QC: 0.200	0.140 - 0.260	
7.40	m/z 83.000	17214	0.190		N/A
7.41	m/z 85.000	5190		25.94 - 38.92	30.15

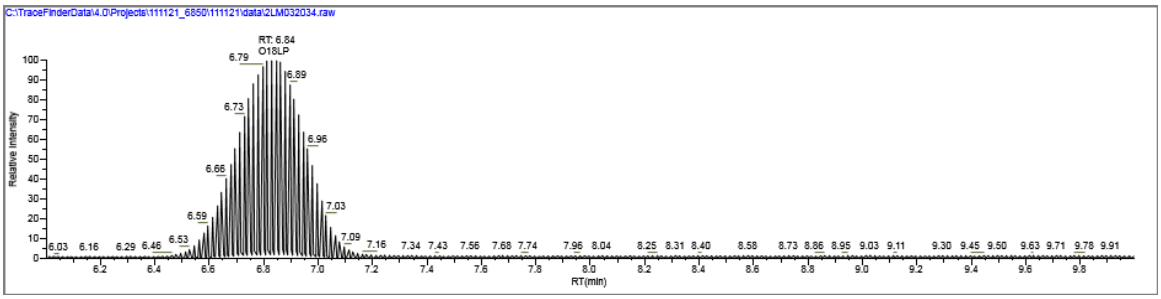
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 111121

Method: 111121_Perchlorate 6850
Perchlorate 6850
Cali File: 111121T2_111121.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:B1	S1K0152-IFA1	2LM032034	N/A	MCT 0.2 ug/L	11/11/2021 4:21:54 PM	1:1 1006967



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	6.84	89	597044			5.000	ug/L	5.000	ug/L	

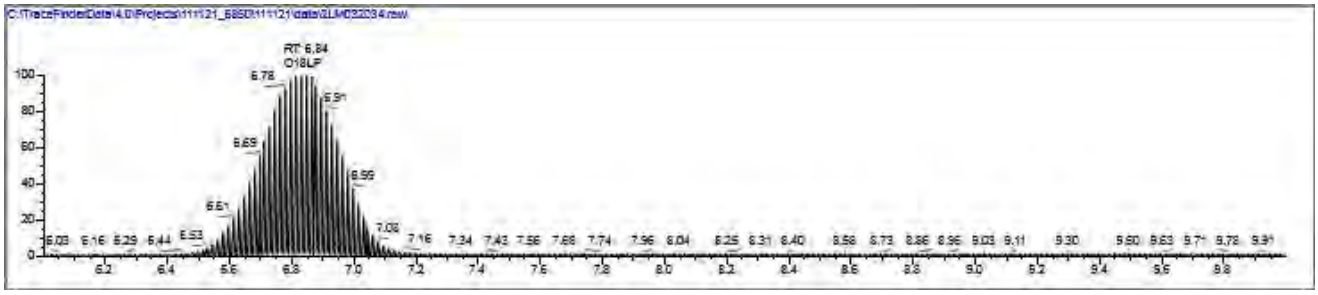
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	6.85	83	25324	Linear	0.042	0.233	ug/L	0.233	ug/L	

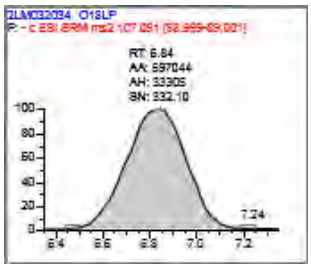
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

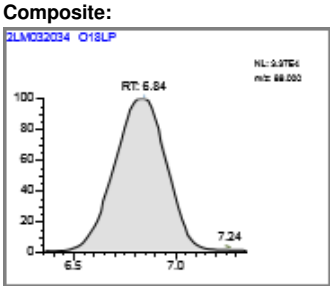
Data File:	2LM032034	Tune Report Date:	Tune report not found
Method:	111121_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	11/11/2021 4:21:54 PM
		Cali File Date:	11/12/2021 9:17:06 AM
Cali File:	111121T2_111121.calx	Operator ID:	CAS
Sample ID:	S1K0152-IFA1	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:B1
Comments:	1:1 1006967		



m/z 89.000



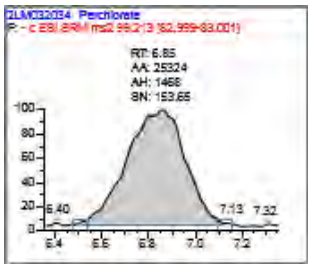
Composite:



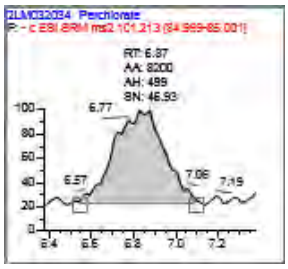
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
6.84	m/z 89.000	597044	5.000		N/A

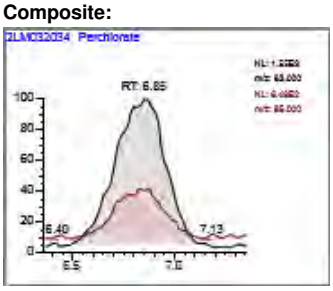
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
6.85	m/z 83.000	25324	0.233		N/A
6.87	m/z 85.000	8200		25.94 - 38.92	32.38

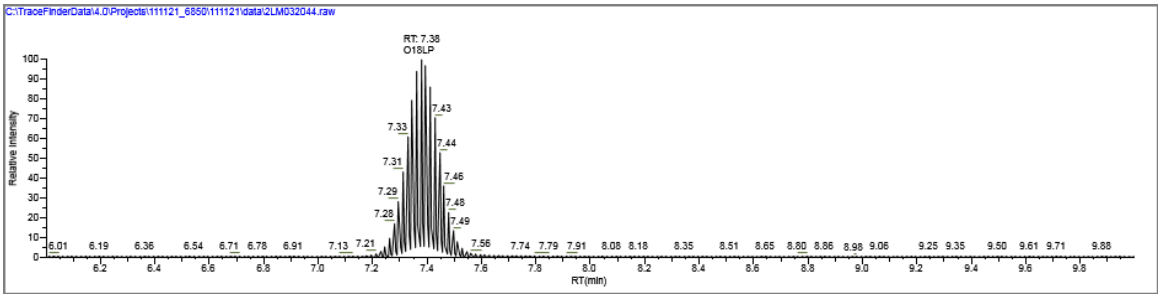
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 111121

Method: 111121_Perchlorate 6850 Perchlorate 6850
Cali File: 111121T2_111121.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A5	S1K0152-CCV2	2LM032044	CCV	CCV 1.0 ug/L	11/11/2021 6:34:23 PM	1:1 1007581



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.38	89	792135			5.000	ug/L	5.000	ug/L	

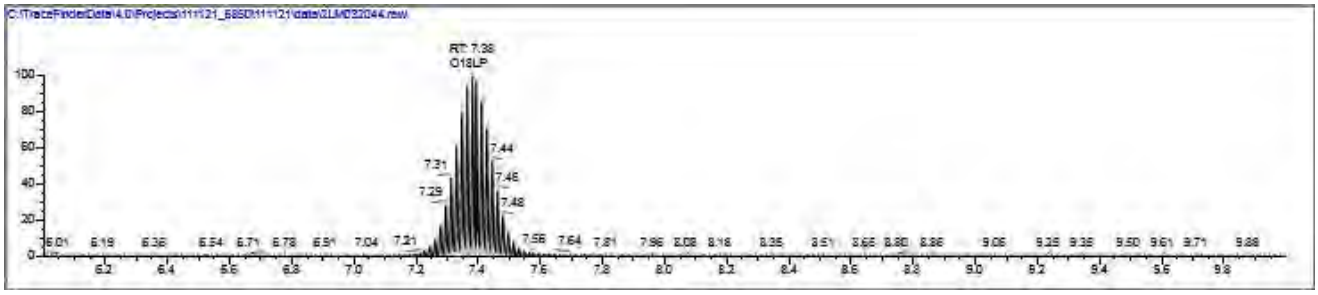
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.38	83	133144	Linear	0.168	0.931	ug/L	0.931	ug/L	

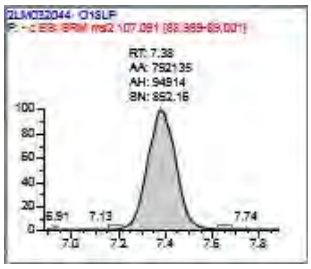
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

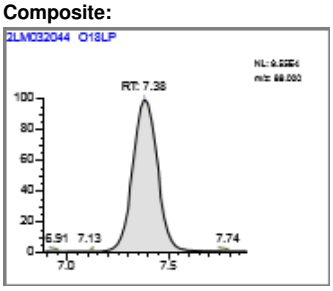
Data File:	2LM032044	Tune Report Date:	Tune report not found
Method:	111121_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	11/11/2021 6:34:23 PM
		Cali File Date:	11/12/2021 9:17:06 AM
Cali File:	111121T2_111121.calx	Operator ID:	CAS
Sample ID:	S1K0152-CCV2	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:A5
Comments:	1:1 1007581		



m/z 89.000



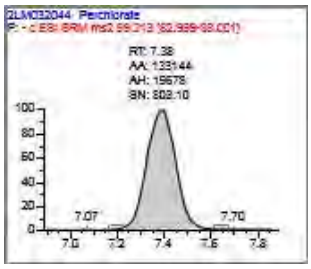
Composite:



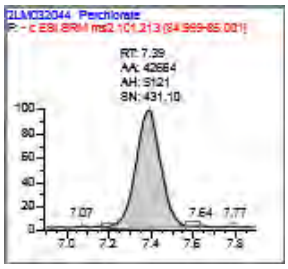
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.38	m/z 89.000	792135	5.000		N/A

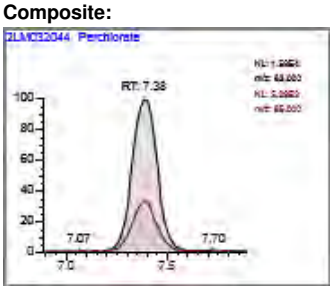
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			QC: 1.000	0.850 - 1.150	
7.38	m/z 83.000	133144	0.931		N/A
7.39	m/z 85.000	42664		25.94 - 38.92	32.04

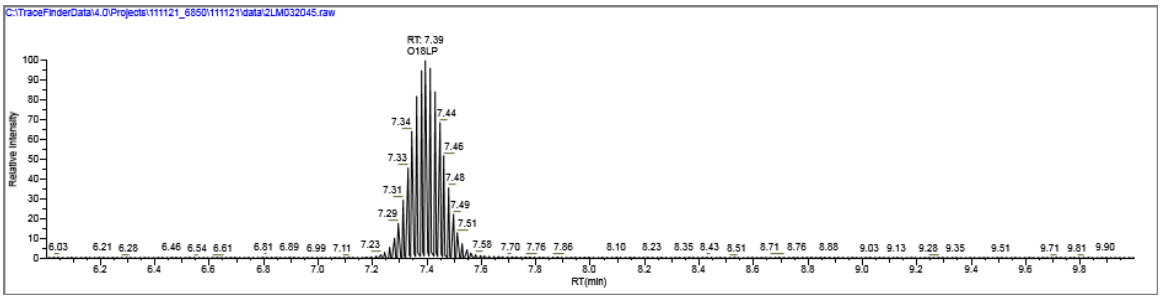
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 111121

Method: 111121_Perchlorate 6850 Perchlorate 6850
Cali File: 111121T2_111121.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A3	S1K0152-CRL2	2LM032045	QCMRL	QCMRL 0.2 ug/L	11/11/2021 6:47:38 PM	1:1 1007583



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.39	89	747862			5.000	ug/L	5.000	ug/L	

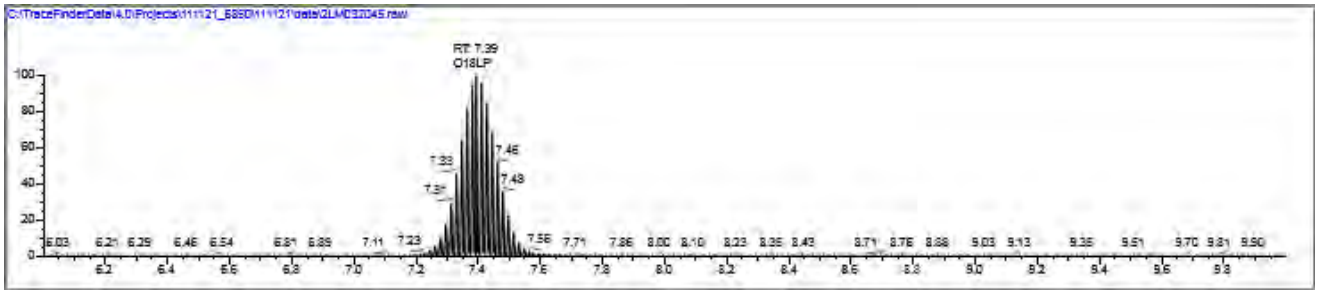
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.4	83	24483	Linear	0.033	0.179	ug/L	0.179	ug/L	

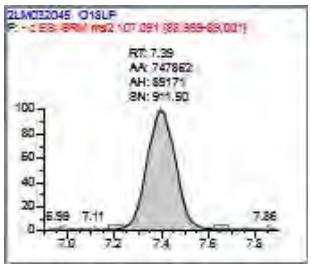
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

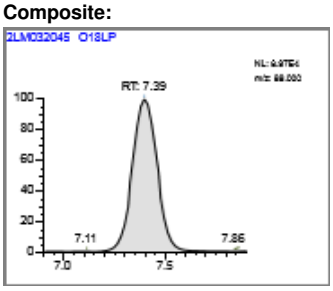
Data File:	2LM032045	Tune Report Date:	Tune report not found
Method:	111121_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	11/11/2021 6:47:38 PM
		Cali File Date:	11/12/2021 9:17:06 AM
Cali File:	111121T2_111121.calx	Operator ID:	CAS
Sample ID:	S1K0152-CRL2	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:A3
Comments:	1:1 1007583		



m/z 89.000



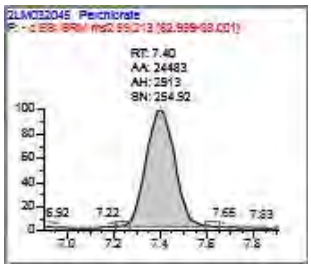
Composite:



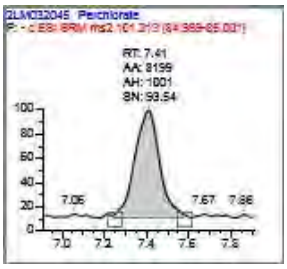
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.39	m/z 89.000	747862	5.000		N/A

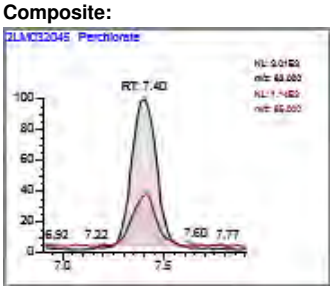
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			QC: 0.200	0.140 - 0.260	
7.40	m/z 83.000	24483	0.179		N/A
7.41	m/z 85.000	8199		25.94 - 38.92	33.49

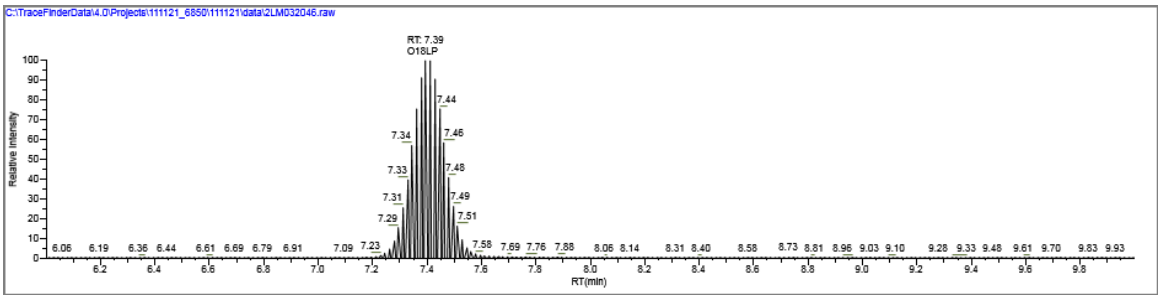
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 111121

Method: 111121_Perchlorate 6850 Perchlorate 6850
Cali File: 111121T2_111121.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A1	S1K0152-CCB2	2LM032046	N/A	CCB	11/11/2021 7:00:53 PM	1:01



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.39	89	747106			5.000	ug/L	5.000	ug/L	

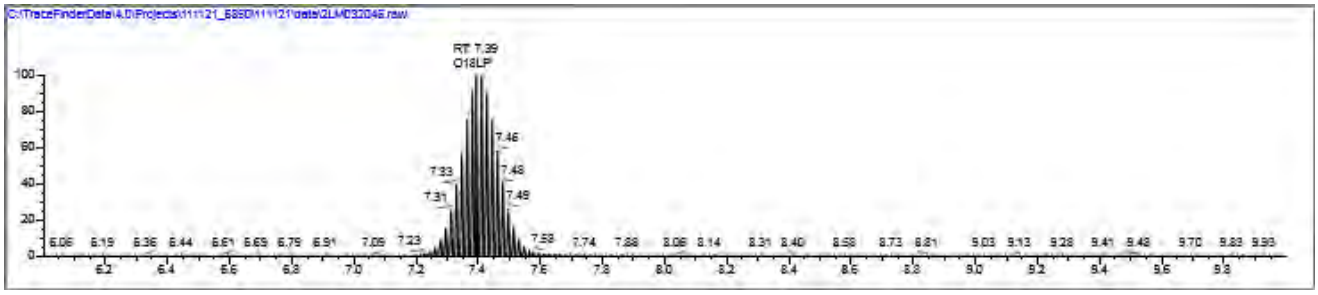
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	N/F	N/F	N/F	Linear	0.000	N/F	ug/L	N/F	ug/L	

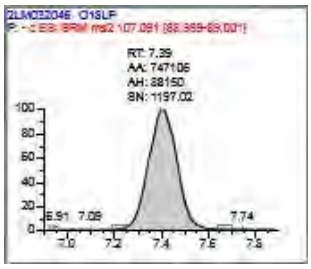
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

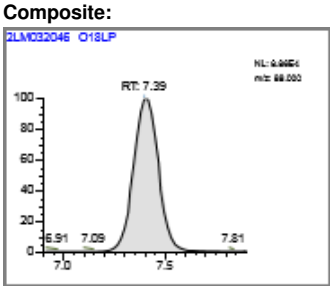
Data File:	2LM032046	Tune Report Date:	Tune report not found
Method:	111121_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	11/11/2021 7:00:53 PM
		Cali File Date:	11/12/2021 9:17:06 AM
Cali File:	111121T2_111121.calx	Operator ID:	CAS
Sample ID:	S1K0152-CCB2	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:A1
Comments:	1:01		



m/z 89.000



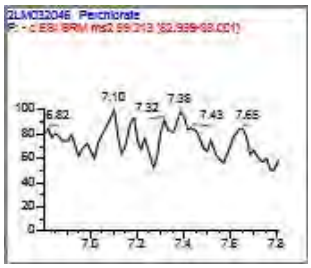
Composite:



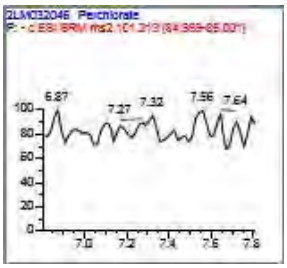
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.39	m/z 89.000	747106	5.000		N/A

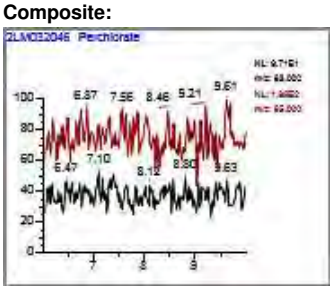
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
			Compound Not Found		
0.00	m/z 83.000		N/A		
	m/z 85.000				

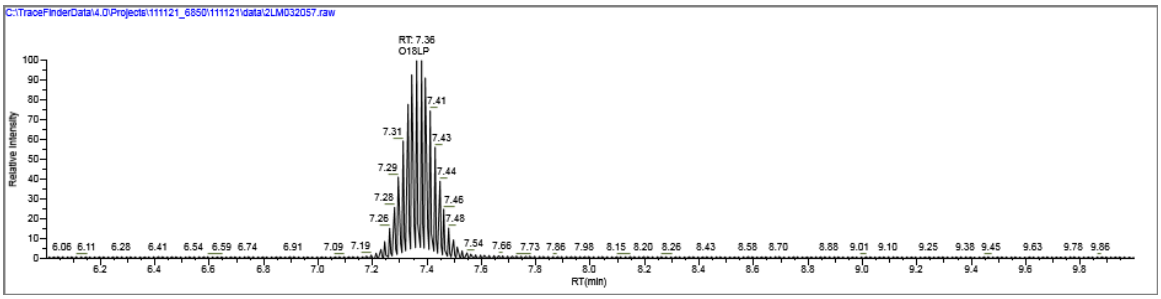
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 111121

Method: 111121_Perchlorate 6850 Perchlorate 6850
Cali File: 111121T2_111121.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A5	S1K0152-CCV3	2LM032057	CCV	CCV 1.0 ug/L	11/11/2021 9:26:37 PM	1:1 1007581



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.36	89	726914			5.000	ug/L	5.000	ug/L	

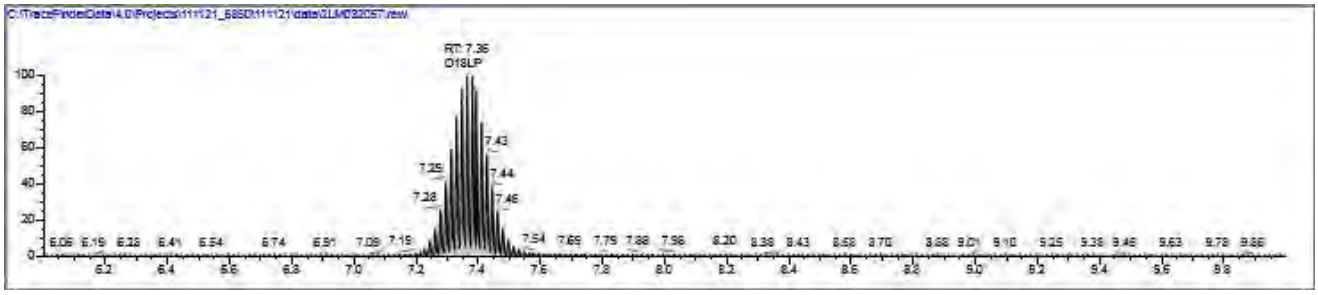
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.37	83	123269	Linear	0.170	0.939	ug/L	0.939	ug/L	

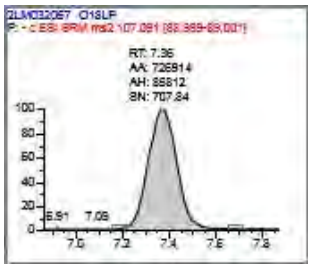
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

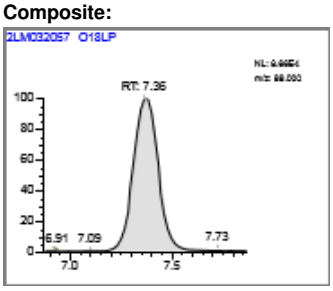
Data File:	2LM032057	Tune Report Date:	Tune report not found
Method:	111121_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	11/11/2021 9:26:37 PM
		Cali File Date:	11/12/2021 9:17:06 AM
Cali File:	111121T2_111121.calx	Operator ID:	CAS
Sample ID:	S1K0152-CCV3	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:A5
Comments:	1:1 1007581		



m/z 89.000



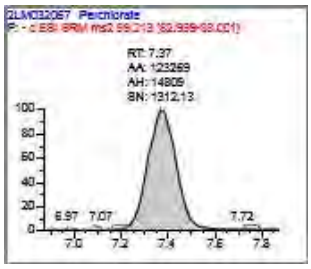
Composite:



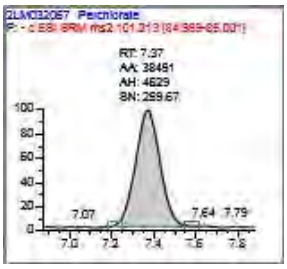
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.36	m/z 89.000	726914	5.000		N/A

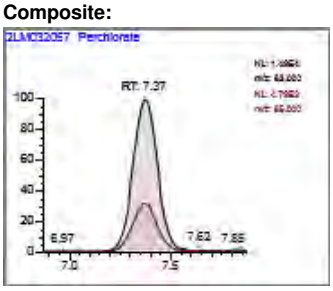
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			QC: 1.000	0.850 - 1.150	
7.37	m/z 83.000	123269	0.939		N/A
7.37	m/z 85.000	38491		25.94 - 38.92	31.23

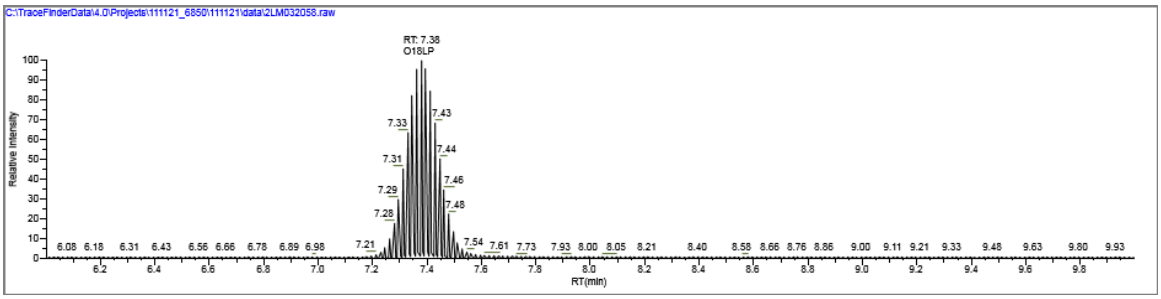
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 111121

Method: 111121_Perchlorate 6850
Perchlorate 6850
Cali File: 111121T2_111121.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A3	S1K0152-CRL3	2LM032058	QCMRL	QCMRL 0.2 ug/L	11/11/2021 9:39:52 PM	1:1 1007583



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.38	89	669914			5.000	ug/L	5.000	ug/L	

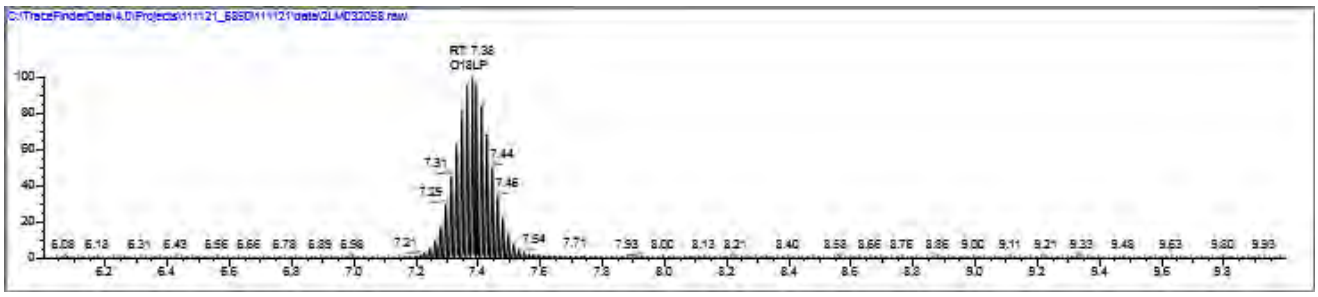
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.38	83	22696	Linear	0.034	0.186	ug/L	0.186	ug/L	

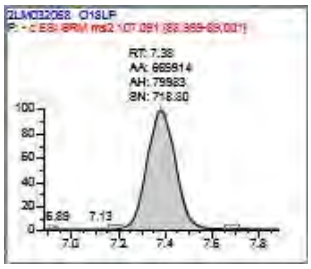
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

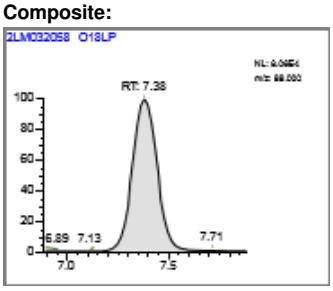
Data File:	2LM032058	Tune Report Date:	Tune report not found
Method:	111121_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	11/11/2021 9:39:52 PM
		Cali File Date:	11/12/2021 9:17:06 AM
Cali File:	111121T2_111121.calx	Operator ID:	CAS
Sample ID:	S1K0152-CRL3	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:A3
Comments:	1:1 1007583		



m/z 89.000



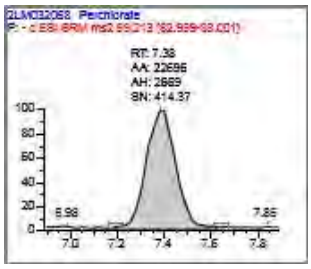
Composite:



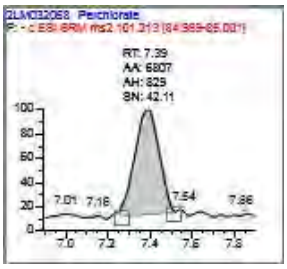
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.38	m/z 89.000	669914	5.000		N/A

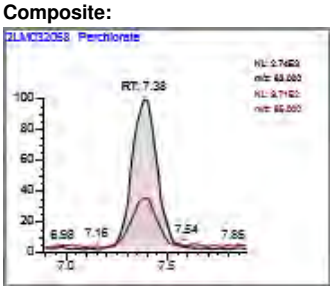
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			QC: 0.200	0.140 - 0.260	
7.38	m/z 83.000	22696	0.186		N/A
7.39	m/z 85.000	6807		25.94 - 38.92	29.99

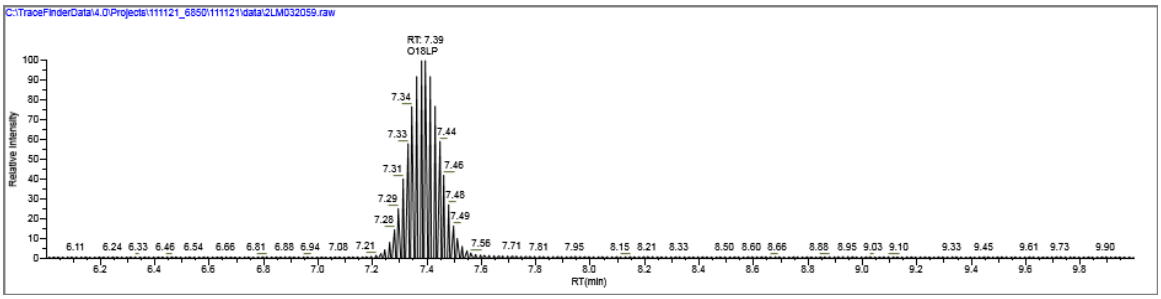
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 111121

Method: 111121_Perchlorate 6850 Perchlorate 6850
Cali File: 111121T2_111121.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A1	S1K0152-CCB3	2LM032059	N/A	CCB	11/11/2021 9:53:06 PM	1:01



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.39	89	610179			5.000	ug/L	5.000	ug/L	

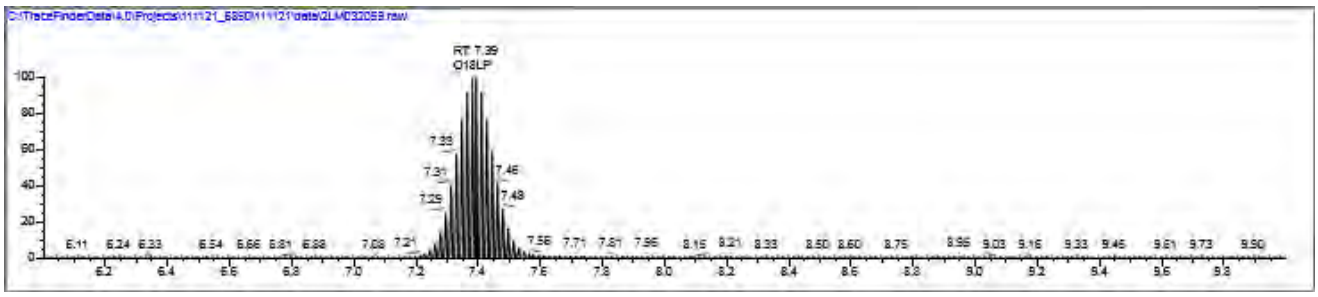
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	N/F	N/F	N/F	Linear	0.000	N/F	ug/L	N/F	ug/L	

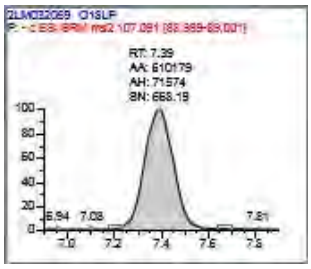
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

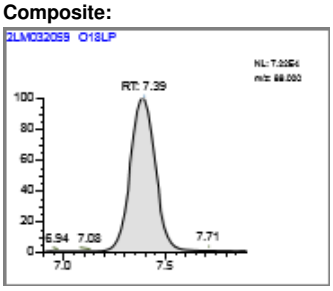
Data File:	2LM032059	Tune Report Date:	Tune report not found
Method:	111121_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	11/11/2021 9:53:06 PM
		Cali File Date:	11/12/2021 9:17:06 AM
Cali File:	111121T2_111121.calx	Operator ID:	CAS
Sample ID:	S1K0152-CCB3	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:A1
Comments:	1:01		



m/z 89.000



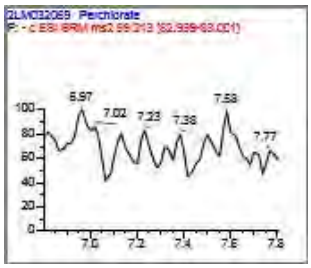
Composite:



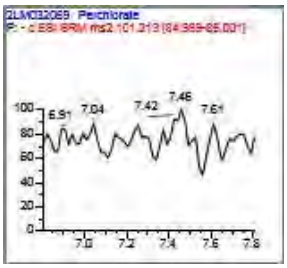
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.39	m/z 89.000	610179	5.000		N/A

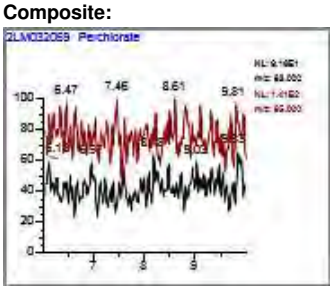
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
			Compound Not Found		
0.00	m/z 83.000		N/A		
	m/z 85.000				

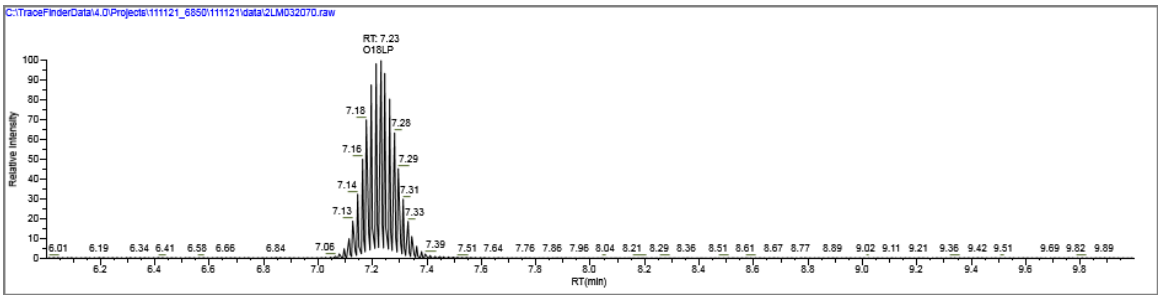
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 111121

Method: 111121_Perchlorate 6850 Perchlorate 6850
Cali File: 111121T2_111121.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A5	S1K0152-CCV4	2LM032070	CCV	CCV 1.0 ug/L	11/12/2021 12:18:53 AM	1:1 1007581



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.23	89	1044422			5.000	ug/L	5.000	ug/L	

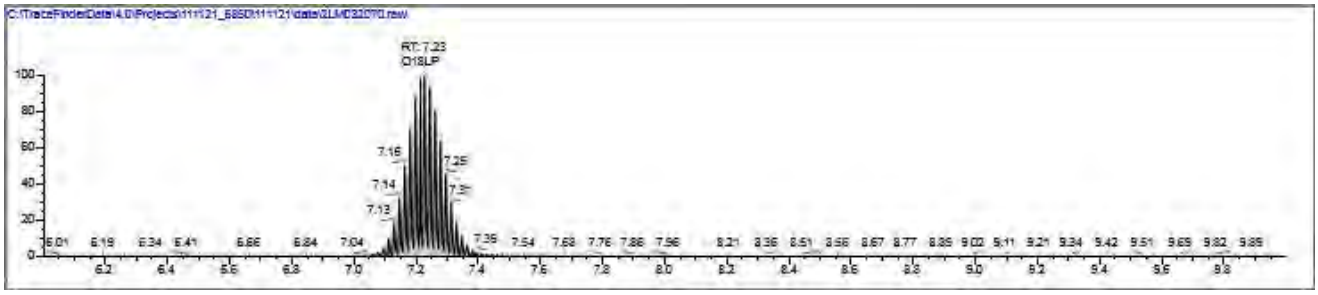
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.23	83	176488	Linear	0.169	0.936	ug/L	0.936	ug/L	

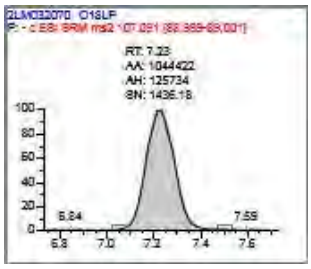
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

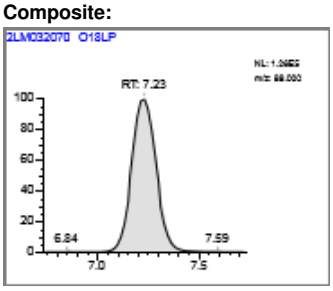
Data File:	2LM032070	Tune Report Date:	Tune report not found
Method:	111121_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	11/12/2021 12:18:53 AM
		Cali File Date:	11/12/2021 9:17:06 AM
Cali File:	111121T2_111121.calx	Operator ID:	CAS
Sample ID:	S1K0152-CCV4	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:A5
Comments:	1:1 1007581		



m/z 89.000



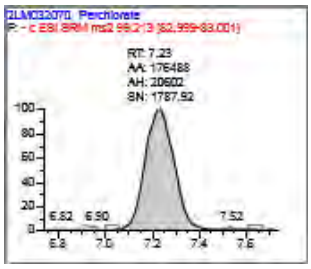
Composite:



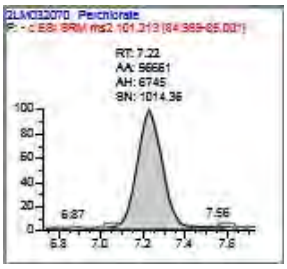
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.23	m/z 89.000	1044422	5.000		N/A

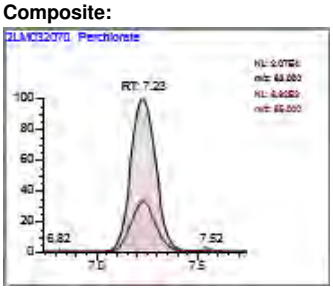
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			QC: 1.000	0.850 - 1.150	
7.23	m/z 83.000	176488	0.936		N/A
7.22	m/z 85.000	56661		25.94 - 38.92	32.1

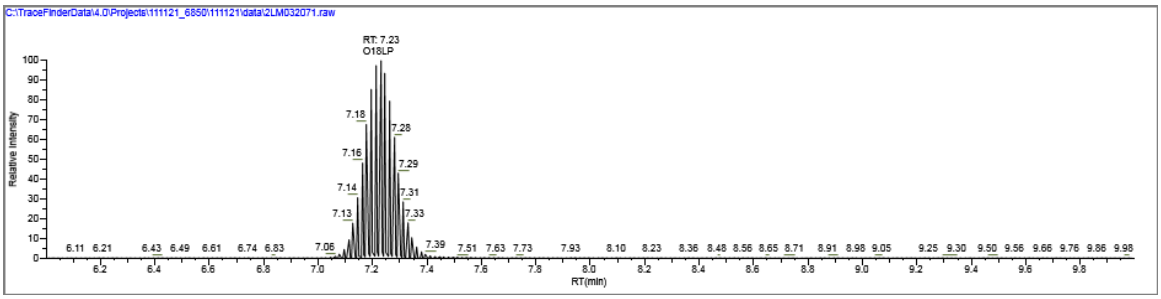
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 111121

Method: 111121_Perchlorate 6850
Perchlorate 6850
Cali File: 111121T2_111121.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A3	S1K0152-CRL4	2LM032071	QCMRL	QCMRL 0.2 ug/L	11/12/2021 12:32:07 AM	1:1 1007583



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.23	89	1109933			5.000	ug/L	5.000	ug/L	

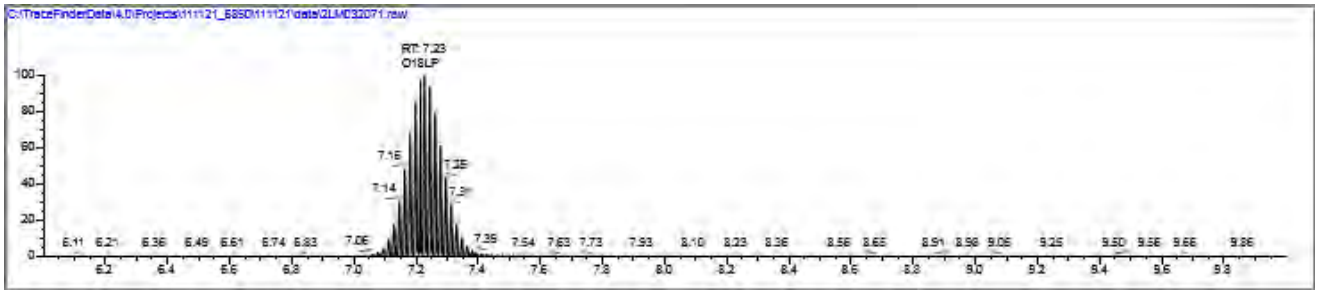
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.22	83	36808	Linear	0.033	0.182	ug/L	0.182	ug/L	

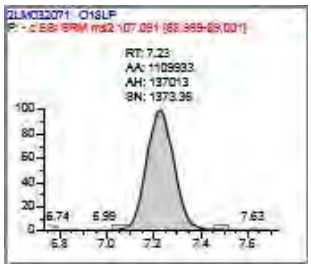
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

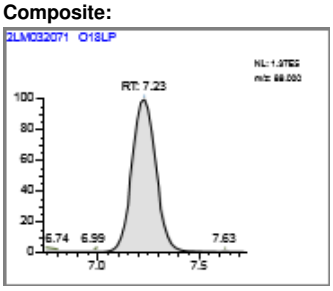
Data File:	2LM032071	Tune Report Date:	Tune report not found
Method:	111121_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	11/12/2021 12:32:07 AM
		Cali File Date:	11/12/2021 9:17:06 AM
Cali File:	111121T2_111121.calx	Operator ID:	CAS
Sample ID:	S1K0152-CRL4	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:A3
Comments:	1:1 1007583		



m/z 89.000



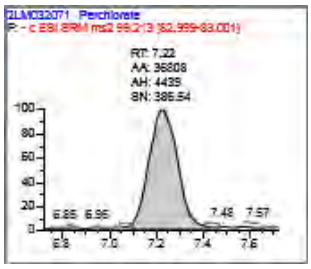
Composite:



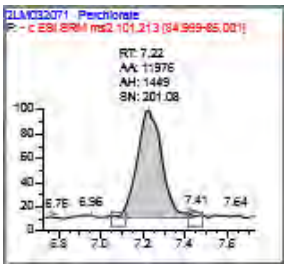
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.23	m/z 89.000	1109933	5.000		N/A

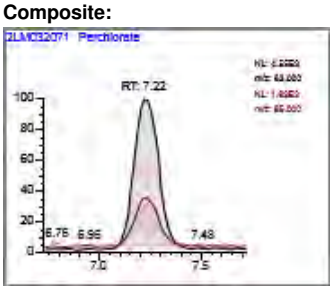
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			QC: 0.200	0.140 - 0.260	
7.22	m/z 83.000	36808	0.182		N/A
7.22	m/z 85.000	11976		25.94 - 38.92	32.54

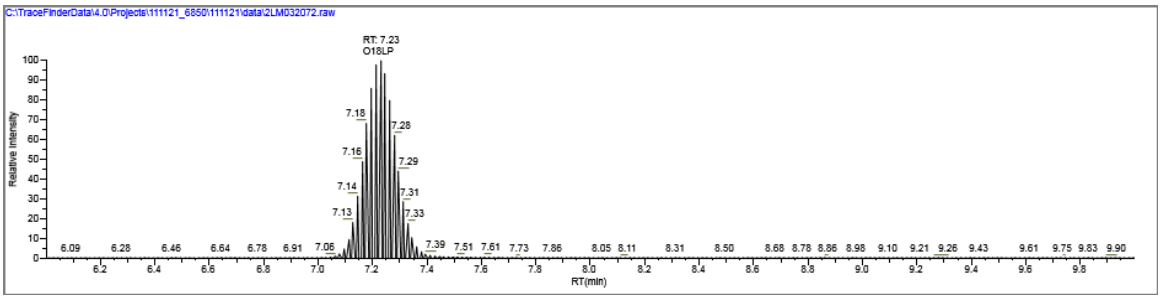
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 111121

Method: 111121_Perchlorate 6850 Perchlorate 6850
Cali File: 111121T2_111121.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A1	S1K0152-CCB4	2LM032072	N/A	CCB	11/12/2021 12:45:22 AM	1:01



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.23	89	982949			5.000	ug/L	5.000	ug/L	

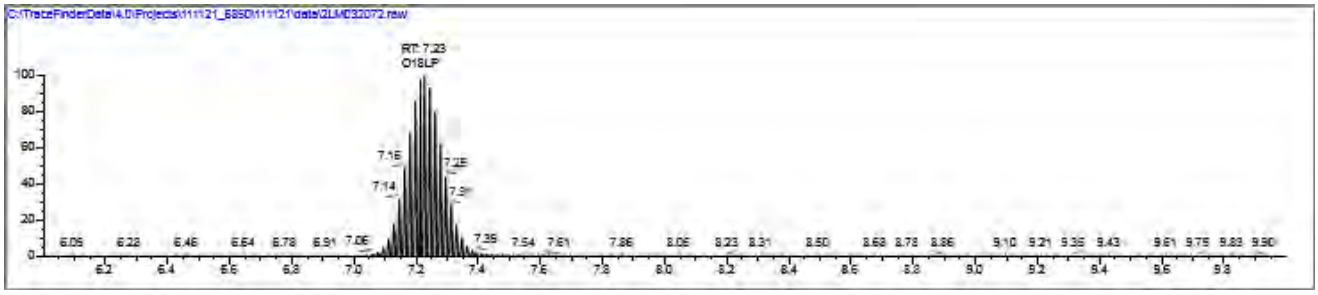
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	N/F	N/F	N/F	Linear	0.000	N/F	ug/L	N/F	ug/L	

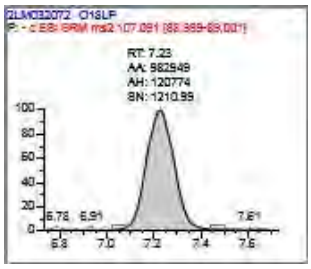
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

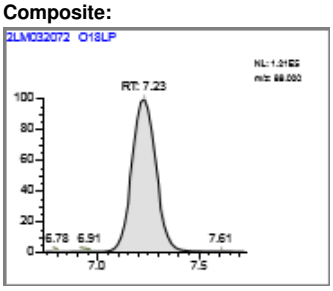
Data File:	2LM032072	Tune Report Date:	Tune report not found
Method:	111121_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	11/12/2021 12:45:22 AM
		Cali File Date:	11/12/2021 9:17:06 AM
Cali File:	111121T2_111121.calx	Operator ID:	CAS
Sample ID:	S1K0152-CCB4	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:A1
Comments:	1:01		



m/z 89.000



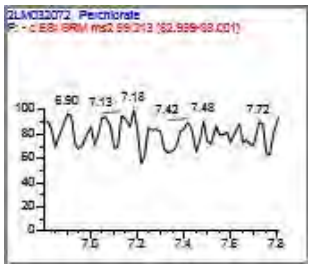
Composite:



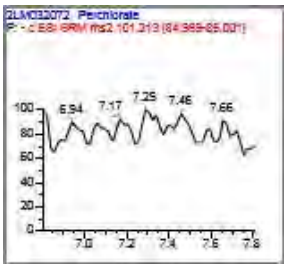
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.23	m/z 89.000	982949	5.000		N/A

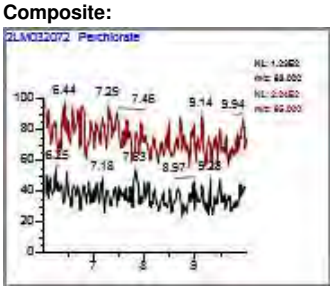
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
			Compound Not Found		
0.00	m/z 83.000 m/z 85.000		N/A		

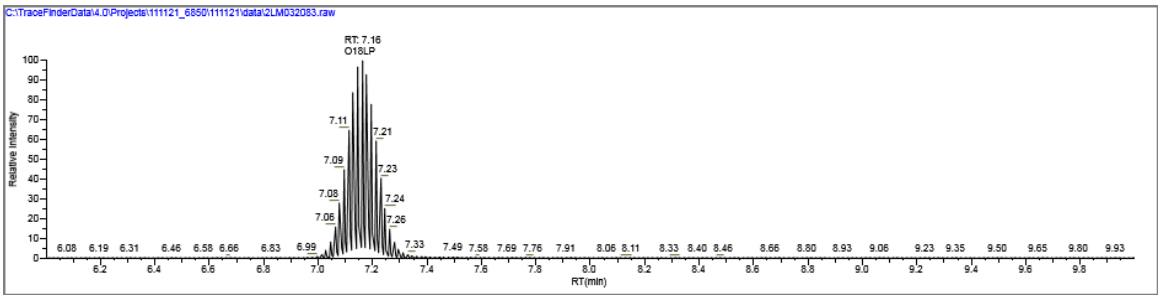
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 111121

Method: 111121_Perchlorate 6850
Perchlorate 6850
Cali File: 111121T2_111121.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A5	S1K0152-CCV5	2LM032083	CCV	CCV 1.0 ug/L	11/12/2021 3:11:14 AM	1:1 1007581



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.16	89	896995			5.000	ug/L	5.000	ug/L	

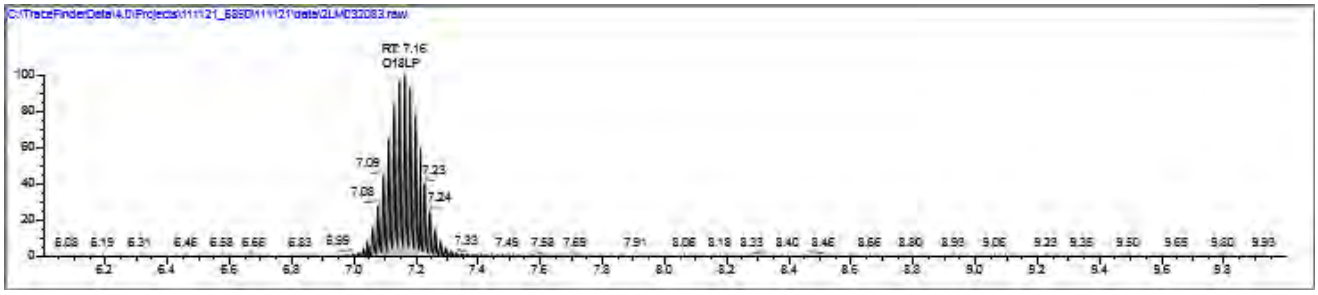
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.17	83	151160	Linear	0.169	0.933	ug/L	0.933	ug/L	

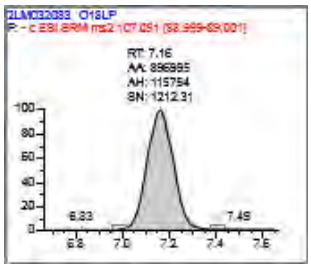
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

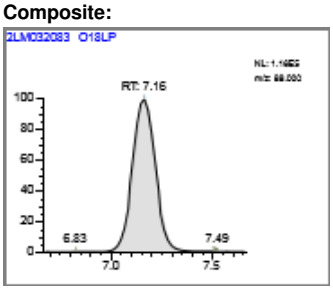
Data File:	2LM032083	Tune Report Date:	Tune report not found
Method:	111121_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	11/12/2021 3:11:14 AM
		Cali File Date:	11/12/2021 9:17:06 AM
Cali File:	111121T2_111121.calx	Operator ID:	CAS
Sample ID:	S1K0152-CCV5	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:A5
Comments:	1:1 1007581		



m/z 89.000



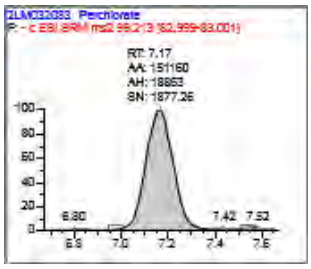
Composite:



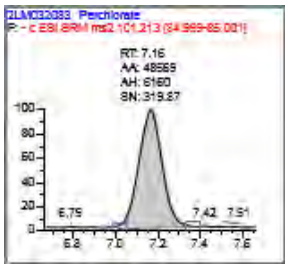
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.16	m/z 89.000	896995	5.000		N/A

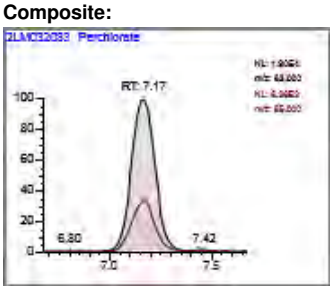
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			QC: 1.000	0.850 - 1.150	
7.17	m/z 83.000	151160	0.933		N/A
7.16	m/z 85.000	48569		25.94 - 38.92	32.13

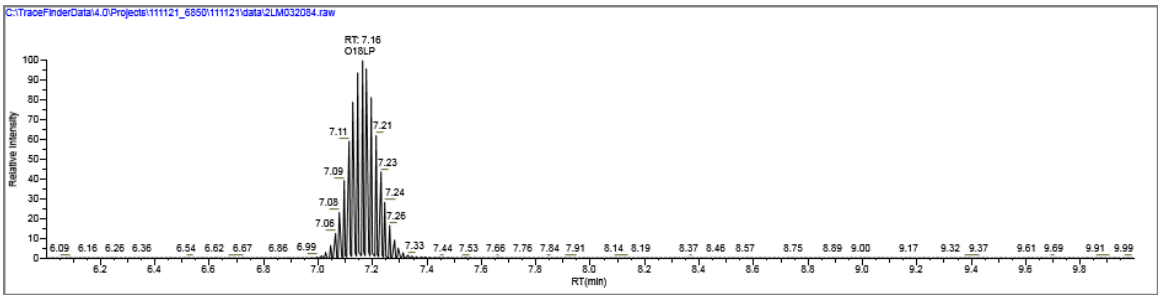
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 111121

Method: 111121_Perchlorate 6850 Perchlorate 6850
Cali File: 111121T2_111121.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A3	S1K0152-CRL5	2LM032084	QCMRL	QCMRL 0.2 ug/L	11/12/2021 3:24:29 AM	1:1 1007583



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.16	89	1040105			5.000	ug/L	5.000	ug/L	

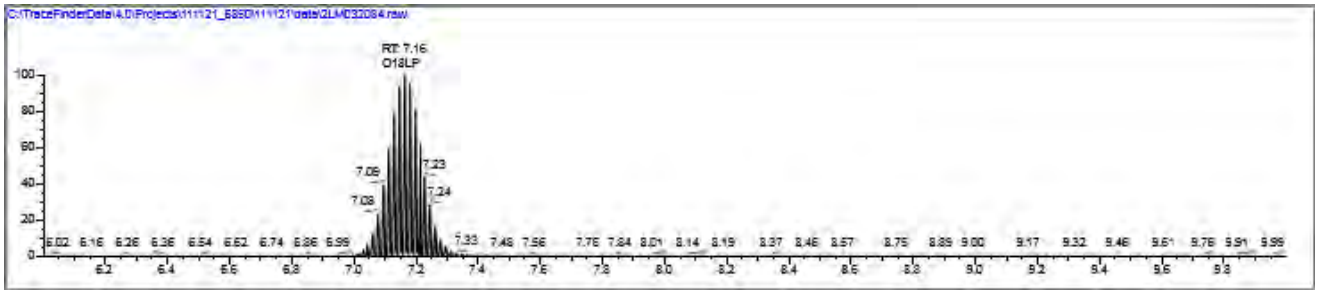
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.17	83	34910	Linear	0.034	0.184	ug/L	0.184	ug/L	

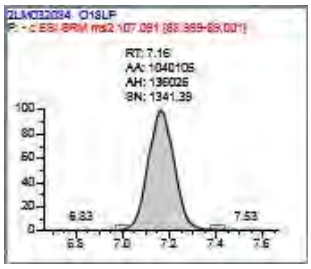
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

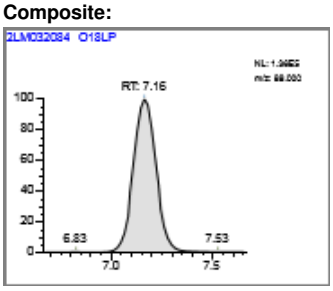
Data File:	2LM032084	Tune Report Date:	Tune report not found
Method:	111121_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	11/12/2021 3:24:29 AM
Cali File:	111121T2_111121.calx	Cali File Date:	11/12/2021 9:17:06 AM
Sample ID:	S1K0152-CRL5	Operator ID:	CAS
Diln Factor:	1.00	Instrument ID:	LCMS2
Comments:	1:1 1007583	Vial Number:	R:A3



m/z 89.000



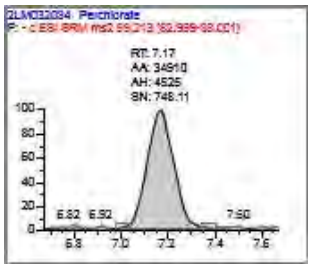
Composite:



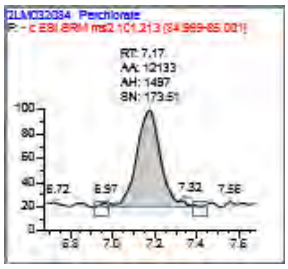
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.16	m/z 89.000	1040105	5.000		N/A

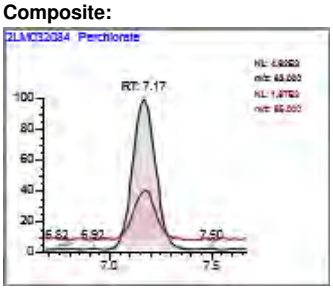
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			QC: 0.200	0.140 - 0.260	
7.17	m/z 83.000	34910	0.184		N/A
7.17	m/z 85.000	12133		25.94 - 38.92	34.76

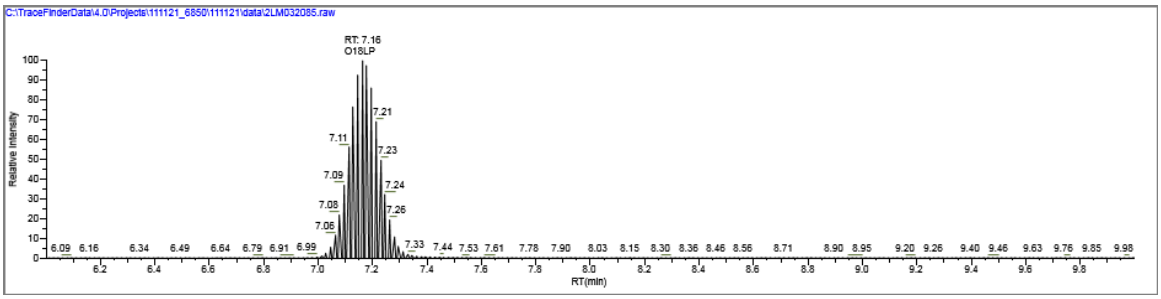
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 111121

Method: 111121_Perchlorate 6850
Perchlorate 6850
Cali File: 111121T2_111121.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A1	S1K0152-CCB5	2LM032085	N/A	CCB	11/12/2021 3:37:44 AM	1:01



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.16	89	909222			5.000	ug/L	5.000	ug/L	

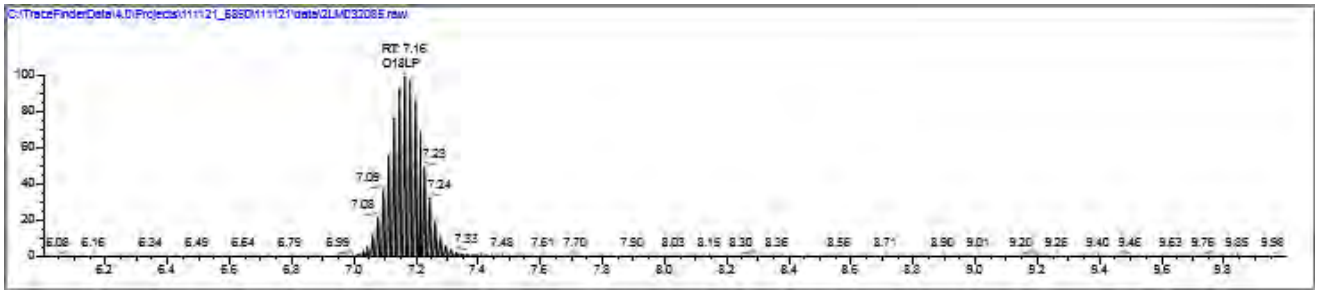
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	N/F	N/F	N/F	Linear	0.000	N/F	ug/L	N/F	ug/L	

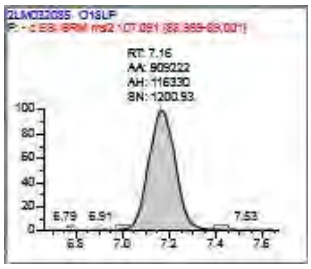
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

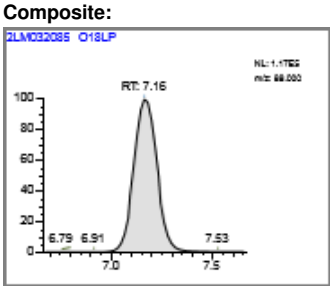
Data File:	2LM032085	Tune Report Date:	Tune report not found
Method:	111121_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	11/12/2021 3:37:44 AM
		Cali File Date:	11/12/2021 9:17:06 AM
Cali File:	111121T2_111121.calx	Operator ID:	CAS
Sample ID:	S1K0152-CCB5	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:A1
Comments:	1:01		



m/z 89.000



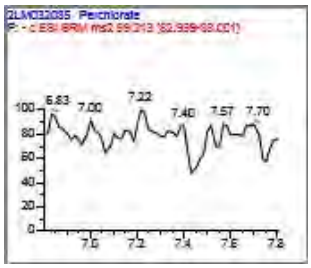
Composite:



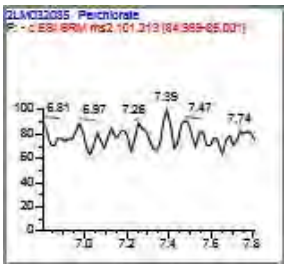
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.16	m/z 89.000	909222	5.000		N/A

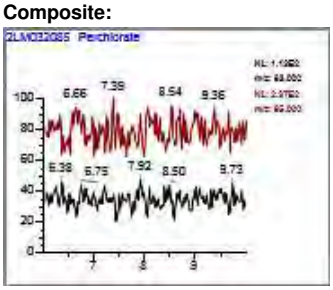
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
			Compound Not Found		
0.00	m/z 83.000		N/A		
	m/z 85.000				

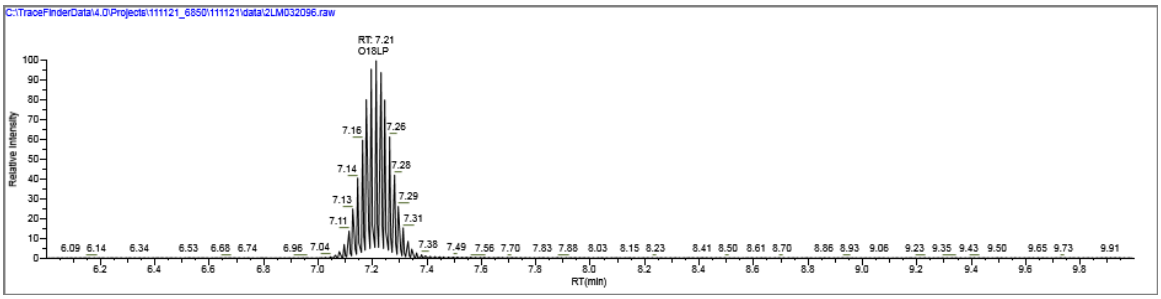
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 111121

Method: 111121_Perchlorate 6850
Perchlorate 6850
Cali File: 111121T2_111121.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A5	S1K0152-CCV6	2LM032096	CCV	CCV 1.0 ug/L	11/12/2021 6:03:27 AM	1:1 1007581



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.21	89	779391			5.000	ug/L	5.000	ug/L	

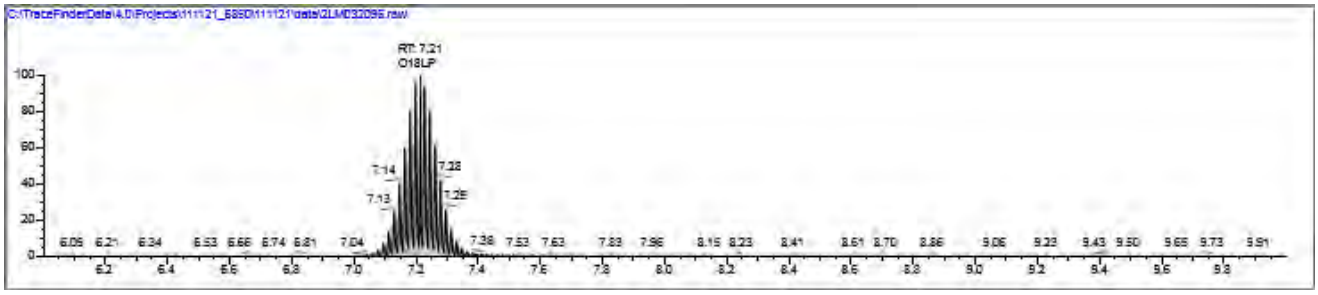
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.22	83	134943	Linear	0.173	0.959	ug/L	0.959	ug/L	

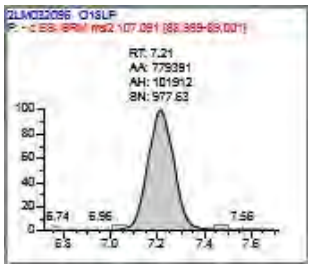
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

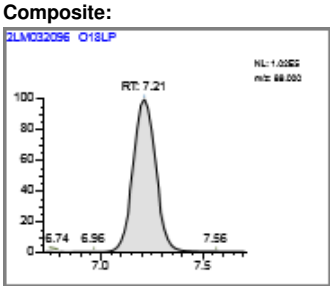
Data File:	2LM032096	Tune Report Date:	Tune report not found
Method:	111121_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	11/12/2021 6:03:27 AM
		Cali File Date:	11/12/2021 9:17:06 AM
Cali File:	111121T2_111121.calx	Operator ID:	CAS
Sample ID:	S1K0152-CCV6	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:A5
Comments:	1:1 1007581		



m/z 89.000



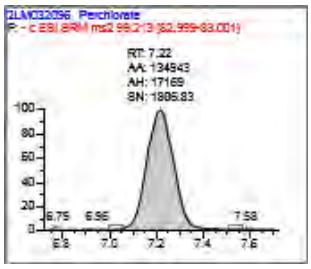
Composite:



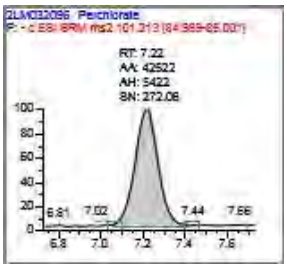
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.21	m/z 89.000	779391	5.000		N/A

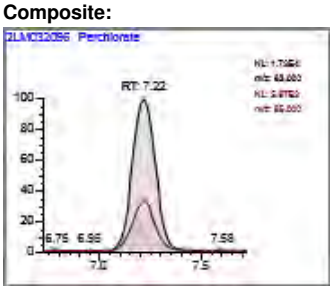
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			QC: 1.000	0.850 - 1.150	
7.22	m/z 83.000	134943	0.959		N/A
7.22	m/z 85.000	42522		25.94 - 38.92	31.51

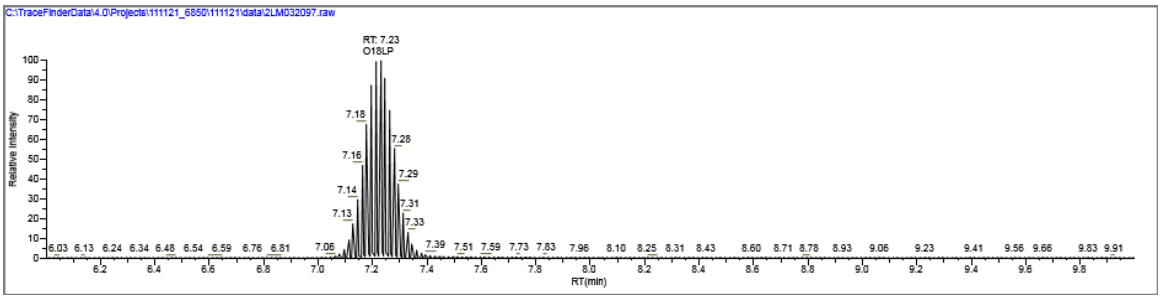
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 111121

Method: 111121_Perchlorate 6850 Perchlorate 6850
Cali File: 111121T2_111121.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A3	S1K0152-CRL6	2LM032097	QCMRL	QCMRL 0.2 ug/L	11/12/2021 6:16:41 AM	1:1 1007583



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.23	89	677237			5.000	ug/L	5.000	ug/L	

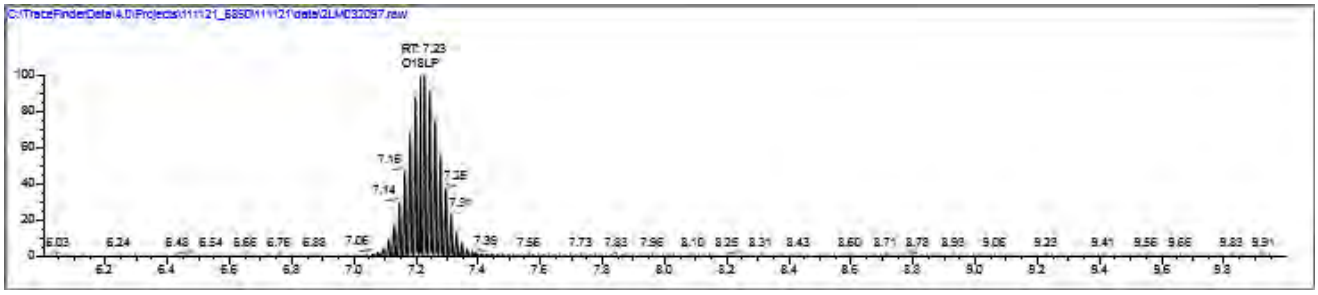
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.23	83	23199	Linear	0.034	0.188	ug/L	0.188	ug/L	

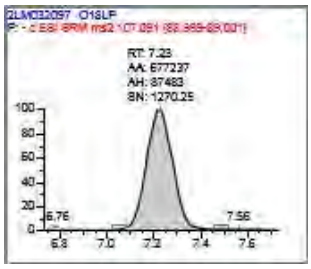
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

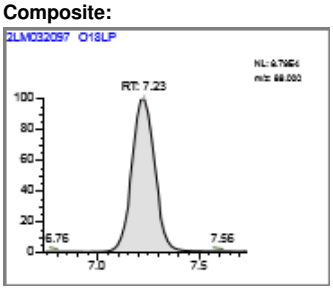
Data File:	2LM032097	Tune Report Date:	Tune report not found
Method:	111121_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	11/12/2021 6:16:41 AM
		Cali File Date:	11/12/2021 9:17:06 AM
Cali File:	111121T2_111121.calx	Operator ID:	CAS
Sample ID:	S1K0152-CRL6	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:A3
Comments:	1:1 1007583		



m/z 89.000



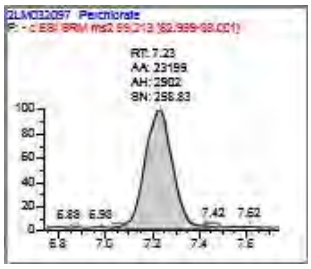
Composite:



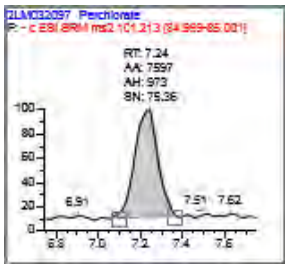
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.23	m/z 89.000	677237	5.000		N/A

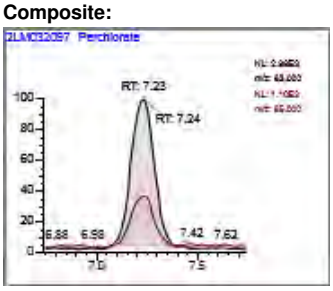
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			QC: 0.200	0.140 - 0.260	
7.23	m/z 83.000	23199	0.188		N/A
7.24	m/z 85.000	7597		25.94 - 38.92	32.75

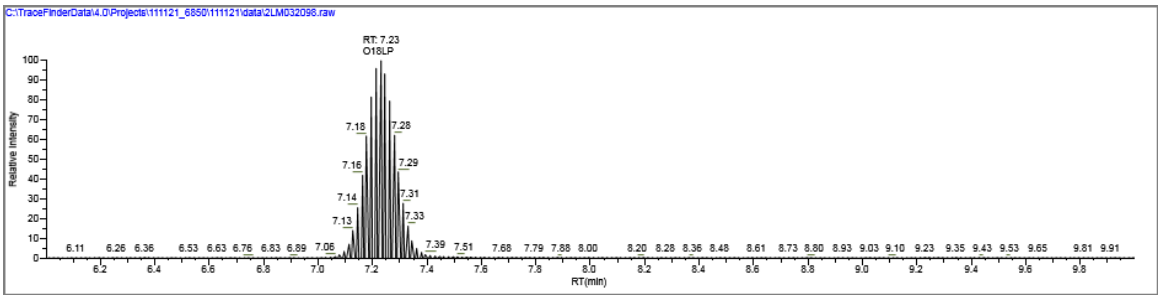
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 111121

Method: 111121_Perchlorate 6850
Perchlorate 6850
Cali File: 111121T2_111121.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A1	S1K0152-CCB6	2LM032098	N/A	CCB	11/12/2021 6:29:56 AM	1:01



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.23	89	720011			5.000	ug/L	5.000	ug/L	

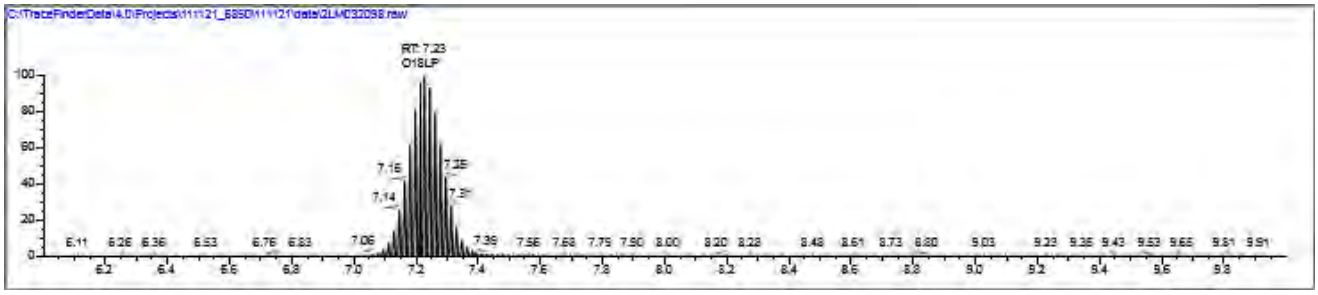
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	N/F	N/F	N/F	Linear	0.000	N/F	ug/L	N/F	ug/L	

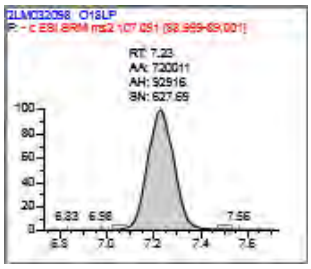
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

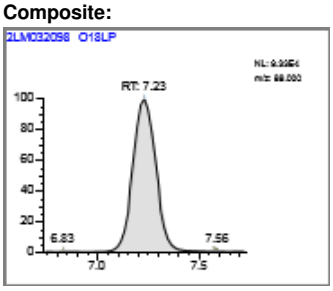
Data File:	2LM032098	Tune Report Date:	Tune report not found
Method:	111121_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	11/12/2021 6:29:56 AM
		Cali File Date:	11/12/2021 9:17:06 AM
Cali File:	111121T2_111121.calx	Operator ID:	CAS
Sample ID:	S1K0152-CCB6	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:A1
Comments:	1:01		



m/z 89.000



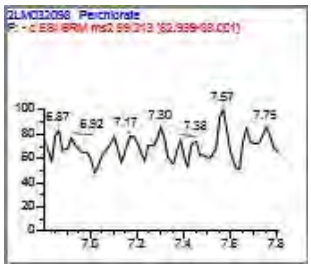
Composite:



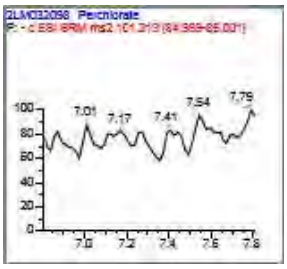
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.23	m/z 89.000	720011	5.000		N/A

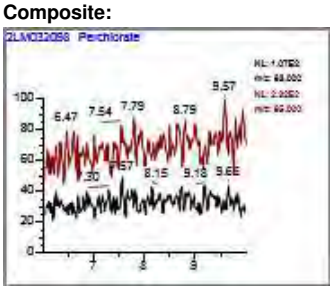
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
			Compound Not Found		
0.00	m/z 83.000		N/A		
	m/z 85.000				

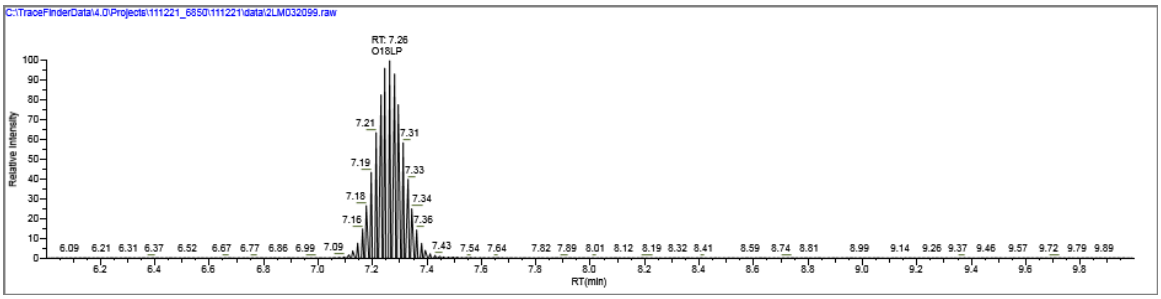
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 111221

Method: 111221_Perchlorate 6850
Perchlorate 6850
Cali File: 111121T2_111221.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A1	S1K0230-CCB1	2LM032099	N/A	CCB	11/12/2021 10:01:16 AM	1:01



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.26	89	1025107			5.000	ug/L	5.000	ug/L	

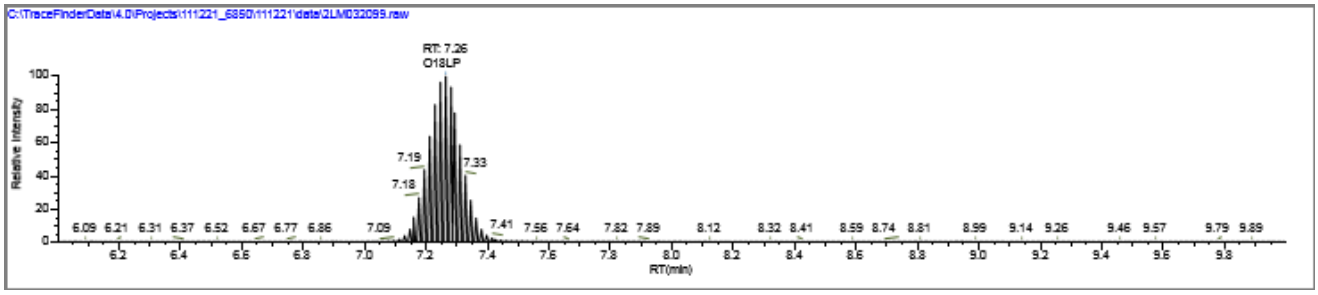
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	N/F	N/F	N/F	Linear	0.000	N/F	ug/L	N/F	ug/L	

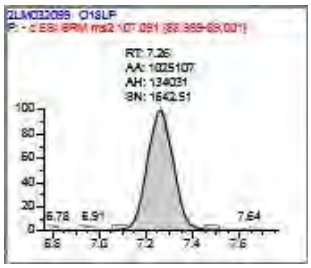
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

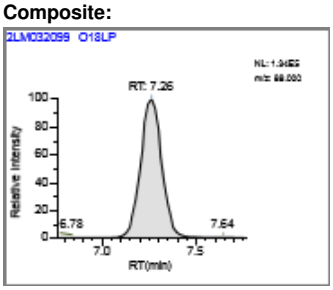
Data File:	2LM032099	Tune Report Date:	Tune report not found
Method:	111221_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	11/12/2021 10:01:16 AM
		Cali File Date:	11/12/2021 10:44:10 AM
Cali File:	111121T2_111221.calx	Operator ID:	CAS
Sample ID:	S1K0230-CCB1	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:A1
Comments:	1:01		



m/z 89.000



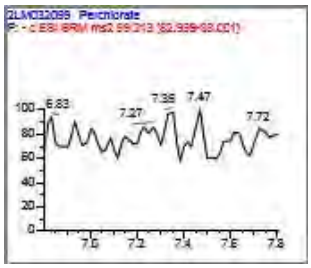
Composite:



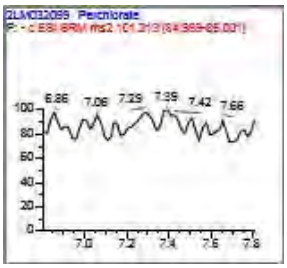
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.26	m/z 89.000	1025107	5.000		N/A

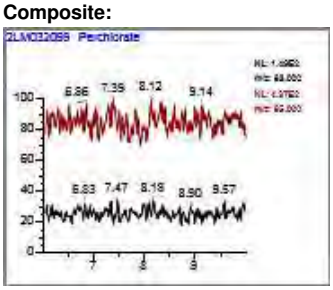
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
			Compound Not Found		
0.00	m/z 83.000		N/A		
	m/z 85.000				

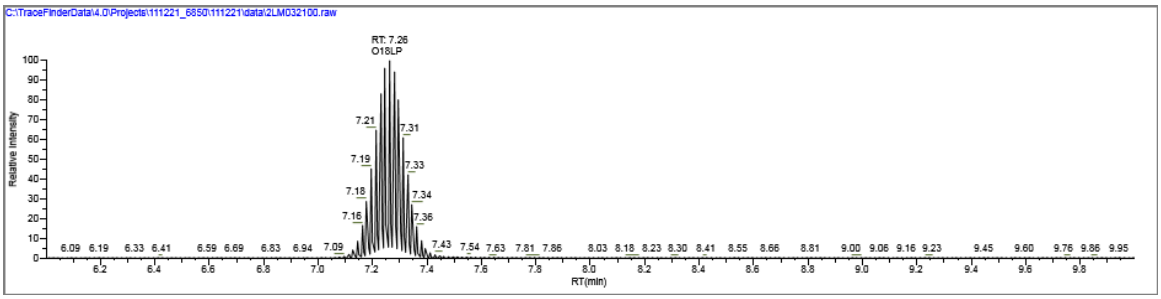
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 111221

Method: 111221_Perchlorate 6850
Perchlorate 6850
Cali File: 111121T2_111221.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A5	S1K0230-CCV1	2LM032100	CCV	CCV 1.0 ug/L	11/12/2021 10:14:29 AM	1:1 0012466



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.26	89	618494			5.000	ug/L	5.000	ug/L	

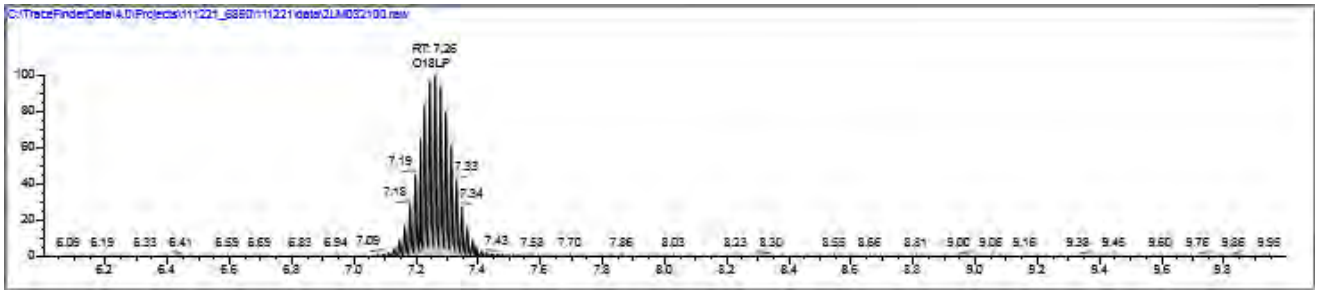
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.27	83	107557	Linear	0.174	0.963	ug/L	0.963	ug/L	

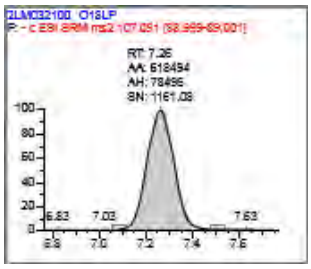
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

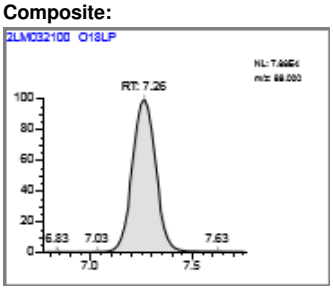
Data File:	2LM032100	Tune Report Date:	Tune report not found
Method:	111221_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	11/12/2021 10:14:29 AM
		Cali File Date:	11/12/2021 10:44:10 AM
Cali File:	111121T2_111221.calx	Operator ID:	CAS
Sample ID:	S1K0230-CCV1	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:A5
Comments:	1:1 0012466		



m/z 89.000



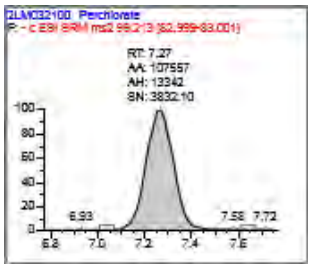
Composite:



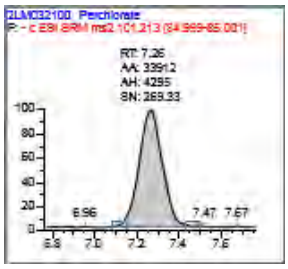
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.26	m/z 89.000	618494	5.000		N/A

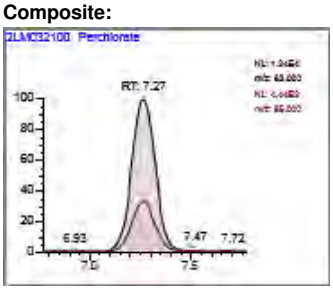
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			QC: 1.000	0.850 - 1.150	
7.27	m/z 83.000	107557	0.963		N/A
7.26	m/z 85.000	33912		25.94 - 38.92	31.53

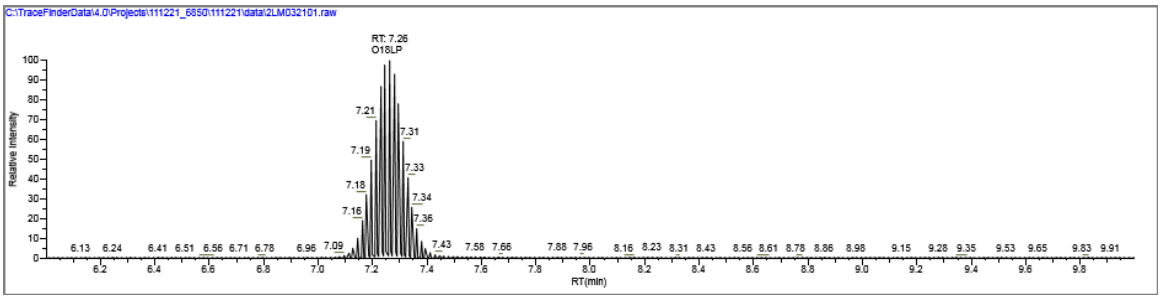
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 111221

Method: 111221_Perchlorate 6850 Perchlorate 6850
Cali File: 111121T2_111221.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A3	S1K0230-CRL1	2LM032101	QCMRL	QCMRL 0.2 ug/L	11/12/2021 10:27:44 AM	1:1 0012468



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.26	89	598008			5.000	ug/L	5.000	ug/L	

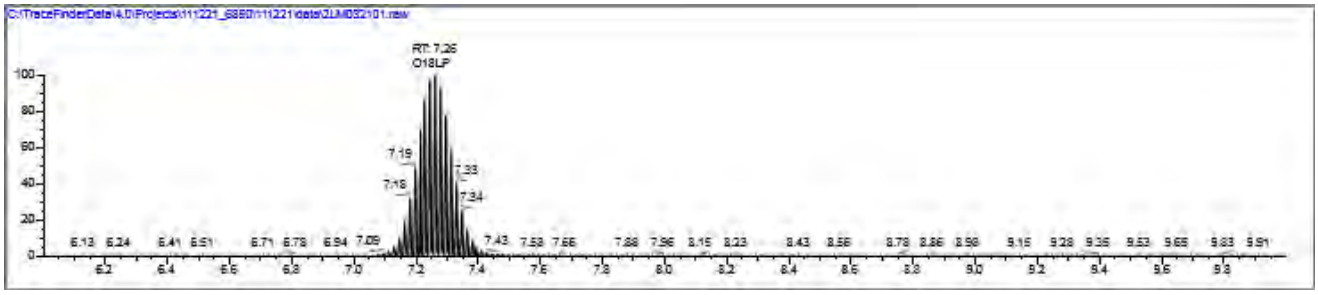
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.27	83	21243	Linear	0.036	0.195	ug/L	0.195	ug/L	

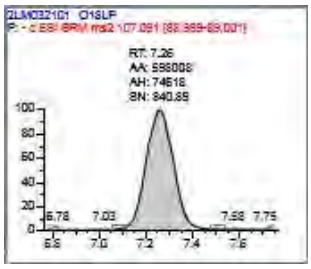
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

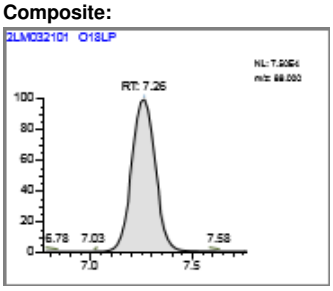
Data File:	2LM032101	Tune Report Date:	Tune report not found
Method:	111221_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	11/12/2021 10:27:44 AM
		Cali File Date:	11/12/2021 10:44:10 AM
Cali File:	111121T2_111221.calx	Operator ID:	CAS
Sample ID:	S1K0230-CRL1	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:A3
Comments:	1:1 0012468		



m/z 89.000



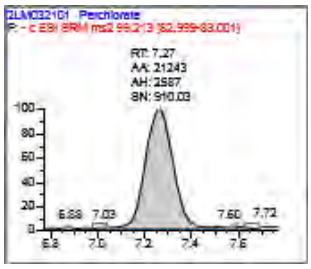
Composite:



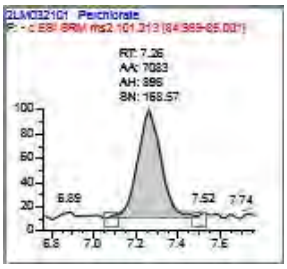
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.26	m/z 89.000	598008	5.000		N/A

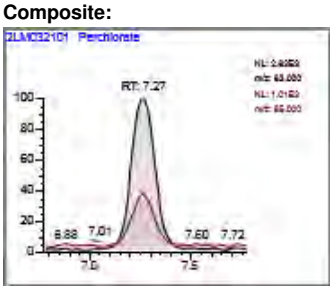
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			QC: 0.200	0.140 - 0.260	
7.27	m/z 83.000	21243	0.195		N/A
7.26	m/z 85.000	7083		25.94 - 38.92	33.34

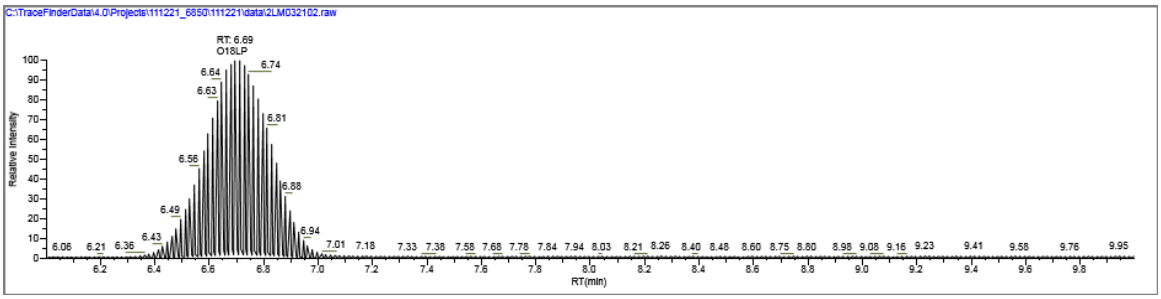
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 111221

Method: 111221_Perchlorate 6850
Perchlorate 6850
Cali File: 111121T2_111221.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:B1	S1K0230-IFA1	2LM032102	N/A	MCT 0.2 ug/L	11/12/2021 10:40:59 AM	1:1 0012477



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	6.69	89	699302			5.000	ug/L	5.000	ug/L	

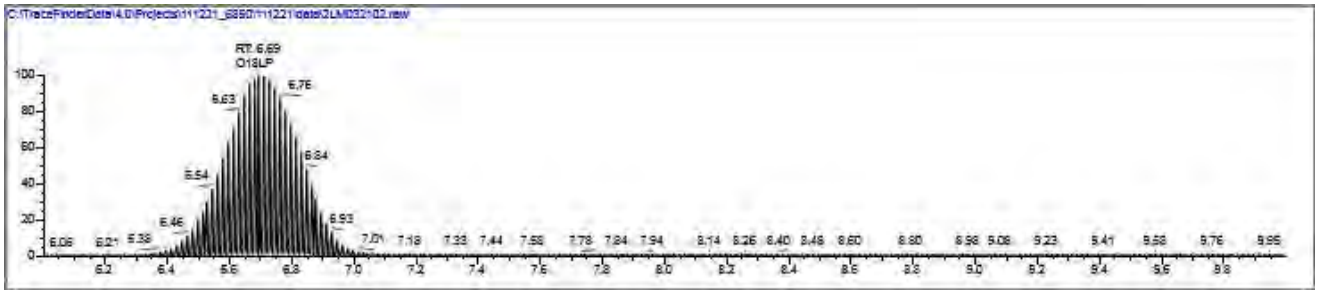
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	6.72	83	29423	Linear	0.042	0.231	ug/L	0.231	ug/L	

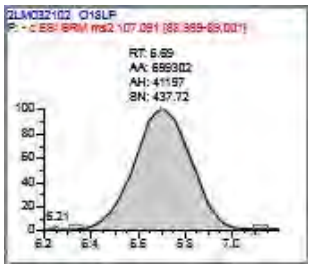
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

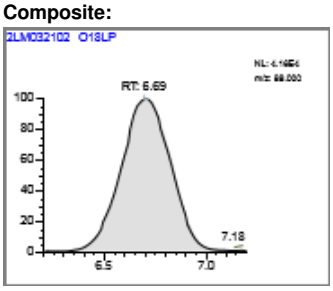
Data File:	2LM032102	Tune Report Date:	Tune report not found
Method:	111221_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	11/12/2021 10:40:59 AM
		Cali File Date:	11/12/2021 10:44:10 AM
Cali File:	111121T2_111221.calx	Operator ID:	CAS
Sample ID:	S1K0230-IFA1	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:B1
Comments:	1:1 0012477		



m/z 89.000



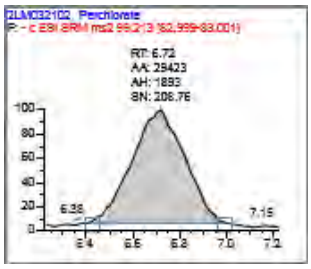
Composite:



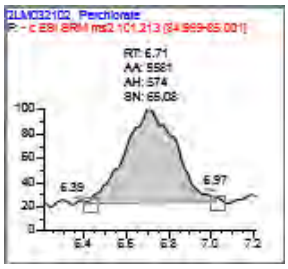
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
6.69	m/z 89.000	699302	5.000		N/A

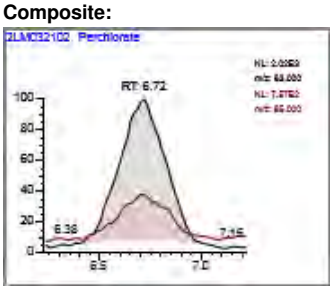
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
6.72	m/z 83.000	29423	0.231		N/A
6.71	m/z 85.000	9581		25.94 - 38.92	32.56

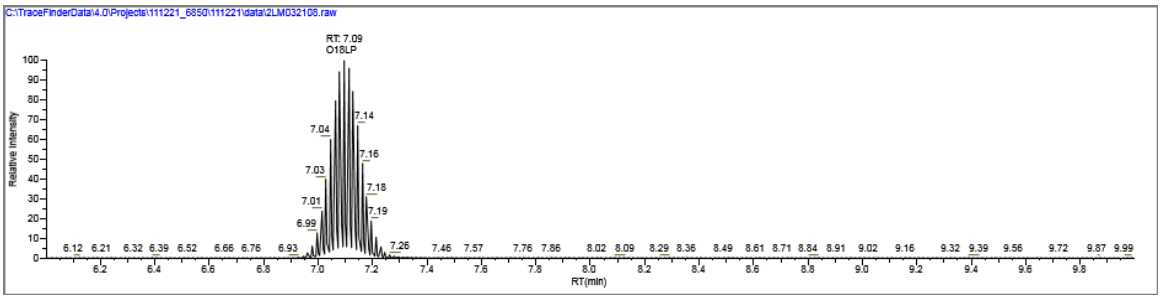
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 111221

Method: 111221_Perchlorate 6850 Perchlorate 6850
Cali File: 111121T2_111221.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A5	S1K0230-CCV2	2LM032108	CCV	CCV 1.0 ug/L	11/12/2021 12:00:29 PM	1:1 0012466



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.09	89	994333			5.000	ug/L	5.000	ug/L	

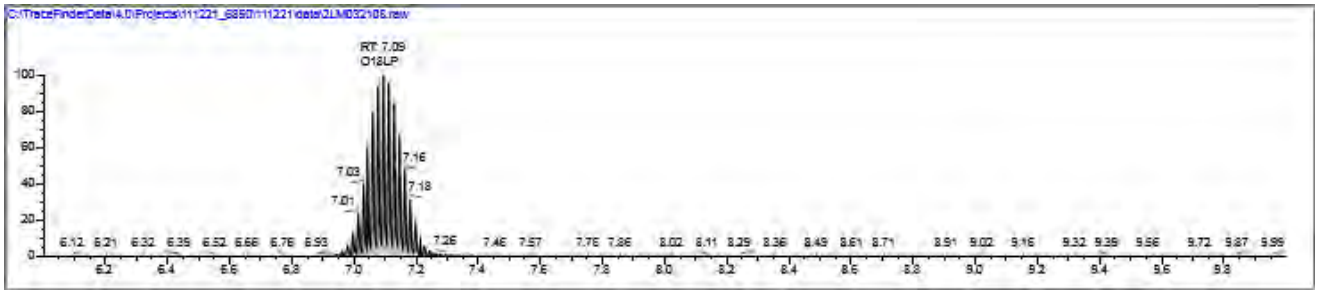
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.1	83	171431	Linear	0.172	0.955	ug/L	0.955	ug/L	

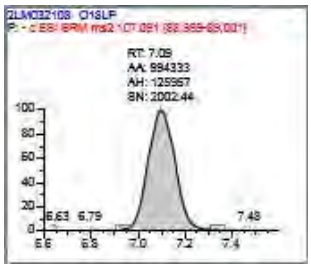
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

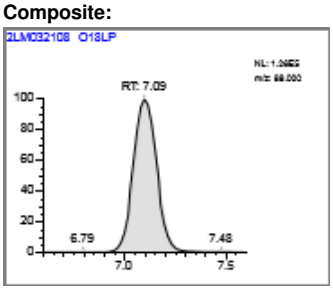
Data File:	2LM032108	Tune Report Date:	Tune report not found
Method:	111221_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	11/12/2021 12:00:29 PM
		Cali File Date:	11/12/2021 10:44:10 AM
Cali File:	111121T2_111221.calx	Operator ID:	CAS
Sample ID:	S1K0230-CCV2	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:A5
Comments:	1:1 0012466		



m/z 89.000



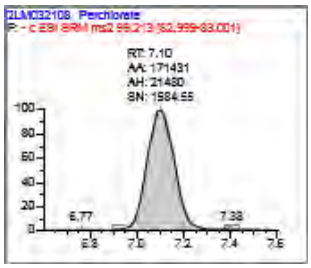
Composite:



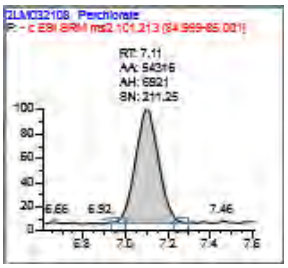
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.09	m/z 89.000	994333	5.000		N/A

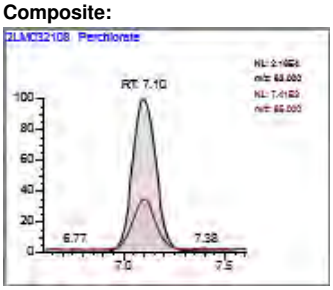
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			QC: 1.000	0.850 - 1.150	
7.10	m/z 83.000	171431	0.955		N/A
7.11	m/z 85.000	54316		25.94 - 38.92	31.68

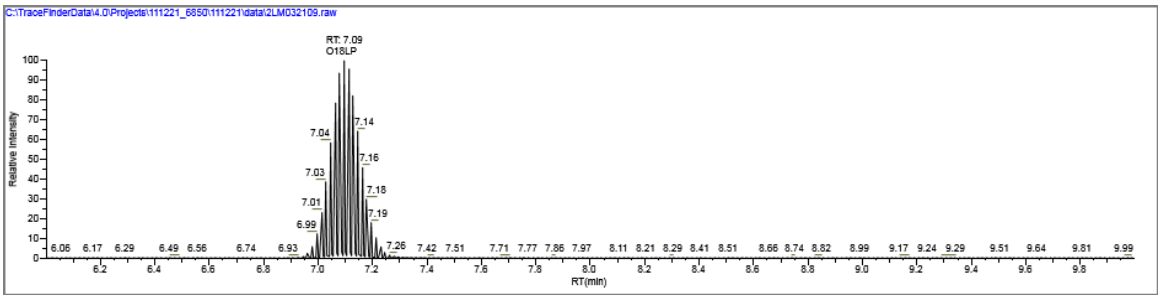
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 111221

Method: 111221_Perchlorate 6850
Perchlorate 6850
Cali File: 111121T2_111221.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A3	S1K0230-CRL2	2LM032109	QCMRL	QCMRL 0.2 ug/L	11/12/2021 12:13:43 PM	1:1 0012468



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.09	89	1057097			5.000	ug/L	5.000	ug/L	

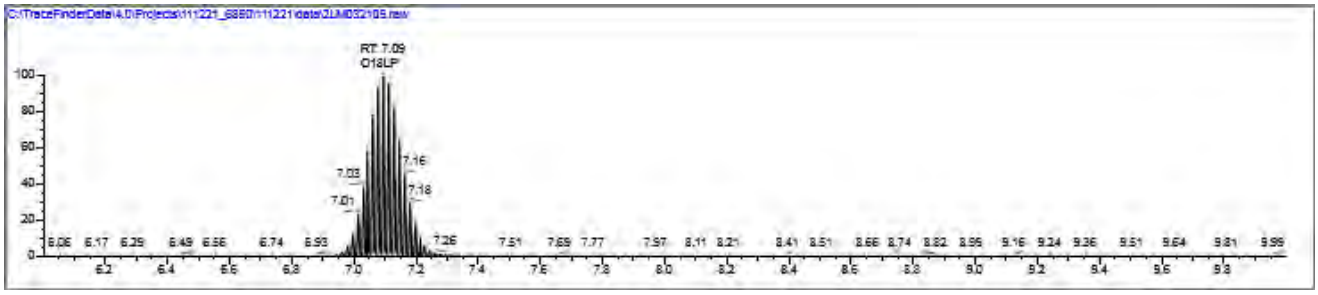
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	7.1	83	35440	Linear	0.034	0.184	ug/L	0.184	ug/L	

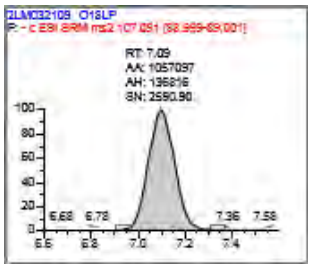
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

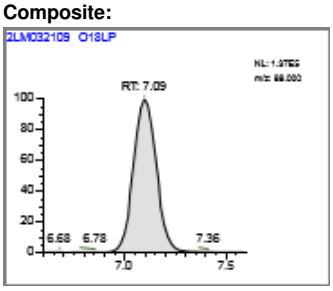
Data File:	2LM032109	Tune Report Date:	Tune report not found
Method:	111221_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	11/12/2021 12:13:43 PM
		Cali File Date:	11/12/2021 10:44:10 AM
Cali File:	111121T2_111221.calx	Operator ID:	CAS
Sample ID:	S1K0230-CRL2	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:A3
Comments:	1:1 0012468		



m/z 89.000



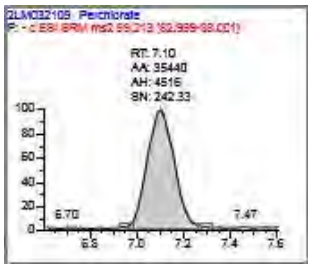
Composite:



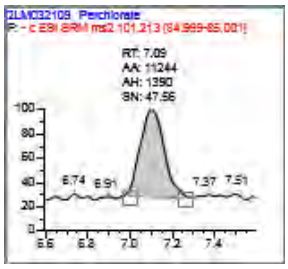
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.09	m/z 89.000	1057097	5.000		N/A

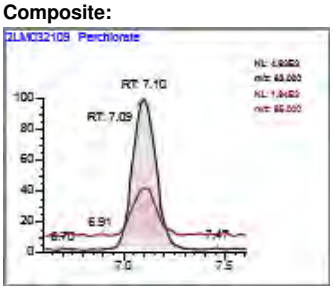
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			QC: 0.200	0.140 - 0.260	
7.10	m/z 83.000	35440	0.184		N/A
7.09	m/z 85.000	11244		25.94 - 38.92	31.73

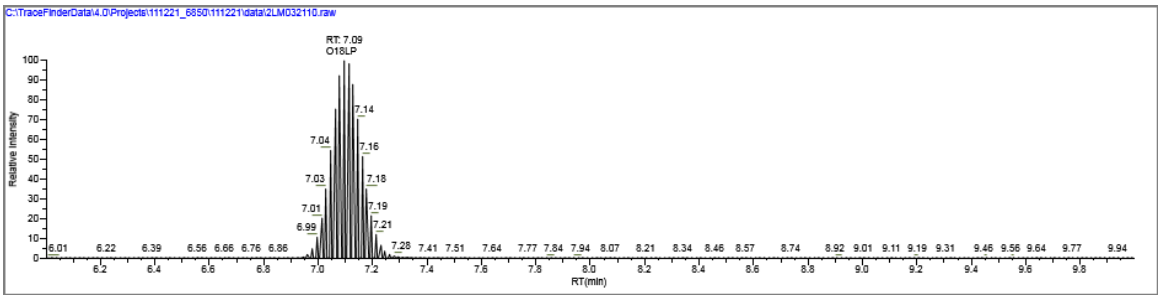
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Quantitation Report

Lab Name: Microbac OVD
Instrument: LCMS2
User: CAS
Batch: 111221

Method: 111221_Perchlorate 6850
Perchlorate 6850
Cali File: 111121T2_111221.calx

Vial Pos	Sample ID	File Name	Level	Sample Name	File Date	Comment
R:A1	S1K0230-CCB2	2LM032110	N/A	CCB	11/12/2021 12:26:58 PM	1:01



Internal Standards	RT	Quan Peak	Response			Injected Conc	Units	Calculated Conc	Units	Flags
O18LP	7.09	89	945642			5.000	ug/L	5.000	ug/L	

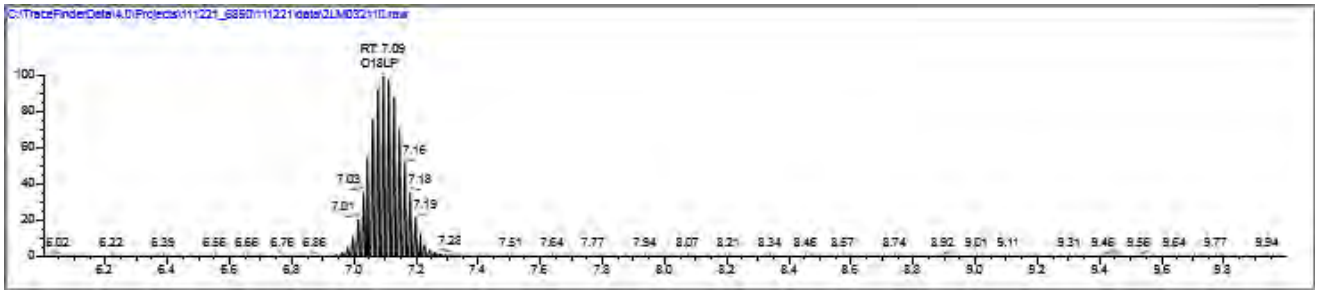
Surrogates	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags

Target Compounds	RT	Quan Peak	Response	Curve Type	Average RF/ Response Ratio	Injected Conc	Units	Calculated Conc	Units	Flags
Perchlorate	N/F	N/F	N/F	Linear	0.000	N/F	ug/L	N/F	ug/L	

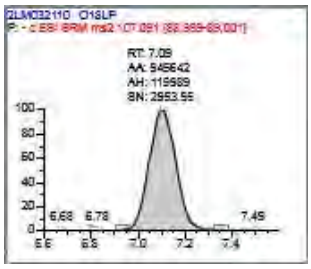
Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

Sample Report

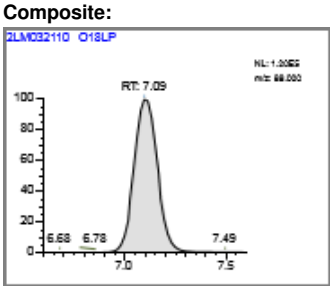
Data File:	2LM032110	Tune Report Date:	Tune report not found
Method:	111221_Perchlorate 6850 Perchlorate 6850	Acquisition Date:	11/12/2021 12:26:58 PM
		Cali File Date:	11/12/2021 10:44:10 AM
Cali File:	111121T2_111221.calx	Operator ID:	CAS
Sample ID:	S1K0230-CCB2	Instrument ID:	LCMS2
Diln Factor:	1.00	Vial Number:	R:A1
Comments:	1:01		



m/z 89.000



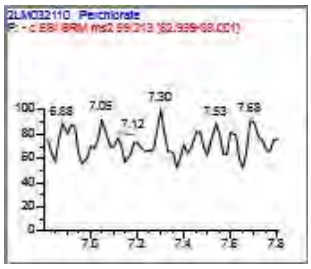
Composite:



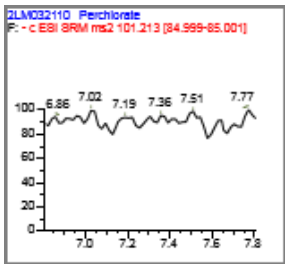
O18LP

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
7.09	m/z 89.000	945642	5.000		N/A

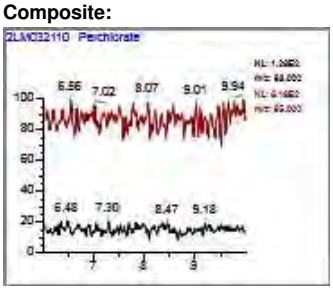
m/z 83.000



m/z 85.000



Composite:



Perchlorate

RT (min)	Ion	Response	Amount	Target Range	Ratio
			N/A		
			Compound Not Found		
0.00	m/z 83.000		N/A		
	m/z 85.000				

Flag Legend: LOD<J<LOQ;I=Ion Ratio Failure; C=Carryover; ?=Upper Limit Of Linearity; D=Limit Of Detection; Q=Limit Of Quantitation; POS=Limit Of Reporting; b=Blank; s=Solvent flag; est=Estimated; Bordered cell = Manually integrated.

CHAIN OF CUSTODY

Name Of Lab Shipping To: Microbac 158 Starlite Drive Marietta, OH, 45750 (304) 299-4976 Cell (740)-373-4071 Office ATTN: Stephanie Mossburg

Project: APTIM LONGHORN ARMY AMMN. PLANT (LHAAP) GROUNDWATER TREATMENT PLANT (GWTP) KARNACK, TEXAS	Project No. 501032
Job: **LHAAP 16 October 2021**	
Prepared By: Scott Beesinger	P.O. Number

Field Sample I.D.	Sample Matrix	Date / Time	MS / MSD	No. OF CONTAINERS	Analyses: Perchlorate by SW6850	Remarks (Preservatives, etc.)	Lab I.D.#
16WW44-211025	WG	10/25/21 0735		1	X		
16WW37-211025	WG	10/25/21 0820		1	X		
16WW38-211025	WG	10/25/21 0905		1	X		
16WW~~18~~-211025	WG	10/25/21 0950		1	X		
16RW06-211025	WG	10/25/21 1030		1	X		
16RW07-211025	WG	10/25/21 1110		1	X		
16WW39-211025	WG	10/25/21 1155		1	X		
16PM02-211025	WG	10/25/21 1240		1	X		

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

Relinquished By:	Date	Time	Received By:	Date	Time	Relinquished By:	Date	Time	Received By:	Date	Time
[signature]	10/26/21	1430							Brenda Gregory	10/27/21	1025

For Lab Use Only

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

Remarks:

M 1 J 1 5 1 6

APTIM Tennessee
Rec'd: 10/27/2021 10:25
By: Brenda Gregory
Temp: 0.7 (Signature)

CHAIN OF CUSTODY

Name Of Lab Shipping To: Microbac 158 Starlite Drive Marietta, OH. 45750 (304) 299-4976 Cell (740)-373-4071 Office ATTN: Stephanie Mossburg

Project: APTIM LONGHORN ARMY AMMN. PLANT (LHAAP) GROUNDWATER TREATMENT PLANT (GWTP) KARNACK, TEXAS	Project No. 501032
Job: **LHAAP 16 October 2021**	
Prepared By: Scott Beesinger	P.O. Number

Field Sample I.D.	Sample Matrix	Date / Time	MS / MSD	No. OF CONTAINERS	Analyses: Perchlorate by SW6850	Remarks (Preservatives, etc.)	Lab I.D.#
16PM03-211025	WG	10/25/21/1320		1	X		
16PM03-211025-FD	WG	10/25/21/1320		1	X		
16RW09-211026	WG	10/26/21/0840		1	X		
16RW10-211026	WG	10/26/21/0840		1	X		
16RW01-211026	WG	10/26/21/0925		1	X		
16NW13-211026	WG	10/26/21/1005		1	X		
16WW42-211026	WG	10/26/21/1045		1	X		
16PM09-211026	WG	10/26/21/1130		1	X		

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

Relinquished By:	Date	Time	Received By:	Date	Time	Relinquished By:	Date	Time	Received By:	Date	Time
Scott Beesinger	10/26/21	1430							Brenda Gregory	10/27/21	1025

For Lab Use Only

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

Remarks:

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

CHAIN OF CUSTODY

Name Of Lab Shipping To: Microbac 158 Starlite Drive Marietta, OH. 45750 (304) 299-4976 Cell (740)-373-4071 Office ATTN: Stephanie Mossburg

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

Project No. 501032

Job: **LHAAP 16 October 2021**

Prepared By: Scott Beesinger

P.O. Number

Field Sample I.D. Time	Sample Matrix	Date /	MS / MSD	No. OF CONTAINERS	Analyses: Perchlorate by SW6850										Remarks (Preservatives, etc.)	Lab I.D.#
16PM06-211026	WG	10/26/21/1210		1	X											
16PM14-211026	WG	10/26/21/1250		1	X											

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

Relinquished By:	Date	Time	Received By:	Date	Time	Relinquished By:	Date	Time	Received By:	Date	Time
Scott Beesinger	10/26/21	1430							Brenda Gregory	10/27/21	1025

For Lab Use Only

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

Remarks:

MICROBAC®

Work Order # M151516

COOLER TEMP >6° C LOG

SAMPLE ID	Bottle 1 °C	Bottle 2 °C	Bottle 3 °C	Bottle 4 °C	Bottle 5 °C	Bottle 6 °C

10/27/2021 SM

pH Lot # HC157543 pH Exceptions

SAMPLE ID	Bottle 1	Bottle 2	Bottle 3	Bottle 4	Bottle 5	Bottle 6

10/27/2021 SM

PRESERVATIVE EXCEPTIONS

✓ NONE

AS NOTED

10/27/2021 SM

Document Control # 1957
Last 04-10-2019

Issued to: Document Master File

10515 Research Drive
Knoxville, TN 37932
Phone: (865) 573-8188
Fax: (865) 573-8133

Client:	Vicki Graves APTIM 2410 Cherahala Blvd Knoxville, TN 37932 US	**Phone:**	865-560-7818 **Fax:**

Identifier: 019TA **Date Rec:** 01/12/2022 **Report Date:** 01/20/2022

Client Project #: 501032 **Client Project Name:** LHAAP 16 January 2022

Purchase Order #: 204818

Test results provided for: CENSUS

Reviewed By:

NOTICE: This report is intended only for the addressee shown above and may contain confidential or privileged information. If the recipient of this material is not the intended recipient or if you have received this in error, please notify Microbial Insights, Inc. immediately. The data and other information in this report represent only the sample(s) analyzed and are rendered upon condition that it is not to be reproduced without approval from Microbial Insights, Inc. Thank you for your cooperation.

Results relate only to the items tested and the sample(s) as received by the laboratory.

MICROBIAL INSIGHTS, INC.

10515 Research Dr., Knoxville, TN 37932
Tel. (865) 573-8188 Fax. (865) 573-8133

CENSUS

Client: **APTIM**
Project: LHAAP 16 January 2022

MI Project Number: **019TA**
Date Received: 01/12/2022

Sample Information

Client Sample ID:		**16WW16-220111**	**16WW35-220111**	**16WW36-220111**	**16WW22-220111**	**16WW56-220111**
Sample Date:		01/11/2022	01/11/2022	01/11/2022	01/11/2022	01/11/2022
Units:		cells/mL	cells/mL	cells/mL	cells/mL	cells/mL
Analyst/Reviewer:		BB	BB	BB	BB	BB
Dechlorinating Bacteria						
Dehalococcoides	*DHC*	**4.00E-01 (J)**	**5.92E+01**	**1.20E+03**	**3.80E+01**	**1.60E+00**

Legend:
NA = Not Analyzed NS = Not Sampled J = Estimated gene copies below PQL but above LQL I = Inhibited
< = Result not detected

MICROBIAL INSIGHTS, INC.

10515 Research Dr., Knoxville, TN 37932
Tel. (865) 573-8188 Fax. (865) 573-8133

CENSUS

Client: **APTIM**
Project: LHAAP 16 January 2022

MI Project Number: **019TA**
Date Received: 01/12/2022

Sample Information

Client Sample ID:		**16WW25-220112**	**16WW26-220112**	**16WW29-220112**	**16WW55-220112**	**16WW58-220113**
Sample Date:		01/12/2022	01/12/2022	01/12/2022	01/12/2022	01/13/2022
Units:		cells/mL	cells/mL	cells/mL	cells/mL	cells/mL
Analyst/Reviewer:		BB	BB	BB	BB	BB
Dechlorinating Bacteria						
Dehalococcoides	*DHC*	**3.20E+00**	**3.57E+01**	**4.38E+01**	<5.00E-01	**2.16E+01**

Legend:
NA = Not Analyzed NS = Not Sampled J = Estimated gene copies below PQL but above LQL I = Inhibited
< = Result not detected

MICROBIAL INSIGHTS, INC.

10515 Research Dr., Knoxville, TN 37932
Tel. (865) 573-8188 Fax. (865) 573-8133

CENSUS

Client: **APTIM**
Project: LHAAP 16 January 2022

MI Project Number: **019TA**
Date Received: 01/12/2022

Sample Information

Client Sample ID:		**16WW57-220113**	**16WW41-220113**	**16WW48-220113**
Sample Date:		01/13/2022	01/13/2022	01/13/2022
Units:		cells/mL	cells/mL	cells/mL
Analyst/Reviewer:		BB	BB	BB
Dechlorinating Bacteria				
Dehalococcoides	*DHC*	**9.90E+00**	**5.00E-01 (J)**	**5.63E+02**

Legend:
NA = Not Analyzed NS = Not Sampled J = Estimated gene copies below PQL but above LQL I = Inhibited
< = Result not detected

Quality Assurance/Quality Control Data

Samples Received **1/12/2022**

Component	Date Prepared	Date Analyzed	Arrival Temperature	Positive Control	Extraction Blank	Negative Control
DHC	01/12/2022	01/20/2022	0 °C	111%	non-detect	non-detect

Samples Received **1/13/2022**

Component	Date Prepared	Date Analyzed	Arrival Temperature	Positive Control	Extraction Blank	Negative Control
DHC	01/13/2022	01/20/2022	3 °C	111%	non-detect	non-detect

Samples Received **1/14/2022**

Component	Date Prepared	Date Analyzed	Arrival Temperature	Positive Control	Extraction Blank	Negative Control
DHC	01/14/2022	01/20/2022	0 °C	112%	non-detect	non-detect

SGS

Orlando, FL

01/25/22

The results set forth herein are provided by SGS North America Inc.

e-Hardcopy 2.0
Automated Report



Technical Report for

APTIM

Longhorn Army Ammunition Plant (GWTP); Karnack, TX

501032

SGS Job Number: FA92372

Sampling Dates: 01/10/22 - 01/13/22

Report to:

APTIM
11400 Parkside Dr Suite 400
Knoxville, TN 37934
vicki.graves@aptim.com

ATTN: Vicki Graves

Total number of pages in report: 253

NELAP ACCREDITED TNI LABORATORY

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Norm Farmer
Technical Director

Client Service contact: Kelly Blanchard 407-425-6700

Certifications: FL(E83510), LA(03051), KS(E-10327), NC(573), NJ(FL002), NY(12022), SC(96038001) DoD ELAP(ANAB L2229), AZ(AZ0806), CA(2937), TX(T104704404), PA(68-03573), VA(460177), AL, AK, AR, CT, IA, KY, MA, MI. MS, ND, NH, NV, OK, OR, IL, UT, VT, WA, WI, WV

This report shall not be reproduced, except in its entirety, without the written approval of SGS.
Test results relate only to samples analyzed.

SGS is the sole authority for authorizing edits or modifications to this document.
Unauthorized modification of this report is strictly prohibited.
Review standard terms at: http://www.sgs.com/en/terms-and-conditions

Please share your ideas about
how we can serve you better at:
EHS.US.CustomerCare@sgs.com

Table of Contents

Section 1: Sample Summary 4
Section 2: Case Narrative/Conformance Summary 7
Section 3: Summary of Hits 8
Section 4: Sample Results 12
4.1: FA92372-1: 16WW44-220110 13
4.2: FA92372-2: 16WW37-220110 14
4.3: FA92372-3: 16WW38-220110 15
4.4: FA92372-4: 16WW14-220110 16
4.5: FA92372-5: 16WW34-220110 17
4.6: FA92372-6: 16WW34-220110-FD 18
4.7: FA92372-7: 16WW33-220110 19
4.8: FA92372-8: 16WW32-220110 20
4.9: FA92372-9: 16WW16-220111 21
4.10: FA92372-10: 16WW35-220111 22
4.11: FA92372-11: 16WW36-220111 23
4.12: FA92372-12: 16WW22-220111 24
4.13: FA92372-13: 16WW56-220111 25
4.14: FA92372-14: 16WW46-220111 26
4.15: FA92372-15: 16WW31-220111 27
4.16: FA92372-16: 16WW39-220111 28
4.17: FA92372-17: 16WW25-220112 29
4.18: FA92372-18: 16WW25-220112-FD 30
4.19: FA92372-19: 16WW26-220112 31
4.20: FA92372-20: 16WW26-220112-FD 32
4.21: FA92372-21: 16WW30-220112 33
4.22: FA92372-22: 16WW29-220112 34
4.23: FA92372-23: 16WW55-220112 35
4.24: FA92372-24: 16EW02-220112 36
4.25: FA92372-25: 16EW08-220112 37
4.26: FA92372-26: 16EW04-220112 38
4.27: FA92372-27: 16WW58-220113 39
4.28: FA92372-28: 16WW57-220113 40
4.29: FA92372-29: 16WW41-220113 41
4.30: FA92372-30: 16WW21-220113 42
4.31: FA92372-31: 16WW49-220113 43
4.32: FA92372-32: 16WW48-220113 44
4.33: FA92372-33: 16WW51-220113 45
4.34: FA92372-34: 16EW01-220113 46
Section 5: Misc. Forms 47
5.1: Chain of Custody 48
5.2: QC Evaluation: DOD QSM5.x Limits 54
Section 6: MS Semi-volatiles - QC Data Summaries 55

Table of Contents

6.1: Method Blank Summary 56
6.2: Blank Spike Summary 60
6.3: Matrix Spike/Matrix Spike Duplicate Summary 62
6.4: Internal Standard Area Summaries 65
6.5: Initial and Continuing Calibration Summaries 72
6.6: Run Sequence Reports 90
Section 7: MS Semi-volatiles - Raw Data 94
7.1: Samples 95
7.2: Method Blanks 171
7.3: Blank Spikes 179
7.4: Matrix Spike/Matrix Spike Duplicates 183
7.5: Initial and Continuing Calibrations 196
7.6: Instrument Run Logs 248
7.7: Prep Logs 252

SGS North America Inc.

Sample Summary

APTIM

Job No: FA92372

Longhorn Army Ammunition Plant (GWTP); Karnack, TX
Project No: 501032

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
FA92372-1	01/10/22	07:30	SB	01/14/22	AQ	Ground Water	16WW44-220110
FA92372-2	01/10/22	08:20	SB	01/14/22	AQ	Ground Water	16WW37-220110
FA92372-3	01/10/22	09:00	SB	01/14/22	AQ	Ground Water	16WW38-220110
FA92372-4	01/10/22	09:50	SB	01/14/22	AQ	Ground Water	16WW14-220110
FA92372-5	01/10/22	11:25	SB	01/14/22	AQ	Ground Water	16WW34-220110
FA92372-6	01/10/22	11:25	SB	01/14/22	AQ	Ground Water	16WW34-220110-FD
FA92372-7	01/10/22	12:05	SB	01/14/22	AQ	Ground Water	16WW33-220110
FA92372-8	01/10/22	12:45	SB	01/14/22	AQ	Ground Water	16WW32-220110
FA92372-9	01/11/22	07:30	SB	01/14/22	AQ	Ground Water	16WW16-220111
FA92372-10	01/11/22	08:20	SB	01/14/22	AQ	Ground Water	16WW35-220111
FA92372-11	01/11/22	09:05	SB	01/14/22	AQ	Ground Water	16WW36-220111
FA92372-12	01/11/22	10:00	SB	01/14/22	AQ	Ground Water	16WW22-220111
FA92372-13	01/11/22	10:45	SB	01/14/22	AQ	Ground Water	16WW56-220111

SGS North America Inc.

Sample Summary
(continued)

APTIM

Job No: FA92372

Longhorn Army Ammunition Plant (GWTP); Karnack, TX
Project No: 501032

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
FA92372-14	01/11/22	11:30	SB	01/14/22	AQ	Ground Water	16WW46-220111
FA92372-15	01/11/22	12:10	SB	01/14/22	AQ	Ground Water	16WW31-220111
FA92372-16	01/11/22	12:50	SB	01/14/22	AQ	Ground Water	16WW39-220111
FA92372-17	01/12/22	07:35	SB	01/14/22	AQ	Ground Water	16WW25-220112
FA92372-18	01/12/22	07:35	SB	01/14/22	AQ	Ground Water	16WW25-220112-FD
FA92372-19	01/12/22	08:25	SB	01/14/22	AQ	Ground Water	16WW26-220112
FA92372-20	01/12/22	08:25	SB	01/14/22	AQ	Ground Water	16WW26-220112-FD
FA92372-21	01/12/22	09:15	SB	01/14/22	AQ	Ground Water	16WW30-220112
FA92372-21D	01/12/22	09:15	SB	01/14/22	AQ	Water Dup/MSD	16WW30-220112
FA92372-21S	01/12/22	09:15	SB	01/14/22	AQ	Water Matrix Spike	16WW30-220112
FA92372-22	01/12/22	10:00	SB	01/14/22	AQ	Ground Water	16WW29-220112
FA92372-23	01/12/22	10:50	SB	01/14/22	AQ	Ground Water	16WW55-220112
FA92372-24	01/12/22	11:40	SB	01/14/22	AQ	Ground Water	16EW02-220112

SGS North America Inc.

Sample Summary
(continued)

APTIM

Job No: FA92372

Longhorn Army Ammunition Plant (GWTP); Karnack, TX
Project No: 501032

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
FA92372-25	01/12/22	12:30	SB	01/14/22	AQ	Ground Water	16EW08-220112
FA92372-26	01/12/22	13:10	SB	01/14/22	AQ	Ground Water	16EW04-220112
FA92372-27	01/13/22	07:50	SB	01/14/22	AQ	Ground Water	16WW58-220113
FA92372-28	01/13/22	08:40	SB	01/14/22	AQ	Ground Water	16WW57-220113
FA92372-28D	01/13/22	08:40	SB	01/14/22	AQ	Water Dup/MSD	16WW57-220113
FA92372-28S	01/13/22	08:40	SB	01/14/22	AQ	Water Matrix Spike	16WW57-220113
FA92372-29	01/13/22	09:45	SB	01/14/22	AQ	Ground Water	16WW41-220113
FA92372-30	01/13/22	10:30	SB	01/14/22	AQ	Ground Water	16WW21-220113
FA92372-31	01/13/22	11:15	SB	01/14/22	AQ	Ground Water	16WW49-220113
FA92372-32	01/13/22	11:55	SB	01/14/22	AQ	Ground Water	16WW48-220113
FA92372-33	01/13/22	12:40	SB	01/14/22	AQ	Ground Water	16WW51-220113
FA92372-34	01/13/22	13:20	SB	01/14/22	AQ	Ground Water	16EW01-220113

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: APTIM **Job No:** FA92372

Site: Longhorn Army Ammunition Plant (GWTP); Karnack, TX **Report Date:** 1/25/2022 4:21:59

On 01/14/2022, 34 Sample(s), 0 Trip Blank(s) and 0 Field Blank(s) were received at SGS North America Inc - Orlando. at a maximum corrected temperature of 3.8 C. Samples were intact and chemically preserved, unless noted below. A SGS North America Inc. - Orlando Job Number of FA92372 was assigned to the project.

Laboratory sample ID, client sample ID and dates of sample collection are detailed in the report's Results Summary Section. Specified quality control criteria were achieved for this job except as noted below. For more information, please refer to the analytical results and QC summary pages.

MS Semi-volatiles By Method SW846 6850

Matrix: AQ **Batch ID:** OP89327

Sample(s) FA92372-21MS, FA92372-21MSD, FA92372-28MS, FA92372-28MSD were used as the QC samples.

Matrix: AQ **Batch ID:** OP89328

Sample(s) FA92339-5MS, FA92339-5MSD were used as the QC samples indicated.

SGS North America Inc. - Orlando certifies that data reported for samples received, listed on the associated custody chain or analytical task order, were produced to specifications meeting the Quality System precision, accuracy and completeness objectives except as noted. Estimated non-standard method measurement uncertainty data is available on request, based on quality control bias and implicit for standard methods. Acceptable uncertainty requires tested parameter quality control data to meet method criteria. SGS North America Inc.- Orlando is not responsible for data quality assumptions if partial reports are used and recommends that this report be used in its entirety.

Narrative prepared by:

_____

Kim Benham, Client Services *(Signature on File)*

Summary of Hits

Job Number: FA92372
Account: APTIM
Project: Longhorn Army Ammunition Plant (GWTP); Karnack, TX
Collected: 01/10/22 thru 01/13/22

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	LOQ	LOD	Units	Method
FA92372-1	**16WW44-220110**					
Perchlorate		3.2	0.20	0.10	ug/l	SW846 6850
FA92372-2	**16WW37-220110**					
Perchlorate		55.3	2.0	1.0	ug/l	SW846 6850
FA92372-3	**16WW38-220110**					
Perchlorate		0.17 J	0.20	0.10	ug/l	SW846 6850
FA92372-4	**16WW14-220110**					
Perchlorate		0.21	0.20	0.10	ug/l	SW846 6850
FA92372-5	**16WW34-220110**					
Perchlorate		0.14 J	0.20	0.10	ug/l	SW846 6850
FA92372-6	**16WW34-220110-FD**					
Perchlorate		0.13 J	0.20	0.10	ug/l	SW846 6850
FA92372-7	**16WW33-220110**					
Perchlorate		0.12 J	0.20	0.10	ug/l	SW846 6850
FA92372-8	**16WW32-220110**					
Perchlorate		0.089 J	0.20	0.10	ug/l	SW846 6850
FA92372-9	**16WW16-220111**					
Perchlorate		561	20	10	ug/l	SW846 6850
FA92372-10	**16WW35-220111**					
Perchlorate		342	20	10	ug/l	SW846 6850
FA92372-11	**16WW36-220111**					
Perchlorate		0.098 J	0.20	0.10	ug/l	SW846 6850

Summary of Hits

Job Number: FA92372
Account: APTIM
Project: Longhorn Army Ammunition Plant (GWTP); Karnack, TX
Collected: 01/10/22 thru 01/13/22

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	LOQ	LOD	Units	Method
FA92372-12	**16WW22-220111**					
Perchlorate		0.40	0.20	0.10	ug/l	SW846 6850
FA92372-13	**16WW56-220111**					
Perchlorate		0.13 J	0.20	0.10	ug/l	SW846 6850
FA92372-14	**16WW46-220111**					
Perchlorate		0.098 J	0.20	0.10	ug/l	SW846 6850
FA92372-15	**16WW31-220111**					
No hits reported in this sample.						
FA92372-16	**16WW39-220111**					
Perchlorate		4.0	0.20	0.10	ug/l	SW846 6850
FA92372-17	**16WW25-220112**					
No hits reported in this sample.						
FA92372-18	**16WW25-220112-FD**					
No hits reported in this sample.						
FA92372-19	**16WW26-220112**					
No hits reported in this sample.						
FA92372-20	**16WW26-220112-FD**					
No hits reported in this sample.						
FA92372-21	**16WW30-220112**					
No hits reported in this sample.						
FA92372-22	**16WW29-220112**					
No hits reported in this sample.						

Summary of Hits

Job Number: FA92372
Account: APTIM
Project: Longhorn Army Ammunition Plant (GWTP); Karnack, TX
Collected: 01/10/22 thru 01/13/22

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	LOQ	LOD	Units	Method
FA92372-23	**16WW55-220112**					
Perchlorate		297	20	10	ug/l	SW846 6850
FA92372-24	**16EW02-220112**					
Perchlorate		1.6	0.20	0.10	ug/l	SW846 6850
FA92372-25	**16EW08-220112**					
No hits reported in this sample.						
FA92372-26	**16EW04-220112**					
No hits reported in this sample.						
FA92372-27	**16WW58-220113**					
No hits reported in this sample.						
FA92372-28	**16WW57-220113**					
Perchlorate		0.099 J	0.20	0.10	ug/l	SW846 6850
FA92372-29	**16WW41-220113**					
Perchlorate		59.1	2.0	1.0	ug/l	SW846 6850
FA92372-30	**16WW21-220113**					
No hits reported in this sample.						
FA92372-31	**16WW49-220113**					
No hits reported in this sample.						
FA92372-32	**16WW48-220113**					
Perchlorate		14.8	0.20	0.10	ug/l	SW846 6850
FA92372-33	**16WW51-220113**					
No hits reported in this sample.						

Summary of Hits

Job Number: FA92372
Account: APTIM
Project: Longhorn Army Ammunition Plant (GWTP); Karnack, TX
Collected: 01/10/22 thru 01/13/22

Lab Sample ID Analyte	Client Sample ID	Result/ Qual	LOQ	LOD	Units	Method
FA92372-34	**16EW01-220113**					
Perchlorate		61.0	2.0	1.0	ug/l	SW846 6850

Sample Results

Report of Analysis

SGS North America Inc.

Report of Analysis

Client Sample ID:	16WW44-220110		
Lab Sample ID:	FA92372-1	**Date Sampled:**	01/10/22
Matrix:	AQ - Ground Water	**Date Received:**	01/14/22
Method:	SW846 6850 IN HOUSE	**Percent Solids:**	n/a
Project:	Longhorn Army Ammunition Plant (GWTP); Karnack, TX		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q88454.D	1	01/21/22 10:52	NG	01/20/22 07:50	OP89328	SQ1916
Run #2							

	Initial Volume	Final Volume
Run #1	10.0 ml	10.0 ml
Run #2		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
14797-73-0	Perchlorate	3.2	0.20	0.10	0.050	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value

LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID: 16WW37-220110
Lab Sample ID: FA92372-2 **Date Sampled:** 01/10/22
Matrix: AQ - Ground Water **Date Received:** 01/14/22
Method: SW846 6850 IN HOUSE **Percent Solids:** n/a
Project: Longhorn Army Ammunition Plant (GWTP); Karnack, TX

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q88515.D	10	01/24/22 11:08	NG	01/20/22 07:50	OP89328	SQ1917
Run #2							

	Initial Volume	Final Volume
Run #1	10.0 ml	10.0 ml
Run #2		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
14797-73-0	Perchlorate	55.3	2.0	1.0	0.50	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	16WW38-220110		
Lab Sample ID:	FA92372-3	**Date Sampled:**	01/10/22
Matrix:	AQ - Ground Water	**Date Received:**	01/14/22
Method:	SW846 6850 IN HOUSE	**Percent Solids:**	n/a
Project:	Longhorn Army Ammunition Plant (GWTP); Karnack, TX		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q88516.D	1	01/24/22 11:17	NG	01/20/22 07:50	OP89328	SQ1917
Run #2							

	Initial Volume	Final Volume
Run #1	10.0 ml	10.0 ml
Run #2		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
14797-73-0	Perchlorate	0.17	0.20	0.10	0.050	ug/l	J

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	16WW14-220110		
Lab Sample ID:	FA92372-4	**Date Sampled:**	01/10/22
Matrix:	AQ - Ground Water	**Date Received:**	01/14/22
Method:	SW846 6850 IN HOUSE	**Percent Solids:**	n/a
Project:	Longhorn Army Ammunition Plant (GWTP); Karnack, TX		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q88457.D	1	01/21/22 11:17	NG	01/20/22 07:50	OP89328	SQ1916
Run #2							

	Initial Volume	Final Volume
Run #1	10.0 ml	10.0 ml
Run #2		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
14797-73-0	Perchlorate	0.21	0.20	0.10	0.050	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID: 16WW34-220110
Lab Sample ID: FA92372-5 **Date Sampled:** 01/10/22
Matrix: AQ - Ground Water **Date Received:** 01/14/22
Method: SW846 6850 IN HOUSE **Percent Solids:** n/a
Project: Longhorn Army Ammunition Plant (GWTP); Karnack, TX

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q88461.D	1	01/21/22 11:51	NG	01/20/22 07:50	OP89328	SQ1916
Run #2							

	Initial Volume	Final Volume
Run #1	10.0 ml	10.0 ml
Run #2		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
14797-73-0	Perchlorate	0.14	0.20	0.10	0.050	ug/l	J

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID: 16WW34-220110-FD
Lab Sample ID: FA92372-6 **Date Sampled:** 01/10/22
Matrix: AQ - Ground Water **Date Received:** 01/14/22
Method: SW846 6850 IN HOUSE **Percent Solids:** n/a
Project: Longhorn Army Ammunition Plant (GWTP); Karnack, TX

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q88462.D	1	01/21/22 11:59	NG	01/20/22 07:50	OP89328	SQ1916
Run #2							

	Initial Volume	Final Volume
Run #1	10.0 ml	10.0 ml
Run #2		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
14797-73-0	Perchlorate	0.13	0.20	0.10	0.050	ug/l	J

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	16WW33-220110		
Lab Sample ID:	FA92372-7	**Date Sampled:**	01/10/22
Matrix:	AQ - Ground Water	**Date Received:**	01/14/22
Method:	SW846 6850 IN HOUSE	**Percent Solids:**	n/a
Project:	Longhorn Army Ammunition Plant (GWTP); Karnack, TX		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q88463.D	1	01/21/22 12:08	NG	01/20/22 07:50	OP89328	SQ1916
Run #2							

	Initial Volume	Final Volume
Run #1	10.0 ml	10.0 ml
Run #2		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
14797-73-0	Perchlorate	0.12	0.20	0.10	0.050	ug/l	J

U = Not detected LOD = Limit of Detection J = Indicates an estimated value

LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID: 16WW32-220110
Lab Sample ID: FA92372-8 **Date Sampled:** 01/10/22
Matrix: AQ - Ground Water **Date Received:** 01/14/22
Method: SW846 6850 IN HOUSE **Percent Solids:** n/a
Project: Longhorn Army Ammunition Plant (GWTP); Karnack, TX

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q88464.D	1	01/21/22 12:16	NG	01/20/22 07:50	OP89328	SQ1916
Run #2							

	Initial Volume	Final Volume
Run #1	10.0 ml	10.0 ml
Run #2		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
14797-73-0	Perchlorate	0.089	0.20	0.10	0.050	ug/l	J

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	16WW16-220111		
Lab Sample ID:	FA92372-9	**Date Sampled:**	01/11/22
Matrix:	AQ - Ground Water	**Date Received:**	01/14/22
Method:	SW846 6850 IN HOUSE	**Percent Solids:**	n/a
Project:	Longhorn Army Ammunition Plant (GWTP); Karnack, TX		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q88518.D	100	01/24/22 11:34	NG	01/20/22 07:50	OP89328	SQ1917
Run #2							

	Initial Volume	Final Volume
Run #1	10.0 ml	10.0 ml
Run #2		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
14797-73-0	Perchlorate	561	20	10	5.0	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID: 16WW35-220111
Lab Sample ID: FA92372-10 **Date Sampled:** 01/11/22
Matrix: AQ - Ground Water **Date Received:** 01/14/22
Method: SW846 6850 IN HOUSE **Percent Solids:** n/a
Project: Longhorn Army Ammunition Plant (GWTP); Karnack, TX

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q88519.D	100	01/24/22 11:42	NG	01/20/22 07:50	OP89328	SQ1917
Run #2							

	Initial Volume	Final Volume
Run #1	10.0 ml	10.0 ml
Run #2		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
14797-73-0	Perchlorate	342	20	10	5.0	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID: 16WW36-220111
Lab Sample ID: FA92372-11 **Date Sampled:** 01/11/22
Matrix: AQ - Ground Water **Date Received:** 01/14/22
Method: SW846 6850 IN HOUSE **Percent Solids:** n/a
Project: Longhorn Army Ammunition Plant (GWTP); Karnack, TX

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q88520.D	1	01/24/22 11:50	NG	01/20/22 07:50	OP89328	SQ1917
Run #2							

	Initial Volume	Final Volume
Run #1	10.0 ml	10.0 ml
Run #2		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
14797-73-0	Perchlorate	0.098	0.20	0.10	0.050	ug/l	J

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID: 16WW22-220111
Lab Sample ID: FA92372-12 **Date Sampled:** 01/11/22
Matrix: AQ - Ground Water **Date Received:** 01/14/22
Method: SW846 6850 IN HOUSE **Percent Solids:** n/a
Project: Longhorn Army Ammunition Plant (GWTP); Karnack, TX

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q88468.D	1	01/21/22 12:50	NG	01/20/22 07:50	OP89328	SQ1916
Run #2							

	Initial Volume	Final Volume
Run #1	10.0 ml	10.0 ml
Run #2		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
14797-73-0	Perchlorate	0.40	0.20	0.10	0.050	ug/l	

U = Not detected LOD = Limit of Detection
LOQ = Limit of Quantitation DL = Detection Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID: 16WW56-220111
Lab Sample ID: FA92372-13 **Date Sampled:** 01/11/22
Matrix: AQ - Ground Water **Date Received:** 01/14/22
Method: SW846 6850 IN HOUSE **Percent Solids:** n/a
Project: Longhorn Army Ammunition Plant (GWTP); Karnack, TX

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q88469.D	1	01/21/22 12:58	NG	01/20/22 07:50	OP89328	SQ1916
Run #2							

	Initial Volume	Final Volume
Run #1	10.0 ml	10.0 ml
Run #2		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
14797-73-0	Perchlorate	0.13	0.20	0.10	0.050	ug/l	J

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID: 16WW46-220111
Lab Sample ID: FA92372-14 **Date Sampled:** 01/11/22
Matrix: AQ - Ground Water **Date Received:** 01/14/22
Method: SW846 6850 IN HOUSE **Percent Solids:** n/a
Project: Longhorn Army Ammunition Plant (GWTP); Karnack, TX

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q88470.D	1	01/21/22 13:07	NG	01/20/22 07:50	OP89328	SQ1916
Run #2							

	Initial Volume	Final Volume
Run #1	10.0 ml	10.0 ml
Run #2		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
14797-73-0	Perchlorate	0.098	0.20	0.10	0.050	ug/l	J

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID: 16WW31-220111
Lab Sample ID: FA92372-15 **Date Sampled:** 01/11/22
Matrix: AQ - Ground Water **Date Received:** 01/14/22
Method: SW846 6850 IN HOUSE **Percent Solids:** n/a
Project: Longhorn Army Ammunition Plant (GWTP); Karnack, TX

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q88474.D	1	01/21/22 13:40	NG	01/20/22 07:50	OP89328	SQ1916
Run #2							

	Initial Volume	Final Volume
Run #1	10.0 ml	10.0 ml
Run #2		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
14797-73-0	Perchlorate	0.10 U	0.20	0.10	0.050	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID: 16WW39-220111
Lab Sample ID: FA92372-16 **Date Sampled:** 01/11/22
Matrix: AQ - Ground Water **Date Received:** 01/14/22
Method: SW846 6850 IN HOUSE **Percent Solids:** n/a
Project: Longhorn Army Ammunition Plant (GWTP); Karnack, TX

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q88475.D	1	01/21/22 13:49	NG	01/20/22 07:50	OP89328	SQ1916
Run #2							

	Initial Volume	Final Volume
Run #1	10.0 ml	10.0 ml
Run #2		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
14797-73-0	Perchlorate	4.0	0.20	0.10	0.050	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID: 16WW25-220112
Lab Sample ID: FA92372-17 **Date Sampled:** 01/12/22
Matrix: AQ - Ground Water **Date Received:** 01/14/22
Method: SW846 6850 IN HOUSE **Percent Solids:** n/a
Project: Longhorn Army Ammunition Plant (GWTP); Karnack, TX

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q88476.D	1	01/21/22 13:57	NG	01/20/22 07:50	OP89328	SQ1916
Run #2							

	Initial Volume	Final Volume
Run #1	10.0 ml	10.0 ml
Run #2		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
14797-73-0	Perchlorate	0.10 U	0.20	0.10	0.050	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID: 16WW25-220112-FD
Lab Sample ID: FA92372-18 **Date Sampled:** 01/12/22
Matrix: AQ - Ground Water **Date Received:** 01/14/22
Method: SW846 6850 IN HOUSE **Percent Solids:** n/a
Project: Longhorn Army Ammunition Plant (GWTP); Karnack, TX

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q88477.D	1	01/21/22 14:05	NG	01/20/22 07:50	OP89328	SQ1916
Run #2							

	Initial Volume	Final Volume
Run #1	10.0 ml	10.0 ml
Run #2		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
14797-73-0	Perchlorate	0.10 U	0.20	0.10	0.050	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID: 16WW26-220112
Lab Sample ID: FA92372-19 **Date Sampled:** 01/12/22
Matrix: AQ - Ground Water **Date Received:** 01/14/22
Method: SW846 6850 IN HOUSE **Percent Solids:** n/a
Project: Longhorn Army Ammunition Plant (GWTP); Karnack, TX

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q88480.D	1	01/21/22 14:31	NG	01/20/22 07:50	OP89327	SQ1916
Run #2							

	Initial Volume	Final Volume
Run #1	10.0 ml	10.0 ml
Run #2		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
14797-73-0	Perchlorate	0.10 U	0.20	0.10	0.050	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	16WW26-220112-FD		
Lab Sample ID:	FA92372-20	**Date Sampled:**	01/12/22
Matrix:	AQ - Ground Water	**Date Received:**	01/14/22
Method:	SW846 6850 IN HOUSE	**Percent Solids:**	n/a
Project:	Longhorn Army Ammunition Plant (GWTP); Karnack, TX		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q88481.D	1	01/21/22 14:39	NG	01/20/22 07:50	OP89327	SQ1916
Run #2							

	Initial Volume	Final Volume
Run #1	10.0 ml	10.0 ml
Run #2		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
14797-73-0	Perchlorate	0.10 U	0.20	0.10	0.050	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value

LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID: 16WW30-220112
Lab Sample ID: FA92372-21 **Date Sampled:** 01/12/22
Matrix: AQ - Ground Water **Date Received:** 01/14/22
Method: SW846 6850 IN HOUSE **Percent Solids:** n/a
Project: Longhorn Army Ammunition Plant (GWTP); Karnack, TX

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q88485.D	1	01/21/22 15:13	NG	01/20/22 07:50	OP89327	SQ1916
Run #2							

	Initial Volume	Final Volume
Run #1	10.0 ml	10.0 ml
Run #2		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
14797-73-0	Perchlorate	0.10 U	0.20	0.10	0.050	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID: 16WW29-220112
Lab Sample ID: FA92372-22 **Date Sampled:** 01/12/22
Matrix: AQ - Ground Water **Date Received:** 01/14/22
Method: SW846 6850 IN HOUSE **Percent Solids:** n/a
Project: Longhorn Army Ammunition Plant (GWTP); Karnack, TX

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q88488.D	1	01/21/22 15:38	NG	01/20/22 07:50	OP89327	SQ1916
Run #2							

	Initial Volume	Final Volume
Run #1	10.0 ml	10.0 ml
Run #2		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
14797-73-0	Perchlorate	0.10 U	0.20	0.10	0.050	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	16WW55-220112		
Lab Sample ID:	FA92372-23	**Date Sampled:**	01/12/22
Matrix:	AQ - Ground Water	**Date Received:**	01/14/22
Method:	SW846 6850 IN HOUSE	**Percent Solids:**	n/a
Project:	Longhorn Army Ammunition Plant (GWTP); Karnack, TX		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q88524.D	100	01/24/22 12:24	NG	01/20/22 07:50	OP89327	SQ1917
Run #2							

	Initial Volume	Final Volume
Run #1	10.0 ml	10.0 ml
Run #2		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
14797-73-0	Perchlorate	297	20	10	5.0	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value

LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID: 16EW02-220112
Lab Sample ID: FA92372-24 **Date Sampled:** 01/12/22
Matrix: AQ - Ground Water **Date Received:** 01/14/22
Method: SW846 6850 IN HOUSE **Percent Solids:** n/a
Project: Longhorn Army Ammunition Plant (GWTP); Karnack, TX

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q88525.D	1	01/24/22 12:32	NG	01/20/22 07:50	OP89327	SQ1917
Run #2							

	Initial Volume	Final Volume
Run #1	10.0 ml	10.0 ml
Run #2		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
14797-73-0	Perchlorate	1.6	0.20	0.10	0.050	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID: 16EW08-220112
Lab Sample ID: FA92372-25 **Date Sampled:** 01/12/22
Matrix: AQ - Ground Water **Date Received:** 01/14/22
Method: SW846 6850 IN HOUSE **Percent Solids:** n/a
Project: Longhorn Army Ammunition Plant (GWTP); Karnack, TX

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q88526.D	1	01/24/22 12:41	NG	01/20/22 07:50	OP89327	SQ1917
Run #2							

	Initial Volume	Final Volume
Run #1	10.0 ml	10.0 ml
Run #2		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
14797-73-0	Perchlorate	0.10 U	0.20	0.10	0.050	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID: 16EW04-220112
Lab Sample ID: FA92372-26 **Date Sampled:** 01/12/22
Matrix: AQ - Ground Water **Date Received:** 01/14/22
Method: SW846 6850 IN HOUSE **Percent Solids:** n/a
Project: Longhorn Army Ammunition Plant (GWTP); Karnack, TX

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q88492.D	1	01/21/22 16:11	NG	01/20/22 07:50	OP89327	SQ1916
Run #2							

	Initial Volume	Final Volume
Run #1	10.0 ml	10.0 ml
Run #2		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
14797-73-0	Perchlorate	0.10 U	0.20	0.10	0.050	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	16WW58-220113		
Lab Sample ID:	FA92372-27	**Date Sampled:**	01/13/22
Matrix:	AQ - Ground Water	**Date Received:**	01/14/22
Method:	SW846 6850 IN HOUSE	**Percent Solids:**	n/a
Project:	Longhorn Army Ammunition Plant (GWTP); Karnack, TX		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q88493.D	1	01/21/22 16:20	NG	01/20/22 07:50	OP89327	SQ1916
Run #2							

	Initial Volume	Final Volume
Run #1	10.0 ml	10.0 ml
Run #2		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
14797-73-0	Perchlorate	0.10 U	0.20	0.10	0.050	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value

LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID: 16WW57-220113
Lab Sample ID: FA92372-28 **Date Sampled:** 01/13/22
Matrix: AQ - Ground Water **Date Received:** 01/14/22
Method: SW846 6850 IN HOUSE **Percent Solids:** n/a
Project: Longhorn Army Ammunition Plant (GWTP); Karnack, TX

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q88497.D	1	01/21/22 16:54	NG	01/20/22 07:50	OP89327	SQ1916
Run #2							

	Initial Volume	Final Volume
Run #1	10.0 ml	10.0 ml
Run #2		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
14797-73-0	Perchlorate	0.099	0.20	0.10	0.050	ug/l	J

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID: 16WW41-220113
Lab Sample ID: FA92372-29 **Date Sampled:** 01/13/22
Matrix: AQ - Ground Water **Date Received:** 01/14/22
Method: SW846 6850 IN HOUSE **Percent Solids:** n/a
Project: Longhorn Army Ammunition Plant (GWTP); Karnack, TX

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q88528.D	10	01/24/22 12:58	NG	01/20/22 07:50	OP89327	SQ1917
Run #2							

	Initial Volume	Final Volume
Run #1	10.0 ml	10.0 ml
Run #2		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
14797-73-0	Perchlorate	59.1	2.0	1.0	0.50	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID: 16WW21-220113
Lab Sample ID: FA92372-30 **Date Sampled:** 01/13/22
Matrix: AQ - Ground Water **Date Received:** 01/14/22
Method: SW846 6850 IN HOUSE **Percent Solids:** n/a
Project: Longhorn Army Ammunition Plant (GWTP); Karnack, TX

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q88501.D	1	01/21/22 17:27	NG	01/20/22 07:50	OP89327	SQ1916
Run #2							

	Initial Volume	Final Volume
Run #1	10.0 ml	10.0 ml
Run #2		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
14797-73-0	Perchlorate	0.10 U	0.20	0.10	0.050	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID: 16WW49-220113
Lab Sample ID: FA92372-31 **Date Sampled:** 01/13/22
Matrix: AQ - Ground Water **Date Received:** 01/14/22
Method: SW846 6850 IN HOUSE **Percent Solids:** n/a
Project: Longhorn Army Ammunition Plant (GWTP); Karnack, TX

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q88502.D	1	01/21/22 17:35	NG	01/20/22 07:50	OP89327	SQ1916
Run #2							

	Initial Volume	Final Volume
Run #1	10.0 ml	10.0 ml
Run #2		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
14797-73-0	Perchlorate	0.10 U	0.20	0.10	0.050	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID: 16WW48-220113
Lab Sample ID: FA92372-32 **Date Sampled:** 01/13/22
Matrix: AQ - Ground Water **Date Received:** 01/14/22
Method: SW846 6850 IN HOUSE **Percent Solids:** n/a
Project: Longhorn Army Ammunition Plant (GWTP); Karnack, TX

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q88503.D	1	01/21/22 17:44	NG	01/20/22 07:50	OP89327	SQ1916
Run #2							

	Initial Volume	Final Volume
Run #1	10.0 ml	10.0 ml
Run #2		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
14797-73-0	Perchlorate	14.8	0.20	0.10	0.050	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	16WW51-220113		
Lab Sample ID:	FA92372-33	**Date Sampled:**	01/13/22
Matrix:	AQ - Ground Water	**Date Received:**	01/14/22
Method:	SW846 6850 IN HOUSE	**Percent Solids:**	n/a
Project:	Longhorn Army Ammunition Plant (GWTP); Karnack, TX		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q88504.D	1	01/21/22 17:52	NG	01/20/22 07:50	OP89327	SQ1916
Run #2							

	Initial Volume	Final Volume
Run #1	10.0 ml	10.0 ml
Run #2		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
14797-73-0	Perchlorate	0.10 U	0.20	0.10	0.050	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value

LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID: 16EW01-220113
Lab Sample ID: FA92372-34 **Date Sampled:** 01/13/22
Matrix: AQ - Ground Water **Date Received:** 01/14/22
Method: SW846 6850 IN HOUSE **Percent Solids:** n/a
Project: Longhorn Army Ammunition Plant (GWTP); Karnack, TX

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q88529.D	10	01/24/22 13:06	NG	01/20/22 07:50	OP89327	SQ1917
Run #2							

	Initial Volume	Final Volume
Run #1	10.0 ml	10.0 ml
Run #2		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
14797-73-0	Perchlorate	61.0	2.0	1.0	0.50	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

5

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody
- QC Evaluation: DOD QSM5.x Limits

FA92372

CHAIN OF CUSTODY

Name Of Lab Shipping To: SGS 4405 Vineland Orlando, FL 32811 (407) 615-0447 Cell (407)-425-6700 Office ATTN: Jean Dent-Smith

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

Project No. 501032

Job: LHAAP 16 January 2022

Prepared By: Scott Beesinger

P.O. Number

	Field Sample I.D.	Sample Matrix	Date / Time	MS / MSD	No. OF CONTAINERS	Analyses: Perchlorate by SW6850	Remarks (Preservatives, etc.)	Lab I.D.#
1	16ww44-220110	WG	1/10/22 0730		1	X		
2	16ww37-220110	WG	1/10/22 0820		1	X		
3	16ww38-220110	WG	1/10/22 0900		1	X		
4	16ww14-220110	WG	1/10/22 0950		1	X		
5	16ww34-220110	WG	1/10/22 1125		1	X	INITIAL ASSESSMENT	
6	16ww34-220110-FD	WG	1/10/22 1125		1	X		
7	16ww33-220110	WG	1/10/22 1205		1	X	LABEL VERIFICATION	
8	16ww32-220110	WG	1/10/22 1245		1	X		3.6CIN

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

Relinquished By:	Date	Time	Received By:	Date	Time	Relinquished By:	Date	Time	Received By:	Date	Time
Scott Beesinger	1/13/22	1430	Hannah McKee	1/14/22	10:00						

For Lab Use Only

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

Remarks:

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

FA92372

CHAIN OF CUSTODY

Name Of Lab Shipping To: SGS 4405 Vineland Orlando, FL 32811 (407) 615-0447 Cell (407)-425-6700 Office ATTN: Jean Dent-Smith

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

Project No. 501032

Job: **LHAAP 16 January 2022**

Prepared By: Scott Beesinger

P.O. Number

	Field Sample I.D. / Time	Sample Matrix	Date /	MS / MSD	No. OF CONTAINERS	Analyses: Perchlorate by SW6850	Remarks (Preservatives, etc.)	Lab I.D.#
9	16WW16-220111	WG	1/11/22 0730		1	X		
10	16WW35-220111	WG	1/11/22 0820		1	X		
11	16WW36-220111	WG	1/11/22 0905		1	X		
12	16WW22-220111	WG	1/11/22 0940		1	X		
13	16WW56-220111	WG	1/11/22 1045		1	X	INITIAL ASSESSMENT	
14	16WW46-220111	WG	1/11/22 1130		1	X		
15	16WW31-220111	WG	1/11/22 1210		1	X	LABEL VERIFICATION	
16	16WW39-220111	WG	1/11/22 1250		1	X		316CIR1

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

Relinquished By:	Date	Time	Received By:	Date	Time	Relinquished By:	Date	Time	Received By:	Date	Time
Scott Beesinger	1/13/22	1430	Kamal Mclain	1/14/22	10:00						

For Lab Use Only

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

Remarks:

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

FA92372

CHAIN OF CUSTODY

Name Of Lab Shipping To: SGS 4405 Vineland Orlando, FL 32811 (407) 615-0447 Cell'(407)-425-6700 Office ATTN: Jean Dent-Smith

Project: APTIM LONGHORN ARMY AMMN. PLANT (LHAAP) GROUNDWATER TREATMENT PLANT (GWTP) KARNACK, TEXAS	Project No. 501032
Job: **LHAAP 16 January 2022**	
Prepared By: Scott Beesinger	P.O. Number

	Field Sample I.D.	Sample Matrix	Date / Time	MS / MSD	No. OF CONTAINERS	Analyses: Perchlorate by SW6850	Remarks (Preservatives, etc.)	Lab I.D.#
17	16WW25-220112	WG	1/12/22 0735		1	X		
18	16WW25-220112-FD	WG	1/12/22 0735		1	X		
19	16WW26-220112	WG	1/12/22 0825		1	X		
20	16WW26-220112-FD	WG	1/12/22 0825		1	X		
21	16WW30-220112	WG	1/12/22 0915		1	X		
21	16WW30-220112-MS	WG	1/12/22 0915		1	X		
21	16WW30-220112-MSD	WG	1/12/22 0915		1	X		
22	16WW29-220112	WG	1/12/22 1000		1	X		

INITIAL ASSESSMENT

LABEL VERIFICATION

B.GCIRL

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

Relinquished By:	Date	Time	Received By:	Date	Time	Relinquished By:	Date	Time	Received By:	Date	Time
Scott Beesinger	1/13/22	1430	Kenneth McGinn	1/14/22	10:00						

For Lab Use Only

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

Remarks:

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

5.1 5

FA92372

CHAIN OF CUSTODY

Name Of Lab Shipping To: SGS 4405 Vineland Orlando, FL 32811 (407) 615-0447 Cell (407)-425-6700 Office ATTN: Jean Dent-Smith

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

Project No. 501032

Job: **LHAAP 16 January 2022**

Prepared By: Scott Beesinger

P.O. Number

	Field Sample I.D. / Time	Sample Matrix	Date /	MS / MSD	No. OF CONTAINERS	Analyses: Perchlorate by SW6850	Remarks (Preservatives, etc.)	Lab I.D.#
23	16WW55-220112	WG	1/12/22 1050		1	X		
24	16EW02-220112	WG	1/12/22 1140		1	X		
25	16EW08-220112	WG	1/12/22 1230		1	X		
26	16EW04-220112	WG	1/12/22 1310		1	X	INITIAL ASSESSMENT	
27	16WW58-220113	WG	1/13/22 0750		1	X		
28	16WW57-220113	WG	1/13/22 0840		1	X	LABEL VERIFICATION	
28	16WW57-220113-MS	WG	1/13/22 0840		1	X		3.6 CIR
28	16WW57-220113-MSD	WG	1/13/22 0840		1	X		

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

Relinquished By:	Date	Time	Received By:	Date	Time	Relinquished By:	Date	Time	Received By:	Date	Time
Scott Beesinger	1/13/22	1430	[illegible]	1/14/22	10:00						

For Lab Use Only

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

Remarks:

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

5.1 5

FA92372

CHAIN OF CUSTODY

Name Of Lab Shipping To: SGS 4405 Vineland Orlando, FL 32811 (407) 615-0447 Cell (407)-425-6700 Office ATTN: Jean Dent-Smith

Project: APTIM LONGHORN ARMY AMMN. PLANT (LHAAP) GROUNDWATER TREATMENT PLANT (GWTP) KARNACK, TEXAS	Project No. 501032
Job: **LHAAP 16 January 2022**	
Prepared By: Scott Beesinger	P.O. Number

	Field Sample I.D.	Sample Matrix	Date / Time	MS / MSD	No. OF CONTAINERS	Perchlorate by SW6850	Remarks (Preservatives, etc.)	Lab I.D.#
29	16WW41-220113	WG	1/13/22 0945		1	X		
30	16WW21-220113	WG	1/13/22 1030		1	X		
31	16WW49-220113	WG	1/13/22 1115		1	X		
32	16WW48-220113	WG	1/13/22 1155		1	X		
33	16WW51-220113	WG	1/13/22 1240		1	X	INITIAL ASSESSMENT	
34	16EW01-220113	WG	1/13/22 1320		1	X		
							LABEL VERIFICATION	
								3.6CIRI

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

Relinquished By:	Date	Time	Received By:	Date	Time	Relinquished By:	Date	Time	Received By:	Date	Time
Scott Beesinger	1/13/22	1430	Jamil Melin	1/14/22	10:00						

For Lab Use Only

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

Remarks:

(Word) S:\I-ces\Forms\Chain of Custody - Bi\Weekly

SGS Sample Receipt Summary

Job Number: FA92372 **Client:** LONGHORN ARMY AMMN. PLANT (LHAA **Project:** LHAAP 16 JANUARY 2022

Date / Time Received: 1/14/2022 10:00:00 AM **Delivery Method:** FEDEX **Airbill #'s:**

Therm ID: IR 1; **Therm CF:** 0.2; **# of Coolers:** 1

Cooler Temps (Raw Measured) °C: Cooler 1: (3.6);

Cooler Temps (Corrected) °C: Cooler 1: (3.8);

Cooler Information	Y	or	N
1. Custody Seals Present	☑		☐
2. Custody Seals Intact	☑		☐
3. Temp criteria achieved	☑		☐
4. Cooler temp verification	IR Gun		
5. Cooler media	Ice (Bag)		

Trip Blank Information	Y	or	N	N/A
1. Trip Blank present / cooler	☐		☐	☑
2. Trip Blank listed on COC	☐		☐	☑

	W	or	S	N/A
3. Type Of TB Received	☐		☐	☑

Sample Information	Y	or	N	N/A
1. Sample labels present on bottles	☑		☐	
2. Samples preserved properly	☑		☐	
3. Sufficient volume/containers recvd for analysis:	☑		☐	
4. Condition of sample	Intact			
5. Sample recvd within HT	☑		☐	
6. Dates/Times/IDs on COC match Sample Label	☑		☐	
7. VOCs have headspace	☐		☐	☑
8. Bottles received for unspecified tests	☐		☑	
9. Compositing instructions clear	☐		☐	☑
10. Voa Soil Kits/Jars received past 48hrs?	☐		☐	☑
11. % Solids Jar received?	☐		☐	☑
12. Residual Chlorine Present?	☐		☐	☑

Misc. Information

Number of Encores: 25-Gram _____ 5-Gram _____ Number of 5035 Field Kits: _____ Number of Lab Filtered Metals: _____

Test Strip Lot #s: pH 0-3 230315 pH 10-12 219813A Other: (Specify) _____ _____

Residual Chlorine Test Strip Lot #: _____

Comments

SM001
Rev. Date 05/24/17

Technician: SAMUELM Date: 1/14/2022 10:00:00 A Reviewer: _____ Date: _____

QC Evaluation: DOD QSM5.x Limits

Job Number: FA92372
Account: APTIM
Project: Longhorn Army Ammunition Plant (GWTP); Karnack, TX
Collected: 01/10/22 thru 01/13/22

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
OP89327	SW846 6850						
OP89327-BS	14797-73-0	Perchlorate	BSP	REC	90	%	84-119
OP89327-MS1	14797-73-0	Perchlorate	MS	REC	90	%	84-119
OP89327-MS2	14797-73-0	Perchlorate	MS	REC	101	%	84-119
OP89327-MSD1	14797-73-0	Perchlorate	MSD	REC	90	%	84-119
OP89327-MSD1	14797-73-0	Perchlorate	MSD	RPD	0	%	15
OP89327-MSD2	14797-73-0	Perchlorate	MSD	REC	96	%	84-119
OP89327-MSD2	14797-73-0	Perchlorate	MSD	RPD	3	%	15
OP89328	SW846 6850						
OP89328-BS	14797-73-0	Perchlorate	BSP	REC	90	%	84-119
OP89328-MS*	14797-73-0	Perchlorate	MS	REC	90	%	84-119
OP89328-MSD*	14797-73-0	Perchlorate	MSD	REC	90	%	84-119
OP89328-MSD*	14797-73-0	Perchlorate	MSD	RPD	0	%	15

* Sample used for QC is not from job FA92372

MS Semi-volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Internal Standard Area Summaries
- Initial and Continuing Calibration Summaries
- Run Sequence Reports

Instrument Blank

Job Number: FA92372
Account: ITTNKNOX APTIM
Project: Longhorn Army Ammunition Plant (GWTP); Karnack, TX

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
SQ1916-IBLK	Q88508.D	1	01/21/22	NG	n/a	n/a	SQ1916

The QC reported here applies to the following samples: **Method:** SW846 6850

FA92372-1, FA92372-4, FA92372-5, FA92372-6, FA92372-7, FA92372-8, FA92372-12, FA92372-13, FA92372-14, FA92372-15, FA92372-16, FA92372-17, FA92372-18, FA92372-19, FA92372-20, FA92372-21, FA92372-22, FA92372-26, FA92372-27, FA92372-28, FA92372-30, FA92372-31, FA92372-32, FA92372-33

CAS No.	Compound	Result	RL	MDL	Units	Q
14797-73-0	Perchlorate	ND	0.20	0.050	ug/l	

Instrument Blank

Job Number: FA92372
Account: ITTNKNOX APTIM
Project: Longhorn Army Ammunition Plant (GWTP); Karnack, TX

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
SQ1917-IBLK	Q88532.D	1	01/24/22	NG	n/a	n/a	SQ1917

The QC reported here applies to the following samples: **Method:** SW846 6850

FA92372-2, FA92372-3, FA92372-9, FA92372-10, FA92372-11, FA92372-23, FA92372-24, FA92372-25, FA92372-29, FA92372-34

CAS No.	Compound	Result	RL	MDL	Units	Q
14797-73-0	Perchlorate	ND	0.20	0.050	ug/l	

Method Blank Summary

Job Number: FA92372
Account: ITTNKNOX APTIM
Project: Longhorn Army Ammunition Plant (GWTP); Karnack, TX

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP89328-MB	Q88449.D	1	01/21/22	NG	01/20/22	OP89328	SQ1916

The QC reported here applies to the following samples: **Method:** SW846 6850

FA92372-1, FA92372-2, FA92372-3, FA92372-4, FA92372-5, FA92372-6, FA92372-7, FA92372-8, FA92372-9, FA92372-10, FA92372-11, FA92372-12, FA92372-13, FA92372-14, FA92372-15, FA92372-16, FA92372-17, FA92372-18

CAS No.	Compound	Result	RL	MDL	Units	Q
14797-73-0	Perchlorate	ND	0.20	0.050	ug/l	

Method Blank Summary

Job Number: FA92372
Account: ITTNKNOX APTIM
Project: Longhorn Army Ammunition Plant (GWTP); Karnack, TX

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP89327-MB	Q88479.D	1	01/21/22	NG	01/20/22	OP89327	SQ1916

The QC reported here applies to the following samples: **Method:** SW846 6850

FA92372-19, FA92372-20, FA92372-21, FA92372-22, FA92372-23, FA92372-24, FA92372-25, FA92372-26, FA92372-27, FA92372-28, FA92372-29, FA92372-30, FA92372-31, FA92372-32, FA92372-33, FA92372-34

CAS No.	Compound	Result	RL	MDL	Units	Q
14797-73-0	Perchlorate	ND	0.20	0.050	ug/l	

Blank Spike Summary

Job Number: FA92372
Account: ITTNKNOX APTIM
Project: Longhorn Army Ammunition Plant (GWTP); Karnack, TX

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP89328-BS	Q88448.D	1	01/21/22	NG	01/20/22	OP89328	SQ1916

The QC reported here applies to the following samples: **Method:** SW846 6850

FA92372-1, FA92372-2, FA92372-3, FA92372-4, FA92372-5, FA92372-6, FA92372-7, FA92372-8, FA92372-9, FA92372-10, FA92372-11, FA92372-12, FA92372-13, FA92372-14, FA92372-15, FA92372-16, FA92372-17, FA92372-18

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
14797-73-0	Perchlorate	0.2	0.18	90	80-120

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FA92372
Account: ITTNKNOX APTIM
Project: Longhorn Army Ammunition Plant (GWTP); Karnack, TX

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP89327-BS	Q88478.D	1	01/21/22	NG	01/20/22	OP89327	SQ1916

The QC reported here applies to the following samples: **Method:** SW846 6850

FA92372-19, FA92372-20, FA92372-21, FA92372-22, FA92372-23, FA92372-24, FA92372-25, FA92372-26, FA92372-27, FA92372-28, FA92372-29, FA92372-30, FA92372-31, FA92372-32, FA92372-33, FA92372-34

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
14797-73-0	Perchlorate	0.2	0.18	90	80-120

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: FA92372
Account: ITTNKNOX APTIM
Project: Longhorn Army Ammunition Plant (GWTP); Karnack, TX

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP89327-MS1	Q88486.D	1	01/21/22	NG	01/20/22	OP89327	SQ1916
OP89327-MSD1	Q88487.D	1	01/21/22	NG	01/20/22	OP89327	SQ1916
FA92372-21	Q88485.D	1	01/21/22	NG	01/20/22	OP89327	SQ1916

The QC reported here applies to the following samples: **Method:** SW846 6850

FA92372-19, FA92372-20, FA92372-21, FA92372-22, FA92372-23, FA92372-24, FA92372-25, FA92372-26, FA92372-27, FA92372-29, FA92372-30, FA92372-31, FA92372-32, FA92372-33, FA92372-34

CAS No.	Compound	FA92372-21 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
14797-73-0	Perchlorate	0.20 U		0.2	0.18	90	0.2	0.18	90	0	80-120/15

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: FA92372
Account: ITTNKNOX APTIM
Project: Longhorn Army Ammunition Plant (GWTP); Karnack, TX

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP89328-MS	Q88451.D	1	01/21/22	NG	01/20/22	OP89328	SQ1916
OP89328-MSD	Q88517.D	1	01/24/22	NG	01/20/22	OP89328	SQ1917
FA92339-5	Q88450.D	1	01/21/22	NG	01/20/22	OP89328	SQ1916

The QC reported here applies to the following samples: **Method:** SW846 6850

FA92372-1, FA92372-2, FA92372-3, FA92372-4, FA92372-5, FA92372-6, FA92372-7, FA92372-8, FA92372-9, FA92372-10, FA92372-11, FA92372-12, FA92372-13, FA92372-14, FA92372-15, FA92372-16, FA92372-17, FA92372-18

CAS No.	Compound	FA92339-5 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
14797-73-0	Perchlorate	0.20	U	0.2	0.18	90	0.2	0.18	90	0	80-120/15

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: FA92372
Account: ITTNKNOX APTIM
Project: Longhorn Army Ammunition Plant (GWTP); Karnack, TX

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP89327-MS2	Q88498.D	1	01/21/22	NG	01/20/22	OP89327	SQ1916
OP89327-MSD2	Q88527.D	1	01/24/22	NG	01/20/22	OP89327	SQ1917
FA92372-28	Q88497.D	1	01/21/22	NG	01/20/22	OP89327	SQ1916

The QC reported here applies to the following samples: **Method:** SW846 6850

FA92372-28

CAS No.	Compound	FA92372-28 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
14797-73-0	Perchlorate	0.099	J	0.2	0.30	101	0.2	0.29	96	3	80-120/15

* = Outside of Control Limits.

Internal Standard Area Summary

Job Number: FA92372
Account: ITTNKNOX APTIM
Project: Longhorn Army Ammunition Plant (GWTP); Karnack, TX

Check Std:	SQ1916-CC1911	**Injection Date:**	01/21/22
Lab File ID:	Q88446.D	**Injection Time:**	09:41
Instrument ID:	GCMSQ	**Method:**	SW846 6850

	IS 1 AREA	RT
Initial Cal [a]	198713	5.31
Check Std [b]	225178	5.35
Upper Limit [c]	298070	7.35
Lower Limit [d]	99357	3.35

Lab Sample ID	IS 1 AREA	RT
OP89328-BS	232055	5.38
OP89328-MB	230775	5.35
FA92339-5	160587	4.90
OP89328-MS	145304	4.73
ZZZZZZ	137916	4.70
FA92372-1	182921	5.18
FA92372-4	151173	4.77

IS 1 = Cl18O4 (ISTD)

(a) Initial Cal is: SQ1911-ICC1911 Q88324.D 01/12/22 12:55. Area is AVERAGE of initial cal points.
(b) Check Std Limit = -50 to + 50% of initial cal area.
(c) Upper Limit = + 50% of initial standard area; Retention time + 2 minutes of check standard.
(d) Lower Limit = -50% of initial standard area; Retention time -2 minutes of check standard.

Internal Standard Area Summary

Job Number: FA92372
Account: ITTNKNOX APTIM
Project: Longhorn Army Ammunition Plant (GWTP); Karnack, TX

Check Std:	SQ1916-CC1911	**Injection Date:**	01/21/22
Lab File ID:	Q88458.D	**Injection Time:**	11:26
Instrument ID:	GCMSQ	**Method:**	SW846 6850

	IS 1 AREA	RT
Initial Cal [a]	198713	5.31
Check Std [b]	187415	5.27
Upper Limit [c]	298070	7.27
Lower Limit [d]	99357	3.27

Lab Sample ID	IS 1 AREA	RT
FA92372-5	191966	5.03
FA92372-6	191027	5.01
FA92372-7	167747	4.93
FA92372-8	152662	4.97
FA92372-12	178706	4.75
FA92372-13	179620	4.82
FA92372-14	147222	4.88

IS 1 = Cl18O4 (ISTD)

(a) Initial Cal is: SQ1911-ICC1911 Q88324.D 01/12/22 12:55. Area is AVERAGE of initial cal points.
(b) Check Std Limit = -50 to + 50% of initial cal area.
(c) Upper Limit = + 50% of initial standard area; Retention time + 2 minutes of check standard.
(d) Lower Limit = -50% of initial standard area; Retention time -2 minutes of check standard.

Internal Standard Area Summary

Job Number: FA92372
Account: ITTNKNOX APTIM
Project: Longhorn Army Ammunition Plant (GWTP); Karnack, TX

Check Std:	SQ1916-CC1911	**Injection Date:**	01/21/22
Lab File ID:	Q88471.D	**Injection Time:**	13:15
Instrument ID:	GCMSQ	**Method:**	SW846 6850

	IS 1 AREA	RT
Initial Cal [a]	198713	5.31
Check Std [b]	201087	5.25
Upper Limit [c]	298070	7.25
Lower Limit [d]	99357	3.25

Lab Sample ID	IS 1 AREA	RT
FA92372-15	225144	5.06
FA92372-16	143534	4.62
FA92372-17	106733	4.51
FA92372-18	112640	4.53
OP89327-BS	147009	5.23
OP89327-MB	157067	5.25
FA92372-19	260933	4.95
FA92372-20	246544	4.94

IS 1 = Cl18O4 (ISTD)

(a) Initial Cal is: SQ1911-ICC1911 Q88324.D 01/12/22 12:55. Area is AVERAGE of initial cal points.
(b) Check Std Limit = -50 to + 50% of initial cal area.
(c) Upper Limit = + 50% of initial standard area; Retention time + 2 minutes of check standard.
(d) Lower Limit = -50% of initial standard area; Retention time -2 minutes of check standard.

Internal Standard Area Summary

Job Number: FA92372
Account: ITTNKNOX APTIM
Project: Longhorn Army Ammunition Plant (GWTP); Karnack, TX

Check Std:	SQ1916-CC1911	**Injection Date:**	01/21/22
Lab File ID:	Q88482.D	**Injection Time:**	14:47
Instrument ID:	GCMSQ	**Method:**	SW846 6850

	IS 1 AREA	RT
Initial Cal [a]	198713	5.31
Check Std [b]	158556	5.24
Upper Limit [c]	298070	7.24
Lower Limit [d]	99357	3.24

Lab Sample ID	IS 1 AREA	RT
FA92372-21	147636	5.12
OP89327-MS1	122419	5.07
OP89327-MSD1	126723	5.08
FA92372-22	117620	4.58
FA92372-26	119790	4.58
FA92372-27	139465	4.63

IS 1 = Cl18O4 (ISTD)

(a) Initial Cal is: SQ1911-ICC1911 Q88324.D 01/12/22 12:55. Area is AVERAGE of initial cal points.
(b) Check Std Limit = -50 to + 50% of initial cal area.
(c) Upper Limit = + 50% of initial standard area; Retention time + 2 minutes of check standard.
(d) Lower Limit = -50% of initial standard area; Retention time -2 minutes of check standard.

Internal Standard Area Summary

Job Number: FA92372
Account: ITTNKNOX APTIM
Project: Longhorn Army Ammunition Plant (GWTP); Karnack, TX

Check Std:	SQ1916-CC1911	**Injection Date:**	01/21/22
Lab File ID:	Q88494.D	**Injection Time:**	16:28
Instrument ID:	GCMSQ	**Method:**	SW846 6850

	IS 1 AREA	RT
Initial Cal [a]	198713	5.31
Check Std [b]	134500	5.21
Upper Limit [c]	298070	7.21
Lower Limit [d]	99357	3.21

Lab Sample ID	IS 1 AREA	RT
FA92372-28	116728	4.49
OP89327-MS2	110812	4.49
FA92372-30	134601	4.96
FA92372-31	140533	4.62
FA92372-32	114247	4.42
FA92372-33	118955	4.62

IS 1 = Cl18O4 (ISTD)

(a) Initial Cal is: SQ1911-ICC1911 Q88324.D 01/12/22 12:55. Area is AVERAGE of initial cal points.
(b) Check Std Limit = -50 to + 50% of initial cal area.
(c) Upper Limit = + 50% of initial standard area; Retention time + 2 minutes of check standard.
(d) Lower Limit = -50% of initial standard area; Retention time -2 minutes of check standard.

Internal Standard Area Summary

Job Number: FA92372
Account: ITTNKNOX APTIM
Project: Longhorn Army Ammunition Plant (GWTP); Karnack, TX

Check Std:	SQ1917-CC1911	**Injection Date:**	01/24/22
Lab File ID:	Q88513.D	**Injection Time:**	10:52
Instrument ID:	GCMSQ	**Method:**	SW846 6850

	IS 1 AREA	RT
Initial Cal [a]	198713	5.31
Check Std [b]	246228	5.29
Upper Limit [c]	298070	7.29
Lower Limit [d]	99357	3.29

Lab Sample ID	IS 1 AREA	RT
FA92372-2	249248	5.10
FA92372-3	186371	4.83
OP89328-MSD	146267	4.71
FA92372-9	199720	5.23
FA92372-10	186755	5.11
FA92372-11	141195	4.49

IS 1 = Cl18O4 (ISTD)

(a) Initial Cal is: SQ1911-ICC1911 Q88324.D 01/12/22 12:55. Area is AVERAGE of initial cal points.
(b) Check Std Limit = -50 to + 50% of initial cal area.
(c) Upper Limit = + 50% of initial standard area; Retention time + 2 minutes of check standard.
(d) Lower Limit = -50% of initial standard area; Retention time -2 minutes of check standard.

Internal Standard Area Summary

Job Number: FA92372
Account: ITTNKNOX APTIM
Project: Longhorn Army Ammunition Plant (GWTP); Karnack, TX

Check Std:	SQ1917-CC1911	**Injection Date:**	01/24/22
Lab File ID:	Q88521.D	**Injection Time:**	11:59
Instrument ID:	GCMSQ	**Method:**	SW846 6850

	IS 1 AREA	RT
Initial Cal [a]	198713	5.31
Check Std [b]	163611	5.23
Upper Limit [c]	298070	7.23
Lower Limit [d]	99357	3.23

Lab Sample ID	IS 1 AREA	RT
FA92372-23	212197	5.25
FA92372-24	128563	4.55
FA92372-25	124875	4.61
OP89327-MSD2	118977	4.54
FA92372-29	237370	4.85
FA92372-34	254384	4.95

IS 1 = Cl18O4 (ISTD)

(a) Initial Cal is: SQ1911-ICC1911 Q88324.D 01/12/22 12:55. Area is AVERAGE of initial cal points.
(b) Check Std Limit = -50 to + 50% of initial cal area.
(c) Upper Limit = + 50% of initial standard area; Retention time + 2 minutes of check standard.
(d) Lower Limit = -50% of initial standard area; Retention time -2 minutes of check standard.

Initial Calibration Summary

Job Number: FA92372
Account: ITTNKNOX APTIM
Project: Longhorn Army Ammunition Plant (GWTP); Karnack, TX

Sample: SQ1911-ICC1911
Lab FileID: Q88324.D

Initial Calibration Report

Method Path	D:\MassHunter\Methods
Method File	6850_011222_SQ1911.quantmethod.xml
Batch Name	D:\MassHunter\Data\011222_6850_SQ1911\QuantResults\sq1911.batch.bin
Last Calib Update	1/12/2022 2:07:32 PM

Level Name	Calibration Files	Acq. Date-Time	Level Last Update Time
1	D:\MassHunter\Data\011222_6850_SQ1911\Q88321.d	1/12/2022 12:30:42 PM	1/12/2022 2:07:32 PM
2	D:\MassHunter\Data\011222_6850_SQ1911\Q88322.d	1/12/2022 12:39:06 PM	1/12/2022 2:07:32 PM
3	D:\MassHunter\Data\011222_6850_SQ1911\Q88323.d	1/12/2022 12:47:30 PM	1/12/2022 2:07:32 PM
4	D:\MassHunter\Data\011222_6850_SQ1911\Q88324.d	1/12/2022 12:55:55 PM	1/12/2022 2:07:32 PM
5	D:\MassHunter\Data\011222_6850_SQ1911\Q88325.d	1/12/2022 1:04:19 PM	1/12/2022 2:07:32 PM
6	D:\MassHunter\Data\011222_6850_SQ1911\Q88326.d	1/12/2022 1:12:43 PM	1/12/2022 2:07:32 PM
7	D:\MassHunter\Data\011222_6850_SQ1911\Q88327.d	1/12/2022 1:21:13 PM	1/12/2022 2:07:32 PM
8	D:\MassHunter\Data\011222_6850_SQ1911\Q88328.d	1/12/2022 1:29:36 PM	1/12/2022 2:07:32 PM

Compound	Curve Fit	1	2	3	4	5	6	7	8	Avg RF	%RSD
I Cl18O4				---------- ISTD ----------							
T Perchlorate	Avg RF	1.1028	1.0633	1.1304	1.1800	1.2216	1.2733	1.3423	1.3522	1.2082	8.963

(RedFont and #) = Outlier Flag; (I) = Internal Standard; (T) = Target; (S) = Surrogate; (M) = Matrix Spike

Generated at 2:07 PM on 1/12/2022

Initial Calibration Verification

Job Number: FA92372 **Sample:** SQ1911-ICV1911
Account: ITTNKNOX APTIM **Lab FileID:** Q88329.D
Project: Longhorn Army Ammunition Plant (GWTP); Karnack, TX

Continuing Calibration Report

Batch: D:\MassHunter\Data\011222_6850_SQ1911\sq1911.batch.bin

Level ID:Calibration File
1:D:\MassHunter\Data\011222_6850_SQ1911\Q88321.d
2:D:\MassHunter\Data\011222_6850_SQ1911\Q88322.d
3:D:\MassHunter\Data\011222_6850_SQ1911\Q88323.d
4:D:\MassHunter\Data\011222_6850_SQ1911\Q88324.d
5:D:\MassHunter\Data\011222_6850_SQ1911\Q88325.d
6:D:\MassHunter\Data\011222_6850_SQ1911\Q88326.d
7:D:\MassHunter\Data\011222_6850_SQ1911\Q88327.d
8:D:\MassHunter\Data\011222_6850_SQ1911\Q88328.d

Data File: Q88329
Type : QC
Level : 4

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
Cl18O4	---	--ISTD--		
Perchlorate	2.000	1.808	-9.6	90.4

CC Criteria: +/- 15%

Continuing Calibration Summary

Job Number: FA92372 **Sample:** SQ1916-CC1911
Account: ITTNKNOX APTIM **Lab FileID:** Q88446.D
Project: Longhorn Army Ammunition Plant (GWTP); Karnack, TX

Continuing Calibration Report

Batch: D:\MassHunter\Data\012122_6850_SQ1916\sq1916.batch.bin

Level ID:Calibration File
1:D:\MassHunter\Data\011222_6850_SQ1911\Q88321.d
2:D:\MassHunter\Data\011222_6850_SQ1911\Q88322.d
3:D:\MassHunter\Data\011222_6850_SQ1911\Q88323.d
4:D:\MassHunter\Data\011222_6850_SQ1911\Q88324.d
5:D:\MassHunter\Data\011222_6850_SQ1911\Q88325.d
6:D:\MassHunter\Data\011222_6850_SQ1911\Q88326.d
7:D:\MassHunter\Data\011222_6850_SQ1911\Q88327.d
8:D:\MassHunter\Data\011222_6850_SQ1911\Q88328.d

Data File: Q88446
Type : QC
Level : 4

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
Cl18O4	---	--ISTD--		
Perchlorate	2.000	1.993	-0.3	99.7

CC Criteria: +/- 15%

6.5.3

6

Continuing Calibration Summary

Job Number: FA92372 **Sample:** SQ1916-CC1911
Account: ITTNKNOX APTIM **Lab FileID:** Q88447.D
Project: Longhorn Army Ammunition Plant (GWTP); Karnack, TX

Continuing Calibration Report

Batch: D:\MassHunter\Data\012122_6850_SQ1916\sq1916.batch.bin

Level ID:Calibration File
1:D:\MassHunter\Data\011222_6850_SQ1911\Q88321.d
2:D:\MassHunter\Data\011222_6850_SQ1911\Q88322.d
3:D:\MassHunter\Data\011222_6850_SQ1911\Q88323.d
4:D:\MassHunter\Data\011222_6850_SQ1911\Q88324.d
5:D:\MassHunter\Data\011222_6850_SQ1911\Q88325.d
6:D:\MassHunter\Data\011222_6850_SQ1911\Q88326.d
7:D:\MassHunter\Data\011222_6850_SQ1911\Q88327.d
8:D:\MassHunter\Data\011222_6850_SQ1911\Q88328.d

Data File: Q88447
Type : QC
Level : 1

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
Cl18O4	---	--ISTD--		
Perchlorate	0.200	0.196	-2.1	97.9

CC Criteria: +/- 30%

6.5.4

6

Continuing Calibration Summary

Job Number: FA92372 **Sample:** SQ1916-CC1911
Account: ITTNKNOX APTIM **Lab FileID:** Q88458.D
Project: Longhorn Army Ammunition Plant (GWTP); Karnack, TX

Continuing Calibration Report

Batch: D:\MassHunter\Data\012122_6850_SQ1916\sq1916.batch.bin

Level ID:Calibration File
1:D:\MassHunter\Data\011222_6850_SQ1911\Q88321.d
2:D:\MassHunter\Data\011222_6850_SQ1911\Q88322.d
3:D:\MassHunter\Data\011222_6850_SQ1911\Q88323.d
4:D:\MassHunter\Data\011222_6850_SQ1911\Q88324.d
5:D:\MassHunter\Data\011222_6850_SQ1911\Q88325.d
6:D:\MassHunter\Data\011222_6850_SQ1911\Q88326.d
7:D:\MassHunter\Data\011222_6850_SQ1911\Q88327.d
8:D:\MassHunter\Data\011222_6850_SQ1911\Q88328.d

Data File: Q88458
Type : QC
Level : 4

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
Cl18O4	---	--ISTD--		
Perchlorate	2.000	1.978	-1.1	98.9

CC Criteria: +/- 15%

6.5.5

6

Continuing Calibration Summary

Job Number: FA92372 **Sample:** SQ1916-CC1911
Account: ITTNKNOX APTIM **Lab FileID:** Q88459.D
Project: Longhorn Army Ammunition Plant (GWTP); Karnack, TX

Continuing Calibration Report

Batch: D:\MassHunter\Data\012122_6850_SQ1916\sq1916.batch.bin

Level ID:Calibration File
1:D:\MassHunter\Data\011222_6850_SQ1911\Q88321.d
2:D:\MassHunter\Data\011222_6850_SQ1911\Q88322.d
3:D:\MassHunter\Data\011222_6850_SQ1911\Q88323.d
4:D:\MassHunter\Data\011222_6850_SQ1911\Q88324.d
5:D:\MassHunter\Data\011222_6850_SQ1911\Q88325.d
6:D:\MassHunter\Data\011222_6850_SQ1911\Q88326.d
7:D:\MassHunter\Data\011222_6850_SQ1911\Q88327.d
8:D:\MassHunter\Data\011222_6850_SQ1911\Q88328.d

Data File: Q88459
Type : QC
Level : 1

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
Cl18O4	---	--ISTD--		
Perchlorate	0.200	0.196	-1.8	98.2

CC Criteria: +/- 30%

6.5.6

6

Continuing Calibration Summary

Job Number: FA92372 **Sample:** SQ1916-CC1911
Account: ITTNKNOX APTIM **Lab FileID:** Q88471.D
Project: Longhorn Army Ammunition Plant (GWTP); Karnack, TX

Continuing Calibration Report

Batch: D:\MassHunter\Data\012122_6850_SQ1916\sq1916.batch.bin

Level ID:Calibration File
1:D:\MassHunter\Data\011222_6850_SQ1911\Q88321.d
2:D:\MassHunter\Data\011222_6850_SQ1911\Q88322.d
3:D:\MassHunter\Data\011222_6850_SQ1911\Q88323.d
4:D:\MassHunter\Data\011222_6850_SQ1911\Q88324.d
5:D:\MassHunter\Data\011222_6850_SQ1911\Q88325.d
6:D:\MassHunter\Data\011222_6850_SQ1911\Q88326.d
7:D:\MassHunter\Data\011222_6850_SQ1911\Q88327.d
8:D:\MassHunter\Data\011222_6850_SQ1911\Q88328.d

Data File: Q88471
Type : QC
Level : 4

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
Cl18O4	---	--ISTD--		
Perchlorate	2.000	1.964	-1.8	98.2

CC Criteria: +/- 15%

Continuing Calibration Summary

Job Number: FA92372 **Sample:** SQ1916-CC1911
Account: ITTNKNOX APTIM **Lab FileID:** Q88472.D
Project: Longhorn Army Ammunition Plant (GWTP); Karnack, TX

Continuing Calibration Report

Batch: D:\MassHunter\Data\012122_6850_SQ1916\sq1916.batch.bin

Level ID:Calibration File
1:D:\MassHunter\Data\011222_6850_SQ1911\Q88321.d
2:D:\MassHunter\Data\011222_6850_SQ1911\Q88322.d
3:D:\MassHunter\Data\011222_6850_SQ1911\Q88323.d
4:D:\MassHunter\Data\011222_6850_SQ1911\Q88324.d
5:D:\MassHunter\Data\011222_6850_SQ1911\Q88325.d
6:D:\MassHunter\Data\011222_6850_SQ1911\Q88326.d
7:D:\MassHunter\Data\011222_6850_SQ1911\Q88327.d
8:D:\MassHunter\Data\011222_6850_SQ1911\Q88328.d

Data File: Q88472
Type : QC
Level : 1

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
Cl18O4	---	--ISTD--		
Perchlorate	0.200	0.198	-1.0	99.0

CC Criteria: +/- 30%

6.5.8

6

Continuing Calibration Summary

Job Number: FA92372 **Sample:** SQ1916-CC1911
Account: ITTNKNOX APTIM **Lab FileID:** Q88482.D
Project: Longhorn Army Ammunition Plant (GWTP); Karnack, TX

Continuing Calibration Report

Batch: D:\MassHunter\Data\012122_6850_SQ1916\sq1916.batch.bin

Level ID:Calibration File
1:D:\MassHunter\Data\011222_6850_SQ1911\Q88321.d
2:D:\MassHunter\Data\011222_6850_SQ1911\Q88322.d
3:D:\MassHunter\Data\011222_6850_SQ1911\Q88323.d
4:D:\MassHunter\Data\011222_6850_SQ1911\Q88324.d
5:D:\MassHunter\Data\011222_6850_SQ1911\Q88325.d
6:D:\MassHunter\Data\011222_6850_SQ1911\Q88326.d
7:D:\MassHunter\Data\011222_6850_SQ1911\Q88327.d
8:D:\MassHunter\Data\011222_6850_SQ1911\Q88328.d

Data File: Q88482
Type : QC
Level : 4

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
Cl18O4	---	--ISTD--		
Perchlorate	2.000	1.942	-2.9	97.1

CC Criteria: +/- 15%

6.5.9

6

Continuing Calibration Summary

Job Number: FA92372 **Sample:** SQ1916-CC1911
Account: ITTNKNOX APTIM **Lab FileID:** Q88483.D
Project: Longhorn Army Ammunition Plant (GWTP); Karnack, TX

Continuing Calibration Report

Batch: D:\MassHunter\Data\012122_6850_SQ1916\sq1916.batch.bin

Level ID:Calibration File
1:D:\MassHunter\Data\011222_6850_SQ1911\Q88321.d
2:D:\MassHunter\Data\011222_6850_SQ1911\Q88322.d
3:D:\MassHunter\Data\011222_6850_SQ1911\Q88323.d
4:D:\MassHunter\Data\011222_6850_SQ1911\Q88324.d
5:D:\MassHunter\Data\011222_6850_SQ1911\Q88325.d
6:D:\MassHunter\Data\011222_6850_SQ1911\Q88326.d
7:D:\MassHunter\Data\011222_6850_SQ1911\Q88327.d
8:D:\MassHunter\Data\011222_6850_SQ1911\Q88328.d

Data File: Q88483
Type : QC
Level : 1

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
Cl18O4	---	--ISTD--		
Perchlorate	0.200	0.192	-3.8	96.2

CC Criteria: +/- 30%

Continuing Calibration Summary

Job Number: FA92372 **Sample:** SQ1916-CC1911
Account: ITTNKNOX APTIM **Lab FileID:** Q88494.D
Project: Longhorn Army Ammunition Plant (GWTP); Karnack, TX

Continuing Calibration Report

Batch: D:\MassHunter\Data\012122_6850_SQ1916\sq1916.batch.bin

Level ID:Calibration File
1:D:\MassHunter\Data\011222_6850_SQ1911\Q88321.d
2:D:\MassHunter\Data\011222_6850_SQ1911\Q88322.d
3:D:\MassHunter\Data\011222_6850_SQ1911\Q88323.d
4:D:\MassHunter\Data\011222_6850_SQ1911\Q88324.d
5:D:\MassHunter\Data\011222_6850_SQ1911\Q88325.d
6:D:\MassHunter\Data\011222_6850_SQ1911\Q88326.d
7:D:\MassHunter\Data\011222_6850_SQ1911\Q88327.d
8:D:\MassHunter\Data\011222_6850_SQ1911\Q88328.d

Data File: Q88494
Type : QC
Level : 4

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
Cl18O4	---	--ISTD--		
Perchlorate	2.000	1.975	-1.2	98.8

CC Criteria: +/- 15%

Continuing Calibration Summary

Job Number: FA92372 **Sample:** SQ1916-CC1911
Account: ITTNKNOX APTIM **Lab FileID:** Q88495.D
Project: Longhorn Army Ammunition Plant (GWTP); Karnack, TX

Continuing Calibration Report

Batch: D:\MassHunter\Data\012122_6850_SQ1916\sq1916.batch.bin

Level ID:Calibration File
1:D:\MassHunter\Data\011222_6850_SQ1911\Q88321.d
2:D:\MassHunter\Data\011222_6850_SQ1911\Q88322.d
3:D:\MassHunter\Data\011222_6850_SQ1911\Q88323.d
4:D:\MassHunter\Data\011222_6850_SQ1911\Q88324.d
5:D:\MassHunter\Data\011222_6850_SQ1911\Q88325.d
6:D:\MassHunter\Data\011222_6850_SQ1911\Q88326.d
7:D:\MassHunter\Data\011222_6850_SQ1911\Q88327.d
8:D:\MassHunter\Data\011222_6850_SQ1911\Q88328.d

Data File: Q88495
Type : QC
Level : 1

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
Cl18O4	---	--ISTD--		
Perchlorate	0.200	0.191	-4.3	95.7

CC Criteria: +/- 30%

Continuing Calibration Summary

Job Number: FA92372 **Sample:** SQ1916-CC1911
Account: ITTNKNOX APTIM **Lab FileID:** Q88506.D
Project: Longhorn Army Ammunition Plant (GWTP); Karnack, TX

Continuing Calibration Report

Batch: D:\MassHunter\Data\012122_6850_SQ1916\sq1916.batch.bin

Level ID:Calibration File
1:D:\MassHunter\Data\011222_6850_SQ1911\Q88321.d
2:D:\MassHunter\Data\011222_6850_SQ1911\Q88322.d
3:D:\MassHunter\Data\011222_6850_SQ1911\Q88323.d
4:D:\MassHunter\Data\011222_6850_SQ1911\Q88324.d
5:D:\MassHunter\Data\011222_6850_SQ1911\Q88325.d
6:D:\MassHunter\Data\011222_6850_SQ1911\Q88326.d
7:D:\MassHunter\Data\011222_6850_SQ1911\Q88327.d
8:D:\MassHunter\Data\011222_6850_SQ1911\Q88328.d

Data File: Q88506
Type : QC
Level : 4

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
Cl18O4	---	--ISTD--		
Perchlorate	2.000	1.926	-3.7	96.3

CC Criteria: +/- 15%

Continuing Calibration Summary

Job Number: FA92372 **Sample:** SQ1917-CC1911
Account: ITTNKNOX APTIM **Lab FileID:** Q88513.D
Project: Longhorn Army Ammunition Plant (GWTP); Karnack, TX

Continuing Calibration Report

Batch: D:\MassHunter\Data\012422_6850_SQ1917\sq1917.batch.bin

Level ID:Calibration File
1:D:\MassHunter\Data\011222_6850_SQ1911\Q88321.d
2:D:\MassHunter\Data\011222_6850_SQ1911\Q88322.d
3:D:\MassHunter\Data\011222_6850_SQ1911\Q88323.d
4:D:\MassHunter\Data\011222_6850_SQ1911\Q88324.d
5:D:\MassHunter\Data\011222_6850_SQ1911\Q88325.d
6:D:\MassHunter\Data\011222_6850_SQ1911\Q88326.d
7:D:\MassHunter\Data\011222_6850_SQ1911\Q88327.d
8:D:\MassHunter\Data\011222_6850_SQ1911\Q88328.d

Data File: Q88513
Type : QC
Level : 4

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
Cl18O4	---	--ISTD--		
Perchlorate	2.000	1.990	-0.5	99.5

CC Criteria: +/- 15%

Continuing Calibration Summary

Job Number: FA92372 **Sample:** SQ1917-CC1911
Account: ITTNKNOX APTIM **Lab FileID:** Q88514.D
Project: Longhorn Army Ammunition Plant (GWTP); Karnack, TX

Continuing Calibration Report

Batch: D:\MassHunter\Data\012422_6850_SQ1917\sq1917.batch.bin

Level ID:Calibration File
1:D:\MassHunter\Data\011222_6850_SQ1911\Q88321.d
2:D:\MassHunter\Data\011222_6850_SQ1911\Q88322.d
3:D:\MassHunter\Data\011222_6850_SQ1911\Q88323.d
4:D:\MassHunter\Data\011222_6850_SQ1911\Q88324.d
5:D:\MassHunter\Data\011222_6850_SQ1911\Q88325.d
6:D:\MassHunter\Data\011222_6850_SQ1911\Q88326.d
7:D:\MassHunter\Data\011222_6850_SQ1911\Q88327.d
8:D:\MassHunter\Data\011222_6850_SQ1911\Q88328.d

Data File: Q88514
Type : QC
Level : 1

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
Cl18O4	---	--ISTD--		
Perchlorate	0.200	0.196	-1.9	98.1

CC Criteria: +/- 30%

6.5.15

6

Continuing Calibration Summary

Job Number: FA92372 **Sample:** SQ1917-CC1911
Account: ITTNKNOX APTIM **Lab FileID:** Q88521.D
Project: Longhorn Army Ammunition Plant (GWTP); Karnack, TX

Continuing Calibration Report

Batch: D:\MassHunter\Data\012422_6850_SQ1917\sq1917.batch.bin

Level ID:Calibration File
1:D:\MassHunter\Data\011222_6850_SQ1911\Q88321.d
2:D:\MassHunter\Data\011222_6850_SQ1911\Q88322.d
3:D:\MassHunter\Data\011222_6850_SQ1911\Q88323.d
4:D:\MassHunter\Data\011222_6850_SQ1911\Q88324.d
5:D:\MassHunter\Data\011222_6850_SQ1911\Q88325.d
6:D:\MassHunter\Data\011222_6850_SQ1911\Q88326.d
7:D:\MassHunter\Data\011222_6850_SQ1911\Q88327.d
8:D:\MassHunter\Data\011222_6850_SQ1911\Q88328.d

Data File: Q88521
Type : QC
Level : 4

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
Cl18O4	---	--ISTD--		
Perchlorate	2.000	2.018	0.9	100.9

CC Criteria: +/- 15%

Continuing Calibration Summary

Job Number: FA92372 **Sample:** SQ1917-CC1911
Account: ITTNKNOX APTIM **Lab FileID:** Q88522.D
Project: Longhorn Army Ammunition Plant (GWTP); Karnack, TX

Continuing Calibration Report

Batch: D:\MassHunter\Data\012422_6850_SQ1917\sq1917.batch.bin

Level ID:Calibration File
1:D:\MassHunter\Data\011222_6850_SQ1911\Q88321.d
2:D:\MassHunter\Data\011222_6850_SQ1911\Q88322.d
3:D:\MassHunter\Data\011222_6850_SQ1911\Q88323.d
4:D:\MassHunter\Data\011222_6850_SQ1911\Q88324.d
5:D:\MassHunter\Data\011222_6850_SQ1911\Q88325.d
6:D:\MassHunter\Data\011222_6850_SQ1911\Q88326.d
7:D:\MassHunter\Data\011222_6850_SQ1911\Q88327.d
8:D:\MassHunter\Data\011222_6850_SQ1911\Q88328.d

Data File: Q88522
Type : QC
Level : 1

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
Cl18O4	---	--ISTD--		
Perchlorate	0.200	0.191	-4.4	95.6

CC Criteria: +/- 30%

Continuing Calibration Summary

Job Number: FA92372 **Sample:** SQ1917-CC1911
Account: ITTNKNOX APTIM **Lab FileID:** Q88530.D
Project: Longhorn Army Ammunition Plant (GWTP); Karnack, TX

Continuing Calibration Report

Batch: D:\MassHunter\Data\012422_6850_SQ1917\sq1917.batch.bin

Level ID:Calibration File
1:D:\MassHunter\Data\011222_6850_SQ1911\Q88321.d
2:D:\MassHunter\Data\011222_6850_SQ1911\Q88322.d
3:D:\MassHunter\Data\011222_6850_SQ1911\Q88323.d
4:D:\MassHunter\Data\011222_6850_SQ1911\Q88324.d
5:D:\MassHunter\Data\011222_6850_SQ1911\Q88325.d
6:D:\MassHunter\Data\011222_6850_SQ1911\Q88326.d
7:D:\MassHunter\Data\011222_6850_SQ1911\Q88327.d
8:D:\MassHunter\Data\011222_6850_SQ1911\Q88328.d

Data File: Q88530
Type : QC
Level : 4

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
Cl18O4	---	--ISTD--		
Perchlorate	2.000	1.968	-1.6	98.4

CC Criteria: +/- 15%

Run Sequence Report

Job Number: FA92372
Account: ITTNKNOX APTIM
Project: Longhorn Army Ammunition Plant (GWTP); Karnack, TX

Run ID: SQ1911 **Method:** SW846 6850 **Instrument ID:** GCMSQ

Lab Sample ID	Lab File ID	Date/Time Analyzed	Prep QC Batch	Client Sample ID
SQ1911-IC1911	Q88320.D	01/12/22 12:22	n/a	Mass Calibration Verification
SQ1911-IC1911	Q88321.D	01/12/22 12:30	n/a	Initial cal 0.2
SQ1911-IC1911	Q88322.D	01/12/22 12:39	n/a	Initial cal 0.5
SQ1911-IC1911	Q88323.D	01/12/22 12:47	n/a	Initial cal 1.0
SQ1911-ICC1911	Q88324.D	01/12/22 12:55	n/a	Initial cal 2.0
SQ1911-IC1911	Q88325.D	01/12/22 13:04	n/a	Initial cal 5.0
SQ1911-IC1911	Q88326.D	01/12/22 13:12	n/a	Initial cal 10
SQ1911-IC1911	Q88327.D	01/12/22 13:21	n/a	Initial cal 25
SQ1911-IC1911	Q88328.D	01/12/22 13:29	n/a	Initial cal 50
SQ1911-ICV1911	Q88329.D	01/12/22 13:38	n/a	Initial cal verification 2
FA91899-2	Q88331.D	01/12/22 13:54	OP89193	(used for QC only; not part of job FA92372)
OP89193-MS	Q88332.D	01/12/22 14:03	OP89193	Matrix Spike
OP89193-MSD	Q88333.D	01/12/22 14:11	OP89193	Matrix Spike Duplicate
ZZZZZZ	Q88334.D	01/12/22 14:20	OP89193	(unrelated sample)
ZZZZZZ	Q88335.D	01/12/22 14:28	OP89193	(unrelated sample)
ZZZZZZ	Q88336.D	01/12/22 14:36	OP89193	(unrelated sample)
ZZZZZZ	Q88337.D	01/12/22 14:45	OP89193	(unrelated sample)
SQ1911-CC1911	Q88338.D	01/12/22 14:53	n/a	Continuing cal 2.0
SQ1911-CC1911	Q88339.D	01/12/22 15:01	n/a	Continuing cal 0.2
JD37364-1A	Q88341.D	01/12/22 15:18	OP89192	(used for QC only; not part of job FA92372)
OP89192-MS	Q88342.D	01/12/22 15:27	OP89192	Matrix Spike
OP89192-MSD	Q88343.D	01/12/22 15:35	OP89192	Matrix Spike Duplicate
ZZZZZZ	Q88344.D	01/12/22 15:43	OP89192	(unrelated sample)
ZZZZZZ	Q88345.D	01/12/22 15:52	OP89192	(unrelated sample)
SQ1911-CC1911	Q88346.D	01/12/22 16:00	n/a	Continuing cal 2.0
SQ1911-ECC1911	Q88347.D	01/12/22 16:09	n/a	Ending cal 0.2
SQ1911-IBLK	Q88348.D	01/12/22 16:17	n/a	Instrument Blank
SQ1911-IBLK	Q88348.D	01/12/22 16:17	n/a	Instrument Blank

Run Sequence Report

Job Number: FA92372
Account: ITTNKNOX APTIM
Project: Longhorn Army Ammunition Plant (GWTP); Karnack, TX

Run ID: SQ1916	**Method:** SW846 6850	**Instrument ID:** GCMSQ

Lab Sample ID	Lab File ID	Date/Time Analyzed	Prep QC Batch	Client Sample ID
SQ1916-CC1911	Q88446.D	01/21/22 09:41	n/a	Continuing cal 2.0
SQ1916-CC1911	Q88447.D	01/21/22 09:53	n/a	Continuing cal 0.2
OP89328-BS	Q88448.D	01/21/22 10:02	OP89328	Blank Spike
OP89328-MB	Q88449.D	01/21/22 10:10	OP89328	Method Blank
FA92339-5	Q88450.D	01/21/22 10:19	OP89328	(used for QC only; not part of job FA92372)
OP89328-MS	Q88451.D	01/21/22 10:27	OP89328	Matrix Spike
ZZZZZZ	Q88453.D	01/21/22 10:44	OP89328	(unrelated sample)
FA92372-1	Q88454.D	01/21/22 10:52	OP89328	16WW44-220110
FA92372-4	Q88457.D	01/21/22 11:17	OP89328	16WW14-220110
SQ1916-CC1911	Q88458.D	01/21/22 11:26	n/a	Continuing cal 2.0
SQ1916-CC1911	Q88459.D	01/21/22 11:34	n/a	Continuing cal 0.2
FA92372-5	Q88461.D	01/21/22 11:51	OP89328	16WW34-220110
FA92372-6	Q88462.D	01/21/22 11:59	OP89328	16WW34-220110-FD
FA92372-7	Q88463.D	01/21/22 12:08	OP89328	16WW33-220110
FA92372-8	Q88464.D	01/21/22 12:16	OP89328	16WW32-220110
FA92372-12	Q88468.D	01/21/22 12:50	OP89328	16WW22-220111
FA92372-13	Q88469.D	01/21/22 12:58	OP89328	16WW56-220111
FA92372-14	Q88470.D	01/21/22 13:07	OP89328	16WW46-220111
SQ1916-CC1911	Q88471.D	01/21/22 13:15	n/a	Continuing cal 2.0
SQ1916-CC1911	Q88472.D	01/21/22 13:23	n/a	Continuing cal 0.2
FA92372-15	Q88474.D	01/21/22 13:40	OP89328	16WW31-220111
FA92372-16	Q88475.D	01/21/22 13:49	OP89328	16WW39-220111
FA92372-17	Q88476.D	01/21/22 13:57	OP89328	16WW25-220112
FA92372-18	Q88477.D	01/21/22 14:05	OP89328	16WW25-220112-FD
OP89327-BS	Q88478.D	01/21/22 14:14	OP89327	Blank Spike
OP89327-MB	Q88479.D	01/21/22 14:22	OP89327	Method Blank
FA92372-19	Q88480.D	01/21/22 14:31	OP89327	16WW26-220112
FA92372-20	Q88481.D	01/21/22 14:39	OP89327	16WW26-220112-FD
SQ1916-CC1911	Q88482.D	01/21/22 14:47	n/a	Continuing cal 2.0
SQ1916-CC1911	Q88483.D	01/21/22 14:56	n/a	Continuing cal 0.2
FA92372-21	Q88485.D	01/21/22 15:13	OP89327	16WW30-220112
OP89327-MS1	Q88486.D	01/21/22 15:21	OP89327	Matrix Spike
OP89327-MSD1	Q88487.D	01/21/22 15:29	OP89327	Matrix Spike Duplicate
FA92372-22	Q88488.D	01/21/22 15:38	OP89327	16WW29-220112
FA92372-26	Q88492.D	01/21/22 16:11	OP89327	16EW04-220112
FA92372-27	Q88493.D	01/21/22 16:20	OP89327	16WW58-220113
SQ1916-CC1911	Q88494.D	01/21/22 16:28	n/a	Continuing cal 2.0
SQ1916-CC1911	Q88495.D	01/21/22 16:37	n/a	Continuing cal 0.2
FA92372-28	Q88497.D	01/21/22 16:54	OP89327	16WW57-220113
OP89327-MS2	Q88498.D	01/21/22 17:02	OP89327	Matrix Spike
FA92372-30	Q88501.D	01/21/22 17:27	OP89327	16WW21-220113
FA92372-31	Q88502.D	01/21/22 17:35	OP89327	16WW49-220113
FA92372-32	Q88503.D	01/21/22 17:44	OP89327	16WW48-220113
FA92372-33	Q88504.D	01/21/22 17:52	OP89327	16WW51-220113
SQ1916-CC1911	Q88506.D	01/21/22 18:09	n/a	Continuing cal 2.0
SQ1916-ECC1911	Q88507.D	01/21/22 18:18	n/a	Ending cal 0.2

Run Sequence Report

Job Number: FA92372
Account: ITTNKNOX APTIM
Project: Longhorn Army Ammunition Plant (GWTP); Karnack, TX

Run ID: SQ1916	**Method:** SW846 6850	**Instrument ID:** GCMSQ

Lab Sample ID	Lab File ID	Date/Time Analyzed	Prep QC Batch	Client Sample ID
SQ1916-IBLK	Q88508.D	01/21/22 18:26	n/a	Instrument Blank

Run Sequence Report

Job Number: FA92372
Account: ITTNKNOX APTIM
Project: Longhorn Army Ammunition Plant (GWTP); Karnack, TX

Run ID: SQ1917 **Method:** SW846 6850 **Instrument ID:** GCMSQ

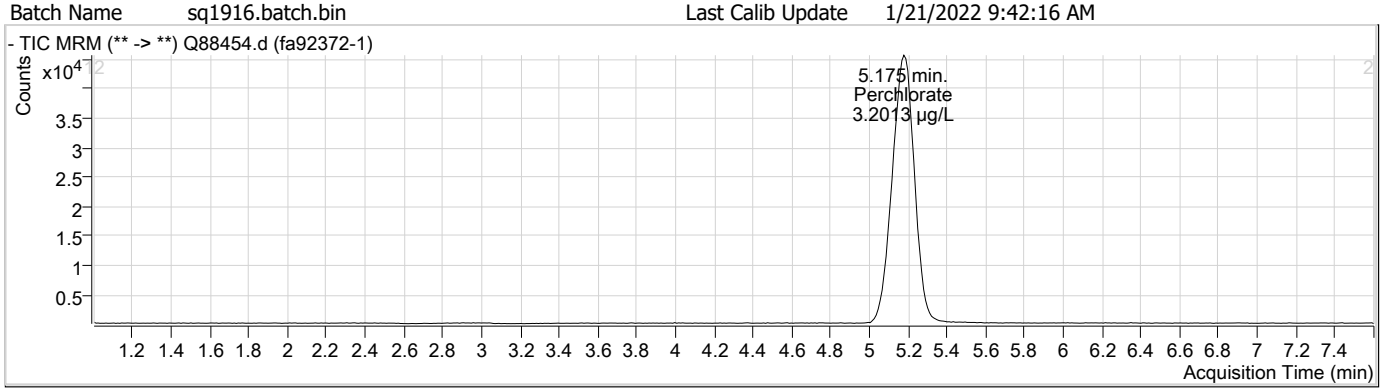
Lab Sample ID	Lab File ID	Date/Time Analyzed	Prep QC Batch	Client Sample ID
SQ1917-CC1911	Q88513.D	01/24/22 10:52	n/a	Continuing cal 2.0
SQ1917-CC1911	Q88514.D	01/24/22 11:00	n/a	Continuing cal 0.2
FA92372-2	Q88515.D	01/24/22 11:08	OP89328	16WW37-220110
FA92372-3	Q88516.D	01/24/22 11:17	OP89328	16WW38-220110
OP89328-MSD	Q88517.D	01/24/22 11:25	OP89328	Matrix Spike Duplicate
FA92372-9	Q88518.D	01/24/22 11:34	OP89328	16WW16-220111
FA92372-10	Q88519.D	01/24/22 11:42	OP89328	16WW35-220111
FA92372-11	Q88520.D	01/24/22 11:50	OP89328	16WW36-220111
SQ1917-CC1911	Q88521.D	01/24/22 11:59	n/a	Continuing cal 2.0
SQ1917-CC1911	Q88522.D	01/24/22 12:07	n/a	Continuing cal 0.2
FA92372-23	Q88524.D	01/24/22 12:24	OP89327	16WW55-220112
FA92372-24	Q88525.D	01/24/22 12:32	OP89327	16EW02-220112
FA92372-25	Q88526.D	01/24/22 12:41	OP89327	16EW08-220112
OP89327-MSD2	Q88527.D	01/24/22 12:49	OP89327	Matrix Spike Duplicate
FA92372-29	Q88528.D	01/24/22 12:58	OP89327	16WW41-220113
FA92372-34	Q88529.D	01/24/22 13:06	OP89327	16EW01-220113
SQ1917-CC1911	Q88530.D	01/24/22 13:14	n/a	Continuing cal 2.0
SQ1917-ECC1911	Q88531.D	01/24/22 13:23	n/a	Ending cal 0.2
SQ1917-IBLK	Q88532.D	01/24/22 13:31	n/a	Instrument Blank

MS Semi-volatiles

Raw Data

Quantitative Analysis Report for Perchlorate by 6850

Data File	: Q88454.d	Operator	natashag
Acq. Method	Perchlorate2.m	Acq. Date-Time	1/21/2022 10:52:48 AM
Sample Name	fa92372-1	Instrument	Instrument 1
Vial	P1-B9	Sample Information	OP89328,SQ1916,10.0,,,10.0,1,water
DA Method File	6850_011222_SQ1911.quantmethod.xml	Comment	
Batch Name	sq1916.batch.bin	Last Calib Update	1/21/2022 9:42:16 AM

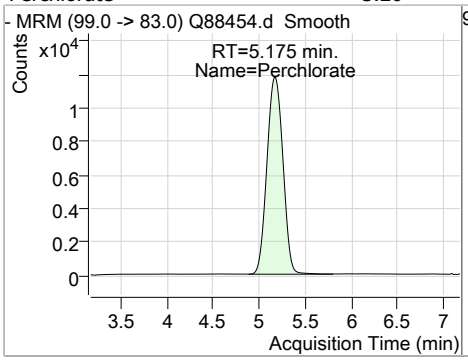


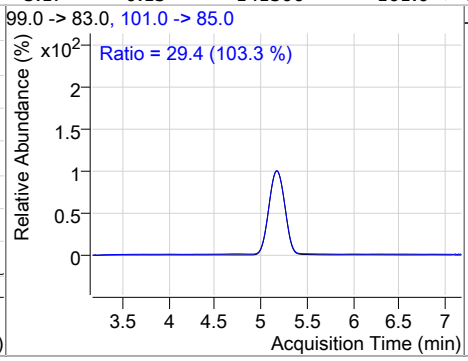
Compound	RT	QIon	Resp.	Q-ratio	Conc. Units	Dev(Min)
Internal Standards						
Cl18O4	5.178	107.0 -> 89.0	182921	NoQ	5.00 µg/L	-0.132
System Monitoring Compounds						
Target Compounds						**QValue**
Perchlorate	5.175	99.0 -> 83.0	141506	3.4	3.20 µg/L	98

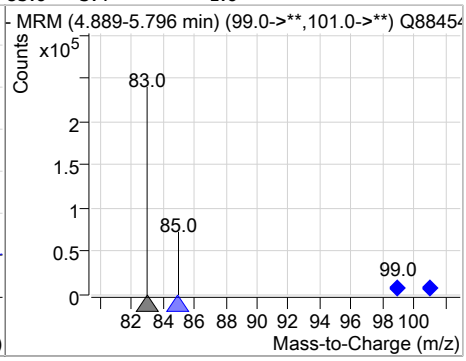
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

Quantitative Analysis Report for Perchlorate by 6850

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
Perchlorate	3.20	5.17	-0.13	141506	101.0 -> 85.0	3.4	1.6	

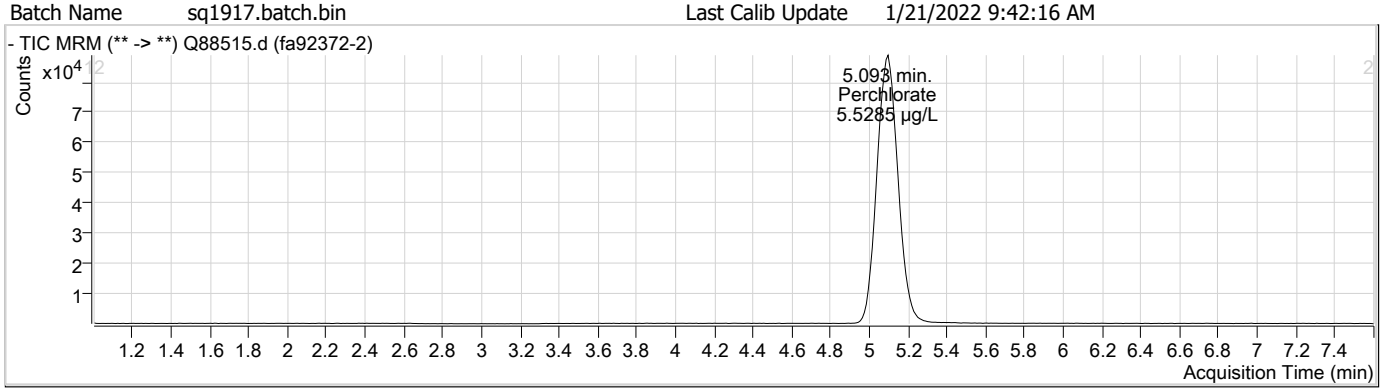






Quantitative Analysis Report for Perchlorate by 6850

Data File	: Q88515.d	Operator	natashag
Acq. Method	Perchlorate2.m	Acq. Date-Time	1/24/2022 11:08:54 AM
Sample Name	fa92372-2	Instrument	Instrument 1
Vial	P2-E1	Sample Information	OP89328,SQ1917,10.0,,,10.0,10,water
DA Method File	6850_011222_SQ1911.quantmethod.xml	Comment	10x
Batch Name	sq1917.batch.bin	Last Calib Update	1/21/2022 9:42:16 AM

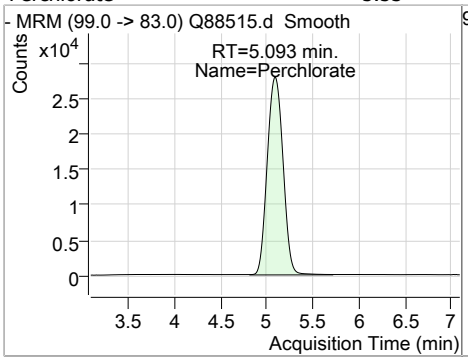


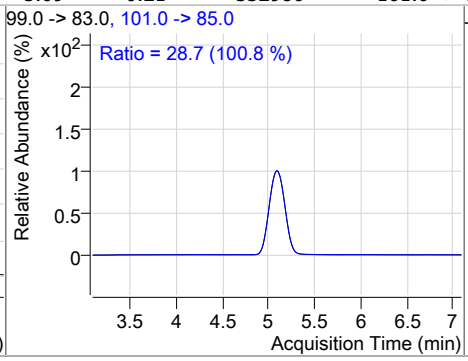
Compound	RT	QIon	Resp.	Q-ratio	Conc.	Units	Dev(Min)
Internal Standards							
Cl18O4	5.096	107.0 -> 89.0	249248	NoQ	5.00	µg/L	-0.214
System Monitoring Compounds							
Target Compounds							QValue
Perchlorate	5.093	99.0 -> 83.0	332980	3.5	5.53	µg/L	100

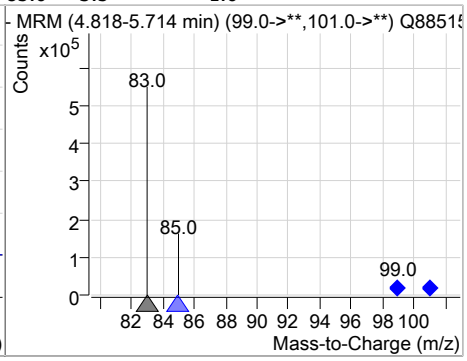
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

Quantitative Analysis Report for Perchlorate by 6850

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
Perchlorate	5.53	5.09	-0.21	332980	101.0 -> 85.0	3.5	1.6	





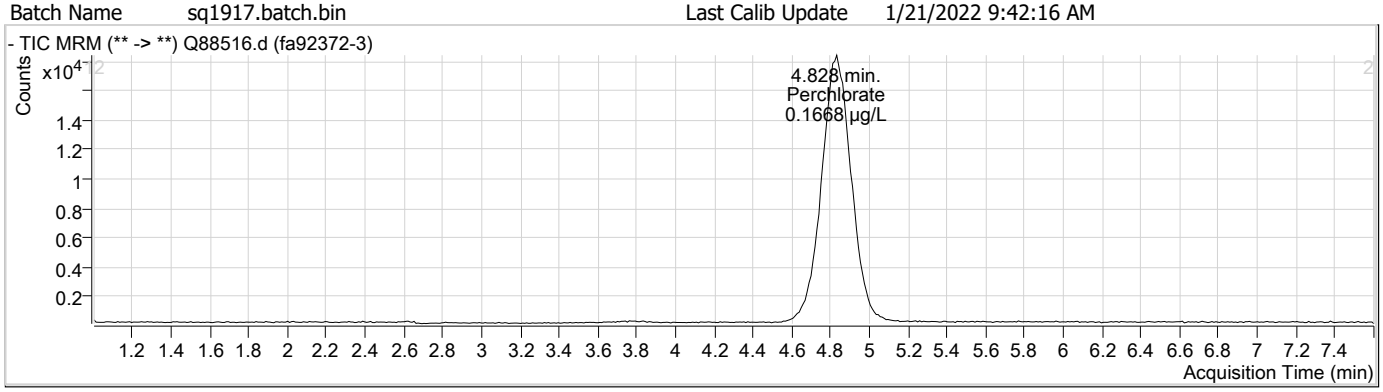


7.1.2

7

Quantitative Analysis Report for Perchlorate by 6850

Data File	: Q88516.d	Operator	natashag
Acq. Method	Perchlorate2.m	Acq. Date-Time	1/24/2022 11:17:18 AM
Sample Name	fa92372-3	Instrument	Instrument 1
Vial	P2-E2	Sample Information	OP89328,SQ1917,10.0,,,10.0,1,water
DA Method File	6850_011222_SQ1911.quantmethod.xml	Comment	1x c/o
Batch Name	sq1917.batch.bin	Last Calib Update	1/21/2022 9:42:16 AM

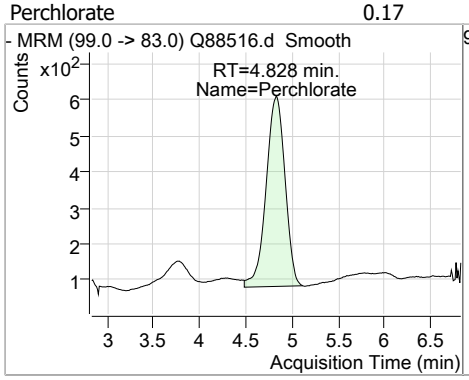


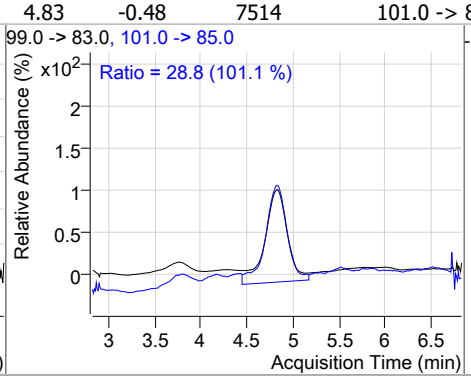
Compound	RT	QIon	Resp.	Q-ratio	Conc. Units	Dev(Min)
Internal Standards						
Cl18O4	4.832	107.0 -> 89.0	186371	NoQ	5.00 µg/L	-0.479
System Monitoring Compounds						
Target Compounds						**QValue**
Perchlorate	4.828	99.0 -> 83.0	7514	3.5	0.17 µg/L	100

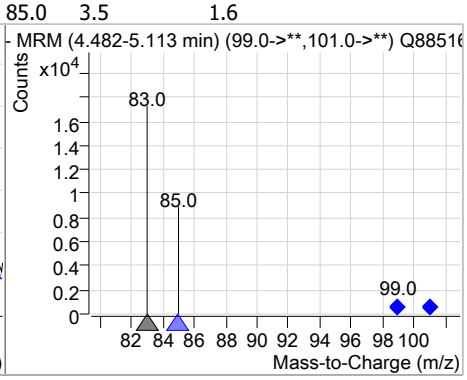
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

Quantitative Analysis Report for Perchlorate by 6850

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
Perchlorate	0.17	4.83	-0.48	7514	101.0 -> 85.0	3.5	1.6	

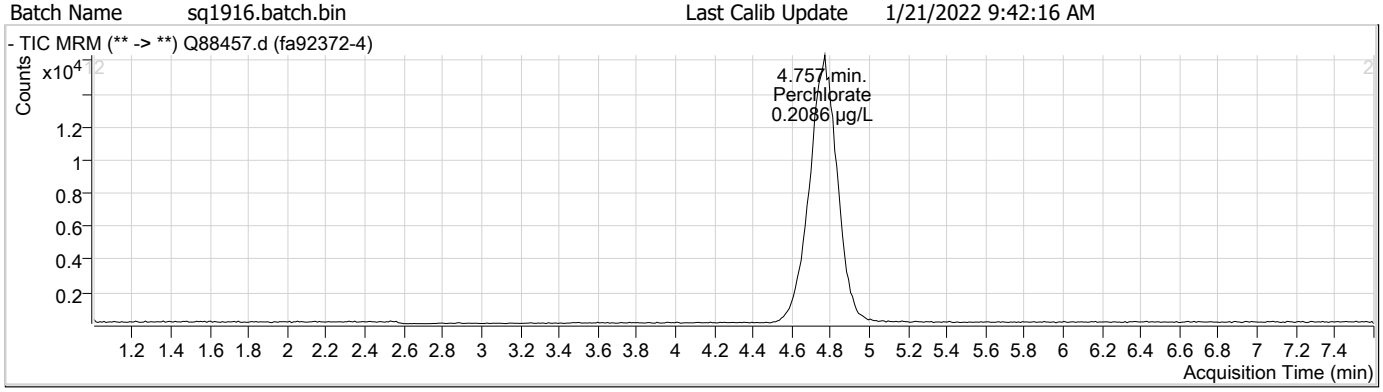






Quantitative Analysis Report for Perchlorate by 6850

Data File	: Q88457.d	Operator	natashag
Acq. Method	Perchlorate2.m	Acq. Date-Time	1/21/2022 11:17:59 AM
Sample Name	fa92372-4	Instrument	Instrument 1
Vial	P1-C3	Sample Information	OP89328,SQ1916,10.0,,,10.0,1,water
DA Method File	6850_011222_SQ1911.quantmethod.xml	Comment	
Batch Name	sq1916.batch.bin	Last Calib Update	1/21/2022 9:42:16 AM

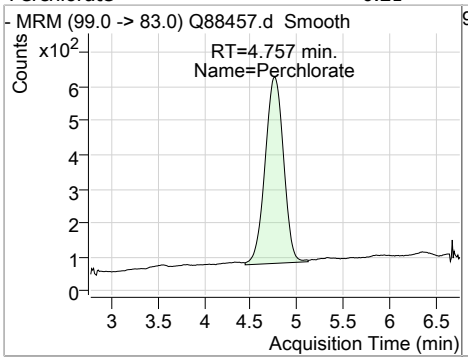


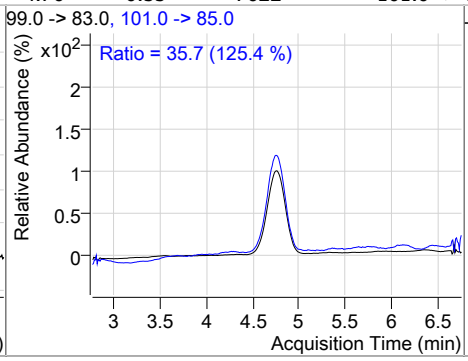
Compound	RT	QIon	Resp.	Q-ratio	Conc.	Units	Dev(Min)
Internal Standards							
Cl18O4	4.771	107.0 -> 89.0	151173	NoQ	5.00	µg/L	-0.540
System Monitoring Compounds							
Target Compounds							QValue
Perchlorate	4.757	99.0 -> 83.0	7622	2.8	0.21	µg/L	86

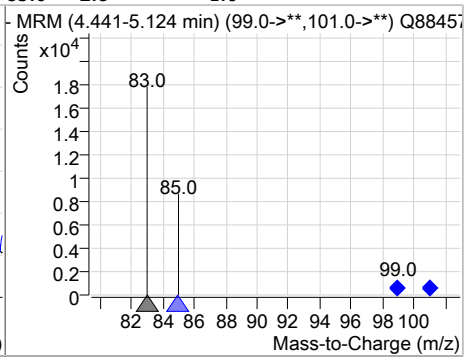
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

Quantitative Analysis Report for Perchlorate by 6850

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
Perchlorate	0.21	4.76	-0.55	7622	101.0 -> 85.0	2.8	1.6	

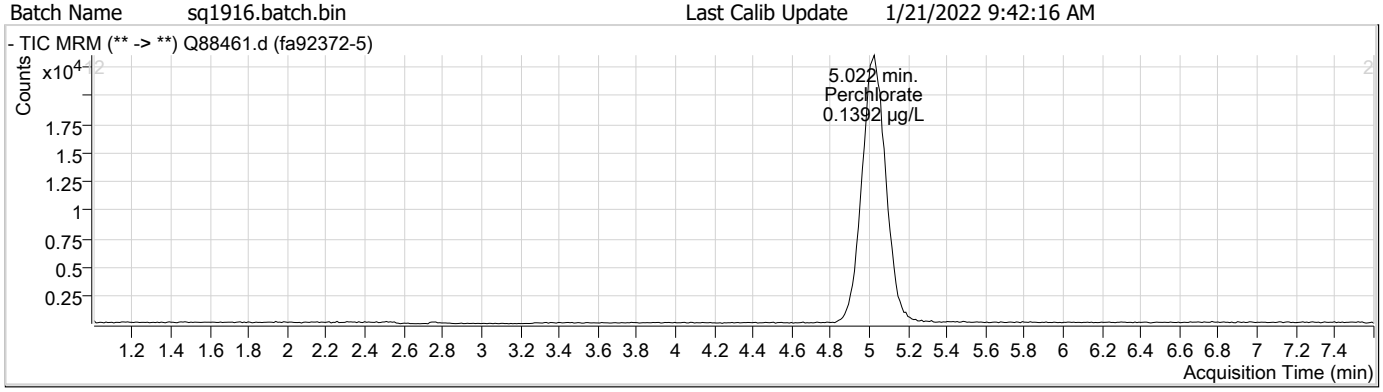






Quantitative Analysis Report for Perchlorate by 6850

Data File	: Q88461.d	Operator	natashag
Acq. Method	Perchlorate2.m	Acq. Date-Time	1/21/2022 11:51:35 AM
Sample Name	fa92372-5	Instrument	Instrument 1
Vial	P1-C4	Sample Information	OP89328,SQ1916,10.0,,,10.0,1,water
DA Method File	6850_011222_SQ1911.quantmethod.xml	Comment	
Batch Name	sq1916.batch.bin	Last Calib Update	1/21/2022 9:42:16 AM

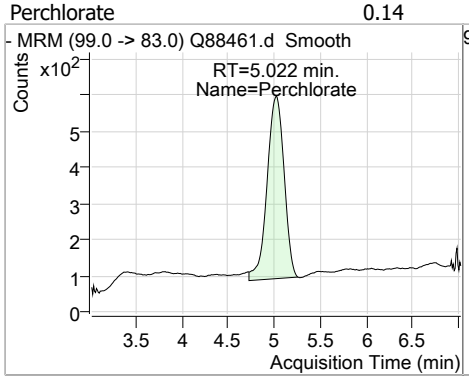


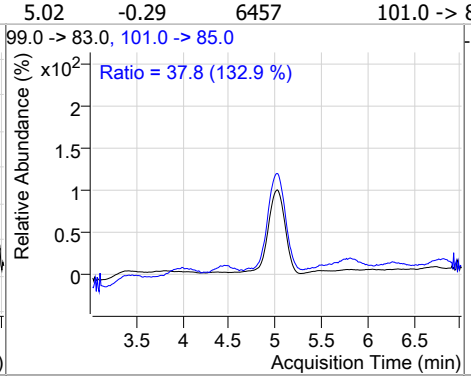
Compound	RT	QIon	Resp.	Q-ratio	Conc. Units	Dev(Min)
Internal Standards						
Cl18O4	5.025	107.0 -> 89.0	191966	NoQ	5.00 µg/L	-0.285
System Monitoring Compounds						
Target Compounds						**QValue**
Perchlorate	5.022	99.0 -> 83.0	6457	2.6	0.14 µg/L	82

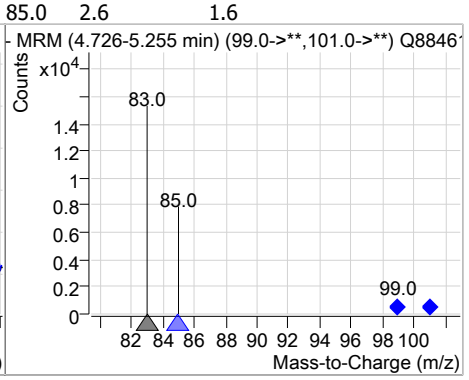
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

Quantitative Analysis Report for Perchlorate by 6850

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
Perchlorate	0.14	5.02	-0.29	6457	101.0 -> 85.0	2.6	1.6	



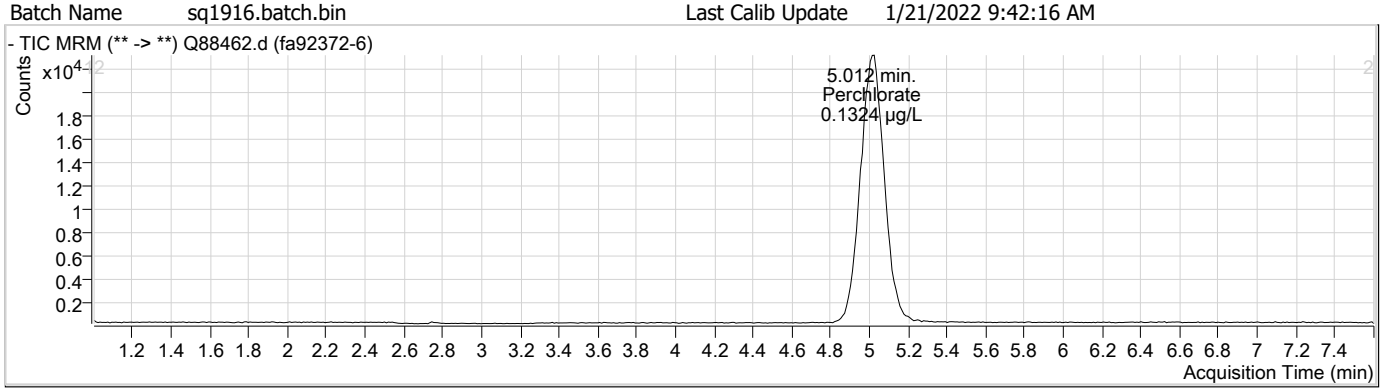




01171991

Quantitative Analysis Report for Perchlorate by 6850

Data File	: Q88462.d	Operator	natashag
Acq. Method	Perchlorate2.m	Acq. Date-Time	1/21/2022 11:59:58 AM
Sample Name	fa92372-6	Instrument	Instrument 1
Vial	P1-C5	Sample Information	OP89328,SQ1916,10.0,,,10.0,1,water
DA Method File	6850_011222_SQ1911.quantmethod.xml	Comment	
Batch Name	sq1916.batch.bin	Last Calib Update	1/21/2022 9:42:16 AM

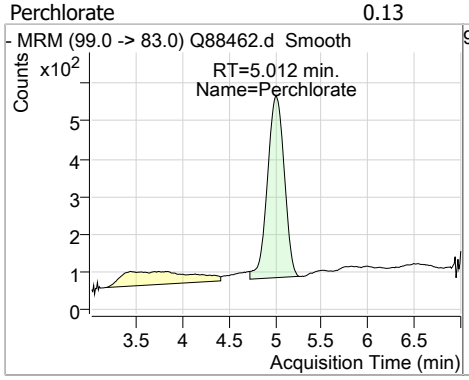


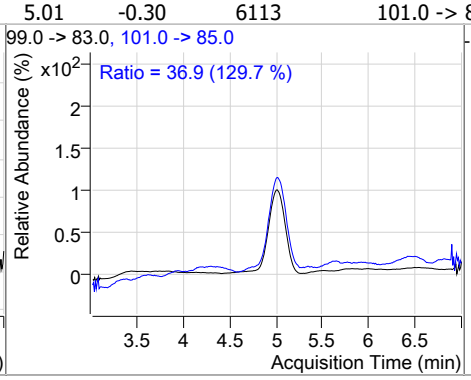
Compound	RT	QIon	Resp.	Q-ratio	Conc. Units	Dev(Min)
Internal Standards						
Cl18O4	5.015	107.0 -> 89.0	191027	NoQ	5.00 µg/L	-0.295
System Monitoring Compounds						
Target Compounds						**QValue**
Perchlorate	5.012	99.0 -> 83.0	6113	2.7	0.13 µg/L	84

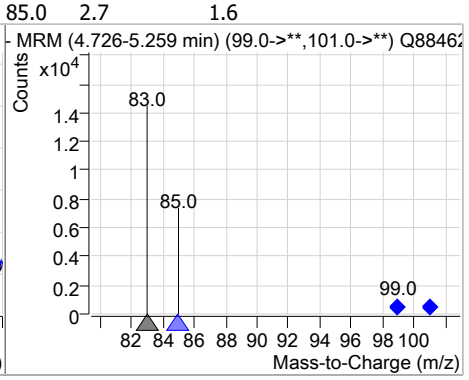
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

Quantitative Analysis Report for Perchlorate by 6850

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
Perchlorate	0.13	5.01	-0.30	6113	101.0 -> 85.0	2.7	1.6	

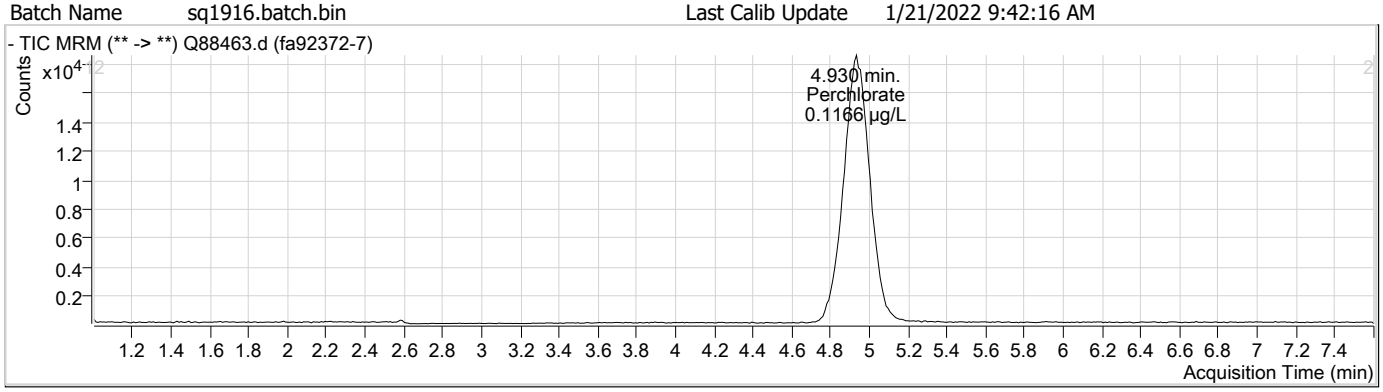






Quantitative Analysis Report for Perchlorate by 6850

Data File	: Q88463.d	Operator	natashag
Acq. Method	Perchlorate2.m	Acq. Date-Time	1/21/2022 12:08:23 PM
Sample Name	fa92372-7	Instrument	Instrument 1
Vial	P1-C6	Sample Information	OP89328,SQ1916,10.0,,,10.0,1,water
DA Method File	6850_011222_SQ1911.quantmethod.xml	Comment	
Batch Name	sq1916.batch.bin	Last Calib Update	1/21/2022 9:42:16 AM

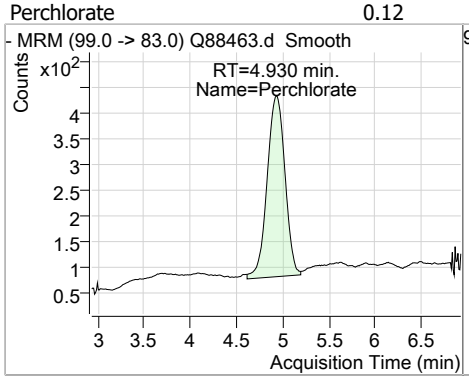


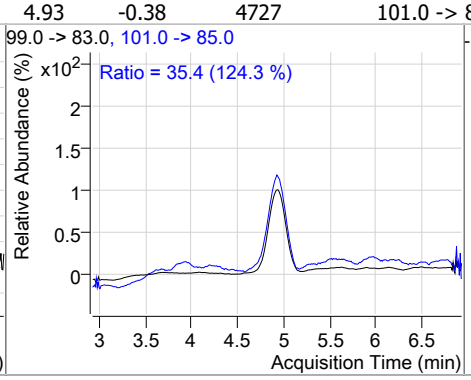
Compound	RT	QIon	Resp.	Q-ratio	Conc. Units	Dev(Min)
Internal Standards						
Cl18O4	4.934	107.0 -> 89.0	167747	NoQ	5.00 µg/L	-0.377
System Monitoring Compounds						
Target Compounds						QValue
Perchlorate	4.930	99.0 -> 83.0	4727	2.8	0.12 µg/L	87

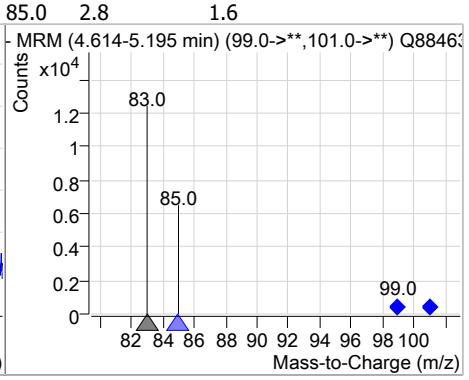
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

Quantitative Analysis Report for Perchlorate by 6850

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
Perchlorate	0.12	4.93	-0.38	4727	101.0 -> 85.0	2.8	1.6	



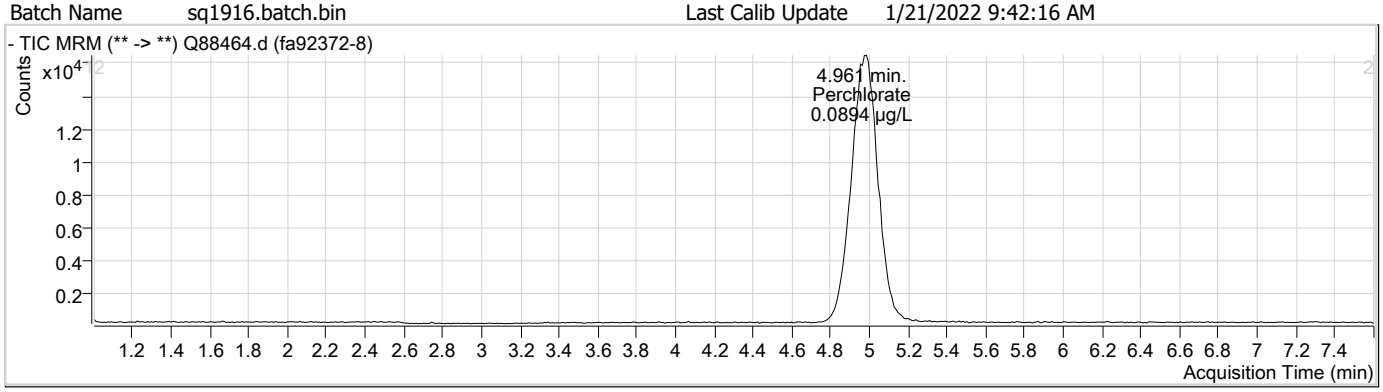




01171995

Quantitative Analysis Report for Perchlorate by 6850

Data File	: Q88464.d	Operator	natashag
Acq. Method	Perchlorate2.m	Acq. Date-Time	1/21/2022 12:16:47 PM
Sample Name	fa92372-8	Instrument	Instrument 1
Vial	P1-C7	Sample Information	OP89328,SQ1916,10.0,,,10.0,1,water
DA Method File	6850_011222_SQ1911.quantmethod.xml	Comment	
Batch Name	sq1916.batch.bin	Last Calib Update	1/21/2022 9:42:16 AM



Compound	RT	QIon	Resp.	Q-ratio	Conc.	Units		Dev(Min)
Internal Standards								
Cl18O4	4.974	107.0 -> 89.0	152662	NoQ	5.00	µg/L		-0.336
System Monitoring Compounds								
Target Compounds								QValue
Perchlorate	4.961	99.0 -> 83.0	3298	3.4	0.09	µg/L	m	99

(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

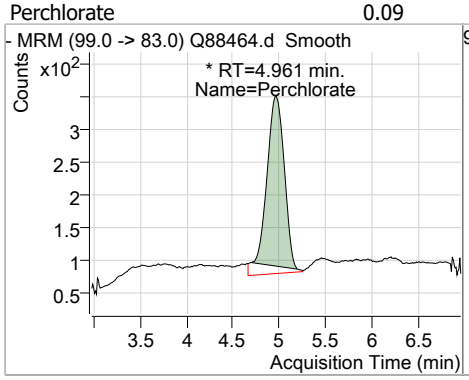
Manual Integrations APPROVED (compounds with "m" flag)

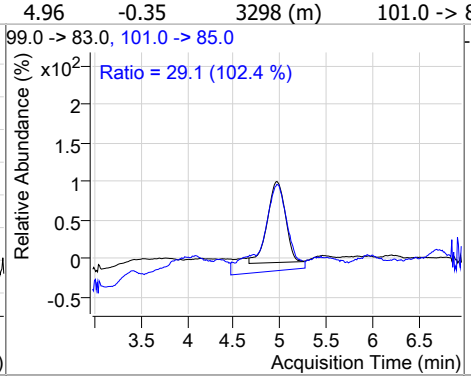
Mike Eger

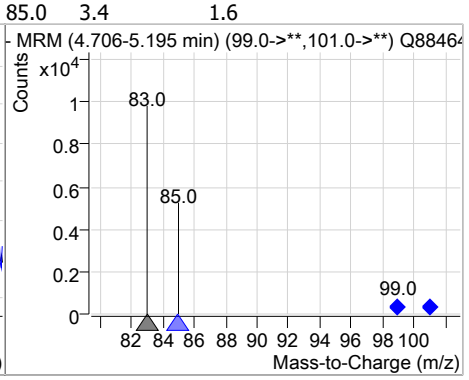
01/24/22 15:28

Quantitative Analysis Report for Perchlorate by 6850

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
Perchlorate	0.09	4.96	-0.35	3298 (m)	101.0 -> 85.0	3.4	1.6	







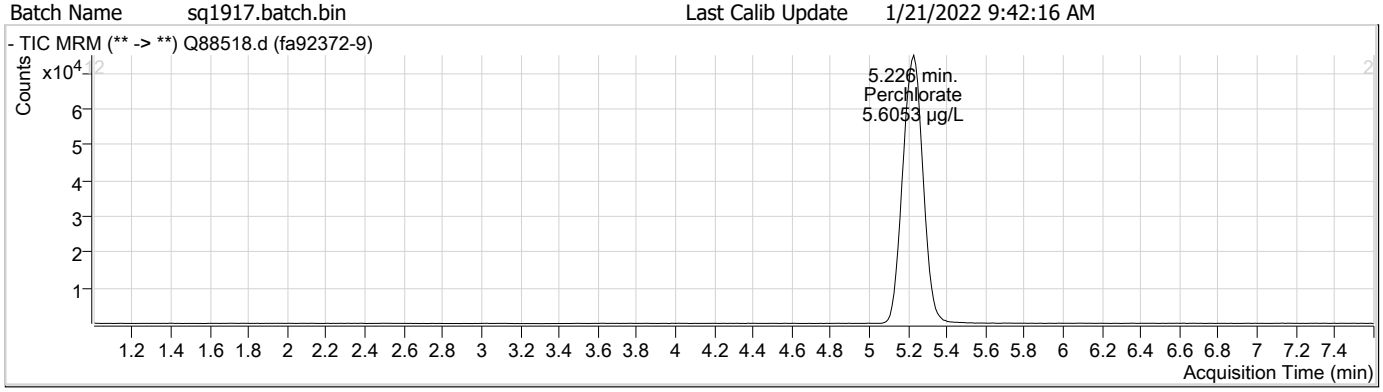
Manual Integration Approval Summary

Sample Number: FA92372-8
Lab FileID: Q88464.D
Injection Time: 01/21/22 12:16
Method: SW846 6850
Analyst approved: 01/24/22 10:44 Natasha Gumtie
Supervisor approved: 01/24/22 15:28 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perchlorate	14797-73-0		4.96	Poorly defined baseline

Quantitative Analysis Report for Perchlorate by 6850

Data File	: Q88518.d	Operator	natashag
Acq. Method	Perchlorate2.m	Acq. Date-Time	1/24/2022 11:34:05 AM
Sample Name	fa92372-9	Instrument	Instrument 1
Vial	P2-E4	Sample Information	OP89328,SQ1917,10.0,,,10.0,100,water
DA Method File	6850_011222_SQ1911.quantmethod.xml	Comment	100x
Batch Name	sq1917.batch.bin	Last Calib Update	1/21/2022 9:42:16 AM

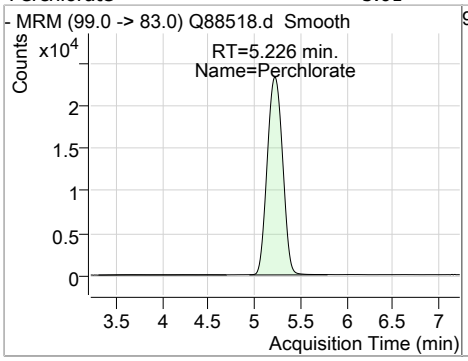


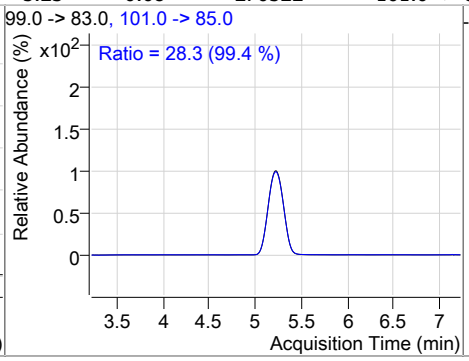
Compound	RT	QIon	Resp.	Q-ratio	Conc.	Units	Dev(Min)
Internal Standards							
Cl18O4	5.229	107.0 -> 89.0	199720	NoQ	5.00	µg/L	-0.081
System Monitoring Compounds							
Target Compounds							QValue
Perchlorate	5.226	99.0 -> 83.0	270522	3.5	5.61	µg/L	100

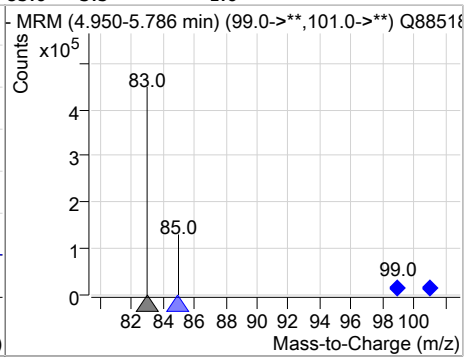
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

Quantitative Analysis Report for Perchlorate by 6850

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
Perchlorate	5.61	5.23	-0.08	270522	101.0 -> 85.0	3.5	1.6	

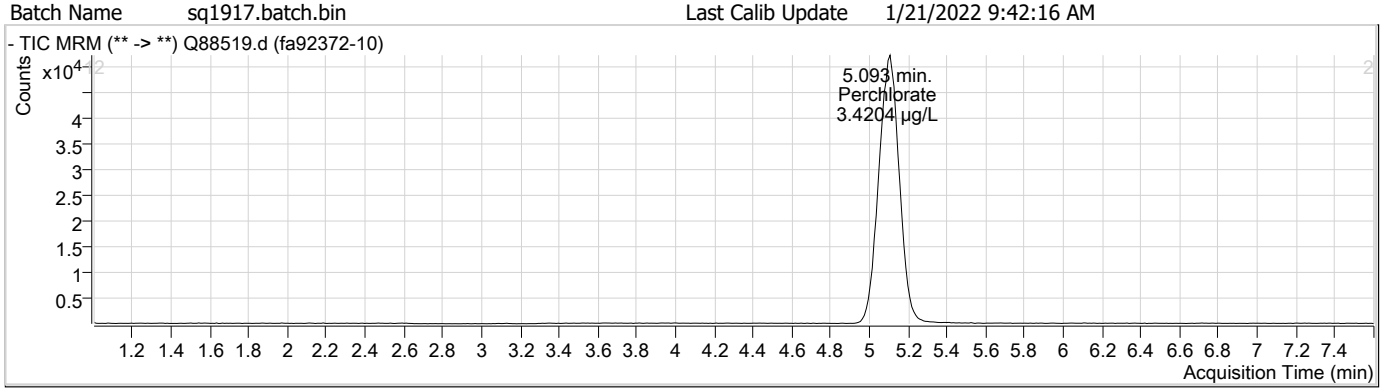






Quantitative Analysis Report for Perchlorate by 6850

Data File	: Q88519.d	Operator	natashag
Acq. Method	Perchlorate2.m	Acq. Date-Time	1/24/2022 11:42:30 AM
Sample Name	fa92372-10	Instrument	Instrument 1
Vial	P2-E5	Sample Information	OP89328,SQ1917,10.0,,,10.0,100,water
DA Method File	6850_011222_SQ1911.quantmethod.xml	Comment	100x
Batch Name	sq1917.batch.bin	Last Calib Update	1/21/2022 9:42:16 AM

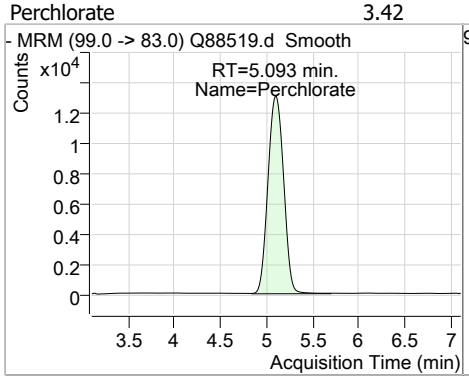


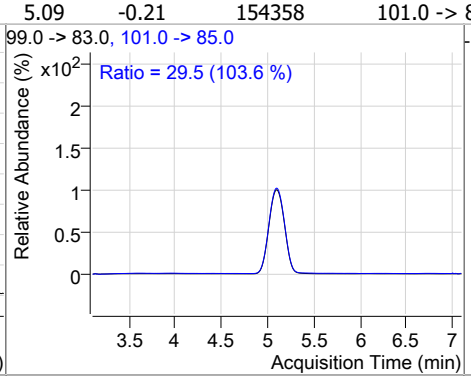
Compound	RT	QIon	Resp.	Q-ratio	Conc.	Units	Dev(Min)
Internal Standards							
Cl18O4	5.107	107.0 -> 89.0	186755	NoQ	5.00	µg/L	-0.204
System Monitoring Compounds							
Target Compounds							QValue
Perchlorate	5.093	99.0 -> 83.0	154358	3.4	3.42	µg/L	98

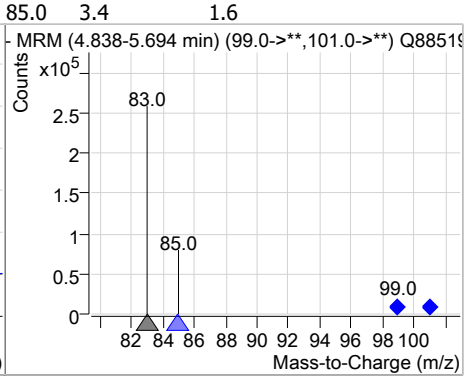
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

Quantitative Analysis Report for Perchlorate by 6850

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
Perchlorate	3.42	5.09	-0.21	154358	101.0 -> 85.0	3.4	1.6	





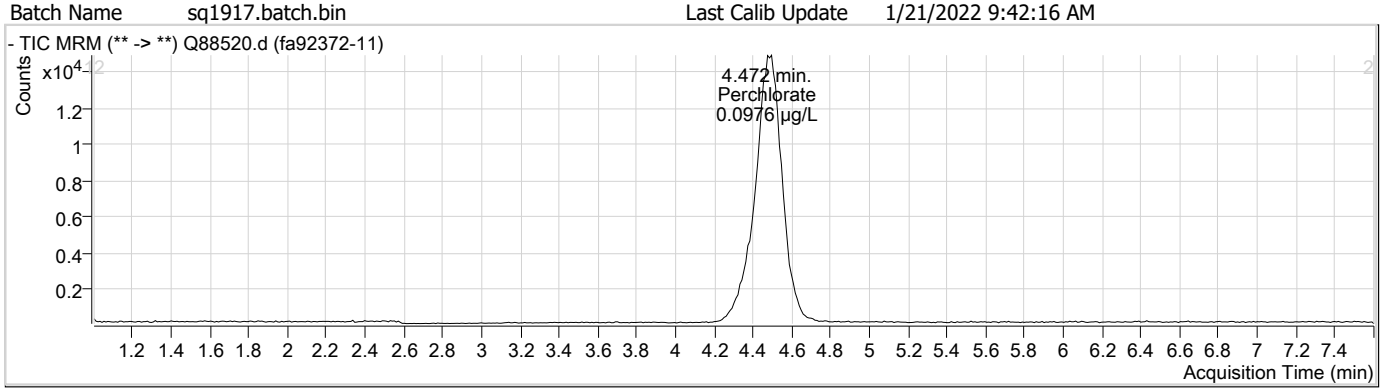


7.1.10

7

Quantitative Analysis Report for Perchlorate by 6850

Data File	: Q88520.d	Operator	natashag
Acq. Method	Perchlorate2.m	Acq. Date-Time	1/24/2022 11:50:54 AM
Sample Name	fa92372-11	Instrument	Instrument 1
Vial	P2-E6	Sample Information	OP89328,SQ1917,10.0,,,10.0,1,water
DA Method File	6850_011222_SQ1911.quantmethod.xml	Comment	1x c/o
Batch Name	sq1917.batch.bin	Last Calib Update	1/21/2022 9:42:16 AM



Compound	RT	QIon	Resp.	Q-ratio	Conc.	Units		Dev(Min)
Internal Standards								
Cl18O4	4.485	107.0 -> 89.0	141195	NoQ	5.00	µg/L		-0.825
System Monitoring Compounds								
Target Compounds								QValue
Perchlorate	4.472	99.0 -> 83.0	3331	2.8	0.10	µg/L	m	87

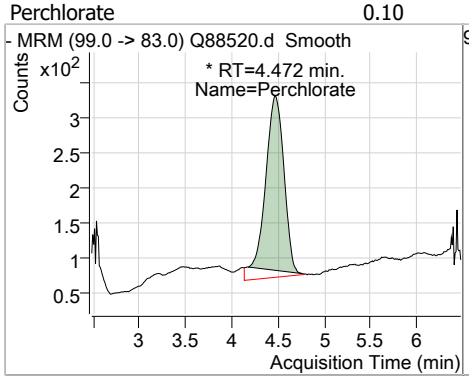
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

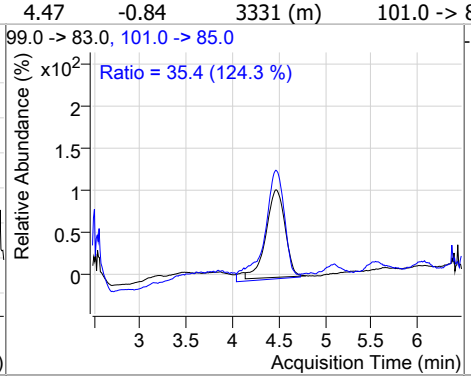
Manual Integrations APPROVED (compounds with "m" flag)

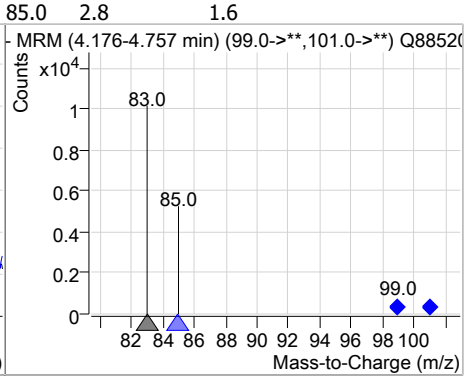
Mike Eger 01/24/22 15:28

Quantitative Analysis Report for Perchlorate by 6850

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
Perchlorate	0.10	4.47	-0.84	3331 (m)	101.0 -> 85.0	2.8	1.6	







7.1.11

7

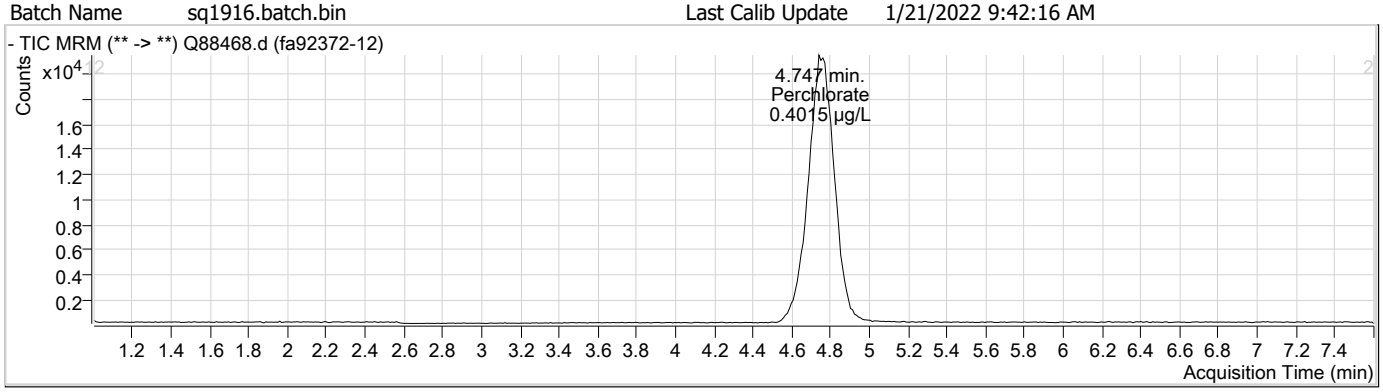
Manual Integration Approval Summary

Sample Number: FA92372-11
Lab FileID: Q88520.D
Injection Time: 01/24/22 11:50
Method: SW846 6850
Analyst approved: 01/24/22 13:57 Natasha Gumtie
Supervisor approved: 01/24/22 15:28 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perchlorate	14797-73-0		4.47	Poorly defined baseline

Quantitative Analysis Report for Perchlorate by 6850

Data File	: Q88468.d	Operator	natashag
Acq. Method	Perchlorate2.m	Acq. Date-Time	1/21/2022 12:50:24 PM
Sample Name	fa92372-12	Instrument	Instrument 1
Vial	P1-D2	Sample Information	OP89328,SQ1916,10.0,,,10.0,1,water
DA Method File	6850_011222_SQ1911.quantmethod.xml	Comment	
Batch Name	sq1916.batch.bin	Last Calib Update	1/21/2022 9:42:16 AM

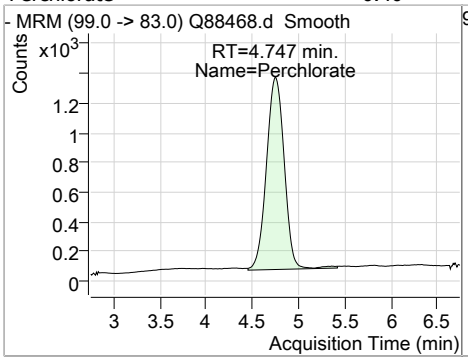


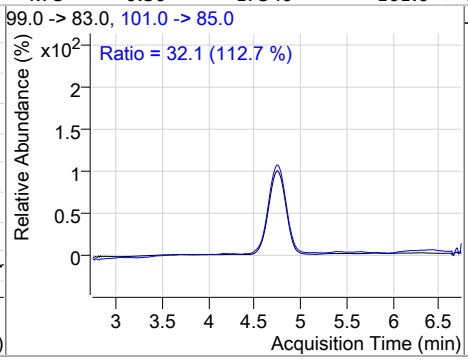
Compound	RT	QIon	Resp.	Q-ratio	Conc.	Units	Dev(Min)
Internal Standards							
Cl18O4	4.750	107.0 -> 89.0	178706	NoQ	5.00	µg/L	-0.560
System Monitoring Compounds							
Target Compounds							**QValue**
Perchlorate	4.747	99.0 -> 83.0	17340	3.1	0.40	µg/L	93

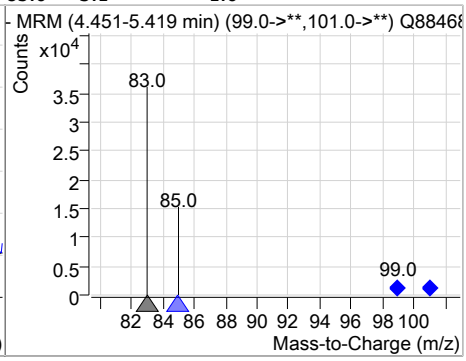
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

Quantitative Analysis Report for Perchlorate by 6850

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
Perchlorate	0.40	4.75	-0.56	17340	101.0 -> 85.0	3.1	1.6	





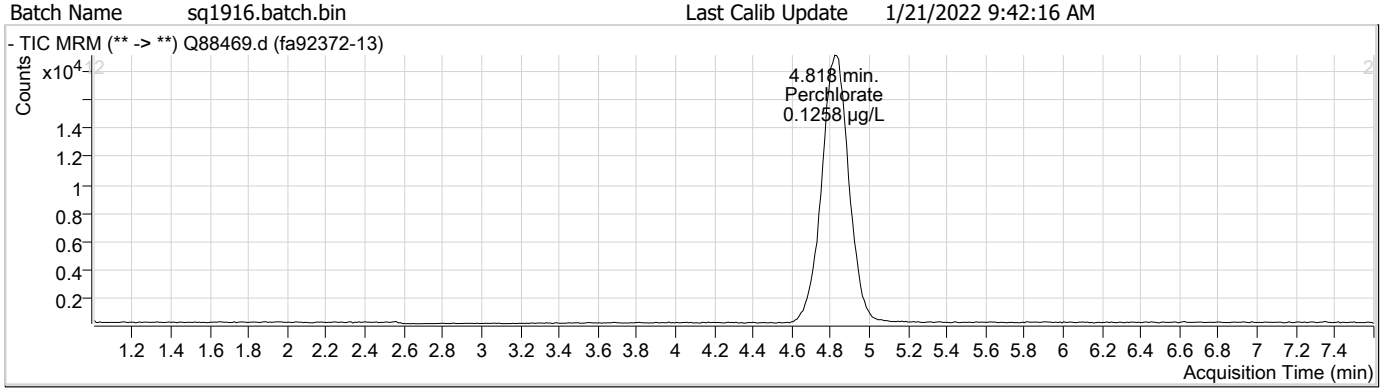


7.1.12

7

Quantitative Analysis Report for Perchlorate by 6850

Data File	: Q88469.d	Operator	natashag
Acq. Method	Perchlorate2.m	Acq. Date-Time	1/21/2022 12:58:48 PM
Sample Name	fa92372-13	Instrument	Instrument 1
Vial	P1-D3	Sample Information	OP89328,SQ1916,10.0,,,10.0,1,water
DA Method File	6850_011222_SQ1911.quantmethod.xml	Comment	
Batch Name	sq1916.batch.bin	Last Calib Update	1/21/2022 9:42:16 AM

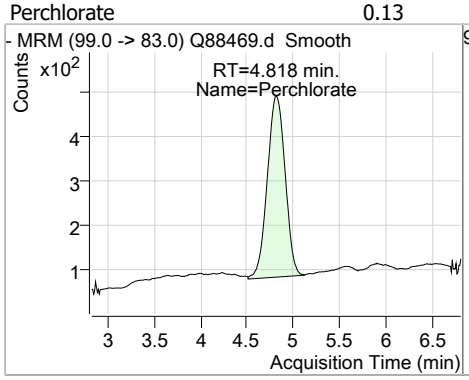


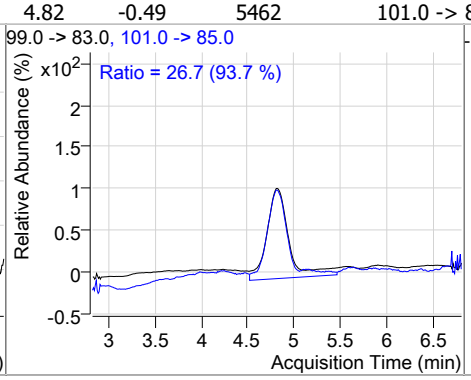
Compound	RT	QIon	Resp.	Q-ratio	Conc. Units	Dev(Min)
Internal Standards						
Cl18O4	4.821	107.0 -> 89.0	179620	NoQ	5.00 µg/L	-0.489
System Monitoring Compounds						
Target Compounds						**QValue**
Perchlorate	4.818	99.0 -> 83.0	5462	3.8	0.13 µg/L	97

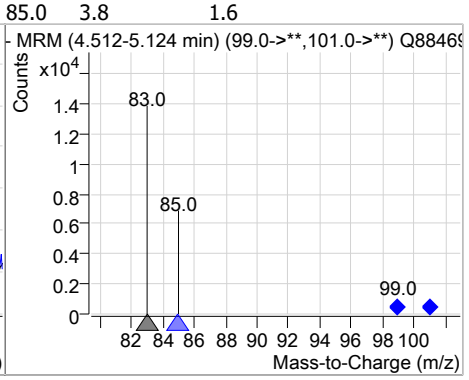
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

Quantitative Analysis Report for Perchlorate by 6850

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
Perchlorate	0.13	4.82	-0.49	5462	101.0 -> 85.0	3.8	1.6	

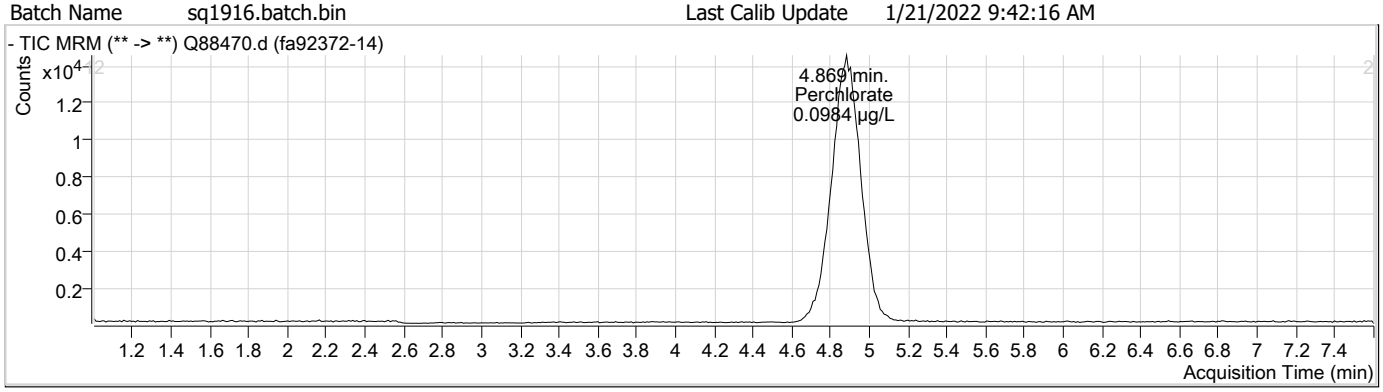






Quantitative Analysis Report for Perchlorate by 6850

Data File	: Q88470.d	Operator	natashag
Acq. Method	Perchlorate2.m	Acq. Date-Time	1/21/2022 1:07:12 PM
Sample Name	fa92372-14	Instrument	Instrument 1
Vial	P1-D4	Sample Information	OP89328,SQ1916,10.0,,,10.0,1,water
DA Method File	6850_011222_SQ1911.quantmethod.xml	Comment	
Batch Name	sq1916.batch.bin	Last Calib Update	1/21/2022 9:42:16 AM

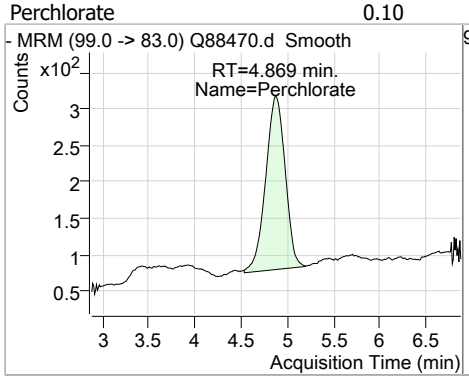


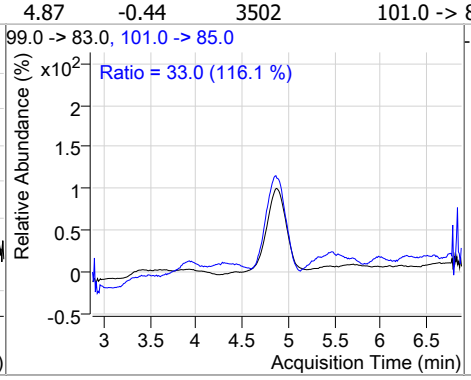
Compound	RT	QIon	Resp.	Q-ratio	Conc. Units	Dev(Min)
Internal Standards						
Cl18O4	4.883	107.0 -> 89.0	147222	NoQ	5.00 µg/L	-0.428
System Monitoring Compounds						
Target Compounds						**QValue**
Perchlorate	4.869	99.0 -> 83.0	3502	3.0	0.10 µg/L	91

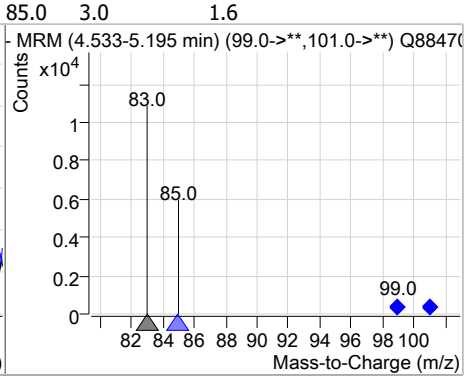
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

Quantitative Analysis Report for Perchlorate by 6850

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
Perchlorate	0.10	4.87	-0.44	3502	101.0 -> 85.0	3.0	1.6	





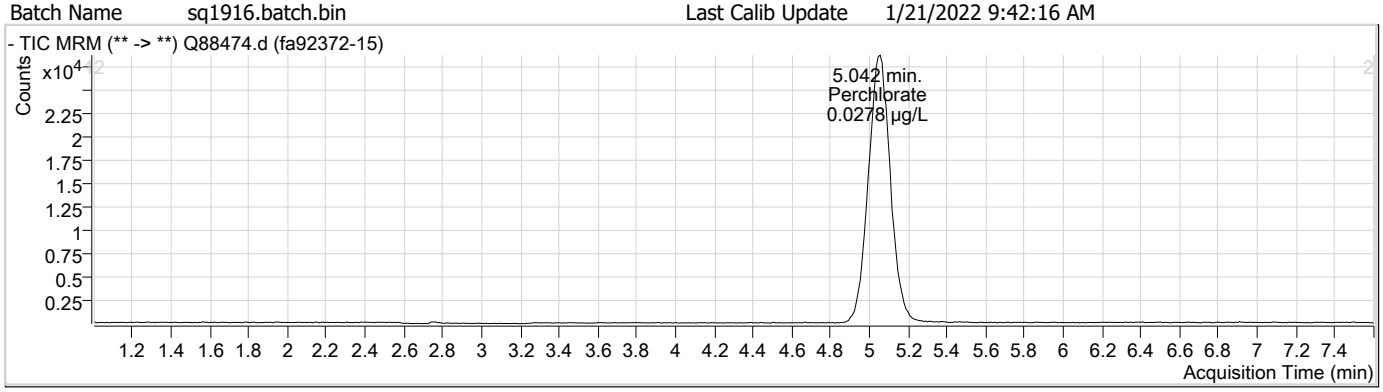


7.1.14

7

Quantitative Analysis Report for Perchlorate by 6850

Data File	: Q88474.d	Operator	natashag
Acq. Method	Perchlorate2.m	Acq. Date-Time	1/21/2022 1:40:47 PM
Sample Name	fa92372-15	Instrument	Instrument 1
Vial	P1-D5	Sample Information	OP89328,SQ1916,10.0,,,10.0,1,water
DA Method File	6850_011222_SQ1911.quantmethod.xml	Comment	
Batch Name	sq1916.batch.bin	Last Calib Update	1/21/2022 9:42:16 AM



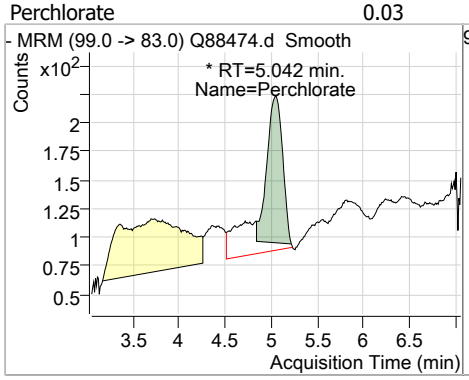
Compound	RT	QIon	Resp.	Q-ratio	Conc.	Units		Dev(Min)
Internal Standards								
Cl18O4	5.056	107.0 -> 89.0	225144	NoQ	5.00	µg/L		-0.255
System Monitoring Compounds								
Target Compounds								QValue
Perchlorate	5.042	99.0 -> 83.0	1511	2.9	0.03	µg/L	m	90

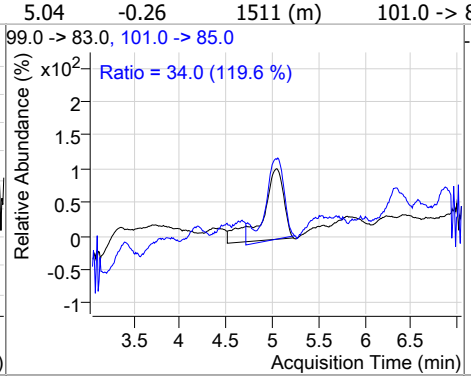
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

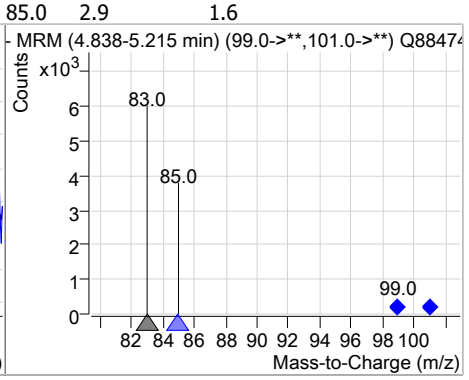
Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
01/24/22 15:28

Quantitative Analysis Report for Perchlorate by 6850

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
Perchlorate	0.03	5.04	-0.26	1511 (m)	101.0 -> 85.0	2.9	1.6	







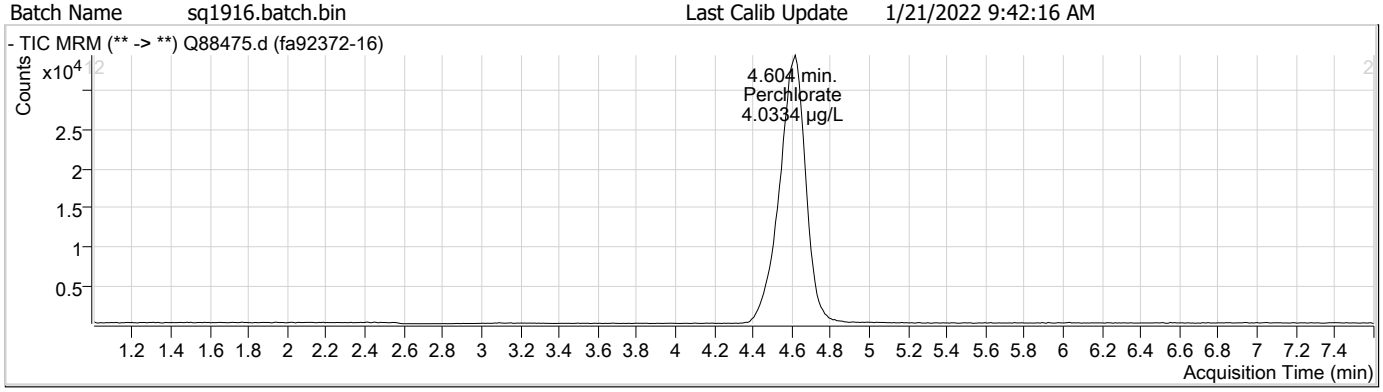
Manual Integration Approval Summary

Sample Number: FA92372-15
Lab FileID: Q88474.D
Injection Time: 01/21/22 13:40
Method: SW846 6850
Analyst approved: 01/24/22 10:44 Natasha Gumtie
Supervisor approved: 01/24/22 15:28 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perchlorate	14797-73-0		5.04	Poorly defined baseline

Quantitative Analysis Report for Perchlorate by 6850

Data File	: Q88475.d	Operator	natashag
Acq. Method	Perchlorate2.m	Acq. Date-Time	1/21/2022 1:49:11 PM
Sample Name	fa92372-16	Instrument	Instrument 1
Vial	P1-D6	Sample Information	OP89328,SQ1916,10.0,,,10.0,1,water
DA Method File	6850_011222_SQ1911.quantmethod.xml	Comment	
Batch Name	sq1916.batch.bin	Last Calib Update	1/21/2022 9:42:16 AM

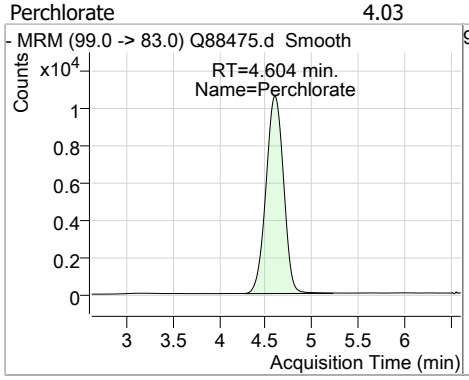


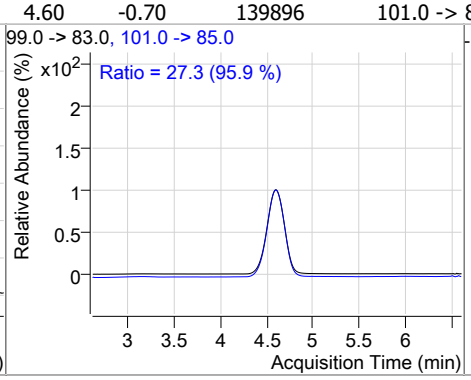
Compound	RT	QIon	Resp.	Q-ratio	Conc.	Units	Dev(Min)
Internal Standards							
Cl18O4	4.618	107.0 -> 89.0	143534	NoQ	5.00	µg/L	-0.693
System Monitoring Compounds							
Target Compounds							QValue
Perchlorate	4.604	99.0 -> 83.0	139896	3.7	4.03	µg/L	98

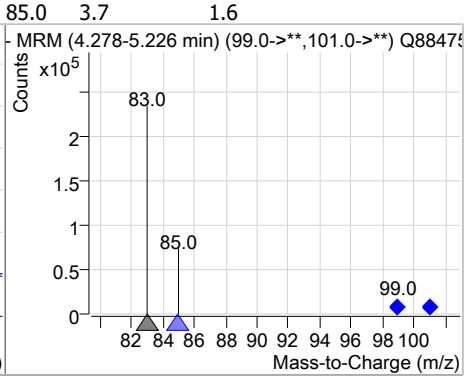
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

Quantitative Analysis Report for Perchlorate by 6850

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
Perchlorate	4.03	4.60	-0.70	139896	101.0 -> 85.0	3.7	1.6	





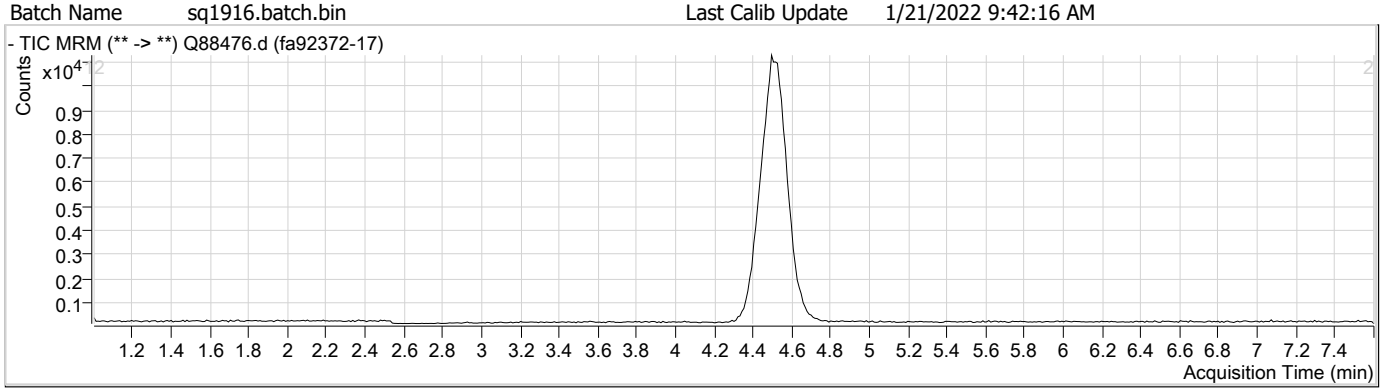


7.1.16

7

Quantitative Analysis Report for Perchlorate by 6850

Data File	: Q88476.d	Operator	natashag
Acq. Method	Perchlorate2.m	Acq. Date-Time	1/21/2022 1:57:35 PM
Sample Name	fa92372-17	Instrument	Instrument 1
Vial	P1-D7	Sample Information	OP89328,SQ1916,10.0,,,10.0,1,water
DA Method File	6850_011222_SQ1911.quantmethod.xml	Comment	
Batch Name	sq1916.batch.bin	Last Calib Update	1/21/2022 9:42:16 AM

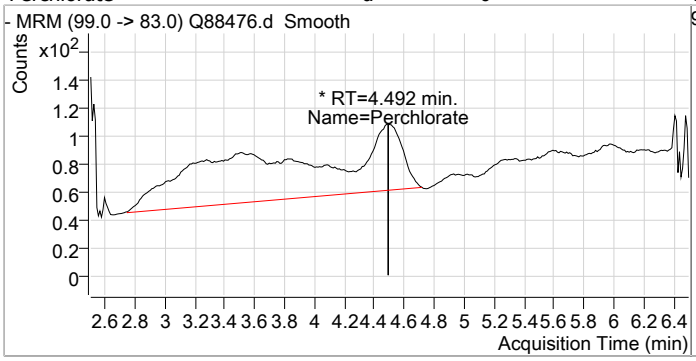


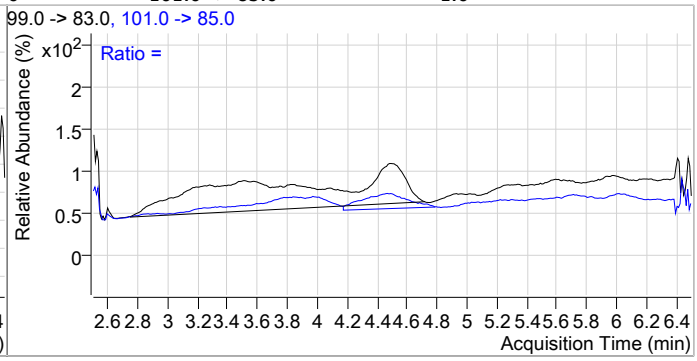
Compound	RT	QIon	Resp.	Q-ratio	Conc.	Units		Dev(Min)
Internal Standards								
Cl18O4	4.506	107.0 -> 89.0	106733	NoQ	5.00	µg/L		-0.805
System Monitoring Compounds								
Target Compounds								QValue
Perchlorate	4.492	99.0 -> 83.0	0		0.00	µg/L	md	1

(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

Quantitative Analysis Report for Perchlorate by 6850

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
Perchlorate	d	0		0	101.0 -> 85.0		1.6	



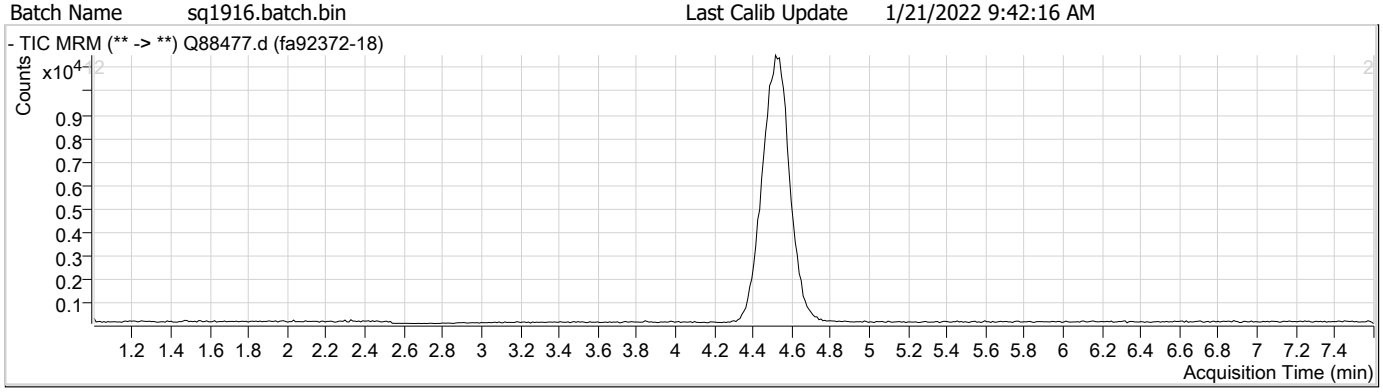


7.1.17

7

Quantitative Analysis Report for Perchlorate by 6850

Data File	: Q88477.d	Operator	natashag
Acq. Method	Perchlorate2.m	Acq. Date-Time	1/21/2022 2:05:59 PM
Sample Name	fa92372-18	Instrument	Instrument 1
Vial	P1-D8	Sample Information	OP89328,SQ1916,10.0,,,10.0,1,water
DA Method File	6850_011222_SQ1911.quantmethod.xml	Comment	
Batch Name	sq1916.batch.bin	Last Calib Update	1/21/2022 9:42:16 AM

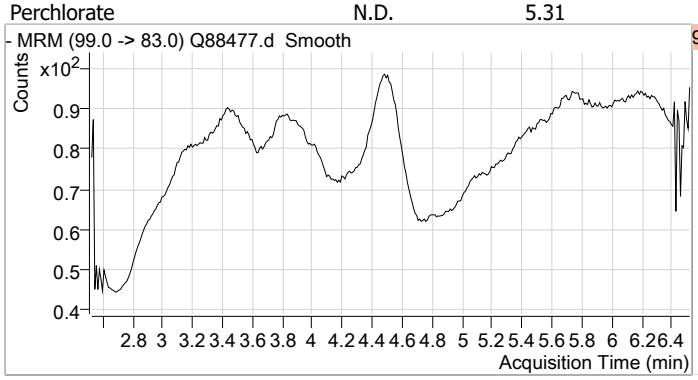


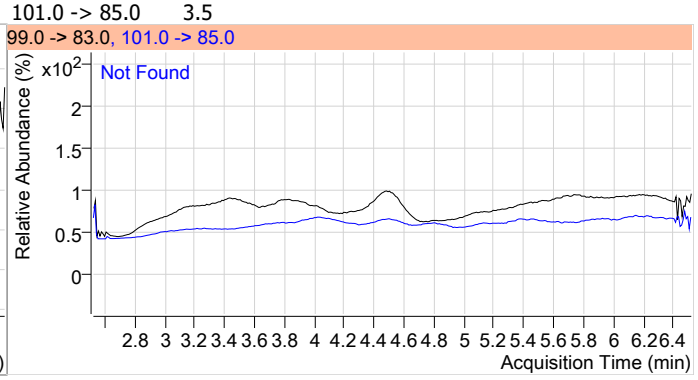
Compound	RT	QIon	Resp.	Q-ratio	Conc.	Units	Dev(Min)
Internal Standards							
Cl18O4	4.526	107.0 -> 89.0	112640	NoQ	5.00	µg/L	-0.784
System Monitoring Compounds							
Target Compounds							QValue
Perchlorate	-	99.0 -> 83.0		-	N.D.		

(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

Quantitative Analysis Report for Perchlorate by 6850

Compound	Conc.	Exp RT	QIon	Exp Ratio
Perchlorate	N.D.	5.31	101.0 -> 85.0	3.5



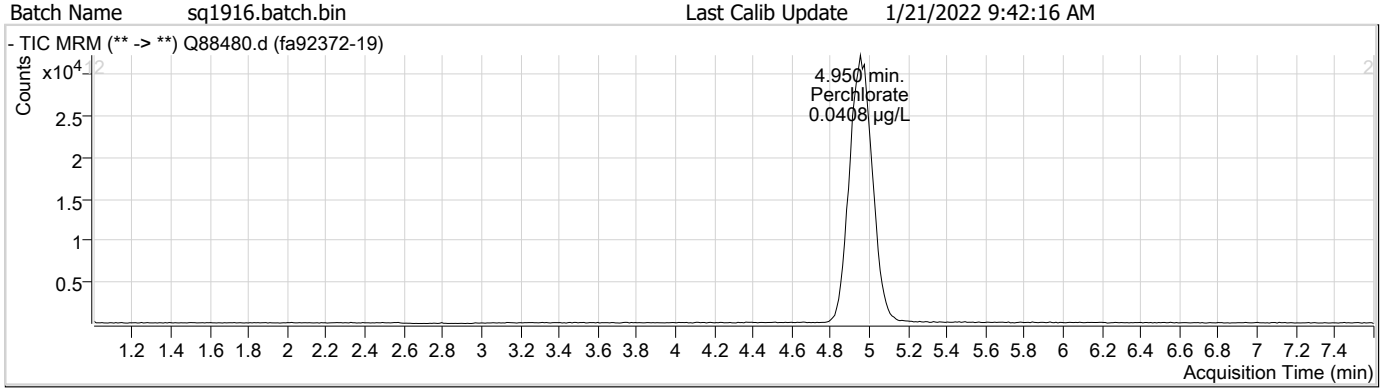


7.1.18

7

Quantitative Analysis Report for Perchlorate by 6850

Data File	: Q88480.d	Operator	natashag
Acq. Method	Perchlorate2.m	Acq. Date-Time	1/21/2022 2:31:10 PM
Sample Name	fa92372-19	Instrument	Instrument 1
Vial	P1-E2	Sample Information	OP89327,SQ1916,10.0,,,10.0,1,water
DA Method File	6850_011222_SQ1911.quantmethod.xml	Comment	
Batch Name	sq1916.batch.bin	Last Calib Update	1/21/2022 9:42:16 AM



Compound	RT	QIon	Resp.	Q-ratio	Conc.	Units		Dev(Min)
Internal Standards								
Cl18O4	4.954	107.0 -> 89.0	260933	NoQ	5.00	µg/L		-0.357
System Monitoring Compounds								
Target Compounds								QValue
Perchlorate	4.950	99.0 -> 83.0	2574	2.6	0.04	µg/L	m	82

(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

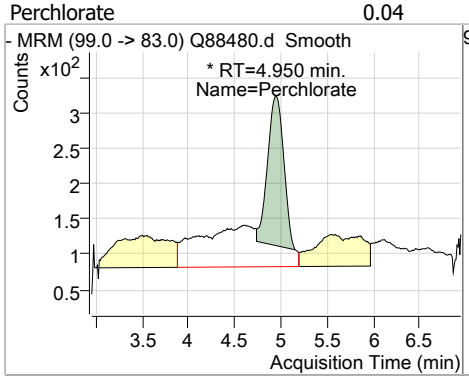
Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
01/24/22 15:28

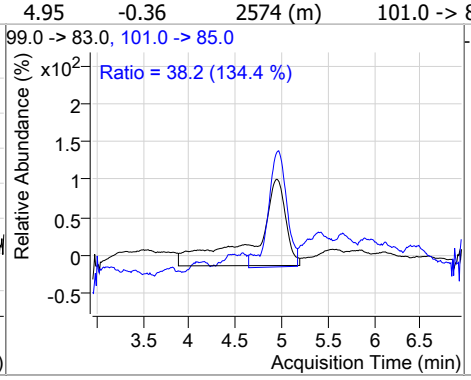
7.1.19

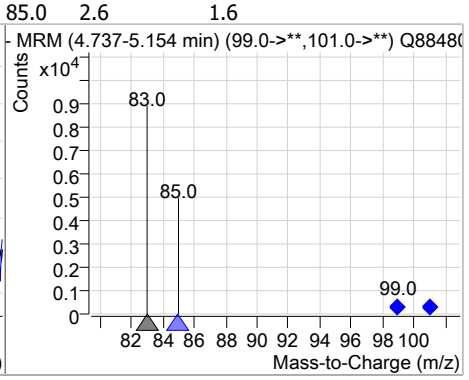
7

Quantitative Analysis Report for Perchlorate by 6850

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
Perchlorate	0.04	4.95	-0.36	2574 (m)	101.0 -> 85.0	2.6	1.6	







7.1.19

7

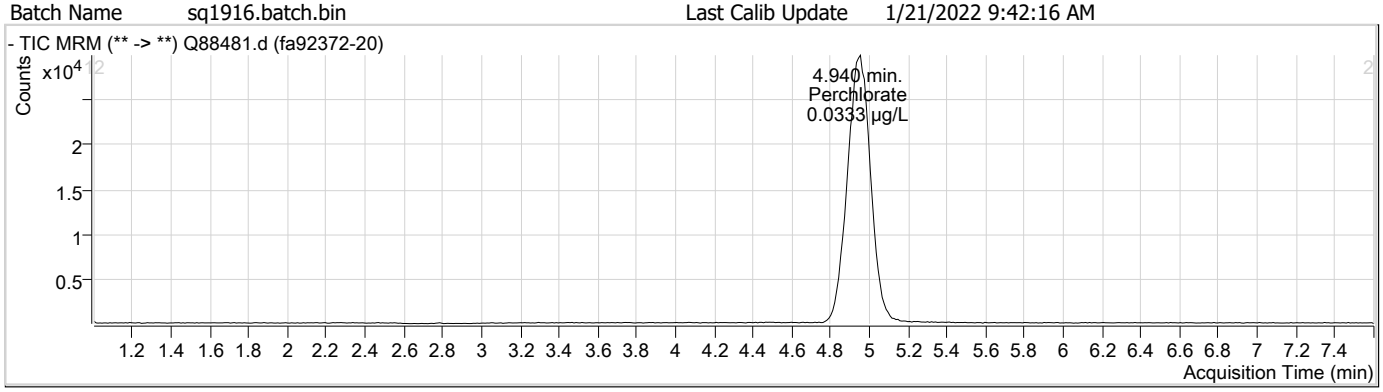
Manual Integration Approval Summary

Sample Number: FA92372-19
Lab FileID: Q88480.D
Injection Time: 01/21/22 14:31
Method: SW846 6850
Analyst approved: 01/24/22 10:44 Natasha Gumtie
Supervisor approved: 01/24/22 15:28 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perchlorate	14797-73-0		4.95	Poorly defined baseline

Quantitative Analysis Report for Perchlorate by 6850

Data File	: Q88481.d	Operator	natashag
Acq. Method	Perchlorate2.m	Acq. Date-Time	1/21/2022 2:39:34 PM
Sample Name	fa92372-20	Instrument	Instrument 1
Vial	P1-E3	Sample Information	OP89327,SQ1916,10.0,,,10.0,1,water
DA Method File	6850_011222_SQ1911.quantmethod.xml	Comment	
Batch Name	sq1916.batch.bin	Last Calib Update	1/21/2022 9:42:16 AM



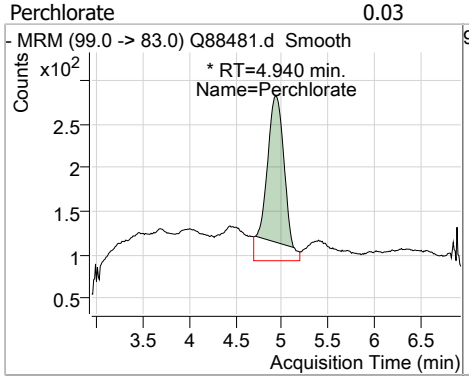
Compound	RT	QIon	Resp.	Q-ratio	Conc.	Units		Dev(Min)
Internal Standards								
Cl18O4	4.944	107.0 -> 89.0	246544	NoQ	5.00	µg/L		-0.367
System Monitoring Compounds								
Target Compounds								QValue
Perchlorate	4.940	99.0 -> 83.0	1985	3.2	0.03	µg/L	m	95

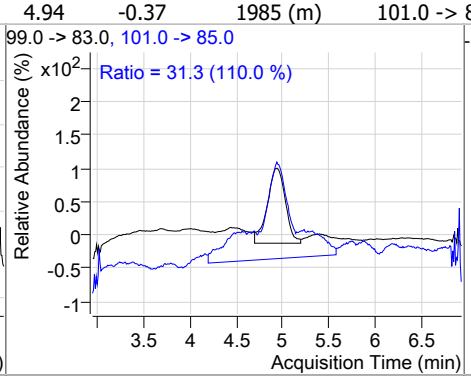
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

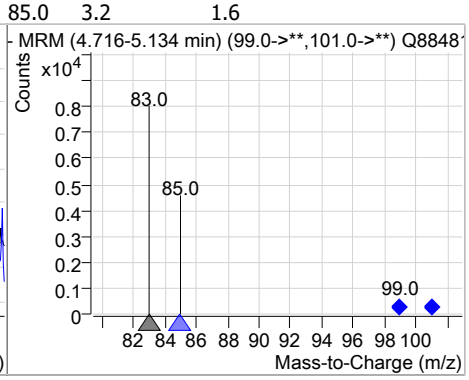
Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
01/24/22 15:28

Quantitative Analysis Report for Perchlorate by 6850

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
Perchlorate	0.03	4.94	-0.37	1985 (m)	101.0 -> 85.0	3.2	1.6	







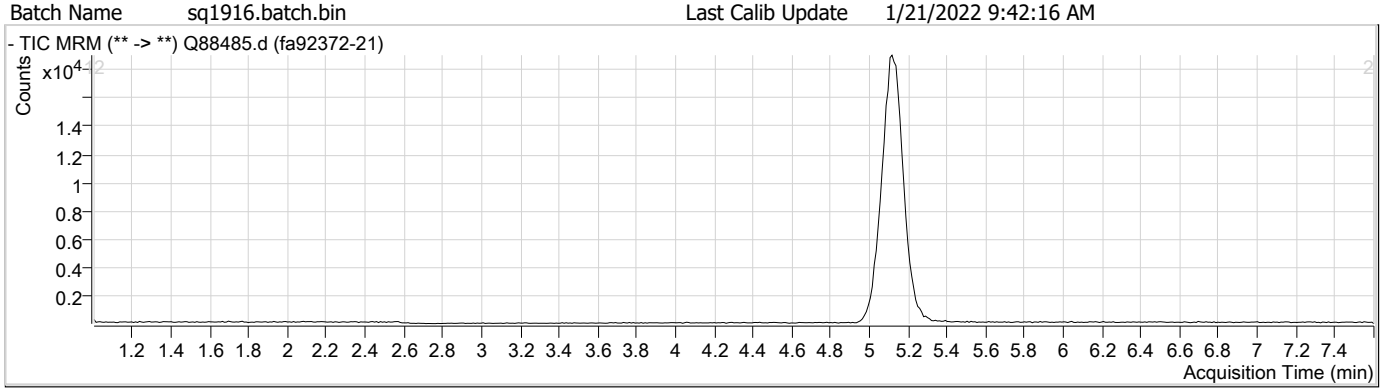
Manual Integration Approval Summary

Sample Number: FA92372-20
Lab FileID: Q88481.D
Injection Time: 01/21/22 14:39
Method: SW846 6850
Analyst approved: 01/24/22 10:44 Natasha Gumtie
Supervisor approved: 01/24/22 15:28 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perchlorate	14797-73-0		4.94	Poorly defined baseline

Quantitative Analysis Report for Perchlorate by 6850

Data File	: Q88485.d	Operator	natashag
Acq. Method	Perchlorate2.m	Acq. Date-Time	1/21/2022 3:13:10 PM
Sample Name	fa92372-21	Instrument	Instrument 1
Vial	P1-E4	Sample Information	OP89327,SQ1916,10.0,,,10.0,1,water
DA Method File	6850_011222_SQ1911.quantmethod.xml	Comment	
Batch Name	sq1916.batch.bin	Last Calib Update	1/21/2022 9:42:16 AM

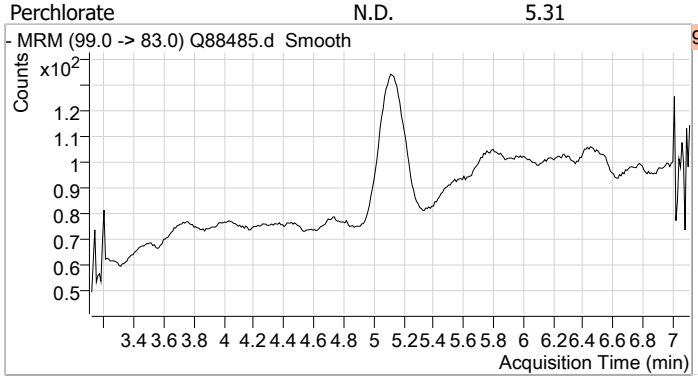


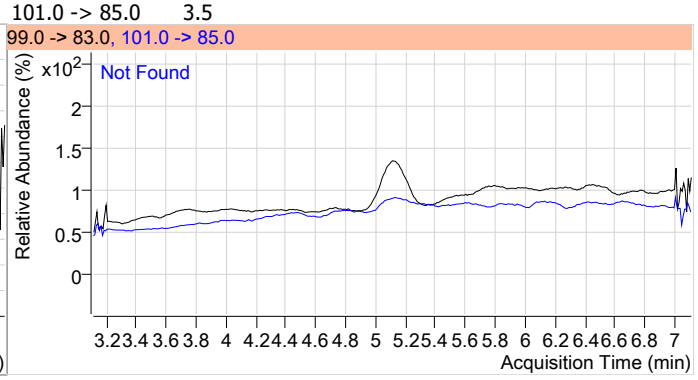
Compound	RT	QIon	Resp.	Q-ratio	Conc.	Units	Dev(Min)
Internal Standards							
Cl18O4	5.117	107.0 -> 89.0	147636	NoQ	5.00	µg/L	-0.194
System Monitoring Compounds							
Target Compounds							**QValue**
Perchlorate	-	99.0 -> 83.0		-	N.D.		

(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

Quantitative Analysis Report for Perchlorate by 6850

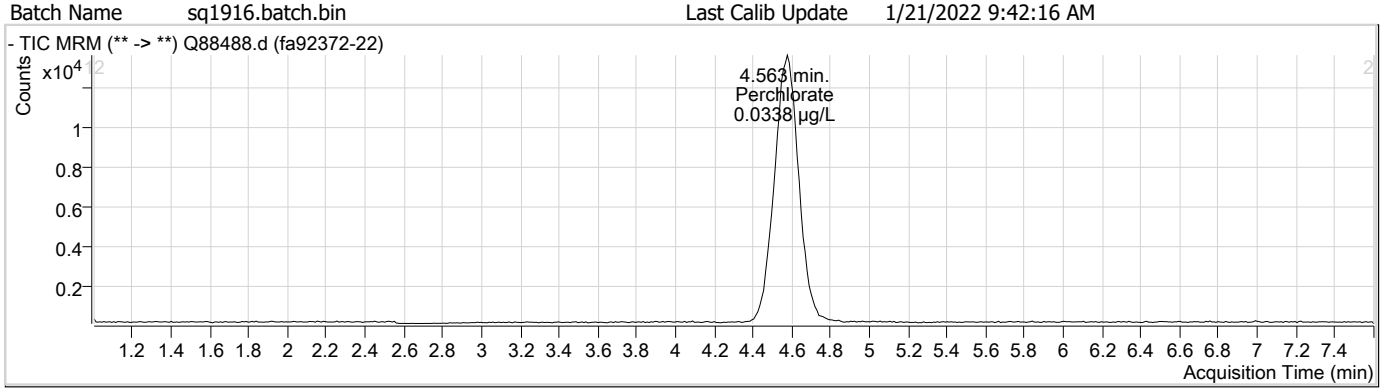
Compound	Conc.	Exp RT	QIon	Exp Ratio
Perchlorate	N.D.	5.31	101.0 -> 85.0	3.5





Quantitative Analysis Report for Perchlorate by 6850

Data File	: Q88488.d	Operator	natashag
Acq. Method	Perchlorate2.m	Acq. Date-Time	1/21/2022 3:38:24 PM
Sample Name	fa92372-22	Instrument	Instrument 1
Vial	P1-E7	Sample Information	OP89327,SQ1916,10.0,,,10.0,1,water
DA Method File	6850_011222_SQ1911.quantmethod.xml	Comment	
Batch Name	sq1916.batch.bin	Last Calib Update	1/21/2022 9:42:16 AM



Compound	RT	QIon	Resp.	Q-ratio	Conc.	Units		Dev(Min)
Internal Standards								
Cl18O4	4.577	107.0 -> 89.0	117620	NoQ	5.00	µg/L		-0.733
System Monitoring Compounds								
Target Compounds								QValue
Perchlorate	4.563	99.0 -> 83.0	962	2.9	0.03	µg/L	m	90

(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

Manual Integrations APPROVED (compounds with "m" flag)

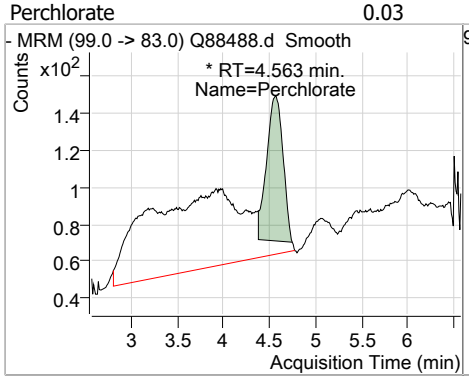
Mike Eger 01/24/22 15:28

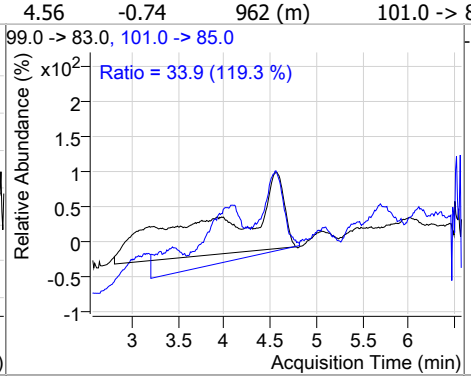
7.1.22

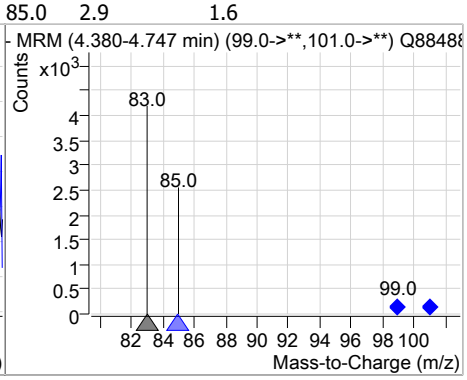
7

Quantitative Analysis Report for Perchlorate by 6850

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
Perchlorate	0.03	4.56	-0.74	962 (m)	101.0 -> 85.0	2.9	1.6	







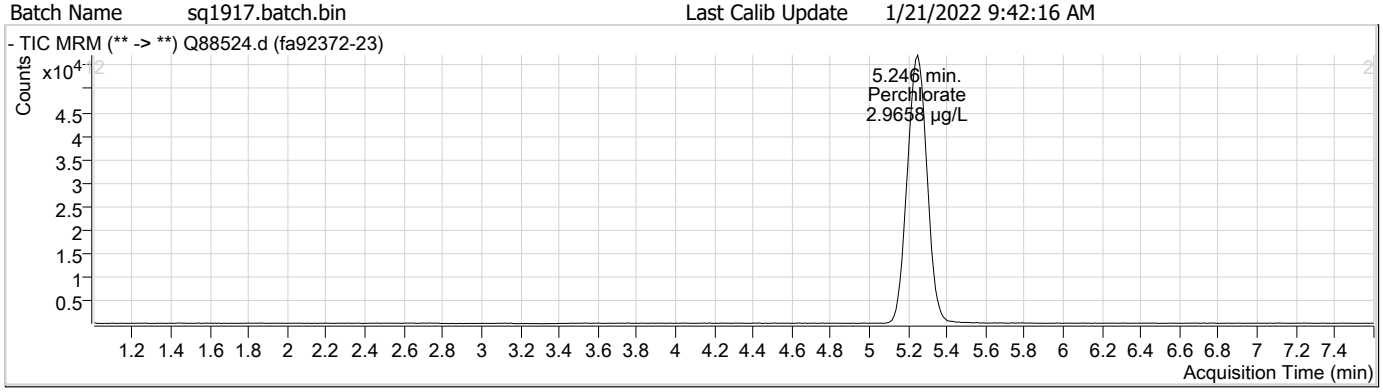
Manual Integration Approval Summary

Sample Number: FA92372-22
Lab FileID: Q88488.D
Injection Time: 01/21/22 15:38
Method: SW846 6850
Analyst approved: 01/24/22 10:44 Natasha Gumtie
Supervisor approved: 01/24/22 15:28 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perchlorate	14797-73-0		4.56	Poorly defined baseline

Quantitative Analysis Report for Perchlorate by 6850

Data File	: Q88524.d	Operator	natashag
Acq. Method	Perchlorate2.m	Acq. Date-Time	1/24/2022 12:24:29 PM
Sample Name	fa92372-23	Instrument	Instrument 1
Vial	P2-E7	Sample Information	OP89327,SQ1917,10.0,,,10.0,100,water
DA Method File	6850_011222_SQ1911.quantmethod.xml	Comment	100x
Batch Name	sq1917.batch.bin	Last Calib Update	1/21/2022 9:42:16 AM

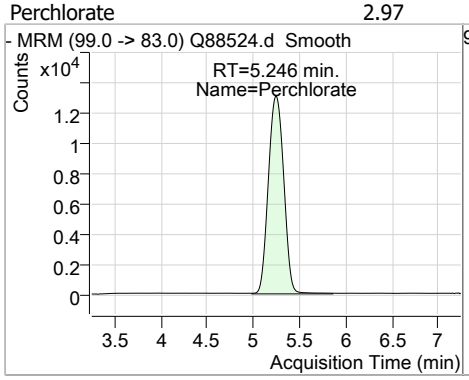


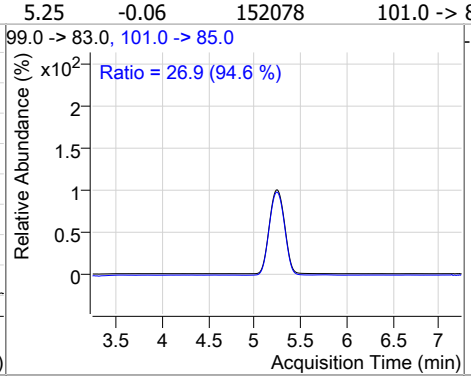
Compound	RT	QIon	Resp.	Q-ratio	Conc.	Units	Dev(Min)
Internal Standards							
Cl18O4	5.249	107.0 -> 89.0	212197	NoQ	5.00	µg/L	-0.061
System Monitoring Compounds							
Target Compounds							QValue
Perchlorate	5.246	99.0 -> 83.0	152078	3.7	2.97	µg/L	97

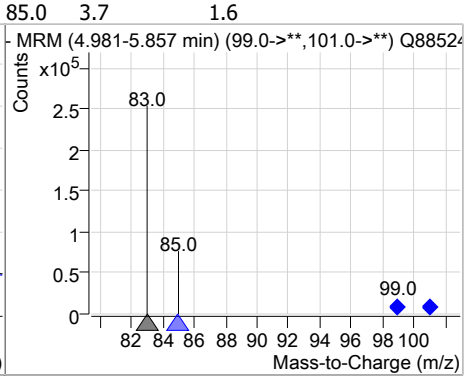
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

Quantitative Analysis Report for Perchlorate by 6850

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
Perchlorate	2.97	5.25	-0.06	152078	101.0 -> 85.0	3.7	1.6	





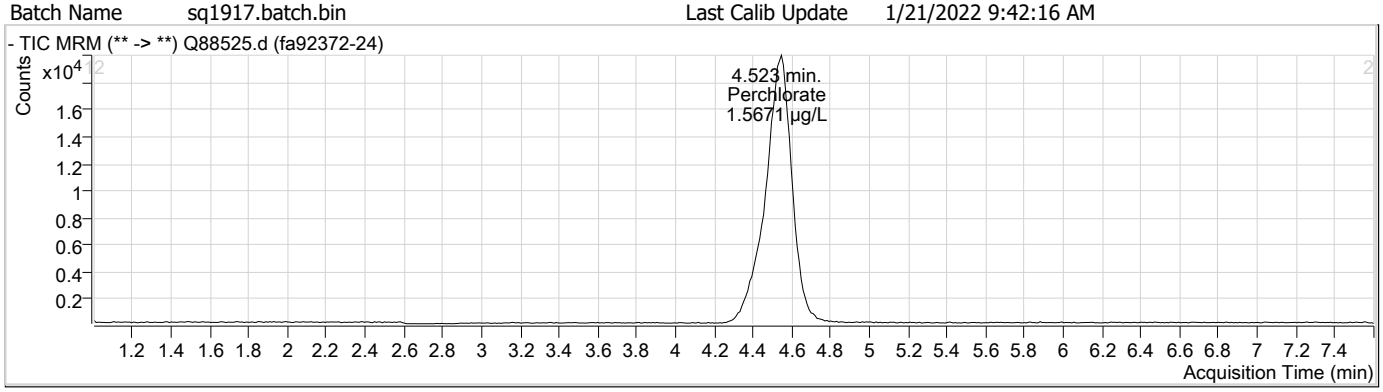


7.1.23

7

Quantitative Analysis Report for Perchlorate by 6850

Data File	: Q88525.d	Operator	natashag
Acq. Method	Perchlorate2.m	Acq. Date-Time	1/24/2022 12:32:53 PM
Sample Name	fa92372-24	Instrument	Instrument 1
Vial	P2-E8	Sample Information	OP89327,SQ1917,10.0,,,10.0,1,water
DA Method File	6850_011222_SQ1911.quantmethod.xml	Comment	1x c/o
Batch Name	sq1917.batch.bin	Last Calib Update	1/21/2022 9:42:16 AM

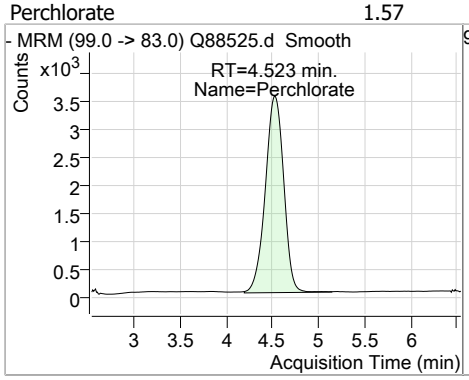


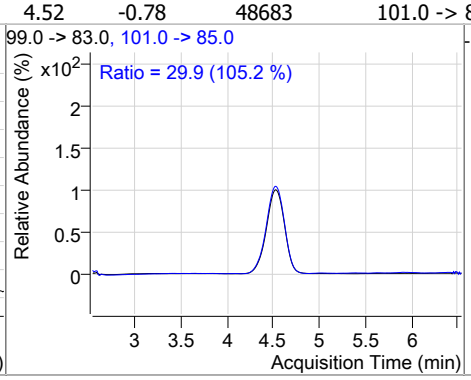
Compound	RT	QIon	Resp.	Q-ratio	Conc. Units	Dev(Min)
Internal Standards						
Cl18O4	4.546	107.0 -> 89.0	128563	NoQ	5.00 µg/L	-0.764
System Monitoring Compounds						
Target Compounds						**QValue**
Perchlorate	4.523	99.0 -> 83.0	48683	3.3	1.57 µg/L	97

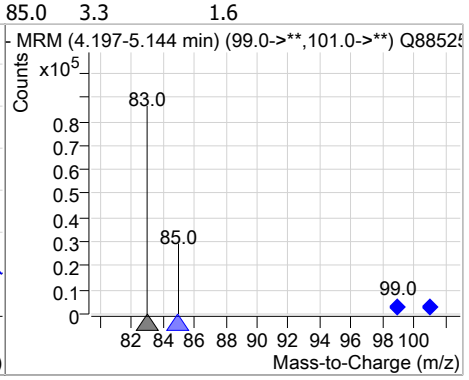
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

Quantitative Analysis Report for Perchlorate by 6850

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
Perchlorate	1.57	4.52	-0.78	48683	101.0 -> 85.0	3.3	1.6	





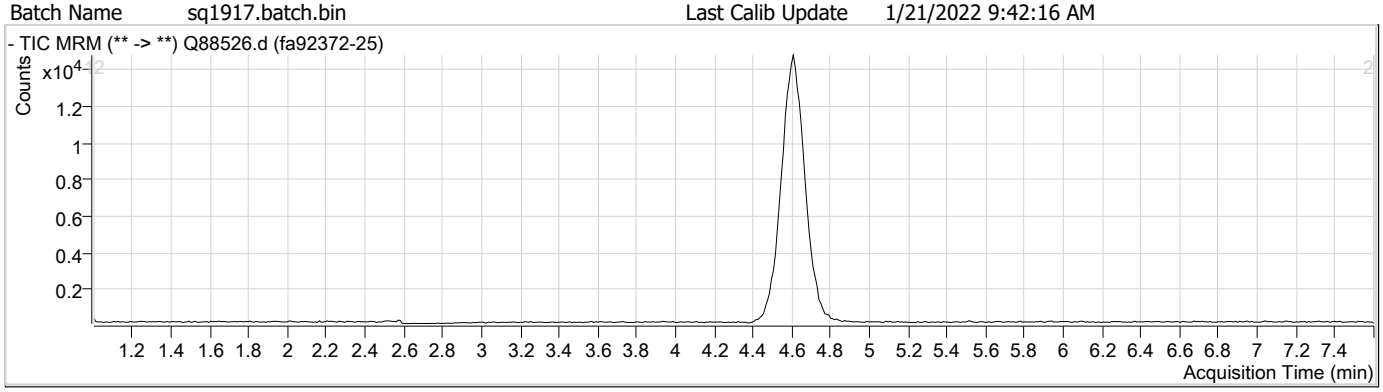


7.1.24

7

Quantitative Analysis Report for Perchlorate by 6850

Data File	: Q88526.d	Operator	natashag
Acq. Method	Perchlorate2.m	Acq. Date-Time	1/24/2022 12:41:17 PM
Sample Name	fa92372-25	Instrument	Instrument 1
Vial	P2-E9	Sample Information	OP89327,SQ1917,10.0,,,10.0,1,water
DA Method File	6850_011222_SQ1911.quantmethod.xml	Comment	1x low istd
Batch Name	sq1917.batch.bin	Last Calib Update	1/21/2022 9:42:16 AM

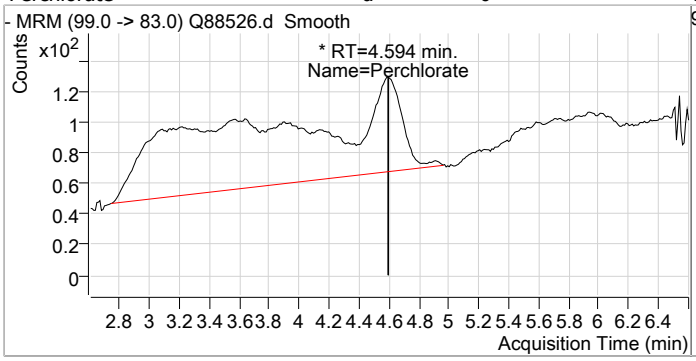


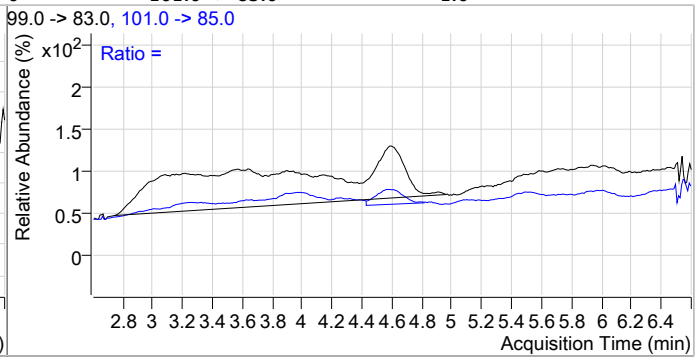
Compound	RT	QIon	Resp.	Q-ratio	Conc.	Units		Dev(Min)
Internal Standards								
Cl18O4	4.608	107.0 -> 89.0	124875	NoQ	5.00	µg/L		-0.703
System Monitoring Compounds								
Target Compounds								QValue
Perchlorate	4.594	99.0 -> 83.0	0		0.00	µg/L	md	1

(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

Quantitative Analysis Report for Perchlorate by 6850

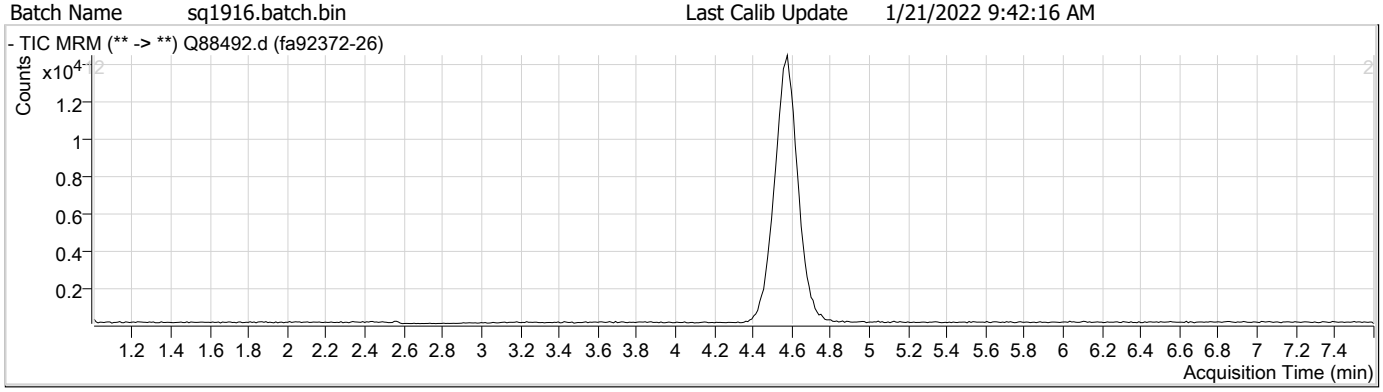
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
Perchlorate	d	0		0	101.0 -> 85.0		1.6	





Quantitative Analysis Report for Perchlorate by 6850

Data File	: Q88492.d	Operator	natashag
Acq. Method	Perchlorate2.m	Acq. Date-Time	1/21/2022 4:11:59 PM
Sample Name	fa92372-26	Instrument	Instrument 1
Vial	P1-F2	Sample Information	OP89327,SQ1916,10.0,,,10.0,1,water
DA Method File	6850_011222_SQ1911.quantmethod.xml	Comment	
Batch Name	sq1916.batch.bin	Last Calib Update	1/21/2022 9:42:16 AM

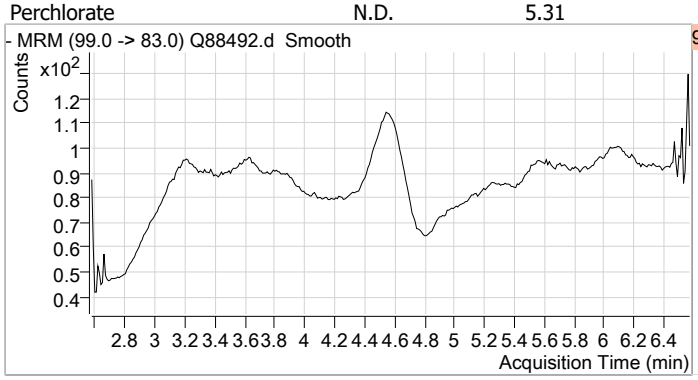


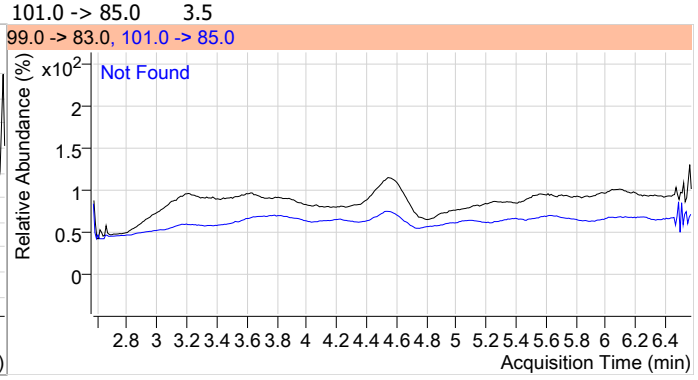
Compound	RT	QIon	Resp.	Q-ratio	Conc.	Units	Dev(Min)
Internal Standards							
Cl18O4	4.577	107.0 -> 89.0	119790	NoQ	5.00	µg/L	-0.733
System Monitoring Compounds							
Target Compounds							QValue
Perchlorate	-	99.0 -> 83.0		-	N.D.		

(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

Quantitative Analysis Report for Perchlorate by 6850

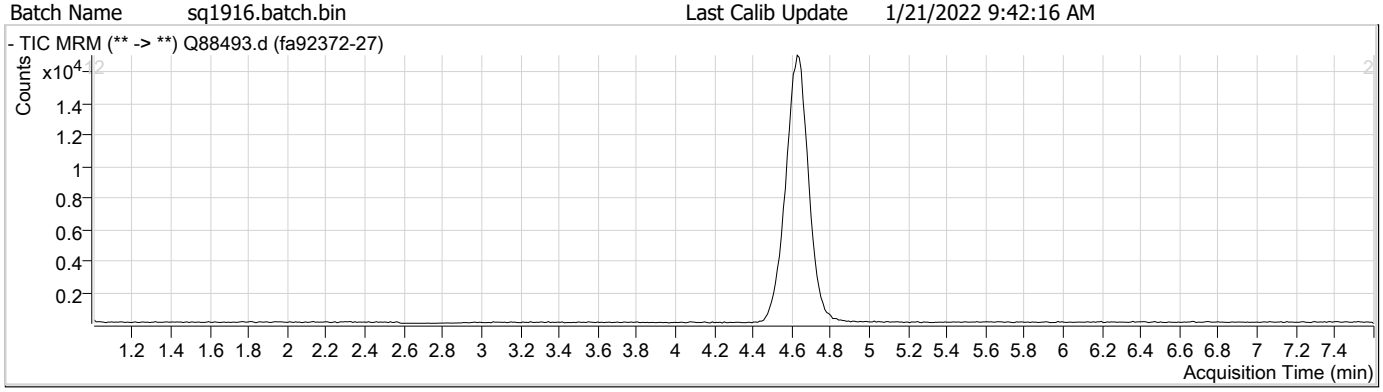
Compound	Conc.	Exp RT	QIon	Exp Ratio
Perchlorate	N.D.	5.31	101.0 -> 85.0	3.5





Quantitative Analysis Report for Perchlorate by 6850

Data File	: Q88493.d	Operator	natashag
Acq. Method	Perchlorate2.m	Acq. Date-Time	1/21/2022 4:20:21 PM
Sample Name	fa92372-27	Instrument	Instrument 1
Vial	P1-F3	Sample Information	OP89327,SQ1916,10.0,,,10.0,1,water
DA Method File	6850_011222_SQ1911.quantmethod.xml	Comment	
Batch Name	sq1916.batch.bin	Last Calib Update	1/21/2022 9:42:16 AM

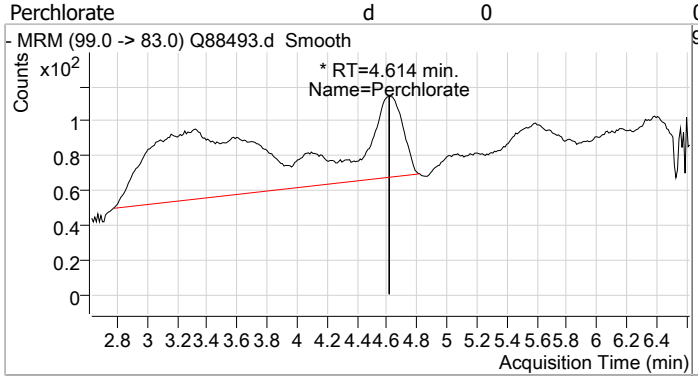


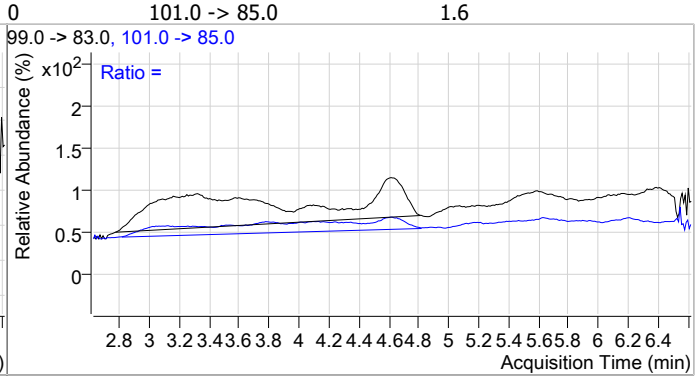
Compound	RT	QIon	Resp.	Q-ratio	Conc.	Units		Dev(Min)
Internal Standards								
Cl18O4	4.628	107.0 -> 89.0	139465	NoQ	5.00	µg/L		-0.682
System Monitoring Compounds								
Target Compounds								**QValue**
Perchlorate	4.614	99.0 -> 83.0	0		0.00	µg/L	md	1

(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

Quantitative Analysis Report for Perchlorate by 6850

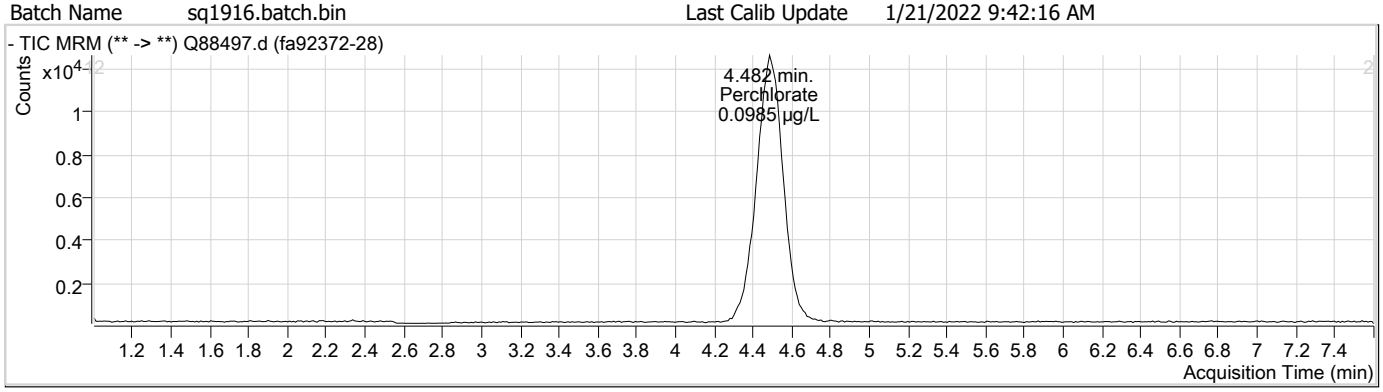
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
Perchlorate	d	0		0	101.0 -> 85.0		1.6	





Quantitative Analysis Report for Perchlorate by 6850

Data File	: Q88497.d	Operator	natashag
Acq. Method	Perchlorate2.m	Acq. Date-Time	1/21/2022 4:54:01 PM
Sample Name	fa92372-28	Instrument	Instrument 1
Vial	P1-F4	Sample Information	OP89327,SQ1916,10.0,,,10.0,1,water
DA Method File	6850_011222_SQ1911.quantmethod.xml	Comment	
Batch Name	sq1916.batch.bin	Last Calib Update	1/21/2022 9:42:16 AM



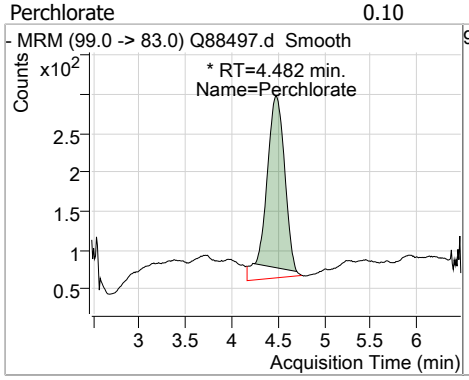
Compound	RT	QIon	Resp.	Q-ratio	Conc.	Units		Dev(Min)
Internal Standards								
Cl18O4	4.485	107.0 -> 89.0	116728	NoQ	5.00	µg/L		-0.825
System Monitoring Compounds								
Target Compounds								QValue
Perchlorate	4.482	99.0 -> 83.0	2777	2.5	0.10	µg/L	m	80

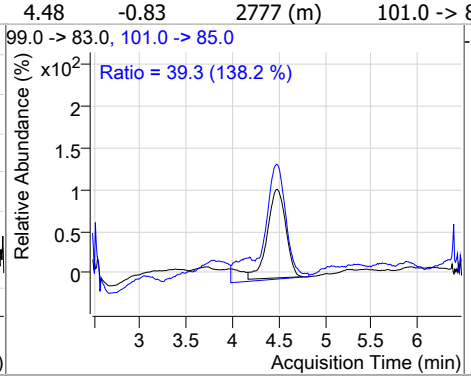
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

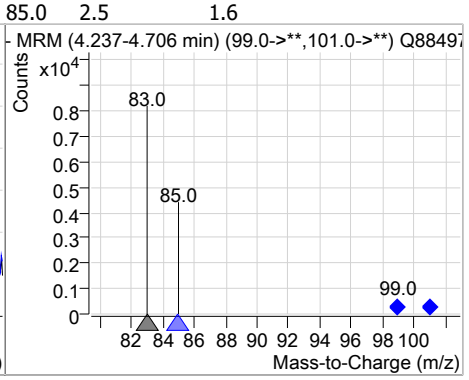
Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
01/24/22 15:28

Quantitative Analysis Report for Perchlorate by 6850

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
Perchlorate	0.10	4.48	-0.83	2777 (m)	101.0 -> 85.0	2.5	1.6	







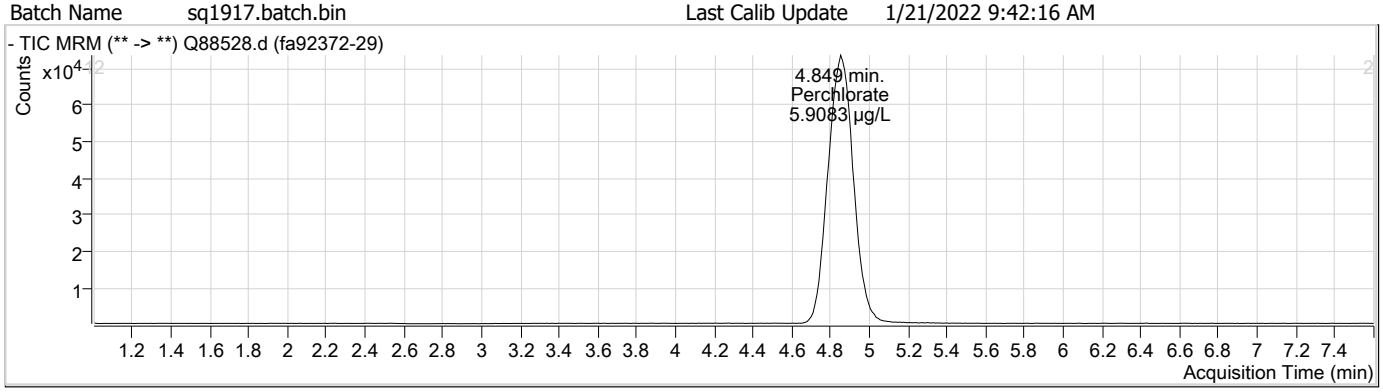
Manual Integration Approval Summary

Sample Number: FA92372-28
Lab FileID: Q88497.D
Injection Time: 01/21/22 16:54
Method: SW846 6850
Analyst approved: 01/24/22 13:59 Natasha Gumtie
Supervisor approved: 01/24/22 15:28 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perchlorate	14797-73-0		4.48	Poorly defined baseline

Quantitative Analysis Report for Perchlorate by 6850

Data File	: Q88528.d	Operator	natashag
Acq. Method	Perchlorate2.m	Acq. Date-Time	1/24/2022 12:58:05 PM
Sample Name	fa92372-29	Instrument	Instrument 1
Vial	P2-F2	Sample Information	OP89327,SQ1917,10.0,,,10.0,10,water
DA Method File	6850_011222_SQ1911.quantmethod.xml	Comment	10x
Batch Name	sq1917.batch.bin	Last Calib Update	1/21/2022 9:42:16 AM

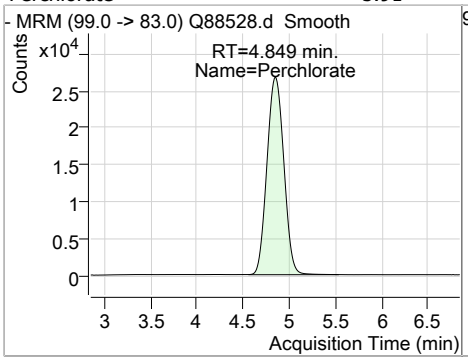


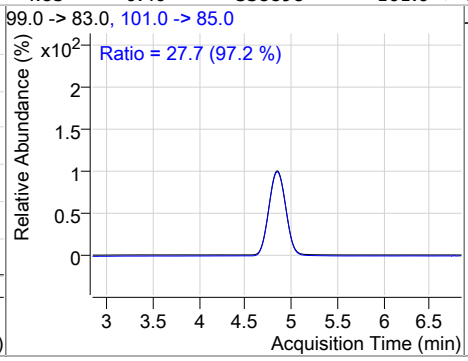
Compound	RT	QIon	Resp.	Q-ratio	Conc.	Units	Dev(Min)
Internal Standards							
Cl18O4	4.852	107.0 -> 89.0	237370	NoQ	5.00	µg/L	-0.458
System Monitoring Compounds							
Target Compounds							**QValue**
Perchlorate	4.849	99.0 -> 83.0	338898	3.6	5.91	µg/L	98

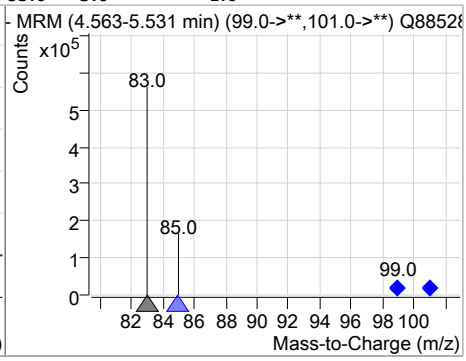
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

Quantitative Analysis Report for Perchlorate by 6850

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
Perchlorate	5.91	4.85	-0.46	338898	101.0 -> 85.0	3.6	1.6	

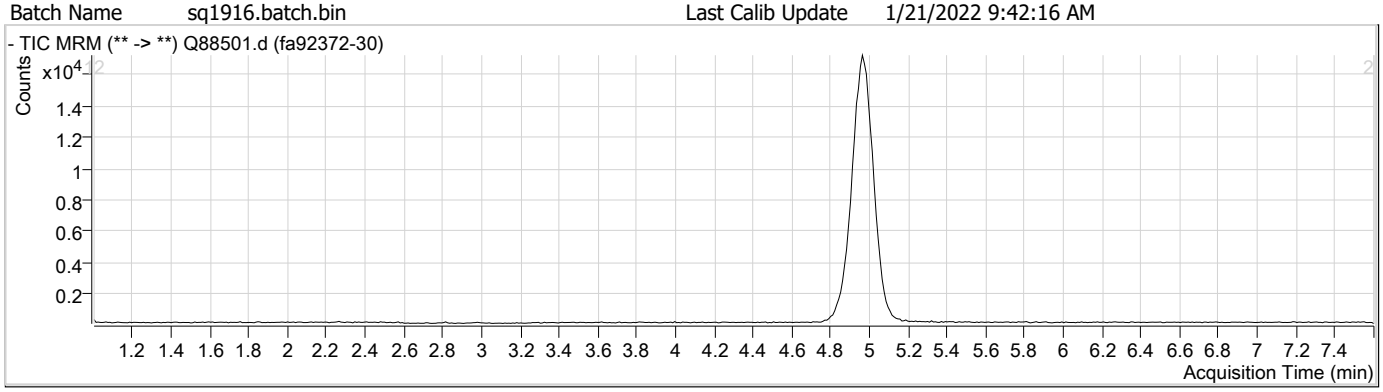






Quantitative Analysis Report for Perchlorate by 6850

Data File	: Q88501.d	Operator	natashag
Acq. Method	Perchlorate2.m	Acq. Date-Time	1/21/2022 5:27:37 PM
Sample Name	fa92372-30	Instrument	Instrument 1
Vial	P1-F8	Sample Information	OP89327,SQ1916,10.0,,,10.0,1,water
DA Method File	6850_011222_SQ1911.quantmethod.xml	Comment	
Batch Name	sq1916.batch.bin	Last Calib Update	1/21/2022 9:42:16 AM

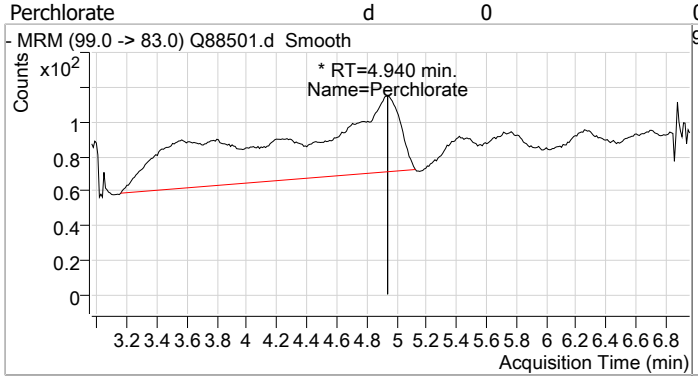


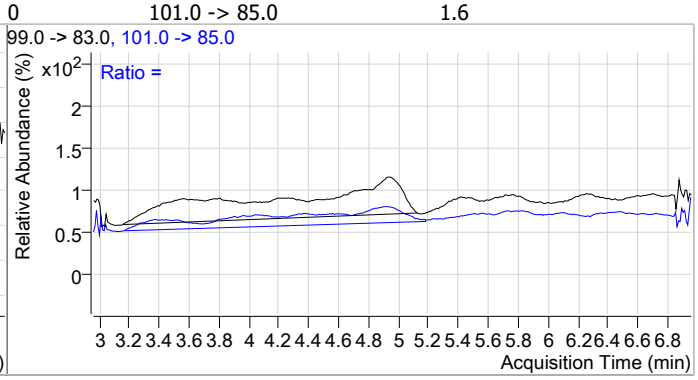
Compound	RT	QIon	Resp.	Q-ratio	Conc.	Units		Dev(Min)
Internal Standards								
Cl18O4	4.964	107.0 -> 89.0	134601	NoQ	5.00	µg/L		-0.346
System Monitoring Compounds								
Target Compounds								**QValue**
Perchlorate	4.940	99.0 -> 83.0	0		0.00	µg/L	md	1

(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

Quantitative Analysis Report for Perchlorate by 6850

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
Perchlorate	d	0		0	101.0 -> 85.0		1.6	



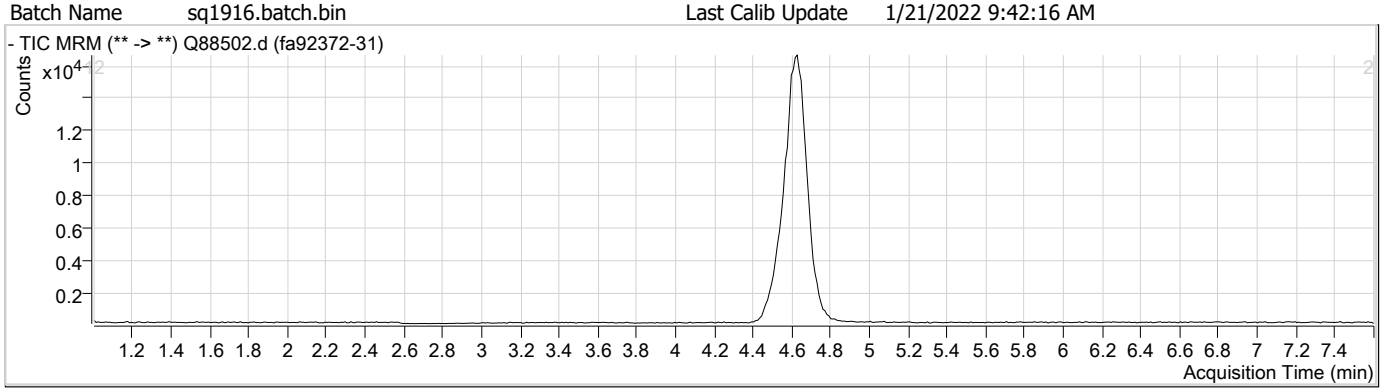


7.1.30

7

Quantitative Analysis Report for Perchlorate by 6850

Data File	: Q88502.d	Operator	natashag
Acq. Method	Perchlorate2.m	Acq. Date-Time	1/21/2022 5:35:59 PM
Sample Name	fa92372-31	Instrument	Instrument 1
Vial	P1-F9	Sample Information	OP89327,SQ1916,10.0,,,10.0,1,water
DA Method File	6850_011222_SQ1911.quantmethod.xml	Comment	
Batch Name	sq1916.batch.bin	Last Calib Update	1/21/2022 9:42:16 AM

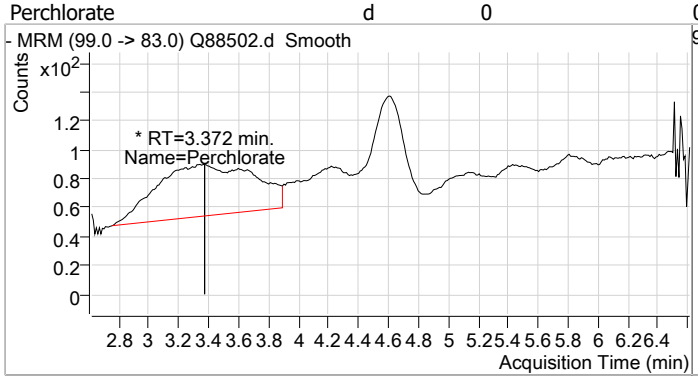


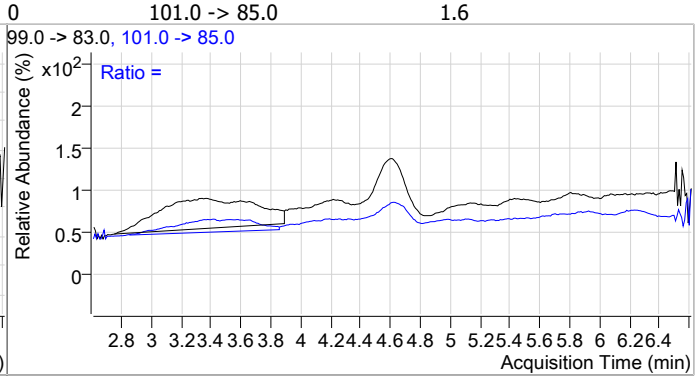
Compound	RT	QIon	Resp.	Q-ratio	Conc.	Units		Dev(Min)
Internal Standards								
Cl18O4	4.618	107.0 -> 89.0	140533	NoQ	5.00	µg/L		-0.693
System Monitoring Compounds								
Target Compounds								QValue
Perchlorate	3.372	99.0 -> 83.0	0		0.00	µg/L	md	1

(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

Quantitative Analysis Report for Perchlorate by 6850

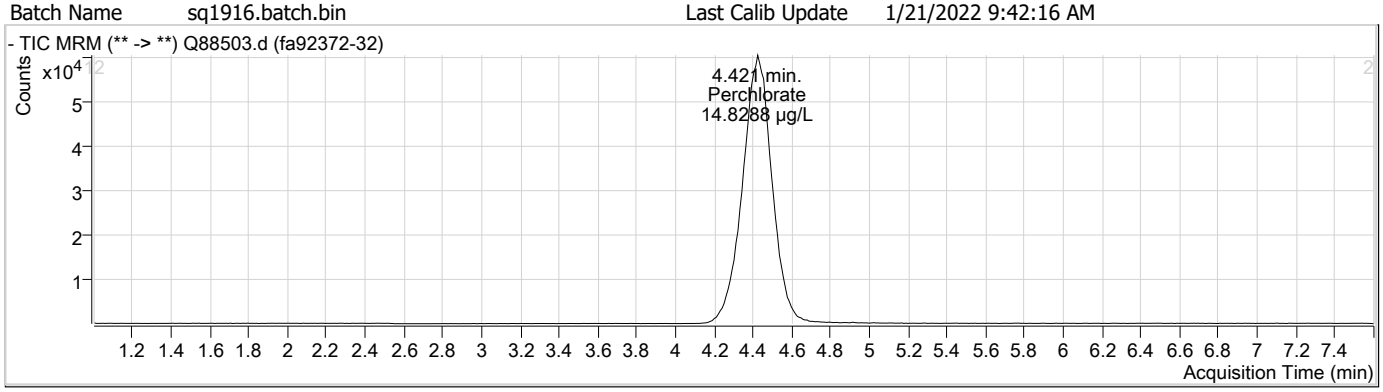
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
Perchlorate	d	0		0	101.0 -> 85.0		1.6	





Quantitative Analysis Report for Perchlorate by 6850

Data File	: Q88503.d	Operator	natashag
Acq. Method	Perchlorate2.m	Acq. Date-Time	1/21/2022 5:44:23 PM
Sample Name	fa92372-32	Instrument	Instrument 1
Vial	P2-F1	Sample Information	OP89327,SQ1916,10.0,,,10.0,1,water
DA Method File	6850_011222_SQ1911.quantmethod.xml	Comment	
Batch Name	sq1916.batch.bin	Last Calib Update	1/21/2022 9:42:16 AM

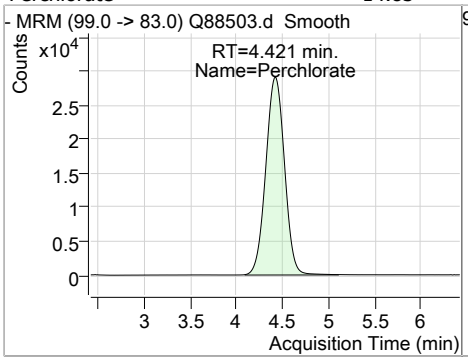


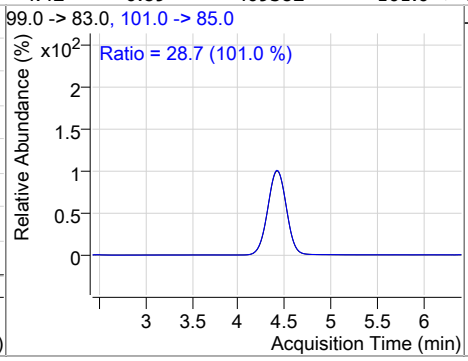
Compound	RT	QIon	Resp.	Q-ratio	Conc.	Units	Dev(Min)
Internal Standards							
Cl18O4	4.424	107.0 -> 89.0	114247	NoQ	5.00	µg/L	-0.886
System Monitoring Compounds							
Target Compounds							QValue
Perchlorate	4.421	99.0 -> 83.0	409382	3.5	14.83	µg/L	100

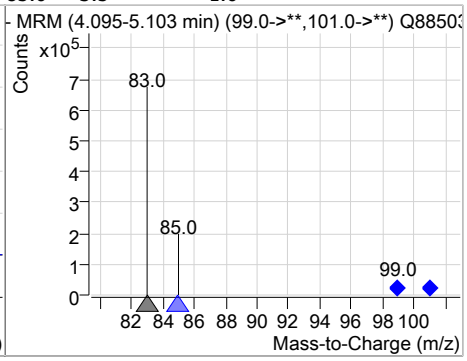
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

Quantitative Analysis Report for Perchlorate by 6850

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
Perchlorate	14.83	4.42	-0.89	409382	101.0 -> 85.0	3.5	1.6	

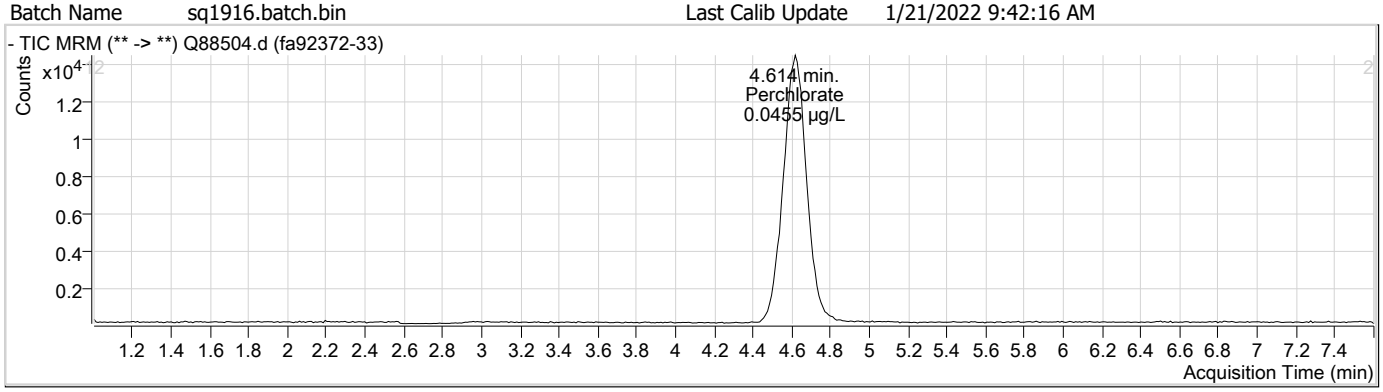






Quantitative Analysis Report for Perchlorate by 6850

Data File	: Q88504.d	Operator	natashag
Acq. Method	Perchlorate2.m	Acq. Date-Time	1/21/2022 5:52:46 PM
Sample Name	fa92372-33	Instrument	Instrument 1
Vial	P2-F2	Sample Information	OP89327,SQ1916,10.0,,,10.0,1,water
DA Method File	6850_011222_SQ1911.quantmethod.xml	Comment	
Batch Name	sq1916.batch.bin	Last Calib Update	1/21/2022 9:42:16 AM



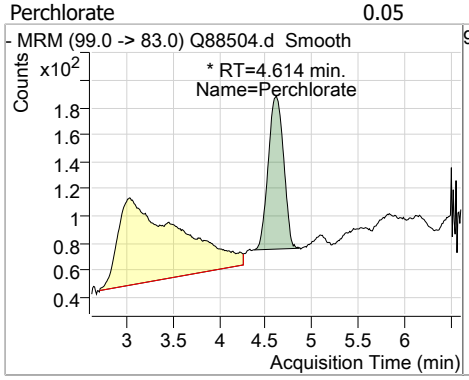
Compound	RT	QIon	Resp.	Q-ratio	Conc.	Units		Dev(Min)
Internal Standards								
Cl18O4	4.618	107.0 -> 89.0	118955	NoQ	5.00	µg/L		-0.693
System Monitoring Compounds								
Target Compounds								QValue
Perchlorate	4.614	99.0 -> 83.0	1309	2.5	0.05	µg/L	m	79

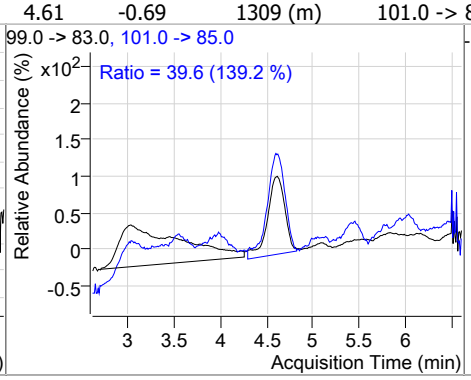
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

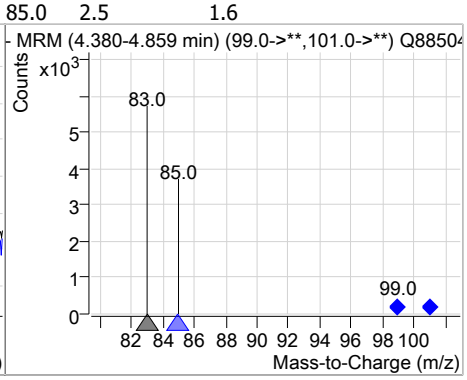
Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
01/24/22 15:28

Quantitative Analysis Report for Perchlorate by 6850

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
Perchlorate	0.05	4.61	-0.69	1309 (m)	101.0 -> 85.0	2.5	1.6	







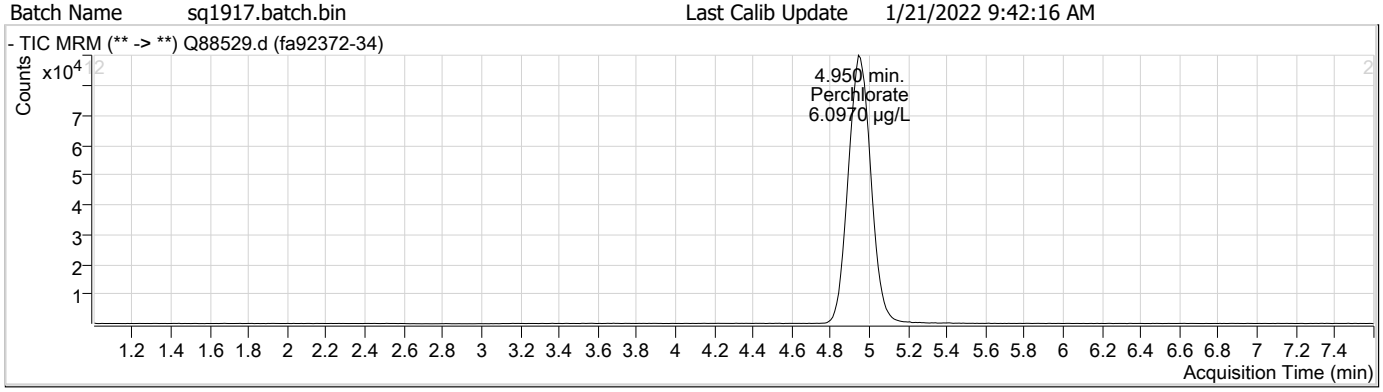
Manual Integration Approval Summary

Sample Number: FA92372-33
Lab FileID: Q88504.D
Injection Time: 01/21/22 17:52
Method: SW846 6850
Analyst approved: 01/24/22 10:54 Natasha Gumtie
Supervisor approved: 01/24/22 15:28 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perchlorate	14797-73-0		4.61	Poorly defined baseline

Quantitative Analysis Report for Perchlorate by 6850

Data File	: Q88529.d	Operator	natashag
Acq. Method	Perchlorate2.m	Acq. Date-Time	1/24/2022 1:06:28 PM
Sample Name	fa92372-34	Instrument	Instrument 1
Vial	P2-F3	Sample Information	OP89327,SQ1917,10.0,,,10.0,10,water
DA Method File	6850_011222_SQ1911.quantmethod.xml	Comment	10x
Batch Name	sq1917.batch.bin	Last Calib Update	1/21/2022 9:42:16 AM

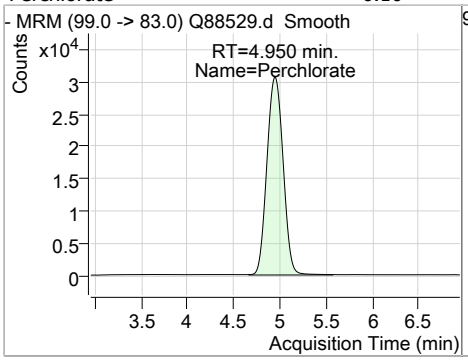


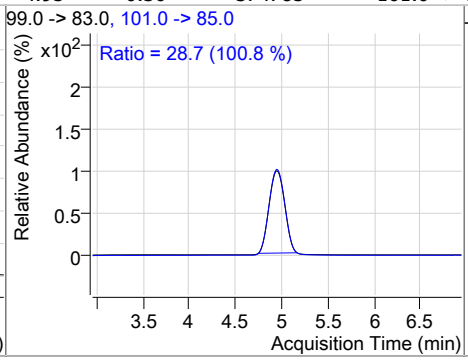
Compound	RT	QIon	Resp.	Q-ratio	Conc. Units	Dev(Min)
Internal Standards						
Cl18O4	4.954	107.0 -> 89.0	254384	NoQ	5.00 µg/L	-0.357
System Monitoring Compounds						
Target Compounds						**QValue**
Perchlorate	4.950	99.0 -> 83.0	374785	3.5	6.10 µg/L	100

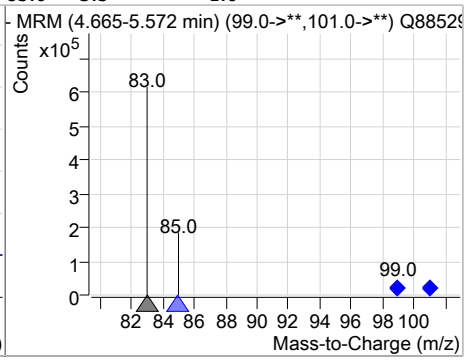
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

Quantitative Analysis Report for Perchlorate by 6850

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
Perchlorate	6.10	4.95	-0.36	374785	101.0 -> 85.0	3.5	1.6	

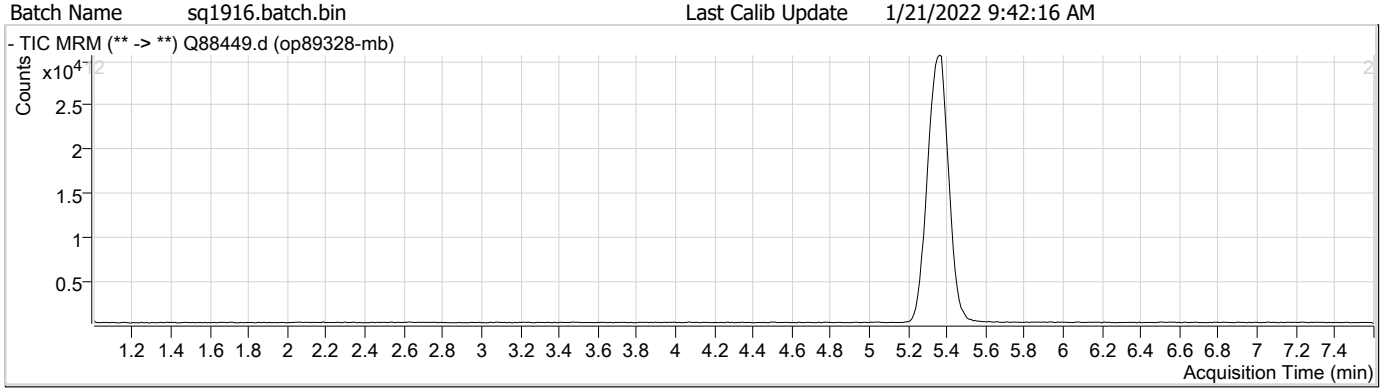






Quantitative Analysis Report for Perchlorate by 6850

Data File	: Q88449.d	Operator	natashag
Acq. Method	Perchlorate2.m	Acq. Date-Time	1/21/2022 10:10:46 AM
Sample Name	op89328-mb	Instrument	Instrument 1
Vial	P1-B4	Sample Information	OP89328,SQ1916,10.0,,,10.0,1,water
DA Method File	6850_011222_SQ1911.quantmethod.xml	Comment	
Batch Name	sq1916.batch.bin	Last Calib Update	1/21/2022 9:42:16 AM

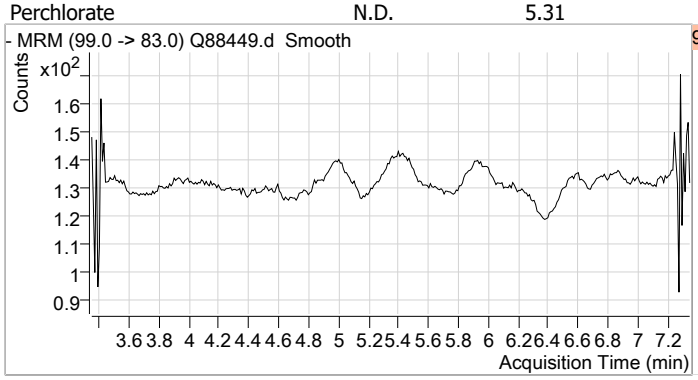


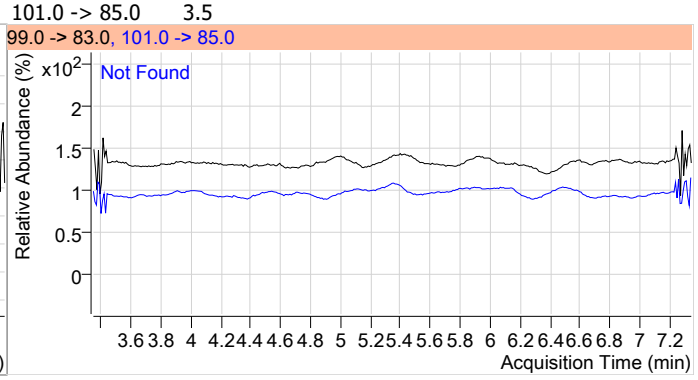
Compound	RT	QIon	Resp.	Q-ratio	Conc. Units	Dev(Min)
Internal Standards						
Cl18O4	5.351	107.0 -> 89.0	230775	NoQ	5.00 µg/L	0.041
System Monitoring Compounds						
Target Compounds						**QValue**
Perchlorate	-	99.0 -> 83.0		-	N.D.	

(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

Quantitative Analysis Report for Perchlorate by 6850

Compound	Conc.	Exp RT	QIon	Exp Ratio
Perchlorate	N.D.	5.31	101.0 -> 85.0	3.5

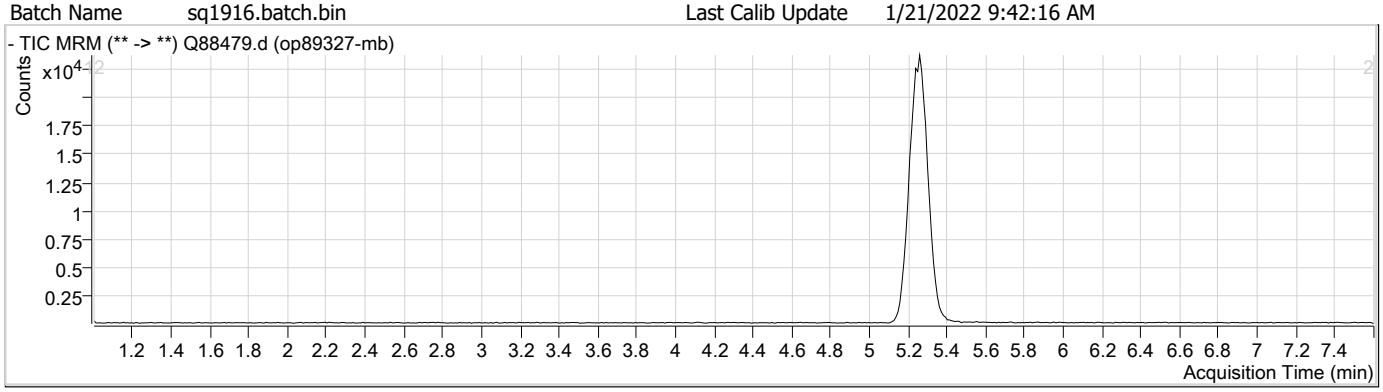




01172059

Quantitative Analysis Report for Perchlorate by 6850

Data File	: Q88479.d	Operator	natashag
Acq. Method	Perchlorate2.m	Acq. Date-Time	1/21/2022 2:22:46 PM
Sample Name	op89327-mb	Instrument	Instrument 1
Vial	P1-E1	Sample Information	OP89327,SQ1916,10.0,,,10.0,1,water
DA Method File	6850_011222_SQ1911.quantmethod.xml	Comment	
Batch Name	sq1916.batch.bin	Last Calib Update	1/21/2022 9:42:16 AM

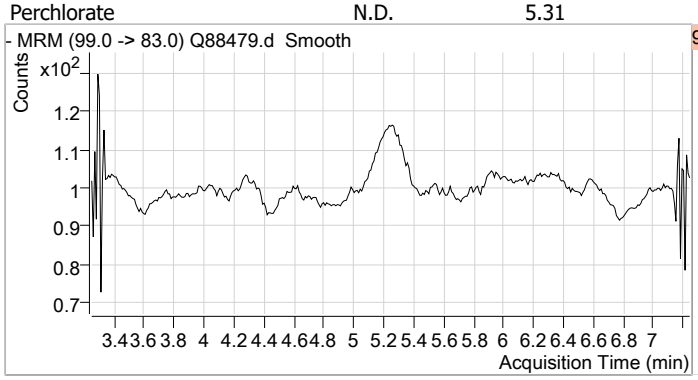


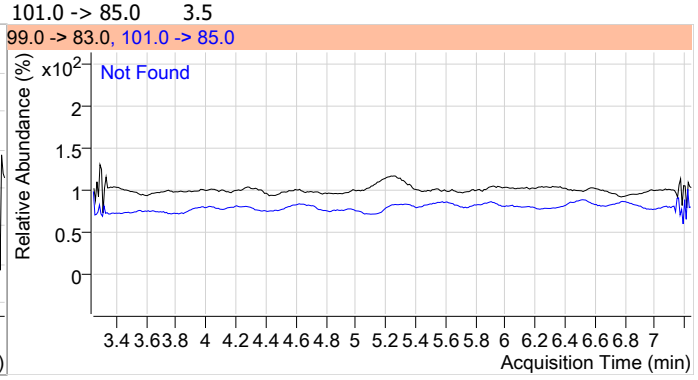
Compound	RT	QIon	Resp.	Q-ratio	Conc.	Units	Dev(Min)
Internal Standards							
Cl18O4	5.249	107.0 -> 89.0	157067	NoQ	5.00	µg/L	-0.061
System Monitoring Compounds							
Target Compounds							**QValue**
Perchlorate	-	99.0 -> 83.0		-	N.D.		

(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

Quantitative Analysis Report for Perchlorate by 6850

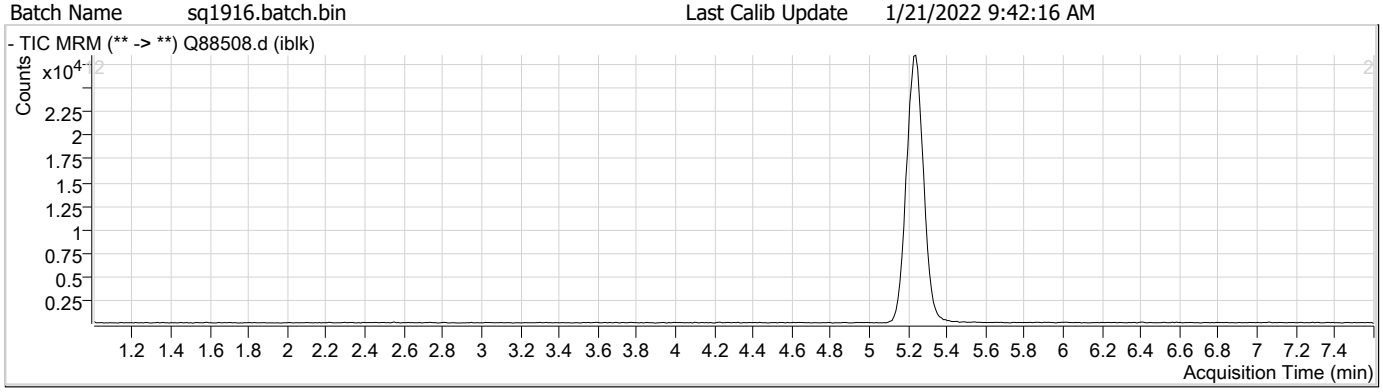
Compound	Conc.	Exp RT	QIon	Exp Ratio
Perchlorate	N.D.	5.31	101.0 -> 85.0	3.5





Quantitative Analysis Report for Perchlorate by 6850

Data File	: Q88508.d	Operator	natashag
Acq. Method	Perchlorate2.m	Acq. Date-Time	1/21/2022 6:26:25 PM
Sample Name	iblk	Instrument	Instrument 1
Vial	P1-A1	Sample Information	OP89328,SQ1916,10.0,,,10.0,1,water
DA Method File	6850_011222_SQ1911.quantmethod.xml	Comment	
Batch Name	sq1916.batch.bin	Last Calib Update	1/21/2022 9:42:16 AM

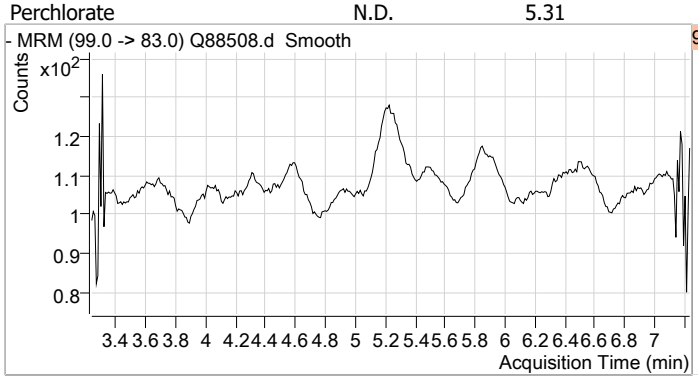


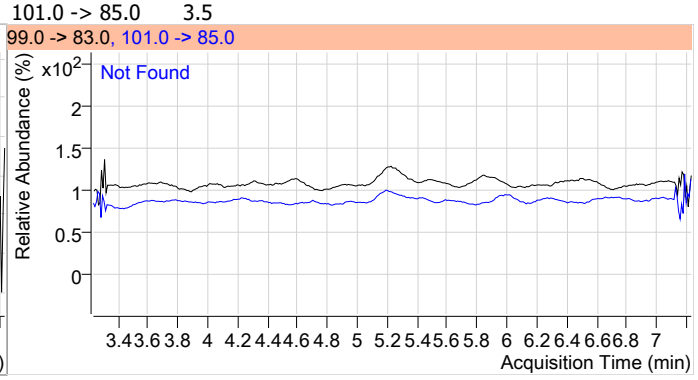
Compound	RT	QIon	Resp.	Q-ratio	Conc. Units	Dev(Min)
Internal Standards						
Cl18O4	5.239	107.0 -> 89.0	173981	NoQ	5.00 µg/L	-0.071
System Monitoring Compounds						
Target Compounds						**QValue**
Perchlorate	-	99.0 -> 83.0		-	N.D.	

(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

Quantitative Analysis Report for Perchlorate by 6850

Compound	Conc.	Exp RT	QIon	Exp Ratio
Perchlorate	N.D.	5.31	101.0 -> 85.0	3.5

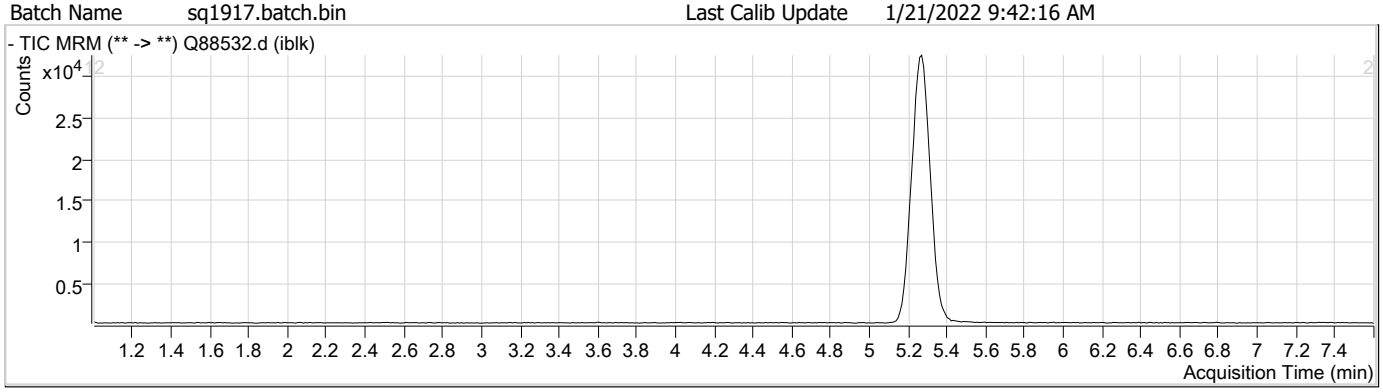




01172063

Quantitative Analysis Report for Perchlorate by 6850

Data File	: Q88532.d	Operator	natashag
Acq. Method	Perchlorate2.m	Acq. Date-Time	1/24/2022 1:31:40 PM
Sample Name	iblk	Instrument	Instrument 1
Vial	P1-A1	Sample Information	OP89328,SQ1917,10.0,,,10.0,1,water
DA Method File	6850_011222_SQ1911.quantmethod.xml	Comment	
Batch Name	sq1917.batch.bin	Last Calib Update	1/21/2022 9:42:16 AM

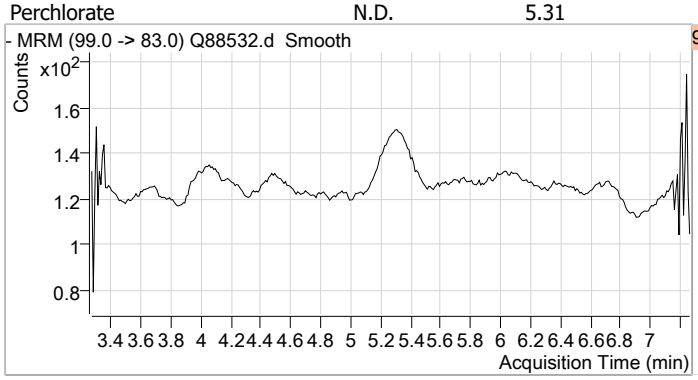


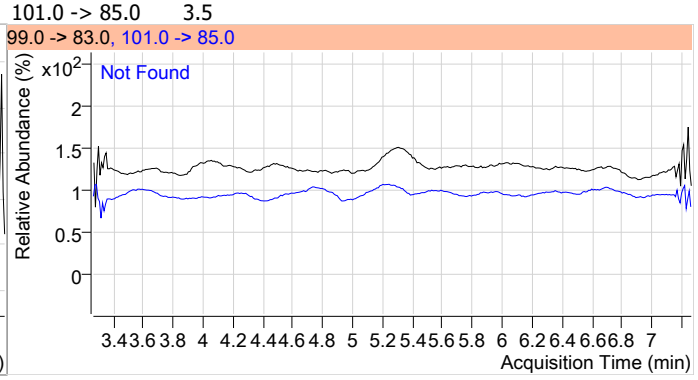
Compound	RT	QIon	Resp.	Q-ratio	Conc. Units	Dev(Min)
Internal Standards						
Cl18O4	5.270	107.0 -> 89.0	217779	NoQ	5.00 µg/L	-0.041
System Monitoring Compounds						
Target Compounds						**QValue**
Perchlorate	-	99.0 -> 83.0		-	N.D.	

(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

Quantitative Analysis Report for Perchlorate by 6850

Compound	Conc.	Exp RT	QIon	Exp Ratio
Perchlorate	N.D.	5.31	101.0 -> 85.0	3.5



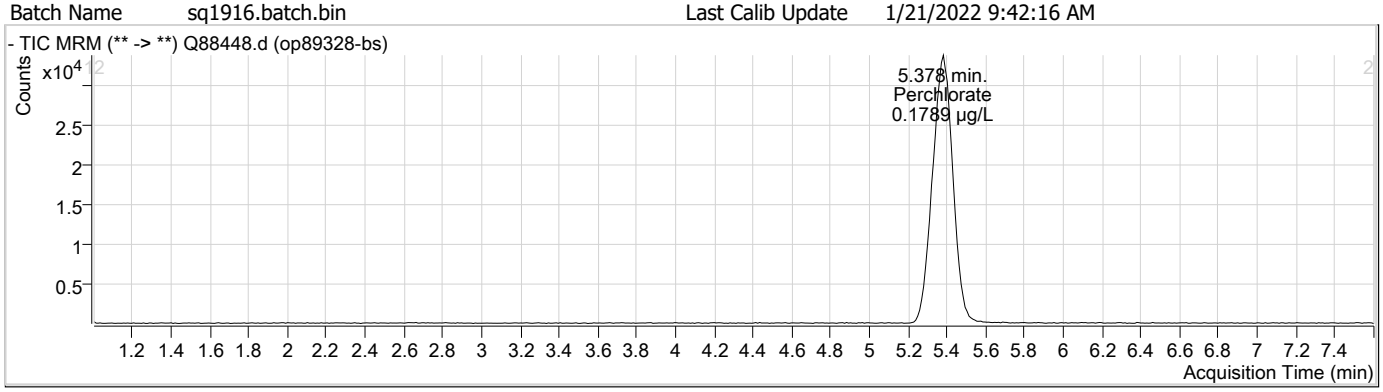


7.2.4

7

Quantitative Analysis Report for Perchlorate by 6850

Data File	: Q88448.d	Operator	natashag
Acq. Method	Perchlorate2.m	Acq. Date-Time	1/21/2022 10:02:21 AM
Sample Name	op89328-bs	Instrument	Instrument 1
Vial	P1-B3	Sample Information	OP89328,SQ1916,10.0,,,10.0,1,water
DA Method File	6850_011222_SQ1911.quantmethod.xml	Comment	
Batch Name	sq1916.batch.bin	Last Calib Update	1/21/2022 9:42:16 AM

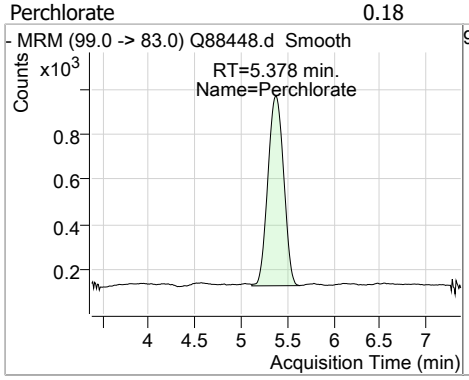


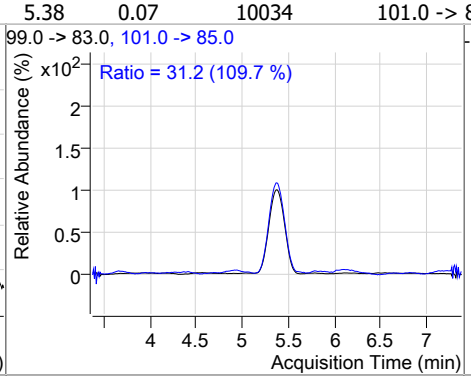
Compound	RT	QIon	Resp.	Q-ratio	Conc. Units	Dev(Min)
Internal Standards						
Cl18O4	5.382	107.0 -> 89.0	232055	NoQ	5.00 µg/L	0.071
System Monitoring Compounds						
Target Compounds						**QValue**
Perchlorate	5.378	99.0 -> 83.0	10034	3.2	0.18 µg/L	95

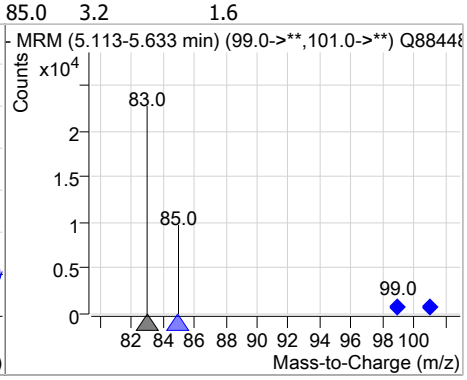
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

Quantitative Analysis Report for Perchlorate by 6850

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
Perchlorate	0.18	5.38	0.07	10034	101.0 -> 85.0	3.2	1.6	

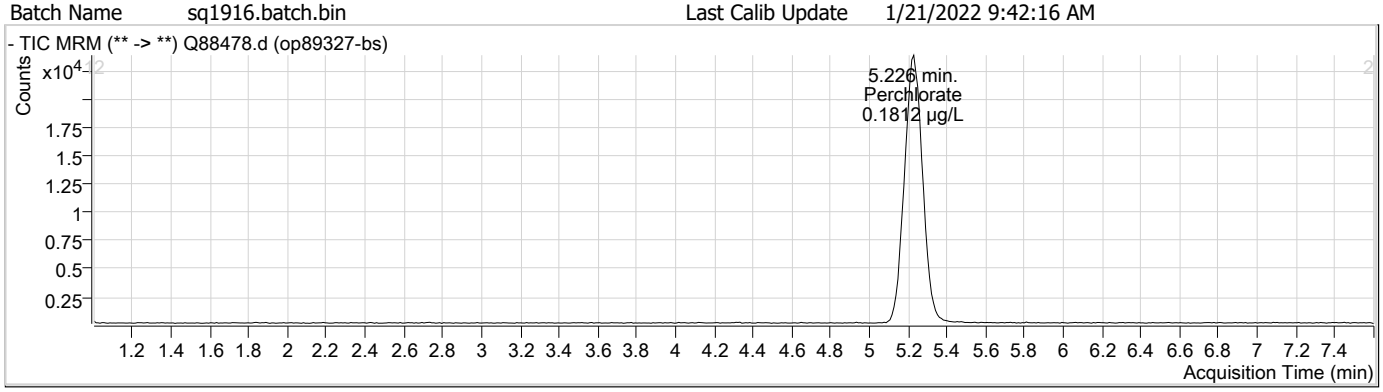






Quantitative Analysis Report for Perchlorate by 6850

Data File	: Q88478.d	Operator	natashag
Acq. Method	Perchlorate2.m	Acq. Date-Time	1/21/2022 2:14:23 PM
Sample Name	op89327-bs	Instrument	Instrument 1
Vial	P1-D9	Sample Information	OP89327,SQ1916,10.0,,,10.0,1,water
DA Method File	6850_011222_SQ1911.quantmethod.xml	Comment	
Batch Name	sq1916.batch.bin	Last Calib Update	1/21/2022 9:42:16 AM

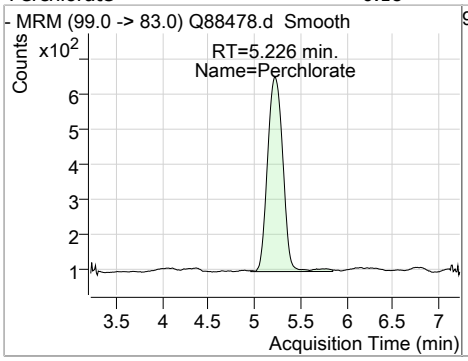


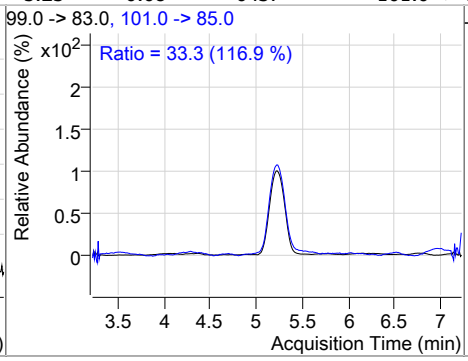
Compound	RT	QIon	Resp.	Q-ratio	Conc. Units	Dev(Min)
Internal Standards						
Cl18O4	5.229	107.0 -> 89.0	147009	NoQ	5.00 µg/L	-0.081
System Monitoring Compounds						
Target Compounds						**QValue**
Perchlorate	5.226	99.0 -> 83.0	6437	3.0	0.18 µg/L	91

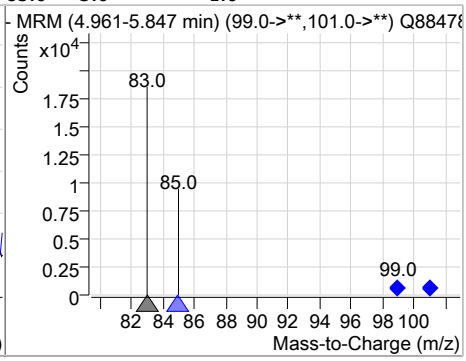
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

Quantitative Analysis Report for Perchlorate by 6850

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
Perchlorate	0.18	5.23	-0.08	6437	101.0 -> 85.0	3.0	1.6	



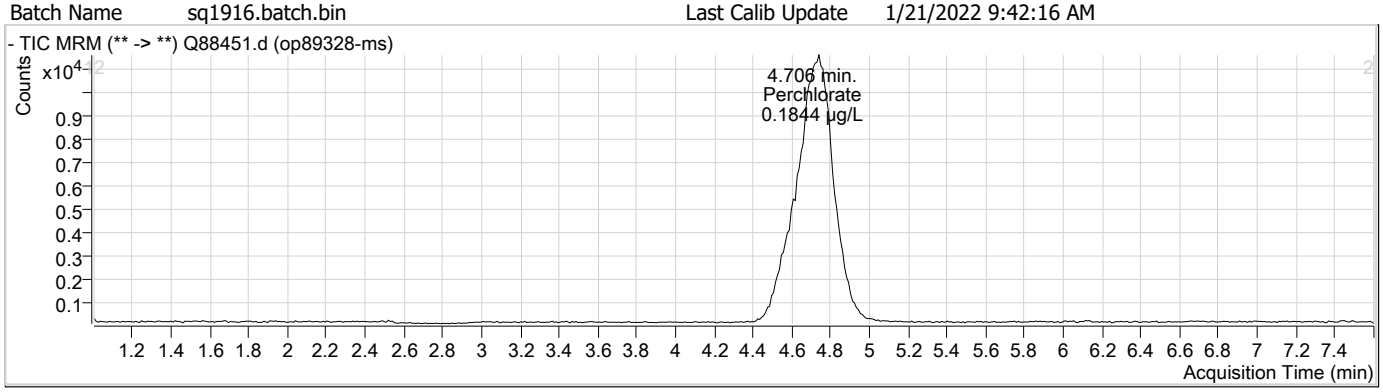




01172069

Quantitative Analysis Report for Perchlorate by 6850

Data File	: Q88451.d	Operator	natashag
Acq. Method	Perchlorate2.m	Acq. Date-Time	1/21/2022 10:27:34 AM
Sample Name	op89328-ms	Instrument	Instrument 1
Vial	P1-B6	Sample Information	OP89328,SQ1916,10.0,,,10.0,1,water
DA Method File	6850_011222_SQ1911.quantmethod.xml	Comment	
Batch Name	sq1916.batch.bin	Last Calib Update	1/21/2022 9:42:16 AM

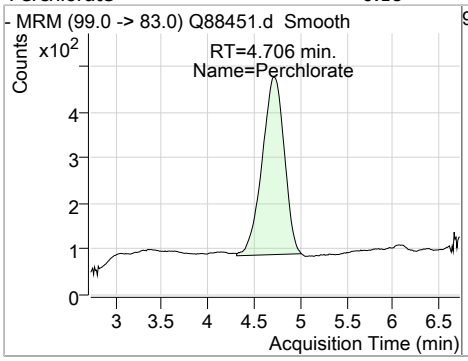


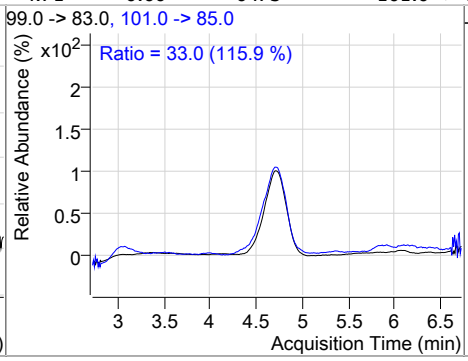
Compound	RT	QIon	Resp.	Q-ratio	Conc. Units	Dev(Min)
Internal Standards						
Cl18O4	4.730	107.0 -> 89.0	145304	NoQ	5.00 µg/L	-0.581
System Monitoring Compounds						
Target Compounds						**QValue**
Perchlorate	4.706	99.0 -> 83.0	6473	3.0	0.18 µg/L	92

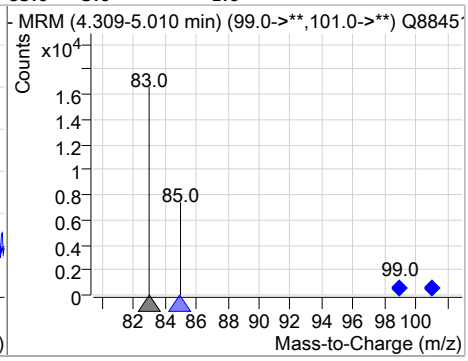
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

Quantitative Analysis Report for Perchlorate by 6850

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
Perchlorate	0.18	4.71	-0.60	6473	101.0 -> 85.0	3.0	1.6	



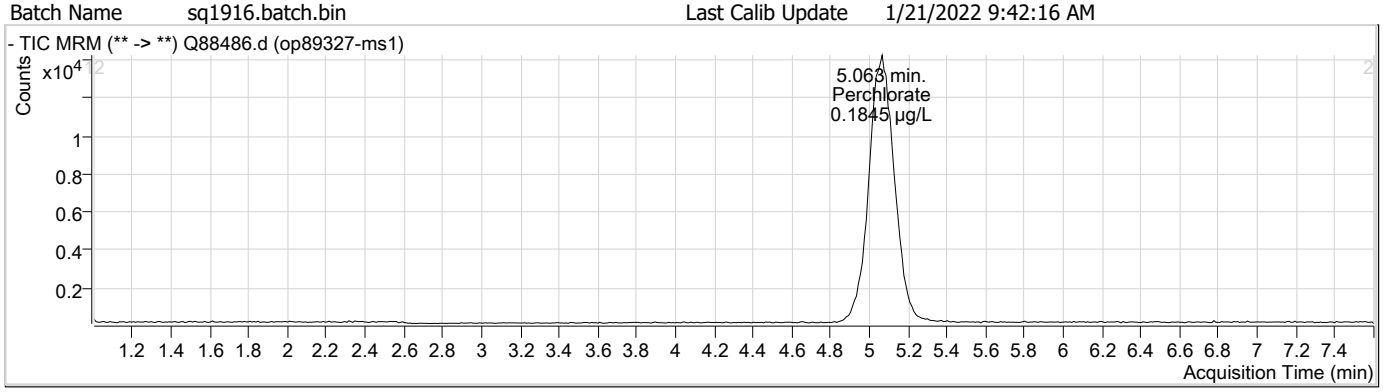




01172071

Quantitative Analysis Report for Perchlorate by 6850

Data File	: Q88486.d	Operator	natashag
Acq. Method	Perchlorate2.m	Acq. Date-Time	1/21/2022 3:21:35 PM
Sample Name	op89327-ms1	Instrument	Instrument 1
Vial	P1-E5	Sample Information	OP89327,SQ1916,10.0,,,10.0,1,water
DA Method File	6850_011222_SQ1911.quantmethod.xml	Comment	
Batch Name	sq1916.batch.bin	Last Calib Update	1/21/2022 9:42:16 AM

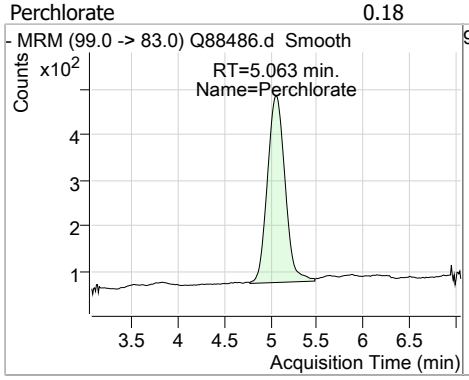


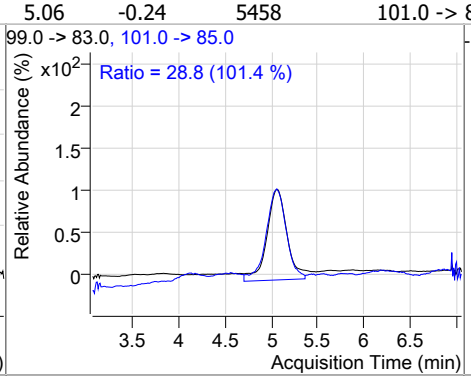
Compound	RT	QIon	Resp.	Q-ratio	Conc. Units	Dev(Min)
Internal Standards						
Cl18O4	5.066	107.0 -> 89.0	122419	NoQ	5.00 µg/L	-0.244
System Monitoring Compounds						
Target Compounds						**QValue**
Perchlorate	5.063	99.0 -> 83.0	5458	3.5	0.18 µg/L	99

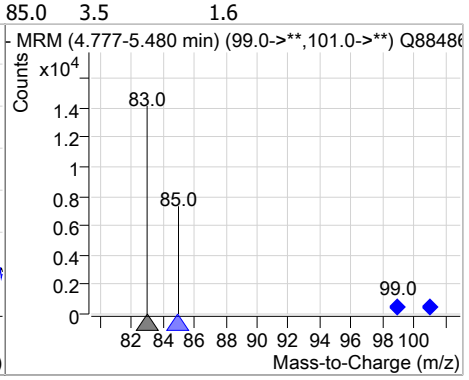
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

Quantitative Analysis Report for Perchlorate by 6850

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
Perchlorate	0.18	5.06	-0.24	5458	101.0 -> 85.0	3.5	1.6	

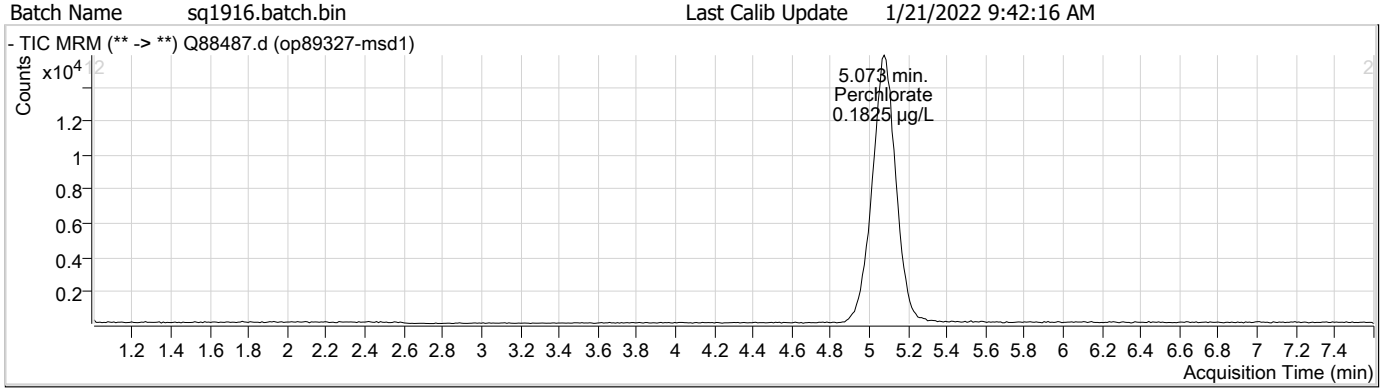






Quantitative Analysis Report for Perchlorate by 6850

Data File	: Q88487.d	Operator	natashag
Acq. Method	Perchlorate2.m	Acq. Date-Time	1/21/2022 3:29:59 PM
Sample Name	op89327-msd1	Instrument	Instrument 1
Vial	P1-E6	Sample Information	OP89327,SQ1916,10.0,,,10.0,1,water
DA Method File	6850_011222_SQ1911.quantmethod.xml	Comment	
Batch Name	sq1916.batch.bin	Last Calib Update	1/21/2022 9:42:16 AM

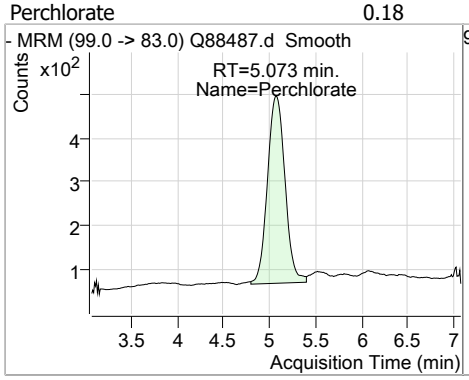


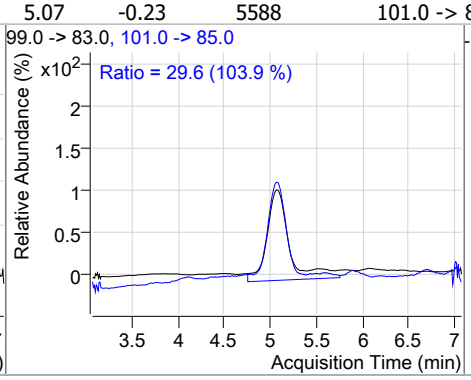
Compound	RT	QIon	Resp.	Q-ratio	Conc.	Units	Dev(Min)
Internal Standards							
Cl18O4	5.076	107.0 -> 89.0	126723	NoQ	5.00	µg/L	-0.234
System Monitoring Compounds							
Target Compounds							**QValue**
Perchlorate	5.073	99.0 -> 83.0	5588	3.4	0.18	µg/L	98

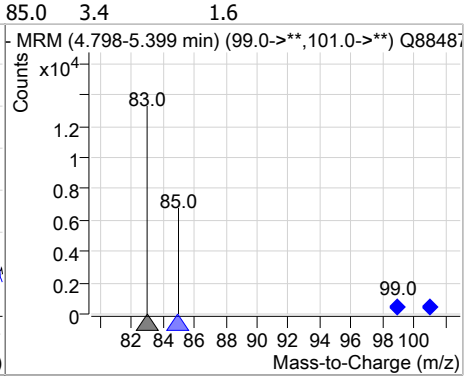
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

Quantitative Analysis Report for Perchlorate by 6850

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
Perchlorate	0.18	5.07	-0.23	5588	101.0 -> 85.0	3.4	1.6	

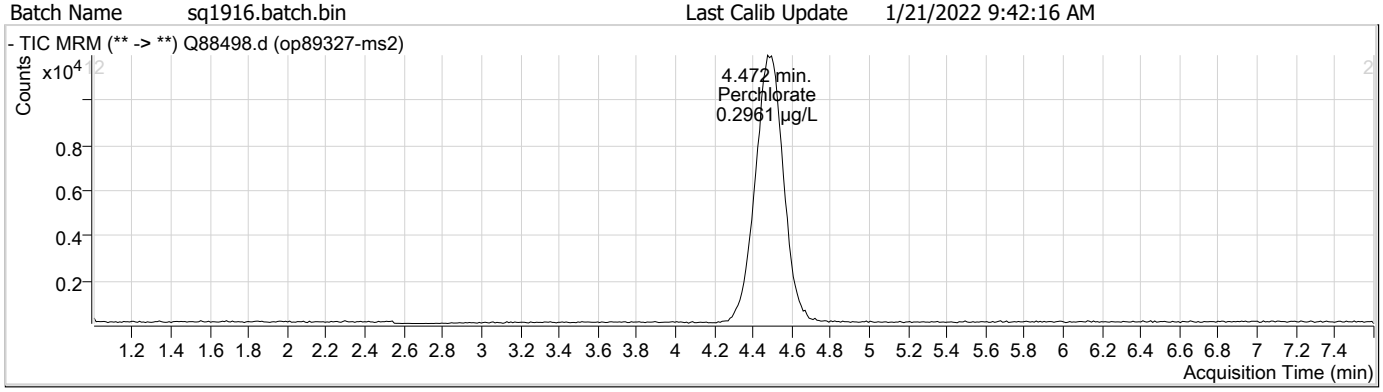






Quantitative Analysis Report for Perchlorate by 6850

Data File	: Q88498.d	Operator	natashag
Acq. Method	Perchlorate2.m	Acq. Date-Time	1/21/2022 5:02:24 PM
Sample Name	op89327-ms2	Instrument	Instrument 1
Vial	P1-F5	Sample Information	OP89327,SQ1916,10.0,,,10.0,1,water
DA Method File	6850_011222_SQ1911.quantmethod.xml	Comment	
Batch Name	sq1916.batch.bin	Last Calib Update	1/21/2022 9:42:16 AM

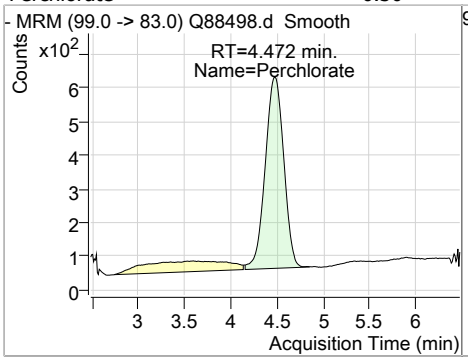


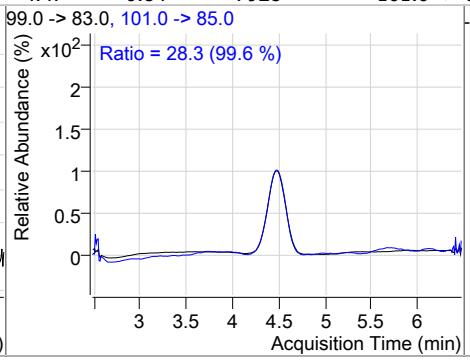
Compound	RT	QIon	Resp.	Q-ratio	Conc.	Units	Dev(Min)
Internal Standards							
Cl18O4	4.485	107.0 -> 89.0	110812	NoQ	5.00	µg/L	-0.825
System Monitoring Compounds							
Target Compounds							**QValue**
Perchlorate	4.472	99.0 -> 83.0	7928	3.5	0.30	µg/L	100

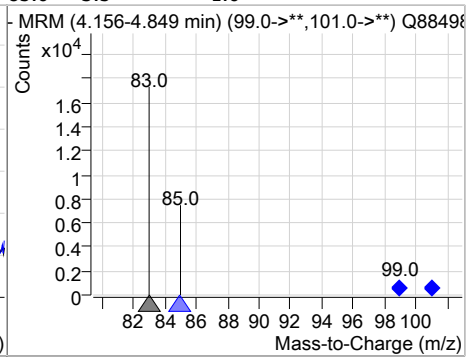
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

Quantitative Analysis Report for Perchlorate by 6850

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
Perchlorate	0.30	4.47	-0.84	7928	101.0 -> 85.0	3.5	1.6	

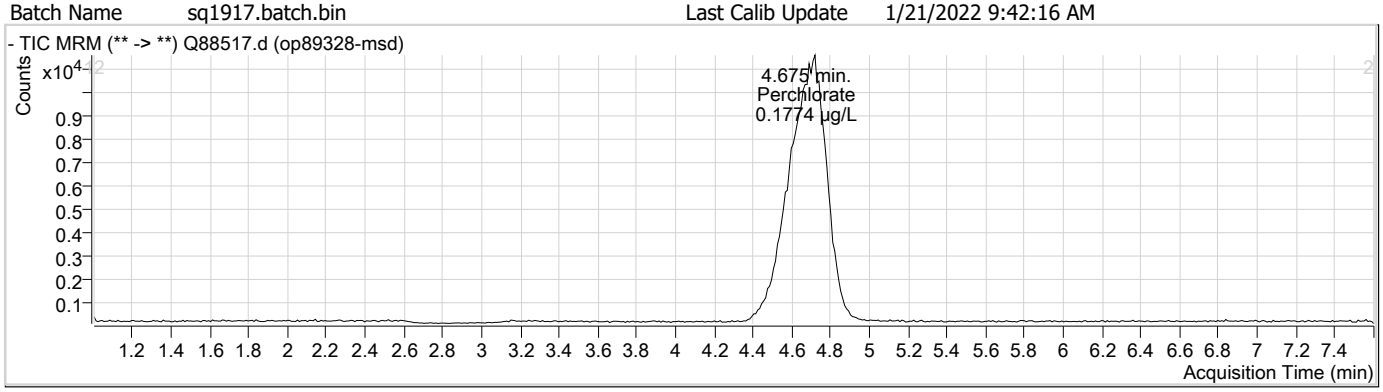






Quantitative Analysis Report for Perchlorate by 6850

Data File	: Q88517.d	Operator	natashag
Acq. Method	Perchlorate2.m	Acq. Date-Time	1/24/2022 11:25:42 AM
Sample Name	op89328-msd	Instrument	Instrument 1
Vial	P2-E3	Sample Information	OP89328,SQ1917,10.0,,,10.0,1,water
DA Method File	6850_011222_SQ1911.quantmethod.xml	Comment	1x
Batch Name	sq1917.batch.bin	Last Calib Update	1/21/2022 9:42:16 AM



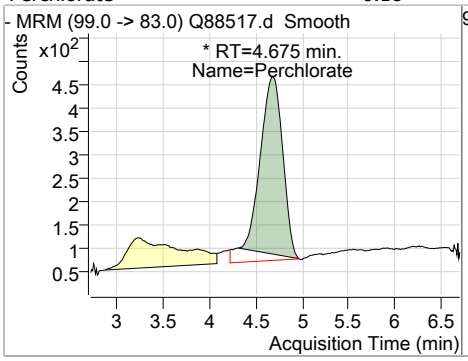
Compound	RT	QIon	Resp.	Q-ratio	Conc.	Units		Dev(Min)
Internal Standards								
Cl18O4	4.709	107.0 -> 89.0	146267	NoQ	5.00	µg/L		-0.601
System Monitoring Compounds								
Target Compounds								QValue
Perchlorate	4.675	99.0 -> 83.0	6271	3.2	0.18	µg/L	m	95

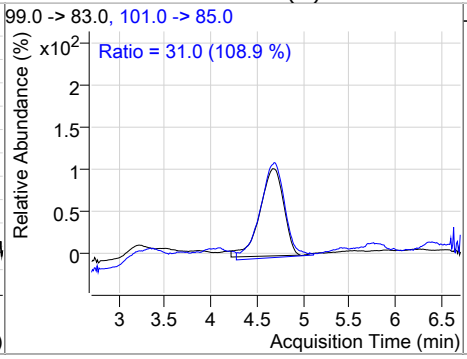
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

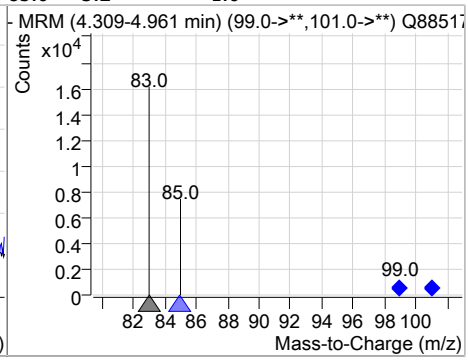
Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
01/24/22 15:28

Quantitative Analysis Report for Perchlorate by 6850

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
Perchlorate	0.18	4.68	-0.63	6271 (m)	101.0 -> 85.0	3.2	1.6	







7.4.5

7

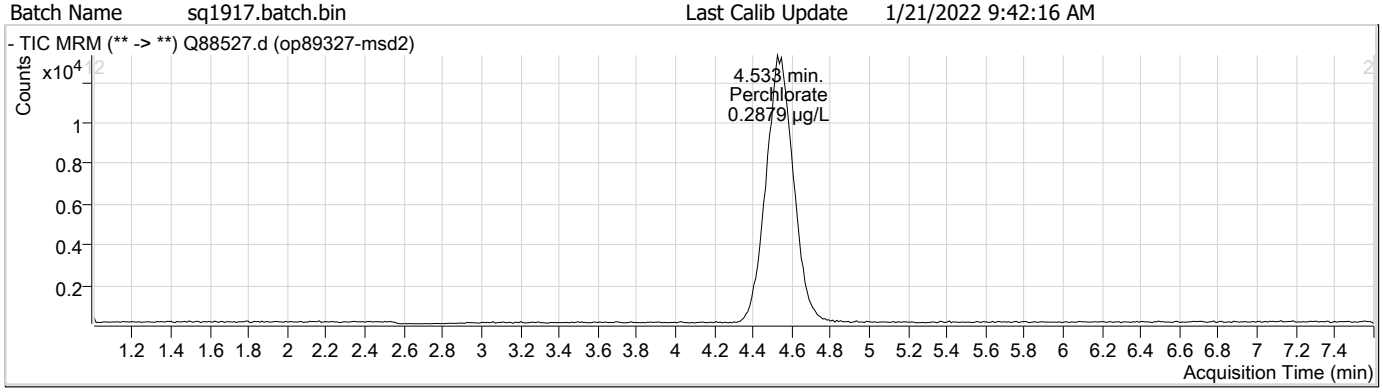
Manual Integration Approval Summary

Sample Number: OP89328-MSD
Lab FileID: Q88517.D
Injection Time: 01/24/22 11:25
Method: SW846 6850
Analyst approved: 01/24/22 13:56 Natasha Gumtie
Supervisor approved: 01/24/22 15:28 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perchlorate	14797-73-0		4.67	Poorly defined baseline

Quantitative Analysis Report for Perchlorate by 6850

Data File	: Q88527.d	Operator	natashag
Acq. Method	Perchlorate2.m	Acq. Date-Time	1/24/2022 12:49:41 PM
Sample Name	op89327-msd2	Instrument	Instrument 1
Vial	P2-F1	Sample Information	OP89327,SQ1917,10.0,,,10.0,1,water
DA Method File	6850_011222_SQ1911.quantmethod.xml	Comment	1x
Batch Name	sq1917.batch.bin	Last Calib Update	1/21/2022 9:42:16 AM

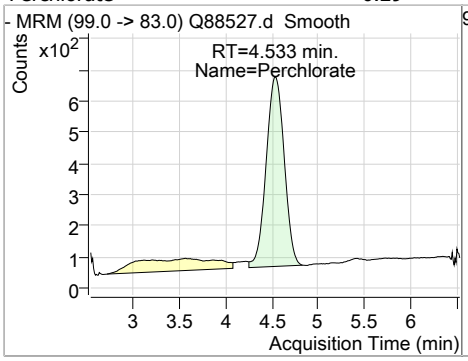


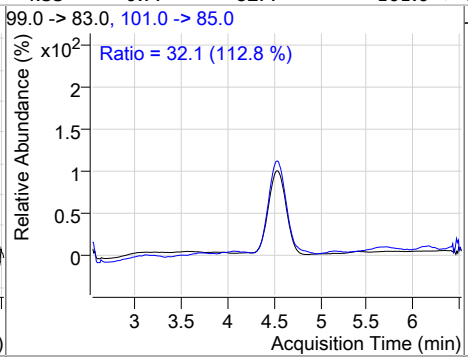
Compound	RT	QIon	Resp.	Q-ratio	Conc.	Units	Dev(Min)
Internal Standards							
Cl18O4	4.536	107.0 -> 89.0	118977	NoQ	5.00	µg/L	-0.774
System Monitoring Compounds							
Target Compounds							**QValue**
Perchlorate	4.533	99.0 -> 83.0	8277	3.1	0.29	µg/L	93

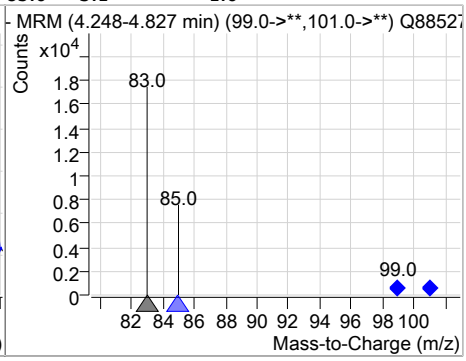
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

Quantitative Analysis Report for Perchlorate by 6850

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
Perchlorate	0.29	4.53	-0.77	8277	101.0 -> 85.0	3.1	1.6	







01172082

QQQ Check Tune Report

Agilent Technologies

Instrument Name	Instrument 1
MS Model	G6460A
MS Instrument Serial	SG10447001
Software_Firmware Version	B.08.02.B8260.0, FW: A.00.08.62
Tune Date & Time	11 January 2022 08:01:39
Data Path	D:\MassHunter\Tune\QQQ\G6460A\atunes.TUNE.XML
Ion Source	AJS ESI
Ionization Mode	AJS ESI
Tuned Resolution	All
Vacuum Pressure	1.66E+0[R]; 2.51E-5[H]

Source Parameters

Parameter	Value
Gas Temp	300
Gas Flow	10
Nebulizer	15
Capillary	4000
Nozzle Voltage	1500
Sheath Gas Temp	250
Sheath Gas Flow	7

QQQ Check Tune Report

Agilent Technologies

Negative Results

Analyzer: MS1 Polarity: Negative Width: Unit

m/z Expected	m/z Measured	Delta	Result	FWHM Expected	FWHM Measured	Delta	Result	Abundance
112.99	112.95	-0.04	Pass	0.70	0.67	-0.03	Pass	164320
302.00	302.02	0.02	Pass	0.70	0.68	-0.02	Pass	69801
601.98	602.05	0.07	Pass	0.70	0.61	-0.09	Pass	79178
1033.99	1033.97	-0.02	Pass	0.70	0.63	-0.07	Pass	267423
1633.95	1633.79	-0.16	Pass	0.70	0.70	0.00	Pass	508633
2233.91	2233.61	-0.30	Pass	0.70	0.79	0.09	Pass	333638

Analyzer: MS2 Polarity: Negative Width: Unit

m/z Expected	m/z Measured	Delta	Result	FWHM Expected	FWHM Measured	Delta	Result	Abundance
69.00	69.00	0.00	Pass	0.70	0.74	0.04	Pass	52544
112.99	112.95	-0.04	Pass	0.70	0.72	0.02	Pass	364001
302.00	301.87	-0.13	Pass	0.70	0.79	0.09	Pass	110580
601.98	601.84	-0.14	Pass	0.70	0.78	0.08	Pass	143379
1033.99	1033.79	-0.20	Pass	0.70	0.81	0.11	Pass	430459
1633.95	1633.75	-0.20	Pass	0.70	0.83	0.13	Pass	638401
2233.91	2233.66	-0.25	Pass	0.70	0.63	-0.07	Pass	121276

Analyzer: MS1 Polarity: Negative Width: Wide

m/z Expected	m/z Measured	Delta	Result	FWHM Expected	FWHM Measured	Delta	Result	Abundance
112.99	112.89	-0.10	Pass	1.20	1.08	-0.12	Pass	244736
302.00	301.99	-0.01	Pass	1.20	1.38	0.18	Pass	106589
601.98	601.98	0.00	Pass	1.20	1.42	0.22	Pass	144720
1033.99	1033.85	-0.14	Pass	1.20	1.51	0.31	Pass	529381
1633.95	1633.75	-0.20	Pass	1.20	1.41	0.21	Pass	1203150
2233.91	2233.61	-0.30	Pass	1.20	1.29	0.09	Pass	739240

Analyzer: MS2 Polarity: Negative Width: Wide

m/z Expected	m/z Measured	Delta	Result	FWHM Expected	FWHM Measured	Delta	Result	Abundance
69.00	68.99	-0.01	Pass	1.20	1.25	0.05	Pass	67877
112.99	112.91	-0.08	Pass	1.20	1.30	0.10	Pass	424641
302.00	301.85	-0.15	Pass	1.20	1.39	0.19	Pass	158231
601.98	601.79	-0.19	Pass	1.20	1.33	0.13	Pass	199357
1033.99	1033.73	-0.26	Pass	1.20	1.13	-0.07	Pass	624691
1633.95	1633.63	-0.32	Pass	1.20	1.13	-0.07	Pass	1583735
2233.91	2233.61	-0.30	Pass	1.20	1.27	0.07	Pass	1450519

Analyzer: MS1 Polarity: Negative Width: Widest

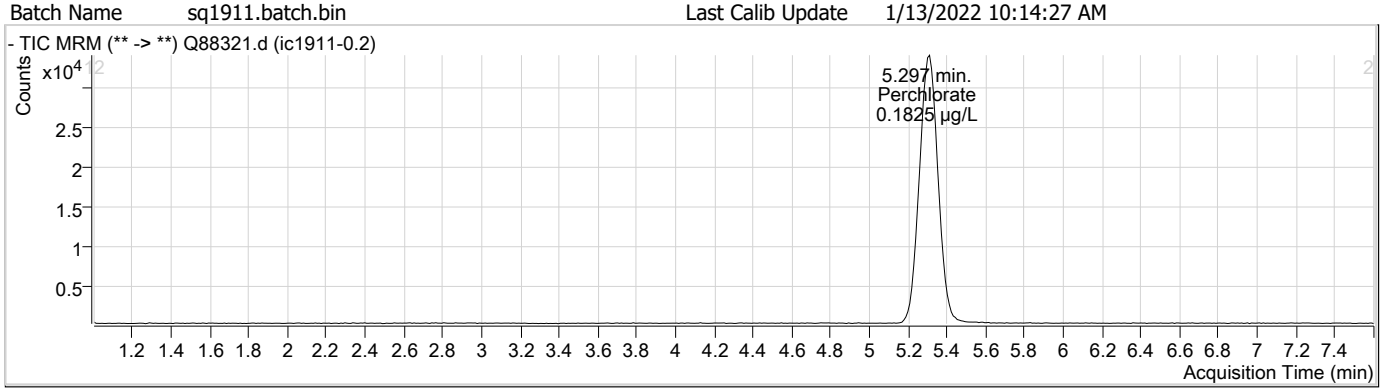
m/z Expected	m/z Measured	Delta	Result	FWHM Expected	FWHM Measured	Delta	Result	Abundance
112.99	112.61	-0.38	Pass	2.50	2.58	0.08	Pass	357627
302.00	301.97	-0.03	Pass	2.50	2.90	0.40	Pass	127663
601.98	601.96	-0.02	Pass	2.50	2.92	0.42	Pass	183236
1033.99	1033.87	-0.12	Pass	2.50	2.92	0.42	Pass	794803
1633.95	1633.65	-0.30	Pass	2.50	2.77	0.27	Pass	1964604
2233.91	2233.49	-0.42	Pass	2.50	2.68	0.18	Pass	1297152

Analyzer: MS2 Polarity: Negative Width: Widest

m/z Expected	m/z Measured	Delta	Result	FWHM Expected	FWHM Measured	Delta	Result	Abundance
69.00	69.01	0.01	Pass	2.50	2.52	0.02	Pass	81328
112.99	112.96	-0.03	Pass	2.50	2.59	0.09	Pass	493168
302.00	301.83	-0.17	Pass	2.50	2.65	0.15	Pass	182366
601.98	601.76	-0.22	Pass	2.50	2.62	0.12	Pass	259455
1033.99	1033.75	-0.24	Pass	2.50	2.35	-0.15	Pass	1141479
1633.95	1633.68	-0.27	Pass	2.50	2.35	-0.15	Pass	3541857
2233.91	2233.56	-0.35	Pass	2.50	2.48	-0.02	Pass	3689915

Quantitative Analysis Report for Perchlorate by 6850

Data File	: Q88321.d	Operator	natashag
Acq. Method	Perchlorate2.m	Acq. Date-Time	1/12/2022 12:30:42 PM
Sample Name	ic1911-0.2	Instrument	Instrument 1
Vial	P1-A2	Sample Information	OP89192,SQ1911,10.0,,,10.0,1,water
DA Method File	6850_011222_SQ1911.quantmethod.xml	Comment	
Batch Name	sq1911.batch.bin	Last Calib Update	1/13/2022 10:14:27 AM

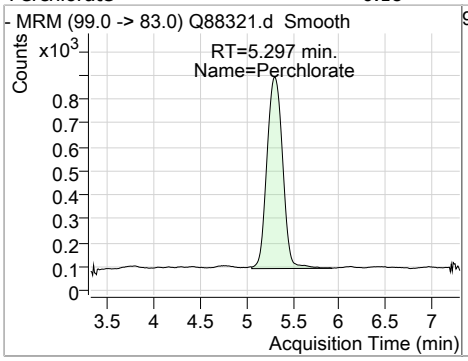


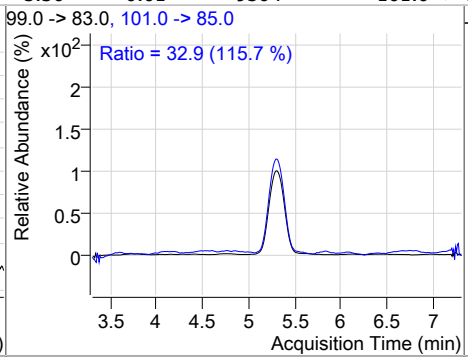
Compound	RT	QIon	Resp.	Q-ratio	Conc.	Units	Dev(Min)
Internal Standards							
Cl18O4	5.310	107.0 -> 89.0	215450	NoQ	5.00	µg/L	0.000
System Monitoring Compounds							
Target Compounds							**QValue**
Perchlorate	5.297	99.0 -> 83.0	9504	3.0	0.18	µg/L	92

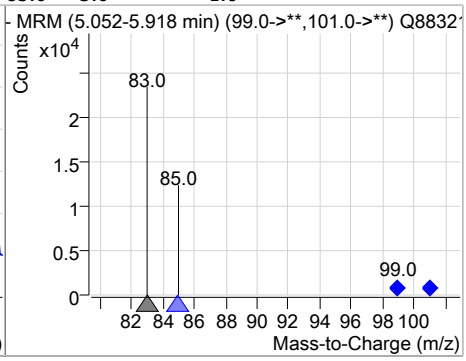
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

Quantitative Analysis Report for Perchlorate by 6850

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
Perchlorate	0.18	5.30	-0.01	9504	101.0 -> 85.0	3.0	1.6	

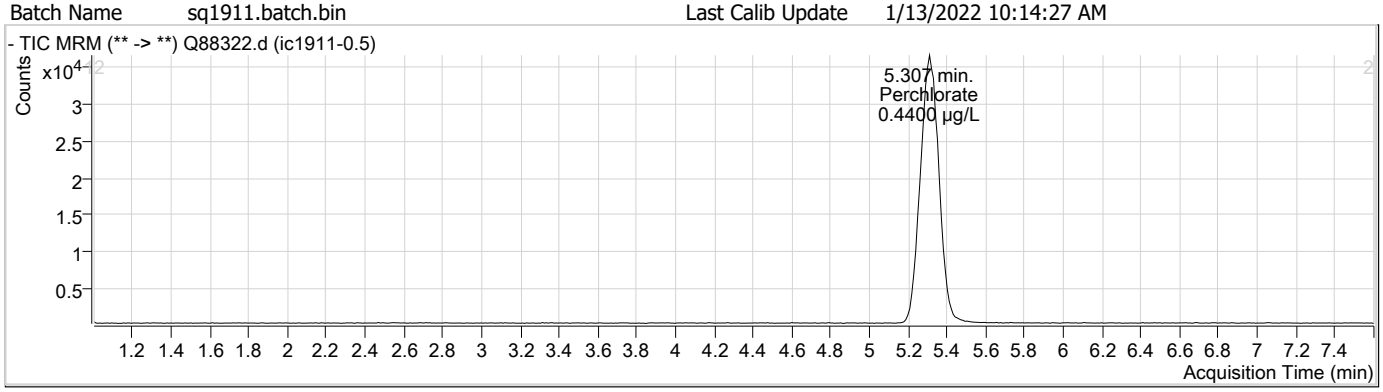






Quantitative Analysis Report for Perchlorate by 6850

Data File	: Q88322.d	Operator	natashag
Acq. Method	Perchlorate2.m	Acq. Date-Time	1/12/2022 12:39:06 PM
Sample Name	ic1911-0.5	Instrument	Instrument 1
Vial	P1-A3	Sample Information	OP89192,SQ1911,10.0,,,10.0,1,water
DA Method File	6850_011222_SQ1911.quantmethod.xml	Comment	
Batch Name	sq1911.batch.bin	Last Calib Update	1/13/2022 10:14:27 AM

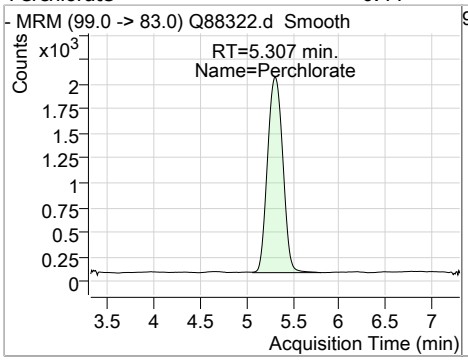


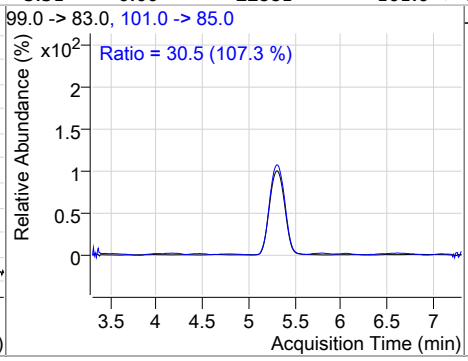
Compound	RT	QIon	Resp.	Q-ratio	Conc. Units	Dev(Min)
Internal Standards						
Cl18O4	5.310	107.0 -> 89.0	215195	NoQ	5.00 µg/L	0.000
System Monitoring Compounds						
Target Compounds						**QValue**
Perchlorate	5.307	99.0 -> 83.0	22881	3.3	0.44 µg/L	96

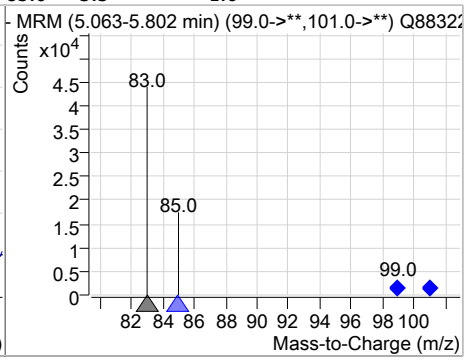
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

Quantitative Analysis Report for Perchlorate by 6850

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
Perchlorate	0.44	5.31	0.00	22881	101.0 -> 85.0	3.3	1.6	

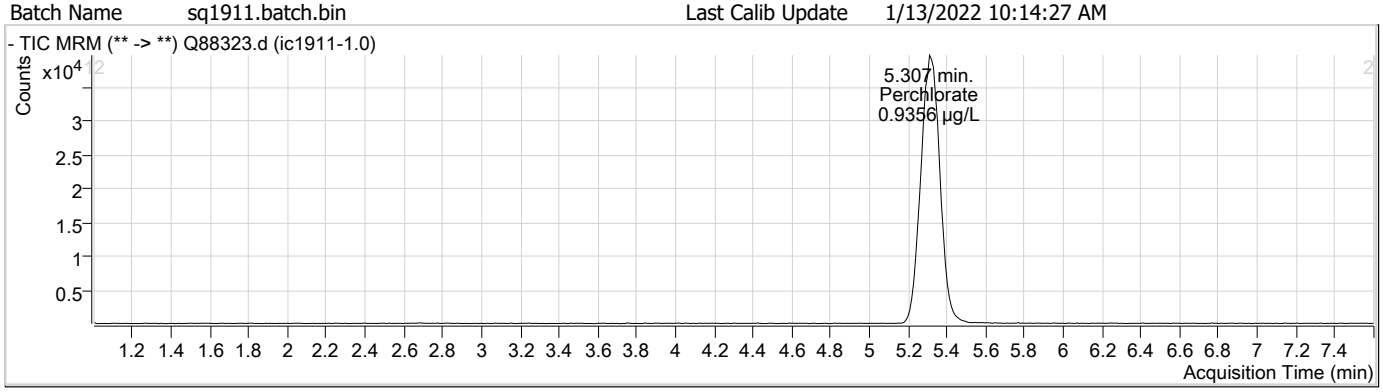






Quantitative Analysis Report for Perchlorate by 6850

Data File	: Q88323.d	Operator	natashag
Acq. Method	Perchlorate2.m	Acq. Date-Time	1/12/2022 12:47:30 PM
Sample Name	ic1911-1.0	Instrument	Instrument 1
Vial	P1-A4	Sample Information	OP89192,SQ1911,10.0,,,10.0,1,water
DA Method File	6850_011222_SQ1911.quantmethod.xml	Comment	
Batch Name	sq1911.batch.bin	Last Calib Update	1/13/2022 10:14:27 AM

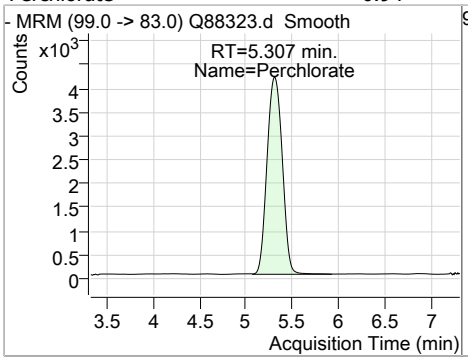


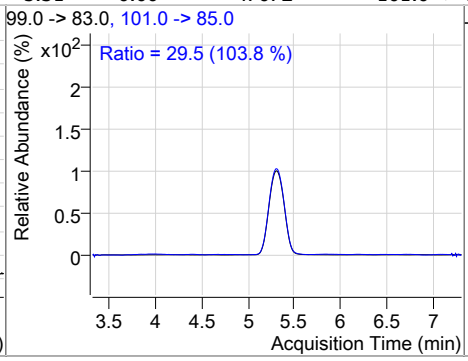
Compound	RT	QIon	Resp.	Q-ratio	Conc. Units	Dev(Min)
Internal Standards						
Cl18O4	5.321	107.0 -> 89.0	210857	NoQ	5.00 µg/L	0.010
System Monitoring Compounds						
Target Compounds						**QValue**
Perchlorate	5.307	99.0 -> 83.0	47672	3.4	0.94 µg/L	98

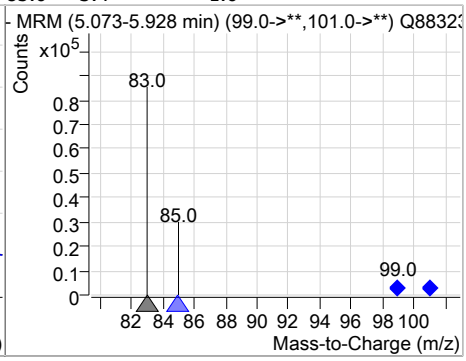
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

Quantitative Analysis Report for Perchlorate by 6850

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
Perchlorate	0.94	5.31	0.00	47672	101.0 -> 85.0	3.4	1.6	

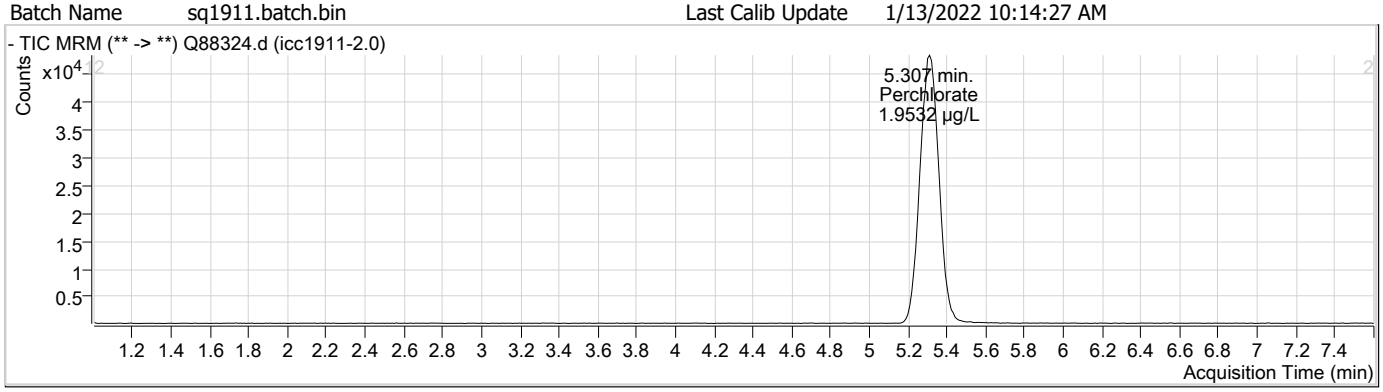






Quantitative Analysis Report for Perchlorate by 6850

Data File	: Q88324.d	Operator	natashag
Acq. Method	Perchlorate2.m	Acq. Date-Time	1/12/2022 12:55:55 PM
Sample Name	icc1911-2.0	Instrument	Instrument 1
Vial	P1-A5	Sample Information	OP89192,SQ1911,10.0,,,10.0,1,water
DA Method File	6850_011222_SQ1911.quantmethod.xml	Comment	
Batch Name	sq1911.batch.bin	Last Calib Update	1/13/2022 10:14:27 AM

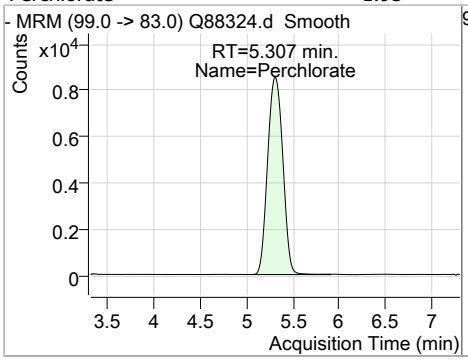


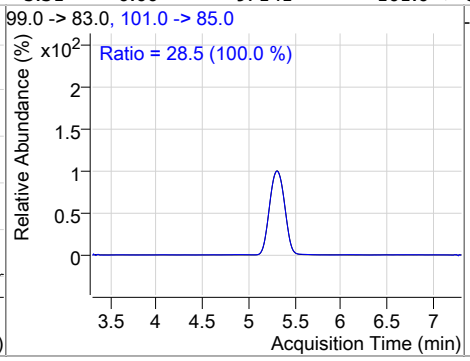
Compound	RT	QIon	Resp.	Q-ratio	Conc.	Units	Dev(Min)
Internal Standards							
Cl18O4	5.310	107.0 -> 89.0	205811	NoQ	5.00	µg/L	0.000
System Monitoring Compounds							
Target Compounds							QValue
Perchlorate	5.307	99.0 -> 83.0	97141	3.5	1.95	µg/L	100

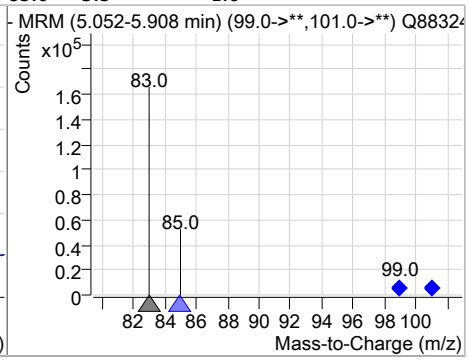
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

Quantitative Analysis Report for Perchlorate by 6850

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
Perchlorate	1.95	5.31	0.00	97141	101.0 -> 85.0	3.5	1.6	

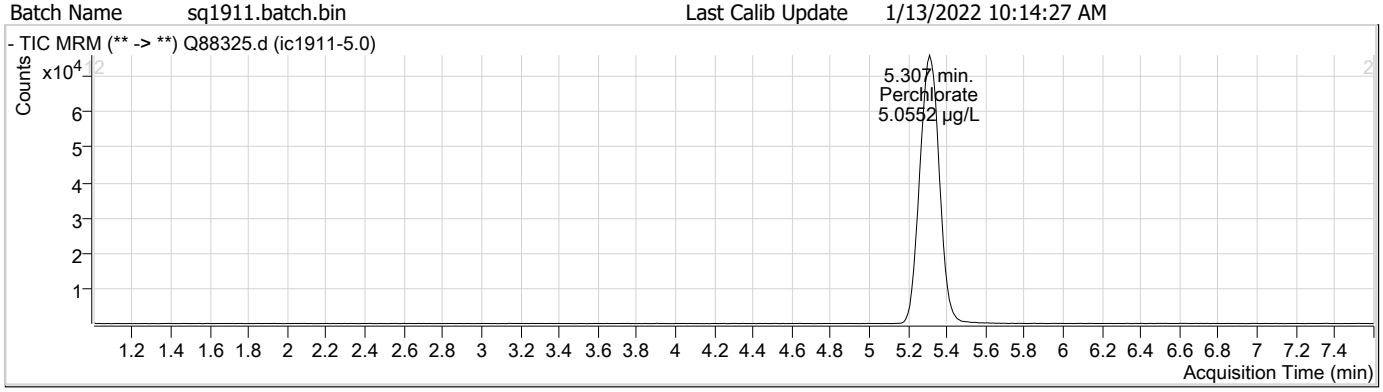






Quantitative Analysis Report for Perchlorate by 6850

Data File	: Q88325.d	Operator	natashag
Acq. Method	Perchlorate2.m	Acq. Date-Time	1/12/2022 1:04:19 PM
Sample Name	ic1911-5.0	Instrument	Instrument 1
Vial	P1-A6	Sample Information	OP89192,SQ1911,10.0,,,10.0,1,water
DA Method File	6850_011222_SQ1911.quantmethod.xml	Comment	
Batch Name	sq1911.batch.bin	Last Calib Update	1/13/2022 10:14:27 AM

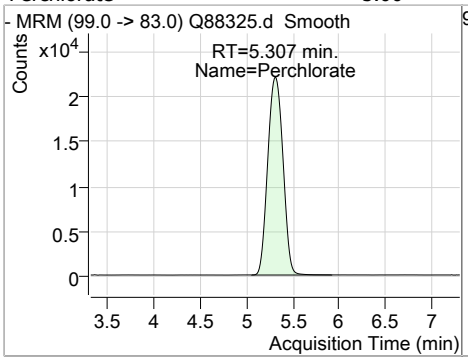


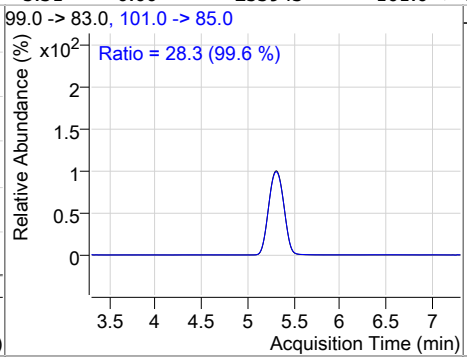
Compound	RT	QIon	Resp.	Q-ratio	Conc.	Units	Dev(Min)
Internal Standards							
Cl18O4	5.310	107.0 -> 89.0	207882	NoQ	5.00	µg/L	0.000
System Monitoring Compounds							
Target Compounds							QValue
Perchlorate	5.307	99.0 -> 83.0	253943	3.5	5.06	µg/L	100

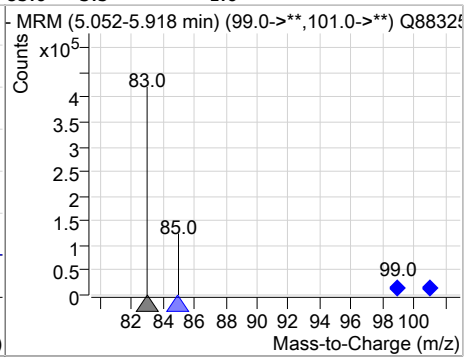
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

Quantitative Analysis Report for Perchlorate by 6850

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
Perchlorate	5.06	5.31	0.00	253943	101.0 -> 85.0	3.5	1.6	

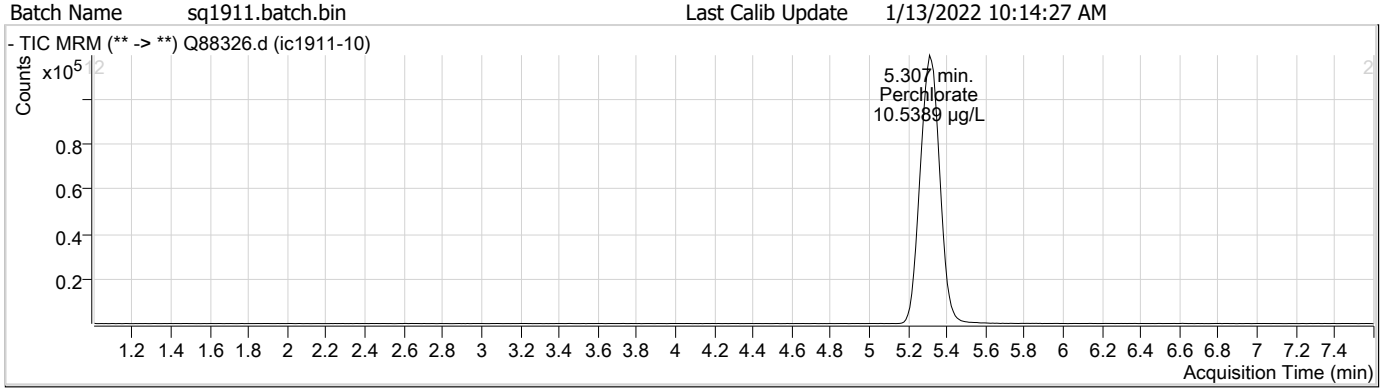






Quantitative Analysis Report for Perchlorate by 6850

Data File	: Q88326.d	Operator	natashag
Acq. Method	Perchlorate2.m	Acq. Date-Time	1/12/2022 1:12:43 PM
Sample Name	ic1911-10	Instrument	Instrument 1
Vial	P1-A7	Sample Information	OP89192,SQ1911,10.0,,,10.0,1,water
DA Method File	6850_011222_SQ1911.quantmethod.xml	Comment	
Batch Name	sq1911.batch.bin	Last Calib Update	1/13/2022 10:14:27 AM

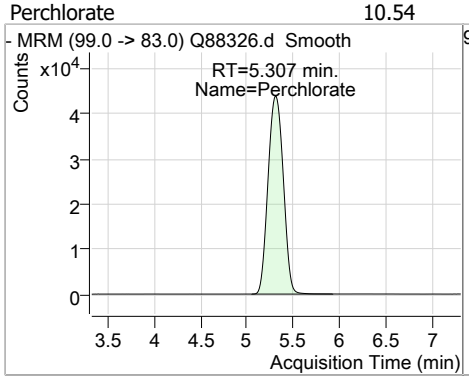


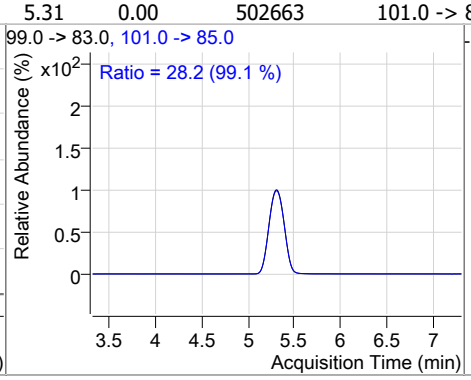
Compound	RT	QIon	Resp.	Q-ratio	Conc.	Units	Dev(Min)
Internal Standards							
Cl18O4	5.321	107.0 -> 89.0	197380	NoQ	5.00	µg/L	0.010
System Monitoring Compounds							
Target Compounds							QValue
Perchlorate	5.307	99.0 -> 83.0	502663	3.5	10.54	µg/L	99

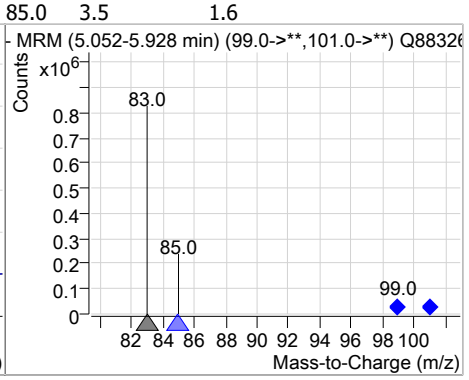
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

Quantitative Analysis Report for Perchlorate by 6850

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
Perchlorate	10.54	5.31	0.00	502663	101.0 -> 85.0	3.5	1.6	

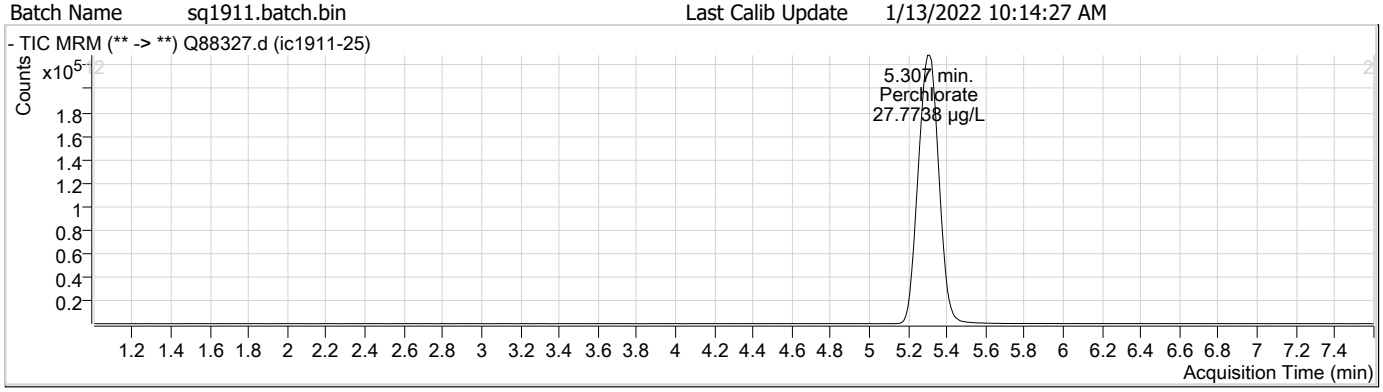






Quantitative Analysis Report for Perchlorate by 6850

Data File	: Q88327.d	Operator	natashag
Acq. Method	Perchlorate2.m	Acq. Date-Time	1/12/2022 1:21:13 PM
Sample Name	ic1911-25	Instrument	Instrument 1
Vial	P1-A8	Sample Information	OP89192,SQ1911,10.0,,,10.0,1,water
DA Method File	6850_011222_SQ1911.quantmethod.xml	Comment	
Batch Name	sq1911.batch.bin	Last Calib Update	1/13/2022 10:14:27 AM

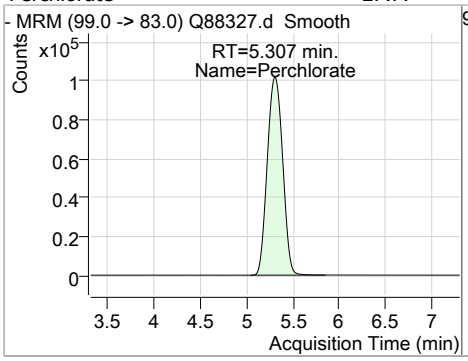


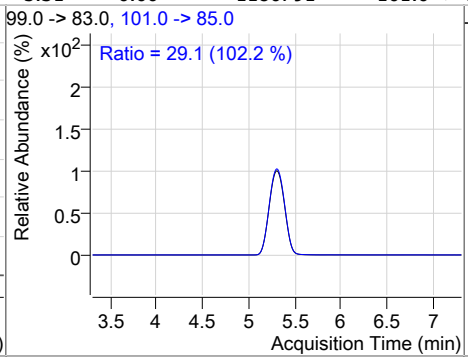
Compound	RT	QIon	Resp.	Q-ratio	Conc. Units	Dev(Min)
Internal Standards						
Cl18O4	5.310	107.0 -> 89.0	175938	NoQ	5.00 µg/L	0.000
System Monitoring Compounds						
Target Compounds						**QValue**
Perchlorate	5.307	99.0 -> 83.0	1180791	3.4	27.77 µg/L	99

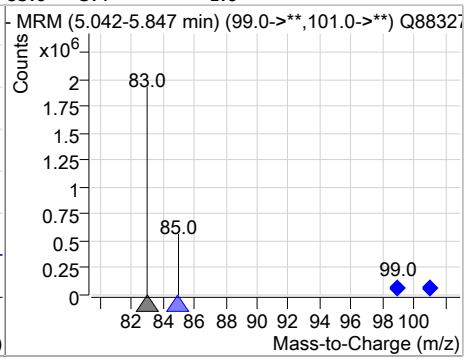
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

Quantitative Analysis Report for Perchlorate by 6850

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
Perchlorate	27.77	5.31	0.00	1180791	101.0 -> 85.0	3.4	1.6	



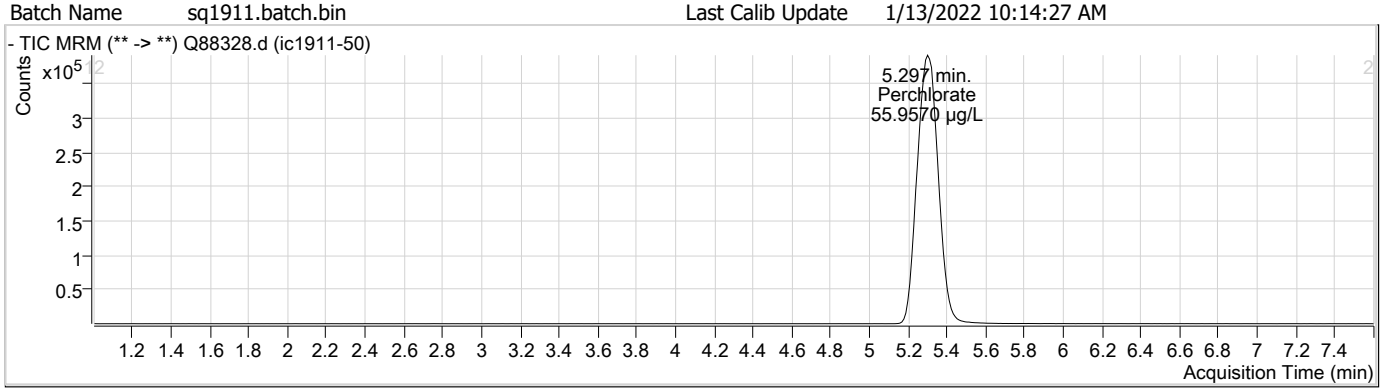




01172098

Quantitative Analysis Report for Perchlorate by 6850

Data File	: Q88328.d	Operator	natashag
Acq. Method	Perchlorate2.m	Acq. Date-Time	1/12/2022 1:29:36 PM
Sample Name	ic1911-50	Instrument	Instrument 1
Vial	P1-A9	Sample Information	OP89192,SQ1911,10.0,,,10.0,1,water
DA Method File	6850_011222_SQ1911.quantmethod.xml	Comment	
Batch Name	sq1911.batch.bin	Last Calib Update	1/13/2022 10:14:27 AM



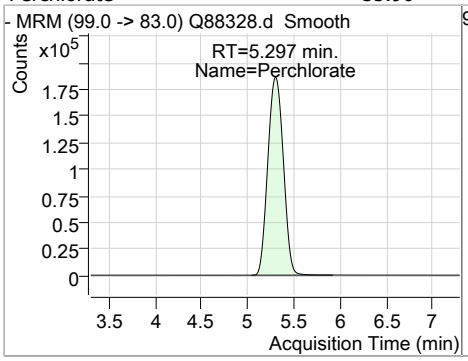
Compound	RT	QIon	Resp.	Q-ratio	Conc.	Units	Dev(Min)
Internal Standards							
Cl18O4	5.300	107.0 -> 89.0	161193	NoQ	5.00	µg/L	-0.010
System Monitoring Compounds							
Target Compounds							**QValue**
Perchlorate	5.297	99.0 -> 83.0	2179606	3.4	55.96	µg/L	98

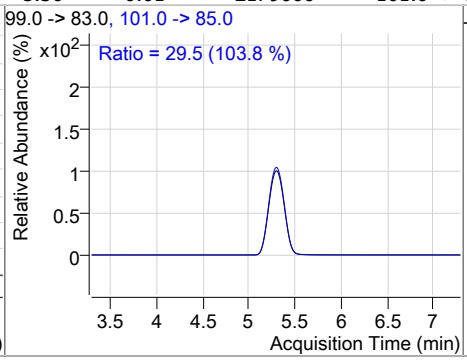
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

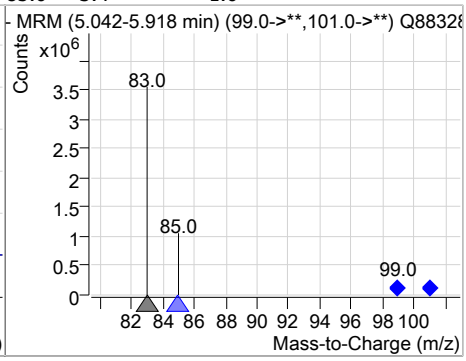
01172099

Quantitative Analysis Report for Perchlorate by 6850

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
Perchlorate	55.96	5.30	-0.01	2179606	101.0 -> 85.0	3.4	1.6	

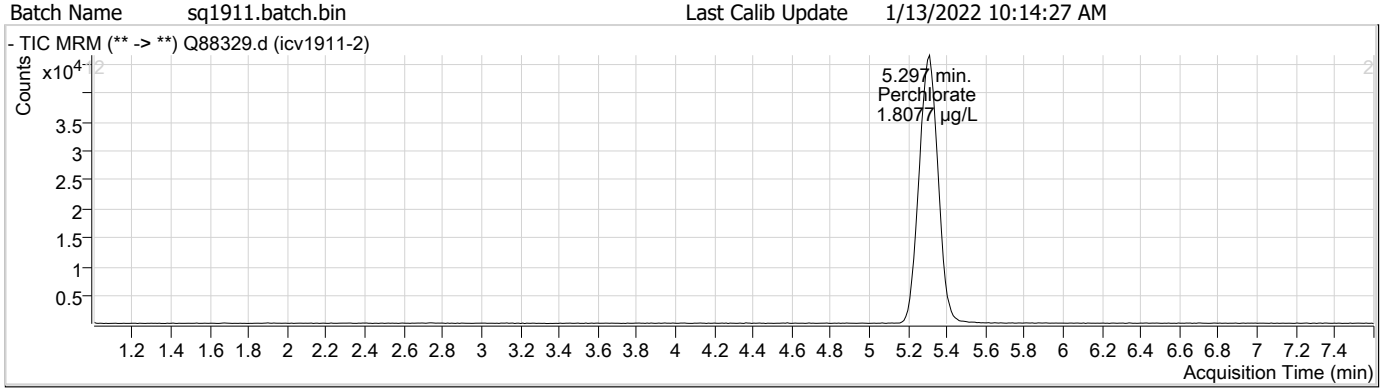






Quantitative Analysis Report for Perchlorate by 6850

Data File	: Q88329.d	Operator	natashag
Acq. Method	Perchlorate2.m	Acq. Date-Time	1/12/2022 1:38:01 PM
Sample Name	icv1911-2	Instrument	Instrument 1
Vial	P1-B1	Sample Information	OP89192,SQ1911,10.0,,,10.0,1,water
DA Method File	6850_011222_SQ1911.quantmethod.xml	Comment	
Batch Name	sq1911.batch.bin	Last Calib Update	1/13/2022 10:14:27 AM

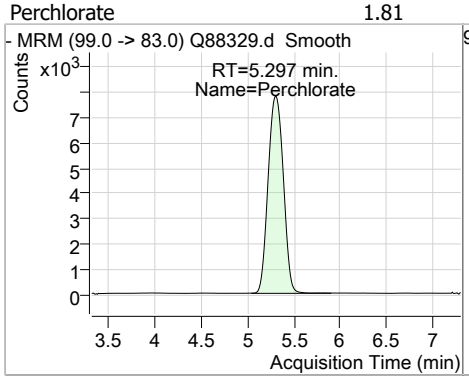


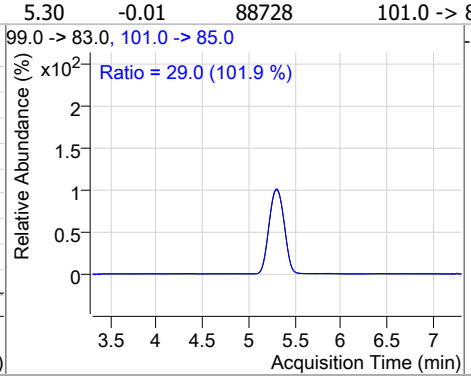
Compound	RT	QIon	Resp.	Q-ratio	Conc. Units	Dev(Min)
Internal Standards						
Cl18O4	5.310	107.0 -> 89.0	203122	NoQ	5.00 µg/L	0.000
System Monitoring Compounds						
Target Compounds						**QValue**
Perchlorate	5.297	99.0 -> 83.0	88728	3.4	1.81 µg/L	99

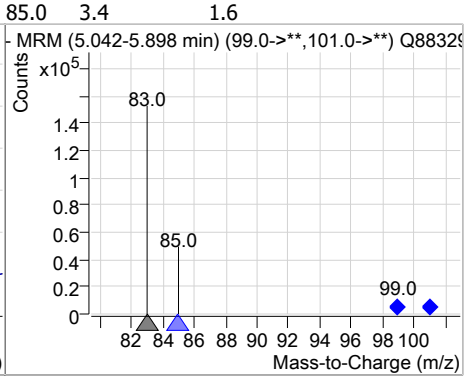
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

Quantitative Analysis Report for Perchlorate by 6850

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
Perchlorate	1.81	5.30	-0.01	88728	101.0 -> 85.0	3.4	1.6	

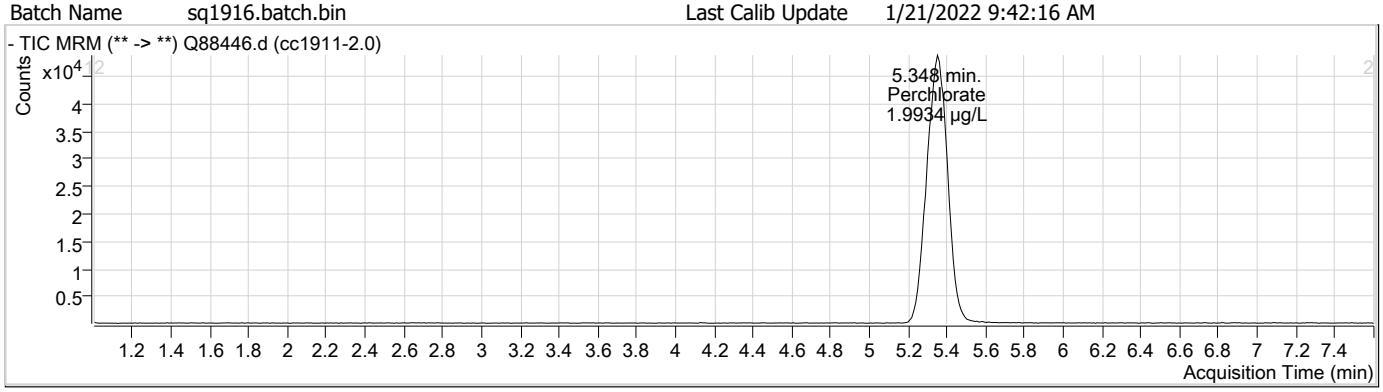






Quantitative Analysis Report for Perchlorate by 6850

Data File	: Q88446.d	Operator	natashag
Acq. Method	Perchlorate2.m	Acq. Date-Time	1/21/2022 9:41:24 AM
Sample Name	cc1911-2.0	Instrument	Instrument 1
Vial	P1-A5	Sample Information	OP89328,SQ1916,10.0,,,10.0,1,water
DA Method File	6850_011222_SQ1911.quantmethod.xml	Comment	
Batch Name	sq1916.batch.bin	Last Calib Update	1/21/2022 9:42:16 AM

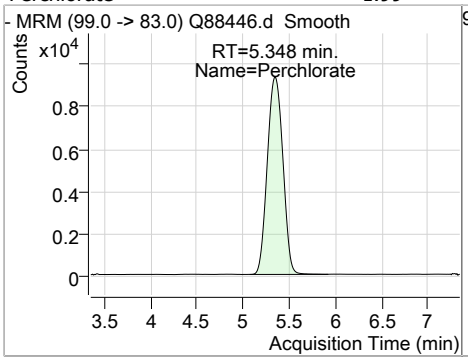


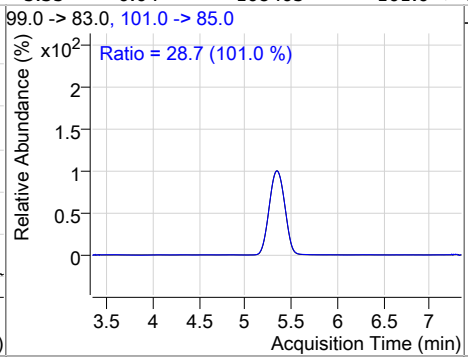
Compound	RT	QIon	Resp.	Q-ratio	Conc. Units	Dev(Min)
Internal Standards						
Cl18O4	5.351	107.0 -> 89.0	225178	NoQ	5.00 µg/L	0.041
System Monitoring Compounds						
Target Compounds						**QValue**
Perchlorate	5.348	99.0 -> 83.0	108465	3.5	1.99 µg/L	100

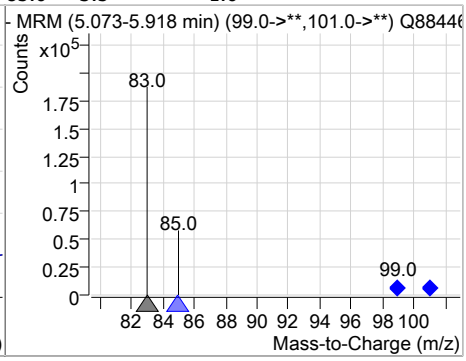
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

Quantitative Analysis Report for Perchlorate by 6850

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
Perchlorate	1.99	5.35	0.04	108465	101.0 -> 85.0	3.5	1.6	

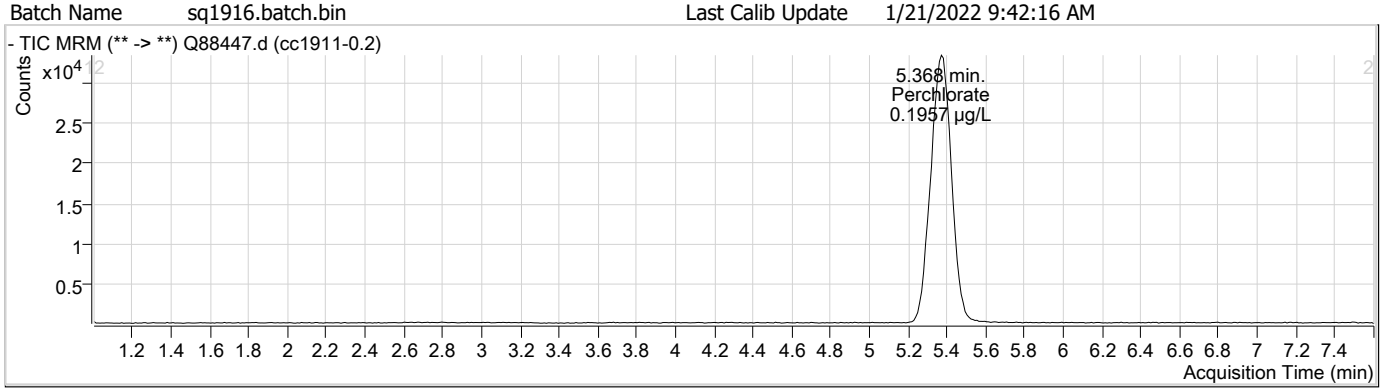






Quantitative Analysis Report for Perchlorate by 6850

Data File	: Q88447.d	Operator	natashag
Acq. Method	Perchlorate2.m	Acq. Date-Time	1/21/2022 9:53:51 AM
Sample Name	cc1911-0.2	Instrument	Instrument 1
Vial	P1-A2	Sample Information	OP89328,SQ1916,10.0,,,10.0,1,water
DA Method File	6850_011222_SQ1911.quantmethod.xml	Comment	
Batch Name	sq1916.batch.bin	Last Calib Update	1/21/2022 9:42:16 AM

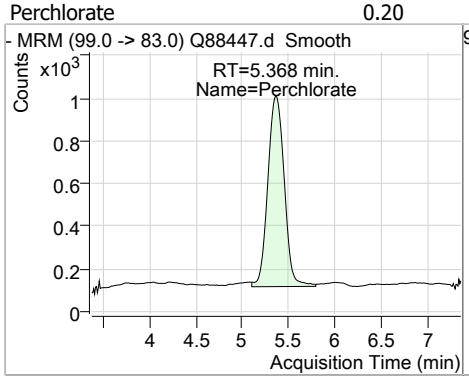


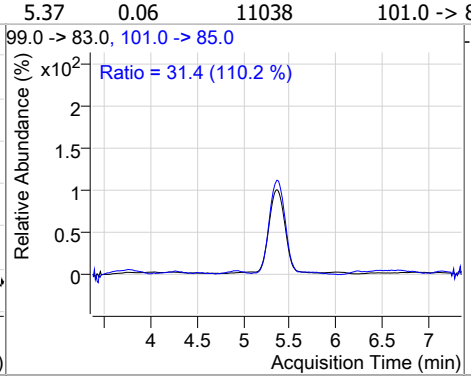
Compound	RT	QIon	Resp.	Q-ratio	Conc.	Units	Dev(Min)
Internal Standards							
Cl18O4	5.372	107.0 -> 89.0	233387	NoQ	5.00	µg/L	0.061
System Monitoring Compounds							
Target Compounds							QValue
Perchlorate	5.368	99.0 -> 83.0	11038	3.2	0.20	µg/L	95

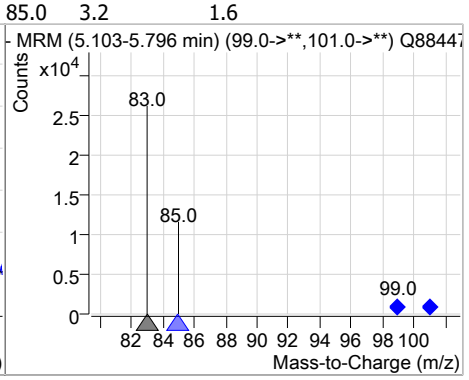
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

Quantitative Analysis Report for Perchlorate by 6850

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
Perchlorate	0.20	5.37	0.06	11038	101.0 -> 85.0	3.2	1.6	

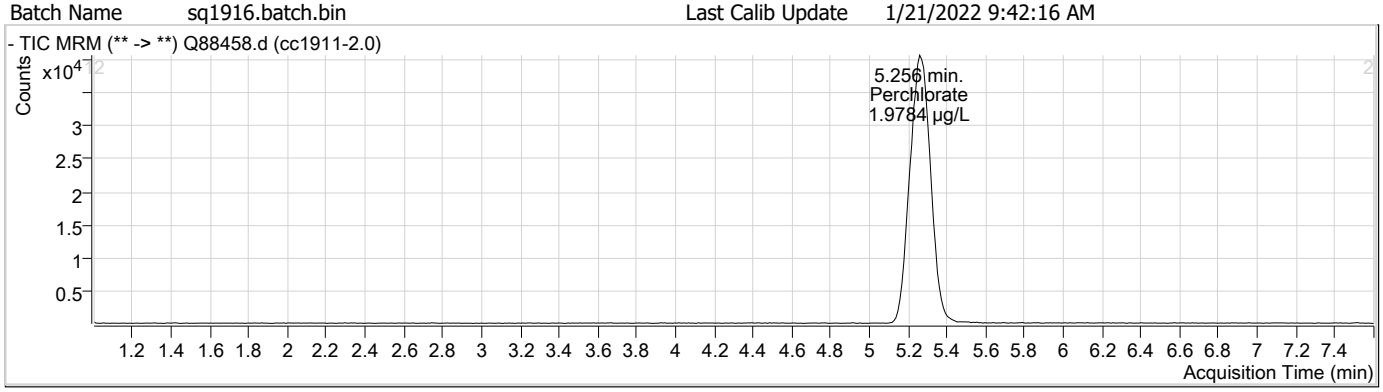






Quantitative Analysis Report for Perchlorate by 6850

Data File	: Q88458.d	Operator	natashag
Acq. Method	Perchlorate2.m	Acq. Date-Time	1/21/2022 11:26:23 AM
Sample Name	cc1911-2.0	Instrument	Instrument 1
Vial	P1-A5	Sample Information	OP89328,SQ1916,10.0,,,10.0,1,water
DA Method File	6850_011222_SQ1911.quantmethod.xml	Comment	
Batch Name	sq1916.batch.bin	Last Calib Update	1/21/2022 9:42:16 AM

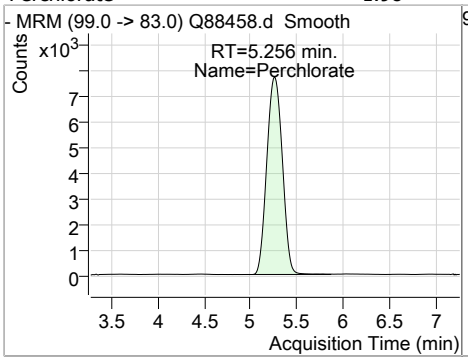


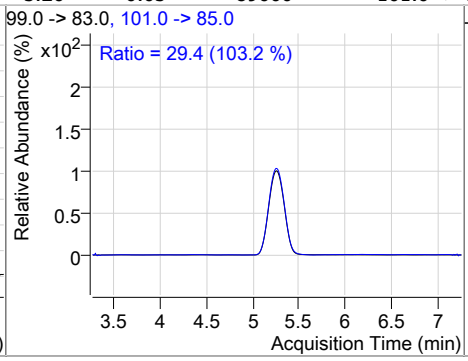
Compound	RT	QIon	Resp.	Q-ratio	Conc.	Units	Dev(Min)
Internal Standards							
Cl18O4	5.270	107.0 -> 89.0	187415	NoQ	5.00	µg/L	-0.041
System Monitoring Compounds							
Target Compounds							**QValue**
Perchlorate	5.256	99.0 -> 83.0	89600	3.4	1.98	µg/L	98

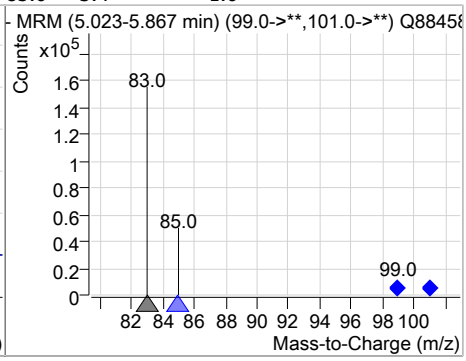
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

Quantitative Analysis Report for Perchlorate by 6850

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
Perchlorate	1.98	5.26	-0.05	89600	101.0 -> 85.0	3.4	1.6	





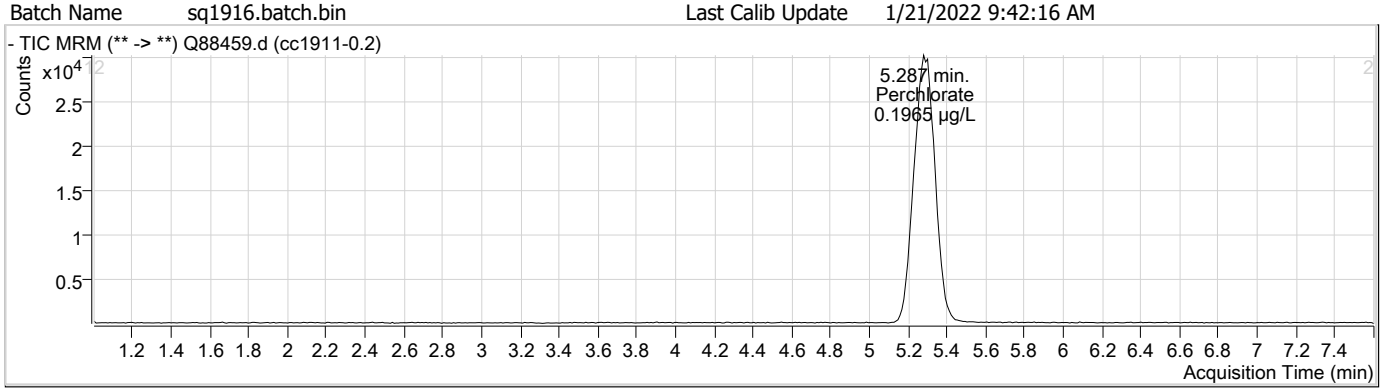


7.5.13

7

Quantitative Analysis Report for Perchlorate by 6850

Data File	: Q88459.d	Operator	natashag
Acq. Method	Perchlorate2.m	Acq. Date-Time	1/21/2022 11:34:46 AM
Sample Name	cc1911-0.2	Instrument	Instrument 1
Vial	P1-A2	Sample Information	OP89328,SQ1916,10.0,,,10.0,1,water
DA Method File	6850_011222_SQ1911.quantmethod.xml	Comment	
Batch Name	sq1916.batch.bin	Last Calib Update	1/21/2022 9:42:16 AM

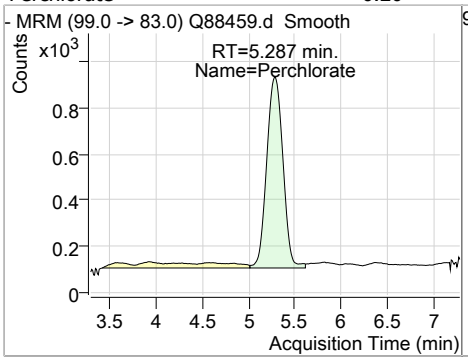


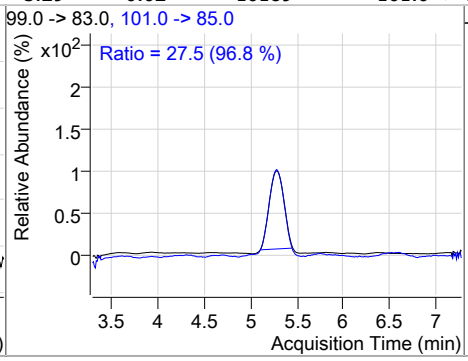
Compound	RT	QIon	Resp.	Q-ratio	Conc.	Units	Dev(Min)
Internal Standards							
Cl18O4	5.290	107.0 -> 89.0	214623	NoQ	5.00	µg/L	-0.020
System Monitoring Compounds							
Target Compounds							QValue
Perchlorate	5.287	99.0 -> 83.0	10189	3.6	0.20	µg/L	98

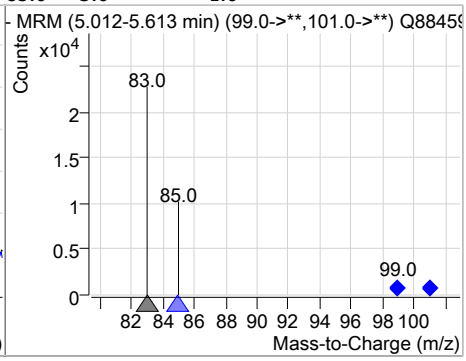
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

Quantitative Analysis Report for Perchlorate by 6850

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
Perchlorate	0.20	5.29	-0.02	10189	101.0 -> 85.0	3.6	1.6	





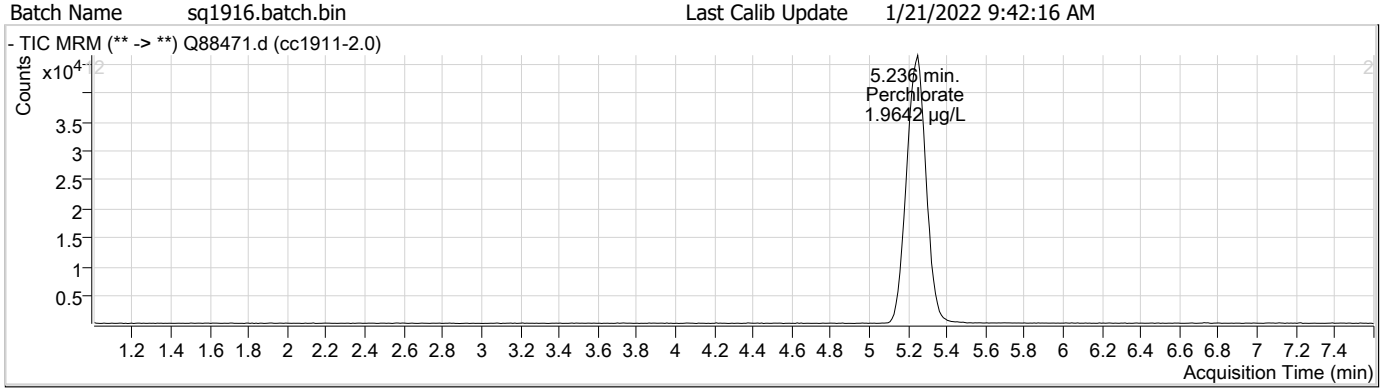


7.5.14

7

Quantitative Analysis Report for Perchlorate by 6850

Data File	: Q88471.d	Operator	natashag
Acq. Method	Perchlorate2.m	Acq. Date-Time	1/21/2022 1:15:36 PM
Sample Name	cc1911-2.0	Instrument	Instrument 1
Vial	P1-A5	Sample Information	OP89328,SQ1916,10.0,,,10.0,1,water
DA Method File	6850_011222_SQ1911.quantmethod.xml	Comment	
Batch Name	sq1916.batch.bin	Last Calib Update	1/21/2022 9:42:16 AM

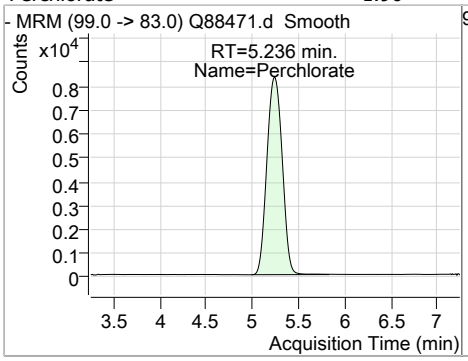


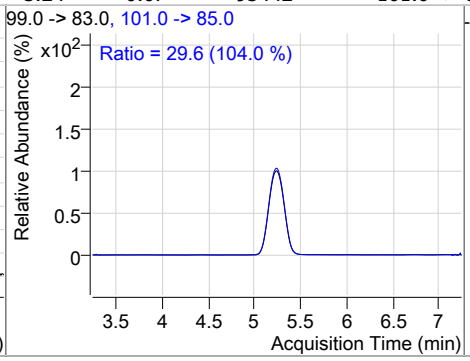
Compound	RT	QIon	Resp.	Q-ratio	Conc. Units	Dev(Min)
Internal Standards						
Cl18O4	5.249	107.0 -> 89.0	201087	NoQ	5.00 µg/L	-0.061
System Monitoring Compounds						
Target Compounds						**QValue**
Perchlorate	5.236	99.0 -> 83.0	95442	3.4	1.96 µg/L	98

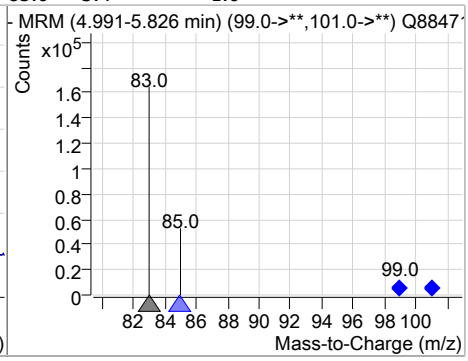
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

Quantitative Analysis Report for Perchlorate by 6850

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
Perchlorate	1.96	5.24	-0.07	95442	101.0 -> 85.0	3.4	1.6	

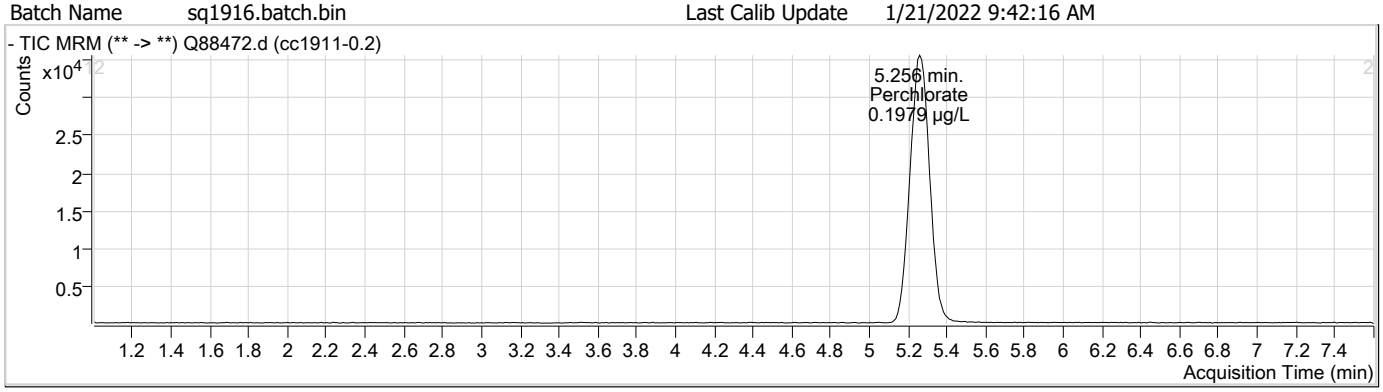






Quantitative Analysis Report for Perchlorate by 6850

Data File	: Q88472.d	Operator	natashag
Acq. Method	Perchlorate2.m	Acq. Date-Time	1/21/2022 1:23:59 PM
Sample Name	cc1911-0.2	Instrument	Instrument 1
Vial	P1-A2	Sample Information	OP89328,SQ1916,10.0,,,10.0,1,water
DA Method File	6850_011222_SQ1911.quantmethod.xml	Comment	
Batch Name	sq1916.batch.bin	Last Calib Update	1/21/2022 9:42:16 AM

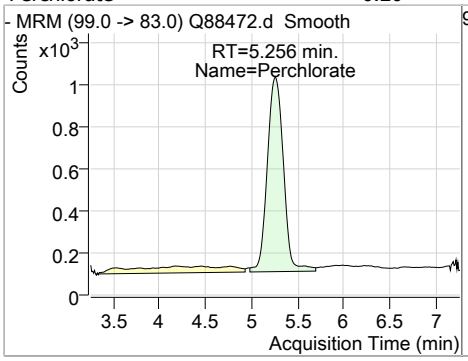


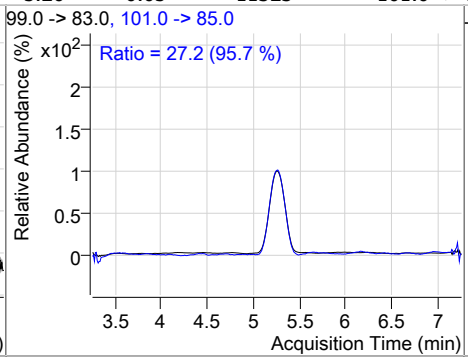
Compound	RT	QIon	Resp.	Q-ratio	Conc.	Units	Dev(Min)
Internal Standards							
Cl18O4	5.259	107.0 -> 89.0	236737	NoQ	5.00	µg/L	-0.051
System Monitoring Compounds							
Target Compounds							QValue
Perchlorate	5.256	99.0 -> 83.0	11323	3.7	0.20	µg/L	98

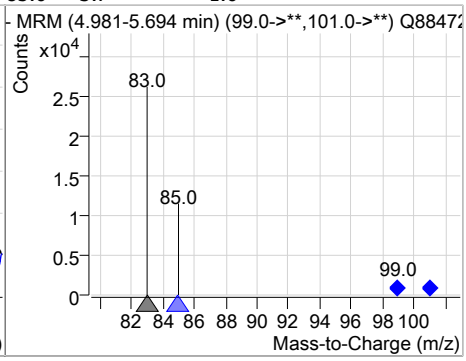
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

Quantitative Analysis Report for Perchlorate by 6850

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
Perchlorate	0.20	5.26	-0.05	11323	101.0 -> 85.0	3.7	1.6	

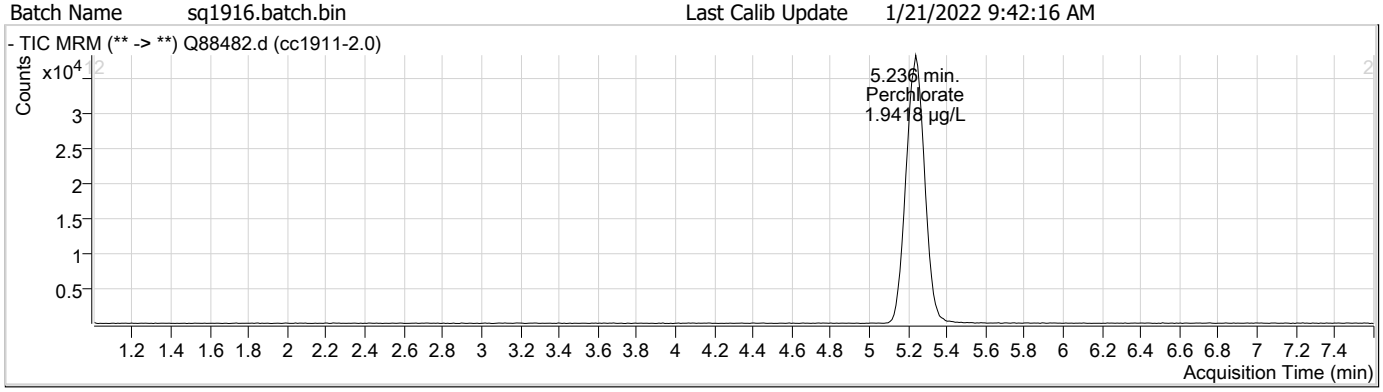






Quantitative Analysis Report for Perchlorate by 6850

Data File	: Q88482.d	Operator	natashag
Acq. Method	Perchlorate2.m	Acq. Date-Time	1/21/2022 2:47:59 PM
Sample Name	cc1911-2.0	Instrument	Instrument 1
Vial	P1-A5	Sample Information	OP89328,SQ1916,10.0,,,10.0,1,water
DA Method File	6850_011222_SQ1911.quantmethod.xml	Comment	
Batch Name	sq1916.batch.bin	Last Calib Update	1/21/2022 9:42:16 AM

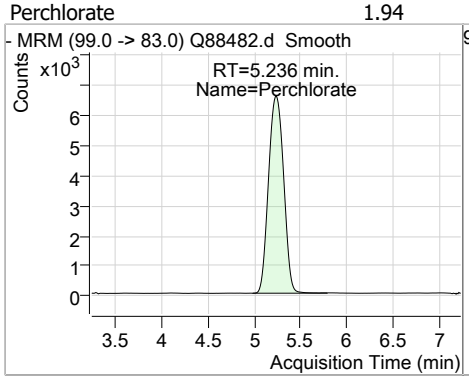


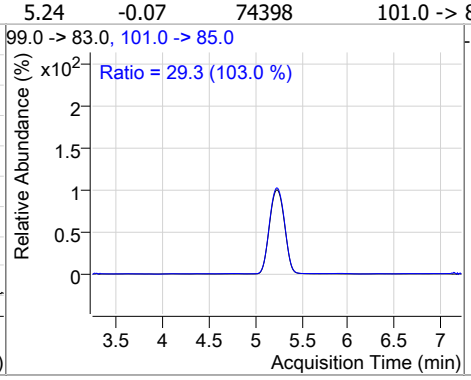
Compound	RT	QIon	Resp.	Q-ratio	Conc.	Units	Dev(Min)
Internal Standards							
Cl18O4	5.239	107.0 -> 89.0	158556	NoQ	5.00	µg/L	-0.071
System Monitoring Compounds							
Target Compounds							QValue
Perchlorate	5.236	99.0 -> 83.0	74398	3.4	1.94	µg/L	98

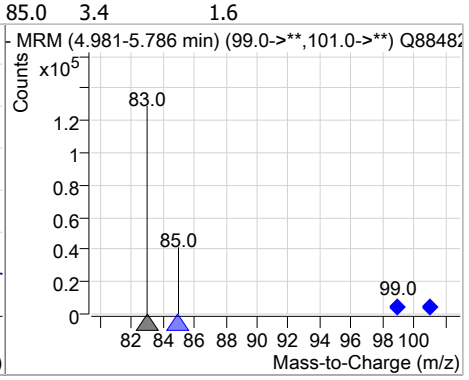
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

Quantitative Analysis Report for Perchlorate by 6850

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
Perchlorate	1.94	5.24	-0.07	74398	101.0 -> 85.0	3.4	1.6	

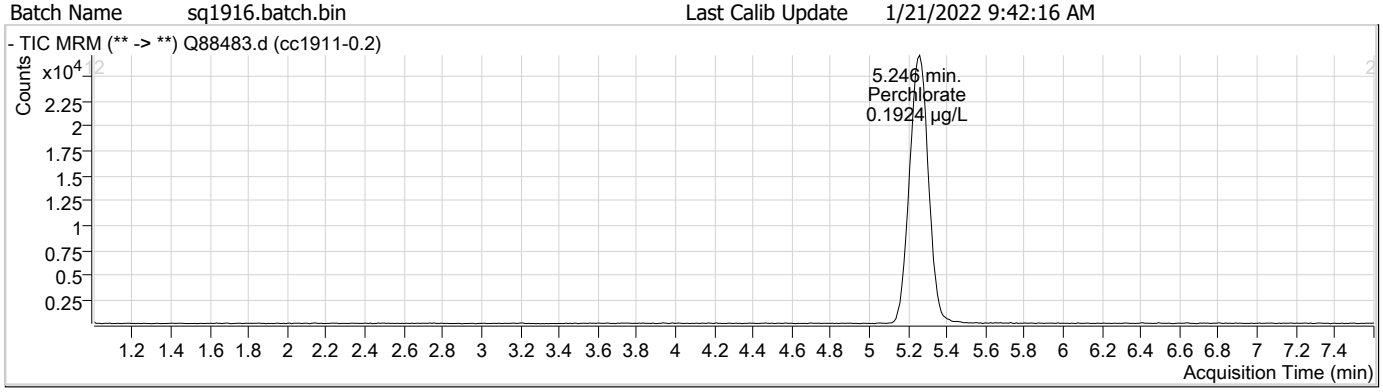






Quantitative Analysis Report for Perchlorate by 6850

Data File	: Q88483.d	Operator	natashag
Acq. Method	Perchlorate2.m	Acq. Date-Time	1/21/2022 2:56:22 PM
Sample Name	cc1911-0.2	Instrument	Instrument 1
Vial	P1-A2	Sample Information	OP89328,SQ1916,10.0,,,10.0,1,water
DA Method File	6850_011222_SQ1911.quantmethod.xml	Comment	
Batch Name	sq1916.batch.bin	Last Calib Update	1/21/2022 9:42:16 AM

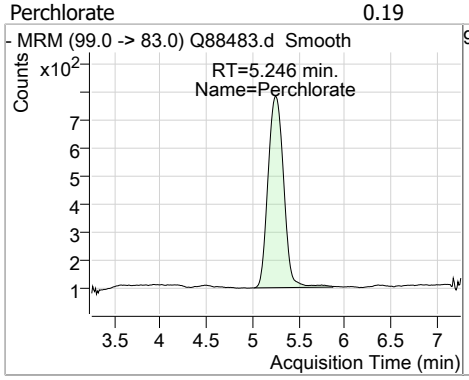


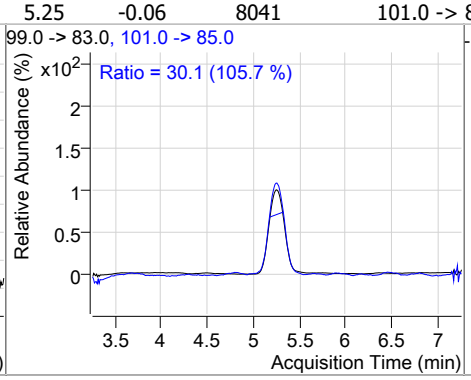
Compound	RT	QIon	Resp.	Q-ratio	Conc. Units	Dev(Min)
Internal Standards						
Cl18O4	5.259	107.0 -> 89.0	172980	NoQ	5.00 µg/L	-0.051
System Monitoring Compounds						
Target Compounds						**QValue**
Perchlorate	5.246	99.0 -> 83.0	8041	3.3	0.19 µg/L	97

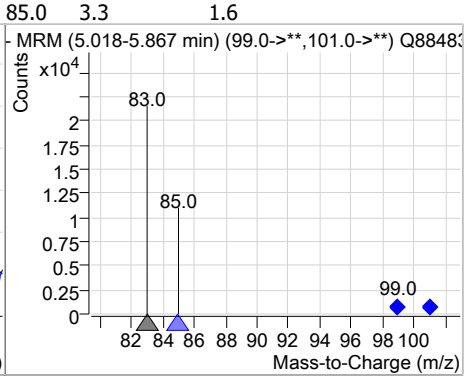
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

Quantitative Analysis Report for Perchlorate by 6850

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
Perchlorate	0.19	5.25	-0.06	8041	101.0 -> 85.0	3.3	1.6	



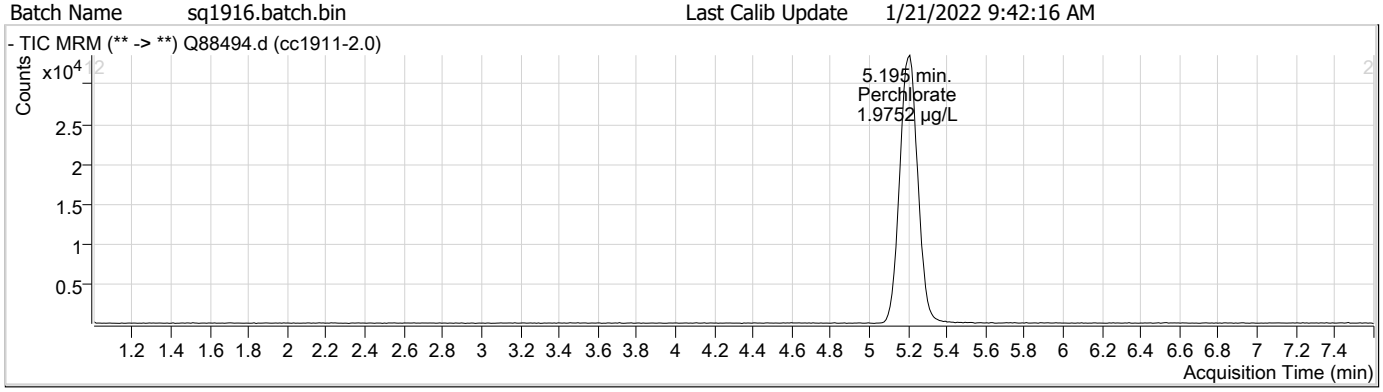




01172118

Quantitative Analysis Report for Perchlorate by 6850

Data File	: Q88494.d	Operator	natashag
Acq. Method	Perchlorate2.m	Acq. Date-Time	1/21/2022 4:28:50 PM
Sample Name	cc1911-2.0	Instrument	Instrument 1
Vial	P1-A5	Sample Information	OP89328,SQ1916,10.0,,,10.0,1,water
DA Method File	6850_011222_SQ1911.quantmethod.xml	Comment	
Batch Name	sq1916.batch.bin	Last Calib Update	1/21/2022 9:42:16 AM

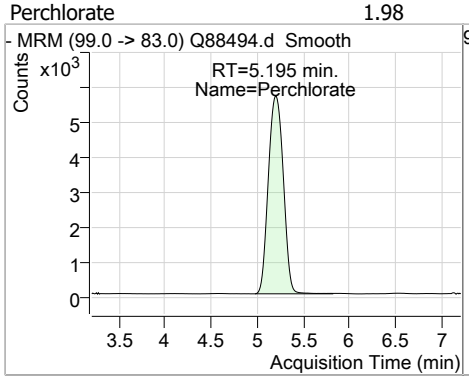


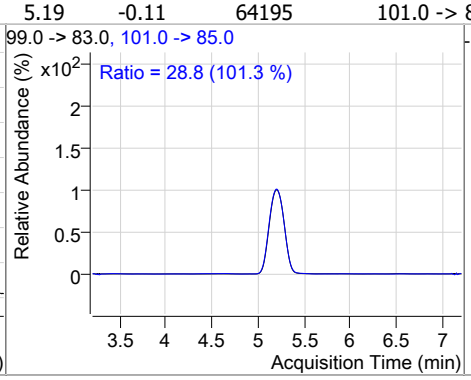
Compound	RT	QIon	Resp.	Q-ratio	Conc.	Units	Dev(Min)
Internal Standards							
Cl18O4	5.209	107.0 -> 89.0	134500	NoQ	5.00	µg/L	-0.102
System Monitoring Compounds							
Target Compounds							QValue
Perchlorate	5.195	99.0 -> 83.0	64195	3.5	1.98	µg/L	99

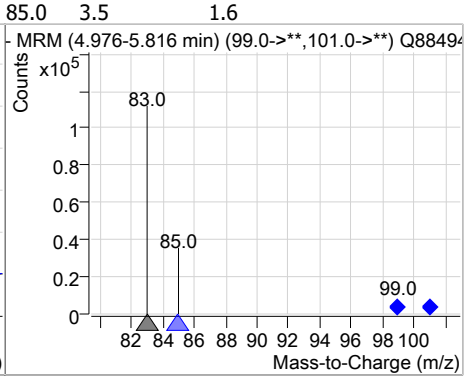
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

Quantitative Analysis Report for Perchlorate by 6850

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
Perchlorate	1.98	5.19	-0.11	64195	101.0 -> 85.0	3.5	1.6	



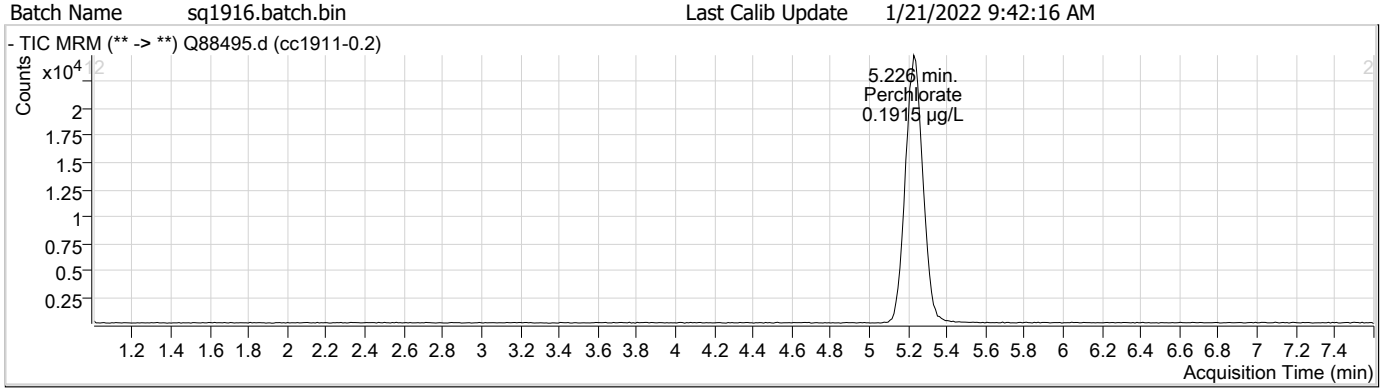




01172120

Quantitative Analysis Report for Perchlorate by 6850

Data File	: Q88495.d	Operator	natashag
Acq. Method	Perchlorate2.m	Acq. Date-Time	1/21/2022 4:37:14 PM
Sample Name	cc1911-0.2	Instrument	Instrument 1
Vial	P1-A2	Sample Information	OP89328,SQ1916,10.0,,,10.0,1,water
DA Method File	6850_011222_SQ1911.quantmethod.xml	Comment	
Batch Name	sq1916.batch.bin	Last Calib Update	1/21/2022 9:42:16 AM

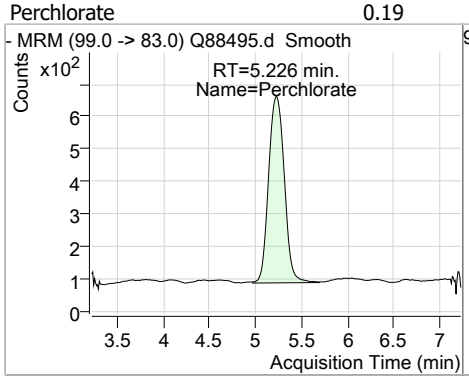


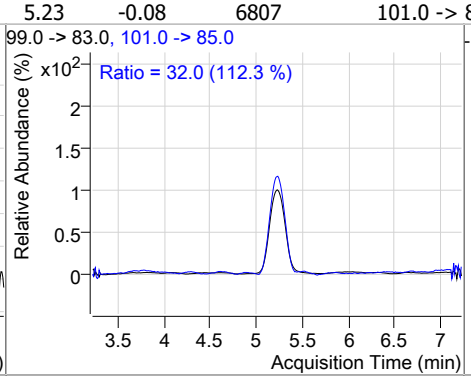
Compound	RT	QIon	Resp.	Q-ratio	Conc.	Units	Dev(Min)
Internal Standards							
Cl18O4	5.229	107.0 -> 89.0	147099	NoQ	5.00	µg/L	-0.081
System Monitoring Compounds							
Target Compounds							QValue
Perchlorate	5.226	99.0 -> 83.0	6807	3.1	0.19	µg/L	93

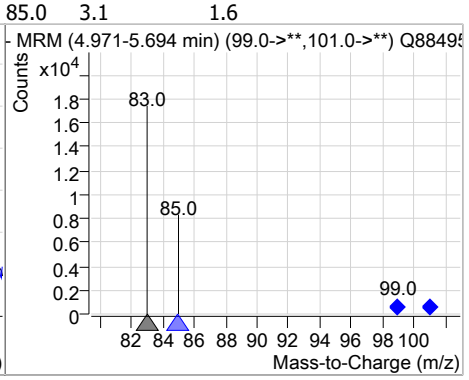
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

Quantitative Analysis Report for Perchlorate by 6850

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
Perchlorate	0.19	5.23	-0.08	6807	101.0 -> 85.0	3.1	1.6	

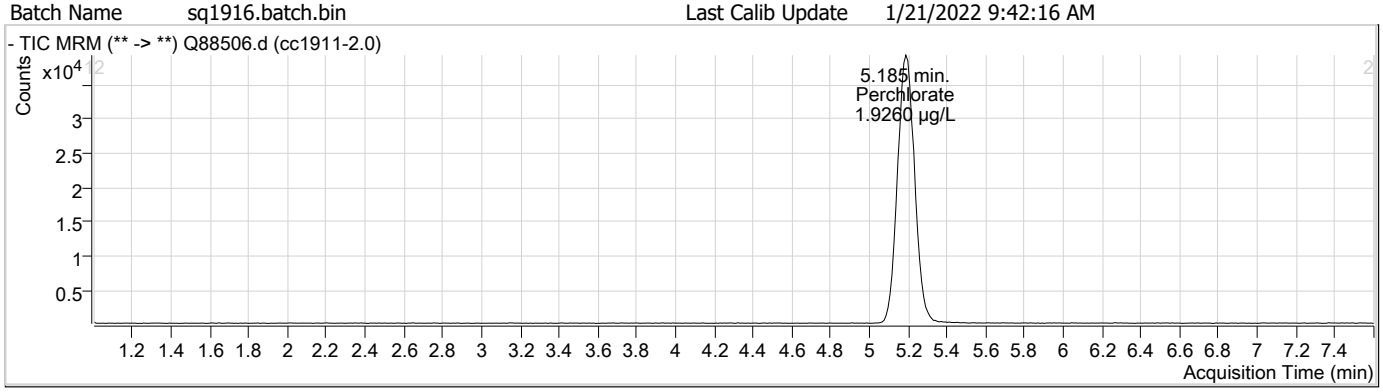






Quantitative Analysis Report for Perchlorate by 6850

Data File	: Q88506.d	Operator	natashag
Acq. Method	Perchlorate2.m	Acq. Date-Time	1/21/2022 6:09:37 PM
Sample Name	cc1911-2.0	Instrument	Instrument 1
Vial	P1-A5	Sample Information	OP89328,SQ1916,10.0,,,10.0,1,water
DA Method File	6850_011222_SQ1911.quantmethod.xml	Comment	
Batch Name	sq1916.batch.bin	Last Calib Update	1/21/2022 9:42:16 AM

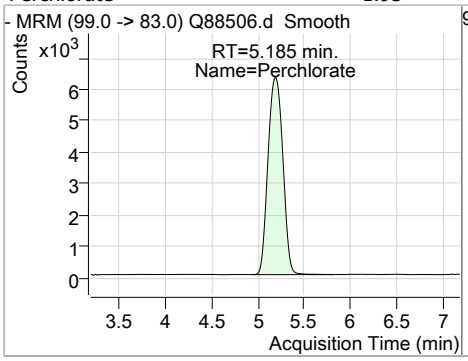


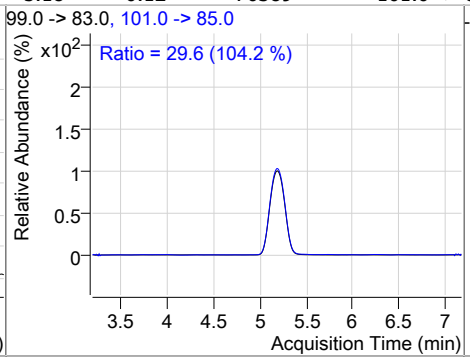
Compound	RT	QIon	Resp.	Q-ratio	Conc. Units	Dev(Min)
Internal Standards						
Cl18O4	5.188	107.0 -> 89.0	151244	NoQ	5.00 µg/L	-0.122
System Monitoring Compounds						
Target Compounds						**QValue**
Perchlorate	5.185	99.0 -> 83.0	70389	3.4	1.93 µg/L	98

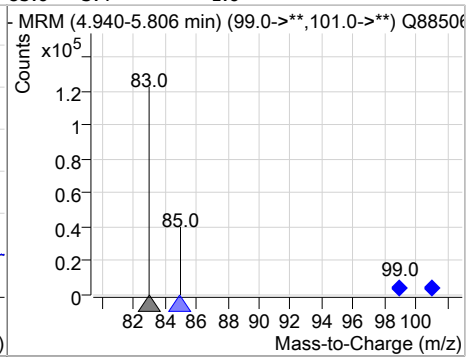
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

Quantitative Analysis Report for Perchlorate by 6850

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
Perchlorate	1.93	5.18	-0.12	70389	101.0 -> 85.0	3.4	1.6	

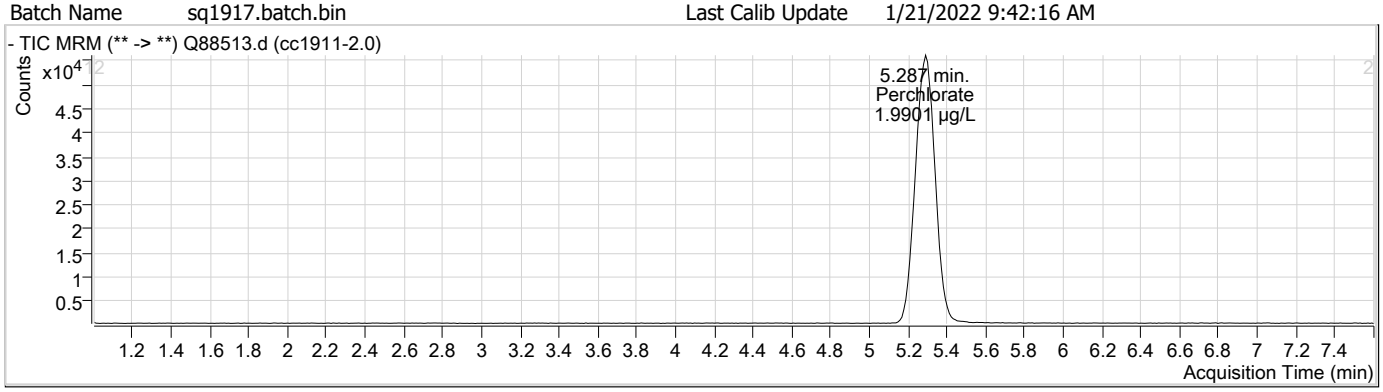






Quantitative Analysis Report for Perchlorate by 6850

Data File	: Q88513.d	Operator	natashag
Acq. Method	Perchlorate2.m	Acq. Date-Time	1/24/2022 10:52:06 AM
Sample Name	cc1911-2.0	Instrument	Instrument 1
Vial	P1-A5	Sample Information	OP89328,SQ1917,10.0,,,10.0,1,water
DA Method File	6850_011222_SQ1911.quantmethod.xml	Comment	
Batch Name	sq1917.batch.bin	Last Calib Update	1/21/2022 9:42:16 AM

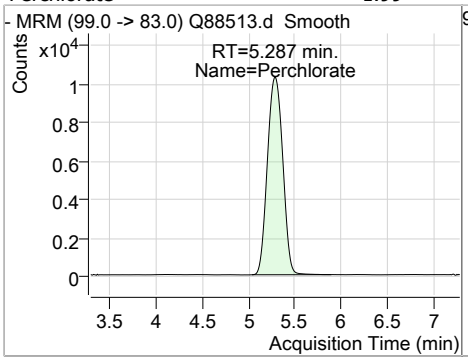


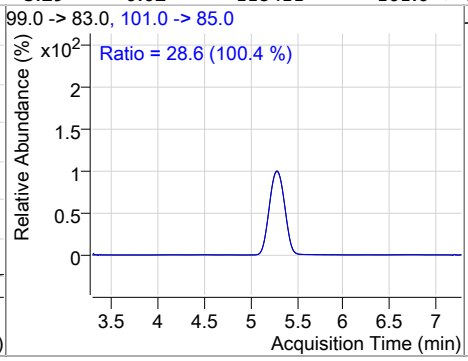
Compound	RT	QIon	Resp.	Q-ratio	Conc.	Units	Dev(Min)
Internal Standards							
Cl18O4	5.290	107.0 -> 89.0	246228	NoQ	5.00	µg/L	-0.020
System Monitoring Compounds							
Target Compounds							QValue
Perchlorate	5.287	99.0 -> 83.0	118411	3.5	1.99	µg/L	100

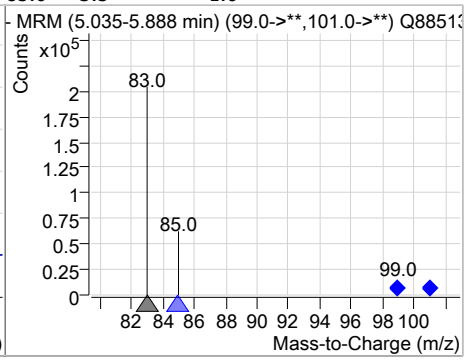
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

Quantitative Analysis Report for Perchlorate by 6850

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
Perchlorate	1.99	5.29	-0.02	118411	101.0 -> 85.0	3.5	1.6	







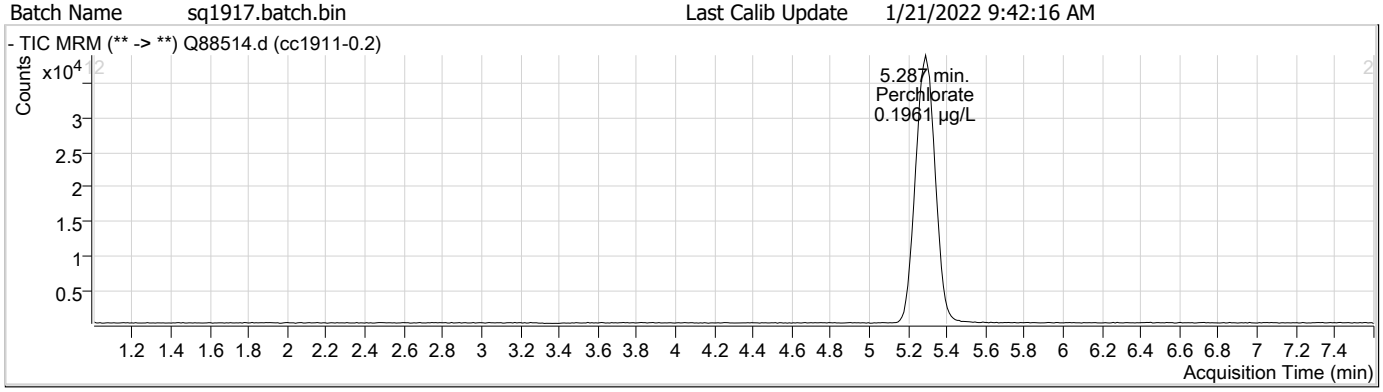
7.5.22

7

01172126

Quantitative Analysis Report for Perchlorate by 6850

Data File	: Q88514.d	Operator	natashag
Acq. Method	Perchlorate2.m	Acq. Date-Time	1/24/2022 11:00:30 AM
Sample Name	cc1911-0.2	Instrument	Instrument 1
Vial	P1-A2	Sample Information	OP89328,SQ1917,10.0,,,10.0,1,water
DA Method File	6850_011222_SQ1911.quantmethod.xml	Comment	
Batch Name	sq1917.batch.bin	Last Calib Update	1/21/2022 9:42:16 AM

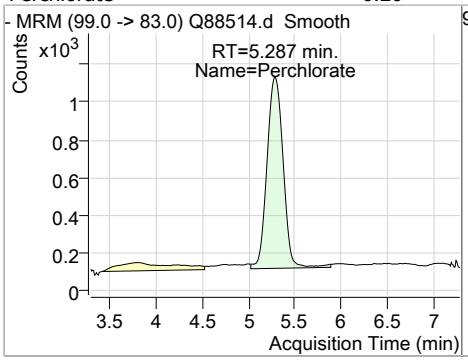


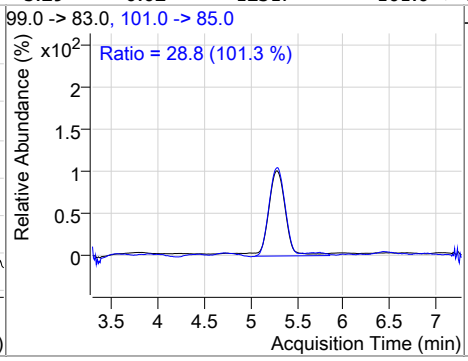
Compound	RT	QIon	Resp.	Q-ratio	Conc.	Units	Dev(Min)
Internal Standards							
Cl18O4	5.290	107.0 -> 89.0	259877	NoQ	5.00	µg/L	-0.020
System Monitoring Compounds							
Target Compounds							QValue
Perchlorate	5.287	99.0 -> 83.0	12317	3.5	0.20	µg/L	99

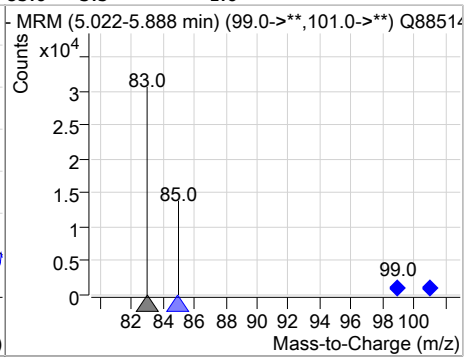
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

Quantitative Analysis Report for Perchlorate by 6850

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
Perchlorate	0.20	5.29	-0.02	12317	101.0 -> 85.0	3.5	1.6	



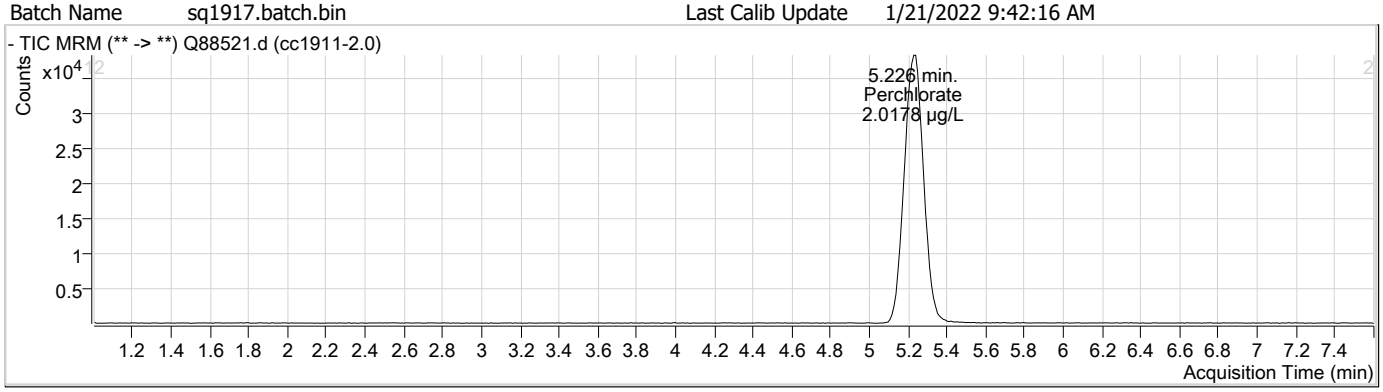




01172128

Quantitative Analysis Report for Perchlorate by 6850

Data File	: Q88521.d	Operator	natashag
Acq. Method	Perchlorate2.m	Acq. Date-Time	1/24/2022 11:59:17 AM
Sample Name	cc1911-2.0	Instrument	Instrument 1
Vial	P1-A5	Sample Information	OP89328,SQ1917,10.0,,,10.0,1,water
DA Method File	6850_011222_SQ1911.quantmethod.xml	Comment	
Batch Name	sq1917.batch.bin	Last Calib Update	1/21/2022 9:42:16 AM

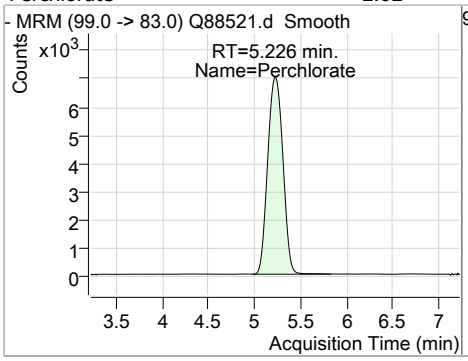


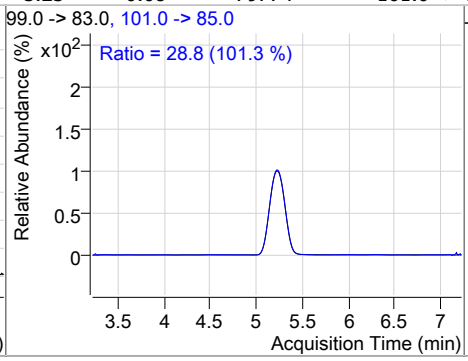
Compound	RT	QIon	Resp.	Q-ratio	Conc.	Units	Dev(Min)
Internal Standards							
Cl18O4	5.229	107.0 -> 89.0	163611	NoQ	5.00	µg/L	-0.081
System Monitoring Compounds							
Target Compounds							QValue
Perchlorate	5.226	99.0 -> 83.0	79774	3.5	2.02	µg/L	99

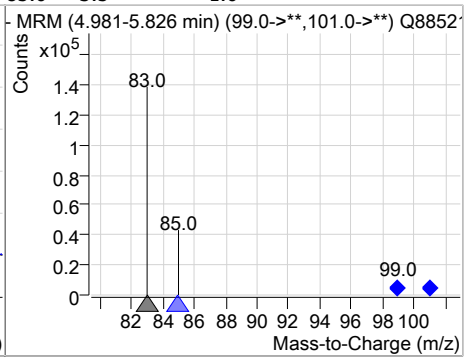
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

Quantitative Analysis Report for Perchlorate by 6850

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
Perchlorate	2.02	5.23	-0.08	79774	101.0 -> 85.0	3.5	1.6	



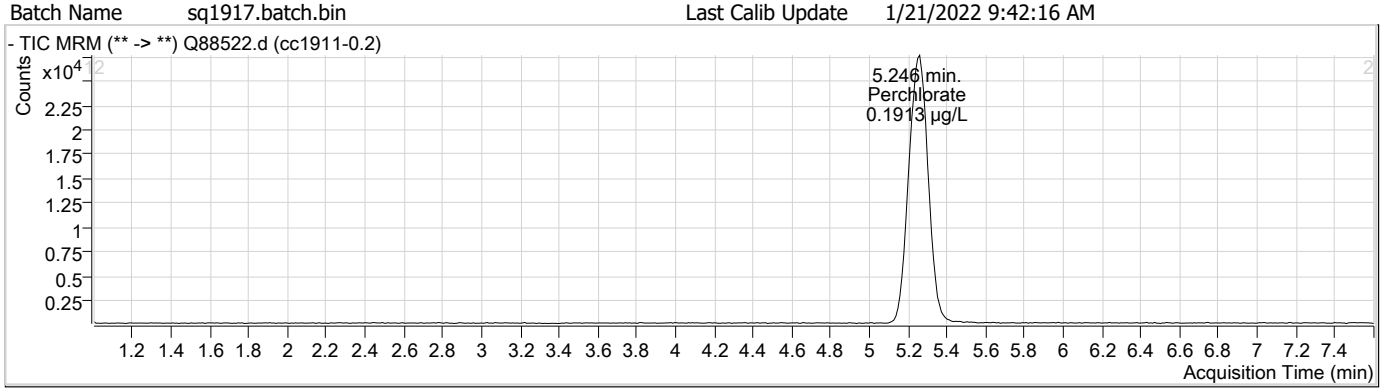




01172130

Quantitative Analysis Report for Perchlorate by 6850

Data File	: Q88522.d	Operator	natashag
Acq. Method	Perchlorate2.m	Acq. Date-Time	1/24/2022 12:07:41 PM
Sample Name	cc1911-0.2	Instrument	Instrument 1
Vial	P1-A2	Sample Information	OP89328,SQ1917,10.0,,,10.0,1,water
DA Method File	6850_011222_SQ1911.quantmethod.xml	Comment	
Batch Name	sq1917.batch.bin	Last Calib Update	1/21/2022 9:42:16 AM

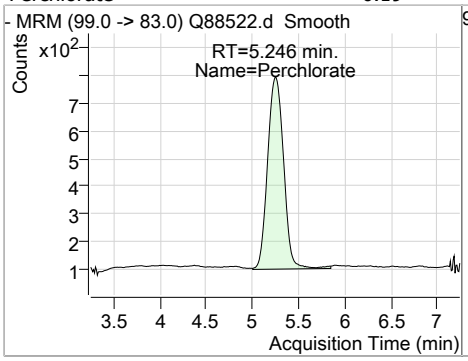


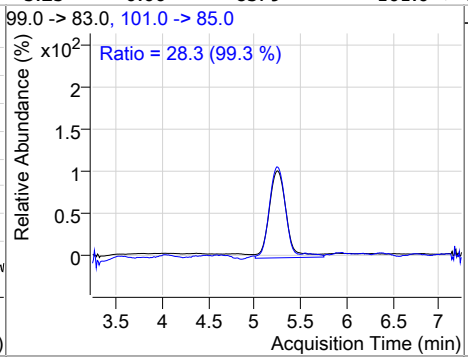
Compound	RT	QIon	Resp.	Q-ratio	Conc.	Units	Dev(Min)
Internal Standards							
Cl18O4	5.249	107.0 -> 89.0	181293	NoQ	5.00	µg/L	-0.061
System Monitoring Compounds							
Target Compounds							QValue
Perchlorate	5.246	99.0 -> 83.0	8379	3.5	0.19	µg/L	100

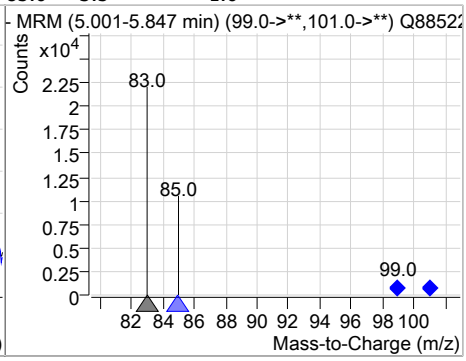
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

Quantitative Analysis Report for Perchlorate by 6850

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
Perchlorate	0.19	5.25	-0.06	8379	101.0 -> 85.0	3.5	1.6	



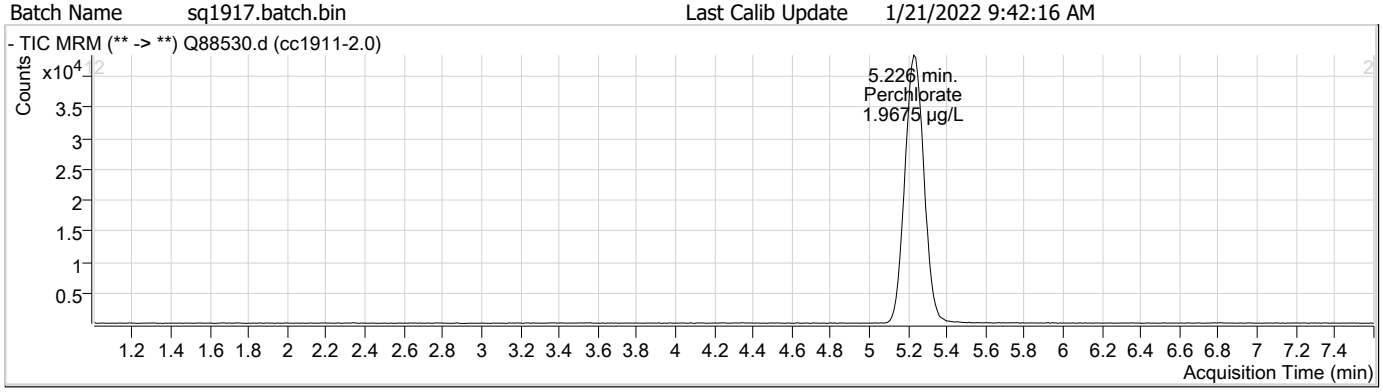




01172132

Quantitative Analysis Report for Perchlorate by 6850

Data File	: Q88530.d	Operator	natashag
Acq. Method	Perchlorate2.m	Acq. Date-Time	1/24/2022 1:14:52 PM
Sample Name	cc1911-2.0	Instrument	Instrument 1
Vial	P1-A5	Sample Information	OP89328,SQ1917,10.0,,,10.0,1,water
DA Method File	6850_011222_SQ1911.quantmethod.xml	Comment	
Batch Name	sq1917.batch.bin	Last Calib Update	1/21/2022 9:42:16 AM

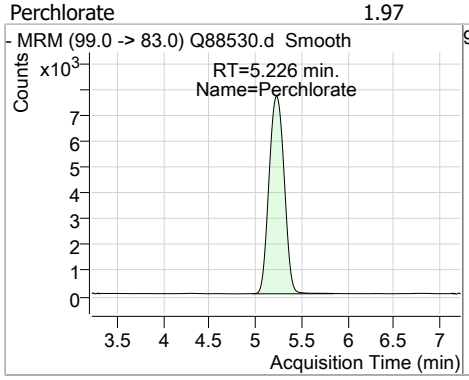


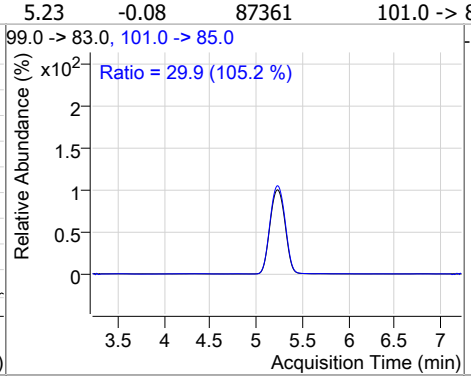
Compound	RT	QIon	Resp.	Q-ratio	Conc. Units	Dev(Min)
Internal Standards						
Cl18O4	5.229	107.0 -> 89.0	183748	NoQ	5.00 µg/L	-0.081
System Monitoring Compounds						
Target Compounds						QValue
Perchlorate	5.226	99.0 -> 83.0	87361	3.3	1.97 µg/L	97

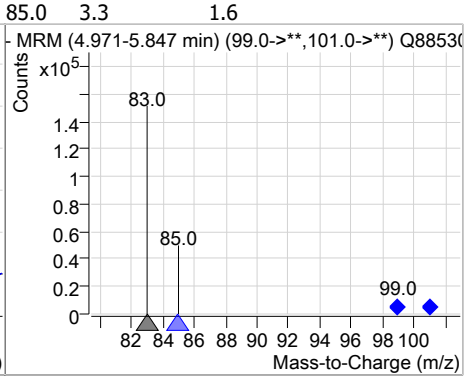
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

Quantitative Analysis Report for Perchlorate by 6850

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
Perchlorate	1.97	5.23	-0.08	87361	101.0 -> 85.0	3.3	1.6	







SGS ORLANDO

LCMS1-Q ANALYSIS LOG

DATE:	01/12/22
COLUMN TYPE:	K PRIME
AMOUNT INJ:	7.5 ul
INSTRUMENT:	LCMS1-Q

METHODS:	SW846 6850
PROC. METH:	6850_011222_SQ1911
CAL DATE:	01/12/22
ANALYST:	NG
RUN BATCH:	SQ1911

ELUENT A LOT #:	216038 W/0.1% AA 194003
ELUENT B LOT #:	214785 W/0.1% AA 194003
IC/CC STD LOT #:	LCMS1736
ICV STD LOT #:	LCMS1751
ISTD/ID STD LOT #:	10954A

	Data File	Sample	Sample Name	Method	Sample Type	Level	Misc. Info	Comments
1	Q88315.d	P1-A1	ccb	Perchlorate2.m	Sample		OP89192,SQ1911,10.0,,,10.0,1,water	ND
2	Q88316.d	P1-A1	ccb	Perchlorate2.m	Sample		OP89192,SQ1911,10.0,,,10.0,1,water	ND
3	Q88317.d	P1-A1	ccb	Perchlorate2.m	Sample		OP89192,SQ1911,10.0,,,10.0,1,water	ND
4	Q88318.d	P1-A1	ccb	Perchlorate2.m	Sample		OP89192,SQ1911,10.0,,,10.0,1,water	ND
5	Q88319.d	P1-A5	cc1910-2.0	Perchlorate2.m	Sample		OP89192,SQ1911,10.0,,,10.0,1,water	Re-calibrate, istds went high
6	Q88320.d	P1-A1	ic1911-0	Perchlorate2.m	Sample		OP89192,SQ1911,10.0,,,10.0,1,water	Check Tune File
7	Q88321.d	P1-A2	ic1911-0.2	Perchlorate2.m	Calibration	500x	OP89192,SQ1911,10.0,,,10.0,1,water	Updated, Pass
8	Q88322.d	P1-A3	ic1911-0.5	Perchlorate2.m	Calibration	200x	OP89192,SQ1911,10.0,,,10.0,1,water	Updated, Pass
9	Q88323.d	P1-A4	ic1911-1.0	Perchlorate2.m	Calibration	100x	OP89192,SQ1911,10.0,,,10.0,1,water	Updated, Pass
10	Q88324.d	P1-A5	icc1911-2.0	Perchlorate2.m	Calibration	50x	OP89192,SQ1911,10.0,,,10.0,1,water	Updated, Pass
11	Q88325.d	P1-A6	ic1911-5.0	Perchlorate2.m	Calibration	20x	OP89192,SQ1911,10.0,,,10.0,1,water	Updated, Pass
12	Q88326.d	P1-A7	ic1911-10	Perchlorate2.m	Calibration	10x	OP89192,SQ1911,10.0,,,10.0,1,water	Updated, Pass
13	Q88327.d	P1-A8	ic1911-25	Perchlorate2.m	Calibration	4x	OP89192,SQ1911,10.0,,,10.0,1,water	Updated, Pass
14	Q88328.d	P1-A9	ic1911-50	Perchlorate2.m	Calibration	2x	OP89192,SQ1911,10.0,,,10.0,1,water	Updated, Pass
15	Q88329.d	P1-B1	icv1911-2	Perchlorate2.m	QC	50x	OP89192,SQ1911,10.0,,,10.0,1,water	PASS
16	Q88330.d	P1-B2	ics	Perchlorate2.m	Sample	500x	OP89192,SQ1911,10.0,,,10.0,1,water	PASS
17	Q88331.d	P1-E8	fa91899-2	Perchlorate2.m	Sample	2ml/10	OP89193,SQ1911,1.00,,,10.0,5,soil	✓
18	Q88332.d	P1-E9	op89193-ms	Perchlorate2.m	Sample	2ml/10	OP89193,SQ1911,0.97,,,10.0,5,soil	✓
19	Q88333.d	P1-F1	op89193-msd	Perchlorate2.m	Sample	2ml/10	OP89193,SQ1911,1.00,,,10.0,5,soil	✓
20	Q88334.d	P1-B9	fa92247-1	Perchlorate2.m	Sample		OP89193,SQ1911,1.00,,,10.0,1,soil	✓
21	Q88335.d	P1-F2	fa92247-4	Perchlorate2.m	Sample	1ml/10	OP89193,SQ1911,0.98,,,10.0,10,soil	✓
22	Q88336.d	P1-F3	fa92247-7	Perchlorate2.m	Sample	1ml/10	OP89193,SQ1911,0.99,,,10.0,10,soil	✓
23	Q88337.d	P1-F4	fa92247-8	Perchlorate2.m	Sample	1ml/10	OP89193,SQ1911,1.02,,,10.0,10,soil	✓
24	Q88338.d	P1-A5	cc1911-2.0	Perchlorate2.m	QC	50x	OP89192,SQ1911,10.0,,,10.0,1,water	PASS
25	Q88339.d	P1-A2	cc1911-0.2	Perchlorate2.m	QC	500x	OP89192,SQ1911,10.0,,,10.0,1,water	PASS
26	Q88340.d	P1-A1	ccb	Perchlorate2.m	Sample		OP89192,SQ1911,10.0,,,10.0,1,water	ND
27	Q88341.d	P1-F5	jd37364-1A	Perchlorate2.m	Sample	5ml/10	OP89192,SQ1911,10.0,,,10.0,2,water	✓
28	Q88342.d	P1-F6	op89192-ms	Perchlorate2.m	Sample	5ml/10	OP89192,SQ1911,10.0,,,10.0,2,water	✓
29	Q88343.d	P1-F7	op89192-msd	Perchlorate2.m	Sample	5ml/10	OP89192,SQ1911,10.0,,,10.0,2,water	✓
30	Q88344.d	P1-E4	jd37364-23A	Perchlorate2.m	Sample		OP89192,SQ1911,10.0,,,10.0,1,water	✓
31	Q88345.d	P1-F8	fa91704-1	Perchlorate2.m	Sample	5ml/10	OP89192,SQ1911,10.0,,,10.0,2,water	OOH, ✓
32	Q88346.d	P1-A5	cc1911-2.0	Perchlorate2.m	QC	50x	OP89192,SQ1911,10.0,,,10.0,1,water	PASS
33	Q88347.d	P1-A2	ecc1911-0.2	Perchlorate2.m	QC	500x	OP89192,SQ1911,10.0,,,10.0,1,water	PASS
34	Q88348.d	P1-A1	iblk	Perchlorate2.m	Sample		OP89192,SQ1911,10.0,,,10.0,1,water	ND

SGS ORLANDO

LCMS1-Q ANALYSIS LOG

DATE:	01/21/22
COLUMN TYPE:	K PRIME
AMOUNT INJ:	7.5 ul
INSTRUMENT:	LCMS1-Q

METHODS:	SW846 6850
PROC. METH:	6850_011222_SQ1911
CAL DATE:	01/12/22
ANALYST:	NG
RUN BATCH:	SQ1916

ELUENT A LOT #:	216038 W/0.1% AA 194003
ELUENT B LOT #:	214785 W/0.1% AA 194003
IC/CC STD LOT #:	LCMS1736
ICV STD LOT #:	LCMS1751
ISTD/ID STD LOT #:	10954A

	Data File	Sample	Sample Name	Method	Sample Type	Level	Misc. Info	Comments
1	Q88442.d	P1-A1	ccb	Perchlorate2.m	Sample		OP89328,SQ1916,10.0,,,10.0,1,water	ND
2	Q88443.d	P1-A1	ccb	Perchlorate2.m	Sample		OP89328,SQ1916,10.0,,,10.0,1,water	ND
3	Q88444.d	P1-A1	ccb	Perchlorate2.m	Sample		OP89328,SQ1916,10.0,,,10.0,1,water	ND
4	Q88445.d	P1-B2	ics	Perchlorate2.m	Sample		OP89328,SQ1916,10.0,,,10.0,1,water	✓
5	Q88446.d	P1-A5	cc1911-2.0	Perchlorate2.m	QC	50x	OP89328,SQ1916,10.0,,,10.0,1,water	PASS
6	Q88447.d	P1-A2	cc1911-0.2	Perchlorate2.m	QC	500x	OP89328,SQ1916,10.0,,,10.0,1,water	PASS
7	Q88448.d	P1-B3	op89328-bs	Perchlorate2.m	Sample		OP89328,SQ1916,10.0,,,10.0,1,water	BS PASS
8	Q88449.d	P1-B4	op89328-mb	Perchlorate2.m	Sample		OP89328,SQ1916,10.0,,,10.0,1,water	ND
9	Q88450.d	P1-B5	fa92339-5	Perchlorate2.m	Sample		OP89328,SQ1916,10.0,,,10.0,1,water	✓
10	Q88451.d	P1-B6	op89328-ms	Perchlorate2.m	Sample		OP89328,SQ1916,10.0,,,10.0,1,water	✓
11	Q88452.d	P1-B7	op89328-msd	Perchlorate2.m	Sample		OP89328,SQ1916,10.0,,,10.0,1,water	rr 1x
12	Q88453.d	P1-B8	fa92339-6	Perchlorate2.m	Sample		OP89328,SQ1916,10.0,,,10.0,1,water	✓
13	Q88454.d	P1-B9	fa92372-1	Perchlorate2.m	Sample		OP89328,SQ1916,10.0,,,10.0,1,water	✓
14	Q88455.d	P1-C1	fa92372-2	Perchlorate2.m	Sample		OP89328,SQ1916,10.0,,,10.0,1,water	rr 10x
15	Q88456.d	P1-C2	fa92372-3	Perchlorate2.m	Sample		OP89328,SQ1916,10.0,,,10.0,1,water	rr 1x c/o
16	Q88457.d	P1-C3	fa92372-4	Perchlorate2.m	Sample		OP89328,SQ1916,10.0,,,10.0,1,water	✓
17	Q88458.d	P1-A5	cc1911-2.0	Perchlorate2.m	QC	50x	OP89328,SQ1916,10.0,,,10.0,1,water	PASS
18	Q88459.d	P1-A2	cc1911-0.2	Perchlorate2.m	QC	500x	OP89328,SQ1916,10.0,,,10.0,1,water	PASS
19	Q88460.d	P1-A1	ccb	Perchlorate2.m	Sample		OP89328,SQ1916,10.0,,,10.0,1,water	ND
20	Q88461.d	P1-C4	fa92372-5	Perchlorate2.m	Sample		OP89328,SQ1916,10.0,,,10.0,1,water	✓
21	Q88462.d	P1-C5	fa92372-6	Perchlorate2.m	Sample		OP89328,SQ1916,10.0,,,10.0,1,water	✓
22	Q88463.d	P1-C6	fa92372-7	Perchlorate2.m	Sample		OP89328,SQ1916,10.0,,,10.0,1,water	✓
23	Q88464.d	P1-C7	fa92372-8	Perchlorate2.m	Sample		OP89328,SQ1916,10.0,,,10.0,1,water	✓
24	Q88465.d	P1-C8	fa92372-9	Perchlorate2.m	Sample		OP89328,SQ1916,10.0,,,10.0,1,water	rr 100x
25	Q88466.d	P1-C9	fa92372-10	Perchlorate2.m	Sample		OP89328,SQ1916,10.0,,,10.0,1,water	rr 100x
26	Q88467.d	P1-D1	fa92372-11	Perchlorate2.m	Sample		OP89328,SQ1916,10.0,,,10.0,1,water	rr 1x c/o
27	Q88468.d	P1-D2	fa92372-12	Perchlorate2.m	Sample		OP89328,SQ1916,10.0,,,10.0,1,water	✓
28	Q88469.d	P1-D3	fa92372-13	Perchlorate2.m	Sample		OP89328,SQ1916,10.0,,,10.0,1,water	✓
29	Q88470.d	P1-D4	fa92372-14	Perchlorate2.m	Sample		OP89328,SQ1916,10.0,,,10.0,1,water	✓
30	Q88471.d	P1-A5	cc1911-2.0	Perchlorate2.m	QC	50x	OP89328,SQ1916,10.0,,,10.0,1,water	PASS
31	Q88472.d	P1-A2	cc1911-0.2	Perchlorate2.m	QC	500x	OP89328,SQ1916,10.0,,,10.0,1,water	PASS
32	Q88473.d	P1-A1	ccb	Perchlorate2.m	Sample		OP89328,SQ1916,10.0,,,10.0,1,water	ND
33	Q88474.d	P1-D5	fa92372-15	Perchlorate2.m	Sample		OP89328,SQ1916,10.0,,,10.0,1,water	✓
34	Q88475.d	P1-D6	fa92372-16	Perchlorate2.m	Sample		OP89328,SQ1916,10.0,,,10.0,1,water	✓
35	Q88476.d	P1-D7	fa92372-17	Perchlorate2.m	Sample		OP89328,SQ1916,10.0,,,10.0,1,water	✓

SGS ORLANDO LCMS1-Q ANALYSIS LOG

36	Q88477.d	P1-D8	fa92372-18	Perchlorate2.m	Sample		OP89328,SQ1916,10.0,,,10.0,1,water	✓
37	Q88478.d	P1-D9	op89327-bs	Perchlorate2.m	Sample		OP89327,SQ1916,10.0,,,10.0,1,water	BS PASS
38	Q88479.d	P1-E1	op89327-mb	Perchlorate2.m	Sample		OP89327,SQ1916,10.0,,,10.0,1,water	ND
39	Q88480.d	P1-E2	fa92372-19	Perchlorate2.m	Sample		OP89327,SQ1916,10.0,,,10.0,1,water	✓
40	Q88481.d	P1-E3	fa92372-20	Perchlorate2.m	Sample		OP89327,SQ1916,10.0,,,10.0,1,water	✓
41	Q88482.d	P1-A5	cc1911-2.0	Perchlorate2.m	QC	50x	OP89328,SQ1916,10.0,,,10.0,1,water	PASS
42	Q88483.d	P1-A2	cc1911-0.2	Perchlorate2.m	QC	500x	OP89328,SQ1916,10.0,,,10.0,1,water	PASS
43	Q88484.d	P1-A1	ccb	Perchlorate2.m	Sample		OP89328,SQ1916,10.0,,,10.0,1,water	ND
44	Q88485.d	P1-E4	fa92372-21	Perchlorate2.m	Sample		OP89327,SQ1916,10.0,,,10.0,1,water	✓
45	Q88486.d	P1-E5	op89327-ms1	Perchlorate2.m	Sample		OP89327,SQ1916,10.0,,,10.0,1,water	✓
46	Q88487.d	P1-E6	op89327-msd1	Perchlorate2.m	Sample		OP89327,SQ1916,10.0,,,10.0,1,water	✓
47	Q88488.d	P1-E7	fa92372-22	Perchlorate2.m	Sample		OP89327,SQ1916,10.0,,,10.0,1,water	✓
48	Q88489.d	P1-E8	fa92372-23	Perchlorate2.m	Sample		OP89327,SQ1916,10.0,,,10.0,1,water	rr 100x
49	Q88490.d	P1-E9	fa92372-24	Perchlorate2.m	Sample		OP89327,SQ1916,10.0,,,10.0,1,water	rr 1x c/o
50	Q88491.d	P1-F1	fa92372-25	Perchlorate2.m	Sample		OP89327,SQ1916,10.0,,,10.0,1,water	rr 1x low istd
51	Q88492.d	P1-F2	fa92372-26	Perchlorate2.m	Sample		OP89327,SQ1916,10.0,,,10.0,1,water	✓
52	Q88493.d	P1-F3	fa92372-27	Perchlorate2.m	Sample		OP89327,SQ1916,10.0,,,10.0,1,water	✓
53	Q88494.d	P1-A5	cc1911-2.0	Perchlorate2.m	QC	50x	OP89328,SQ1916,10.0,,,10.0,1,water	PASS
54	Q88495.d	P1-A2	cc1911-0.2	Perchlorate2.m	QC	500x	OP89328,SQ1916,10.0,,,10.0,1,water	PASS
55	Q88496.d	P1-A1	ccb	Perchlorate2.m	Sample		OP89328,SQ1916,10.0,,,10.0,1,water	ND
56	Q88497.d	P1-F4	fa92372-28	Perchlorate2.m	Sample		OP89327,SQ1916,10.0,,,10.0,1,water	✓
57	Q88498.d	P1-F5	op89327-ms2	Perchlorate2.m	Sample		OP89327,SQ1916,10.0,,,10.0,1,water	✓
58	Q88499.d	P1-F6	op89327-msd2	Perchlorate2.m	Sample		OP89327,SQ1916,10.0,,,10.0,1,water	rr 1x
59	Q88500.d	P1-F7	fa92372-29	Perchlorate2.m	Sample		OP89327,SQ1916,10.0,,,10.0,1,water	rr 10x
60	Q88501.d	P1-F8	fa92372-30	Perchlorate2.m	Sample		OP89327,SQ1916,10.0,,,10.0,1,water	✓
61	Q88502.d	P1-F9	fa92372-31	Perchlorate2.m	Sample		OP89327,SQ1916,10.0,,,10.0,1,water	✓
62	Q88503.d	P2-F1	fa92372-32	Perchlorate2.m	Sample		OP89327,SQ1916,10.0,,,10.0,1,water	✓
63	Q88504.d	P2-F2	fa92372-33	Perchlorate2.m	Sample		OP89327,SQ1916,10.0,,,10.0,1,water	✓
64	Q88505.d	P2-F3	fa92372-34	Perchlorate2.m	Sample		OP89327,SQ1916,10.0,,,10.0,1,water	rr 10x
65	Q88506.d	P1-A5	cc1911-2.0	Perchlorate2.m	QC	50x	OP89328,SQ1916,10.0,,,10.0,1,water	PASS
66	Q88507.d	P1-A2	ecc1911-0.2	Perchlorate2.m	QC	500x	OP89328,SQ1916,10.0,,,10.0,1,water	PASS
67	Q88508.d	P1-A1	iblk	Perchlorate2.m	Sample		OP89328,SQ1916,10.0,,,10.0,1,water	ND

SGS ORLANDO

LCMS1-Q ANALYSIS LOG

DATE:	01/24/22
COLUMN TYPE:	K PRIME
AMOUNT INJ:	7.5 ul
INSTRUMENT:	LCMS1-Q

METHODS:	SW846 6850
PROC. METH:	6850_011222_SQ1911
CAL DATE:	01/12/22
ANALYST:	NG
RUN BATCH:	SQ1917

ELUENT A LOT #:	216038 W/0.1% AA 194003
ELUENT B LOT #:	214785 W/0.1% AA 194003
IC/CC STD LOT #:	LCMS1736
ICV STD LOT #:	LCMS1751
ISTD/ID STD LOT #:	10954A

	Data File	Sample	Sample Name	Method	Sample Type	Level	Misc. Info	Comments
1	Q88509.d	P1-A1	ccb	Perchlorate2.m	Sample		OP89328,SQ1917,10.0,,,10.0,1,water	ND
2	Q88510.d	P1-A1	ccb	Perchlorate2.m	Sample		OP89328,SQ1917,10.0,,,10.0,1,water	ND
3	Q88511.d	P1-A1	ccb	Perchlorate2.m	Sample		OP89328,SQ1917,10.0,,,10.0,1,water	ND
4	Q88512.d	P1-B2	ics	Perchlorate2.m	Sample		OP89328,SQ1917,10.0,,,10.0,1,water	✓
5	Q88513.d	P1-A5	cc1911-2.0	Perchlorate2.m	QC	50x	OP89328,SQ1917,10.0,,,10.0,1,water	PASS
6	Q88514.d	P1-A2	cc1911-0.2	Perchlorate2.m	QC	500x	OP89328,SQ1917,10.0,,,10.0,1,water	PASS
7	Q88515.d	P2-E1	fa92372-2	Perchlorate2.m	Sample	1ml/10	OP89328,SQ1917,10.0,,,10.0,10,water	10x
8	Q88516.d	P2-E2	fa92372-3	Perchlorate2.m	Sample		OP89328,SQ1917,10.0,,,10.0,1,water	1x c/o
9	Q88517.d	P2-E3	op89328-ms	Perchlorate2.m	Sample		OP89328,SQ1917,10.0,,,10.0,1,water	1x
10	Q88518.d	P2-E4	fa92372-9	Perchlorate2.m	Sample	100ul/10	OP89328,SQ1917,10.0,,,10.0,100,water	100x
11	Q88519.d	P2-E5	fa92372-10	Perchlorate2.m	Sample	100ul/10	OP89328,SQ1917,10.0,,,10.0,100,water	100x
12	Q88520.d	P2-E6	fa92372-11	Perchlorate2.m	Sample		OP89328,SQ1917,10.0,,,10.0,1,water	1x c/o
13	Q88521.d	P1-A5	cc1911-2.0	Perchlorate2.m	QC	50x	OP89328,SQ1917,10.0,,,10.0,1,water	PASS
14	Q88522.d	P1-A2	cc1911-0.2	Perchlorate2.m	QC	500x	OP89328,SQ1917,10.0,,,10.0,1,water	PASS
15	Q88523.d	P1-A1	ccb	Perchlorate2.m	Sample		OP89328,SQ1917,10.0,,,10.0,1,water	ND
16	Q88524.d	P2-E7	fa92372-23	Perchlorate2.m	Sample	100ul/10	OP89327,SQ1917,10.0,,,10.0,100,water	100x
17	Q88525.d	P2-E8	fa92372-24	Perchlorate2.m	Sample		OP89327,SQ1917,10.0,,,10.0,1,water	1x c/o
18	Q88526.d	P2-E9	fa92372-25	Perchlorate2.m	Sample		OP89327,SQ1917,10.0,,,10.0,1,water	1x low istd
19	Q88527.d	P2-F1	op89327-msd2	Perchlorate2.m	Sample		OP89327,SQ1917,10.0,,,10.0,1,water	1x
20	Q88528.d	P2-F2	fa92372-29	Perchlorate2.m	Sample	1ml/10	OP89327,SQ1917,10.0,,,10.0,10,water	10x
21	Q88529.d	P2-F3	fa92372-34	Perchlorate2.m	Sample	1ml/10	OP89327,SQ1917,10.0,,,10.0,10,water	10x
22	Q88530.d	P1-A5	cc1911-2.0	Perchlorate2.m	QC	50x	OP89328,SQ1917,10.0,,,10.0,1,water	PASS
23	Q88531.d	P1-A2	ecc1911-0.2	Perchlorate2.m	QC	500x	OP89328,SQ1917,10.0,,,10.0,1,water	PASS
24	Q88532.d	P1-A1	iblk	Perchlorate2.m	Sample		OP89328,SQ1917,10.0,,,10.0,1,water	ND

SGS - ORLANDO

LIQUID SAMPLE PREP REPORT

Date/Time: 01/20/22 09:50 Started {mm/dd/yy 24:00}

Date/Time: 01/20/22 9:09 Finished {mm/dd/yy 24:00}

Prep Method: 3510C 3580A or Method (circle)

Analytical Method: 6850

Batch#: OP 89327 Ext. By: AK Conc. By: — Vialed By: NG

Sample ID	Bottle Number	Amount Extracted (ml)	Initial pH	Adjusted pH	Surrogate Amount	Spike Amount	Final Volume (ml)	Comments
OP 89327 MB		10					10	
OP BS						20ul		
FA 92372 - 19	1							
-20								
-21								
-22								
-23								
-24								
-25								
-26								
-27								
-28								
-29								
-30								
-31								
-32								
-33								
-34	↓	↓						
-28 MS2	2	10				20ul		
-28 MSD2	3					20ul		
-21 MS	2					20 ul		
-21 MSD	3	↓				20 ul	↓	
DUP								

Comments: 10954A 1.0 mg/L EXP: 12/13/22 (I Std) = 50ul

Surr. ID: — Conc: — Exp. Date: — Inj. By: — Ver. By —

Spk. ID: LCMS 1751 Conc: 100 PPB Exp. Date: 03/23/22 Inj. By: AK Ver. By NG

Initial Bath Temp (Therm ID): — Exchange Bath/N-Evap Temp (Therm ID): —

Observed Temp °C: — Corr. Temp °C: — Observed Temp °C: — Corr. Temp °C: —

CH2CL2 Lot #: — Hexane Lot #: — Na2SO4 Lot#: —

Acetonitrile Lot #: — Methanol Lot #: — Acetone Lot#: —

Syringe Filter Lot# P25236-0927 pH Paper #: — Reagent # HPLC Water: 216038

Copper Lot #: — If Sulfur Cleaning is performed in Extractions (3660B)

Relinquished By: [signature] Date: 01/20/22

Accepted By: [signature] Date: 01/20/22

ORLD-EXT-0001-1-06-FORM-extwater.xls 032718

SGS - ORLANDO

LIQUID SAMPLE PREP REPORT

Date/Time: 01/20/22 7:50 Started {mm/dd/yy 24:00}

Date/Time: 01/20/22 09:09 Finished {mm/dd/yy 24:00}

Prep Method: 3510C 3580A or Method (circle)

Analytical Method: 6850

Batch#: OP 89328 Ext. By: AK Conc. By: — Vialed By: NG

Sample ID	Bottle Number	Amount Extracted (ml)	Initial pH	Adjusted pH	Surrogate Amount	Spike Amount	Final Volume (ml)	Comments
OP 89328 MB		10.0					10	
OP 89328 BS						20ul		
FA92339 - 5	1							
- 6								
FA92372 - 1								
- 2								
- 3								
- 4								
- 5								
- 6								
- 7								
- 8								
- 9								
- 10								
- 11								
- 12								
- 13								
- 14								
- 15								
- 16								
- 17								
- 18	↓							
FA92339-5 MS	2					20ul		
-5 MSD	3	↓				20ul	↓	
DUP								

Comments:

Surr. ID: — Conc: — Exp. Date: — Inj. By: — Ver. By —

Spk. ID: LCMS 1951 Conc: 100 PPB Exp. Date: 03/23/22 Inj. By: AK Ver. By NG

Initial Bath Temp (Therm ID): — Exchange Bath/N-Evap Temp (Therm ID): —

Observed Temp °C: — Corr. Temp °C: — Observed Temp °C: — Corr. Temp °C: —

CH2CL2 Lot #: — Hexane Lot #: — Na2SO4 Lot#: —

Acetonitrile Lot #: — Methanol Lot #: — Acetone Lot#: —

Syringe Filter Lot# P25236-0927 pH Paper #: — Reagent # HPLC Water: 216038

Copper Lot #: _____ If Sulfur Cleaning is performed in Extractions (3660B)

Relinquished By: _____ Date: 01/20/22

Accepted By: _____ Date: 01/20/22

ORLD-EXT-0001-1-06-FORM-extwater.xls 032718

SGS

Orlando, FL

02/21/22

The results set forth herein are provided by SGS North America Inc.

e-Hardcopy 2.0
Automated Report



Technical Report for

APTIM

Longhorn Army Ammunition Plant (GWTP); Karnack, TX

501032

SGS Job Number: FA92745

Sampling Dates: 01/24/22 - 01/27/22

Report to:

APTIM
11400 Parkside Dr Suite 400
Knoxville, TN 37934
vicki.graves@aptim.com

ATTN: Vicki Graves

Total number of pages in report: **351**

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Norm Farmer
Technical Director

Client Service contact: Kelly Blanchard 407-425-6700

Certifications: FL(E83510), LA(03051), KS(E-10327), NC(573), NJ(FL002), NY(12022), SC(96038001) DoD ELAP(ANAB L2229), AZ(AZ0806), CA(2937), TX(T104704404), PA(68-03573), VA(460177), AL, AK, AR, CT, IA, KY, MA, MI. MS, ND, NH, NV, OK, OR, IL, UT, VT, WA, WI, WV

This report shall not be reproduced, except in its entirety, without the written approval of SGS.

Test results relate only to samples analyzed.

SGS is the sole authority for authorizing edits or modifications to this document.
Unauthorized modification of this report is strictly prohibited.
Review standard terms at: http://www.sgs.com/en/terms-and-conditions

Please share your ideas about
how we can serve you better at:
EHS.US.CustomerCare@sgs.com

Sections: 1 2 3 4 5 6 7

Table of Contents

Section 1: Sample Summary 4
Section 2: Case Narrative/Conformance Summary 8
Section 3: Summary of Hits 9
Section 4: Sample Results 13
4.1: FA92745-1: 16PM02-220124 14
4.2: FA92745-2: 16PM03-220124 15
4.3: FA92745-3: 16PM14-220124 16
4.4: FA92745-4: 16PM06-220124 17
4.5: FA92745-5: 16PM09-220124 18
4.6: FA92745-6: 16RW01-220124 19
4.7: FA92745-7: 16RW04-220124 20
4.8: FA92745-8: 16RW02-220124 21
4.9: FA92745-9: 16RW02-220124-FD 22
4.10: FA92745-10: 16RW05-220124 23
4.11: FA92745-11: 16IW09-220125 24
4.12: FA92745-12: 16IW10-220125 25
4.13: FA92745-13: 16RW06-220125 26
4.14: FA92745-14: 16RW07-220125 27
4.15: FA92745-15: 16IW20-220125 28
4.16: FA92745-16: 16EW07-220125 29
4.17: FA92745-17: 16WW27-220125 30
4.18: FA92745-18: 16WW43-220125 31
4.19: FA92745-19: 16RW10-220126 32
4.20: FA92745-20: 16RW09-220126 33
4.21: FA92745-21: 16RW11-220126 34
4.22: FA92745-22: 16RW11-220126-FD 35
4.23: FA92745-23: 16WW40-220126 36
4.24: FA92745-24: 16WW12-220126 37
4.25: FA92745-25: 16SW01-220126 38
4.26: FA92745-26: 16SW01-220126-FD 39
4.27: FA92745-27: 16SW02-220126 40
4.28: FA92745-28: 16SW03-220126 41
4.29: FA92745-29: 16WW13-220127 42
4.30: FA92745-30: 16WW42-220127 43
4.31: FA92745-31: 16WW23-220127 44
4.32: FA92745-32: 16WW24-220127 45
4.33: FA92745-33: 16EW03-220127 46
4.34: FA92745-34: 16EW06-220127 47
4.35: FA92745-35: 16EW05-220127 48
4.36: FA92745-36: 16EW05-220127-FD 49
4.37: FA92745-37: 16IW03-220127 50
Section 5: Misc. Forms 51

Table of Contents

5.1: Chain of Custody 52
5.2: QC Evaluation: DOD QSM5.x Limits 59
Section 6: MS Semi-volatiles - QC Data Summaries 60
6.1: Method Blank Summary 61
6.2: Blank Spike Summary 66
6.3: Matrix Spike/Matrix Spike Duplicate Summary 68
6.4: Internal Standard Area Summaries 70
6.5: Initial and Continuing Calibration Summaries 80
6.6: Run Sequence Reports 110
Section 7: MS Semi-volatiles - Raw Data 115
7.1: Samples 116
7.2: Method Blanks 206
7.3: Blank Spikes 216
7.4: Matrix Spike/Matrix Spike Duplicates 220
7.5: Initial and Continuing Calibrations 231
7.6: Instrument Run Logs 341
7.7: Prep Logs 350

SGS North America Inc.

Sample Summary

APTIM

Job No: FA92745

Longhorn Army Ammunition Plant (GWTP); Karnack, TX
Project No: 501032

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
FA92745-1	01/24/22	08:10	SB	01/28/22	AQ	Ground Water	16PM02-220124
FA92745-2	01/24/22	08:50	SB	01/28/22	AQ	Ground Water	16PM03-220124
FA92745-3	01/24/22	09:30	SB	01/28/22	AQ	Ground Water	16PM14-220124
FA92745-4	01/24/22	10:10	SB	01/28/22	AQ	Ground Water	16PM06-220124
FA92745-5	01/24/22	10:50	SB	01/28/22	AQ	Ground Water	16PM09-220124
FA92745-6	01/24/22	11:35	SB	01/28/22	AQ	Ground Water	16RW01-220124
FA92745-7	01/24/22	12:20	SB	01/28/22	AQ	Ground Water	16RW04-220124
FA92745-8	01/24/22	13:00	SB	01/28/22	AQ	Ground Water	16RW02-220124
FA92745-9	01/24/22	13:00	SB	01/28/22	AQ	Ground Water	16RW02-220124-FD
FA92745-10	01/24/22	13:40	SB	01/28/22	AQ	Ground Water	16RW05-220124
FA92745-11	01/25/22	07:40	SB	01/28/22	AQ	Ground Water	16IW09-220125
FA92745-12	01/25/22	08:30	SB	01/28/22	AQ	Ground Water	16IW10-220125
FA92745-12D	01/25/22	08:30	SB	01/28/22	AQ	Water Dup/MSD	16IW10-220125

SGS North America Inc.

Sample Summary
(continued)

APTIM

Job No: FA92745

Longhorn Army Ammunition Plant (GWTP); Karnack, TX
Project No: 501032

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
FA92745-12S	01/25/22	08:30	SB	01/28/22	AQ	Water Matrix Spike	16IW10-220125
FA92745-13	01/25/22	09:40	SB	01/28/22	AQ	Ground Water	16RW06-220125
FA92745-14	01/25/22	10:25	SB	01/28/22	AQ	Ground Water	16RW07-220125
FA92745-15	01/25/22	11:10	SB	01/28/22	AQ	Ground Water	16IW20-220125
FA92745-16	01/25/22	11:55	SB	01/28/22	AQ	Ground Water	16EW07-220125
FA92745-17	01/25/22	12:40	SB	01/28/22	AQ	Ground Water	16WW27-220125
FA92745-18	01/25/22	13:30	SB	01/28/22	AQ	Ground Water	16WW43-220125
FA92745-19	01/26/22	07:35	SB	01/28/22	AQ	Ground Water	16RW10-220126
FA92745-20	01/26/22	08:25	SB	01/28/22	AQ	Ground Water	16RW09-220126
FA92745-21	01/26/22	09:15	SB	01/28/22	AQ	Ground Water	16RW11-220126
FA92745-22	01/26/22	09:15	SB	01/28/22	AQ	Ground Water	16RW11-220126-FD
FA92745-23	01/26/22	10:05	SB	01/28/22	AQ	Ground Water	16WW40-220126
FA92745-24	01/26/22	10:50	SB	01/28/22	AQ	Ground Water	16WW12-220126

SGS North America Inc.

Sample Summary
(continued)

APTIM

Job No: FA92745

Longhorn Army Ammunition Plant (GWTP); Karnack, TX
Project No: 501032

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
FA92745-25	01/26/22	11:05	SB	01/28/22	AQ	Ground Water	16SW01-220126
FA92745-26	01/26/22	11:05	SB	01/28/22	AQ	Ground Water	16SW01-220126-FD
FA92745-27	01/26/22	11:20	SB	01/28/22	AQ	Ground Water	16SW02-220126
FA92745-27D	01/26/22	11:20	SB	01/28/22	AQ	Water Dup/MSD	16SW02-220126
FA92745-27S	01/26/22	11:20	SB	01/28/22	AQ	Water Matrix Spike	16SW02-220126
FA92745-28	01/26/22	11:35	SB	01/28/22	AQ	Ground Water	16SW03-220126
FA92745-29	01/27/22	07:40	SB	01/28/22	AQ	Ground Water	16WW13-220127
FA92745-30	01/27/22	08:20	SB	01/28/22	AQ	Ground Water	16WW42-220127
FA92745-31	01/27/22	09:10	SB	01/28/22	AQ	Ground Water	16WW23-220127
FA92745-32	01/27/22	09:50	SB	01/28/22	AQ	Ground Water	16WW24-220127
FA92745-33	01/27/22	10:35	SB	01/28/22	AQ	Ground Water	16EW03-220127
FA92745-34	01/27/22	11:30	SB	01/28/22	AQ	Ground Water	16EW06-220127
FA92745-35	01/27/22	12:15	SB	01/28/22	AQ	Ground Water	16EW05-220127

SGS North America Inc.

Sample Summary
(continued)

APTIM

Job No: FA92745

Longhorn Army Ammunition Plant (GWTP); Karnack, TX
Project No: 501032

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
FA92745-36	01/27/22	12:15	SB	01/28/22	AQ	Ground Water	16EW05-220127-FD
FA92745-37	01/27/22	13:05	SB	01/28/22	AQ	Ground Water	16IW03-220127

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: APTIM **Job No:** FA92745

Site: Longhorn Army Ammunition Plant (GWTP); Karnack, TX **Report Date** 2/21/2022 11:57:38

On 01/28/2022, 37 Sample(s), 0 Trip Blank(s) and 0 Field Blank(s) were received at SGS North America Inc - Orlando. at a maximum corrected temperature of 5.6 C. Samples were intact and chemically preserved, unless noted below. A SGS North America Inc. - Orlando Job Number of FA92745 was assigned to the project. Laboratory sample ID, client sample ID and dates of sample collection are detailed in the report's Results Summary Section. Specified quality control criteria were achieved for this job except as noted below. For more information, please refer to the analytical results and QC summary pages.

MS Semi-volatiles By Method SW846 6850

Matrix: AQ **Batch ID:** OP89657

Sample(s) FA92745-12MS, FA92745-12MSD were used as the QC samples indicated.

Matrix Spike Recovery(s) for Perchlorate are outside control limits. Probable cause is due to matrix interference.

Matrix Spike Duplicate Recovery(s) for Perchlorate are outside control limits. Probable cause is due to matrix interference.

RPD(s) for MSD for Perchlorate are outside control limits for sample OP89657-MSD. Probable cause is due to sample non-homogeneity.

FA92745-16: Dilution required due to matrix interference; extract was viscous.

Matrix: AQ **Batch ID:** OP89660

Sample(s) FA92745-27MS, FA92745-27MSD were used as the QC samples indicated.

Matrix Spike Duplicate Recovery(s) for Perchlorate are outside control limits. Probable cause is due to matrix interference.

FA92745-30: Dilution required due to matrix interference (internal standard failure).

FA92745-31: Dilution required due to matrix interference (internal standard failure).

FA92745-34: Dilution required due to matrix interference (internal standard failure).

FA92745-37: Dilution required due to matrix interference (internal standard failure).

SGS North America Inc. - Orlando certifies that data reported for samples received, listed on the associated custody chain or analytical task order, were produced to specifications meeting the Quality System precision, accuracy and completeness objectives except as noted. Estimated non-standard method measurement uncertainty data is available on request, based on quality control bias and implicit for standard methods. Acceptable uncertainty requires tested parameter quality control data to meet method criteria. SGS North America Inc.- Orlando is not responsible for data quality assumptions if partial reports are used and recommends that this report be used in its entirety.

Narrative prepared by:

_____

Ariel Hartney, Client Services (signature on file)