LONGHORN ARMY AMMUNITION PLANT KARNACK, TEXAS

ADMINISTRATIVE RECORD

Volume 22

2022

Bate Stamp Numbers
01112700 – 01114701

Prepared for

Department of the Army
Longhorn Army Ammunition Plant

1976–2022

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

VOLUME 22

2022

A.	Title:	(Cont'd) Report – Appendix D Level IV DOD (Jul-Aug 2020) to Final First Annual Remediation Action Operation Report, LHAAP-16 Landfill, Longhorn Army Ammunition Plant, Karnack, Texas, April 2022
	Author(s):	Department of the Army
	Recipient:	U.S. Environmental Protection Agency and Texas Commission on Environmental Quality
	Date:	April 19, 2022
	Bate Stamp:	01112700 – 01114701

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20071033

Service Request: E2000674
Date Analyzed: 8/ 5/20

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

Analytical Method: 6850
File ID: I:\LCMS01\DATA\20200805\20200805_031

Calibration Date: 7/24/20
Calibration ID: EC2000016
Analysis Lot: 689820
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	8.95	0.1210	0.1083	-10.5	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000674
Project:	HS20071033	**Date Analyzed:**	8/ 5/20

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

Analytical Method:	6850	**Calibration Date:**	7/24/20
File ID:	I:\LCMS01\DATA\20200805\20200805_037	**Calibration ID:**	EC2000016
		Analysis Lot:	689820
		Units:	ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.02	0.1210	0.1092	-9.8	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20071033

Service Request: E2000674
Date Analyzed: 8/ 5/20

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

Analytical Method: 6850
File ID: I:\LCMS01\DATA\20200805\20200805_043

Calibration Date: 7/24/20
Calibration ID: EC2000016
Analysis Lot: 689820
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.01	0.1210	0.1090	-9.9	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20071033

Service Request: E2000674
Date Analyzed: 8/ 6/20

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

Analytical Method: 6850
File ID: I:\LCMS01\DATA\20200806\20200806_007

Calibration Date: 7/24/20
Calibration ID: EC2000016
Analysis Lot: 689820
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.05	0.1210	0.1095	-9.5	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20071033

Service Request: E2000674
Date Analyzed: 8/ 6/20

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

Analytical Method: 6850
File ID: I:\LCMS01\DATA\20200806\20200806_018

Calibration Date: 7/24/20
Calibration ID: EC2000016
Analysis Lot: 689820
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.28	0.1210	0.1123	-7.2	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20071033

Service Request: E2000674
Date Analyzed: 8/ 6/20

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

Analytical Method: 6850
File ID: I:\LCMS01\DATA\20200806\20200806_024

Calibration Date: 7/24/20
Calibration ID: EC2000016
Analysis Lot: 689820
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.11	0.1210	0.1103	-8.9	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000674
Project:	HS20071033	**Date Analyzed:**	8/5/20 11:56

Internal Standard Area and RT Summary

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

File ID:	I:\LCMS01\DATA\20200805\20200805_014	**Lab Code:**	EQ2000330-01
Instrument ID:	E-LCMS-01	**Analysis Lot:**	689820
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	161,047	2.90
	Upper Limit ==>	241,571	4.90
	Lower Limit ==>	80,524	0.90
Associated Analyses			
Continuing Calibration Verification	EQ2000330-01	207,311	2.88
Lab Control Sample	EQ2000328-02	239,187	2.88
Duplicate Lab Control Sample	EQ2000328-03	238,028	2.88
16WW44-200720	E2000674-001	128,893	2.88

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

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000674
Project:	HS20071033	**Date Analyzed:**	8/5/20 13:41

Internal Standard Area and RT Summary

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

File ID:	I:\LCMS01\DATA\20200805\20200805_025	**Lab Code:**	EQ2000330-02
Instrument ID:	E-LCMS-01	**Analysis Lot:**	689820
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	161,047	2.90
	Upper Limit ==>	241,571	4.90
	Lower Limit ==>	80,524	0.90
Associated Analyses			
Continuing Calibration Verification	EQ2000330-02	148,884	2.88
16PM09-200720	E2000674-004	91,381	2.87
16PM02-200720	E2000674-007	81,028	2.87

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

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000674
Project:	HS20071033	**Date Analyzed:**	8/5/20 14:28

Internal Standard Area and RT Summary

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

File ID:	I:\LCMS01\DATA\20200805\20200805_031	**Lab Code:**	EQ2000330-03
Instrument ID:	E-LCMS-01	**Analysis Lot:**	689820
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	161,047	2.90
	Upper Limit ==>	241,571	4.90
	Lower Limit ==>	80,524	0.90
Associated Analyses			
Continuing Calibration Verification	EQ2000330-03	144,103	2.88
Continuing Calibration Verification	EQ2000330-04	144,103	2.88

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

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000674
Project:	HS20071033	**Date Analyzed:**	8/5/20 14:28

Internal Standard Area and RT Summary

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

File ID:	I:\LCMS01\DATA\20200805\20200805_031	**Lab Code:**	EQ2000330-04
Instrument ID:	E-LCMS-01	**Analysis Lot:**	689820
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	161,047	2.90
	Upper Limit ==>	241,571	4.90
	Lower Limit ==>	80,524	0.90
Associated Analyses			
Continuing Calibration Verification	EQ2000330-03	144,103	2.88
Continuing Calibration Verification	EQ2000330-04	144,103	2.88
16WW14-200720	E2000674-002	149,730	2.82
16RW10-200720	E2000674-003	108,720	2.87
16PM14-200720	E2000674-006	113,600	2.86
16PM03-200720	E2000674-008	111,238	2.87

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

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000674
Project:	HS20071033	**Date Analyzed:**	8/5/20 16:15

Internal Standard Area and RT Summary

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

File ID:	I:\LCMS01\DATA\20200805\20200805_037	**Lab Code:**	EQ2000330-05
Instrument ID:	E-LCMS-01	**Analysis Lot:**	689820
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	161,047	2.90
	Upper Limit ==>	241,571	4.90
	Lower Limit ==>	80,524	0.90
Associated Analyses			
Continuing Calibration Verification	EQ2000330-05	176,954	2.88
Method Blank	EQ2000328-01	238,718	2.81
16RW10-200720MS	EQ2000328-04	136,530	2.81
16RW10-200720DMS	EQ2000328-05	106,502	2.87

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

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000674
Project:	HS20071033	**Date Analyzed:**	8/5/20 17:10

Internal Standard Area and RT Summary

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

File ID:	I:\LCMS01\DATA\20200805\20200805_043	**Lab Code:**	EQ2000330-06
Instrument ID:	E-LCMS-01	**Analysis Lot:**	689820
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	161,047	2.90
	Upper Limit ==>	241,571	4.90
	Lower Limit ==>	80,524	0.90
Associated Analyses			
Continuing Calibration Verification	EQ2000330-06	137,120	2.88

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

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000674
Project:	HS20071033	**Date Analyzed:**	8/6/20 10:24

Internal Standard Area and RT Summary

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

File ID:	I:\LCMS01\DATA\20200806\20200806_007	**Lab Code:**	EQ2000330-07
Instrument ID:	E-LCMS-01	**Analysis Lot:**	689820
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	161,047	2.90
	Upper Limit ==>	241,571	4.90
	Lower Limit ==>	80,524	0.90
Associated Analyses			
Continuing Calibration Verification	EQ2000330-07	168,468	2.88
16PM06-200720MS	EQ2000328-06	173,044	2.82
16PM06-200720DMS	EQ2000328-07	209,760	2.82

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

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000674
Project:	HS20071033	**Date Analyzed:**	8/6/20 12:32

Internal Standard Area and RT Summary

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

File ID:	I:\LCMS01\DATA\20200806\20200806_018	**Lab Code:**	EQ2000330-08
Instrument ID:	E-LCMS-01	**Analysis Lot:**	689820
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	161,047	2.90
	Upper Limit ==>	241,571	4.90
	Lower Limit ==>	80,524	0.90
Associated Analyses			
Continuing Calibration Verification	EQ2000330-08	157,554	2.88
16PM06-200720	E2000674-005	190,078	2.82

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

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000674
Project:	HS20071033	**Date Analyzed:**	8/6/20 13:35

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

File ID:	I:\LCMS01\DATA\20200806\20200806_024	**Lab Code:**	EQ2000330-09
Instrument ID:	E-LCMS-01	**Analysis Lot:**	689820
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	161,047	2.90
	Upper Limit ==>	241,571	4.90
	Lower Limit ==>	80,524	0.90
Associated Analyses			
Continuing Calibration Verification	EQ2000330-09	159,534	2.88

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

ALS Group Houston

PERCHLORATE7

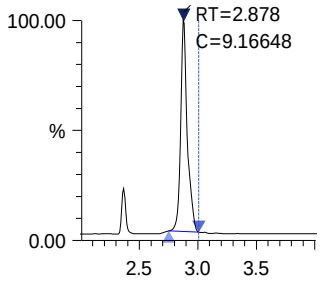
Date acquired: 8/5/2020 11:56:14 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200805\20200805_014.lcd
Vial: 4 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE7	8/5/2020 11:56:14 AM	229993	9.16648	20200805_014	2.878	25.0000	1.0000	4
Sodium Perchlorate-18O4_IS	PERCHLORATE7	8/5/2020 11:56:14 AM	207311	1.00000	20200805_014	2.877	25.0000	1.0000	4

Perchlorate

Conc 9.16648
Area 229993

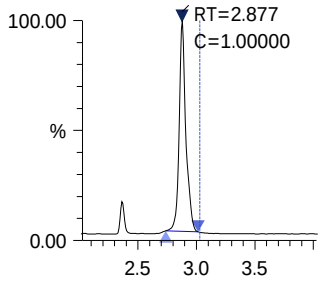
Q 99.00>83.00 (-) 5.89e4



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 207311

ISTD 107.00>89.00 (-) 5.24e4



ALS Group Houston

EQ2000328-02

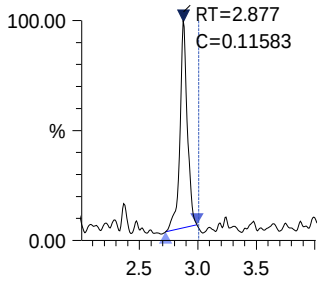
Date acquired: 8/5/2020 12:30:31 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200805\20200805_016.lcd
Vial: 40 | Inj. Volume: 25.0000uL | Tray: 2

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	EQ2000328-02	8/5/2020 12:30:31 PM	3353	0.11583	20200805_016	2.877	25.0000	1.0000	40
Sodium Perchlorate-18O4_IS	EQ2000328-02	8/5/2020 12:30:31 PM	239187	1.00000	20200805_016	2.875	25.0000	1.0000	40

Perchlorate

Conc 0.11583
Area 3353

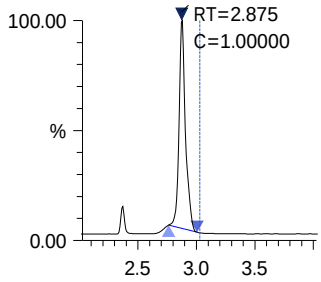
Q 99.00>83.00 (-) 7.93e2



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 239187

ISTD 107.00>89.00 (-) 6.35e4



ALS Group Houston

EQ2000328-03

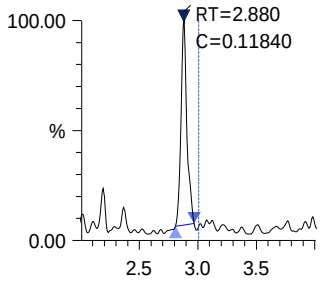
Date acquired: 8/5/2020 12:38:23 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200805\20200805_017.lcd
Vial: 41 | Inj. Volume: 25.0000uL | Tray: 2

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	EQ2000328-03	8/5/2020 12:38:23 PM	3411	0.11840	20200805_017	2.880	25.0000	1.0000	41
Sodium Perchlorate-18O4_IS	EQ2000328-03	8/5/2020 12:38:23 PM	238028	1.00000	20200805_017	2.878	25.0000	1.0000	41

Perchlorate

Conc 0.11840
Area 3411

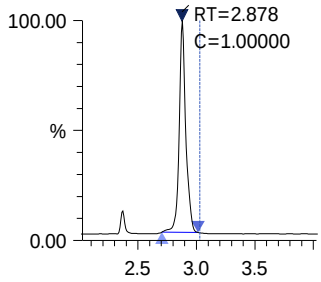
Q 99.00>83.00 (-) 1.02e3



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 238028

ISTD 107.00>89.00 (-) 6.06e4



ALS Group Houston

PERCHLORATE7

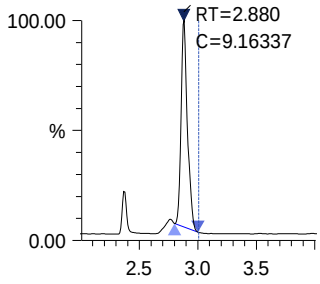
Date acquired: 8/5/2020 1:41:31 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200805\20200805_025.lcd
Vial: 4 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE7	8/5/2020 1:41:31 PM	165118	9.16337	20200805_025	2.880	25.0000	1.0000	4
Sodium Perchlorate-18O4_IS	PERCHLORATE7	8/5/2020 1:41:31 PM	148884	1.00000	20200805_025	2.879	25.0000	1.0000	4

Perchlorate

Conc 9.16337
Area 165118

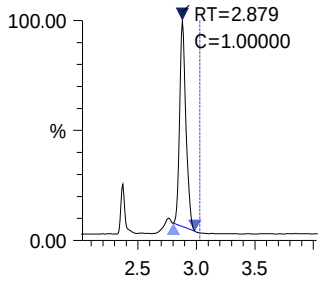
Q 99.00>83.00 (-) 4.55e4



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 148884

ISTD 107.00>89.00 (-) 4.08e4



ALS Group Houston

PERCHLORATE7

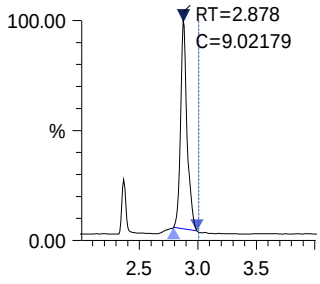
Date acquired: 8/5/2020 4:15:17 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200805\20200805_037.lcd
Vial: 4 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE7	8/5/2020 4:15:17 PM	193215	9.02179	20200805_037	2.878	25.0000	1.0000	4
Sodium Perchlorate-18O4_IS	PERCHLORATE7	8/5/2020 4:15:17 PM	176954	1.00000	20200805_037	2.876	25.0000	1.0000	4

Perchlorate

Conc 9.02179
Area 193215

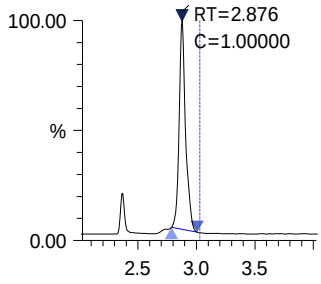
Q 99.00>83.00 (-) 5.15e4



Sodium Perchlorate-18O4 _IS

Conc 1.00000
Area 176954

ISTD 107.00>89.00 (-) 4.68e4



ALS Group Houston

EQ2000328-01

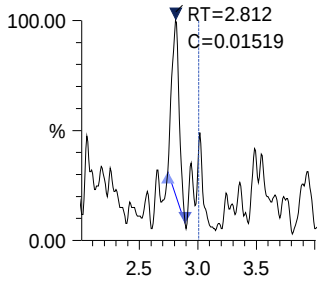
Date acquired: 8/5/2020 4:30:04 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200805\20200805_038.lcd
Vial: 39 | Inj. Volume: 25.0000uL | Tray: 2

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	EQ2000328-01	8/5/2020 4:30:04 PM	439	0.01519	20200805_038	2.812	25.0000	1.0000	39
Sodium Perchlorate-18O4_IS	EQ2000328-01	8/5/2020 4:30:04 PM	238718	1.00000	20200805_038	2.814	25.0000	1.0000	39

Perchlorate

Conc 0.01519
Area 439

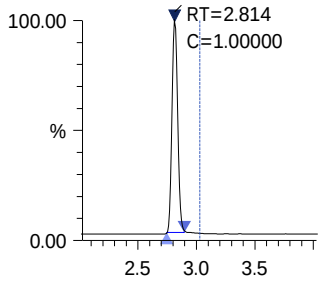
Q 99.00>83.00 (-) 1.20e2



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 238718

ISTD 107.00>89.00 (-) 7.32e4



ALS Group Houston

EQ2000328-04X10

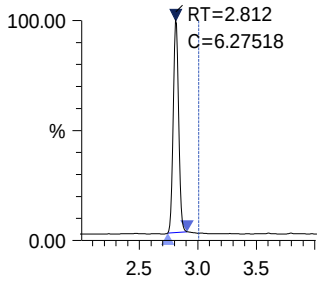
Date acquired: 8/5/2020 4:38:38 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200805\20200805_039.lcd
Vial: 42 | Inj. Volume: 25.0000uL | Tray: 2

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	EQ2000328-04X10	8/5/2020 4:38:38 PM	103691	6.27518	20200805_039	2.812	25.0000	1.0000	42
Sodium Perchlorate-18O4_IS	EQ2000328-04X10	8/5/2020 4:38:38 PM	136530	1.00000	20200805_039	2.810	25.0000	1.0000	42

Perchlorate

Conc 6.27518
Area 103691

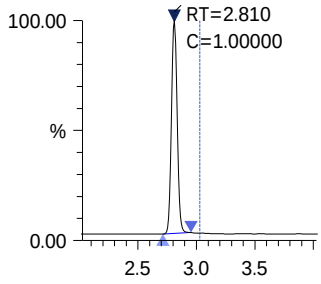
Q 99.00>83.00 (-) 3.19e4



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 136530

ISTD 107.00>89.00 (-) 4.13e4



ALS Group Houston

EQ2000328-05X10

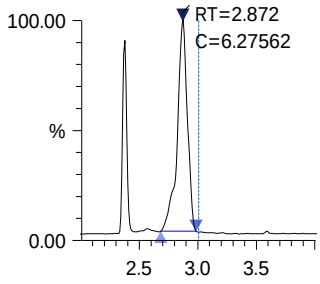
Date acquired: 8/5/2020 4:46:32 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200805\20200805_040.lcd
Vial: 43 | Inj. Volume: 25.0000uL | Tray: 2

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	EQ2000328-05X10	8/5/2020 4:46:32 PM	80892	6.27562	20200805_040	2.872	25.0000	1.0000	43
Sodium Perchlorate-18O4_IS	EQ2000328-05X10	8/5/2020 4:46:32 PM	106502	1.00000	20200805_040	2.872	25.0000	1.0000	43

Perchlorate

Conc 6.27562
Area 80892

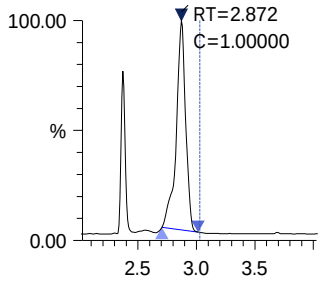
Q 99.00>83.00 (-) 1.36e4



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 106502

ISTD 107.00>89.00 (-) 1.93e4



ALS Group Houston

PERCHLORATE7

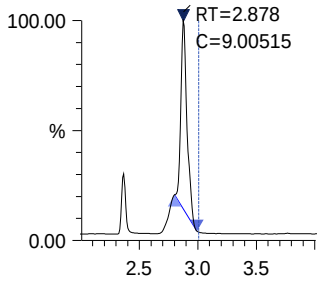
Date acquired: 8/5/2020 5:10:14 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200805\20200805_043.lcd
Vial: 4 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE7	8/5/2020 5:10:14 PM	149444	9.00515	20200805_043	2.878	25.0000	1.0000	4
Sodium Perchlorate-18O4_IS	PERCHLORATE7	8/5/2020 5:10:14 PM	137120	1.00000	20200805_043	2.876	25.0000	1.0000	4

Perchlorate

Conc 9.00515
Area 149444

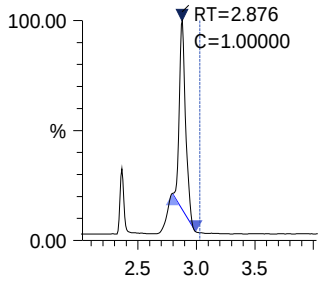
Q 99.00>83.00 (-) 4.64e4



Sodium Perchlorate-18O4 _IS

Conc 1.00000
Area 137120

ISTD 107.00>89.00 (-) 4.18e4



ALS Group Houston

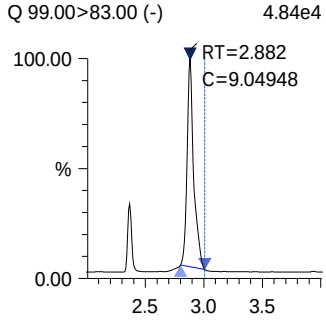
PERCHLORATE7

Date acquired: 8/6/2020 10:24:58 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200806\20200806_007.lcd
Vial: 4 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE7	8/6/2020 10:24:58 AM	184514	9.04948	20200806_007	2.882	25.0000	1.0000	4
Sodium Perchlorate-18O4_IS	PERCHLORATE7	8/6/2020 10:24:58 AM	168468	1.00000	20200806_007	2.881	25.0000	1.0000	4

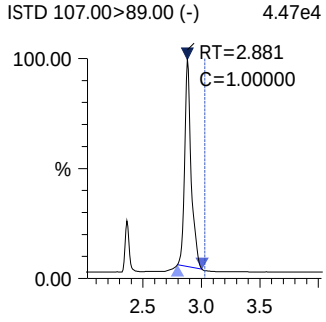
Perchlorate

Conc 9.04948
Area 184514



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 168468



ALS Group Houston

EQ2000328-06X10

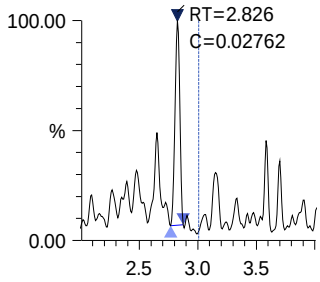
Date acquired: 8/6/2020 11:42:32 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200806\20200806_016.lcd
Vial: 44 | Inj. Volume: 25.0000uL | Tray: 2

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	EQ2000328-06X10	8/6/2020 11:42:32 AM	578	0.02762	20200806_016	2.826	25.0000	1.0000	44
Sodium Perchlorate-18O4_IS	EQ2000328-06X10	8/6/2020 11:42:32 AM	173044	1.00000	20200806_016	2.820	25.0000	1.0000	44

Perchlorate

Conc 0.02762
Area 578

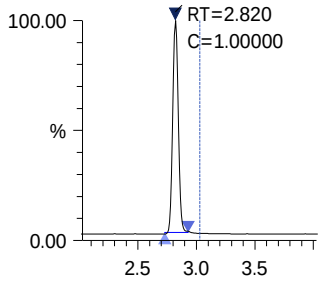
Q 99.00>83.00 (-) 2.08e2



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 173044

ISTD 107.00>89.00 (-) 5.45e4



ALS Group Houston

EQ2000328-07X10

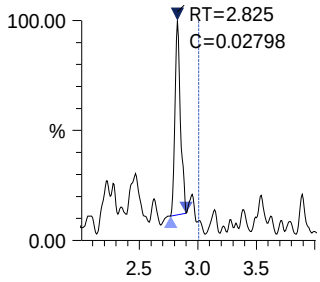
Date acquired: 8/6/2020 12:25:04 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200806\20200806_017.lcd
Vial: 45 | Inj. Volume: 25.0000uL | Tray: 2

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	EQ2000328-07X10	8/6/2020 12:25:04 PM	710	0.02798	20200806_017	2.825	25.0000	1.0000	45
Sodium Perchlorate-18O4_IS	EQ2000328-07X10	8/6/2020 12:25:04 PM	209760	1.00000	20200806_017	2.824	25.0000	1.0000	45

Perchlorate

Conc 0.02798
Area 710

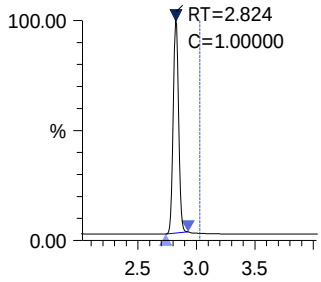
Q 99.00>83.00 (-) 2.37e2



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 209760

ISTD 107.00>89.00 (-) 6.73e4



ALS Group Houston

PERCHLORATE7

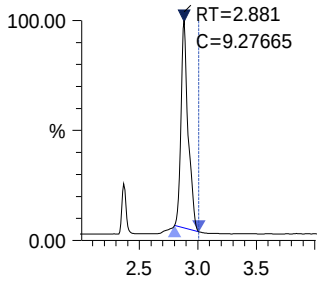
Date acquired: 8/6/2020 12:32:59 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200806\20200806_018.lcd
Vial: 4 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE7	8/6/2020 12:32:59 PM	176892	9.27665	20200806_018	2.881	25.0000	1.0000	4
Sodium Perchlorate-18O4_IS	PERCHLORATE7	8/6/2020 12:32:59 PM	157554	1.00000	20200806_018	2.880	25.0000	1.0000	4

Perchlorate

Conc 9.27665
Area 176892

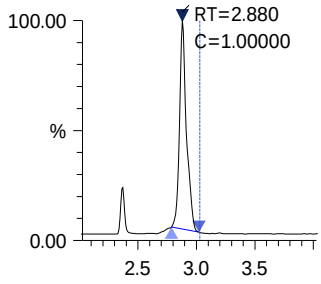
Q 99.00>83.00 (-) 4.32e4



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 157554

ISTD 107.00>89.00 (-) 3.87e4



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www.alsglobal.com

August 12, 2020

Analytical Report for Service Request No: K2006280

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

RE: HS20071033

Dear RJ,

Enclosed are the results of the sample(s) submitted to our laboratory July 24, 2020
For your reference, these analyses have been assigned our service request number **K2006280.**

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current NELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. All results are intended to be considered in their entirety, and ALS Group USA Corp. dba ALS Environmental (ALS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please contact me if you have any questions. My extension is 3350. You may also contact me via email at Kelley.Lovejoy@alsglobal.com.

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

for Kelley Lovejoy
Project Manager

RIGHT SOLUTIONS | RIGHT PARTNER

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Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LOD	Limit of Detection
LOQ	Limit of Quantitation
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Inorganic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
E	The result is an estimate amount because the value exceeded the instrument calibration range.
J	The result is an estimated value.
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
i	The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
X	See case narrative.
Q	See case narrative. One or more quality control criteria was outside the limits.
H	The holding time for this test is immediately following sample collection. The samples were analyzed as soon as possible after receipt by the laboratory.

Metals Data Qualifiers

#	The control limit criteria is not applicable. See case narrative.
J	The result is an estimated value.
E	The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
M	The duplicate injection precision was not met.
N	The Matrix Spike sample recovery is not within control limits. See case narrative.
S	The reported value was determined by the Method of Standard Additions (MSA).
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
W	The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
i	The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
X	See case narrative.
+	The correlation coefficient for the MSA is less than 0.995.
Q	See case narrative. One or more quality control criteria was outside the limits.

Organic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
A	A tentatively identified compound, a suspected aldol-condensation product.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
C	The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
D	The reported result is from a dilution.
E	The result is an estimated value.
J	The result is an estimated value.
N	The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
P	The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results.
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
i	The MRL/MDL or LOQ/LOD is elevated due to a chromatographic interference.
X	See case narrative.
Q	See case narrative. One or more quality control criteria was outside the limits.

Additional Petroleum Hydrocarbon Specific Qualifiers

F	The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
L	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
H	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
O	The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
Y	The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
Z	The chromatographic fingerprint does not resemble a petroleum product.

ALS Group USA Corp. dba ALS Environmental (ALS) - Kelso
State Certifications, Accreditations, and Licenses

Agency	Web Site	Number
Alaska DEH	http://dec.alaska.gov/eh/lab/cs/csapproval.htm	UST-040
Arizona DHS	http://www.azdhs.gov/lab/license/env.htm	AZ0339
Arkansas - DEQ	http://www.adeq.state.ar.us/techsvs/labcert.htm	88-0637
California DHS (ELAP)	http://www.cdph.ca.gov/certlic/labs/Pages/ELAP.aspx	2795
DOD ELAP	http://www.denix.osd.mil/edqw/Accreditation/AccreditedLabs.cfm	L16-58-R4
Florida DOH	http://www.doh.state.fl.us/lab/EnvLabCert/WaterCert.htm	E87412
Hawaii DOH	http://health.hawaii.gov/	-
ISO 17025	http://www.pjlabs.com/	L16-57
Louisiana DEQ	http://www.deq.louisiana.gov/page/la-lab-accreditation	03016
Maine DHS	http://www.maine.gov/dhhs/	WA01276
Minnesota DOH	http://www.health.state.mn.us/accreditation	053-999-457
Nevada DEP	http://ndep.nv.gov/bsdw/labservice.htm	WA01276
New Jersey DEP	http://www.nj.gov/dep/enforcement/oqa.html	WA005
New York - DOH	https://www.wadsworth.org/regulatory/elap	12060
North Carolina DEQ	https://deq.nc.gov/about/divisions/water-resources/water-resources-data/water-sciences-home-page/laboratory-certification-branch/non-field-lab-certification	605
Oklahoma DEQ	http://www.deq.state.ok.us/CSDnew/labcert.htm	9801
Oregon – DEQ (NELAP)	http://public.health.oregon.gov/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	WA100010
South Carolina DHEC	http://www.scdhec.gov/environment/EnvironmentalLabCertification/	61002
Texas CEQ	http://www.tceq.texas.gov/field/qa/env_lab_accreditation.html	T104704427
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C544
Wyoming (EPA Region 8)	https://www.epa.gov/region8-waterops/epa-region-8-certified-drinking-water-	-
Kelso Laboratory Website	www.alsglobal.com	NA

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. A complete listing of specific NELAP-certified analytes, can be found in the certification section at www.ALSGlobal.com or at the accreditation bodies web site.
Please refer to the certification and/or accreditation body's web site if samples are submitted for compliance purposes. The states highlighted above, require the analysis be listed on the state certification if used for compliance purposes and if the method/anlayte is offered by that state.

Case Narrative

ALS Environmental—Kelso Laboratory
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Client: ALS Environmental - US
Project: HS20071033
Sample Matrix: Ground Water

Service Request: K2006280
Date Received: 07/24/2020

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples for the Tier level IV requested by the client.

Sample Receipt:

Three ground water samples were received for analysis at ALS Environmental on 07/24/2020. Any discrepancies upon initial sample inspection are annotated on the sample receipt and preservation form included within this report. The samples were stored at minimum in accordance with the analytical method requirements.

General Chemistry:

No significant anomalies were noted with this analysis.

Approved by Noe D. Oaxi Date 08/12/2020

Chain of Custody

ALS Environmental—Kelso Laboratory
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Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887
www.alsglobal.com

Subcontract Chain of Custody

SAMPLING STATE: **Dept of Defense** **COC ID:** **14356**

SUBCONTRACT TO:

ALS Environmental Kelso
1317 S. 13th Avenue
Kelso, WA 98626

Phone: +1 360 501 3312

CUSTOMER INFORMATION:

Company:	ALS Houston
Contact:	RJ Modashia
Address:	10450 Stancliff Rd, Ste 210
Phone:	+1 281 530 5656
Email:	RJ.Modashia@alsglobal.com
Alternate Contact:	
Email:	

INVOICE INFORMATION:

Company:	ALS Houston
Contact:	Accounts Payable
Address:	10450 Stancliff Rd, Ste 210
Phone:	+1 281 530 5656
Reference:	HS20071033
TSR:	Sonia West

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	**HS20071033-03**	**16RW10-200720**	**Groundwater**	**20 Jul 2020 09:20**
	TOC Analysis with DOD Level IV/EQuIS APTIM EDD			05 Aug 2020
2.	**HS20071033-05**	**16PM06-200720**	**Groundwater**	**20 Jul 2020 11:00**
	TOC Analysis with DOD Level IV/EQuIS APTIM EDD			05 Aug 2020
3.	**HS20071033-06**	**16PM14-200720**	**Groundwater**	**20 Jul 2020 11:55**
	TOC Analysis with DOD Level IV/EQuIS APTIM EDD			05 Aug 2020

Comments: Please analyze for the analysis listed above.
Send report to the emails shown above.
HS20071033-03 & HS20071033-05 = MS/MSD

QC Level: DOD IV (DoD Data Package)

Relinquished By: _____ Date/Time: 7/23/2020 1800

Received By: _____ Date/Time: 7/24/20 0930

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

PC_____

Cooler Receipt and Preservation Form

Client AP-Houston Service Request *K20*

Received: 7/24/20 Opened: 7/24/20 By: BR Unloaded: 7/24/20 By: BR

1. Samples were received via? *USPS* (*Fed Ex*) *UPS* *DHL* *PDX* *Courier* *Hand Delivered*
2. Samples were received in: (circle) (*Cooler*) *Box* *Envelope* *Other*_____ *NA*
3. Were custody seals on coolers? NA (Y) N If yes, how many and where? Front
   If present, were custody seals intact? (Y) N If present, were they signed and dated? (Y) N

Temp Blank	Sample 1	Sample 2	Sample 3	Sample 4	IR GUN	Cooler / COC ID (NA)	Tracking Number NA	Filed
01	—	—	—	—	1801		1891 8578 6540	

4. Packing material: *Inserts* (*Baggies*) (*Bubble Wrap*) *Gel Packs* (*Wet Ice*) *Dry Ice* *Sleeves* _____
5. Were custody papers properly filled out (ink, signed, etc.)? NA (Y) N
6. Were samples received in good condition (temperature, unbroken)? *Indicate in the table below.* NA (Y) N
   If applicable, tissue samples were received: *Frozen* *Partially Thawed* *Thawed*
7. Were all sample labels complete (i.e analysis, preservation, etc.)? NA (Y) N
8. Did all sample labels and tags agree with custody papers? *Indicate major discrepancies in the table on page 2.* NA (Y) N
9. Were appropriate bottles/containers and volumes received for the tests indicated? NA (Y) N
10. Were the pH-preserved bottles (*see SMO GEN SOP*) received at the appropriate pH? *Indicate in the table below* NA (Y) N
11. Were VOA vials received without headspace? *Indicate in the table below.* (NA) Y N
12. Was C12/Res negative? (NA) Y N

Sample ID on Bottle	Sample ID on COC	Identified by:

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

*Notes, Discrepancies, & Resolutions:*_____

General Chemistry

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360)577-7222 Fax (360)636-1068
www.alsglobal.com

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	K2006280
Project:	HS20071033	**Date Collected:**	07/20/20
Sample Matrix:	Ground Water	**Date Received:**	07/24/20
Analysis Method:	SM 5310 C	**Units:**	mg/L
Prep Method:	None	**Basis:**	NA

Carbon, Total Organic

Sample Name	Lab Code	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
16RW10-200720	K2006280-001	**4.58**	0.50	0.20	0.07	1	08/10/20 11:49	
16PM06-200720	K2006280-002	**8.08**	0.50	0.20	0.07	1	08/10/20 11:49	
16PM14-200720	K2006280-003	**9.97**	0.50	0.20	0.07	1	08/10/20 11:49	
Method Blank	K2006280-MB	ND U	0.50	0.20	0.07	1	08/10/20 11:49	

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	K2006280
Project:	HS20071033	**Date Analyzed:**	08/10/20
Sample Matrix:	Ground Water	**Date Extracted:**	NA

Lab Control Sample Summary
Carbon, Total Organic

Analysis Method:	SM 5310 C	**Units:**	mg/L
Prep Method:	None	**Basis:**	NA
		Analysis Lot:	690342

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K2006280-LCS	24.6	25.0	98	83-117

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US **Service Request:** K2006280
Project: HS20071033

Continuing Calibration Verification (CCV) Summary

Carbon, Total Organic

Analysis Method: SM 5310 C **Units:** mg/L

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	690342	KQ2010989-03	08/10/20 11:49	25.0	24.8	99	90-110
CCV2	690342	KQ2010989-04	08/10/20 11:49	25.0	24.4	98	90-110
CCV3	690342	KQ2010989-10	08/10/20 11:49	25.0	24.4	98	90-110

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US **Service Request:**K2006280
Project: HS20071033

Continuing Calibration Blank (CCB) Summary
Carbon, Total Organic

Analysis Method: SM 5310 C **Units:**mg/L

	Analysis Lot	Lab Code	Date Analyzed	LOQ	LOD	MDL	Result	Q
CCB1	690342	KQ2010989-05	08/10/20 11:49	0.50	0.20	0.07	ND	U
CCB2	690342	KQ2010989-06	08/10/20 11:49	0.50	0.20	0.07	ND	U
CCB3	690342	KQ2010989-09	08/10/20 11:49	0.50	0.20	0.07	ND	U

Raw Data

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360)577-7222 Fax (360)636-1068
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General Chemistry

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
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www.alsglobal.com

Work Request # 6332 6345 6376 6497 6257 6280 6330

Tier: IV II IV IV IV IV IV

Date Analyzed: 8-10-20 6331 IV 6357 I 6373 IV 6498 IV 6506 II 6651 II

Analyst: MK Run # 690342 | 690414

Analysis: TOC

DATA QUALITY REPORT
INORGANICS

Explain any "no" responses to questions below, and any corrective actions in the comments section below.

1.	Is the method name and number correct and appropriate?	(yes)/no/NA
2.	Holding times met for all analyses and for all samples?	(yes)/no/NA
3.	Are calculations correct?	(yes)/no/NA
4.	Is the reporting basis correct? (Dry Weight)	(yes)/no/NA
5.	All quality control criteria met?	(yes)/no
6.	Is the calibration curve correlation coefficient ≥ 0.995?	(yes)/no/NA
7.	MBs, CCVs, CCBs, LCSs, Dups, and Spikes, analyzed at proper frequency?	(yes)/no/NA
8.	Are ICVs, CCVs, and CCBs all within acceptance limits?	(yes)/no/NA
9.	Are results for methods blanks all ND?	(yes)/no/NA
10.	Are all QC samples within acceptance criteria? (LCS % rec, MS/DMS % rec, DUP or MS/DMS RPDs, etc.)	(yes)/no/NA
11.	Are all exceptions explained?	(yes)/no/NA
12.	Have all applicable service requests been reviewed?	(yes)/no/NA
13.	Are all samples labeled correctly?	(yes)/no/NA
14.	Have all instructions on the service request been followed? (e.g. Special MRLs, QC on a specific sample, Form V)	(yes)/no/NA
15.	Are detection limits and units reported correctly?	(yes)/no/NA
16.	Is the unused space on the benchsheet crossed out?	(yes)/no/NA
17.	Was analysis turned in by the due date? (n-2) (If not record SR#)	(yes)/no/NA

COMMENTS:

Final Approved by: _____ Date: 8/11/20

DQREPORT

Analytical Results Summary

Instrument Name: K-TOC-01 **Analyst:** MKANALY **Analysis Lot:** 690414 **Method/Testcode:** SM 5310 C/TOC T

Lab Code	Target Analytes	QC	Parent Sample	Matrix	Raw Result	Sample Amt.	Final Result	Dil	MDL	PQL	% Rec	% RSD	Date Analyzed	QC?	Tier
K2006332-001	Carbon, Total Organic	N/A		Water	0.65 mg/L	10 mL	0.65 mg/L	1	0.07	0.50			8/10/20 08:15:00	N	IV
K2006345-001	Carbon, Total Organic	N/A		Water	0.59 mg/L	10 mL	0.59 mg/L	1	0.07	0.50			8/10/20 08:15:00	N	II
K2006345-002	Carbon, Total Organic	N/A		Water	0.66 mg/L	10 mL	0.66 mg/L	1	0.07	0.50			8/10/20 08:15:00	N	II
K2006345-003	Carbon, Total Organic	N/A		Water	0.81 mg/L	10 mL	0.81 mg/L	1	0.07	0.50			8/10/20 08:15:00	N	II
K2006345-004	Carbon, Total Organic	N/A		Water	0.72 mg/L	10 mL	0.72 mg/L	1	0.07	0.50			8/10/20 08:15:00	N	II
K2006345-005	Carbon, Total Organic	N/A		Water	0.68 mg/L	10 mL	0.68 mg/L	1	0.07	0.50			8/10/20 08:15:00	N	II
K2006345-006	Carbon, Total Organic	N/A		Water	0.40 mg/L	10 mL	0.40 mg/L J	1	0.07	0.50			8/10/20 08:15:00	N	II
K2006345-007	Carbon, Total Organic	N/A		Water	0.96 mg/L	10 mL	0.96 mg/L	1	0.07	0.50			8/10/20 08:15:00	N	II
K2006345-008	Carbon, Total Organic	N/A		Water	0.55 mg/L	10 mL	0.55 mg/L	1	0.07	0.50			8/10/20 08:15:00	N	II
K2006376-001	Carbon, Total Organic	N/A		Water	1.15 mg/L	10 mL	1.15 mg/L	1	0.07	0.50			8/10/20 08:15:00	N	IV
K2006376-002	Carbon, Total Organic	N/A		Water	1.58 mg/L	10 mL	1.58 mg/L	1	0.07	0.50			8/10/20 08:15:00	N	IV
K2006376-003	Carbon, Total Organic	N/A		Water	1.28 mg/L	10 mL	1.28 mg/L	1	0.07	0.50			8/10/20 08:15:00	N	IV
K2006497-001	Carbon, Total Organic	N/A		Ground Water	4.11 mg/L	10 mL	4.11 mg/L	1	0.07	0.50			8/10/20 08:15:00	N	IV
K2006497-004	Carbon, Total Organic	N/A		Ground Water	28.43 mg/L	10 mL	711 mg/L	25	2	13			8/10/20 08:15:00	N	IV
K2006497-005	Carbon, Total Organic	N/A		Ground Water	3.34 mg/L	10 mL	3.34 mg/L	1	0.07	0.50			8/10/20 08:15:00	N	IV
K2006497-006	Carbon, Total Organic	N/A		Ground Water	47.81 mg/L	10 mL	47.8 mg/L	1	0.07	0.50			8/10/20 08:15:00	N	IV
KQ2011025-01	Carbon, Total Organic	DUP	K2006376-003	Water	1.25 mg/L	10 mL	1.25 mg/L	1	0.07	0.50		2	8/10/20 08:15:00	N	IV
KQ2011025-02	Carbon, Total Organic	MS	K2006376-003	Water	27.72 mg/L	10 mL	27.7 mg/L	1	0.07	0.50	106		8/10/20 08:15:00	N	IV
KQ2011025-03	Carbon, Total Organic	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			8/10/20 08:15:00	N	IV
KQ2011025-04	Carbon, Total Organic	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			8/10/20 08:15:00	N	IV
KQ2011025-05	Carbon, Total Organic	CCB		Water	0.02 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			8/10/20 08:15:00	N	IV
KQ2011025-06	Carbon, Total Organic	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			8/10/20 08:15:00	N	IV
KQ2011025-07	Carbon, Total Organic	CCV		Water	24.39 mg/L	10 mL	24.4 mg/L	1					8/10/20 08:15:00	N	IV
KQ2011025-08	Carbon, Total Organic	CCV		Water	24.42 mg/L	10 mL	24.4 mg/L	1					8/10/20 08:15:00	N	IV
KQ2011025-09	Carbon, Total Organic	CCV		Water	24.80 mg/L	10 mL	24.8 mg/L	1					8/10/20 08:15:00	N	IV
KQ2011025-10	Carbon, Total Organic	CCV		Water	24.03 mg/L	10 mL	24.0 mg/L	1					8/10/20 08:15:00	N	IV
KQ2011025-11	Carbon, Total Organic	MB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			8/10/20 08:15:00	N	IV
KQ2011025-12	Carbon, Total Organic	LCS		Water	24.40 mg/L	10 mL	24.4 mg/L	1	0.07	0.50	98		8/10/20 08:15:00	N	IV

# indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

Analytical Results Summary

Instrument Name: K-TOC-01 **Analyst:** MKANALY **Analysis Lot:** 690342 **Method/Testcode:** SM 5310 C/TOC T

Lab Code	Target Analytes	QC	Parent Sample	Matrix	Raw Result	Sample Amt.	Final Result	Dil	MDL	PQL	% Rec	% RSD	Date Analyzed	QC?	Tier
K2006257-001	Carbon, Total Organic	N/A		Water	0.91 mg/L	10 mL	0.91 mg/L	1	0.07	0.50			8/10/20 11:49:00	N	IV
K2006280-001	Carbon, Total Organic	N/A		Ground Water	4.58 mg/L	10 mL	4.58 mg/L	1	0.07	0.50			8/10/20 11:49:00	N	IV
K2006280-002	Carbon, Total Organic	N/A		Ground Water	8.08 mg/L	10 mL	8.08 mg/L	1	0.07	0.50			8/10/20 11:49:00	N	IV
K2006280-003	Carbon, Total Organic	N/A		Ground Water	9.97 mg/L	10 mL	9.97 mg/L	1	0.07	0.50			8/10/20 11:49:00	N	IV
K2006330-001	Carbon, Total Organic	N/A		Water	1.70 mg/L	10 mL	1.70 mg/L	1	0.07	0.50			8/10/20 11:49:00	N	IV
K2006330-002	Carbon, Total Organic	N/A		Water	1.51 mg/L	10 mL	1.51 mg/L	1	0.07	0.50			8/10/20 11:49:00	N	IV
K2006330-003	Carbon, Total Organic	N/A		Water	1.87 mg/L	10 mL	1.87 mg/L	1	0.07	0.50			8/10/20 11:49:00	N	IV
K2006331-001	Carbon, Total Organic	N/A		Water	0.88 mg/L	10 mL	0.88 mg/L	1	0.07	0.50			8/10/20 11:49:00	N	IV
K2006331-002	Carbon, Total Organic	N/A		Water	1.01 mg/L	10 mL	1.01 mg/L	1	0.07	0.50			8/10/20 11:49:00	N	V
K2006357-001	Carbon, Total Organic	N/A		Water	40.99 mg/L	10 mL	41.0 mg/L	1	0.07	0.50			8/10/20 11:49:00	N	I
K2006373-001	Carbon, Total Organic	N/A		Water	1.95 mg/L	10 mL	1.95 mg/L	1	0.07	0.50			8/10/20 11:49:00	N	II
K2006498-001	Carbon, Total Organic	N/A		Water	2.77 mg/L	10 mL	2.77 mg/L	1	0.07	0.50			8/10/20 11:49:00	N	IV
K2006506-001	Carbon, Total Organic	N/A		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			8/10/20 11:49:00	N	II
K2006651-001	Carbon, Total Organic	N/A		Water	2.24 mg/L	10 mL	2.24 mg/L	1	0.07	0.50			8/10/20 11:49:00	N	II
KQ2010989-01	Carbon, Total Organic	DUP	K2006373-001	Water	1.96 mg/L	10 mL	1.96 mg/L	1	0.07	0.50		<1	8/10/20 11:49:00	N	II
KQ2010989-02	Carbon, Total Organic	MS	K2006373-001	Water	28.22 mg/L	10 mL	28.2 mg/L	1	0.07	0.50	105		8/10/20 11:49:00	N	II
KQ2010989-03	Carbon, Total Organic	CCV		Water	24.83 mg/L	10 mL	24.8 mg/L	1					8/10/20 11:49:00	N	II
KQ2010989-04	Carbon, Total Organic	CCV		Water	24.39 mg/L	10 mL	24.4 mg/L	1					8/10/20 11:49:00	N	II
KQ2010989-05	Carbon, Total Organic	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			8/10/20 11:49:00	N	II
KQ2010989-06	Carbon, Total Organic	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			8/10/20 11:49:00	N	II
KQ2010989-07	Carbon, Total Organic	MB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			8/10/20 11:49:00	N	II
KQ2010989-08	Carbon, Total Organic	LCS		Water	24.61 mg/L	10 mL	24.6 mg/L	1	0.07	0.50	98		8/10/20 11:49:00	N	II
KQ2010989-09	Carbon, Total Organic	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			8/10/20 11:49:00	N	V
KQ2010989-10	Carbon, Total Organic	CCV		Water	24.42 mg/L	10 mL	24.4 mg/L	1					8/10/20 11:49:00	N	V

# indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

690342
690414

Schedule: 081020PART

Version: 5
Instrument: Fusion1
Last Saved by: Fusion1 (Fusion1)
Last Saved on: 2020/08/11 08:15 - Tuesday

Position	Sample Type	Sample ID	Method ID (Calibration ID)	Reps	Use	State
(Clean)	Clean	Clean		1	True	Ready
(Clean)	Clean	Clean		1	True	Ready
(Clean)	Clean	Clean		1	True	Ready
(Blank)	Blank	Reagent/Acid Blank		1	True	Ready
D	Sample	RB	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
B	Check Standard	[TOC] CCV 25 ppm [25 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
D	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
1	Sample	MB1	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
C	Check Standard	[TOC] LCS [24.0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
2	Sample	ICS	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
3	Sample	k2006373-001	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
4	Sample	K2006373-001D	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
5	Sample	K2006373-001MS	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
6	Sample	K2006330-001	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
7	Sample	K2006330-002	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
8	Sample	K2006330-003	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
9	Sample	K2006331-001	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
B	Check Standard	[TOC] CCV 25 ppm [25 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
D	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
10	Sample	K2006331-002	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
11	Sample	K2006280-001	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
12	Sample	K2006280-002	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
13	Sample	K2006280-003	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
14	Sample	K2006257-001	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
15	Sample	K2006357-001	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
16	Sample	K2006498-001	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
17	Sample	K2006651-001	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
18	Sample	K2006506-001	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
19	Sample	K2006376-001	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
B	Check Standard	[TOC] CCV 25 ppm [25 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
D	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
20	Sample	MB2	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
C	Check Standard	[TOC] LCS [24.0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
21	Sample	K2006376-002	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
22	Sample	K2006376-003	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
23	Sample	K2006376-003D	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
24	Sample	K2006376-003MS	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
25	Sample	K2006497-001	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
26	Sample	K2006497-004 25X	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
27	Sample	K2006497-005	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
28	Sample	K2006497-006 20X	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
B	Check Standard	[TOC] CCV 25 ppm [25 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
D	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
29	Sample	K2006345-001	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
30	Sample	K2006345-002	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
31	Sample	K2006345-003	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
32	Sample	K2006345-004	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
33	Sample	K2006345-005	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
34	Sample	K2006345-006	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
35	Sample	K2006345-007	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
36	Sample	K2006345-008	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
37	Sample	K2006332-001	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
38	Sample	RB	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
B	Check Standard	[TOC] CCV 25 ppm [25 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready

Schedule: 081020PART

Position	Sample Type	Sample ID	Method ID (Calibration ID)	Reps	Use	State
D	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
1	Sample		CAS_salt_010711 (CAS_salt_010711)	1	False	Ready
					False	

Fusion Report - 081020
Monday, August 10, 2020 08:55 AM

(View - Reps, Unused Reps, Meta-Data, Signature, History)
Printed on 2020/08/11 08:18 - Tuesday

Report Summary Information

Company Location:	Gen Chem Lab		
Schedule Name:	081020	Engine Version:	1.1.5.1
Instrument Name:	Fusion1	Firmware Version:	1.2.0696
Report Version:	1 of 1	Connection:	RS232 COM1
Report Creation by Operators (schedule version):	Fusion1 (Fusion1) (v1) Fusion1 (Fusion1) (v2) Fusion1 (Fusion1) (v3) Fusion1 (Fusion1) (v8) Fusion1 (Fusion1) (v10)		
Comment:			

Report Results

Sample Type: Clean — From Schedule Version 1

	Pos	Analysis Type	Sample ID	Start Time
◆	(clean)		Clean	2020/08/10 08:55

Rep #	Base Analysis Type	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	IC Clean	13.59	27.10	13.51	49.75	07:58
2	TC Clean	14.25	27.50	13.25	49.52	07:15
3	TC Clean	3.51	16.73	13.23	49.83	07:00
4	TC Clean	2.18	15.49	13.31	49.61	07:02

Sample Type: Clean — From Schedule Version 1

	Pos	Analysis Type	Sample ID	Start Time
◆	(clean)		Clean	2020/08/10 09:29

Rep #	Base Analysis Type	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	IC Clean	-0.11	13.08	13.19	49.85	07:59
2	TC Clean	6.75	19.98	13.23	49.89	07:14
3	TC Clean	2.26	15.29	13.04	49.69	07:00

4	TC Clean	1.70	14.66	12.96	49.89	07:03

Sample Type: Clean From Schedule Version 1

	Pos	Analysis Type	Sample ID	Start Time
◆	(clean)		Clean	2020/08/10 10:03

Rep #	Base Analysis Type	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	IC Clean	-0.12	12.95	13.07	49.69	05:20
2	TC Clean	5.87	18.80	12.93	49.79	07:15
3	TC Clean	1.45	14.56	13.12	49.95	07:01
4	TC Clean	1.06	14.24	13.18	49.85	07:00

Sample Type: Blank (Creating v1431) From Schedule Version 2

	Pos	Analysis Type	Sample ID	Start Time
◆	(blank)		Reagent/Acid Blank	2020/08/10 10:34

Rep #	Base Analysis Type	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	IC Clean	-0.38	12.81	13.19	49.55	05:15
2	TC Clean	5.58	18.69	13.10	49.98	07:17
3	TC Clean	1.28	14.48	13.19	49.82	07:00
4	TC Clean	1.17	14.37	13.20	49.76	07:02
5	Reagent Blank	5.19	18.27	13.09	49.97	08:09
6	Acid Blank	0.27	13.25	12.98	49.61	05:31

Sample Type: Sample From Schedule Version 2

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	D	TOC	RB	0.2109 ppm	0.0000 ppm	0.0000%	2020/08/10 11:21

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.2109	2.1088	10.73	23.88	13.15	50.04	10:33

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2487 (IC) (v1431)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> CCV 25 ppm From Schedule Version 2

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	B	TOC	25.0000	1:2	[TOC] CCV 25 ppm [25 ppm]	0 / infinity (NA / NA)	24.8308 ppm (PASS)	0.0000 ppm	0%	2020/08/10 11:35

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	24.8308	248.3083	184.08	197.28	13.20	49.97	10:29

Completion State	Success Action	Method	Calibration	STD Conc - Pos B
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	50 ppmC

Sample Type: Check Standard --> CCB From Schedule Version 2

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	D	TOC	0.0000	1:1	[TOC] CCB [0 ppm]	0 / infinity (NA / NA)	0.0000 ppm (PASS)	0.0000 ppm	0%	2020/08/10 11:50

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.0000	0.0000	8.88	22.18	13.30	49.99	10:34

Completion State	Success Action	Method	Calibration	STD Conc - Pos D
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	0 ppmC

Sample Type: Sample From Schedule Version 2

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	1	TOC	MB1	0.0000 ppm	0.0000 ppm	0.0000%	2020/08/10 12:05

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0000	0.0000	8.47	21.52	13.04	49.99	10:33

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2487 (IC) (v1431)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> LCS From Schedule Version 2

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	C	TOC	25.0000	1:1	[TOC] LCS [24.0 ppm]	0 / infinity (NA / NA)	24.6086 ppm (PASS)	0.0000 ppm	0%	2020/08/10 12:20

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
C	TOC	25.0 ppm	1	24.6086	246.0858	182.52	195.71	13.19	49.95	10:33

Completion State	Success Action	Method	Calibration	STD Conc - Pos C
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	25 ppmC

Sample Type: Sample From Schedule Version 2

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	2	TOC	ICS	0.5519 ppm	0.0000 ppm	0.0000%	2020/08/10 12:34

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.5519	5.5187	13.12	26.29	13.17	50.03	10:31

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2487 (IC) (v1431)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	3	TOC	k2006373-001	1.9518 ppm	0.0561 ppm	2.8800%	2020/08/10 12:49

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.9915	19.9154	23.22	36.45	13.24	49.99	10:28
2	TOC	1.9121	19.1213	22.66	35.92	13.26	50.00	10:28

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2487 (IC) (v1431)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	4	TOC	K2006373-001D	1.9556 ppm	0.0411 ppm	2.1000%	2020/08/10 13:17

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.9847	19.8469	23.17	36.39	13.22	50.01	10:26
2	TOC	1.9265	19.2653	22.76	35.91	13.15	50.05	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2487 (IC) (v1431)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	5	TOC	K2006373-001MS	28.2182 ppm	0.2043 ppm	0.7200%	2020/08/10 13:45

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	28.3627	283.6268	208.21	221.40	13.20	49.96	10:29
2	TOC	28.0737	280.7372	206.18	219.49	13.30	50.03	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2487 (IC) (v1431)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Sample — From Schedule Version 3

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	6	TOC	K2006330-001	1.6954 ppm	0.0526 ppm	3.1000%	2020/08/10 14:13

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.7327	17.3266	21.40	34.67	13.27	50.04	10:28
2	TOC	1.6582	16.5824	20.88	34.22	13.34	50.02	10:29

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2487 (IC) (v1431)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Sample — From Schedule Version 8

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	7	TOC	K2006330-002	1.5085 ppm	0.0001 ppm	0.0100%	2020/08/10 14:41

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.5086	15.0856	19.83	33.00	13.17	49.98	10:29
2	TOC	1.5084	15.0842	19.83	32.96	13.13	49.99	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2487 (IC) (v1431)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Sample — From Schedule Version 10

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	8	TOC	K2006330-003	1.8656 ppm	0.0104 ppm	0.5600%	2020/08/10 15:09

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.8582	18.5825	22.28	35.40	13.12	50.00	10:28
2	TOC	1.8729	18.7293	22.39	35.66	13.27	49.99	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2487 (IC) (v1431)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	9	TOC	K2006331-001	0.8840 ppm	0.0414 ppm	4.6900%	2020/08/10 15:37

Rep	Base	ppm	µg	Adjusted	NDIR (Abs)	Baseline	Pressure	Run

#	Analysis Type			(Abs)		(Abs)	(psig)	Time
1	TOC	0.8547	8.5466	15.24	28.55	13.31	49.94	10:29
2	TOC	0.9132	9.1325	15.66	28.70	13.05	49.91	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2487 (IC) (v1431)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> CCV 25 ppm — From Schedule Version 10

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	B	TOC	25.0000	1:2	[TOC] CCV 25 ppm [25 ppm]	0 / infinity (NA / NA)	24.3916 ppm (PASS)	0.0000 ppm	0%	2020/08/10 16:05

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	24.3916	243.9161	181.00	194.02	13.02	49.89	10:34

Completion State	Success Action	Method	Calibration	STD Conc - Pos B
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	50 ppmC

Sample Type: Check Standard --> CCB — From Schedule Version 10

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	D	TOC	0.0000	1:1	[TOC] CCB [0 ppm]	0 / infinity (NA / NA)	0.0000 ppm (PASS)	0.0000 ppm	0%	2020/08/10 16:20

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.0000	0.0000	9.18	22.18	13.00	49.89	10:33

Completion State	Success Action	Method	Calibration	STD Conc - Pos D
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	0 ppmC

Sample Type: Sample — From Schedule Version 10

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	10	TOC	K2006331-002	1.0122 ppm	0.0062 ppm	0.6200%	2020/08/10 16:35

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.0078	10.0776	16.32	29.38	13.06	49.94	10:26
2	TOC	1.0166	10.1660	16.38	29.41	13.03	49.94	10:29

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2487 (IC)	CAS_salt_010711	CAS_salt_010711

(v1431) (v4) (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	11	TOC	K2006280-001	4.5755 ppm	0.0744 ppm	1.6300%	2020/08/10 17:03

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	4.6281	46.2810	41.71	54.81	13.10	49.94	10:26
2	TOC	4.5229	45.2289	40.98	54.22	13.25	50.00	10:28

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2487 (IC) (v1431)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	12	TOC	K2006280-002	8.0784 ppm	0.0939 ppm	1.1600%	2020/08/10 17:31

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	8.1448	81.4479	66.38	79.61	13.22	49.99	10:27
2	TOC	8.0119	80.1193	65.45	78.57	13.12	50.00	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2487 (IC) (v1431)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	13	TOC	K2006280-003	9.9674 ppm	0.0659 ppm	0.6600%	2020/08/10 17:59

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	10.0140	100.1397	79.49	92.60	13.11	50.00	10:26
2	TOC	9.9207	99.2074	78.84	92.01	13.17	50.04	10:28

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2487 (IC) (v1431)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	14	TOC	K2006257-001	0.9093 ppm	0.0326 ppm	3.5800%	2020/08/10 18:27

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.8863	8.8631	15.47	28.71	13.25	50.04	10:26
2	TOC	0.9324	9.3235	15.79	28.80	13.01	49.98	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2487 (IC) (v1431)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	15	TOC	K2006357-001	40.9877 ppm	0.0236 ppm	0.0600%	2020/08/10 18:55

Rep	Base	ppm	µg	Adjusted	NDIR (Abs)	Baseline	Pressure	Run

#	Analysis Type			(Abs)		(Abs)	(psig)	Time
1	TOC	41.0043	410.0433	296.89	310.11	13.22	50.02	10:27
2	TOC	40.9710	409.7098	296.65	309.94	13.29	50.01	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2487 (IC) (v1431)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	16	TOC	K2006498-001	2.7725 ppm	0.3219 ppm	11.6100%	2020/08/10 19:23

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	3.0001	30.0011	30.29	43.72	13.43	49.99	10:27
2	TOC	2.5449	25.4494	27.10	40.40	13.30	50.04	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2487 (IC) (v1431)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	17	TOC	K2006651-001	2.2441 ppm	0.0246 ppm	1.1000%	2020/08/10 19:51

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	2.2615	22.6154	25.11	38.47	13.36	49.95	10:31
2	TOC	2.2268	22.2675	24.87	38.13	13.26	49.96	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2487 (IC) (v1431)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	18	TOC	K2006506-001	0.0000 ppm	0.0000 ppm	0.0000%	2020/08/10 20:19

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0000	0.0000	8.83	22.12	13.29	49.94	10:26
2	TOC	0.0000	0.0000	8.72	21.85	13.13	49.95	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2487 (IC) (v1431)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	19	TOC	K2006376-001	1.1534 ppm	0.0430 ppm	3.7300%	2020/08/10 20:47

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.1229	11.2295	17.13	30.17	13.05	49.93	10:29
2	TOC	1.1838	11.8382	17.55	30.64	13.09	49.97	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2487 (IC) (v1431)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> CCV 25 ppm From Schedule Version 10

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	B	TOC	25.0000	1:2	[TOC] CCV 25 ppm [25 ppm]	0 / infinity (NA / NA)	24.4188 ppm (PASS)	0.0000 ppm	0%	2020/08/10 21:15

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	24.4188	244.1884	181.19	194.34	13.16	49.89	10:32

Completion State	Success Action	Method	Calibration	STD Conc - Pos B
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	50 ppmC

Sample Type: Check Standard --> CCB From Schedule Version 10

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	D	TOC	0.0000	1:1	[TOC] CCB [0 ppm]	0 / infinity (NA / NA)	0.0000 ppm (PASS)	0.0000 ppm	0%	2020/08/10 21:30

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.0000	0.0000	9.15	22.32	13.18	49.86	10:28

Completion State	Success Action	Method	Calibration	STD Conc - Pos D
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	0 ppmC

Sample Type: Sample From Schedule Version 10

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	20	TOC	MB2	0.0000 ppm	0.0000 ppm	0.0000%	2020/08/10 21:45

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0000	0.0000	8.98	21.99	13.01	49.89	10:29

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2487 (IC) (v1431)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> LCS From Schedule Version 10

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	C	TOC	25.0000	1:1	[TOC] LCS [24.0 ppm]	0 / infinity (NA / NA)	24.4024 ppm (PASS)	0.0000 ppm	0%	2020/08/10 21:59

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
C	TOC	25.0 ppm	1	24.4024	244.0245	181.07	194.01	12.94	49.84	10:32

Completion State	Success Action	Method	Calibration	STD Conc - Pos C
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	25 ppmC

Sample Type: Sample From Schedule Version 10

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	21	TOC	K2006376-002	1.5778 ppm	0.0050 ppm	0.3200%	2020/08/10 22:14

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.5743	15.7428	20.29	33.29	12.99	49.80	10:27
2	TOC	1.5814	15.8141	20.34	33.46	13.11	49.89	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2487 (IC) (v1431)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	22	TOC	K2006376-003	1.2830 ppm	0.0367 ppm	2.8600%	2020/08/10 22:42

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.3090	13.0898	18.43	31.63	13.20	49.83	10:27
2	TOC	1.2571	12.5709	18.07	31.19	13.12	49.81	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2487 (IC) (v1431)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	23	TOC	K2006376-003D	1.2546 ppm	0.0045 ppm	0.3600%	2020/08/10 23:10

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.2514	12.5139	18.03	31.22	13.19	49.77	10:29
2	TOC	1.2578	12.5781	18.07	31.32	13.25	49.93	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2487 (IC) (v1431)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	24	TOC	K2006376-003MS	27.7238 ppm	0.1223 ppm	0.4400%	2020/08/10 23:38

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	27.6374	276.3736	203.12	216.24	13.12	49.88	10:29
2	TOC	27.8103	278.1028	204.33	217.53	13.20	49.88	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2487 (IC) (v1431)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	25	TOC	K2006497-001	4.1088 ppm	0.0689 ppm	1.6800%	2020/08/11 00:06

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	4.1575	41.5752	38.41	51.46	13.05	49.89	10:25
2	TOC	4.0600	40.6001	37.73	50.78	13.05	49.88	10:28

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2487 (IC) (v1431)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	26	TOC	K2006497-004 25X	28.4315 ppm	0.0059 ppm	0.0200%	2020/08/11 00:34

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	28.4357	284.3567	208.72	221.85	13.13	49.88	10:29
2	TOC	28.4273	284.2726	208.66	221.86	13.20	49.88	10:29

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2487 (IC) (v1431)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	27	TOC	K2006497-005	3.3441 ppm	0.1282 ppm	3.8300%	2020/08/11 01:02

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	3.4348	34.3477	33.34	46.49	13.15	49.85	10:26
2	TOC	3.2534	32.5344	32.07	45.30	13.23	49.87	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2487 (IC) (v1431)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	28	TOC	K2006497-006	47.8055 ppm	0.4564 ppm	0.9500%	2020/08/11 01:30

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	48.1282	481.2824	346.86	359.97	13.11	49.91	10:28
2	TOC	47.4828	474.8275	342.33	355.53	13.20	49.88	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2487 (IC) (v1431)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> CCV 25 ppm From Schedule Version 10

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	B	TOC	25.0000	1:2	[TOC] CCV 25 ppm [25 ppm]	0 / infinity (NA / NA)	24.7965 ppm (PASS)	0.0000 ppm	0%	2020/08/11 01:58

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	24.7965	247.9647	183.83	197.18	13.34	49.93	10:33

Completion State	Success Action	Method	Calibration	STD Conc - Pos B
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	50 ppmC

Sample Type: Check Standard --> CCB From Schedule Version 10

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	D	TOC	0.0000	1:1	[TOC] CCB [0 ppm]	0 / infinity (NA / NA)	0.0208 ppm (PASS)	0.0000 ppm	0%	2020/08/11 02:13

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.0208	0.2081	10.04	23.22	13.18	49.94	10:32

Completion State	Success Action	Method	Calibration	STD Conc - Pos D
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	0 ppmC

Sample Type: Sample From Schedule Version 10

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	29	TOC	K2006345-001	0.5919 ppm	0.0067 ppm	1.1200%	2020/08/11 02:28

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.5966	5.9663	13.43	26.85	13.41	49.97	10:31
2	TOC	0.5872	5.8723	13.37	26.74	13.38	49.95	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2487 (IC) (v1431)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	30	TOC	K2006345-002	0.6574 ppm	0.0176 ppm	2.6800%	2020/08/11 02:56

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.6699	6.6991	13.95	27.23	13.28	49.97	10:28
2	TOC	0.6450	6.4496	13.77	27.14	13.37	49.99	10:27

Dilution	Blank Contribution	Method	Calibration

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2487 (IC) (v1431)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	31	TOC	K2006345-003	0.8083 ppm	0.0132 ppm	1.6300%	2020/08/11 03:24

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.7989	7.9892	14.85	28.51	13.66	49.99	10:29
2	TOC	0.8176	8.1759	14.98	28.41	13.42	50.04	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2487 (IC) (v1431)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	32	TOC	K2006345-004	0.7226 ppm	0.0188 ppm	2.6100%	2020/08/11 03:52

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.7359	7.3591	14.41	27.78	13.37	50.03	10:30
2	TOC	0.7093	7.0925	14.22	27.64	13.42	50.03	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2487 (IC) (v1431)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	33	TOC	K2006345-005	0.6797 ppm	0.0142 ppm	2.0900%	2020/08/11 04:20

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.6696	6.6962	13.95	27.22	13.27	50.06	10:26
2	TOC	0.6897	6.8972	14.09	27.33	13.24	50.06	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2487 (IC) (v1431)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	34	TOC	K2006345-006	0.3956 ppm	0.0006 ppm	0.1500%	2020/08/11 04:48

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.3952	3.9520	12.02	25.28	13.26	50.06	10:30
2	TOC	0.3961	3.9606	12.03	25.34	13.31	50.07	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2487 (IC) (v1431)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	35	TOC	K2006345-007	0.9566 ppm	0.0433 ppm	4.5300%	2020/08/11 05:16

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.9259	9.2594	15.74	29.02	13.28	50.04	10:26
2	TOC	0.9872	9.8724	16.17	29.78	13.61	50.06	10:29

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2487 (IC) (v1431)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	36	TOC	K2006345-008	0.5492 ppm	0.0325 ppm	5.9100%	2020/08/11 05:44

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.5262	5.2621	12.94	26.39	13.45	50.04	10:25
2	TOC	0.5721	5.7211	13.26	26.71	13.45	50.04	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2487 (IC) (v1431)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	37	TOC	K2006332-001	0.6516 ppm	0.0132 ppm	2.0300%	2020/08/11 06:12

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.6423	6.4225	13.75	27.06	13.31	50.04	10:28
2	TOC	0.6609	6.6093	13.89	27.18	13.30	50.05	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2487 (IC) (v1431)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	38	TOC	RB	0.0000 ppm	0.0000 ppm	0.0000%	2020/08/11 06:40

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0000	0.0000	7.95	21.50	13.55	50.04	10:28
2	TOC	0.0000	0.0000	8.38	21.83	13.45	50.07	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2487 (IC) (v1431)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> CCV 25 ppm From Schedule Version 10

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	B	TOC	25.0000	1:2	[TOC] CCV 25 ppm [25 ppm]	0 / infinity (NA / NA)	24.0278 ppm (PASS)	0.0000 ppm	0%	2020/08/11 07:08

Pos	Base Analysis	ID	Rep	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run

	Type		#							Time
B	TOC	25 ppm	1	24.0278	240.2781	178.44	191.91	13.47	50.04	10:29

Completion State	Success Action	Method	Calibration	STD Conc - Pos B
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	50 ppmC

Sample Type: Check Standard --> CCB From Schedule Version 10

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	D	TOC	0.0000	1:1	[TOC] CCB [0 ppm]	0 / infinity (NA / NA)	0.0000 ppm (PASS)	0.0000 ppm	0%	2020/08/11 07:23

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.0000	0.0000	9.09	22.59	13.50	49.97	10:31

Completion State	Success Action	Method	Calibration	STD Conc - Pos D
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	0 ppmC

Sample Type: Sample From Schedule Version 10

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	39	TOC	MB3	0.0016 ppm	0.0000 ppm	0.0000%	2020/08/11 07:38

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0016	0.0161	9.26	22.48	13.22	49.98	10:30

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2487 (IC) (v1431)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> LCS From Schedule Version 10

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	C	TOC	25.0000	1:1	[TOC] LCS [25.0 ppm]	0 / infinity (NA / NA)	23.7533 ppm (PASS)	0.0000 ppm	0%	2020/08/11 07:52

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
C	TOC	25.0 ppm	1	23.7533	237.5325	176.52	189.89	13.38	49.92	10:28

Completion State	Success Action	Method	Calibration	STD Conc - Pos C
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	25 ppmC

Sample Type: Sample From Schedule Version 10

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	40	TOC		NaN	NaN	NaN%	2020/08/11 08:07

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time

Dilution 1:10 **Method** CAS_salt_010711 (v4) **Calibration** CAS_salt_010711 (v38)

Meta Data Used in this Report

Blanks

Version	Reagent (Abs)	Acid (Abs)	DI IC (Abs)	DI TC (Abs)	DI TOC (Abs)	Save Time	Operator
v1430	1.9877	0.5570	0.0000	0.0000	0.0000	2020/08/08 14:36	Fusion1 (Fusion1)
v1431	1.7293	0.2720	0.0000	0.0000	0.0000	2020/08/10 11:21	Fusion1 (Fusion1)

Calibrations

Name: CAS_salt_010711 (TOC)

Version: v38
Ver Creation: 2020/06/13 16:40
Comment:
Operator: Fusion1 (Fusion1)
Basic Analysis Type: TOC
Calibration curve formula: TOC: y = 7.015x + 9.892
r^2 value: TOC: r^2 = 0.99974

Basic Analysis Type: TOC

Sample ID	Y Raw Value	X Expected	Message	End Time
DI Water	9.5750	0.0000		2020/06/13 15:13
0.500 ppm	12.9010	0.5000		2020/06/13 15:28
1.0 ppm	15.6320	1.0000		2020/06/13 15:42
5.0 ppm	43.2510	5.0000		2020/06/13 15:56
10 ppm	82.4040	10.0000		2020/06/13 16:11
25 ppm	188.6880	25.0000		2020/06/13 16:25
50 ppm	358.6500	50.0000		2020/06/13 16:39

Methods

Name: CAS_salt_010711 (TOC)

Version: v4 Operator: Fusion1 (Fusion1)
Ver Creation: 2019/02/21 17:57
Comment:

Parameter	Value
SampleVolume	10.0 mL
Dilution	1:10
AcidVolume	0.5 ml
ReagentVolume	2.0 ml
UVReactorPrerinse	Off
UVReactorPrerinseVolume	5.0
NumberOfUVReactorPrerinses	1
ICSpargeTime	1.00 mins
DetectorSweepFlow	500 ml/min
PreSpargeTime	2.00 mins
SystemFlow	500 ml/min

Advanced Parameter	Value
NeedleRinseVolume	5.0 ml
VialPrimeVolume	2.0 ml
ICSamplePrimeVolume	2.0 ml
ICSpargeRinseVolume	12.0 ml
BaselineStabilizeTime	0.70 min
DetectorPressureFlow	150 ml/min
SyringeSpeedWaste	10
SyringeSpeedAcid	7
SyringeSpeedReagent	7
SyringeSpeedDIWater	7
NDIRPressurization	60 psig
SyringeSpeedSampleDispense	5
SyringeSpeedSampleAspirate	4
SyringeSpeedUVDispense	5
SyringeSpeedUVAspirate	5
SyringeSpeedICDispense	5
SyringeSpeedICAspirate	5
NDIRPressureStabilize	1.75 min
SampleMixing	Off
SampleMixingCycles	1
SampleMixingVolume	10.0
LowLevelFilterNDIR	Off

Acceptance / Approval

Electronic Signatures

Report Version	User Name	Acceptance	Reason	Date

Report History

Report History

Report Version	User Name	System Reason	User Reason	Date
1	Fusion1 (Fusion1)	Schedule completed	Schedule completed	2020/08/11 08:17

ALS Environmental

StarLIMS Run: 690342/690414

Analysis: DOC/TOC

Method: SM 5310 C, 9060A, 415.1, 9060

CCV: 19-GEN-8-15-C 50 ppm LCS: 19-GEN-8-31I 25.0 ppm

ICAL Date: 6/16/2020

ICAL ID: 19-GEN-8-22-G

ICS ID: 19-GEN-8-4-G

ICS TV: 25.0 ppm ICS % R < 1

Spike ID: 19-GEN-8-15-B 0.05 ml of 5000 ppm stock ---> 10.0 ml = 25.0 ppm x dilution factor

Sodium Persulfate: 19-GEN-08-32J

21 % H3PO4: 19-GEN-08-32I

Equipment ID: K-TOC-03

PIPETTE ID: 124276B, 129001F, N11314F, Marge

FILTER ID: 16967789

Analyzed By:	MK	Date Analyzed:	8-10-20
Reviewed By:		Date Reviewed:	8/11/20

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WorkOrder: HS20071033

Longhorn Army Ammunition Plant 16 July 2020

Aptim Environmental & Infrastucture, Inc.

Susan Huang
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Houston TX 77042

25-Aug-2020

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HS20071033 Longhorn Army Ammunition Plant
16 July 2020 Final

ALS WO# HS20071033

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August 17, 2020

Susan Huang
Aptim Environmental & Infrastucture, Inc.
2500 City West Blvd., Suite 1700
Houston, TX 77042

Work Order: **HS20071033**

Laboratory Results for: **Longhorn Army Ammunition Plant 16 July 2020**

Dear Susan Huang,

ALS Environmental received 9 sample(s) on Jul 22, 2020 for the analysis presented in the following report.

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

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

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

Sincerely,

Generated By: JUMOKE.LAWAL
RJ Modashia
Project Manager

ALS Houston, US Date: 17-Aug-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 July 2020
Work Order: HS20071033

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS20071033-01	16WW44-200720	Groundwater		20-Jul-2020 07:45	22-Jul-2020 09:55	☐
HS20071033-02	16WW14-200720	Groundwater		20-Jul-2020 08:30	22-Jul-2020 09:55	☐
HS20071033-03	16RW10-200720	Groundwater		20-Jul-2020 09:20	22-Jul-2020 09:55	☐
HS20071033-04	16PM09-200720	Groundwater		20-Jul-2020 10:15	22-Jul-2020 09:55	☐
HS20071033-05	16PM06-200720	Groundwater		20-Jul-2020 11:00	22-Jul-2020 09:55	☐
HS20071033-06	16PM14-200720	Groundwater		20-Jul-2020 11:55	22-Jul-2020 09:55	☐
HS20071033-07	16PM02-200720	Groundwater		20-Jul-2020 12:45	22-Jul-2020 09:55	☐
HS20071033-08	16PM03-200720	Groundwater		20-Jul-2020 13:35	22-Jul-2020 09:55	☐
HS20071033-09	Trip Blank-200720	Water	CG-060320-201	20-Jul-2020 00:00	22-Jul-2020 09:55	☐

ALS Houston, US Date: 17-Aug-20

Client: Aptim Environmental & Infrastucture, Inc. **CASE NARRATIVE**
Project: Longhorn Army Ammunition Plant 16 July 2020
Work Order: HS20071033

Work Order Comments

• The analysis for TOC was subcontracted to ALS Environmental in Kelso WA. Final report attached.

Analysis of Perchlorate was performed by ALS Houston TX, High Resolution. Laboratory. Final report attached

GCMS Volatiles by Method SW8260

Batch ID: R365571

Sample ID: 16PM06-200720(HS20071033-05MS)

• MSand or MSD recovered outside the control limit, however, the result in the parent sample is greater than 4x the spike amount.cis-1,2-Dichloroethene, Trichloroethene

WetChemistry by Method SW9056

Batch ID: R365836

Sample ID: 16PM06-200720 (HS20071033-05)

• Sample ran at 5X due to high concentration of Sulfate

Sample ID: 16PM14-200720 (HS20071033-06)

• Sample ran at 5X due to high concentration of Sulfate

Sample ID: 16RW10-200720 (HS20071033-03)

• Sample ran at 5X due to high concentration of Sulfate

ALS Houston, US Date: 17-Aug-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 July 2020
Sample ID: 16WW44-200720
Collection Date: 20-Jul-2020 07:45

ANALYTICAL REPORT
WorkOrder:HS20071033
Lab ID:HS20071033-01
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	23-Jul-2020 13:45
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	23-Jul-2020 13:45
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	23-Jul-2020 13:45
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	23-Jul-2020 13:45
Methylene chloride	1.0	U	0.40	1.0	2.0	UG/L	1	23-Jul-2020 13:45
Trichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	23-Jul-2020 13:45
Vinyl chloride	0.50	U	0.20	0.50	1.0	UG/L	1	23-Jul-2020 13:45
Surr: 1,2-Dichloroethane-d4	*89.6*			**0**	*81-118*	*%REC*	*1*	*23-Jul-2020 13:45*
Surr: 4-Bromofluorobenzene	*99.5*			**0**	*85-114*	*%REC*	*1*	*23-Jul-2020 13:45*
Surr: Dibromofluoromethane	*93.7*			**0**	*80-119*	*%REC*	*1*	*23-Jul-2020 13:45*
Surr: Toluene-d8	*102*			**0**	*89-112*	*%REC*	*1*	*23-Jul-2020 13:45*
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: GR
Subcontract Analysis	See Attached		0	0		NA	1	06-Aug-2020 16:49

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

ALS Houston, US Date: 17-Aug-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 July 2020
Sample ID: 16WW14-200720
Collection Date: 20-Jul-2020 08:30

ANALYTICAL REPORT
WorkOrder:HS20071033
Lab ID:HS20071033-02
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	23-Jul-2020 14:09
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	23-Jul-2020 14:09
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	23-Jul-2020 14:09
cis-1,2-Dichloroethene	**1.4**		**0.20**	**0.50**	**1.0**	**UG/L**	1	23-Jul-2020 14:09
Methylene chloride	1.0	U	0.40	1.0	2.0	UG/L	1	23-Jul-2020 14:09
Trichloroethene	**42**		**0.20**	**0.50**	**1.0**	**UG/L**	1	23-Jul-2020 14:09
Vinyl chloride	**0.61**	J	**0.20**	**0.50**	**1.0**	**UG/L**	1	23-Jul-2020 14:09
Surr: 1,2-Dichloroethane-d4	*89.3*			**0**	*81-118*	*%REC*	*1*	*23-Jul-2020 14:09*
Surr: 4-Bromofluorobenzene	*98.0*			**0**	*85-114*	*%REC*	*1*	*23-Jul-2020 14:09*
Surr: Dibromofluoromethane	*91.3*			**0**	*80-119*	*%REC*	*1*	*23-Jul-2020 14:09*
Surr: Toluene-d8	*102*			**0**	*89-112*	*%REC*	*1*	*23-Jul-2020 14:09*
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: GR
Subcontract Analysis	See Attached		0	0		NA	1	06-Aug-2020 16:49

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

ALS Houston, US Date: 17-Aug-20

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: Longhorn Army Ammunition Plant 16 July 2020 WorkOrder:HS20071033
Sample ID: 16RW10-200720 Lab ID:HS20071033-03
Collection Date: 20-Jul-2020 09:20 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	5.0	U	1.5	5.0	5.0	UG/L	5	23-Jul-2020 15:21
1,1-Dichloroethene	**17**		**1.0**	**2.5**	**5.0**	**UG/L**	5	23-Jul-2020 15:21
1,2-Dichloroethane	**4.0**	J	**1.0**	**2.5**	**5.0**	**UG/L**	5	23-Jul-2020 15:21
cis-1,2-Dichloroethene	**290**		**1.0**	**2.5**	**5.0**	**UG/L**	5	23-Jul-2020 15:21
Methylene chloride	5.0	U	2.0	5.0	10	UG/L	5	23-Jul-2020 15:21
Trichloroethene	**1,800**		**5.0**	**12**	**25**	**UG/L**	25	23-Jul-2020 14:33
Vinyl chloride	**80**		**1.0**	**2.5**	**5.0**	**UG/L**	5	23-Jul-2020 15:21
Surr: 1,2-Dichloroethane-d4	*90.6*			**0**	*81-118*	*%REC*	*5*	*23-Jul-2020 15:21*
Surr: 1,2-Dichloroethane-d4	*89.9*			**0**	*81-118*	*%REC*	*25*	*23-Jul-2020 14:33*
Surr: 4-Bromofluorobenzene	*99.6*			**0**	*85-114*	*%REC*	*25*	*23-Jul-2020 14:33*
Surr: 4-Bromofluorobenzene	*101*			**0**	*85-114*	*%REC*	*5*	*23-Jul-2020 15:21*
Surr: Dibromofluoromethane	*90.7*			**0**	*80-119*	*%REC*	*25*	*23-Jul-2020 14:33*
Surr: Dibromofluoromethane	*92.4*			**0**	*80-119*	*%REC*	*5*	*23-Jul-2020 15:21*
Surr: Toluene-d8	*101*			**0**	*89-112*	*%REC*	*25*	*23-Jul-2020 14:33*
Surr: Toluene-d8	*102*			**0**	*89-112*	*%REC*	*5*	*23-Jul-2020 15:21*
ANIONS BY SW9056A		**Method:SW9056**						Analyst: YP
Bromide	**8.29**		**0.150**	**0.500**	**0.500**	**mg/L**	5	29-Jul-2020 07:00
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: GR
Subcontract Analysis	See Attached		0	0		NA	1	06-Aug-2020 16:49
SUBCONTRACT ANALYSIS - TOC ANALYSIS		**Method:NA**						Analyst: SUBK
Subcontract Analysis	See Attached		0	0		NA	1	13-Aug-2020 12:17

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

ALS Houston, US Date: 17-Aug-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 July 2020
Sample ID: 16PM09-200720
Collection Date: 20-Jul-2020 10:15

ANALYTICAL REPORT
WorkOrder:HS20071033
Lab ID:HS20071033-04
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	5.0	U	1.5	5.0	5.0	UG/L	5	23-Jul-2020 18:09
1,1-Dichloroethene	**30**		**1.0**	**2.5**	**5.0**	**UG/L**	5	23-Jul-2020 18:09
1,2-Dichloroethane	2.5	U	1.0	2.5	5.0	UG/L	5	23-Jul-2020 18:09
cis-1,2-Dichloroethene	**520**		**1.0**	**2.5**	**5.0**	**UG/L**	5	23-Jul-2020 18:09
Methylene chloride	5.0	U	2.0	5.0	10	UG/L	5	23-Jul-2020 18:09
Trichloroethene	**1,400**		**5.0**	**12**	**25**	**UG/L**	25	23-Jul-2020 18:33
Vinyl chloride	**23**		**1.0**	**2.5**	**5.0**	**UG/L**	5	23-Jul-2020 18:09
Surr: 1,2-Dichloroethane-d4	*92.9*			**0**	*81-118*	*%REC*	*5*	*23-Jul-2020 18:09*
Surr: 1,2-Dichloroethane-d4	*90.9*			**0**	*81-118*	*%REC*	*25*	*23-Jul-2020 18:33*
Surr: 4-Bromofluorobenzene	*99.3*			**0**	*85-114*	*%REC*	*5*	*23-Jul-2020 18:09*
Surr: 4-Bromofluorobenzene	*101*			**0**	*85-114*	*%REC*	*25*	*23-Jul-2020 18:33*
Surr: Dibromofluoromethane	*92.2*			**0**	*80-119*	*%REC*	*25*	*23-Jul-2020 18:33*
Surr: Dibromofluoromethane	*91.8*			**0**	*80-119*	*%REC*	*5*	*23-Jul-2020 18:09*
Surr: Toluene-d8	*101*			**0**	*89-112*	*%REC*	*5*	*23-Jul-2020 18:09*
Surr: Toluene-d8	*102*			**0**	*89-112*	*%REC*	*25*	*23-Jul-2020 18:33*
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: GR
Subcontract Analysis	See Attached		0	0		NA	1	06-Aug-2020 16:49

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

ALS Houston, US Date: 17-Aug-20

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: Longhorn Army Ammunition Plant 16 July 2020 WorkOrder:HS20071033
Sample ID: 16PM06-200720 Lab ID:HS20071033-05
Collection Date: 20-Jul-2020 11:00 Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
1,1,2-Trichloroethane	25	U	7.5	25	25	UG/L	25	23-Jul-2020 15:45
1,1-Dichloroethene	**150**		**5.0**	**12**	**25**	**UG/L**	25	23-Jul-2020 15:45
1,2-Dichloroethane	**50**		**5.0**	**12**	**25**	**UG/L**	25	23-Jul-2020 15:45
cis-1,2-Dichloroethene	**49,000**		**100**	**250**	**500**	**UG/L**	500	23-Jul-2020 14:57
Methylene chloride	25	U	10	25	50	UG/L	25	23-Jul-2020 15:45
Trichloroethene	**58,000**		**100**	**250**	**500**	**UG/L**	500	23-Jul-2020 14:57
Vinyl chloride	**2,100**		**5.0**	**12**	**25**	**UG/L**	25	23-Jul-2020 15:45
Surr: 1,2-Dichloroethane-d4	*90.6*			**0**	*81-118*	*%REC*	*500*	*23-Jul-2020 14:57*
Surr: 1,2-Dichloroethane-d4	*91.2*			**0**	*81-118*	*%REC*	*25*	*23-Jul-2020 15:45*
Surr: 4-Bromofluorobenzene	*104*			**0**	*85-114*	*%REC*	*500*	*23-Jul-2020 14:57*
Surr: 4-Bromofluorobenzene	*93.2*			**0**	*85-114*	*%REC*	*25*	*23-Jul-2020 15:45*
Surr: Dibromofluoromethane	*91.1*			**0**	*80-119*	*%REC*	*500*	*23-Jul-2020 14:57*
Surr: Dibromofluoromethane	*91.3*			**0**	*80-119*	*%REC*	*25*	*23-Jul-2020 15:45*
Surr: Toluene-d8	*109*			**0**	*89-112*	*%REC*	*500*	*23-Jul-2020 14:57*
Surr: Toluene-d8	*97.9*			**0**	*89-112*	*%REC*	*25*	*23-Jul-2020 15:45*
ANIONS BY SW9056A		**Method:SW9056**						Analyst: YP
Bromide	**6.08**		**0.150**	**0.500**	**0.500**	**mg/L**	5	29-Jul-2020 07:55
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: GR
Subcontract Analysis	See Attached		0	0		NA	1	06-Aug-2020 16:49
SUBCONTRACT ANALYSIS - TOC ANALYSIS		**Method:NA**						Analyst: SUBK
Subcontract Analysis	See Attached		0	0		NA	1	13-Aug-2020 12:17

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

ALS Houston, US Date: 17-Aug-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 July 2020
Sample ID: 16PM14-200720
Collection Date: 20-Jul-2020 11:55

ANALYTICAL REPORT
WorkOrder:HS20071033
Lab ID:HS20071033-06
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
1,1,2-Trichloroethane	10	U	3.0	10	10	UG/L	10	23-Jul-2020 18:57
1,1-Dichloroethene	**21**		**2.0**	**5.0**	**10**	**UG/L**	10	23-Jul-2020 18:57
1,2-Dichloroethane	**24**		**2.0**	**5.0**	**10**	**UG/L**	10	23-Jul-2020 18:57
cis-1,2-Dichloroethene	**3,300**		**20**	**50**	**100**	**UG/L**	100	23-Jul-2020 19:21
Methylene chloride	10	U	4.0	10	20	UG/L	10	23-Jul-2020 18:57
Trichloroethene	**5,100**		**20**	**50**	**100**	**UG/L**	100	23-Jul-2020 19:21
Vinyl chloride	**150**		**2.0**	**5.0**	**10**	**UG/L**	10	23-Jul-2020 18:57
Surr: 1,2-Dichloroethane-d4	*92.0*			**0**	*81-118*	*%REC*	*10*	*23-Jul-2020 18:57*
Surr: 1,2-Dichloroethane-d4	*92.5*			**0**	*81-118*	*%REC*	*100*	*23-Jul-2020 19:21*
Surr: 4-Bromofluorobenzene	*102*			**0**	*85-114*	*%REC*	*10*	*23-Jul-2020 18:57*
Surr: 4-Bromofluorobenzene	*98.0*			**0**	*85-114*	*%REC*	*100*	*23-Jul-2020 19:21*
Surr: Dibromofluoromethane	*91.4*			**0**	*80-119*	*%REC*	*10*	*23-Jul-2020 18:57*
Surr: Dibromofluoromethane	*93.2*			**0**	*80-119*	*%REC*	*100*	*23-Jul-2020 19:21*
Surr: Toluene-d8	*101*			**0**	*89-112*	*%REC*	*10*	*23-Jul-2020 18:57*
Surr: Toluene-d8	*101*			**0**	*89-112*	*%REC*	*100*	*23-Jul-2020 19:21*
ANIONS BY SW9056A		**Method:SW9056**						Analyst: YP
Bromide	**5.04**		**0.150**	**0.500**	**0.500**	**mg/L**	5	29-Jul-2020 06:06
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: GR
Subcontract Analysis	See Attached		0	0		NA	1	06-Aug-2020 16:49
SUBCONTRACT ANALYSIS - TOC ANALYSIS		**Method:NA**						Analyst: SUBK
Subcontract Analysis	See Attached		0	0		NA	1	13-Aug-2020 12:17

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

ALS Houston, US Date: 17-Aug-20

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: Longhorn Army Ammunition Plant 16 July 2020 WorkOrder:HS20071033
Sample ID: 16PM02-200720 Lab ID:HS20071033-07
Collection Date: 20-Jul-2020 12:45 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	25	U	7.5	25	25	UG/L	25	23-Jul-2020 20:34
1,1-Dichloroethene	**44**		**5.0**	**12**	**25**	**UG/L**	25	23-Jul-2020 20:34
1,2-Dichloroethane	**25**		**5.0**	**12**	**25**	**UG/L**	25	23-Jul-2020 20:34
cis-1,2-Dichloroethene	**4,800**		**100**	**250**	**500**	**UG/L**	500	23-Jul-2020 20:58
Methylene chloride	25	U	10	25	50	UG/L	25	23-Jul-2020 20:34
Trichloroethene	**31,000**		**100**	**250**	**500**	**UG/L**	500	23-Jul-2020 20:58
Vinyl chloride	**110**		**5.0**	**12**	**25**	**UG/L**	25	23-Jul-2020 20:34
Surr: 1,2-Dichloroethane-d4	*91.2*			**0**	*81-118*	*%REC*	*25*	*23-Jul-2020 20:34*
Surr: 1,2-Dichloroethane-d4	*91.3*			**0**	*81-118*	*%REC*	*500*	*23-Jul-2020 20:58*
Surr: 4-Bromofluorobenzene	*98.4*			**0**	*85-114*	*%REC*	*500*	*23-Jul-2020 20:58*
Surr: 4-Bromofluorobenzene	*97.9*			**0**	*85-114*	*%REC*	*25*	*23-Jul-2020 20:34*
Surr: Dibromofluoromethane	*93.3*			**0**	*80-119*	*%REC*	*25*	*23-Jul-2020 20:34*
Surr: Dibromofluoromethane	*91.3*			**0**	*80-119*	*%REC*	*500*	*23-Jul-2020 20:58*
Surr: Toluene-d8	*103*			**0**	*89-112*	*%REC*	*25*	*23-Jul-2020 20:34*
Surr: Toluene-d8	*103*			**0**	*89-112*	*%REC*	*500*	*23-Jul-2020 20:58*
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: GR
Subcontract Analysis	See Attached		0	0		NA	1	06-Aug-2020 16:49

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

ALS Houston, US Date: 17-Aug-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 July 2020
Sample ID: 16PM03-200720
Collection Date: 20-Jul-2020 13:35

ANALYTICAL REPORT
WorkOrder:HS20071033
Lab ID:HS20071033-08
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	20	U	6.0	20	20	UG/L	20	23-Jul-2020 19:46
1,1-Dichloroethene	**50**		**4.0**	**10**	**20**	**UG/L**	20	23-Jul-2020 19:46
1,2-Dichloroethane	**25**		**4.0**	**10**	**20**	**UG/L**	20	23-Jul-2020 19:46
cis-1,2-Dichloroethene	**9,300**		**40**	**100**	**200**	**UG/L**	200	23-Jul-2020 20:10
Methylene chloride	20	U	8.0	20	40	UG/L	20	23-Jul-2020 19:46
Trichloroethene	**9,100**		**40**	**100**	**200**	**UG/L**	200	23-Jul-2020 20:10
Vinyl chloride	**320**		**4.0**	**10**	**20**	**UG/L**	20	23-Jul-2020 19:46
Surr: 1,2-Dichloroethane-d4	*92.5*			**0**	*81-118*	*%REC*	*20*	*23-Jul-2020 19:46*
Surr: 1,2-Dichloroethane-d4	*111*			**0**	*81-118*	*%REC*	*200*	*23-Jul-2020 20:10*
Surr: 4-Bromofluorobenzene	*97.0*			**0**	*85-114*	*%REC*	*20*	*23-Jul-2020 19:46*
Surr: 4-Bromofluorobenzene	*101*			**0**	*85-114*	*%REC*	*200*	*23-Jul-2020 20:10*
Surr: Dibromofluoromethane	*92.3*			**0**	*80-119*	*%REC*	*20*	*23-Jul-2020 19:46*
Surr: Dibromofluoromethane	*101*			**0**	*80-119*	*%REC*	*200*	*23-Jul-2020 20:10*
Surr: Toluene-d8	*102*			**0**	*89-112*	*%REC*	*20*	*23-Jul-2020 19:46*
Surr: Toluene-d8	*102*			**0**	*89-112*	*%REC*	*200*	*23-Jul-2020 20:10*
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: GR
Subcontract Analysis	See Attached		0	0		NA	1	06-Aug-2020 16:49

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

ALS Houston, US Date: 17-Aug-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 July 2020
Sample ID: Trip Blank-200720
Collection Date: 20-Jul-2020 00:00

ANALYTICAL REPORT
WorkOrder:HS20071033
Lab ID:HS20071033-09
Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	UG/L	1	23-Jul-2020 13:21
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	23-Jul-2020 13:21
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	23-Jul-2020 13:21
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	23-Jul-2020 13:21
Methylene chloride	1.0	U	0.40	1.0	2.0	UG/L	1	23-Jul-2020 13:21
Trichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	23-Jul-2020 13:21
Vinyl chloride	0.50	U	0.20	0.50	1.0	UG/L	1	23-Jul-2020 13:21
Surr: 1,2-Dichloroethane-d4	*89.7*			**0**	*81-118*	*%REC*	*1*	*23-Jul-2020 13:21*
Surr: 4-Bromofluorobenzene	*97.4*			**0**	*85-114*	*%REC*	*1*	*23-Jul-2020 13:21*
Surr: Dibromofluoromethane	*88.3*			**0**	*80-119*	*%REC*	*1*	*23-Jul-2020 13:21*
Surr: Toluene-d8	*106*			**0**	*89-112*	*%REC*	*1*	*23-Jul-2020 13:21*

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

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 July 2020
WorkOrder: HS20071033

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: R365571 (0)	**Test Name :** VOLATILES ORGANICS BY METHOD 8260C				**Matrix:** Water	
HS20071033-09	Trip Blank-200720	20 Jul 2020 00:00			23 Jul 2020 13:21	1
Batch ID: R365571 (0)	**Test Name :** VOLATILES ORGANICS BY METHOD 8260C				**Matrix:** Groundwater	
HS20071033-01	16WW44-200720	20 Jul 2020 07:45			23 Jul 2020 13:45	1
HS20071033-02	16WW14-200720	20 Jul 2020 08:30			23 Jul 2020 14:09	1
HS20071033-03	16RW10-200720	20 Jul 2020 09:20			23 Jul 2020 15:21	5
HS20071033-03	16RW10-200720	20 Jul 2020 09:20			23 Jul 2020 14:33	25
HS20071033-04	16PM09-200720	20 Jul 2020 10:15			23 Jul 2020 18:33	25
HS20071033-04	16PM09-200720	20 Jul 2020 10:15			23 Jul 2020 18:09	5
HS20071033-05	16PM06-200720	20 Jul 2020 11:00			23 Jul 2020 15:45	25
HS20071033-05	16PM06-200720	20 Jul 2020 11:00			23 Jul 2020 14:57	500
HS20071033-06	16PM14-200720	20 Jul 2020 11:55			23 Jul 2020 19:21	100
HS20071033-06	16PM14-200720	20 Jul 2020 11:55			23 Jul 2020 18:57	10
HS20071033-07	16PM02-200720	20 Jul 2020 12:45			23 Jul 2020 20:58	500
HS20071033-07	16PM02-200720	20 Jul 2020 12:45			23 Jul 2020 20:34	25
HS20071033-08	16PM03-200720	20 Jul 2020 13:35			23 Jul 2020 20:10	200
HS20071033-08	16PM03-200720	20 Jul 2020 13:35			23 Jul 2020 19:46	20
Batch ID: R365836 (0)	**Test Name :** ANIONS BY SW9056A				**Matrix:** Groundwater	
HS20071033-03	16RW10-200720	20 Jul 2020 09:20			29 Jul 2020 07:00	5
HS20071033-05	16PM06-200720	20 Jul 2020 11:00			29 Jul 2020 07:55	5
HS20071033-06	16PM14-200720	20 Jul 2020 11:55			29 Jul 2020 06:06	5
Batch ID: R366325 (0)	**Test Name :** SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)				**Matrix:** Groundwater	
HS20071033-01	16WW44-200720	20 Jul 2020 07:45			06 Aug 2020 16:49	1
HS20071033-02	16WW14-200720	20 Jul 2020 08:30			06 Aug 2020 16:49	1
HS20071033-03	16RW10-200720	20 Jul 2020 09:20			06 Aug 2020 16:49	1
HS20071033-04	16PM09-200720	20 Jul 2020 10:15			06 Aug 2020 16:49	1
HS20071033-05	16PM06-200720	20 Jul 2020 11:00			06 Aug 2020 16:49	1
HS20071033-06	16PM14-200720	20 Jul 2020 11:55			06 Aug 2020 16:49	1
HS20071033-07	16PM02-200720	20 Jul 2020 12:45			06 Aug 2020 16:49	1
HS20071033-08	16PM03-200720	20 Jul 2020 13:35			06 Aug 2020 16:49	1
Batch ID: R366700 (0)	**Test Name :** SUBCONTRACT ANALYSIS - TOC ANALYSIS				**Matrix:** Groundwater	
HS20071033-03	16RW10-200720	20 Jul 2020 09:20			13 Aug 2020 12:17	1
HS20071033-05	16PM06-200720	20 Jul 2020 11:00			13 Aug 2020 12:17	1
HS20071033-06	16PM14-200720	20 Jul 2020 11:55			13 Aug 2020 12:17	1

ALS Houston, US Date: 17-Aug-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 July 2020
WorkOrder: HS20071033

QC BATCH REPORT

Batch ID: R365571 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MBLK Sample ID: **VBLKW-200723** Units: **UG/L** Analysis Date: **23-Jul-2020 12:57**
Client ID: Run ID: **VOA6_365571** SeqNo: **5672477** 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	*47.6*	*1.0*	*50*	*0*	*95.2*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*45.12*	*1.0*	*50*	*0*	*90.2*	*85 - 114*				
Surr: Dibromofluoromethane	*47.67*	*1.0*	*50*	*0*	*95.3*	*80 - 119*				
Surr: Toluene-d8	*48.67*	*1.0*	*50*	*0*	*97.3*	*89 - 112*				

LCS Sample ID: **VLCSW-200723** Units: **UG/L** Analysis Date: **23-Jul-2020 12:09**
Client ID: Run ID: **VOA6_365571** SeqNo: **5672476** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,2-Trichloroethane	20.57	1.0	20	0	103	80 - 119				
1,1-Dichloroethene	20.01	1.0	20	0	100	71 - 131				
1,2-Dichloroethane	20.67	1.0	20	0	103	73 - 128				
cis-1,2-Dichloroethene	20.02	1.0	20	0	100	78 - 123				
Methylene chloride	20.97	2.0	20	0	105	74 - 124				
Trichloroethene	19.28	1.0	20	0	96.4	79 - 123				
Vinyl chloride	19.55	1.0	20	0	97.8	58 - 137				
Surr: 1,2-Dichloroethane-d4	*48.78*	*1.0*	*50*	*0*	*97.6*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*50.15*	*1.0*	*50*	*0*	*100*	*85 - 114*				
Surr: Dibromofluoromethane	*49.29*	*1.0*	*50*	*0*	*98.6*	*80 - 119*				
Surr: Toluene-d8	*49.06*	*1.0*	*50*	*0*	*98.1*	*89 - 112*				

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 July 2020
WorkOrder: HS20071033

QC BATCH REPORT

Batch ID: R365571 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MS Sample ID: **HS20071033-05MS** Units: **UG/L** Analysis Date: **23-Jul-2020 16:57**
Client ID: **16PM06-200720** Run ID: **VOA6_365571** SeqNo: **5672487** PrepDate: DF: **500**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,2-Trichloroethane	11450	500	10000	0	115	80 - 119				
1,1-Dichloroethene	12050	500	10000	0	120	71 - 131				
1,2-Dichloroethane	11490	500	10000	0	115	73 - 128				
cis-1,2-Dichloroethene	60440	500	10000	48570	119	78 - 123				O
Methylene chloride	11300	1000	10000	0	113	74 - 124				
Trichloroethene	71900	500	10000	58100	138	79 - 123				SO
Vinyl chloride	14870	500	10000	1927	129	58 - 137				
Surr: 1,2-Dichloroethane-d4	*22080*	*500*	*25000*	*0*	*88.3*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*25140*	*500*	*25000*	*0*	*101*	*85 - 114*				
Surr: Dibromofluoromethane	*23070*	*500*	*25000*	*0*	*92.3*	*80 - 119*				
Surr: Toluene-d8	*25140*	*500*	*25000*	*0*	*101*	*89 - 112*				

MS Sample ID: **HS20071033-03MS** Units: **UG/L** Analysis Date: **23-Jul-2020 16:09**
Client ID: **16RW10-200720** Run ID: **VOA6_365571** SeqNo: **5672485** 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	530.4	25	500	0	106	80 - 119				
1,1-Dichloroethene	543.6	25	500	19.82	105	71 - 131				
1,2-Dichloroethane	506.4	25	500	0	101	73 - 128				
cis-1,2-Dichloroethene	859.4	25	500	313.5	109	78 - 123				
Methylene chloride	510.9	50	500	0	102	74 - 124				
Trichloroethene	2360	25	500	1827	107	79 - 123				
Vinyl chloride	644.9	25	500	88.87	111	58 - 137				
Surr: 1,2-Dichloroethane-d4	*1136*	*25*	*1250*	*0*	*90.9*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*1235*	*25*	*1250*	*0*	*98.8*	*85 - 114*				
Surr: Dibromofluoromethane	*1159*	*25*	*1250*	*0*	*92.7*	*80 - 119*				
Surr: Toluene-d8	*1281*	*25*	*1250*	*0*	*103*	*89 - 112*				

ALS Houston, US Date: 17-Aug-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 July 2020
WorkOrder: HS20071033

QC BATCH REPORT

Batch ID: R365571 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MSD Sample ID: **HS20071033-05MSD** Units: **UG/L** Analysis Date: **23-Jul-2020 17:21**
Client ID: **16PM06-200720** Run ID: **VOA6_365571** SeqNo: **5672488** PrepDate: DF: **500**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,2-Trichloroethane	11560	500	10000	0	116	80 - 119	11450	0.9	20	
1,1-Dichloroethene	11700	500	10000	0	117	71 - 131	12050	2.97	20	
1,2-Dichloroethane	12550	500	10000	0	126	73 - 128	11490	8.83	20	
cis-1,2-Dichloroethene	60880	500	10000	48570	123	78 - 123	60440	0.729	20	SO
Methylene chloride	11710	1000	10000	0	117	74 - 124	11300	3.5	20	
Trichloroethene	72740	500	10000	58100	146	79 - 123	71900	1.16	20	SO
Vinyl chloride	13370	500	10000	1927	114	58 - 137	14870	10.6	20	
Surr: 1,2-Dichloroethane-d4	*24230*	*500*	*25000*	*0*	*96.9*	*81 - 118*	*22080*	*9.29*	*20*	
Surr: 4-Bromofluorobenzene	*24460*	*500*	*25000*	*0*	*97.8*	*85 - 114*	*25140*	*2.75*	*20*	
Surr: Dibromofluoromethane	*23410*	*500*	*25000*	*0*	*93.7*	*80 - 119*	*23070*	*1.46*	*20*	
Surr: Toluene-d8	*24700*	*500*	*25000*	*0*	*98.8*	*89 - 112*	*25140*	*1.75*	*20*	

MSD Sample ID: **HS20071033-03MSD** Units: **UG/L** Analysis Date: **23-Jul-2020 16:33**
Client ID: **16RW10-200720** Run ID: **VOA6_365571** SeqNo: **5672486** 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	528.6	25	500	0	106	80 - 119	530.4	0.331	20	
1,1-Dichloroethene	474	25	500	19.82	90.8	71 - 131	543.6	13.7	20	
1,2-Dichloroethane	521.2	25	500	0	104	73 - 128	506.4	2.89	20	
cis-1,2-Dichloroethene	800.5	25	500	313.5	97.4	78 - 123	859.4	7.09	20	
Methylene chloride	518.1	50	500	0	104	74 - 124	510.9	1.39	20	
Trichloroethene	2247	25	500	1827	84.2	79 - 123	2360	4.88	20	
Vinyl chloride	617.5	25	500	88.87	106	58 - 137	644.9	4.34	20	
Surr: 1,2-Dichloroethane-d4	*1106*	*25*	*1250*	*0*	*88.4*	*81 - 118*	*1136*	*2.71*	*20*	
Surr: 4-Bromofluorobenzene	*1226*	*25*	*1250*	*0*	*98.1*	*85 - 114*	*1235*	*0.715*	*20*	
Surr: Dibromofluoromethane	*1136*	*25*	*1250*	*0*	*90.9*	*80 - 119*	*1159*	*2*	*20*	
Surr: Toluene-d8	*1277*	*25*	*1250*	*0*	*102*	*89 - 112*	*1281*	*0.321*	*20*	

The following samples were analyzed in this batch:

HS20071033-01	HS20071033-02	HS20071033-03	HS20071033-04
HS20071033-05	HS20071033-06	HS20071033-07	HS20071033-08
HS20071033-09			

ALS Houston, US Date: 17-Aug-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 July 2020
WorkOrder: HS20071033

QC BATCH REPORT

Batch ID: R365836 (0) **Instrument:** ICS-Integrion **Method:** ANIONS BY SW9056A

MBLK Sample ID: **MBLK-072820** Units: **mg/L** Analysis Date: **28-Jul-2020 13:24**
Client ID: Run ID: **ICS-Integrion_365836** SeqNo: **5678300** 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

LCS Sample ID: **LCS-072820** Units: **mg/L** Analysis Date: **28-Jul-2020 13:42**
Client ID: Run ID: **ICS-Integrion_365836** SeqNo: **5678301** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromide	4.373	0.100	4	0	109	80 - 120				

MS Sample ID: **HS20071033-05MS** Units: **mg/L** Analysis Date: **29-Jul-2020 08:13**
Client ID: **16PM06-200720** Run ID: **ICS-Integrion_365836** SeqNo: **5678315** PrepDate: DF: **5**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromide	16.67	0.500	10	6.078	106	80 - 120				

MS Sample ID: **HS20071033-03MS** Units: **mg/L** Analysis Date: **29-Jul-2020 07:19**
Client ID: **16RW10-200720** Run ID: **ICS-Integrion_365836** SeqNo: **5678312** PrepDate: DF: **5**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromide	18.7	0.500	10	8.292	104	80 - 120				

MSD Sample ID: **HS20071033-05MSD** Units: **mg/L** Analysis Date: **29-Jul-2020 08:31**
Client ID: **16PM06-200720** Run ID: **ICS-Integrion_365836** SeqNo: **5678316** PrepDate: DF: **5**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromide	16.6	0.500	10	6.078	105	80 - 120	16.67	0.418	20	

MSD Sample ID: **HS20071033-03MSD** Units: **mg/L** Analysis Date: **29-Jul-2020 07:37**
Client ID: **16RW10-200720** Run ID: **ICS-Integrion_365836** SeqNo: **5678313** PrepDate: DF: **5**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromide	18.71	0.500	10	8.292	104	80 - 120	18.7	0.0802	20	

The following samples were analyzed in this batch: HS20071033-03 HS20071033-05 HS20071033-06

ALS Houston, US Date: 17-Aug-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 July 2020
WorkOrder: **HS20071033**

QUALIFIERS, ACRONYMS, UNITS

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

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

CERTIFICATIONS,ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
Arkansas	20-030-0	26-Mar-2021
California	2919, 2020-2021	30-Apr-2021
Dept of Defense	ANAB L2231 V009	22-Dec-2021
Florida	E87611-30-07/01/2020	30-Jun-2021
Illinois	2000322020-4	09-May-2021
Kentucky	123043, 2020-2021	30-Apr-2021
Louisiana	03087, 2020-2021	30-Jun-2021
Maryland	343, 2019-2020	30-Sep-2020
North Carolina	624-2020	31-Dec-2020
North Dakota	R-193 2020-2021	30-Apr-2021
Oklahoma	2019-141	31-Aug-2020
Texas	T104704231-20-26	30-Apr-2021

ALS Houston, US Date: 17-Aug-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 July 2020
Work Order: HS20071033

SAMPLE TRACKING

Lab Samp ID	Client Sample ID	Action	Date	Person	New Location
HS20071033-01	16WW44-200720	Login	7/22/2020 6:32:06 PM	PMG	Sub
HS20071033-01	16WW44-200720	Login	7/22/2020 6:32:06 PM	PMG	VOA157

ALS Houston, US Date: 17-Aug-20

Sample Receipt Checklist

Work Order ID: HS20071033 **Date/Time Received:** 22-Jul-2020 09:55

Client Name: CBI-Houston **Received by:** Paresh M. Giga

Completed By: /S/ Paresh M. Giga (eSignature) 22-Jul-2020 18:42 (Date/Time) **Reviewed by:** /S/ RJ Modashia (eSignature) 23-Jul-2020 09:14 (Date/Time)

Matrices: GW/Water Carrier name: FedEx

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
VOA/TX1005/TX1006 Solids in hermetically sealed vials?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	2 Page(s)
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	COC IDs:none
Samplers name present on COC?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	
Temperature(s)/Thermometer(s):	1.2C U/C	IR31	
Cooler(s)/Kit(s):	42639		
Date/Time sample(s) sent to storage:	7/22/2020 18:55		
Water - VOA vials have zero headspace?	Yes ☑	No ☐	No VOA vials submitted ☐
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑
pH adjusted?	Yes ☐	No ☐	N/A ☑
pH adjusted by:			

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

Corrective Action:

CHAIN OF CUSTODY

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

HS20071033

Aptim Environmental & Infrastucture, Inc.
Longhorn Army Ammunition Plant 16 July 2020

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

Project No. 501032

Job: **LHAAP 16 JULY 2020_ALS**

Prepared By: Scott Beesinger

P.O. Number

Field Sample I.D. / Time	Sample Matrix	Date /	MS / MSD	No. OF CONTAINERS	VOC by SW 8260B	TOC by SM5310C	MEE by RSK 175	Anions (bromide, sulfate, nitrate) by SW9056 and Alkalinity by SM2320	Bromide by SW9056	Perchlorate by SW6850	Metals (arsenic, chromium, manganese, nickel, thallium) by SW6020				Remarks (Preservative etc.)
16WW44-200720	WG	7/20/20/0745		4	X					X					
16WW14-200720	WG	7/20/20/0830		4	X					X					
16RW10-200720	WG	7/20/20/0920		7	X	X			X	X					
16RW10-200720-MS	WG	7/20/20/0920		7	X	X			X	X					
16RW10-200720-MSD	WG	7/20/20/0920		7	X	X			X	X					
16PM09-200720	WG	7/20/20/1015		4	X	~~X~~				X					
16PM06-200720	WG	7/20/20/1100		7	X	X			X	X					
16PM06-200720-MS	WG	7/20/20/1100		7	X	X			X	X					

Additional Remarks: Standard TAT on all parameters. Please email results to Susan.Huang@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	7/21/20	1430		7/22/20	0955						

For Lab Use Only

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

Remarks:

42638 1.20 #31 WG

(Word) S:\I-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: RJ Modashia

Page 1 of 1

Project: APTIM LONGHORN ARMY AMMN. PLANT (LHAAP) GROUNDWATER TREATMENT PLANT (GWTP) KARNACK, TEXAS	Project No. 501032
Job: **LHAAP 16 JULY 2020_ALS**	
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 (Preserva etc.)
16PM06-200720-MSD		W6	7/20/20/1100		7	X	X			X	X					
16PM04-200720		W6	7/20/20/1155		7	X	X			X	X					
16PM02-200720		W6	7/20/20/1295		4	X					X					
16PM03-200720		W6	7/20/20/1335		4	X					X					
TRIPBLANK-200720		W6	7/20/20		2	X										

HS20071033

Aptim Environmental & Infrastructure, Inc.
Longhorn Army Ammunition Plant 16 July 2020

Additional Remarks: Standard TAT on all parameters. Please email results to Susan.Huang@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	7/21/20	1430		7/22/2020	0900						

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

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

42639

CUSTODY SEAL

Date: 7/21/20 Time: 1430
Name: Scott Beesinger
Company: Battle

Seal Broken By:
Date: 07/22/20

42639 JUL 22 2020

Must Deliver Next Business Day
Time and Tempature Sensitive

42639

1
10:3

917
B03

ORIGIN ID:SGRA (903) 930-6193
SCOTT BEESINGER
APTIM
1209-B EAST GRAND AVE.
PMB202
MARSHALL, TX 75670
UNITED STATES US

SHIP DATE: 22JUN20
ACTWGT: 1.00 LB MAN
CAD: 3001107/CAFE3211
DIMS: 19x16x13 IN

TO CLIENT SERVICES
ALS LABORATORY GROUP
10450 STANCLIFF ROAD
SUITE 210
HOUSTON TX 77099
(281) 530-6666
REF: LHAAP 16 - B072394 - Rd
PMA:

FedEx Express

FedEx
TRK# 0221 1891 8877 8303

WED - 22 JUL 10:30A
PRIORITY OVERNIGHT

AB SGRA

77099
TX-US IAH

August 06, 2020 Service Request No:E2000674

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

Laboratory Results for: HS20071033

Dear RJ,

Enclosed are the results of the sample(s) submitted to our laboratory July 23, 2020
For your reference, these analyses have been assigned our service request number **E2000674.**

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current TNI standards, where applicable, and except as noted in the laboratory case narrative provided. All results are intended to be considered in their entirety and ALS Environmental is not responsible for use of less than the complete final report. Results apply only to the items submitted to the laboratory, as received for analysis. In accordance with the current TNI Standard, a statement on the estimated uncertainty of measurement of any quantitative analysis will be supplied upon request.

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

Corey Grandits
Project Manager

ADDRESS 10450 Stancliff Rd., Suite 210, Houston, TX 77099
PHONE +1 281 530 5656 | FAX +1 281 530 5887
ALS Group USA, Corp.
dba ALS Environmental

Certificate of Analysis

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

ALS Environmental

Client:	ALS Houston	**Service Request No.:**	E2000674
Project:	HS20071033	**Date Received:**	07/23/20
Sample Matrix:	GW		

CASE NARRATIVE

All analyses were performed in adherence to the quality assurance program of ALS Environmental. This report contains analytical results for samples designated for Tier IV. When appropriate to the method, method blank results have been reported with each analytical test.

Sample Receipt

Eight samples were received for analysis at ALS Environmental in Houston on 07/23/20.

The samples were received at 0°C in good condition and is/are consistent with the accompanying chain of custody form. (Dioxin/furan compounds are stable at room temperature.) The sample was/samples were stored in a refrigerator at 4°C upon receipt at the laboratory.

Data Validation Notes and Discussion

Precision and Accuracy:

EQ2000328: Laboratory Control Spike/Duplicate Laboratory Control Spike (LCS/DLCS) samples were analyzed and reported in addition to a two MS/MSD for this extraction batch. The MS and MSD (EQ2000328-06/07) recoveries outside QC limits, parent sample had to be analyzed at a 10X due to sample matrix.

DoD Certification is held for the method/matrix/analytes provided in this report.

The results of analyses are given in the attached laboratory report. All results are intended to be considered in their entirety, and ALS Environmental (ALS) is not responsible for utilization of less than the complete report.

Use of ALS group USA Corp dba ALS Environmental (ALS)'s Name. Client shall not use ALS's name or trademark in any marketing or reporting materials, press releases or in any other manner ("Materials") whatsoever and shall not attribute to ALS any test result, tolerance or specification derived from ALS's data ("Attribution") without ALS's prior written consent, which may be withheld by ALS for any reason in its sole discretion. To request ALS's consent, Client shall provide copies of the proposed Materials or Attribution and describe in writing Client's proposed use of such Materials or Attribution. If ALS has not provided written approval of the Materials or Attribution within ten (10) days of receipt from Client, Client's request to use ALS's name or trademark in any Materials or Attribution shall be deemed denied. ALS may, in its discretion, reasonably charge Client for its time in reviewing Materials or Attribution requests. Client acknowledges and agrees that the unauthorized use of ALS's name or trademark may cause ALS to incur irreparable harm for which the recovery of money damages will be inadequate. Accordingly, Client acknowledges and agrees that a violation shall justify preliminary injunctive relief. For questions contact the laboratory.

Client: ALS Environmental - US **Service Request:**E2000674
Project: HS20071033

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
E2000674-001	16WW44-200720	7/20/2020	0745
E2000674-002	16WW14-200720	7/20/2020	0830
E2000674-003	16RW10-200720	7/20/2020	0920
E2000674-004	16PM09-200720	7/20/2020	1015
E2000674-005	16PM06-200720	7/20/2020	1100
E2000674-006	16PM14-200720	7/20/2020	1155
E2000674-007	16PM02-200720	7/20/2020	1245
E2000674-008	16PM03-200720	7/20/2020	1335

Service Request Summary

Folder #: **E2000674**
Client Name: ALS Environmental - US
Project Name: HS20071033
Project Number:

Report To: RJ Modashia
ALS Laboratory Group
10450 Stancliff Road
Houston, TX 77099-4338
USA
Phone Number: 281-530-5656
Cell Number:
Fax Number: 281-530-5887
E-mail: rj.modashia@alsglobal.com

Project Chemist: Corey Grandits
Originating Lab: HOUSTON
Logged By: CGRANDITS
Date Received: 07/23/20
Internal Due Date: 8/5/2020
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: Y
Report to MDL?: Y
P.O. Number: HS20071033
EDD: No EDD Specified

12 250 mL-Plastic Bottle HDPE WM CLEAR Unpreserved
Location: EHRMS-WIC 7D
Pressure Gas:

Lab Samp No.	Client Samp No	Matrix	Collected	HOUSTON ClO4 DOD/6850
E2000674-001	16WW44-200720	Ground Water	07/20/20 0745	**IV**
E2000674-002	16WW14-200720	Ground Water	07/20/20 0830	**IV**
E2000674-003	16RW10-200720	Ground Water	07/20/20 0920	**IV**
E2000674-004	16PM09-200720	Ground Water	07/20/20 1015	**IV**
E2000674-005	16PM06-200720	Ground Water	07/20/20 1100	**IV**
E2000674-006	16PM14-200720	Ground Water	07/20/20 1155	**IV**
E2000674-007	16PM02-200720	Ground Water	07/20/20 1245	**IV**
E2000674-008	16PM03-200720	Ground Water	07/20/20 1335	**IV**

Service Request Summary

Folder #: **E2000674**
Client Name: ALS Environmental - US
Project Name: HS20071033
Project Number:

Report To: RJ Modashia
ALS Laboratory Group
10450 Stancliff Road
Houston, TX 77099-4338
USA
Phone Number: 281-530-5656
Cell Number:
Fax Number: 281-530-5887
E-mail: rj.modashia@alsglobal.com

Project Chemist: Corey Grandits
Originating Lab: HOUSTON
Logged By: CGRANDITS
Date Received: 07/23/20
Internal Due Date: 8/5/2020
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: Y
Report to MDL?: Y
P.O. Number: HS20071033
EDD: No EDD Specified

12 250 mL-Plastic Bottle HDPE WM CLEAR Unpreserved
Location: EHRMS-WIC 7D
Pressure Gas:

Test Comments:

Group	Test/Method	Samples	Comments
Semivoa GCMS	ClO4 DOD/6850	6	Level II due 8/5,level IV 8/12
Semivoa GCMS	ClO4 DOD/6850	2	MS/MSD

Data Qualifiers

Lab Standard

+	Possible Tedlar bag artifact.
A	TIC is a suspected aldol-condensation product
B	Analyte found in the associated method blank as well as in the sample.
BC	Reported results are not blank corrected.
BH	The back section of the tube yielded higher results than the front.
BT	Results indicated possible breakthrough; back section >=10% front section.
C	Result identification confirmed.
D	Compound identified in an analysis at a secondary dilution factor
D	Spike was diluted out
DE	Reported results are corrected for desorption efficiency.
E	Estimated value. Concentration above calibration range
E	The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
H1	Sample analysis performed past holding time. See case narrative.
H2	Initial analysis within holding time. Reanalysis for the required dilution was past holding time.
H3	Sample was received and analyzed past holding time.
H4	Sample was extracted past required extraction holding time, but analyzed within analysis holding time. See case narrative.
I	Internal standard not within the specified limits. See case narrative.
J	Estimated Value. Concentration found below MRL.
K	A deflection in the QC ion may indicate interference with the quantitation of this ion. The concentration of this analyte should be considered as an estimate.
K	Analyte was detected above the method reporting limit prior to normalization.
L1	Laboratory control sample recovery outside the specified limits; results may be biased high.
L2	Laboratory control sample recovery outside the specified limits; results may be biased low.
L3	Laboratory control sample recovery outside the specified limits.
M	Matrix interference; results may be biased high.
M	The duplicate injection precision not met.
M1	Matrix interference due to coelution with a non-target compound; results may be biased high.
N	Presumptive evidence of a compound for TICs that have been identified based on a mass spectral library search.
N	The Matrix Spike sample recovery is not within control limits. See case narrative.
P	Indicates chlorodiphenyl ether interference present at the retention time of the target compound.
P	Pesticide/Aroclor target analyte > 40% difference for detected concentrations between GC columns
Q	Indicates as estimated value because the P and P + 2 theoretical abundance ratio does not meet method criteria.
R	Duplicate Precision not met.
R1	Duplicate precision not within the specified limits; however, the results are below the MRL and considered estimated.
S	Surrogate recovery not within specified limits.

Data Qualifiers

Lab Standard

S	The reported value was determined by the Method of Standard Additions (MSA).
T	Analyte is a tentatively identified compound, result is estimated.
U	Compound was analyzed for, but was not detected (ND).
V1	The continuing calibration verification standard was outside (biased high) the specified limits for this compound.
V2	The continuing calibration verification standard was outside (biased low) the specified limits for this compound.
W	Result quantified, but the corresponding peak was detected outside the generated retention time window.
W	The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
X	See case narrative.
Y	Recovery outside limits
Y	The chromatogram resembles a petroleum product but does not match the calibration standard.
Z	The chromatogram does not resemble a petroleum product.
i	The MRL/MDL has been elevated due to a matrix interference.

ALS Laboratory Group

Acronyms

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

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ALS Environmental

State Certifications, Accreditations, and Licenses

Agency	Number	Expire Date
American Association for Laboratory Accreditation	2897.01 2020	11/30/2021
Arkansas Department of Environmental Quality	20-030-0	3/26/2021
Department of Defense	A2LA 2897.01	11/30/2021
Hawaii Department of Health	2020	4/30/2021
Illinois Environmental Protection Agency	2000322020-4	5/9/2021
Louisiana Department of Health and Hospitals	LA028-2020	12/31/2020
Maine Department of Health and Human Services	2020016	6/5/2022
Minnesota Department of Health	1785988	12/31/2020
Nebraska Department of Health and Human Services	NE-OS-25-13 (2020)	4/30/2021
New Hampshire Environmental Laboratory Accreditation Program	209420	4/24/2021
New York Department of Health	11707	3/31/2021
Oklahoma Department of Environmental Quality	2019-067	8/31/2020
Tennessee Department of Environment and Concervation	04016-2020	4/30/2021
Texas Commision on Environmental Quality	T104704231-20-26	4/30/2021
United States Department of Agriculture	P330-19-00299	10/10/2022
Washington Department of Health	C819	11/14/2020

ALS

Chain of Custody

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

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Houston, TX 77099
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F: +1 281 530 5887
www.alsglobal.com

Subcontract Chain of Custody

SAMPLING STATE: **Dept of Defense** **COC ID: 14357**

SUBCONTRACT TO:

ALS Environmental
10450 Stancliff RoadSuite 210
Houston, TX 77084

Phone: +1 281 530 5656

CUSTOMER INFORMATION:

Company: ALS Houston
Contact: RJ Modashia
Address: 10450 Stancliff Rd, Ste 210
Phone: +1 281 530 5656
Email: RJ.Modashia@alsglobal.com
Alternate Contact:
Email:

INVOICE INFORMATION:

Company: ALS Houston
Contact: Accounts Payable
Address: 10450 Stancliff Rd, Ste 210
Phone: +1 281 530 5656
Reference: HS20071033
TSR: Sonia West

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	**HS20071033-01**	**16WW44-200720**	**Groundwater**	**20 Jul 2020 07:45**
	SUB_Perch-6850			05 Aug 2020
2.	**HS20071033-02**	**16WW14-200720**	**Groundwater**	**20 Jul 2020 08:30**
	SUB_Perch-6850			05 Aug 2020
3.	**HS20071033-03**	**16RW10-200720**	**Groundwater**	**20 Jul 2020 09:20**
	SUB_Perch-6850			05 Aug 2020
4.	**HS20071033-04**	**16PM09-200720**	**Groundwater**	**20 Jul 2020 10:15**
	SUB_Perch-6850			05 Aug 2020
5.	**HS20071033-05**	**16PM06-200720**	**Groundwater**	**20 Jul 2020 11:00**
	SUB_Perch-6850			05 Aug 2020
6.	**HS20071033-06**	**16PM14-200720**	**Groundwater**	**20 Jul 2020 11:55**
	SUB_Perch-6850			05 Aug 2020
7.	**HS20071033-07**	**16PM02-200720**	**Groundwater**	**20 Jul 2020 12:45**
	SUB_Perch-6850			05 Aug 2020
8.	**HS20071033-08**	**16PM03-200720**	**Groundwater**	**20 Jul 2020 13:35**
	SUB_Perch-6850			05 Aug 2020

Subcontract Chain of Custody

SAMPLING STATE: **Dept of Defense** **COC ID:** **14357**

Comments: Please analyze for the analysis listed above.
Send report to the emails shown above.
HS20071033-03 & HS20071033-05 = MS/MSD

QC Level: DOD IV (DoD Data Package)

Relinquished By:		Date/Time:	
Received By:		Date/Time:	7/23/10 1200
Cooler ID(s):		Temperature(s):	

ALS Environmental

Cooler Receipt Form

Project Chemist CG

Client/Project ALS-H

Thermometer ID IR31

Date/Time Received: 7/23/26 Initials: CG Date/Time Logged in: 7/23/26 Initials CG

1. Method of delivery: ○ US Mail ○ Fed Ex ○ UPS ○ DHL ✓ ALS Courier ○ Client
2. Samples received in: ✓ Cooler ○ Box ○ Envelope ○ Other
3. Were custody seals on coolers? ○ Yes ✓ No
   Were they intact? ○ Yes ○ No ✓ N/A
   Were they signed and dated? ○ Yes ○ No ✓ N/A
   If yes, how many and where?
4. Packing Material: ○ Inserts ✓ Baggies ○ Bubble Wrap ○ Gel Packs ✓ Wet Ice ○ Sleeves ○ Other
5. Foreign or Regulated Soil? ○ Yes ○ No Location of Sampling:

Cooler Tracking Number	COC ID	Date Opened	Time Opened	Opened By	Temp. °C	Temp Blank?
~		7/23/26	1200	CG	3.5	☒
						☐
						☐
						☐

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

Notes, Discrepancies, & Resolutions:

Service request Label:

HS-HRMSCoolerReceipt R1.0

ALS Environmental - Houston HRMS

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Houston, TX 77099
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F: +1 713 266 1599
www.alsglobal.com

SAMPLE ACCEPTANCE POLICY

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

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

- ✓ Intact on outside of cooler, signed and dated

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

The following is required on each COC:

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

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

Sample Integrity (mandatory):

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

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

Temperature Requirement (varies by sample matrix):

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

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

Preparation Information Benchsheets

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

Preparation Information Benchsheet

Prep Run#: 362931 **Prep WorkFlow:** GenExt28Day **Status:** Prepped
Team: Semivoa GCMS/GRIVERA **Prep Method:** Method **Prep Date/Time:** 8/5/20 10:59

#	Lab Code	Client ID	B#	Method /Test	pH	Cl	Matrix	Amt. Ext.	Sample Description
1	E2000674-001	16WW44-200720	.01	6850/ClO4 DOD			Ground Water	10mL	
2	E2000674-002	16WW14-200720	.01	6850/ClO4 DOD			Ground Water	10mL	
3	E2000674-003	16RW10-200720	.01	6850/ClO4 DOD			Ground Water	10mL	
4	E2000674-004	16PM09-200720	.01	6850/ClO4 DOD			Ground Water	10mL	
5	E2000674-005	16PM06-200720	.01	6850/ClO4 DOD			Ground Water	10mL	
6	E2000674-006	16PM14-200720	.01	6850/ClO4 DOD			Ground Water	10mL	
7	E2000674-007	16PM02-200720	.01	6850/ClO4 DOD			Ground Water	10mL	
8	E2000674-008	16PM03-200720	.01	6850/ClO4 DOD			Ground Water	10mL	
9	EQ2000328-01	MB		6850/ClO4 DOD			Liquid	10mL	
10	EQ2000328-02	LCS		6850/ClO4 DOD			Liquid	10mL	
11	EQ2000328-03	DLCS		6850/ClO4 DOD			Liquid	10mL	
12	EQ2000328-04	16RW10-200720 MS	.01	6850/ClO4 DOD			Liquid	10mL	
13	EQ2000328-05	16RW10-200720 DMS	.01	6850/ClO4 DOD			Liquid	10mL	
14	EQ2000328-06	16PM06-200720 MS	.01	6850/ClO4 DOD			Liquid	10mL	
15	EQ2000328-07	16PM06-200720 DMS	.01	6850/ClO4 DOD			Liquid	10mL	
16	R2006493-001	45MI20016	.05	6850/ClO4 DOD			Water	10mL	
17	R2006493-003	45MI20003	.05	6850/ClO4 DOD			Water	10mL	
18	R2006493-005	45MI20008	.05	6850/ClO4 DOD			Water	10mL	
19	R2006493-007	45MI20010	.05	6850/ClO4 DOD			Water	10mL	
20	R2006493-009	45MI20020	.05	6850/ClO4 DOD			Water	10mL	
21	R2006493-011	45MI20026	.05	6850/ClO4 DOD			Water	10mL	
22	R2006493-013	45MI20037	.05	6850/ClO4 DOD			Water	10mL	
23	R2006493-015	45MI20014	.05	6850/ClO4 DOD			Water	10mL	

Spiking Solutions

Name: Sodium Perchlorate 1 ug/mL (IS) (18-O) as CLO4 Inventory ID 202037 Logbook Ref: Sodium Perchlorate Expires On: 05/22/2021

E2000674-001	100.00µL	E2000674-002	100.00µL	E2000674-003	100.00µL	E2000674-004	100.00µL	E2000674-005	100.00µL	E2000674-006	100.00µL
E2000674-007	100.00µL	E2000674-008	100.00µL	EQ2000328-01	100.00µL	EQ2000328-02	100.00µL	EQ2000328-03	100.00µL	EQ2000328-04	100.00µL
EQ2000328-05	100.00µL	EQ2000328-06	100.00µL	EQ2000328-07	100.00µL						

Name: Perchlorate Intermediate Stock1 Inventory ID 209764 Logbook Ref: Perchlorate Int. Stock1 51820 Expires On: 11/18/2020

EQ2000328-02	1.00µL	EQ2000328-03	1.00µL	EQ2000328-04	1.00µL	EQ2000328-05	1.00µL	EQ2000328-06	1.00µL	EQ2000328-07	1.00µL

Preparation Information Benchsheet

Prep Run#: 362931
Team: Semivoa GCMS/GRIVERA

Prep WorkFlow: GenExt28Day
Prep Method: Method

Status: Prepped
Prep Date/Time: 8/5/20 10:59

Preparation Steps

Step: Preparation
Started: 8/5/20 10:59
Finished: 8/5/20 17:06
By: GRIVERA
Comments

Comments: _____

Reviewed By: _____ Date: _____

Chain of Custody

Relinquished By: _____ Date: _____

Received By: _____ Date: _____

Extracts Examined
Yes No

Analytical Results

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

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000674
Project:	HS20071033	**Date Collected:**	7/20/20 0745
Sample Matrix:	Ground Water	**Date Received:**	7/23/20
Sample Name:	16WW44-200720	**Units:**	µg/L
Lab Code:	E2000674-001	**Basis:**	NA

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

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	ND	U	0.100	0.0500	0.0250	1	8/ 5/20	8/5/20 13:17	362931	689820	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000674
Project:	HS20071033	**Date Collected:**	7/20/20 0830
Sample Matrix:	Ground Water	**Date Received:**	7/23/20
Sample Name:	16WW14-200720	**Units:**	µg/L
Lab Code:	E2000674-002	**Basis:**	NA

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

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	**0.544**	J	1.00	0.500	0.250	10	8/ 5/20	8/5/20 15:35	362931	689820	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000674
Project:	HS20071033	**Date Collected:**	7/20/20 0920
Sample Matrix:	Ground Water	**Date Received:**	7/23/20
Sample Name:	16RW10-200720	**Units:**	µg/L
Lab Code:	E2000674-003	**Basis:**	NA

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

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	**62.7**		1.00	0.500	0.250	10	8/ 5/20	8/5/20 15:43	362931	689820	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000674
Project:	HS20071033	**Date Collected:**	7/20/20 1015
Sample Matrix:	Ground Water	**Date Received:**	7/23/20
Sample Name:	16PM09-200720	**Units:**	µg/L
Lab Code:	E2000674-004	**Basis:**	NA

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

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	ND	U	0.100	0.0500	0.0250	1	8/ 5/20	8/5/20 13:49	362931	689820	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000674
Project:	HS20071033	**Date Collected:**	7/20/20 1100
Sample Matrix:	Ground Water	**Date Received:**	7/23/20
Sample Name:	16PM06-200720	**Units:**	µg/L
Lab Code:	E2000674-005	**Basis:**	NA

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

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	ND	U	1.00	0.500	0.250	10	8/ 5/20	8/6/20 12:52	362931	689820	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000674
Project:	HS20071033	**Date Collected:**	7/20/20 1155
Sample Matrix:	Ground Water	**Date Received:**	7/23/20
Sample Name:	16PM14-200720	**Units:**	µg/L
Lab Code:	E2000674-006	**Basis:**	NA

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

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	**0.435**	J	1.00	0.500	0.250	10	8/ 5/20	8/5/20 15:59	362931	689820	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000674
Project:	HS20071033	**Date Collected:**	7/20/20 1245
Sample Matrix:	Ground Water	**Date Received:**	7/23/20
Sample Name:	16PM02-200720	**Units:**	µg/L
Lab Code:	E2000674-007	**Basis:**	NA

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

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	**0.0686**	J	0.100	0.0500	0.0250	1	8/ 5/20	8/5/20 14:12	362931	689820	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000674
Project:	HS20071033	**Date Collected:**	7/20/20 1335
Sample Matrix:	Ground Water	**Date Received:**	7/23/20
Sample Name:	16PM03-200720	**Units:**	µg/L
Lab Code:	E2000674-008	**Basis:**	NA

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

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	**245**		1.00	0.500	0.250	10	8/ 5/20	8/5/20 16:07	362931	689820	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000674
Project:	HS20071033	**Date Collected:**	NA
Sample Matrix:	Ground Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	µg/L
Lab Code:	EQ2000328-01	**Basis:**	NA

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

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	ND	U	0.100	0.0500	0.0250	1	8/ 5/20	8/5/20 16:30	362931	689820	

Accuracy & Precision

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ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20071033
Sample Matrix: Ground Water

Service Request: E2000674
Date Analyzed: 8/ 5/20

Lab Control Sample Summary
Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
Prep Method: Method

Units: µg/L
Basis: NA

Extraction Lot: 362931

	Lab Control Sample EQ2000328-02			Duplicate Lab Control Sample EQ2000328-03					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Perchlorate	0.116	0.100	116	0.118	0.100	118	84 - 119	2	15

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

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000674
Project:	HS20071033	**Date Collected:**	NA
Sample Matrix:	Ground Water	**Date Received:**	NA
Sample Name:	Lab Control Sample	**Units:**	µg/L
Lab Code:	EQ2000328-02	**Basis:**	NA

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

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	**0.116**		0.100	0.0500	0.0250	1	8/ 5/20	8/5/20 12:30	362931	689820	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000674
Project:	HS20071033	**Date Collected:**	NA
Sample Matrix:	Ground Water	**Date Received:**	NA
Sample Name:	Duplicate Lab Control Sample	**Units:**	µg/L
Lab Code:	EQ2000328-03	**Basis:**	NA

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

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	**0.118**		0.100	0.0500	0.0250	1	8/ 5/20	8/5/20 12:38	362931	689820	

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000674
Project:	HS20071033	**Date Collected:**	7/20/20
Sample Matrix:	Ground Water	**Date Received:**	7/23/20
		Date Analyzed:	8/ 5/20

Matrix Spike Summary

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

Sample Name:	16RW10-200720	**Units:**	µg/L
Lab Code:	E2000674-003	**Basis:**	NA

Analytical Method: 6850
Prep Method: Method

		16RW10-200720MS				16RW10-200720DMS					
		Matrix Spike				**Duplicate Matrix Spike**					
		EQ2000328-04				EQ2000328-05					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**		**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Perchlorate	62.7	62.8	0.100	96		62.8	0.100	101	84 - 119	<1	15

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

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000674
Project:	HS20071033	**Date Collected:**	7/20/20 0920
Sample Matrix:	Ground Water	**Date Received:**	7/23/20
Sample Name:	16RW10-200720	**Units:**	µg/L
Lab Code:	EQ2000328-04	**Basis:**	NA
Run Type:	Matrix Spike		

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

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	**62.8**		1.00	0.500	0.250	10	8/ 5/20	8/5/20 16:38	362931	689820	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000674
Project:	HS20071033	**Date Collected:**	7/20/20 0920
Sample Matrix:	Ground Water	**Date Received:**	7/23/20
Sample Name:	16RW10-200720	**Units:**	µg/L
Lab Code:	EQ2000328-05	**Basis:**	NA
Run Type:	Duplicate Matrix Spike		

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

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	**62.8**		1.00	0.500	0.250	10	8/ 5/20	8/5/20 16:46	362931	689820	

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000674
Project:	HS20071033	**Date Collected:**	7/20/20
Sample Matrix:	Ground Water	**Date Received:**	7/23/20
		Date Analyzed:	8/ 6/20

Matrix Spike Summary

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

Sample Name:	16PM06-200720	**Units:**	µg/L
Lab Code:	E2000674-005	**Basis:**	NA

Analytical Method: 6850
Prep Method: Method

		16PM06-200720MS				16PM06-200720DMS					
		Matrix Spike				**Duplicate Matrix Spike**					
		EQ2000328-06				EQ2000328-07					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**		**Result**	**Spike Amount**	**% Rec**		**% Rec Limits**	**RPD**	**RPD Limit**
Perchlorate	ND	0.276	0.100	276	*	0.280	0.100	280	*	84 - 119	1	15

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

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000674
Project:	HS20071033	**Date Collected:**	7/20/20 1100
Sample Matrix:	Ground Water	**Date Received:**	7/23/20
Sample Name:	16PM06-200720	**Units:**	µg/L
Lab Code:	EQ2000328-06	**Basis:**	NA
Run Type:	Matrix Spike		

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

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	**0.276**	J	1.00	0.500	0.250	10	8/ 5/20	8/6/20 11:42	362931	689820	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000674
Project:	HS20071033	**Date Collected:**	7/20/20 1100
Sample Matrix:	Ground Water	**Date Received:**	7/23/20
Sample Name:	16PM06-200720	**Units:**	µg/L
Lab Code:	EQ2000328-07	**Basis:**	NA
Run Type:	Duplicate Matrix Spike		

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

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	**0.280**	J	1.00	0.500	0.250	10	8/ 5/20	8/6/20 12:25	362931	689820	

Initial Calibration

ALS Environmental - Houston HRMS
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Phone (713)266-1599 Fax (713)266-0130
www.alsglobal.com

20200724

ALS Environmental

1st Review: Kneir
2nd Review: Hvan

Injection Log
LCMS01 -Shimadzu 8050

ICAL Date: 7/24/2020
Cal. Std. xp: 11/18/2020
ICAL ID: EC2000016

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

			File Name	Acquisition Method	Dilution	R	Comments
1	PERCHLORATE1		20200724_005	Perchlorate6850b.lcm	1x	☒	3100806-05
2	PERCHLORATE2		20200724_006	Perchlorate6850b.lcm	1x	☒	3100806-06
3	PERCHLORATE3		20200724_007	Perchlorate6850b.lcm	1x	☒	3100806-07
4	PERCHLORATE4		20200724_008	Perchlorate6850b.lcm	1x	☒	3100807-01
5	PERCHLORATE5		20200724_009	Perchlorate6850b.lcm	1x	☒	3100807-02
6	PERCHLORATE6		20200724_010	Perchlorate6850b.lcm	1x	☒	3100807-03
7	PERCHLORATE7		20200724_011	Perchlorate6850b.lcm	1x	☒	3100807-04
8	PERCHLORATE8		20200724_012	Perchlorate6850b.lcm	1x	☒	3100807-05
9	PERCHLORATE9		20200724_013	Perchlorate6850b.lcm	1x	☒	3100807-06
10	PERCHLORATE10		20200724_014	Perchlorate6850b.lcm	1x	☒	3100807-07
11	IB		20200724_015	Perchlorate6850b.lcm	1x	☒	
12	PERCHLORATEICV		20200724_016	Perchlorate6850b.lcm	1x	☒	3100807-08
13	IB		20200724_017	Perchlorate6850b.lcm	1x	☒	
14	LODV		20200724_018	Perchlorate6850b.lcm	1x	☒	
15	ICS		20200724_019	Perchlorate6850b.lcm	1x	☒	
16	PERCHLORATE7		20200724_020	Perchlorate6850b.lcm	1x	☒	3100807-04
17	EQ2000302-04X10		20200724_021	Perchlorate6850b.lcm	10x	☒	
18	EQ2000302-05X10DNU		20200724_022	Perchlorate6850b.lcm	10x	☒	
19	E2000626-001X2		20200724_023	Perchlorate6850b.lcm	2x	☒	
20	E2000627-001X10		20200724_024	Perchlorate6850b.lcm	10x	☒	
21	E2000627-005X100		20200724_025	Perchlorate6850b.lcm	100x	☒	
22	E2000627-006X100		20200724_026	Perchlorate6850b.lcm	100x	☒	
23	E2000627-009X1000		20200724_027	Perchlorate6850b.lcm	1000x	☒	
24	E2000640-001X200		20200724_028	Perchlorate6850b.lcm	200x	☒	
25	PERCHLORATE7		20200724_029	Perchlorate6850b.lcm	1x	☒	3100807-04
26	E2000660-001X10		20200724_030	Perchlorate6850b.lcm	10x	☒	
27	E2000627-004X10		20200724_031	Perchlorate6850b.lcm	10x	☒	
28	PERCHLORATE7		20200724_032	Perchlorate6850b.lcm	1x	☒	3100807-04
29	EQ2000302-05X10		20200724_033	Perchlorate6850b.lcm	10x	☒	
30	PERCHLORATE7		20200724_034	Perchlorate6850b.lcm	1x	☒	3100807-04
31	E2000660-003X10		20200724_035	Perchlorate6850b.lcm	10x	☒	
32	E2000660-004X10		20200724_036	Perchlorate6850b.lcm	10x	☒	
33	E2000660-005X2		20200724_037	Perchlorate6850b.lcm	2x	☒	
34	E2000660-006X10		20200724_038	Perchlorate6850b.lcm	10x	☒	
35	PERCHLORATE7		20200724_039	Perchlorate6850b.lcm	1x	☒	3100807-04
36	EQ2000303-01		20200724_040	Perchlorate6850b.lcm	1x	☒	
37	EQ2000303-02		20200724_041	Perchlorate6850b.lcm	1x	☒	
38	EQ2000303-03		20200724_042	Perchlorate6850b.lcm	1x	☒	
39	E2000641-001X20		20200724_043	Perchlorate6850b.lcm	20x	☒	
40	E2000641-002X20		20200724_044	Perchlorate6850b.lcm	20x	☒	
41	E2000641-003X10		20200724_045	Perchlorate6850b.lcm	10x	☒	
42	E2000641-004X20		20200724_046	Perchlorate6850b.lcm	20x	☒	
43	E2000641-005X10		20200724_047	Perchlorate6850b.lcm	10x	☒	
44	E2000641-006X10		20200724_048	Perchlorate6850b.lcm	10x	☒	
45	E2000641-007X10		20200724_049	Perchlorate6850b.lcm	10x	☒	
46	PERCHLORATE7		20200724_050	Perchlorate6850b.lcm	1x	☒	3100807-04
47	E2000641-008X10		20200724_051	Perchlorate6850b.lcm	10x	☒	
48	E2000641-009X10		20200724_052	Perchlorate6850b.lcm	10x	☒	
49	E2000648-001X10		20200724_053	Perchlorate6850b.lcm	10x	☒	
50	E2000648-002X10		20200724_054	Perchlorate6850b.lcm	10x	☒	
51	E2000648-003X20		20200724_055	Perchlorate6850b.lcm	20x	☒	
52	E2000648-005X10		20200724_056	Perchlorate6850b.lcm	10x	☒	

Initial Calibration - Detailed Report

Calibration ID: EC2000016 **Instrument ID:** E-LCMS-01
Column Name: 1

#	Lab Code	Sample Name	File Location	Aquisition Date
01	EC2000016-01	PERCHLORATE1	20200724_005	07/24/2020 11:48
02	EC2000016-02	PERCHLORATE2	20200724_006	07/24/2020 11:56
03	EC2000016-03	PERCHLORATE3	20200724_007	07/24/2020 12:04
04	EC2000016-04	PERCHLORATE4	20200724_008	07/24/2020 12:11
05	EC2000016-05	PERCHLORATE5	20200724_009	07/24/2020 12:19
06	EC2000016-06	PERCHLORATE6	20200724_010	07/24/2020 12:27
07	EC2000016-07	PERCHLORATE7	20200724_011	07/24/2020 12:35
08	EC2000016-08	PERCHLORATE8	20200724_012	07/24/2020 12:43
09	EC2000016-09	PERCHLORATE9	20200724_013	07/24/2020 12:51
10	EC2000016-10	PERCHLORATE10	20200724_014	07/24/2020 12:59

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

Perchlorate **Average RF** **RSD = 4.659** **Average RF = 0.121**

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.1000	0.1283	02	0.5000	0.13	03	0.7000	0.1207	04	1.0000	0.1251
05	2.0000	0.1211	06	5.0000	0.1202	07	10.0000	0.1211	08	20.0000	0.1168
09	30.0000	0.1121	10	50.0000	0.1148						

Analyte

Perchlorate

#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D
01	0.1000	0.106	6.0	02	0.5000	0.537	7.4	03	0.7000	0.698	-0.3
04	1.0000	1.03	3.4	05	2.0000	2.00	0.1	06	5.0000	4.97	-0.7
07	10.0000	10.0	0.1	08	20.0000	19.3	-3.5	09	30.0000	27.8	-7.3
10	50.0000	47.4	-5.1								

Initial Calibration Verification Summary Report

Calibration ID:	EC2000016	**Instrument ID:**	E-LCMS-01
Datafile ID:	20200724_016	**Column Name:**	1

Analyte	Lab Code	Type	Curve Fit	True Value	Calc Conc	Units	Result	Criteria
Perchlorate	EC2000016-11	T	Average RF	10	9.867	ng/mL	-1.3	<= 15

ALS Group Houston

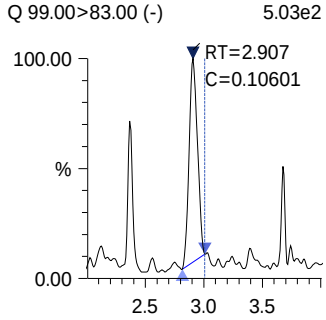
PERCHLORATE1

Date acquired: 7/24/2020 11:48:19 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200724\20200724_005.lcd
Vial: 5 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE1	7/24/2020 11:48:19 AM	2348	0.10601	20200724_005	2.907	25.0000	1.0000	5
Sodium Perchlorate-18O4_IS	PERCHLORATE1	7/24/2020 11:48:19 AM	183001	1.00000	20200724_005	2.903	25.0000	1.0000	5

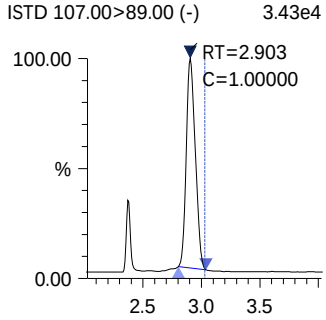
Perchlorate

Conc 0.10601
Area 2348



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 183001



ALS Group Houston

PERCHLORATE2

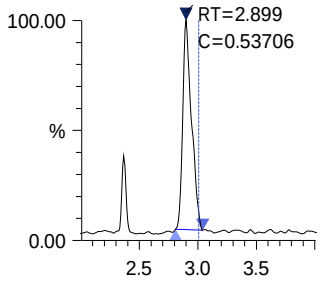
Date acquired: 7/24/2020 11:56:11 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200724\20200724_006.lcd
Vial: 6 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE2	7/24/2020 11:56:11 AM	11773	0.53706	20200724_006	2.899	25.0000	1.0000	6
Sodium Perchlorate-18O4_IS	PERCHLORATE2	7/24/2020 11:56:11 AM	181125	1.00000	20200724_006	2.898	25.0000	1.0000	6

Perchlorate

Conc 0.53706
Area 11773

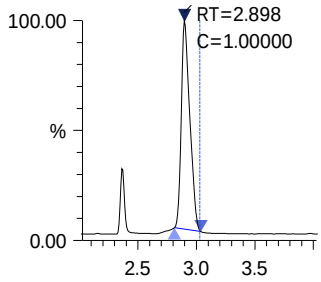
Q 99.00>83.00 (-) 2.32e3



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 181125

ISTD 107.00>89.00 (-) 3.62e4



ALS Group Houston

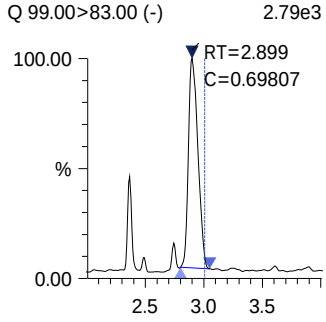
PERCHLORATE3

Date acquired: 7/24/2020 12:04:05 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200724\20200724_007.lcd
Vial: 7 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE3	7/24/2020 12:04:05 PM	15258	0.69807	20200724_007	2.899	25.0000	1.0000	7
Sodium Perchlorate-18O4_IS	PERCHLORATE3	7/24/2020 12:04:05 PM	180602	1.00000	20200724_007	2.896	25.0000	1.0000	7

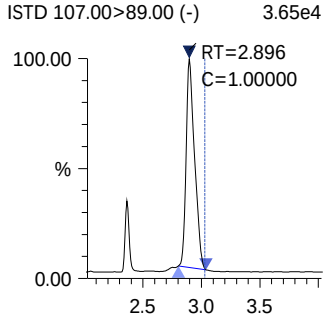
Perchlorate

Conc 0.69807
Area 15258



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 180602



ALS Group Houston

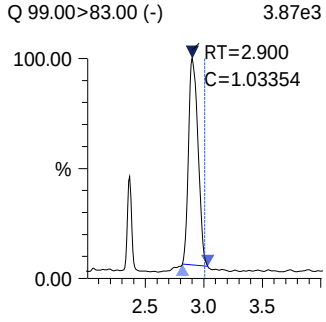
PERCHLORATE4

Date acquired: 7/24/2020 12:11:58 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200724\20200724_008.lcd
Vial: 8 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE4	7/24/2020 12:11:58 PM	20922	1.03354	20200724_008	2.900	25.0000	1.0000	8
Sodium Perchlorate-18O4_IS	PERCHLORATE4	7/24/2020 12:11:58 PM	167260	1.00000	20200724_008	2.902	25.0000	1.0000	8

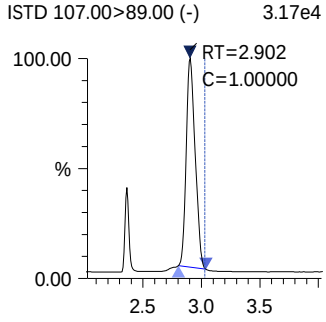
Perchlorate

Conc 1.03354
Area 20922



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 167260



ALS Group Houston

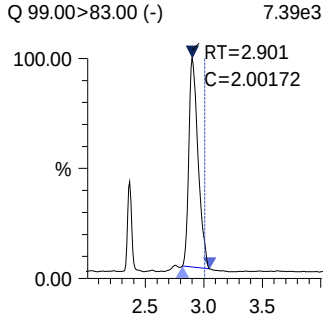
PERCHLORATE5

Date acquired: 7/24/2020 12:19:50 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200724\20200724_009.lcd
Vial: 9 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE5	7/24/2020 12:19:50 PM	39343	2.00172	20200724_009	2.901	25.0000	1.0000	9
Sodium Perchlorate-18O4_IS	PERCHLORATE5	7/24/2020 12:19:50 PM	162397	1.00000	20200724_009	2.899	25.0000	1.0000	9

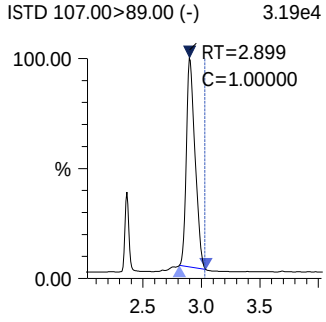
Perchlorate

Conc 2.00172
Area 39343



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 162397



ALS Group Houston

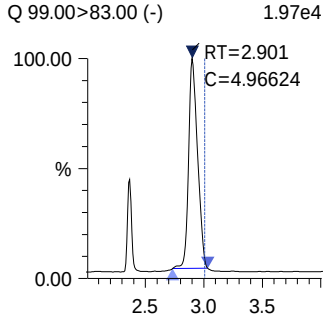
PERCHLORATE6

Date acquired: 7/24/2020 12:27:42 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200724\20200724_010.lcd
Vial: 10 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE6	7/24/2020 12:27:42 PM	102216	4.96624	20200724_010	2.901	25.0000	1.0000	10
Sodium Perchlorate-18O4_IS	PERCHLORATE6	7/24/2020 12:27:42 PM	170060	1.00000	20200724_010	2.900	25.0000	1.0000	10

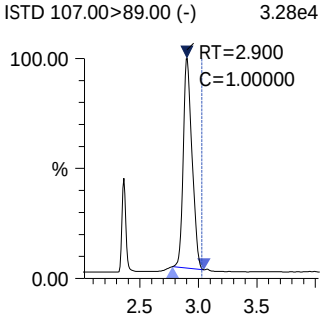
Perchlorate

Conc 4.96624
Area 102216



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 170060



ALS Group Houston

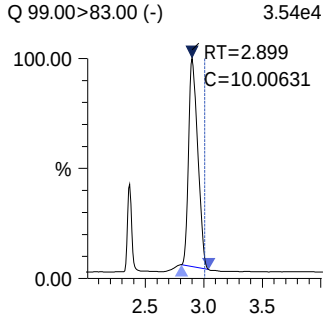
PERCHLORATE7

Date acquired: 7/24/2020 12:35:33 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200724\20200724_011.lcd
Vial: 4 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE7	7/24/2020 12:35:33 PM	187110	10.00631	20200724_011	2.899	25.0000	1.0000	4
Sodium Perchlorate-18O4_IS	PERCHLORATE7	7/24/2020 12:35:33 PM	154502	1.00000	20200724_011	2.897	25.0000	1.0000	4

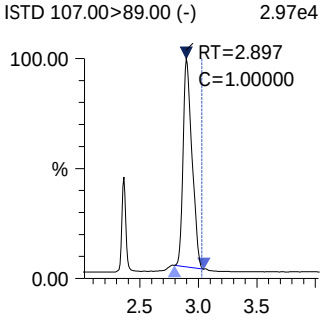
Perchlorate

Conc 10.00631
Area 187110



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 154502



ALS Group Houston

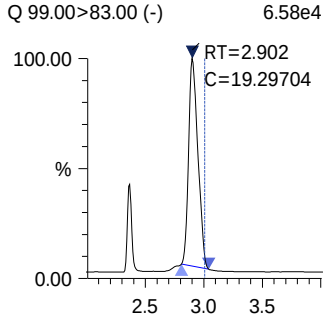
PERCHLORATE8

Date acquired: 7/24/2020 12:43:26 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200724\20200724_012.lcd
Vial: 11 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE8	7/24/2020 12:43:26 PM	349524	19.29704	20200724_012	2.902	25.0000	1.0000	11
Sodium Perchlorate-18O4_IS	PERCHLORATE8	7/24/2020 12:43:26 PM	149657	1.00000	20200724_012	2.900	25.0000	1.0000	11

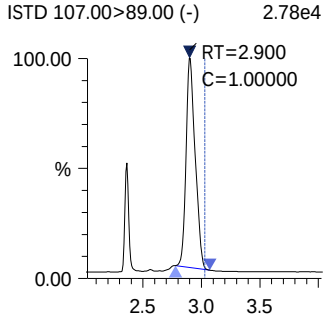
Perchlorate

Conc 19.29704
Area 349524



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 149657



ALS Group Houston

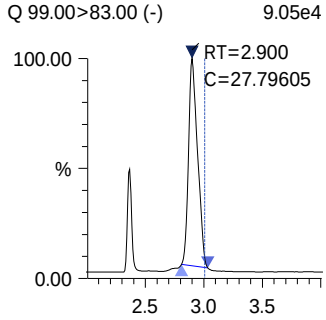
PERCHLORATE9

Date acquired: 7/24/2020 12:51:22 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200724\20200724_013.lcd
Vial: 12 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE9	7/24/2020 12:51:22 PM	465757	27.79605	20200724_013	2.900	25.0000	1.0000	12
Sodium Perchlorate-18O4_IS	PERCHLORATE9	7/24/2020 12:51:22 PM	138448	1.00000	20200724_013	2.898	25.0000	1.0000	12

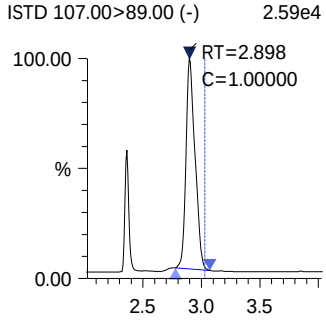
Perchlorate

Conc 27.79605
Area 465757



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 138448



ALS Group Houston

PERCHLORATE10

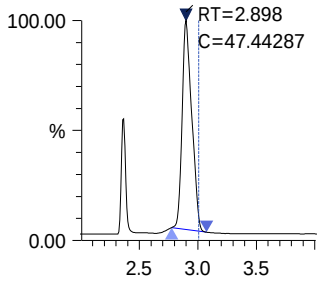
Date acquired: 7/24/2020 12:59:14 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200724\20200724_014.lcd
Vial: 13 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE10	7/24/2020 12:59:14 PM	708682	47.44287	20200724_014	2.898	25.0000	1.0000	13
Sodium Perchlorate-18O4_IS	PERCHLORATE10	7/24/2020 12:59:14 PM	123422	1.00000	20200724_014	2.896	25.0000	1.0000	13

Perchlorate

Conc 47.44287
Area 708682

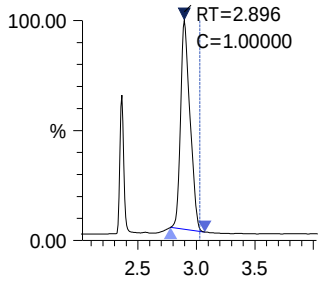
Q 99.00>83.00 (-) 1.28e5



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 123422

ISTD 107.00>89.00 (-) 2.23e4



ALS Group Houston

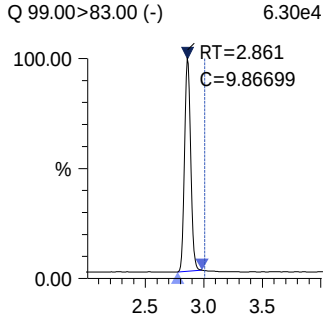
PERCHLORATEICV

Date acquired: 7/24/2020 1:28:19 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200724\20200724_016.lcd
Vial: 14 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATEICV	7/24/2020 1:28:19 PM	231631	9.86699	20200724_016	2.861	25.0000	1.0000	14
Sodium Perchlorate-18O4_IS	PERCHLORATEICV	7/24/2020 1:28:19 PM	193964	1.00000	20200724_016	2.859	25.0000	1.0000	14

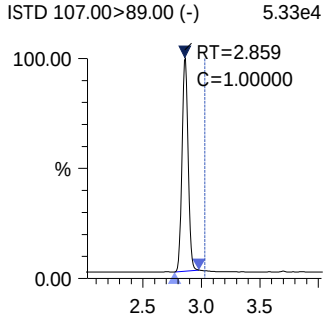
Perchlorate

Conc 9.86699
Area 231631



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 193964



Chromatograms and Selected Ion Monitoring

ALS Environmental - Houston HRMS
10450 Stancliff Rd., Suite 320, Houston TX 77099
Phone (713)266-1599 Fax (713)266-0130
www.alsglobal.com

20200805

ALS Environmental

1st Review: Kneir
2nd Review: Hvan

Injection Log
LCMS01 -Shimadzu 8050

ICAL Date: 7/24/2020
Cal. Std. xp: 11/18/2020
ICAL ID: EC2000016

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

		File Name	Acquisition Method	Dilution	R	Comments
1	null	20200805_001	Perchlorate6850b.lcm	1x	☒	
2	null	20200805_002	Perchlorate6850b.lcm	1x	☒	
3	IB	20200805_003	Perchlorate6850b.lcm	1x	☒	
4	IB	20200805_004	Perchlorate6850b.lcm	1x	☒	
5	LODV	20200805_005	Perchlorate6850b.lcm	1x	☒	
6	ICS	20200805_006	Perchlorate6850b.lcm	1x	☒	
7	PERCHLORATE7	20200805_007	Perchlorate6850b.lcm	1x	☒	3100807-04
8	E2000671-002x10	20200805_008	Perchlorate6850b.lcm	10x	☒	
9	E2000671-003x10	20200805_009	Perchlorate6850b.lcm	10x	☒	
10	E2000671-004x10	20200805_010	Perchlorate6850b.lcm	10x	☒	
11	E2000671-005x10	20200805_011	Perchlorate6850b.lcm	10x	☒	
12	E2000672-001x2	20200805_012	Perchlorate6850b.lcm	2x	☒	
13	E2000689-001x2	20200805_013	Perchlorate6850b.lcm	2x	☒	
14	PERCHLORATE7	20200805_014	Perchlorate6850b.lcm	1x	☒	
15	EQ2000328-01	20200805_015	Perchlorate6850b.lcm	1x	☒	
16	EQ2000328-02	20200805_016	Perchlorate6850b.lcm	1x	☒	
17	EQ2000328-03	20200805_017	Perchlorate6850b.lcm	1x	☒	
18	EQ2000328-04	20200805_018	Perchlorate6850b.lcm	1x	☒	3100807-04
19	EQ2000328-05	20200805_019	Perchlorate6850b.lcm	1x	☒	
20	EQ2000328-06	20200805_020	Perchlorate6850b.lcm	1x	☒	
21	EQ2000328-07	20200805_021	Perchlorate6850b.lcm	1x	☒	3100807-04
22	E2000674-001	20200805_022	Perchlorate6850b.lcm	1x	☒	
23	E2000674-002	20200805_023	Perchlorate6850b.lcm	1x	☒	
24	E2000674-003	20200805_024	Perchlorate6850b.lcm	1x	☒	
25	PERCHLORATE7	20200805_025	Perchlorate6850b.lcm	1x	☒	
26	E2000674-004	20200805_026	Perchlorate6850b.lcm	1x	☒	
27	E2000674-005	20200805_027	Perchlorate6850b.lcm	1x	☒	
28	E2000674-006	20200805_028	Perchlorate6850b.lcm	1x	☒	
29	E2000674-007	20200805_029	Perchlorate6850b.lcm	1x	☒	
30	E2000674-008	20200805_030	Perchlorate6850b.lcm	1x	☒	
31	PERCHLORATE7	20200805_031	Perchlorate6850b.lcm	1x	☒	3100807-04
32	E2000674-002X10	20200805_032	Perchlorate6850b.lcm	10x	☒	
33	E2000674-003X10	20200805_033	Perchlorate6850b.lcm	10x	☒	
34	E2000674-005X10	20200805_034	Perchlorate6850b.lcm	10x	☒	
35	E2000674-006X10	20200805_035	Perchlorate6850b.lcm	10x	☒	
36	E2000674-008X10	20200805_036	Perchlorate6850b.lcm	10x	☒	
37	PERCHLORATE7	20200805_037	Perchlorate6850b.lcm	1x	☒	3100807-04
38	EQ2000328-01	20200805_038	Perchlorate6850b.lcm	1x	☒	
39	EQ2000328-04X10	20200805_039	Perchlorate6850b.lcm	10x	☒	
40	EQ2000328-05X10	20200805_040	Perchlorate6850b.lcm	10x	☒	
41	EQ2000328-06X10	20200805_041	Perchlorate6850b.lcm	10x	☒	
42	EQ2000328-07X10	20200805_042	Perchlorate6850b.lcm	10x	☒	
43	PERCHLORATE7	20200805_043	Perchlorate6850b.lcm	1X	☒	3100807-04
44						
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20200806

ALS Environmental

1st Review: Kneir
2nd Review: Hvan

Injection Log
LCMS01 -Shimadzu 8050

ICAL Date: 7/24/2020
Cal. Std. xp: 11/18/2020
ICAL ID: EC2000016

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

			File Name	Acquisition Method	Dilution	R	Comments
1	null		20200806_001	Perchlorate6850b.lcm	1x	☒	
2	null		20200806_002	Perchlorate6850b.lcm	1x	☒	
3	IB		20200806_003	Perchlorate6850b.lcm	1x	☒	
4	IB		20200806_004	Perchlorate6850b.lcm	1x	☒	
5	LODV		20200806_005	Perchlorate6850b.lcm	1x	☒	
6	ICS		20200806_006	Perchlorate6850b.lcm	1x	☒	
7	PERCHLORATE7		20200806_007	Perchlorate6850b.lcm	1x	☒	3100807-04
8	EQ2000328-06X10		20200806_008	Perchlorate6850b.lcm	10x	☒	
9	EQ2000328-07X10		20200806_009	Perchlorate6850b.lcm	10x	☒	
10	EQ2000318-01		20200806_010	Perchlorate6850b.lcm	1x	☒	
11	E2000674-005X10		20200806_011	Perchlorate6850b.lcm	10x	☒	
12	EQ2000318-02		20200806_012	Perchlorate6850b.lcm	1x	☒	
13	EQ2000318-03		20200806_013	Perchlorate6850b.lcm	1x	☒	
14	EQ2000318-04		20200806_014	Perchlorate6850b.lcm	1x	☒	
15	EQ2000318-05		20200806_015	Perchlorate6850b.lcm	1x	☒	
16	EQ2000328-06X10		20200806_016	Perchlorate6850b.lcm	10x	☒	
17	EQ2000328-07X10		20200806_017	Perchlorate6850b.lcm	10x	☒	
18	PERCHLORATE7		20200806_018	Perchlorate6850b.lcm	1x	☒	3100807-04
19	E2000674-005X10		20200806_019	Perchlorate6850b.lcm	10x	☒	
20	E2000680-001X10		20200806_020	Perchlorate6850b.lcm	10x	☒	
21	R2006334-009		20200806_021	Perchlorate6850b.lcm	1x	☒	
22	R2006334-014		20200806_022	Perchlorate6850b.lcm	1x	☒	
23	R2006334-016		20200806_023	Perchlorate6850b.lcm	1x	☒	
24	PERCHLORATE7		20200806_024	Perchlorate6850b.lcm	1x	☒	3100807-04
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ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20071033

Service Request: E2000674
Date Analyzed: 8/ 5/20

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

Analytical Method: 6850
File ID: I:\LCMS01\DATA\20200805\20200805_014

Calibration Date: 7/24/20
Calibration ID: EC2000016
Analysis Lot: 689820
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.17	0.1210	0.1109	-8.3	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20071033

Service Request: E2000674
Date Analyzed: 8/ 5/20

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

Analytical Method: 6850
File ID: I:\LCMS01\DATA\20200805\20200805_025

Calibration Date: 7/24/20
Calibration ID: EC2000016
Analysis Lot: 689820
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.16	0.1210	0.1109	-8.4	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20071033

Service Request: E2000674
Date Analyzed: 8/ 5/20

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

Analytical Method: 6850
File ID: I:\LCMS01\DATA\20200805\20200805_031

Calibration Date: 7/24/20
Calibration ID: EC2000016
Analysis Lot: 689820
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	8.95	0.1210	0.1083	-10.5	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20071033

Service Request: E2000674
Date Analyzed: 8/ 5/20

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

Analytical Method: 6850
File ID: I:\LCMS01\DATA\20200805\20200805_031

Calibration Date: 7/24/20
Calibration ID: EC2000016
Analysis Lot: 689820
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	8.95	0.1210	0.1083	-10.5	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20071033

Service Request: E2000674
Date Analyzed: 8/ 5/20

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

Analytical Method: 6850
File ID: I:\LCMS01\DATA\20200805\20200805_037

Calibration Date: 7/24/20
Calibration ID: EC2000016
Analysis Lot: 689820
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.02	0.1210	0.1092	-9.8	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20071033

Service Request: E2000674
Date Analyzed: 8/ 5/20

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

Analytical Method: 6850
File ID: I:\LCMS01\DATA\20200805\20200805_043

Calibration Date: 7/24/20
Calibration ID: EC2000016
Analysis Lot: 689820
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.01	0.1210	0.1090	-9.9	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20071033

Service Request: E2000674
Date Analyzed: 8/ 6/20

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

Analytical Method: 6850
File ID: I:\LCMS01\DATA\20200806\20200806_007

Calibration Date: 7/24/20
Calibration ID: EC2000016
Analysis Lot: 689820
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.05	0.1210	0.1095	-9.5	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20071033

Service Request: E2000674
Date Analyzed: 8/ 6/20

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

Analytical Method: 6850
File ID: I:\LCMS01\DATA\20200806\20200806_018

Calibration Date: 7/24/20
Calibration ID: EC2000016
Analysis Lot: 689820
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.28	0.1210	0.1123	-7.2	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20071033

Service Request: E2000674
Date Analyzed: 8/ 6/20

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

Analytical Method: 6850
File ID: I:\LCMS01\DATA\20200806\20200806_024

Calibration Date: 7/24/20
Calibration ID: EC2000016
Analysis Lot: 689820
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.11	0.1210	0.1103	-8.9	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20071033

Service Request: E2000674
Date Analyzed: 8/5/20 11:56

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

File ID: I:\LCMS01\DATA\20200805\20200805_014
Instrument ID: E-LCMS-01
Analytical Method: 6850

Lab Code: EQ2000330-01
Analysis Lot: 689820
Signal ID: 1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	161,047	2.90
	Upper Limit ==>	241,571	4.90
	Lower Limit ==>	80,524	0.90
Associated Analyses			
Continuing Calibration Verification	EQ2000330-01	207,311	2.88
Lab Control Sample	EQ2000328-02	239,187	2.88
Duplicate Lab Control Sample	EQ2000328-03	238,028	2.88
16WW44-200720	E2000674-001	128,893	2.88

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

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20071033

Service Request: E2000674
Date Analyzed: 8/5/20 13:41

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

File ID: I:\LCMS01\DATA\20200805\20200805_025
Instrument ID: E-LCMS-01
Analytical Method: 6850

Lab Code: EQ2000330-02
Analysis Lot: 689820
Signal ID: 1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	161,047	2.90
	Upper Limit ==>	241,571	4.90
	Lower Limit ==>	80,524	0.90
Associated Analyses			
Continuing Calibration Verification	EQ2000330-02	148,884	2.88
16PM09-200720	E2000674-004	91,381	2.87
16PM02-200720	E2000674-007	81,028	2.87

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

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000674
Project:	HS20071033	**Date Analyzed:**	8/5/20 14:28

Internal Standard Area and RT Summary

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

File ID:	I:\LCMS01\DATA\20200805\20200805_031	**Lab Code:**	EQ2000330-03
Instrument ID:	E-LCMS-01	**Analysis Lot:**	689820
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	161,047	2.90
	Upper Limit ==>	241,571	4.90
	Lower Limit ==>	80,524	0.90
Associated Analyses			
Continuing Calibration Verification	EQ2000330-03	144,103	2.88
Continuing Calibration Verification	EQ2000330-04	144,103	2.88

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

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20071033

Service Request: E2000674
Date Analyzed: 8/5/20 14:28

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

File ID: I:\LCMS01\DATA\20200805\20200805_031
Instrument ID: E-LCMS-01
Analytical Method: 6850

Lab Code: EQ2000330-04
Analysis Lot: 689820
Signal ID: 1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	161,047	2.90
	Upper Limit ==>	241,571	4.90
	Lower Limit ==>	80,524	0.90
Associated Analyses			
Continuing Calibration Verification	EQ2000330-03	144,103	2.88
Continuing Calibration Verification	EQ2000330-04	144,103	2.88
16WW14-200720	E2000674-002	149,730	2.82
16RW10-200720	E2000674-003	108,720	2.87
16PM14-200720	E2000674-006	113,600	2.86
16PM03-200720	E2000674-008	111,238	2.87

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

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20071033

Service Request: E2000674
Date Analyzed: 8/5/20 16:15

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

File ID: I:\LCMS01\DATA\20200805\20200805_037
Instrument ID: E-LCMS-01
Analytical Method: 6850

Lab Code: EQ2000330-05
Analysis Lot: 689820
Signal ID: 1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	161,047	2.90
	Upper Limit ==>	241,571	4.90
	Lower Limit ==>	80,524	0.90
Associated Analyses			
Continuing Calibration Verification	EQ2000330-05	176,954	2.88
Method Blank	EQ2000328-01	238,718	2.81
16RW10-200720MS	EQ2000328-04	136,530	2.81
16RW10-200720DMS	EQ2000328-05	106,502	2.87

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

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20071033

Service Request: E2000674
Date Analyzed: 8/5/20 17:10

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

File ID: I:\LCMS01\DATA\20200805\20200805_043
Instrument ID: E-LCMS-01
Analytical Method: 6850

Lab Code: EQ2000330-06
Analysis Lot: 689820
Signal ID: 1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	161,047	2.90
	Upper Limit ==>	241,571	4.90
	Lower Limit ==>	80,524	0.90
Associated Analyses			
Continuing Calibration Verification	EQ2000330-06	137,120	2.88

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

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20071033

Service Request: E2000674
Date Analyzed: 8/6/20 10:24

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

File ID: I:\LCMS01\DATA\20200806\20200806_007
Instrument ID: E-LCMS-01
Analytical Method: 6850

Lab Code: EQ2000330-07
Analysis Lot: 689820
Signal ID: 1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	161,047	2.90
	Upper Limit ==>	241,571	4.90
	Lower Limit ==>	80,524	0.90
Associated Analyses			
Continuing Calibration Verification	EQ2000330-07	168,468	2.88
16PM06-200720MS	EQ2000328-06	173,044	2.82
16PM06-200720DMS	EQ2000328-07	209,760	2.82

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

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20071033

Service Request: E2000674
Date Analyzed: 8/6/20 12:32

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

File ID: I:\LCMS01\DATA\20200806\20200806_018
Instrument ID: E-LCMS-01
Analytical Method: 6850

Lab Code: EQ2000330-08
Analysis Lot: 689820
Signal ID: 1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	161,047	2.90
	Upper Limit ==>	241,571	4.90
	Lower Limit ==>	80,524	0.90
Associated Analyses			
Continuing Calibration Verification	EQ2000330-08	157,554	2.88
16PM06-200720	E2000674-005	190,078	2.82

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

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20071033

Service Request: E2000674
Date Analyzed: 8/6/20 13:35

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

File ID: I:\LCMS01\DATA\20200806\20200806_024
Instrument ID: E-LCMS-01
Analytical Method: 6850

Lab Code: EQ2000330-09
Analysis Lot: 689820
Signal ID: 1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	161,047	2.90
	Upper Limit ==>	241,571	4.90
	Lower Limit ==>	80,524	0.90
Associated Analyses			
Continuing Calibration Verification	EQ2000330-09	159,534	2.88

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

ALS Group Houston

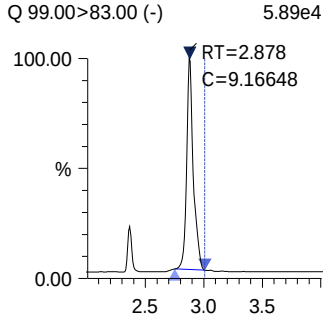
PERCHLORATE7

Date acquired: 8/5/2020 11:56:14 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200805\20200805_014.lcd
Vial: 4 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE7	8/5/2020 11:56:14 AM	229993	9.16648	20200805_014	2.878	25.0000	1.0000	4
Sodium Perchlorate-18O4_IS	PERCHLORATE7	8/5/2020 11:56:14 AM	207311	1.00000	20200805_014	2.877	25.0000	1.0000	4

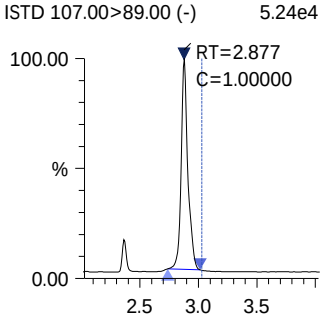
Perchlorate

Conc 9.16648
Area 229993



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 207311



ALS Group Houston

EQ2000328-02

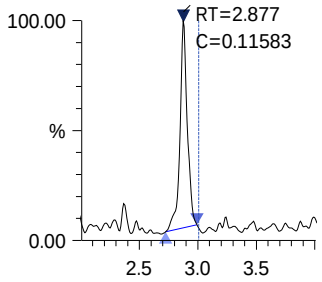
Date acquired: 8/5/2020 12:30:31 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200805\20200805_016.lcd
Vial: 40 | Inj. Volume: 25.0000uL | Tray: 2

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	EQ2000328-02	8/5/2020 12:30:31 PM	3353	0.11583	20200805_016	2.877	25.0000	1.0000	40
Sodium Perchlorate-18O4_IS	EQ2000328-02	8/5/2020 12:30:31 PM	239187	1.00000	20200805_016	2.875	25.0000	1.0000	40

Perchlorate

Conc 0.11583
Area 3353

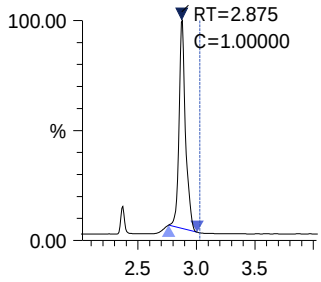
Q 99.00>83.00 (-) 7.93e2



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 239187

ISTD 107.00>89.00 (-) 6.35e4



ALS Group Houston

EQ2000328-03

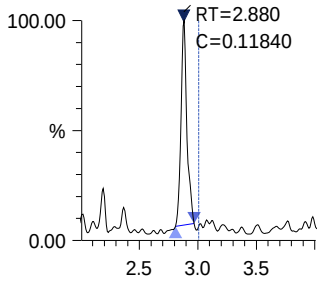
Date acquired: 8/5/2020 12:38:23 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200805\20200805_017.lcd
Vial: 41 | Inj. Volume: 25.0000uL | Tray: 2

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	EQ2000328-03	8/5/2020 12:38:23 PM	3411	0.11840	20200805_017	2.880	25.0000	1.0000	41
Sodium Perchlorate-18O4_IS	EQ2000328-03	8/5/2020 12:38:23 PM	238028	1.00000	20200805_017	2.878	25.0000	1.0000	41

Perchlorate

Conc 0.11840
Area 3411

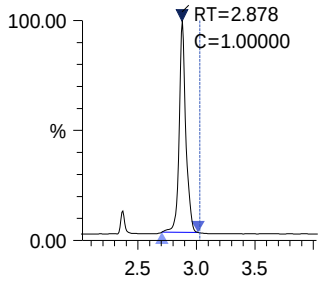
Q 99.00>83.00 (-) 1.02e3



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 238028

ISTD 107.00>89.00 (-) 6.06e4



ALS Group Houston

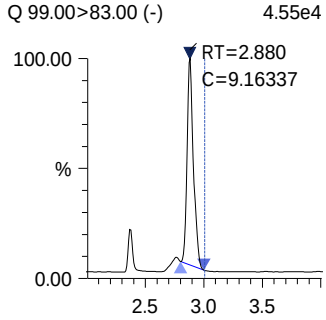
PERCHLORATE7

Date acquired: 8/5/2020 1:41:31 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200805\20200805_025.lcd
Vial: 4 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE7	8/5/2020 1:41:31 PM	165118	9.16337	20200805_025	2.880	25.0000	1.0000	4
Sodium Perchlorate-18O4_IS	PERCHLORATE7	8/5/2020 1:41:31 PM	148884	1.00000	20200805_025	2.879	25.0000	1.0000	4

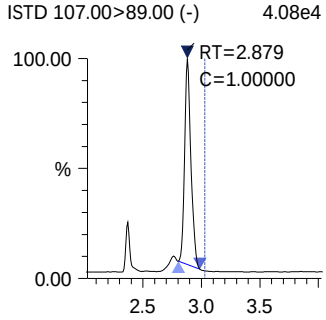
Perchlorate

Conc 9.16337
Area 165118



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 148884



ALS Group Houston

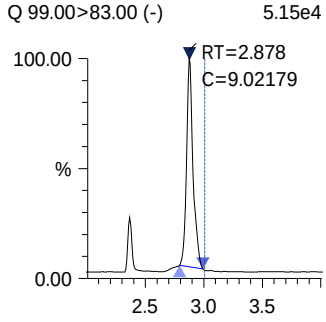
PERCHLORATE7

Date acquired: 8/5/2020 4:15:17 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200805\20200805_037.lcd
Vial: 4 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE7	8/5/2020 4:15:17 PM	193215	9.02179	20200805_037	2.878	25.0000	1.0000	4
Sodium Perchlorate-18O4_IS	PERCHLORATE7	8/5/2020 4:15:17 PM	176954	1.00000	20200805_037	2.876	25.0000	1.0000	4

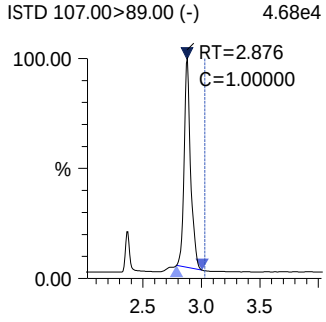
Perchlorate

Conc 9.02179
Area 193215



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 176954



ALS Group Houston

EQ2000328-01

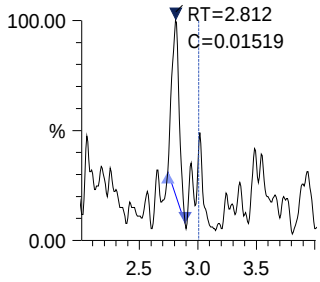
Date acquired: 8/5/2020 4:30:04 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200805\20200805_038.lcd
Vial: 39 | Inj. Volume: 25.0000uL | Tray: 2

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	EQ2000328-01	8/5/2020 4:30:04 PM	439	0.01519	20200805_038	2.812	25.0000	1.0000	39
Sodium Perchlorate-18O4_IS	EQ2000328-01	8/5/2020 4:30:04 PM	238718	1.00000	20200805_038	2.814	25.0000	1.0000	39

Perchlorate

Conc 0.01519
Area 439

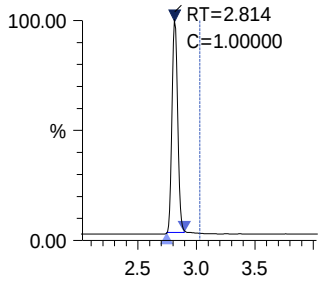
Q 99.00>83.00 (-) 1.20e2



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 238718

ISTD 107.00>89.00 (-) 7.32e4



ALS Group Houston

EQ2000328-04X10

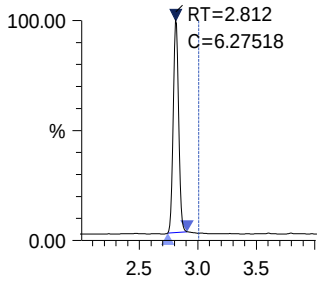
Date acquired: 8/5/2020 4:38:38 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200805\20200805_039.lcd
Vial: 42 | Inj. Volume: 25.0000uL | Tray: 2

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	EQ2000328-04X10	8/5/2020 4:38:38 PM	103691	6.27518	20200805_039	2.812	25.0000	1.0000	42
Sodium Perchlorate-18O4_IS	EQ2000328-04X10	8/5/2020 4:38:38 PM	136530	1.00000	20200805_039	2.810	25.0000	1.0000	42

Perchlorate

Conc 6.27518
Area 103691

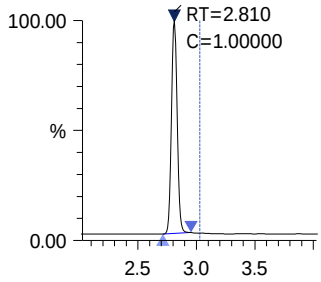
Q 99.00>83.00 (-) 3.19e4



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 136530

ISTD 107.00>89.00 (-) 4.13e4



ALS Group Houston

EQ2000328-05X10

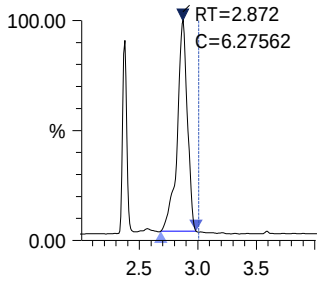
Date acquired: 8/5/2020 4:46:32 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200805\20200805_040.lcd
Vial: 43 | Inj. Volume: 25.0000uL | Tray: 2

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	EQ2000328-05X10	8/5/2020 4:46:32 PM	80892	6.27562	20200805_040	2.872	25.0000	1.0000	43
Sodium Perchlorate-18O4_IS	EQ2000328-05X10	8/5/2020 4:46:32 PM	106502	1.00000	20200805_040	2.872	25.0000	1.0000	43

Perchlorate

Conc 6.27562
Area 80892

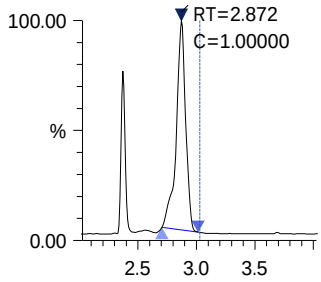
Q 99.00>83.00 (-) 1.36e4



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 106502

ISTD 107.00>89.00 (-) 1.93e4



ALS Group Houston

PERCHLORATE7

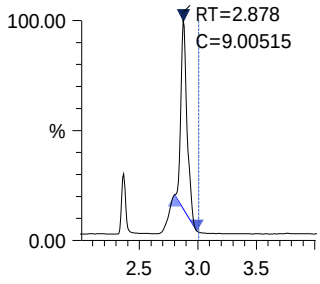
Date acquired: 8/5/2020 5:10:14 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200805\20200805_043.lcd
Vial: 4 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE7	8/5/2020 5:10:14 PM	149444	9.00515	20200805_043	2.878	25.0000	1.0000	4
Sodium Perchlorate-18O4_IS	PERCHLORATE7	8/5/2020 5:10:14 PM	137120	1.00000	20200805_043	2.876	25.0000	1.0000	4

Perchlorate

Conc 9.00515
Area 149444

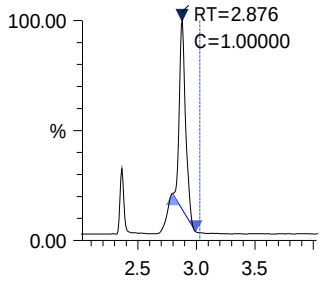
Q 99.00>83.00 (-) 4.64e4



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 137120

ISTD 107.00>89.00 (-) 4.18e4



ALS Group Houston

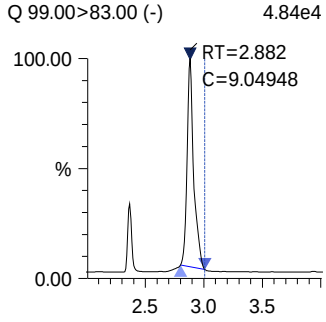
PERCHLORATE7

Date acquired: 8/6/2020 10:24:58 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200806\20200806_007.lcd
Vial: 4 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE7	8/6/2020 10:24:58 AM	184514	9.04948	20200806_007	2.882	25.0000	1.0000	4
Sodium Perchlorate-18O4_IS	PERCHLORATE7	8/6/2020 10:24:58 AM	168468	1.00000	20200806_007	2.881	25.0000	1.0000	4

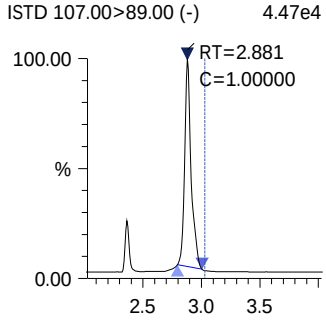
Perchlorate

Conc 9.04948
Area 184514



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 168468



ALS Group Houston

EQ2000328-06X10

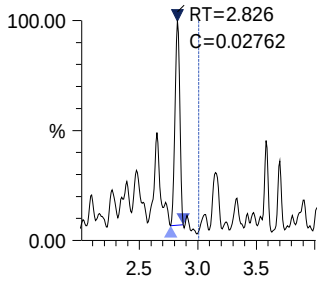
Date acquired: 8/6/2020 11:42:32 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200806\20200806_016.lcd
Vial: 44 | Inj. Volume: 25.0000uL | Tray: 2

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	EQ2000328-06X10	8/6/2020 11:42:32 AM	578	0.02762	20200806_016	2.826	25.0000	1.0000	44
Sodium Perchlorate-18O4_IS	EQ2000328-06X10	8/6/2020 11:42:32 AM	173044	1.00000	20200806_016	2.820	25.0000	1.0000	44

Perchlorate

Conc 0.02762
Area 578

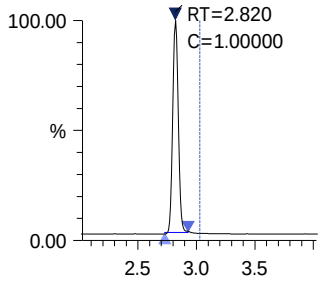
Q 99.00>83.00 (-) 2.08e2



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 173044

ISTD 107.00>89.00 (-) 5.45e4



ALS Group Houston

EQ2000328-07X10

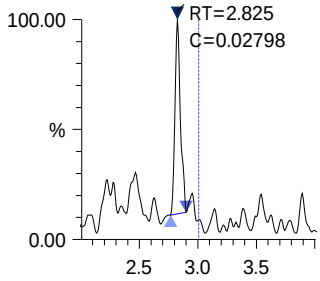
Date acquired: 8/6/2020 12:25:04 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200806\20200806_017.lcd
Vial: 45 | Inj. Volume: 25.0000uL | Tray: 2

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	EQ2000328-07X10	8/6/2020 12:25:04 PM	710	0.02798	20200806_017	2.825	25.0000	1.0000	45
Sodium Perchlorate-18O4_IS	EQ2000328-07X10	8/6/2020 12:25:04 PM	209760	1.00000	20200806_017	2.824	25.0000	1.0000	45

Perchlorate

Conc 0.02798
Area 710

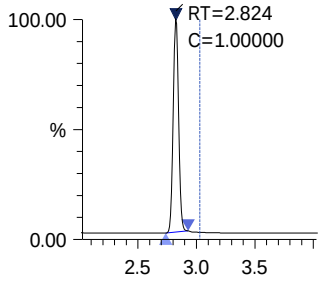
Q 99.00>83.00 (-) 2.37e2



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 209760

ISTD 107.00>89.00 (-) 6.73e4



ALS Group Houston

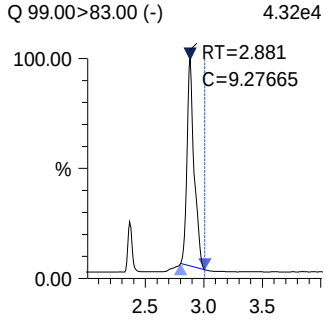
PERCHLORATE7

Date acquired: 8/6/2020 12:32:59 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200806\20200806_018.lcd
Vial: 4 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE7	8/6/2020 12:32:59 PM	176892	9.27665	20200806_018	2.881	25.0000	1.0000	4
Sodium Perchlorate-18O4_IS	PERCHLORATE7	8/6/2020 12:32:59 PM	157554	1.00000	20200806_018	2.880	25.0000	1.0000	4

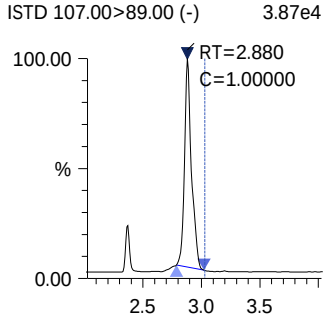
Perchlorate

Conc 9.27665
Area 176892



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 157554



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www.alsglobal.com

August 12, 2020

Analytical Report for Service Request No: K2006280

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

RE: HS20071033

Dear RJ,

Enclosed are the results of the sample(s) submitted to our laboratory July 24, 2020
For your reference, these analyses have been assigned our service request number **K2006280.**

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current NELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. All results are intended to be considered in their entirety, and ALS Group USA Corp. dba ALS Environmental (ALS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please contact me if you have any questions. My extension is 3350. You may also contact me via email at Kelley.Lovejoy@alsglobal.com.

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

for Kelley Lovejoy
Project Manager

RIGHT SOLUTIONS | RIGHT PARTNER

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Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LOD	Limit of Detection
LOQ	Limit of Quantitation
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Inorganic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
E	The result is an estimate amount because the value exceeded the instrument calibration range.
J	The result is an estimated value.
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
i	The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
X	See case narrative.
Q	See case narrative. One or more quality control criteria was outside the limits.
H	The holding time for this test is immediately following sample collection. The samples were analyzed as soon as possible after receipt by the laboratory.

Metals Data Qualifiers

#	The control limit criteria is not applicable. See case narrative.
J	The result is an estimated value.
E	The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
M	The duplicate injection precision was not met.
N	The Matrix Spike sample recovery is not within control limits. See case narrative.
S	The reported value was determined by the Method of Standard Additions (MSA).
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
W	The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
i	The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
X	See case narrative.
+	The correlation coefficient for the MSA is less than 0.995.
Q	See case narrative. One or more quality control criteria was outside the limits.

Organic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
A	A tentatively identified compound, a suspected aldol-condensation product.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
C	The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
D	The reported result is from a dilution.
E	The result is an estimated value.
J	The result is an estimated value.
N	The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
P	The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results.
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
i	The MRL/MDL or LOQ/LOD is elevated due to a chromatographic interference.
X	See case narrative.
Q	See case narrative. One or more quality control criteria was outside the limits.

Additional Petroleum Hydrocarbon Specific Qualifiers

F	The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
L	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
H	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
O	The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
Y	The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
Z	The chromatographic fingerprint does not resemble a petroleum product.

ALS Group USA Corp. dba ALS Environmental (ALS) - Kelso
State Certifications, Accreditations, and Licenses

Agency	Web Site	Number
Alaska DEH	http://dec.alaska.gov/eh/lab/cs/csapproval.htm	UST-040
Arizona DHS	http://www.azdhs.gov/lab/license/env.htm	AZ0339
Arkansas - DEQ	http://www.adeq.state.ar.us/techsvs/labcert.htm	88-0637
California DHS (ELAP)	http://www.cdph.ca.gov/certlic/labs/Pages/ELAP.aspx	2795
DOD ELAP	http://www.denix.osd.mil/edqw/Accreditation/AccreditedLabs.cfm	L16-58-R4
Florida DOH	http://www.doh.state.fl.us/lab/EnvLabCert/WaterCert.htm	E87412
Hawaii DOH	http://health.hawaii.gov/	-
ISO 17025	http://www.pjlabs.com/	L16-57
Louisiana DEQ	http://www.deq.louisiana.gov/page/la-lab-accreditation	03016
Maine DHS	http://www.maine.gov/dhhs/	WA01276
Minnesota DOH	http://www.health.state.mn.us/accreditation	053-999-457
Nevada DEP	http://ndep.nv.gov/bsdw/labservice.htm	WA01276
New Jersey DEP	http://www.nj.gov/dep/enforcement/oqa.html	WA005
New York - DOH	https://www.wadsworth.org/regulatory/elap	12060
North Carolina DEQ	https://deq.nc.gov/about/divisions/water-resources/water-resources-data/water-sciences-home-page/laboratory-certification-branch/non-field-lab-certification	605
Oklahoma DEQ	http://www.deq.state.ok.us/CSDnew/labcert.htm	9801
Oregon – DEQ (NELAP)	http://public.health.oregon.gov/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	WA100010
South Carolina DHEC	http://www.scdhec.gov/environment/EnvironmentalLabCertification/	61002
Texas CEQ	http://www.tceq.texas.gov/field/qa/env_lab_accreditation.html	T104704427
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C544
Wyoming (EPA Region 8)	https://www.epa.gov/region8-waterops/epa-region-8-certified-drinking-water-	-
Kelso Laboratory Website	www.alsglobal.com	NA

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. A complete listing of specific NELAP-certified analytes, can be found in the certification section at www.ALSGlobal.com or at the accreditation bodies web site.
Please refer to the certification and/or accreditation body's web site if samples are submitted for compliance purposes. The states highlighted above, require the analysis be listed on the state certification if used for compliance purposes and if the method/anlayte is offered by that state.

Case Narrative

ALS Environmental—Kelso Laboratory
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1317 South 13th Ave, Kelso, WA 98626 | 1-360-577-7222 | www.alsglobal.com

Client: ALS Environmental - US
Project: HS20071033
Sample Matrix: Ground Water

Service Request: K2006280
Date Received: 07/24/2020

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples for the Tier level IV requested by the client.

Sample Receipt:

Three ground water samples were received for analysis at ALS Environmental on 07/24/2020. Any discrepancies upon initial sample inspection are annotated on the sample receipt and preservation form included within this report. The samples were stored at minimum in accordance with the analytical method requirements.

General Chemistry:

No significant anomalies were noted with this analysis.

Approved by Noe D. Oaxi Date 08/12/2020

Chain of Custody

ALS Environmental—Kelso Laboratory
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Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887
www.alsglobal.com

Subcontract Chain of Custody

SAMPLING STATE: **Dept of Defense** **COC ID:** **14356**

SUBCONTRACT TO:

ALS Environmental Kelso
1317 S. 13th Avenue
Kelso, WA 98626

Phone: +1 360 501 3312

CUSTOMER INFORMATION:

Company: ALS Houston
Contact: RJ Modashia
Address: 10450 Stancliff Rd, Ste 210
Phone: +1 281 530 5656
Email: RJ.Modashia@alsglobal.com
Alternate Contact:
Email:

INVOICE INFORMATION:

Company: ALS Houston
Contact: Accounts Payable
Address: 10450 Stancliff Rd, Ste 210
Phone: +1 281 530 5656
Reference: HS20071033
TSR: Sonia West

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	**HS20071033-03**	**16RW10-200720**	**Groundwater**	**20 Jul 2020 09:20**
	TOC Analysis with DOD Level IV/EQuIS APTIM EDD			05 Aug 2020
2.	**HS20071033-05**	**16PM06-200720**	**Groundwater**	**20 Jul 2020 11:00**
	TOC Analysis with DOD Level IV/EQuIS APTIM EDD			05 Aug 2020
3.	**HS20071033-06**	**16PM14-200720**	**Groundwater**	**20 Jul 2020 11:55**
	TOC Analysis with DOD Level IV/EQuIS APTIM EDD			05 Aug 2020

Comments: Please analyze for the analysis listed above.
Send report to the emails shown above.
HS20071033-03 & HS20071033-05 = MS/MSD

QC Level: DOD IV (DoD Data Package)

Relinquished By: _____ Date/Time: 7/23/2020 1800

Received By: _____ Date/Time: 7/24/20 0930

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

PC_____

Cooler Receipt and Preservation Form

Client AP-Houston Service Request *K20*

Received: 7/24/20 Opened: 7/24/20 By: BR Unloaded: 7/24/20 By: BR

1. Samples were received via? *USPS* *Fed Ex* *UPS* *DHL* *PDX* *Courier* *Hand Delivered*
2. Samples were received in: (circle) *Cooler* *Box* *Envelope* *Other*_____ *NA*
3. Were custody seals on coolers? NA Y N If yes, how many and where? Front
   If present, were custody seals intact? Y N If present, were they signed and dated? Y N

Temp Blank	Sample 1	Sample 2	Sample 3	Sample 4	IR GUN	Cooler / COC ID NA	Tracking Number NA	Filed
0.1	—	—	—	—	1801		1891 8578 0540	

4. Packing material: *Inserts* *Baggies* *Bubble Wrap* *Gel Packs* *Wet Ice* *Dry Ice* *Sleeves* _____
5. Were custody papers properly filled out (ink, signed, etc.)? NA Y N
6. Were samples received in good condition (temperature, unbroken)? *Indicate in the table below.* NA Y N
   If applicable, tissue samples were received: *Frozen* *Partially Thawed* *Thawed*
7. Were all sample labels complete (i.e analysis, preservation, etc.)? NA Y N
8. Did all sample labels and tags agree with custody papers? *Indicate major discrepancies in the table on page 2.* NA Y N
9. Were appropriate bottles/containers and volumes received for the tests indicated? NA Y N
10. Were the pH-preserved bottles (*see SMO GEN SOP*) received at the appropriate pH? *Indicate in the table below* NA Y N
11. Were VOA vials received without headspace? *Indicate in the table below.* NA Y N
12. Was C12/Res negative? NA Y N

Sample ID on Bottle	Sample ID on COC	Identified by:

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

Notes, Discrepancies, & Resolutions: _____

General Chemistry

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360)577-7222 Fax (360)636-1068
www.alsglobal.com

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	K2006280
Project:	HS20071033	**Date Collected:**	07/20/20
Sample Matrix:	Ground Water	**Date Received:**	07/24/20
Analysis Method:	SM 5310 C	**Units:**	mg/L
Prep Method:	None	**Basis:**	NA

Carbon, Total Organic

Sample Name	Lab Code	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
16RW10-200720	K2006280-001	**4.58**	0.50	0.20	0.07	1	08/10/20 11:49	
16PM06-200720	K2006280-002	**8.08**	0.50	0.20	0.07	1	08/10/20 11:49	
16PM14-200720	K2006280-003	**9.97**	0.50	0.20	0.07	1	08/10/20 11:49	
Method Blank	K2006280-MB	ND U	0.50	0.20	0.07	1	08/10/20 11:49	

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	K2006280
Project:	HS20071033	**Date Analyzed:**	08/10/20
Sample Matrix:	Ground Water	**Date Extracted:**	NA

Lab Control Sample Summary
Carbon, Total Organic

Analysis Method:	SM 5310 C	**Units:**	mg/L
Prep Method:	None	**Basis:**	NA
		Analysis Lot:	690342

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K2006280-LCS	24.6	25.0	98	83-117

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US **Service Request:** K2006280
Project: HS20071033

Continuing Calibration Verification (CCV) Summary

Carbon, Total Organic

Analysis Method: SM 5310 C **Units:** mg/L

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	690342	KQ2010989-03	08/10/20 11:49	25.0	24.8	99	90-110
CCV2	690342	KQ2010989-04	08/10/20 11:49	25.0	24.4	98	90-110
CCV3	690342	KQ2010989-10	08/10/20 11:49	25.0	24.4	98	90-110

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US **Service Request:**K2006280
Project: HS20071033

Continuing Calibration Blank (CCB) Summary
Carbon, Total Organic

Analysis Method: SM 5310 C **Units:**mg/L

	Analysis Lot	Lab Code	Date Analyzed	LOQ	LOD	MDL	Result	Q
CCB1	690342	KQ2010989-05	08/10/20 11:49	0.50	0.20	0.07	ND	U
CCB2	690342	KQ2010989-06	08/10/20 11:49	0.50	0.20	0.07	ND	U
CCB3	690342	KQ2010989-09	08/10/20 11:49	0.50	0.20	0.07	ND	U

Raw Data

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360)577-7222 Fax (360)636-1068
www.alsglobal.com

General Chemistry

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Work Request #	6332	6345	6376	6497	6257	6280	6330	
Tier:	IV	II	IV	IV	IV	IV	IV	
Date Analyzed:	8-10-20		6331 IV	6357 I	6373 IV	6498 IV	6506 II	6651 II
Analyst:	MK				Run #	690342 | 690414		
Analysis:	TOC							

DATA QUALITY REPORT
INORGANICS

Explain any "no" responses to questions below, and any corrective actions in the comments section below.

1.	Is the method name and number correct and appropriate?	yes/no/NA
2.	Holding times met for all analyses and for all samples?	yes/no/NA
3.	Are calculations correct?	yes/no/NA
4.	Is the reporting basis correct? (Dry Weight)	yes/no/NA
5.	All quality control criteria met?	yes/no
6.	Is the calibration curve correlation coefficient ≥ 0.995?	yes/no/NA
7.	MBs, CCVs, CCBs, LCSs, Dups, and Spikes, analyzed at proper frequency?	yes/no/NA
8.	Are ICVs, CCVs, and CCBs all within acceptance limits?	yes/no/NA
9.	Are results for methods blanks all ND?	yes/no/NA
10.	Are all QC samples within acceptance criteria? (LCS % rec, MS/DMS % rec, DUP or MS/DMS RPDs, etc.)	yes/no/NA
11.	Are all exceptions explained?	yes/no/NA
12.	Have all applicable service requests been reviewed?	yes/no/NA
13.	Are all samples labeled correctly?	yes/no/NA
14.	Have all instructions on the service request been followed? (e.g. Special MRLs, QC on a specific sample, Form V)	yes/no/NA
15.	Are detection limits and units reported correctly?	yes/no/NA
16.	Is the unused space on the benchsheet crossed out?	yes/no/NA
17.	Was analysis turned in by the due date? (n-2) (If not record SR#)	yes/no/NA

COMMENTS:

Final Approved by: _____ Date: 8/11/20

DQREPORT

Analytical Results Summary

Instrument Name: K-TOC-01 **Analyst:** MKANALY **Analysis Lot:** 690414 **Method/Testcode:** SM 5310 C/TOC T

Lab Code	Target Analytes	QC	Parent Sample	Matrix	Raw Result	Sample Amt.	Final Result	Dil	MDL	PQL	% Rec	% RSD	Date Analyzed	QC?	Tier
K2006332-001	Carbon, Total Organic	N/A		Water	0.65 mg/L	10 mL	0.65 mg/L	1	0.07	0.50			8/10/20 08:15:00	N	IV
K2006345-001	Carbon, Total Organic	N/A		Water	0.59 mg/L	10 mL	0.59 mg/L	1	0.07	0.50			8/10/20 08:15:00	N	II
K2006345-002	Carbon, Total Organic	N/A		Water	0.66 mg/L	10 mL	0.66 mg/L	1	0.07	0.50			8/10/20 08:15:00	N	II
K2006345-003	Carbon, Total Organic	N/A		Water	0.81 mg/L	10 mL	0.81 mg/L	1	0.07	0.50			8/10/20 08:15:00	N	II
K2006345-004	Carbon, Total Organic	N/A		Water	0.72 mg/L	10 mL	0.72 mg/L	1	0.07	0.50			8/10/20 08:15:00	N	II
K2006345-005	Carbon, Total Organic	N/A		Water	0.68 mg/L	10 mL	0.68 mg/L	1	0.07	0.50			8/10/20 08:15:00	N	II
K2006345-006	Carbon, Total Organic	N/A		Water	0.40 mg/L	10 mL	0.40 mg/L J	1	0.07	0.50			8/10/20 08:15:00	N	II
K2006345-007	Carbon, Total Organic	N/A		Water	0.96 mg/L	10 mL	0.96 mg/L	1	0.07	0.50			8/10/20 08:15:00	N	II
K2006345-008	Carbon, Total Organic	N/A		Water	0.55 mg/L	10 mL	0.55 mg/L	1	0.07	0.50			8/10/20 08:15:00	N	II
K2006376-001	Carbon, Total Organic	N/A		Water	1.15 mg/L	10 mL	1.15 mg/L	1	0.07	0.50			8/10/20 08:15:00	N	IV
K2006376-002	Carbon, Total Organic	N/A		Water	1.58 mg/L	10 mL	1.58 mg/L	1	0.07	0.50			8/10/20 08:15:00	N	IV
K2006376-003	Carbon, Total Organic	N/A		Water	1.28 mg/L	10 mL	1.28 mg/L	1	0.07	0.50			8/10/20 08:15:00	N	IV
K2006497-001	Carbon, Total Organic	N/A		Ground Water	4.11 mg/L	10 mL	4.11 mg/L	1	0.07	0.50			8/10/20 08:15:00	N	IV
K2006497-004	Carbon, Total Organic	N/A		Ground Water	28.43 mg/L	10 mL	711 mg/L	25	2	13			8/10/20 08:15:00	N	IV
K2006497-005	Carbon, Total Organic	N/A		Ground Water	3.34 mg/L	10 mL	3.34 mg/L	1	0.07	0.50			8/10/20 08:15:00	N	IV
K2006497-006	Carbon, Total Organic	N/A		Ground Water	47.81 mg/L	10 mL	47.8 mg/L	1	0.07	0.50			8/10/20 08:15:00	N	IV
KQ2011025-01	Carbon, Total Organic	DUP	K2006376-003	Water	1.25 mg/L	10 mL	1.25 mg/L	1	0.07	0.50		2	8/10/20 08:15:00	N	IV
KQ2011025-02	Carbon, Total Organic	MS	K2006376-003	Water	27.72 mg/L	10 mL	27.7 mg/L	1	0.07	0.50	106		8/10/20 08:15:00	N	IV
KQ2011025-03	Carbon, Total Organic	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			8/10/20 08:15:00	N	IV
KQ2011025-04	Carbon, Total Organic	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			8/10/20 08:15:00	N	IV
KQ2011025-05	Carbon, Total Organic	CCB		Water	0.02 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			8/10/20 08:15:00	N	IV
KQ2011025-06	Carbon, Total Organic	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			8/10/20 08:15:00	N	IV
KQ2011025-07	Carbon, Total Organic	CCV		Water	24.39 mg/L	10 mL	24.4 mg/L	1					8/10/20 08:15:00	N	IV
KQ2011025-08	Carbon, Total Organic	CCV		Water	24.42 mg/L	10 mL	24.4 mg/L	1					8/10/20 08:15:00	N	IV
KQ2011025-09	Carbon, Total Organic	CCV		Water	24.80 mg/L	10 mL	24.8 mg/L	1					8/10/20 08:15:00	N	IV
KQ2011025-10	Carbon, Total Organic	CCV		Water	24.03 mg/L	10 mL	24.0 mg/L	1					8/10/20 08:15:00	N	IV
KQ2011025-11	Carbon, Total Organic	MB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			8/10/20 08:15:00	N	IV
KQ2011025-12	Carbon, Total Organic	LCS		Water	24.40 mg/L	10 mL	24.4 mg/L	1	0.07	0.50	98		8/10/20 08:15:00	N	IV

# indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

Analytical Results Summary

Instrument Name: K-TOC-01 **Analyst:** MKANALY **Analysis Lot:** 690342 **Method/Testcode:** SM 5310 C/TOC T

Lab Code	Target Analytes	QC	Parent Sample	Matrix	Raw Result	Sample Amt.	Final Result	Dil	MDL	PQL	% Rec	% RSD	Date Analyzed	QC?	Tier
K2006257-001	Carbon, Total Organic	N/A		Water	0.91 mg/L	10 mL	0.91 mg/L	1	0.07	0.50			8/10/20 11:49:00	N	IV
K2006280-001	Carbon, Total Organic	N/A		Ground Water	4.58 mg/L	10 mL	4.58 mg/L	1	0.07	0.50			8/10/20 11:49:00	N	IV
K2006280-002	Carbon, Total Organic	N/A		Ground Water	8.08 mg/L	10 mL	8.08 mg/L	1	0.07	0.50			8/10/20 11:49:00	N	IV
K2006280-003	Carbon, Total Organic	N/A		Ground Water	9.97 mg/L	10 mL	9.97 mg/L	1	0.07	0.50			8/10/20 11:49:00	N	IV
K2006330-001	Carbon, Total Organic	N/A		Water	1.70 mg/L	10 mL	1.70 mg/L	1	0.07	0.50			8/10/20 11:49:00	N	IV
K2006330-002	Carbon, Total Organic	N/A		Water	1.51 mg/L	10 mL	1.51 mg/L	1	0.07	0.50			8/10/20 11:49:00	N	IV
K2006330-003	Carbon, Total Organic	N/A		Water	1.87 mg/L	10 mL	1.87 mg/L	1	0.07	0.50			8/10/20 11:49:00	N	IV
K2006331-001	Carbon, Total Organic	N/A		Water	0.88 mg/L	10 mL	0.88 mg/L	1	0.07	0.50			8/10/20 11:49:00	N	IV
K2006331-002	Carbon, Total Organic	N/A		Water	1.01 mg/L	10 mL	1.01 mg/L	1	0.07	0.50			8/10/20 11:49:00	N	V
K2006357-001	Carbon, Total Organic	N/A		Water	40.99 mg/L	10 mL	41.0 mg/L	1	0.07	0.50			8/10/20 11:49:00	N	I
K2006373-001	Carbon, Total Organic	N/A		Water	1.95 mg/L	10 mL	1.95 mg/L	1	0.07	0.50			8/10/20 11:49:00	N	II
K2006498-001	Carbon, Total Organic	N/A		Water	2.77 mg/L	10 mL	2.77 mg/L	1	0.07	0.50			8/10/20 11:49:00	N	IV
K2006506-001	Carbon, Total Organic	N/A		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			8/10/20 11:49:00	N	II
K2006651-001	Carbon, Total Organic	N/A		Water	2.24 mg/L	10 mL	2.24 mg/L	1	0.07	0.50			8/10/20 11:49:00	N	II
KQ2010989-01	Carbon, Total Organic	DUP	K2006373-001	Water	1.96 mg/L	10 mL	1.96 mg/L	1	0.07	0.50		<1	8/10/20 11:49:00	N	II
KQ2010989-02	Carbon, Total Organic	MS	K2006373-001	Water	28.22 mg/L	10 mL	28.2 mg/L	1	0.07	0.50	105		8/10/20 11:49:00	N	II
KQ2010989-03	Carbon, Total Organic	CCV		Water	24.83 mg/L	10 mL	24.8 mg/L	1					8/10/20 11:49:00	N	II
KQ2010989-04	Carbon, Total Organic	CCV		Water	24.39 mg/L	10 mL	24.4 mg/L	1					8/10/20 11:49:00	N	II
KQ2010989-05	Carbon, Total Organic	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			8/10/20 11:49:00	N	II
KQ2010989-06	Carbon, Total Organic	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			8/10/20 11:49:00	N	II
KQ2010989-07	Carbon, Total Organic	MB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			8/10/20 11:49:00	N	II
KQ2010989-08	Carbon, Total Organic	LCS		Water	24.61 mg/L	10 mL	24.6 mg/L	1	0.07	0.50	98		8/10/20 11:49:00	N	II
KQ2010989-09	Carbon, Total Organic	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			8/10/20 11:49:00	N	V
KQ2010989-10	Carbon, Total Organic	CCV		Water	24.42 mg/L	10 mL	24.4 mg/L	1					8/10/20 11:49:00	N	V

# indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

690342
690414

Schedule: 081020PART

Version: 5
Instrument: Fusion1
Last Saved by: Fusion1 (Fusion1)
Last Saved on: 2020/08/11 08:15 - Tuesday

Position	Sample Type	Sample ID	Method ID (Calibration ID)	Reps	Use	State
(Clean)	Clean	Clean		1	True	Ready
(Clean)	Clean	Clean		1	True	Ready
(Clean)	Clean	Clean		1	True	Ready
(Blank)	Blank	Reagent/Acid Blank		1	True	Ready
D	Sample	RB	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
B	Check Standard	[TOC] CCV 25 ppm [25 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
D	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
1	Sample	MB1	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
C	Check Standard	[TOC] LCS [24.0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
2	Sample	ICS	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
3	Sample	k2006373-001	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
4	Sample	K2006373-001D	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
5	Sample	K2006373-001MS	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
6	Sample	K2006330-001	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
7	Sample	K2006330-002	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
8	Sample	K2006330-003	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
9	Sample	K2006331-001	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
B	Check Standard	[TOC] CCV 25 ppm [25 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
D	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
10	Sample	K2006331-002	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
11	Sample	K2006280-001	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
12	Sample	K2006280-002	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
13	Sample	K2006280-003	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
14	Sample	K2006257-001	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
15	Sample	K2006357-001	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
16	Sample	K2006498-001	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
17	Sample	K2006651-001	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
18	Sample	K2006506-001	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
19	Sample	K2006376-001	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
B	Check Standard	[TOC] CCV 25 ppm [25 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
D	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
20	Sample	MB2	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
C	Check Standard	[TOC] LCS [24.0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
21	Sample	K2006376-002	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
22	Sample	K2006376-003	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
23	Sample	K2006376-003D	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
24	Sample	K2006376-003MS	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
25	Sample	K2006497-001	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
26	Sample	K2006497-004 25X	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
27	Sample	K2006497-005	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
28	Sample	K2006497-006 20X	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
B	Check Standard	[TOC] CCV 25 ppm [25 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
D	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
29	Sample	K2006345-001	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
30	Sample	K2006345-002	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
31	Sample	K2006345-003	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
32	Sample	K2006345-004	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
33	Sample	K2006345-005	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
34	Sample	K2006345-006	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
35	Sample	K2006345-007	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
36	Sample	K2006345-008	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
37	Sample	K2006332-001	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
38	Sample	RB	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
B	Check Standard	[TOC] CCV 25 ppm [25 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready

Schedule: 081020PART

Position	Sample Type	Sample ID	Method ID (Calibration ID)	Reps	Use	State
D	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
1	Sample		CAS_salt_010711 (CAS_salt_010711)	1	False	Ready
					False	

Fusion Report - 081020
Monday, August 10, 2020 08:55 AM

(View - Reps, Unused Reps, Meta-Data, Signature, History)
Printed on 2020/08/11 08:18 - Tuesday

Report Summary Information

Company Location:	Gen Chem Lab		
Schedule Name:	081020	Engine Version:	1.1.5.1
Instrument Name:	Fusion1	Firmware Version:	1.2.0696
Report Version:	1 of 1	Connection:	RS232 COM1
Report Creation by Operators (schedule version):	Fusion1 (Fusion1) (v1) Fusion1 (Fusion1) (v2) Fusion1 (Fusion1) (v3) Fusion1 (Fusion1) (v8) Fusion1 (Fusion1) (v10)		
Comment:			

Report Results

Sample Type: Clean — From Schedule Version 1

	Pos	Analysis Type	Sample ID	Start Time
◆	(clean)		Clean	2020/08/10 08:55

Rep #	Base Analysis Type	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	IC Clean	13.59	27.10	13.51	49.75	07:58
2	TC Clean	14.25	27.50	13.25	49.52	07:15
3	TC Clean	3.51	16.73	13.23	49.83	07:00
4	TC Clean	2.18	15.49	13.31	49.61	07:02

Sample Type: Clean — From Schedule Version 1

	Pos	Analysis Type	Sample ID	Start Time
◆	(clean)		Clean	2020/08/10 09:29

Rep #	Base Analysis Type	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	IC Clean	-0.11	13.08	13.19	49.85	07:59
2	TC Clean	6.75	19.98	13.23	49.89	07:14
3	TC Clean	2.26	15.29	13.04	49.69	07:00

4	TC Clean	1.70	14.66	12.96	49.89	07:03

Sample Type: Clean From Schedule Version 1

	Pos	Analysis Type	Sample ID	Start Time
◆	(clean)		Clean	2020/08/10 10:03

Rep #	Base Analysis Type	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	IC Clean	-0.12	12.95	13.07	49.69	05:20
2	TC Clean	5.87	18.80	12.93	49.79	07:15
3	TC Clean	1.45	14.56	13.12	49.95	07:01
4	TC Clean	1.06	14.24	13.18	49.85	07:00

Sample Type: Blank (Creating v1431) From Schedule Version 2

	Pos	Analysis Type	Sample ID	Start Time
◆	(blank)		Reagent/Acid Blank	2020/08/10 10:34

Rep #	Base Analysis Type	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	IC Clean	-0.38	12.81	13.19	49.55	05:15
2	TC Clean	5.58	18.69	13.10	49.98	07:17
3	TC Clean	1.28	14.48	13.19	49.82	07:00
4	TC Clean	1.17	14.37	13.20	49.76	07:02
5	Reagent Blank	5.19	18.27	13.09	49.97	08:09
6	Acid Blank	0.27	13.25	12.98	49.61	05:31

Sample Type: Sample From Schedule Version 2

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	D	TOC	RB	0.2109 ppm	0.0000 ppm	0.0000%	2020/08/10 11:21

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.2109	2.1088	10.73	23.88	13.15	50.04	10:33

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2487 (IC) (v1431)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> CCV 25 ppm From Schedule Version 2

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	B	TOC	25.0000	1:2	[TOC] CCV 25 ppm [25 ppm]	0 / infinity (NA / NA)	24.8308 ppm (PASS)	0.0000 ppm	0%	2020/08/10 11:35

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	24.8308	248.3083	184.08	197.28	13.20	49.97	10:29

Completion State	Success Action	Method	Calibration	STD Conc - Pos B
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	50 ppmC

Sample Type: Check Standard --> CCB From Schedule Version 2

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	D	TOC	0.0000	1:1	[TOC] CCB [0 ppm]	0 / infinity (NA / NA)	0.0000 ppm (PASS)	0.0000 ppm	0%	2020/08/10 11:50

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.0000	0.0000	8.88	22.18	13.30	49.99	10:34

Completion State	Success Action	Method	Calibration	STD Conc - Pos D
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	0 ppmC

Sample Type: Sample From Schedule Version 2

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	1	TOC	MB1	0.0000 ppm	0.0000 ppm	0.0000%	2020/08/10 12:05

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0000	0.0000	8.47	21.52	13.04	49.99	10:33

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2487 (IC) (v1431)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> LCS From Schedule Version 2

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	C	TOC	25.0000	1:1	[TOC] LCS [24.0 ppm]	0 / infinity (NA / NA)	24.6086 ppm (PASS)	0.0000 ppm	0%	2020/08/10 12:20

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
C	TOC	25.0 ppm	1	24.6086	246.0858	182.52	195.71	13.19	49.95	10:33

Completion State	Success Action	Method	Calibration	STD Conc - Pos C
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	25 ppmC

Sample Type: Sample From Schedule Version 2

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	2	TOC	ICS	0.5519 ppm	0.0000 ppm	0.0000%	2020/08/10 12:34

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.5519	5.5187	13.12	26.29	13.17	50.03	10:31

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2487 (IC) (v1431)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	3	TOC	k2006373-001	1.9518 ppm	0.0561 ppm	2.8800%	2020/08/10 12:49

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.9915	19.9154	23.22	36.45	13.24	49.99	10:28
2	TOC	1.9121	19.1213	22.66	35.92	13.26	50.00	10:28

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2487 (IC) (v1431)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	4	TOC	K2006373-001D	1.9556 ppm	0.0411 ppm	2.1000%	2020/08/10 13:17

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.9847	19.8469	23.17	36.39	13.22	50.01	10:26
2	TOC	1.9265	19.2653	22.76	35.91	13.15	50.05	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2487 (IC) (v1431)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	5	TOC	K2006373-001MS	28.2182 ppm	0.2043 ppm	0.7200%	2020/08/10 13:45

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	28.3627	283.6268	208.21	221.40	13.20	49.96	10:29
2	TOC	28.0737	280.7372	206.18	219.49	13.30	50.03	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2487 (IC) (v1431)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Sample — From Schedule Version 3

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	6	TOC	K2006330-001	1.6954 ppm	0.0526 ppm	3.1000%	2020/08/10 14:13

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.7327	17.3266	21.40	34.67	13.27	50.04	10:28
2	TOC	1.6582	16.5824	20.88	34.22	13.34	50.02	10:29

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2487 (IC) (v1431)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Sample — From Schedule Version 8

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	7	TOC	K2006330-002	1.5085 ppm	0.0001 ppm	0.0100%	2020/08/10 14:41

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.5086	15.0856	19.83	33.00	13.17	49.98	10:29
2	TOC	1.5084	15.0842	19.83	32.96	13.13	49.99	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2487 (IC) (v1431)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Sample — From Schedule Version 10

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	8	TOC	K2006330-003	1.8656 ppm	0.0104 ppm	0.5600%	2020/08/10 15:09

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.8582	18.5825	22.28	35.40	13.12	50.00	10:28
2	TOC	1.8729	18.7293	22.39	35.66	13.27	49.99	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2487 (IC) (v1431)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	9	TOC	K2006331-001	0.8840 ppm	0.0414 ppm	4.6900%	2020/08/10 15:37

Rep	Base	ppm	µg	Adjusted	NDIR (Abs)	Baseline	Pressure	Run

#	Analysis Type			(Abs)		(Abs)	(psig)	Time
1	TOC	0.8547	8.5466	15.24	28.55	13.31	49.94	10:29
2	TOC	0.9132	9.1325	15.66	28.70	13.05	49.91	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2487 (IC) (v1431)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> CCV 25 ppm From Schedule Version 10

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	B	TOC	25.0000	1:2	[TOC] CCV 25 ppm [25 ppm]	0 / infinity (NA / NA)	24.3916 ppm (PASS)	0.0000 ppm	0%	2020/08/10 16:05

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	24.3916	243.9161	181.00	194.02	13.02	49.89	10:34

Completion State	Success Action	Method	Calibration	STD Conc - Pos B
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	50 ppmC

Sample Type: Check Standard --> CCB From Schedule Version 10

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	D	TOC	0.0000	1:1	[TOC] CCB [0 ppm]	0 / infinity (NA / NA)	0.0000 ppm (PASS)	0.0000 ppm	0%	2020/08/10 16:20

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.0000	0.0000	9.18	22.18	13.00	49.89	10:33

Completion State	Success Action	Method	Calibration	STD Conc - Pos D
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	0 ppmC

Sample Type: Sample From Schedule Version 10

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	10	TOC	K2006331-002	1.0122 ppm	0.0062 ppm	0.6200%	2020/08/10 16:35

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.0078	10.0776	16.32	29.38	13.06	49.94	10:26
2	TOC	1.0166	10.1660	16.38	29.41	13.03	49.94	10:29

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2487 (IC)	CAS_salt_010711	CAS_salt_010711

(v1431) (v4) (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	11	TOC	K2006280-001	4.5755 ppm	0.0744 ppm	1.6300%	2020/08/10 17:03

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	4.6281	46.2810	41.71	54.81	13.10	49.94	10:26
2	TOC	4.5229	45.2289	40.98	54.22	13.25	50.00	10:28

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2487 (IC) (v1431)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	12	TOC	K2006280-002	8.0784 ppm	0.0939 ppm	1.1600%	2020/08/10 17:31

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	8.1448	81.4479	66.38	79.61	13.22	49.99	10:27
2	TOC	8.0119	80.1193	65.45	78.57	13.12	50.00	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2487 (IC) (v1431)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	13	TOC	K2006280-003	9.9674 ppm	0.0659 ppm	0.6600%	2020/08/10 17:59

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	10.0140	100.1397	79.49	92.60	13.11	50.00	10:26
2	TOC	9.9207	99.2074	78.84	92.01	13.17	50.04	10:28

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2487 (IC) (v1431)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	14	TOC	K2006257-001	0.9093 ppm	0.0326 ppm	3.5800%	2020/08/10 18:27

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.8863	8.8631	15.47	28.71	13.25	50.04	10:26
2	TOC	0.9324	9.3235	15.79	28.80	13.01	49.98	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2487 (IC) (v1431)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	15	TOC	K2006357-001	40.9877 ppm	0.0236 ppm	0.0600%	2020/08/10 18:55

Rep	Base	ppm	µg	Adjusted	NDIR (Abs)	Baseline	Pressure	Run

#	Analysis Type			(Abs)		(Abs)	(psig)	Time
1	TOC	41.0043	410.0433	296.89	310.11	13.22	50.02	10:27
2	TOC	40.9710	409.7098	296.65	309.94	13.29	50.01	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2487 (IC) (v1431)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	16	TOC	K2006498-001	2.7725 ppm	0.3219 ppm	11.6100%	2020/08/10 19:23

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	3.0001	30.0011	30.29	43.72	13.43	49.99	10:27
2	TOC	2.5449	25.4494	27.10	40.40	13.30	50.04	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2487 (IC) (v1431)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	17	TOC	K2006651-001	2.2441 ppm	0.0246 ppm	1.1000%	2020/08/10 19:51

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	2.2615	22.6154	25.11	38.47	13.36	49.95	10:31
2	TOC	2.2268	22.2675	24.87	38.13	13.26	49.96	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2487 (IC) (v1431)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	18	TOC	K2006506-001	0.0000 ppm	0.0000 ppm	0.0000%	2020/08/10 20:19

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0000	0.0000	8.83	22.12	13.29	49.94	10:26
2	TOC	0.0000	0.0000	8.72	21.85	13.13	49.95	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2487 (IC) (v1431)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	19	TOC	K2006376-001	1.1534 ppm	0.0430 ppm	3.7300%	2020/08/10 20:47

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.1229	11.2295	17.13	30.17	13.05	49.93	10:29
2	TOC	1.1838	11.8382	17.55	30.64	13.09	49.97	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2487 (IC) (v1431)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> CCV 25 ppm From Schedule Version 10

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	B	TOC	25.0000	1:2	[TOC] CCV 25 ppm [25 ppm]	0 / infinity (NA / NA)	24.4188 ppm (PASS)	0.0000 ppm	0%	2020/08/10 21:15

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	24.4188	244.1884	181.19	194.34	13.16	49.89	10:32

Completion State	Success Action	Method	Calibration	STD Conc - Pos B
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	50 ppmC

Sample Type: Check Standard --> CCB From Schedule Version 10

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	D	TOC	0.0000	1:1	[TOC] CCB [0 ppm]	0 / infinity (NA / NA)	0.0000 ppm (PASS)	0.0000 ppm	0%	2020/08/10 21:30

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.0000	0.0000	9.15	22.32	13.18	49.86	10:28

Completion State	Success Action	Method	Calibration	STD Conc - Pos D
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	0 ppmC

Sample Type: Sample From Schedule Version 10

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	20	TOC	MB2	0.0000 ppm	0.0000 ppm	0.0000%	2020/08/10 21:45

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0000	0.0000	8.98	21.99	13.01	49.89	10:29

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2487 (IC) (v1431)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> LCS From Schedule Version 10

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	C	TOC	25.0000	1:1	[TOC] LCS [24.0 ppm]	0 / infinity (NA / NA)	24.4024 ppm (PASS)	0.0000 ppm	0%	2020/08/10 21:59

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
C	TOC	25.0 ppm	1	24.4024	244.0245	181.07	194.01	12.94	49.84	10:32

Completion State	Success Action	Method	Calibration	STD Conc - Pos C
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	25 ppmC

Sample Type: Sample From Schedule Version 10

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	21	TOC	K2006376-002	1.5778 ppm	0.0050 ppm	0.3200%	2020/08/10 22:14

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.5743	15.7428	20.29	33.29	12.99	49.80	10:27
2	TOC	1.5814	15.8141	20.34	33.46	13.11	49.89	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2487 (IC) (v1431)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	22	TOC	K2006376-003	1.2830 ppm	0.0367 ppm	2.8600%	2020/08/10 22:42

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.3090	13.0898	18.43	31.63	13.20	49.83	10:27
2	TOC	1.2571	12.5709	18.07	31.19	13.12	49.81	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2487 (IC) (v1431)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	23	TOC	K2006376-003D	1.2546 ppm	0.0045 ppm	0.3600%	2020/08/10 23:10

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.2514	12.5139	18.03	31.22	13.19	49.77	10:29
2	TOC	1.2578	12.5781	18.07	31.32	13.25	49.93	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2487 (IC) (v1431)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	24	TOC	K2006376-003MS	27.7238 ppm	0.1223 ppm	0.4400%	2020/08/10 23:38

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	27.6374	276.3736	203.12	216.24	13.12	49.88	10:29
2	TOC	27.8103	278.1028	204.33	217.53	13.20	49.88	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2487 (IC) (v1431)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	25	TOC	K2006497-001	4.1088 ppm	0.0689 ppm	1.6800%	2020/08/11 00:06

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	4.1575	41.5752	38.41	51.46	13.05	49.89	10:25
2	TOC	4.0600	40.6001	37.73	50.78	13.05	49.88	10:28

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2487 (IC) (v1431)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	26	TOC	K2006497-004 25X	28.4315 ppm	0.0059 ppm	0.0200%	2020/08/11 00:34

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	28.4357	284.3567	208.72	221.85	13.13	49.88	10:29
2	TOC	28.4273	284.2726	208.66	221.86	13.20	49.88	10:29

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2487 (IC) (v1431)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	27	TOC	K2006497-005	3.3441 ppm	0.1282 ppm	3.8300%	2020/08/11 01:02

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	3.4348	34.3477	33.34	46.49	13.15	49.85	10:26
2	TOC	3.2534	32.5344	32.07	45.30	13.23	49.87	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2487 (IC) (v1431)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	28	TOC	K2006497-006	47.8055 ppm	0.4564 ppm	0.9500%	2020/08/11 01:30

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	48.1282	481.2824	346.86	359.97	13.11	49.91	10:28
2	TOC	47.4828	474.8275	342.33	355.53	13.20	49.88	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2487 (IC) (v1431)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> CCV 25 ppm From Schedule Version 10

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	B	TOC	25.0000	1:2	[TOC] CCV 25 ppm [25 ppm]	0 / infinity (NA / NA)	24.7965 ppm (PASS)	0.0000 ppm	0%	2020/08/11 01:58

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	24.7965	247.9647	183.83	197.18	13.34	49.93	10:33

Completion State	Success Action	Method	Calibration	STD Conc - Pos B
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	50 ppmC

Sample Type: Check Standard --> CCB From Schedule Version 10

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	D	TOC	0.0000	1:1	[TOC] CCB [0 ppm]	0 / infinity (NA / NA)	0.0208 ppm (PASS)	0.0000 ppm	0%	2020/08/11 02:13

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.0208	0.2081	10.04	23.22	13.18	49.94	10:32

Completion State	Success Action	Method	Calibration	STD Conc - Pos D
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	0 ppmC

Sample Type: Sample From Schedule Version 10

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	29	TOC	K2006345-001	0.5919 ppm	0.0067 ppm	1.1200%	2020/08/11 02:28

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.5966	5.9663	13.43	26.85	13.41	49.97	10:31
2	TOC	0.5872	5.8723	13.37	26.74	13.38	49.95	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2487 (IC) (v1431)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	30	TOC	K2006345-002	0.6574 ppm	0.0176 ppm	2.6800%	2020/08/11 02:56

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.6699	6.6991	13.95	27.23	13.28	49.97	10:28
2	TOC	0.6450	6.4496	13.77	27.14	13.37	49.99	10:27

Dilution	Blank Contribution	Method	Calibration

1:10	(TC) 9.2487 (IC) (v1431)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	31	TOC	K2006345-003	0.8083 ppm	0.0132 ppm	1.6300%	2020/08/11 03:24

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.7989	7.9892	14.85	28.51	13.66	49.99	10:29
2	TOC	0.8176	8.1759	14.98	28.41	13.42	50.04	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2487 (IC) (v1431)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	32	TOC	K2006345-004	0.7226 ppm	0.0188 ppm	2.6100%	2020/08/11 03:52

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.7359	7.3591	14.41	27.78	13.37	50.03	10:30
2	TOC	0.7093	7.0925	14.22	27.64	13.42	50.03	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2487 (IC) (v1431)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	33	TOC	K2006345-005	0.6797 ppm	0.0142 ppm	2.0900%	2020/08/11 04:20

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.6696	6.6962	13.95	27.22	13.27	50.06	10:26
2	TOC	0.6897	6.8972	14.09	27.33	13.24	50.06	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2487 (IC) (v1431)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	34	TOC	K2006345-006	0.3956 ppm	0.0006 ppm	0.1500%	2020/08/11 04:48

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.3952	3.9520	12.02	25.28	13.26	50.06	10:30
2	TOC	0.3961	3.9606	12.03	25.34	13.31	50.07	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2487 (IC) (v1431)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	35	TOC	K2006345-007	0.9566 ppm	0.0433 ppm	4.5300%	2020/08/11 05:16

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.9259	9.2594	15.74	29.02	13.28	50.04	10:26
2	TOC	0.9872	9.8724	16.17	29.78	13.61	50.06	10:29

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2487 (IC) (v1431)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	36	TOC	K2006345-008	0.5492 ppm	0.0325 ppm	5.9100%	2020/08/11 05:44

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.5262	5.2621	12.94	26.39	13.45	50.04	10:25
2	TOC	0.5721	5.7211	13.26	26.71	13.45	50.04	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2487 (IC) (v1431)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	37	TOC	K2006332-001	0.6516 ppm	0.0132 ppm	2.0300%	2020/08/11 06:12

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.6423	6.4225	13.75	27.06	13.31	50.04	10:28
2	TOC	0.6609	6.6093	13.89	27.18	13.30	50.05	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2487 (IC) (v1431)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	38	TOC	RB	0.0000 ppm	0.0000 ppm	0.0000%	2020/08/11 06:40

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0000	0.0000	7.95	21.50	13.55	50.04	10:28
2	TOC	0.0000	0.0000	8.38	21.83	13.45	50.07	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2487 (IC) (v1431)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> CCV 25 ppm From Schedule Version 10

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	B	TOC	25.0000	1:2	[TOC] CCV 25 ppm [25 ppm]	0 / infinity (NA / NA)	24.0278 ppm (PASS)	0.0000 ppm	0%	2020/08/11 07:08

Pos	Base Analysis	ID	Rep	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run

	Type		#							Time
B	TOC	25 ppm	1	24.0278	240.2781	178.44	191.91	13.47	50.04	10:29

Completion State	Success Action	Method	Calibration	STD Conc - Pos B
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	50 ppmC

Sample Type: Check Standard --> CCB From Schedule Version 10

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	D	TOC	0.0000	1:1	[TOC] CCB [0 ppm]	0 / infinity (NA / NA)	0.0000 ppm (PASS)	0.0000 ppm	0%	2020/08/11 07:23

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.0000	0.0000	9.09	22.59	13.50	49.97	10:31

Completion State	Success Action	Method	Calibration	STD Conc - Pos D
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	0 ppmC

Sample Type: Sample From Schedule Version 10

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	39	TOC	MB3	0.0016 ppm	0.0000 ppm	0.0000%	2020/08/11 07:38

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0016	0.0161	9.26	22.48	13.22	49.98	10:30

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2487 (IC) (v1431)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> LCS From Schedule Version 10

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	C	TOC	25.0000	1:1	[TOC] LCS [25.0 ppm]	0 / infinity (NA / NA)	23.7533 ppm (PASS)	0.0000 ppm	0%	2020/08/11 07:52

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
C	TOC	25.0 ppm	1	23.7533	237.5325	176.52	189.89	13.38	49.92	10:28

Completion State	Success Action	Method	Calibration	STD Conc - Pos C
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	25 ppmC

Sample Type: Sample From Schedule Version 10

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	40	TOC		NaN	NaN	NaN%	2020/08/11 08:07

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time

Dilution 1:10 **Method** CAS_salt_010711 (v4) **Calibration** CAS_salt_010711 (v38)

Meta Data Used in this Report

Blanks

Version	Reagent (Abs)	Acid (Abs)	DI IC (Abs)	DI TC (Abs)	DI TOC (Abs)	Save Time	Operator
v1430	1.9877	0.5570	0.0000	0.0000	0.0000	2020/08/08 14:36	Fusion1 (Fusion1)
v1431	1.7293	0.2720	0.0000	0.0000	0.0000	2020/08/10 11:21	Fusion1 (Fusion1)

Calibrations

Name: CAS_salt_010711 (TOC)

Version: v38
Ver Creation: 2020/06/13 16:40
Comment:
Operator: Fusion1 (Fusion1)
Basic Analysis Type: TOC
Calibration curve formula: TOC: y = 7.015x + 9.892
r^2 value: TOC: r^2 = 0.99974

Basic Analysis Type: TOC

Sample ID	Y Raw Value	X Expected	Message	End Time
DI Water	9.5750	0.0000		2020/06/13 15:13
0.500 ppm	12.9010	0.5000		2020/06/13 15:28
1.0 ppm	15.6320	1.0000		2020/06/13 15:42
5.0 ppm	43.2510	5.0000		2020/06/13 15:56
10 ppm	82.4040	10.0000		2020/06/13 16:11
25 ppm	188.6880	25.0000		2020/06/13 16:25
50 ppm	358.6500	50.0000		2020/06/13 16:39

Methods

Name: CAS_salt_010711 (TOC)

Version: v4 Operator: Fusion1 (Fusion1)
Ver Creation: 2019/02/21 17:57
Comment:

Parameter	Value
SampleVolume	10.0 mL
Dilution	1:10
AcidVolume	0.5 ml
ReagentVolume	2.0 ml
UVReactorPrerinse	Off
UVReactorPrerinseVolume	5.0
NumberOfUVReactorPrerinses	1
ICSpargeTime	1.00 mins
DetectorSweepFlow	500 ml/min
PreSpargeTime	2.00 mins
SystemFlow	500 ml/min

Advanced Parameter	Value
NeedleRinseVolume	5.0 ml
VialPrimeVolume	2.0 ml
ICSamplePrimeVolume	2.0 ml
ICSpargeRinseVolume	12.0 ml
BaselineStabilizeTime	0.70 min
DetectorPressureFlow	150 ml/min
SyringeSpeedWaste	10
SyringeSpeedAcid	7
SyringeSpeedReagent	7
SyringeSpeedDIWater	7
NDIRPressurization	60 psig
SyringeSpeedSampleDispense	5
SyringeSpeedSampleAspirate	4
SyringeSpeedUVDispense	5
SyringeSpeedUVAspirate	5
SyringeSpeedICDispense	5
SyringeSpeedICAspirate	5
NDIRPressureStabilize	1.75 min
SampleMixing	Off
SampleMixingCycles	1
SampleMixingVolume	10.0
LowLevelFilterNDIR	Off

Acceptance / Approval

Electronic Signatures

Report Version	User Name	Acceptance	Reason	Date

Report History

Report History

Report Version	User Name	System Reason	User Reason	Date
1	Fusion1 (Fusion1)	Schedule completed	Schedule completed	2020/08/11 08:17

ALS Environmental

StarLIMS Run: 690342/690414

Analysis: DOC/TOC

Method: SM 5310 C, 9060A, 415.1, 9060

CCV: 19-GEN-8-15-C 50 ppm LCS: 19-GEN-8-31I 25.0 ppm

ICAL Date: 6/16/2020

ICAL ID: 19-GEN-8-22-G

ICS ID: 19-GEN-8-4-G

ICS TV: 25.0 ppm ICS % R < 1

Spike ID: 19-GEN-8-15-B 0.05 ml of 5000 ppm stock ---> 10.0 ml = 25.0 ppm x dilution factor

Sodium Persulfate: 19-GEN-08-32J

21 % H3PO4: 19-GEN-08-32I

Equipment ID: K-TOC-03

PIPETTE ID: 124276B, 129001F, N11314F, Marge

FILTER ID: 16967789

Analyzed By: MK	Date Analyzed: 8-10-20
Reviewed By:	Date Reviewed: 8/11/20

HS20071033 8260 Raw Data

ALS WO# HS20071033

MSVOA06 -Logbook

Batch: 41087 **Analyst:** Presenta Cabascango

Date: 07-13-2020 **Reviewer:**

Method: 8260 **Laboratory:** Houston

Comments:

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	pH
1	BFB	TUNE	07-13-2020 10:03 am	1.00	50 mL	50 mL	X071301.D	Liquid	Y	NA
	Auto find/ purged									
2	VSTD000.25	ICAL1	07-13-2020 10:27 am	1.00	50 mL	50 mL	X071302.D	Liquid	Y	NA
	0.10 uL cal std/100 mL DI									
3	VSTD000.5	ICAL2	07-13-2020 10:55 am	1.00	50 mL	50 mL	X071303.D	Liquid	Y	NA
	0.10 uL cal std/50 mL DI									
4	VSTD001	ICAL3	07-13-2020 11:42 am	1.00	50 mL	50 mL	X071304.D	Liquid	Y	NA
	0.20 uL cal std/50 mL DI									
5	VSTD002	ICAL4	07-13-2020 12:06 pm	1.00	50 mL	50 mL	X071305.D	Liquid	Y	NA
	0.40 uL cal std/50 mL DI									
6	VSTD005	ICAL5	07-13-2020 12:30 pm	1.00	50 mL	50 mL	X071306.D	Liquid	Y	NA
	1.0 uL cal std/50 mL DI									
7	VSTD020	ICAL6	07-13-2020 12:54 pm	1.00	50 mL	50 mL	X071307.D	Liquid	Y	NA
	4.0 uL cal std/50 mL DI									
8	VSTD050	ICAL7	07-13-2020 01:18 pm	1.00	50 mL	50 mL	X071308.D	Liquid	Y	NA
	10 uL cal std/50 mL DI									
9	VSTD100	ICAL8	07-13-2020 01:42 pm	1.00	50 mL	50 mL	X071309.D	Liquid	Y	NA
	20 uL cal std/50 mL DI									
10	VSTD150	ICAL9	07-13-2020 02:06 pm	1.00	50 mL	50 mL	X071310.D	Liquid	Y	NA
	30 uL cal std/50 mL DI									
11	VSTD200	ICAL	07-13-2020 02:30 pm	1.00	50 mL	50 mL	X071311.D	Liquid	Y	NA
	40 uL cal std/50 mL DI									
12	BLANK	SAMP	07-13-2020 02:54 pm	1.00	50 mL	50 mL	X071312.D	Liquid	Y	NA
13	CCV	ICV	07-13-2020 03:42 pm	1.00	50 mL	50 mL	X071313.D	Liquid	Y	NA
	10 uL ical std/50 mL DI									
14	BFB	TUNE	07-13-2020 04:06 pm	1.00	50 mL	50 mL	Y071301.D	Liquid	Y	NA
	Auto find/ purged									
15	CCV	CCV	07-13-2020 04:30 pm	1.00	50 mL	50 mL	Y071302.D	Liquid	Y	NA
	10 uL cal std/50 mL DI									
16	BLANK	SAMP	07-13-2020 04:53 pm	1.00	50 mL	50 mL	Y071303.D	Liquid	Y	NA
17	CCB	SAMP	07-13-2020 05:17 pm	1.00	50 mL	50 mL	Y071304.D	Liquid	Y	NA
18	VLCSW-200713	LCS	07-13-2020 05:41 pm	1.00	50 mL	50 mL	Y071305.D	Liquid	Y	NA
	4.0 uL cal std/50 mL DI									
19	BLANK	SAMP	07-13-2020 06:05 pm	1.00	50 mL	50 mL	Y071306.D	Liquid	Y	NA
20	VBLKW-200713	MBLK	07-13-2020 06:29 pm	1.00	50 mL	50 mL	Y071307.D	Liquid	Y	NA
21	HS20070399-02	SAMP	07-13-2020 06:53 pm	1.00	50 mL	50 mL	Y071308.D	Liquid	Y	<2
22	HS20070399-01	SAMP	07-13-2020 07:17 pm	1.00	50 mL	50 mL	Y071309.D	Liquid	Y	<2
23	HS20070043-19	SAMP	07-13-2020 07:41 pm	200.0(	250 µL	50 mL	Y071310.D	Liquid	Y	<2
24	HS20070043-19	SAMP	07-13-2020 08:05 pm	20.00	2.5 mL	50 mL	Y071311.D	Liquid	Y	<2
25	HS20070043-19MS	MS	07-13-2020 08:29 pm	200.0(	250 µL	50 mL	Y071312.D	Liquid	Y	<2
	3.5 uL cal std/40 mL samp									
26	HS20070043-19MSD	MSD	07-13-2020 08:54 pm	200.0(	250 µL	50 mL	Y071313.D	Liquid	Y	<2
	3.5 uL cal std/40 mL samp									
27	HS20070096-06	SAMP	07-13-2020 09:18 pm	100.0(	500 µL	50 mL	Y071314.D	Liquid	Y	<2
28	HS20070043-05	SAMP	07-13-2020 09:42 pm	50.00	1 mL	50 mL	Y071315.D	Liquid	Y	<2
29	HS20070043-05	SAMP	07-13-2020 10:06 pm	500.0(	100 µL	50 mL	Y071316.D	Liquid	Y	<2
30	HS20070043-06	SAMP	07-13-2020 10:30 pm	50.00	1 mL	50 mL	Y071317.D	Liquid	Y	<2
31	HS20070043-06	SAMP	07-13-2020 10:54 pm	500.0(	100 µL	50 mL	Y071318.D	Liquid	Y	<2
32	HS20070043-11	SAMP	07-13-2020 11:18 pm	50.00	1 mL	50 mL	Y071319.D	Liquid	Y	<2

MSVOA06 -Logbook

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	pH
33	HS20070043-11	SAMP	07-13-2020 11:42 pm	500.0(	100 µL	50 mL	Y071320.D	Liquid	Y	<2
34	CCV-END	CCV	07-14-2020 12:06 am	1.00	50 mL	50 mL	Y071321.D	Liquid	Y	NA
	10 uL cal std/50 mL DI									
35	HS20070493-01	SAMP	07-14-2020 12:30 am	1.00	50 mL	50 mL	Y071322.D	Liquid	Y	<2
36	HS20070096-29	SAMP	07-14-2020 12:54 am	10.00	5 mL	50 mL	Y071323.D	Liquid	Y	<2
37	HS20070096-29	SAMP	07-14-2020 01:18 am	100.0(	500 µL	50 mL	Y071324.D	Liquid	Y	<2
38	HS20070096-24	SAMP	07-14-2020 01:42 am	10.00	5 mL	50 mL	Y071325.D	Liquid	Y	<2
39	HS20070096-24	SAMP	07-14-2020 02:06 am	100.0(	500 µL	50 mL	Y071326.D	Liquid	Y	<2
40	HS20070096-30	SAMP	07-14-2020 02:30 am	25.00	2 mL	50 mL	Y071327.D	Liquid	Y	<2
41	HS20070096-30	SAMP	07-14-2020 02:54 am	250.0(	200 µL	50 mL	Y071328.D	Liquid	Y	<2
42	HS20070096-34	SAMP	07-14-2020 03:18 am	25.00	2 mL	50 mL	Y071329.D	Liquid	Y	<2
43	HS20070096-34	SAMP	07-14-2020 03:42 am	500.0(	100 µL	50 mL	Y071330.D	Liquid	Y	<2
44	BLANK	SAMP	07-14-2020 04:07 am	1.00	50 mL	50 mL	Y071340.D	Liquid	Y	NA

Chemical	Value
SURR SPK ID	31106-38-06-
IS ID	31106-38-06
CAL STD ID	31106-38-01/02
BFB ID	31106-38-06

FORM 3
WATER VOLATILE METHOD SPIKE RECOVERY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20071033

Matrix Spike - Sample No.: ICV

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE AMOUNT ()	% REC #	QC. LIMITS REC.
Vinyl Chloride	50.00	41.64	83	80-120
Methylene Chloride	50.00	43.61	87	80-120
1,1-Dichloroethene	50.00	44.05	88	80-120
1,2-Dichloroethane	50.00	51.43	103	80-120
cis-1,2-Dichloroethene	50.00	49.13	98	80-120
1,1,2-Trichloroethane	50.00	50.25	100	80-120
Trichloroethene	50.00	48.39	97	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.: HS20071033

Lab File ID: X071301 BFB Injection Date: 07/13/20

Instrument ID: VOA6 BFB Injection Time: 1003

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	32.0
75	30.0 - 60.0% of mass 95	53.2
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	7.2
173	Less than 2.0% of mass 174	0.5 (0.8)1
174	Greater than 50.0% of mass 95	56.5
175	5.0 - 9.0% of mass 174	4.8 (8.5)1
176	95.0 - 101.0% of mass 174	54.9 (97.2)1
177	5.0 - 9.0% of mass 176	4.7 (8.6)2

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

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD000.25	VSTD000.25	X071302	07/13/20	1027
02	VSTD000.5	VSTD000.5	X071303	07/13/20	1055
03	VSTD001	VSTD001	X071304	07/13/20	1142
04	VSTD002	VSTD002	X071305	07/13/20	1206
05	VSTD005	VSTD005	X071306	07/13/20	1230
06	VSTD020	VSTD020	X071307	07/13/20	1254
07	VSTD050	VSTD050	X071308	07/13/20	1318
08	VSTD100	VSTD100	X071309	07/13/20	1342
09	VSTD150	VSTD150	X071310	07/13/20	1406
10	VSTD200	VSTD200	X071311	07/13/20	1430
11	ICV	ICV	X071313	07/13/20	1542
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.: HS20071033

Instrument ID: VOA6 Calibration Date(s): 07/13/20 07/13/20

Column: DB624 ID: 0.18 (mm) Calibration Time(s): 1027 1430

LAB FILE ID: RF0.25: X071302 RF0.5: X071303 RF1: X071304
RF2: X071305 RF5: X071306 RF20: X071307

COMPOUND	RF0.25	RF0.5	RF1	RF2	RF5	RF20
Vinyl Chloride		0.884	0.854	0.860	0.769	0.732
Methylene Chloride		4271	5799	8593	18680	58274
1,1-Dichloroethene		0.507	0.437	0.472	0.433	0.404
1,2-Dichloroethane		0.620	0.589	0.616	0.503	0.603
cis-1,2-Dichloroethene		0.671	0.633	0.710	0.601	0.608
1,1,2-Trichloroethane		0.319	0.237	0.296	0.390	0.314
Trichloroethene		0.390	0.356	0.356	0.342	0.350
Dibromofluoromethane		2011	3129	5716	15802	57060
1,2-Dichloroethane-d4		2548	4323	6078	19086	78060
Toluene-d8		1.494	1.286	1.208	1.624	1.277
4-Bromofluorobenzene		3265	4513	7984	21438	75648

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS2007103

Instrument ID: VOA6 Calibration Date(s): 07/13/20 07/13/20

Column: DB624 ID: 0.18 (mm) Calibration Time(s): 1027 1430

LAB FILE ID: RF50: X071308 RF100: X071309 RF150: X071310
RF200: X071311

COMPOUND	RF50	RF100	RF150	RF200
Vinyl Chloride	0.805	0.795	0.856	0.845
Methylene Chloride	153830	277730	426028	499769
1,1-Dichloroethene	0.446	0.413	0.423	0.401
1,2-Dichloroethane	0.601	0.616	0.602	0.603
cis-1,2-Dichloroethene	0.633	0.635	0.649	0.632
1,1,2-Trichloroethane	0.308	0.302	0.302	0.288
Trichloroethene	0.359	0.360	0.366	0.359
Dibromofluoromethane	137160	266517	392708	499552
1,2-Dichloroethane-d4	186102	358725	528876	688409
Toluene-d8	1.249	1.216	1.221	1.211
4-Bromofluorobenzene	186024	353354		

FORM VI VOA

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS2007103

Instrument ID: VOA6 Calibration Date(s): 07/13/20 07/13/20

Column: DB624 ID: 0.18 (mm) Calibration Time(s): 1027 1430

COMPOUND	CURVE	COEFFICENTS A0	COEFFICENTS A1	%RSD OR R^2	MAX %RSD OR R^2
Vinyl Chloride	AVRG		0.82218964	6.078	15.000
Methylene Chloride	LINR	-2.77e-002	1.74738834	0.9957026	0.9900000
1,1-Dichloroethene	AVRG		0.43742258	7.870	15.000
1,2-Dichloroethane	AVRG		0.59495642	5.987	15.000
cis-1,2-Dichloroethene	AVRG		0.64139859	5.112	15.000
1,1,2-Trichloroethane	AVRG		0.30614855	12.846	15.000
Trichloroethene	AVRG		0.35986567	3.677	15.000
Dibromofluoromethane	LINR	-1.65e-003	1.79776555	0.9996449	0.9900000
1,2-Dichloroethane-d4	LINR	6.783e-003	1.31478695	0.9998415	0.9900000
Toluene-d8	AVRG		1.30969442	11.293	15.000
4-Bromofluorobenzene	LINR	-1.07e-002	2.08902614	0.9998105	0.9900000

FORM VI VOA

Data File: \\nahstws005\Target\chem\voa6.i\X200713.b\X071301.D

Date : 13-JUL-2020 10:03

Client ID: BFB

Instrument: voa6.i

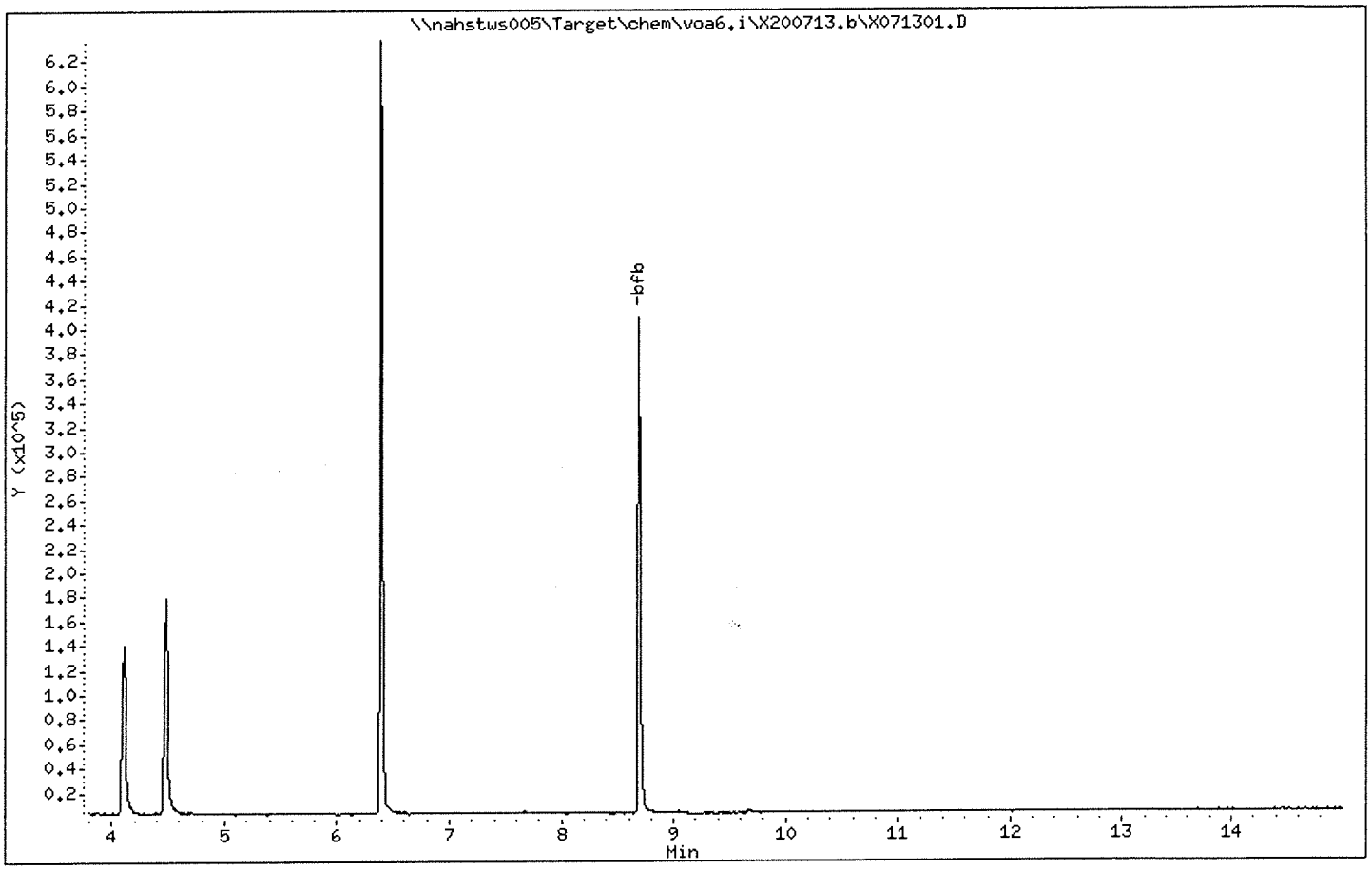
Sample Info: BFB;BFB;3;;BFB

Volume Injected (uL): 2.0

Operator: PC

Column phase: DB624

Column diameter: 0.25



Data File: \\nahstws005\Target\chem\voa6.i\X200713.b\X071301.D

Date : 13-JUL-2020 10:03

Client ID: BFB

Instrument: voa6.i

Sample Info: BFB;BFB;3;;BFB

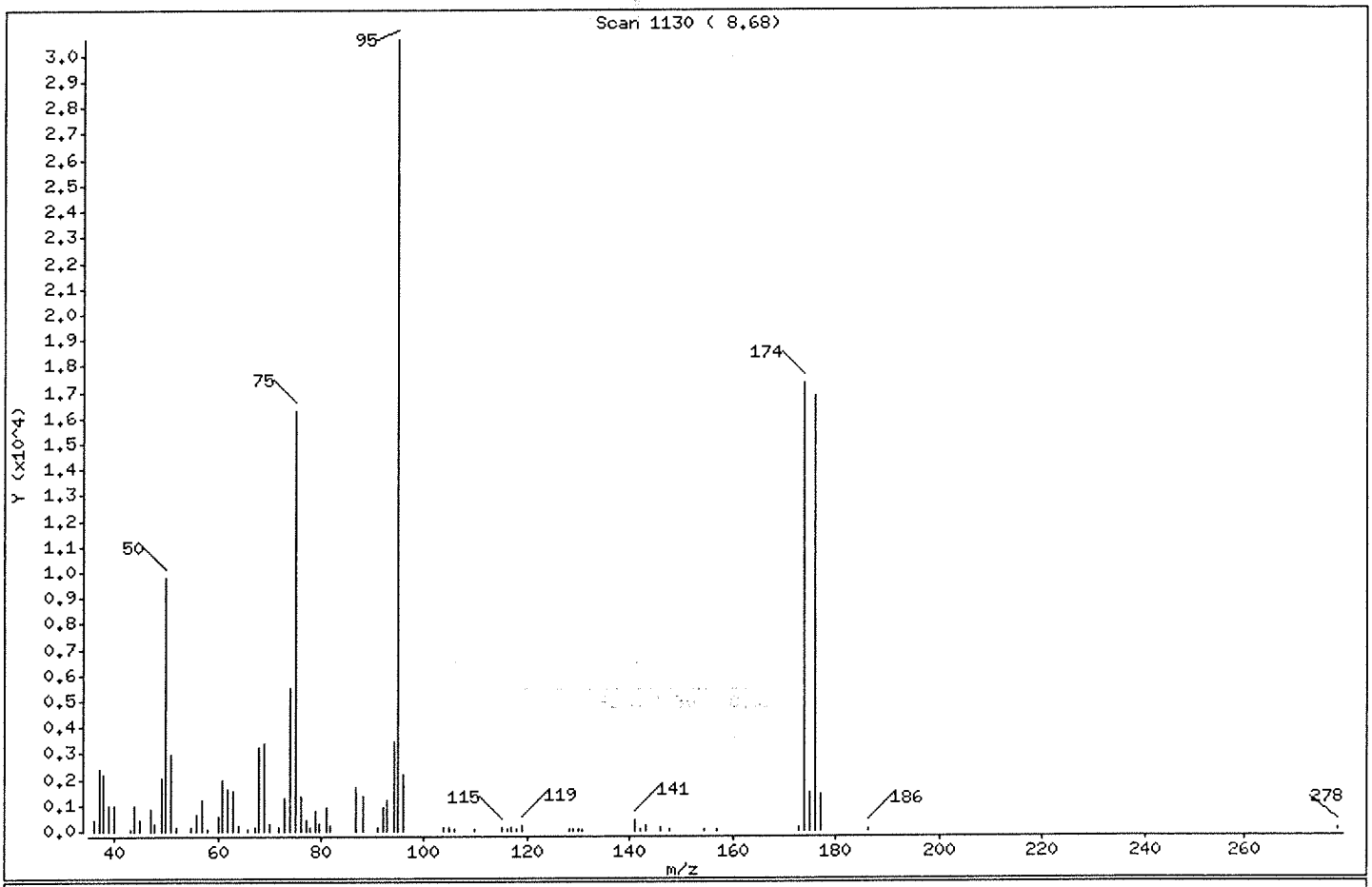
Volume Injected (uL): 2.0

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	32.02
75	30.00 - 60.00% of mass 95	53.18
96	5.00 - 9.00% of mass 95	7.17
173	Less than 2.00% of mass 174	0.46 (0.82)
174	Greater than 50.00% of mass 95	56.48
175	5.00 - 9.00% of mass 174	4.82 (8.53)
176	95.00 - 101.00% of mass 174	54.89 (97.18)
177	5.00 - 9.00% of mass 176	4.71 (8.58)

Data File: \\nahstws005\Target\chem\voa6.i\X200713.b\X071301.D

Date : 13-JUL-2020 10:03

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: X071301.D
Spectrum: Scan 1130 (8.68)
Location of Maximum: 95.00
Number of points: 74

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	444	61.00	1942	81.90	205	128.90	99
37.00	2396	62.00	1633	86.90	1699	129.80	104
38.00	2186	62.90	1549	88.00	1344	130.80	64
39.00	986	64.10	217	90.80	174	140.80	443
39.90	954	65.80	50	92.00	885	141.90	67
43.10	89	67.10	114	92.90	1223	142.90	214
44.00	1013	68.00	3245	94.00	3447	145.90	124
45.00	398	68.90	3410	95.00	30624	147.70	70
46.90	833	70.10	279	96.10	2195	154.50	62
47.90	275	72.00	165	103.90	114	156.80	77
49.00	2032	73.00	1257	104.90	127	172.80	142
50.00	9806	74.00	5481	106.00	69	173.90	17296
51.00	2987	75.00	16285	109.90	62	174.90	1476
52.10	147	76.00	1357	115.00	175	175.90	16808
54.90	158	77.10	416	116.10	95	176.90	1442
55.90	654	78.00	140	116.80	127	186.20	58
57.00	1205	78.90	796	118.00	91	278.10	84
58.00	51	79.80	299	118.90	184		
60.00	554	80.90	893	128.10	76		

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X200713.b\X071302.D
Lab Smp Id: VSTD000.25 Client Smp ID: VSTD000.25
Inj Date : 13-JUL-2020 10:27
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\X200713.b\8260W.m
Meth Date : 21-Aug-2020 15:22 voa6.i Quant Type: ISTD
Cal Date : 13-JUL-2020 14:30 Cal File: X071311.D
Als bottle: 2 Calibration Sample, Level: 1
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI-Hou11.sub
Target Version: 4.14
Processing Host: NAHSTW7056

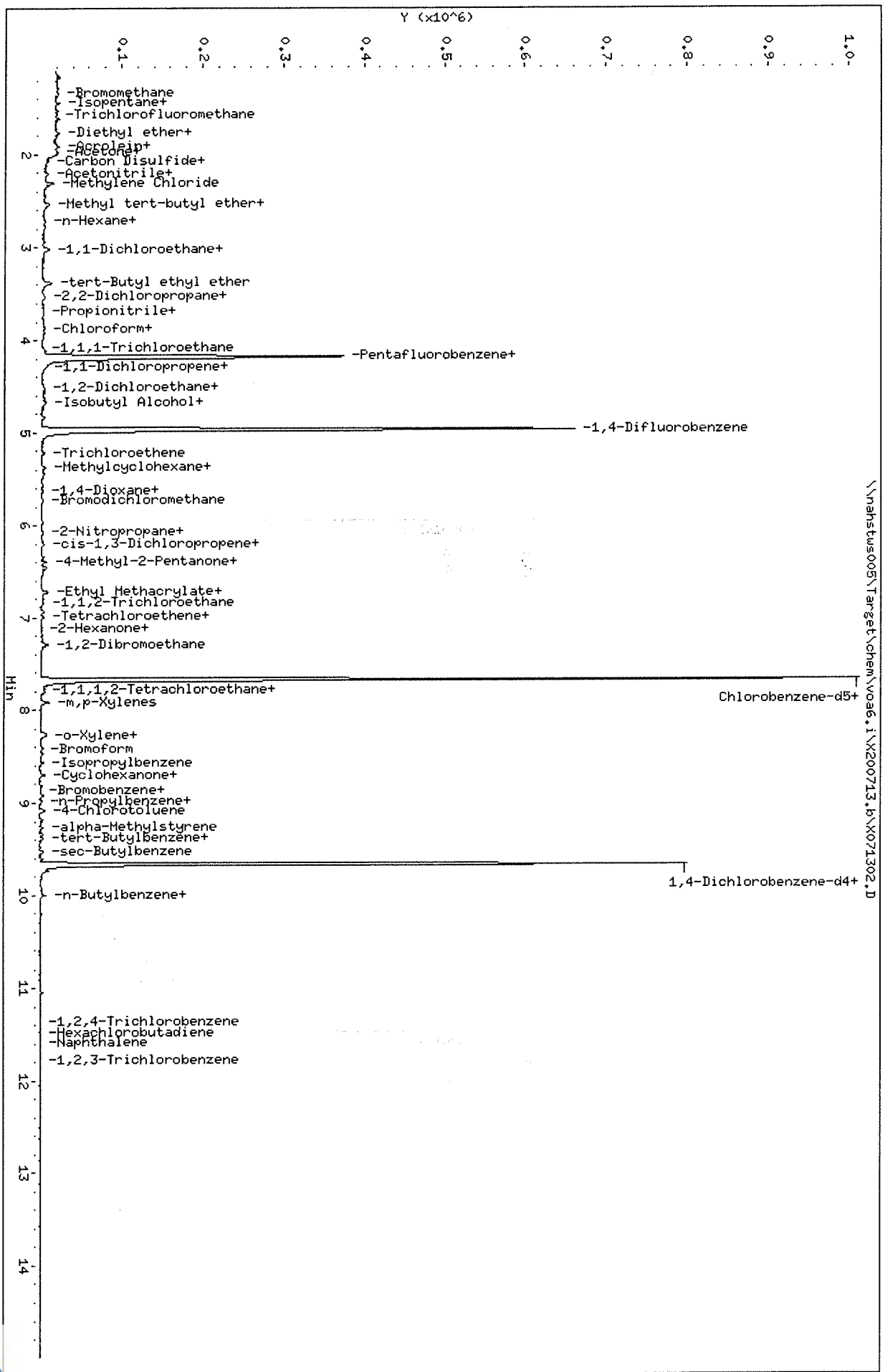
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

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

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	296835	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	485993	50.0000	
* 47 Chlorobenzene-d5	117	7.670	7.670	(1.000)	428377	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	186637	50.0000	
$ 30 Dibromofluoromethane	113	4.110	4.110	(0.981)	1222	0.25000	0.28
$ 35 1,2-Dichloroethane-d4	65	4.490	4.490	(1.072)	1683	0.25000	0.71(TM)
$ 48 Toluene-d8	98	6.395	6.395	(0.834)	4004	0.25000	0.35(T)
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	1769	0.25000	(M)
53 1,1,2-Trichloroethane	83	6.847	6.847	(0.893)	640	0.25000	0.24(a)
11 1,1-Dichloroethene	96	1.919	1.919	(0.458)	706	0.25000	0.27(a)
33 1,2-Dichloroethane	62	4.576	4.576	(0.921)	1688	0.25000	0.29(a)
27 cis-1,2-Dichloroethene	96	3.537	3.537	(0.844)	887	0.25000	0.23(M)
17 Methylene Chloride	84	2.305	2.305	(0.550)	2897	0.25000	(aM)
38 Trichloroethene	130	5.221	5.221	(1.050)	1101	0.25000	0.31
5 Vinyl Chloride	62	1.145	1.145	(0.273)	1137	0.25000	0.23

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\X200713.b\X071302.D
Date : 13-JUL-2020 10:27
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\X200713.b\X071303.D Page 1
Report Date: 21-Aug-2020 15:22

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X200713.b\X071303.D
Lab Smp Id: VSTD000.5 Client Smp ID: VSTD000.5
Inj Date : 13-JUL-2020 10:55
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\X200713.b\8260W.m
Meth Date : 21-Aug-2020 15:22 voa6.i Quant Type: ISTD
Cal Date : 13-JUL-2020 10:27 Cal File: X071302.D
Als bottle: 3 Calibration Sample, Level: 2
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI-Hou11.sub
Target Version: 4.14
Processing Host: NAHSTW7056

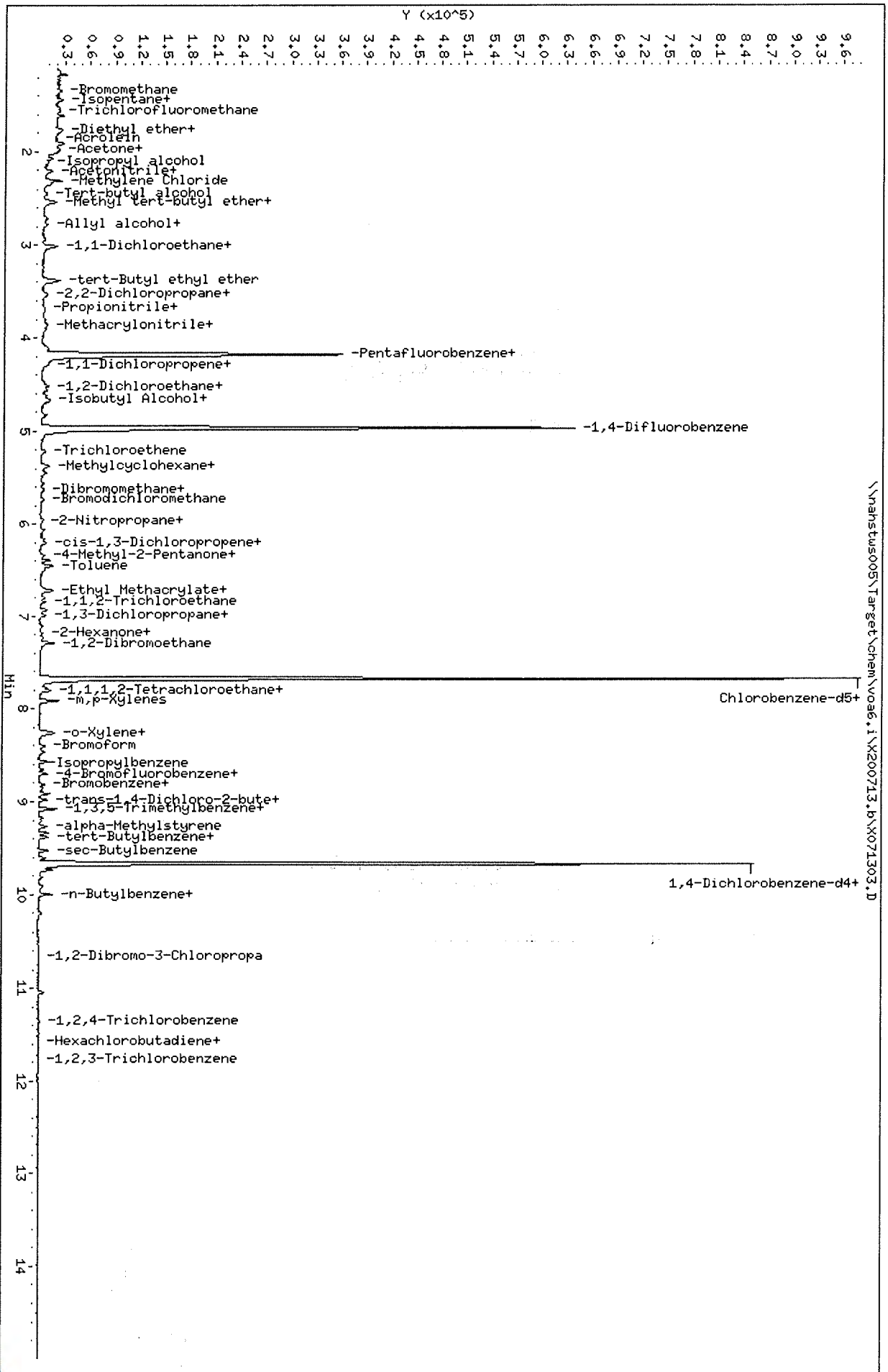
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

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

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
*	1 Pentafluorobenzene	168	4.189	4.189	(1.000)	286110	50.0000	
*	36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	463555	50.0000	
*	47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	412015	50.0000	
*	70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	194722	50.0000	
$	30 Dibromofluoromethane	113	4.111	4.111	(0.981)	2011	0.50000	0.54
$	35 1,2-Dichloroethane-d4	65	4.483	4.483	(1.070)	2548	0.50000	0.92(T)
$	48 Toluene-d8	98	6.396	6.396	(0.834)	6156	0.50000	0.57
$	69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	3265	0.50000	0.29
	53 1,1,2-Trichloroethane	83	6.847	6.847	(0.893)	1313	0.50000	0.52(a)
	11 1,1-Dichloroethene	96	1.919	1.919	(0.458)	1452	0.50000	0.58(aM)
	33 1,2-Dichloroethane	62	4.576	4.576	(0.921)	2874	0.50000	0.52(a)
	27 cis-1,2-Dichloroethene	96	3.545	3.545	(0.846)	1921	0.50000	0.52
	17 Methylene Chloride	84	2.305	2.305	(0.550)	4271	0.50000	(a)
	38 Trichloroethene	130	5.214	5.214	(1.049)	1810	0.50000	0.54
	5 Vinyl Chloride	62	1.145	1.145	(0.273)	2528	0.50000	0.53

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.

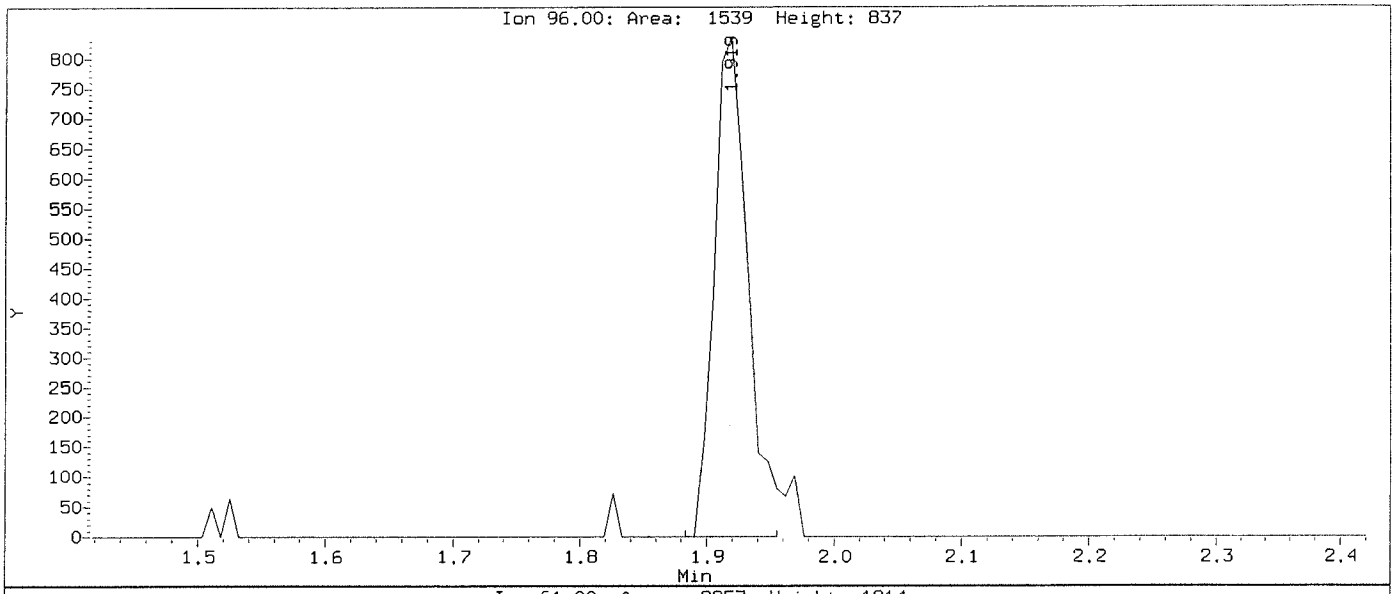


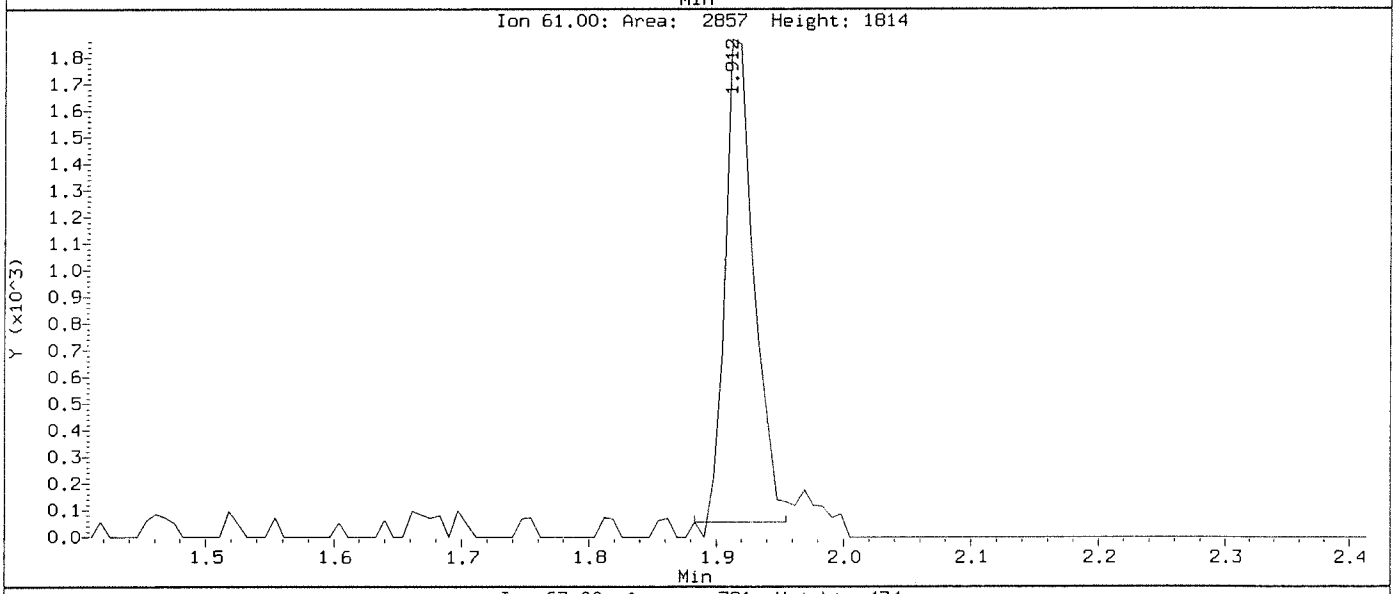
Data File: \\nahstws005\Target\chem\voa6.i\X200713.b\X071303.D
Date : 13-JUL-2020 10:55
Client ID: VSTD000.5
Sample Info: VSTD000.5;VSTD000.5;1;2;
Purge Volume: 5.0
Column phase: DB624

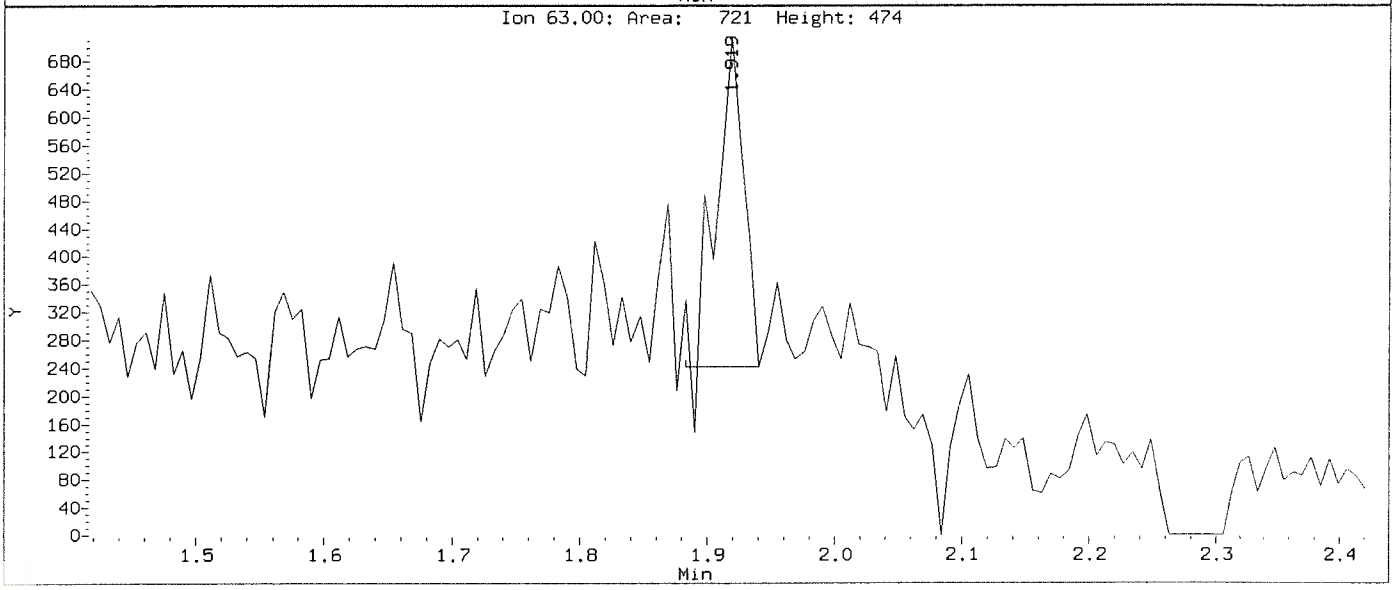
Instrument: voa6.i
Operator: PC
Column diameter: 0.18

Data File: \\nahstws005\Target\chem\voa6.i\X200713.b\Before2\X071303.D
Injection Date: 13-JUL-2020 10:55
Instrument: voa6.i
Client Sample ID: VSTD000.5

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

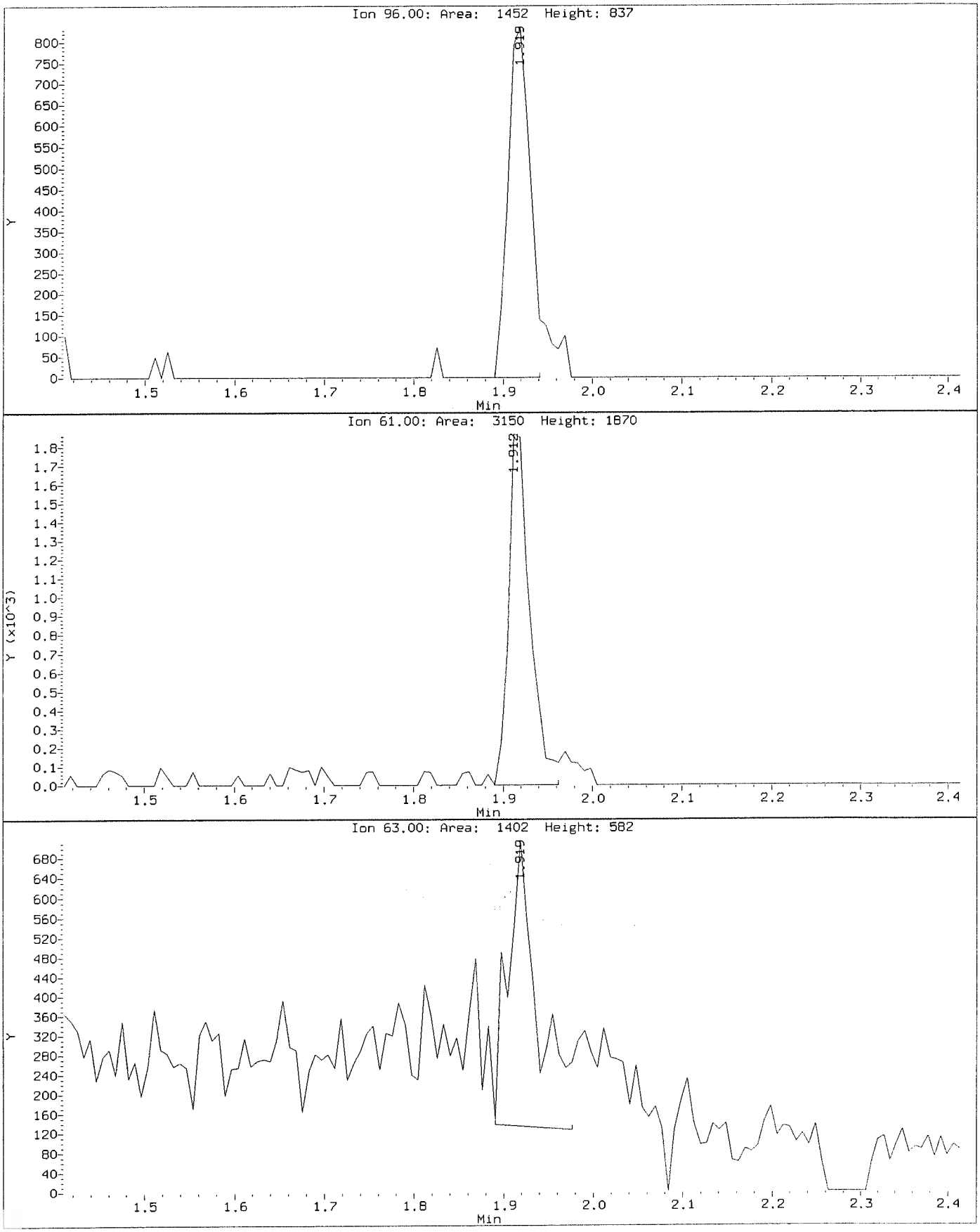






Data File: \\nahstws005\Target\chem\voa6.i\X200713.b\X071303.D
Injection Date: 13-JUL-2020 10:55
Instrument: voa6.i
Client Sample ID: VSTD000.5

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



ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X200713.b\X071304.D
Lab Smp Id: VSTD001 Client Smp ID: VSTD001
Inj Date : 13-JUL-2020 11:42
Operator : PC Inst ID: voa6.i
Smp Info : VSTD001;VSTD001;1;3;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200713.b\8260W.m
Meth Date : 21-Aug-2020 15:22 voa6.i Quant Type: ISTD
Cal Date : 13-JUL-2020 10:55 Cal File: X071303.D
Als bottle: 5 Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI-Hou11.sub
Target Version: 4.14
Processing Host: NAHSTW7056

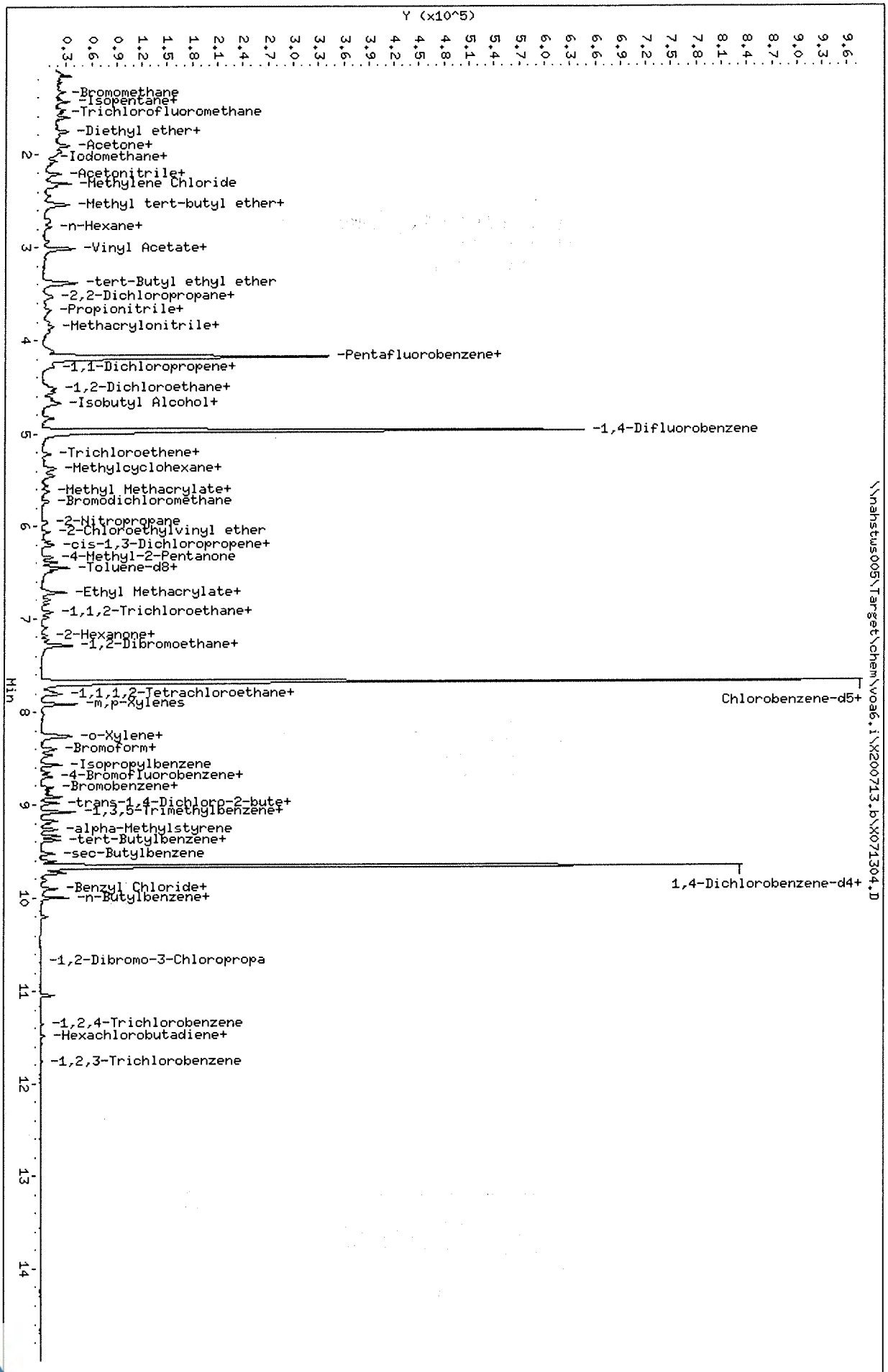
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

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

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
* 1	Pentafluorobenzene	168	4.189	4.189	(1.000)	272342	50.0000	
* 36	1,4-Difluorobenzene	114	4.970	4.970	(1.000)	461217	50.0000	
* 47	Chlorobenzene-d5	117	7.671	7.671	(1.000)	414030	50.0000	
* 70	1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	193083	50.0000	
$ 30	Dibromofluoromethane	113	4.111	4.111	(0.981)	3129	1.00000	0.95
$ 35	1,2-Dichloroethane-d4	65	4.490	4.490	(1.072)	4323	1.00000	1.38
$ 48	Toluene-d8	98	6.396	6.396	(0.834)	10651	1.00000	0.98
$ 69	4-Bromofluorobenzene	95	8.695	8.695	(1.134)	4513	1.00000	0.60
53	1,1,2-Trichloroethane	83	6.847	6.847	(0.893)	1966	1.00000	0.77(a)
11	1,1-Dichloroethene	96	1.919	1.919	(0.458)	2381	1.00000	0.99(a)
33	1,2-Dichloroethane	62	4.569	4.569	(0.919)	5434	1.00000	0.99(a)
27	cis-1,2-Dichloroethene	96	3.537	3.537	(0.844)	3447	1.00000	0.98
17	Methylene Chloride	84	2.313	2.313	(0.552)	5799	1.00000	0.47(a)
38	Trichloroethene	130	5.214	5.214	(1.049)	3283	1.00000	0.98
5	Vinyl Chloride	62	1.138	1.138	(0.272)	4654	1.00000	1.03

QC Flag Legend

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



Data File: \\nahstws005\Target\chem\voa6.i\X200713.b\X071304.D
Date : 13-JUL-2020 11:42
Client ID: VSTD001
Sample Info: VSTD001;VSTD001;1;3;
Purge Volume: 5.0
Column phase: DB624

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

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X200713.b\X071305.D
Lab Smp Id: VSTD002 Client Smp ID: VSTD002
Inj Date : 13-JUL-2020 12:06
Operator : PC Inst ID: voa6.i
Smp Info : VSTD002;VSTD002;1;4;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200713.b\8260W.m
Meth Date : 21-Aug-2020 15:22 voa6.i Quant Type: ISTD
Cal Date : 13-JUL-2020 11:42 Cal File: X071304.D
Als bottle: 6 Calibration Sample, Level: 4
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI-Hou11.sub
Target Version: 4.14
Processing Host: NAHSTW7056

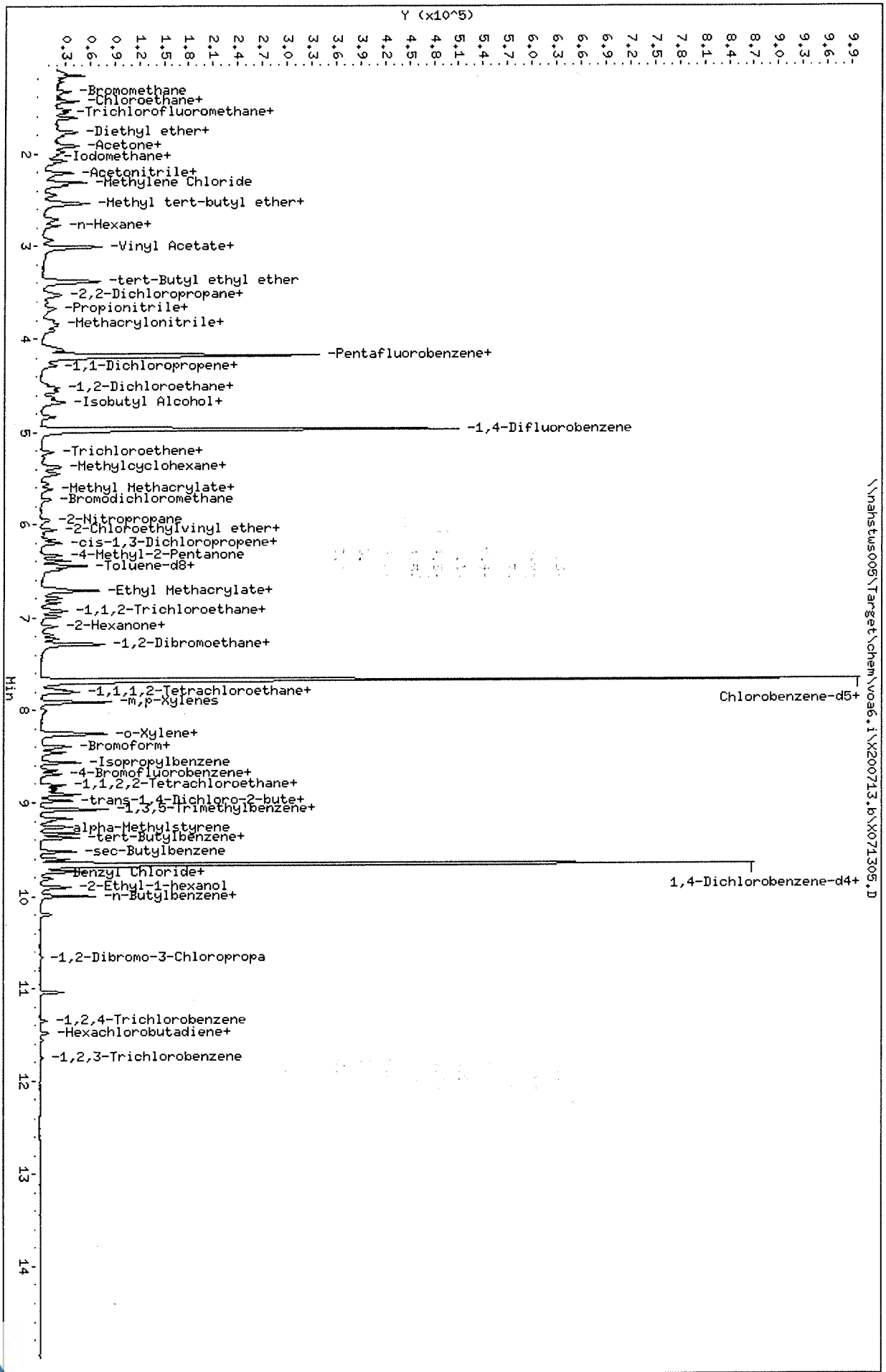
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

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

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	241171	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	361641	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	414402	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	191002	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	5716	2.00000	2.04
$ 35 1,2-Dichloroethane-d4	65	4.483	4.483	(1.072)	6078	2.00000	1.99
$ 48 Toluene-d8	98	6.396	6.396	(0.834)	20027	2.00000	1.84
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	7984	2.00000	1.47
53 1,1,2-Trichloroethane	83	6.847	6.847	(0.893)	4901	2.00000	1.93(a)
11 1,1-Dichloroethene	96	1.919	1.919	(0.459)	4557	2.00000	2.15(a)
33 1,2-Dichloroethane	62	4.569	4.569	(0.919)	8907	2.00000	2.06(a)
27 cis-1,2-Dichloroethene	96	3.538	3.538	(0.846)	6846	2.00000	2.21
17 Methylene Chloride	84	2.306	2.306	(0.551)	8593	2.00000	1.73(a)
38 Trichloroethene	130	5.214	5.214	(1.049)	5153	2.00000	1.97
5 Vinyl Chloride	62	1.145	1.145	(0.274)	8298	2.00000	2.09

QC Flag Legend

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



Data File: \\nahstws005\Target\chem\voa6.i\X200713.b\X071305.D
Date : 13-JUL-2020 12:06
Client ID: VSTD002
Sample Info: VSTD002;VSTD002;1;4;
Purge Volume: 5.0
Column phase: DB624

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

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X200713.b\X071306.D
Lab Smp Id: VSTD005 Client Smp ID: VSTD005
Inj Date : 13-JUL-2020 12:30
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\X200713.b\8260W.m
Meth Date : 21-Aug-2020 15:22 voa6.i Quant Type: ISTD
Cal Date : 13-JUL-2020 12:06 Cal File: X071305.D
Als bottle: 7 Calibration Sample, Level: 5
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI-Hou11.sub
Target Version: 4.14
Processing Host: NAHSTW7056

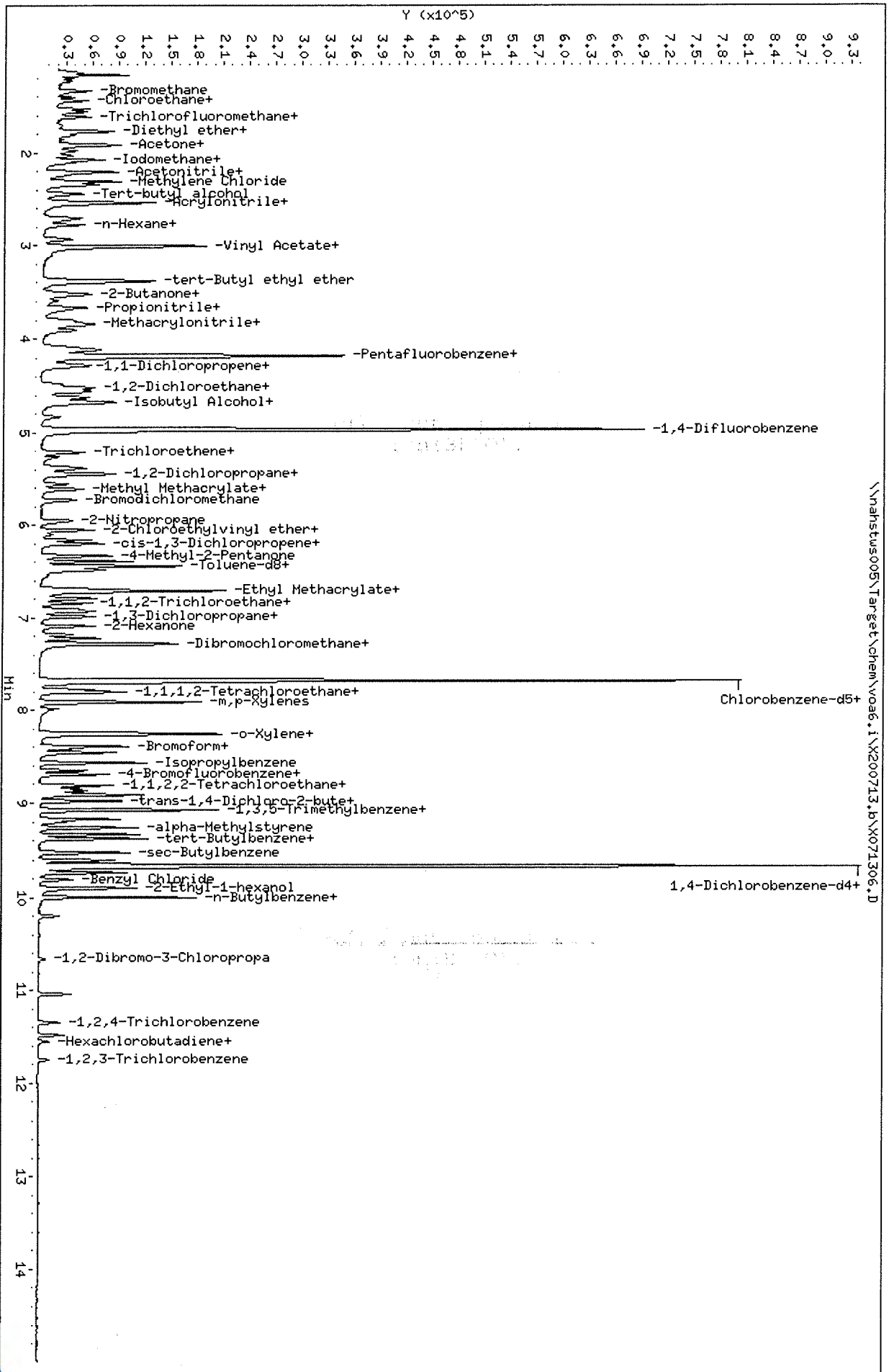
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

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

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	273643	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	442506	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	340884	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	193290	50.0000	
$ 30 Dibromofluoromethane	113	4.111	4.111	(0.981)	15802	5.00000	5.10
$ 35 1,2-Dichloroethane-d4	65	4.483	4.483	(1.070)	19086	5.00000	4.92
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	55374	5.00000	6.20
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	21438	5.00000	6.03
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	13282	5.00000	6.36
11 1,1-Dichloroethene	96	1.919	1.919	(0.458)	11848	5.00000	4.94(a)
33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	22279	5.00000	4.23(a)
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.843)	16456	5.00000	4.68
17 Methylene Chloride	84	2.305	2.305	(0.550)	18680	5.00000	4.58(a)
38 Trichloroethene	130	5.214	5.214	(1.049)	15147	5.00000	4.75
5 Vinyl Chloride	62	1.138	1.138	(0.272)	21041	5.00000	4.67

QC Flag Legend

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



Data File: \\nahstws005\Target\chem\voa6,i\X200713,b\X071306,D
Date : 13-JUL-2020 12:30
Client ID: VSTD005
Sample Info: VSTD005;VSTD005;1;5;
Purge Volume: 5.0
Column phase: DB624

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

Data File: \\nahstws005\Target\chem\voa6.i\X200713.b\X071307.D Page 1
Report Date: 21-Aug-2020 15:22

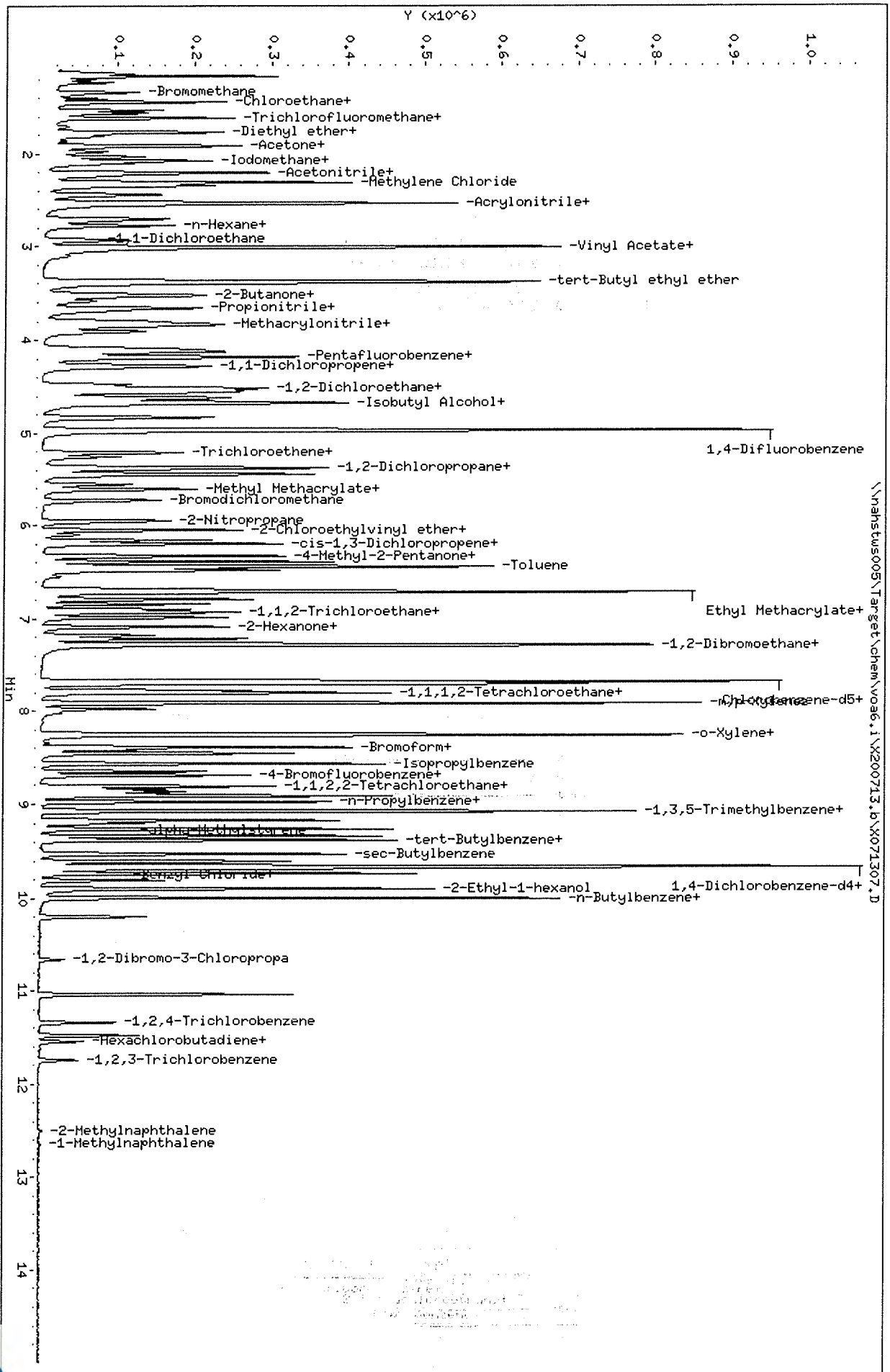
ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X200713.b\X071307.D
Lab Smp Id: VSTD020 Client Smp ID: VSTD020
Inj Date : 13-JUL-2020 12:54
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\X200713.b\8260W.m
Meth Date : 21-Aug-2020 15:22 voa6.i Quant Type: ISTD
Cal Date : 13-JUL-2020 12:30 Cal File: X071306.D
Als bottle: 8 Calibration Sample, Level: 6
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI-Hou11.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

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

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	253573	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	421442	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	382758	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	186382	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.979)	57060	20.0000	20.14
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	78060	20.0000	20.57
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	195468	20.0000	19.49
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	75648	20.0000	20.10
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	48065	20.0000	20.50
11 1,1-Dichloroethene	96	1.919	1.919	(0.458)	40964	20.0000	18.46
33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	101682	20.0000	20.27
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.843)	61658	20.0000	18.95
17 Methylene Chloride	84	2.306	2.306	(0.550)	58274	20.0000	18.69
38 Trichloroethene	130	5.214	5.214	(1.049)	59096	20.0000	19.48
5 Vinyl Chloride	62	1.145	1.145	(0.273)	74208	20.0000	17.79



Data File: \\nahstws005\Target\chem\voa6.i\X200713.b\X071307.D
Date : 13-JUL-2020 12:54
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\X200713.b\X071308.D Page 1
Report Date: 21-Aug-2020 15:22

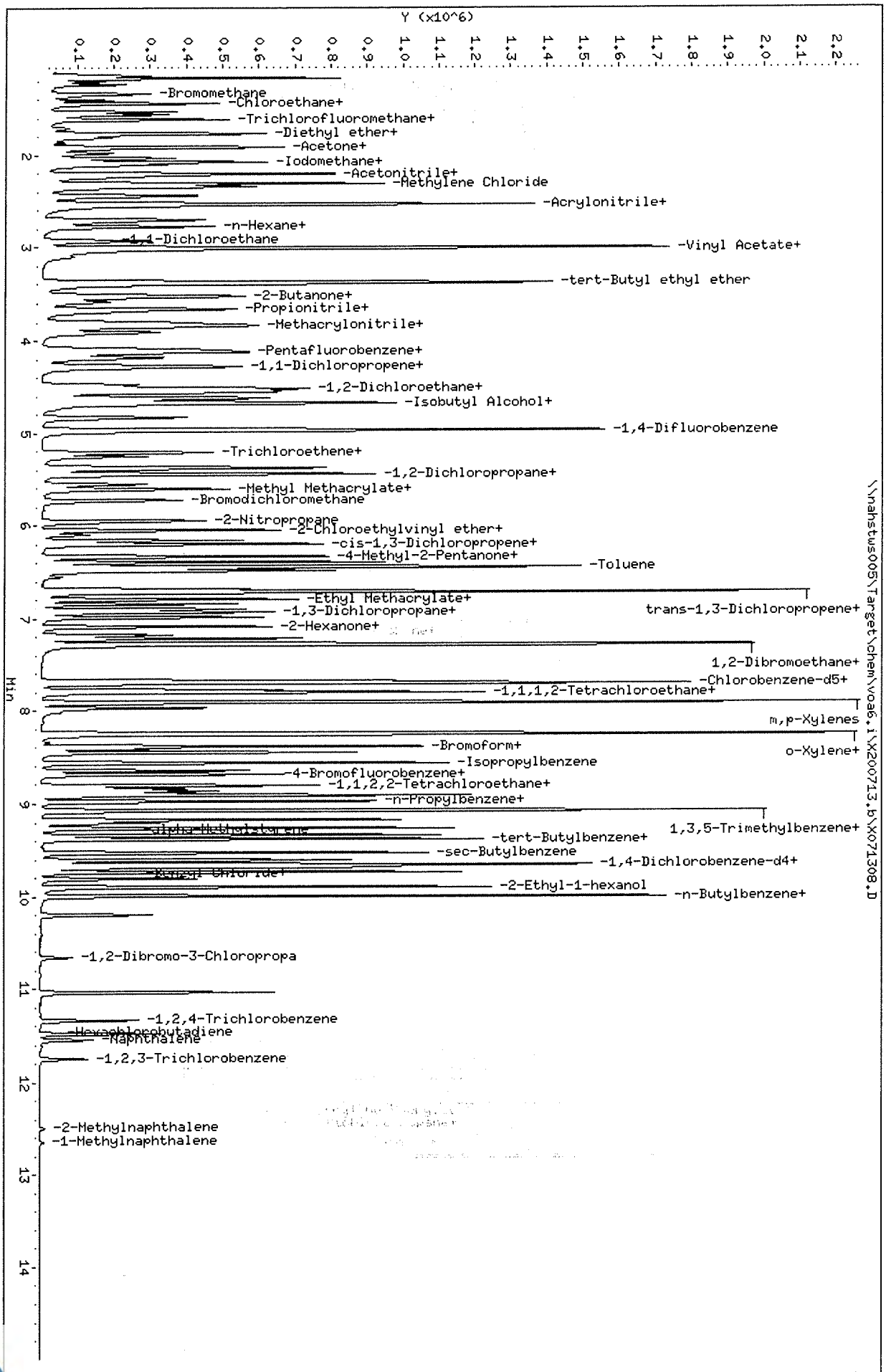
ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X200713.b\X071308.D
Lab Smp Id: VSTD050 Client Smp ID: VSTD050
Inj Date : 13-JUL-2020 13:18
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\X200713.b\8260W.m
Meth Date : 21-Aug-2020 15:22 voa6.i Quant Type: ISTD
Cal Date : 13-JUL-2020 12:54 Cal File: X071307.D
Als bottle: 9 Calibration Sample, Level: 7
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI-Hou11.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

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

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	250164	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	416710	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	383548	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	184191	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.979)	137160	50.0000	49.20
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	186102	50.0000	49.24
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	479221	50.0000	47.69
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	186024	50.0000	50.12
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	118016	50.0000	50.25
11 1,1-Dichloroethene	96	1.919	1.919	(0.458)	111538	50.0000	50.96
33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	250459	50.0000	50.51
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.843)	158287	50.0000	49.32
17 Methylene Chloride	84	2.306	2.306	(0.550)	153830	50.0000	52.34
38 Trichloroethene	130	5.214	5.214	(1.049)	149525	50.0000	49.85
5 Vinyl Chloride	62	1.145	1.145	(0.273)	201301	50.0000	48.93



Data File: \\nahstws005\Target\chem\voa6,i\X200713,b\X071308,D
Date : 13-JUL-2020 13:18
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\X200713.b\X071309.D Page 1
Report Date: 21-Aug-2020 15:22

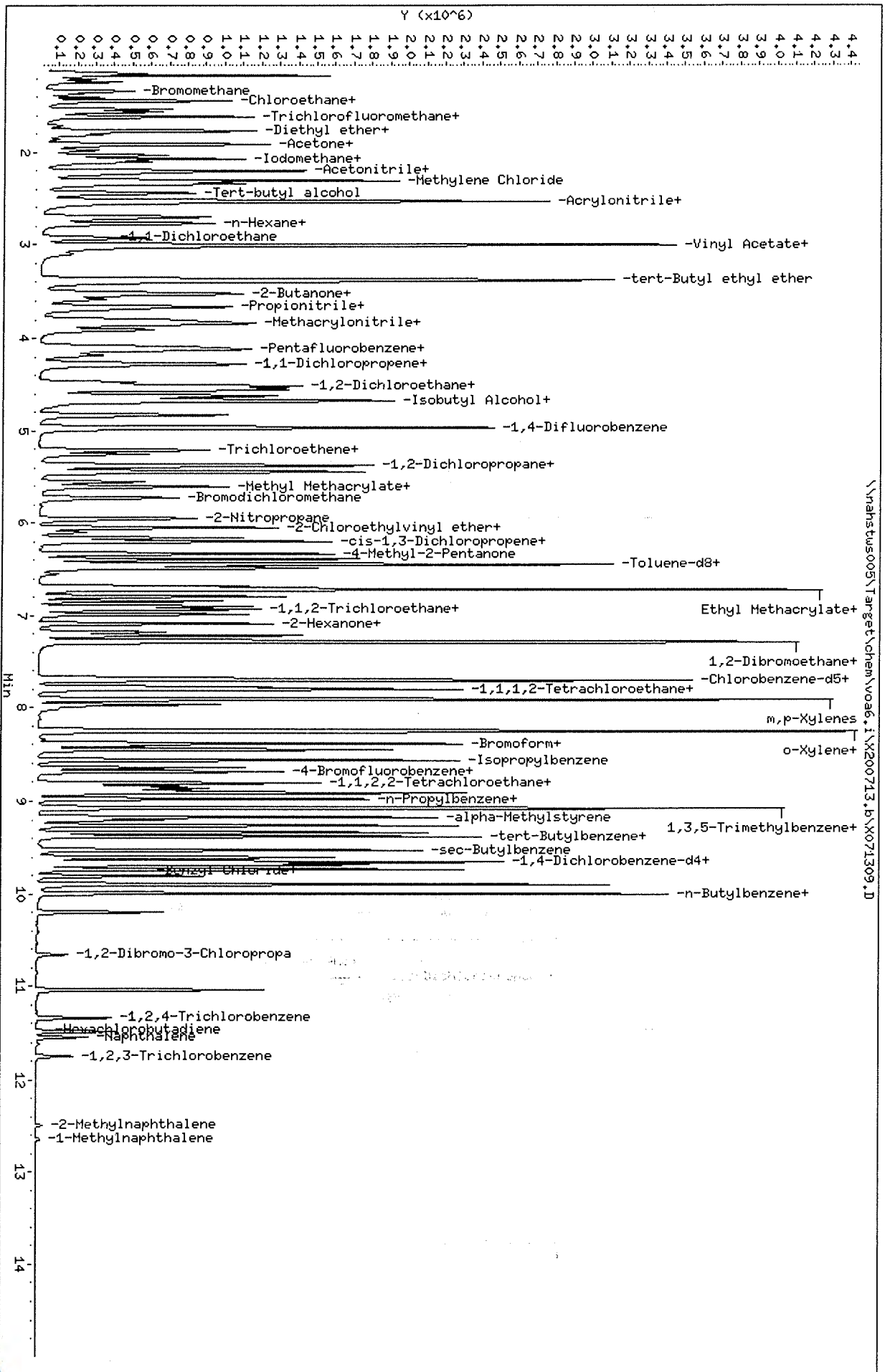
ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X200713.b\X071309.D
Lab Smp Id: VSTD100 Client Smp ID: VSTD100
Inj Date : 13-JUL-2020 13:42
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\X200713.b\8260W.m
Meth Date : 21-Aug-2020 15:22 voa6.i Quant Type: ISTD
Cal Date : 13-JUL-2020 13:18 Cal File: X071308.D
Als bottle: 10 Calibration Sample, Level: 8
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI-Hou11.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

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

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	241410	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	394471	50.0000	
* 47 Chlorobenzene-d5	117	7.670	7.670	(1.000)	367611	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	175701	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.979)	266517	100.000	99.15
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	358725	100.000	98.02
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	894200	100.000	92.86
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	353354	100.000	99.86
53 1,1,2-Trichloroethane	83	6.847	6.847	(0.893)	221967	100.000	98.61
11 1,1-Dichloroethene	96	1.919	1.919	(0.458)	199334	100.000	94.38
33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	486248	100.000	103.59
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.843)	306783	100.000	99.06
17 Methylene Chloride	84	2.305	2.305	(0.550)	277730	100.000	99.13
38 Trichloroethene	130	5.214	5.214	(1.049)	283882	100.000	99.98
5 Vinyl Chloride	62	1.145	1.145	(0.273)	383986	100.000	96.72



Data File: \\nahstws005\Target\chem\voa6.i\X200713.b\X071309.D
Date : 13-JUL-2020 13:42
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

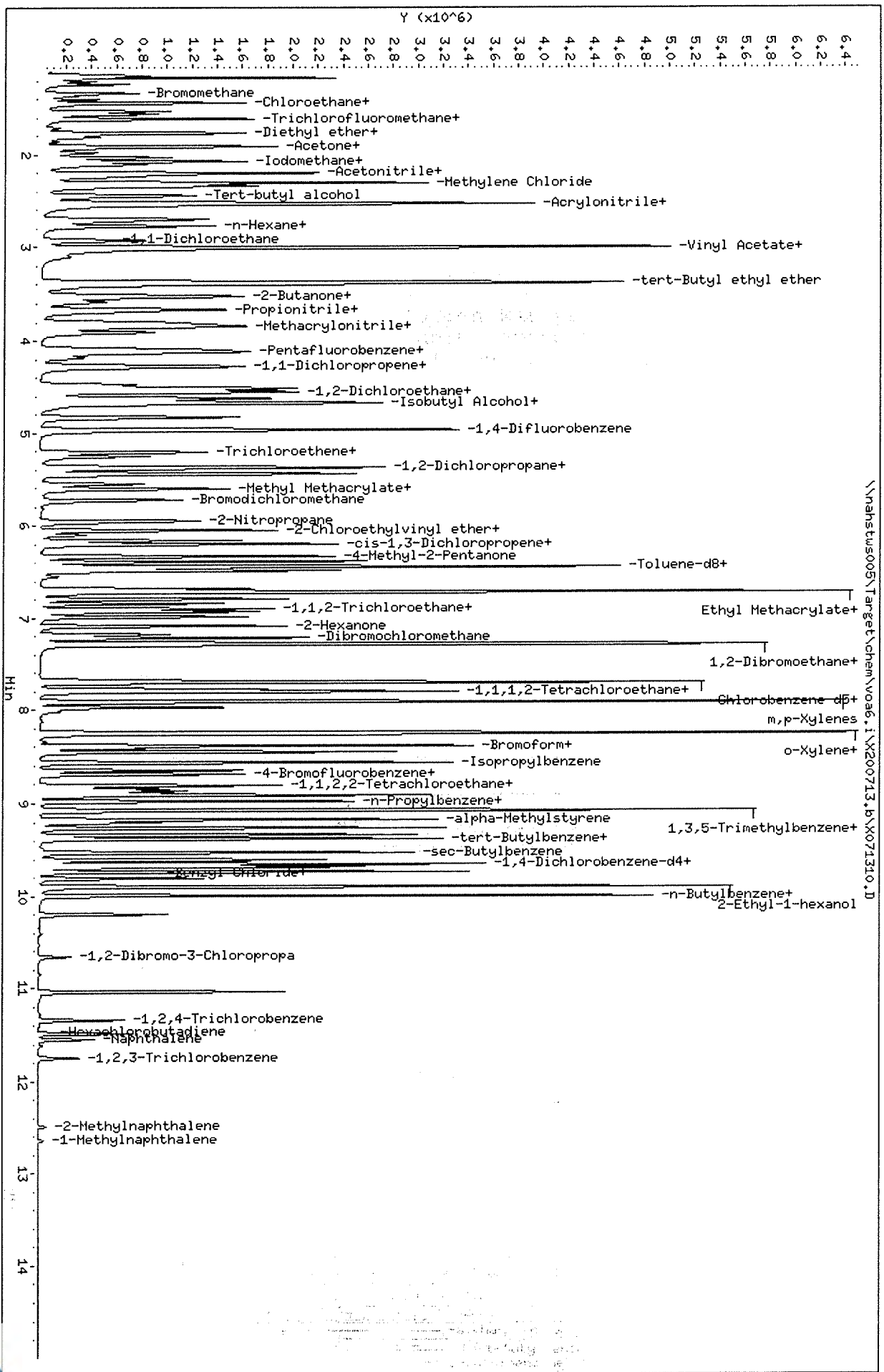
ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X200713.b\X071310.D
Lab Smp Id: VSTD150 Client Smp ID: VSTD150
Inj Date : 13-JUL-2020 14:06
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\X200713.b\8260W.m
Meth Date : 21-Aug-2020 15:22 voa6.i Quant Type: ISTD
Cal Date : 13-JUL-2020 13:42 Cal File: X071309.D
Als bottle: 11 Calibration Sample, Level: 9
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI-Hou11.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

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

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	230193	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	377089	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	359232	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	167954	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.979)	392708	150.000	153.26
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	528876	150.000	151.37
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	1315908	150.000	139.84
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	442637	150.000	128.16
53 1,1,2-Trichloroethane	83	6.847	6.847	(0.893)	325485	150.000	147.97
11 1,1-Dichloroethene	96	1.912	1.912	(0.456)	292253	150.000	145.12
33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	681533	150.000	151.88
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.843)	447986	150.000	151.71
17 Methylene Chloride	84	2.305	2.305	(0.550)	426028	150.000	160.31
38 Trichloroethene	130	5.207	5.207	(1.048)	414098	150.000	152.57
5 Vinyl Chloride	62	1.145	1.145	(0.273)	590934	150.000	156.11



Data File: \\nahstws005\Target\chem\voa6.i\X200713.b\X071310.D
Date : 13-JUL-2020 14:06
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\X200713.b\X071311.D
Lab Smp Id: VSTD200 Client Smp ID: VSTD200
Inj Date : 13-JUL-2020 14:30
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\X200713.b\8260W.m
Meth Date : 21-Aug-2020 15:22 voa6.i Quant Type: ISTD
Cal Date : 13-JUL-2020 14:06 Cal File: X071310.D
Als bottle: 12 Calibration Sample, Level: 10
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI-Hou11.sub
Target Version: 4.14
Processing Host: NAHSTW7056

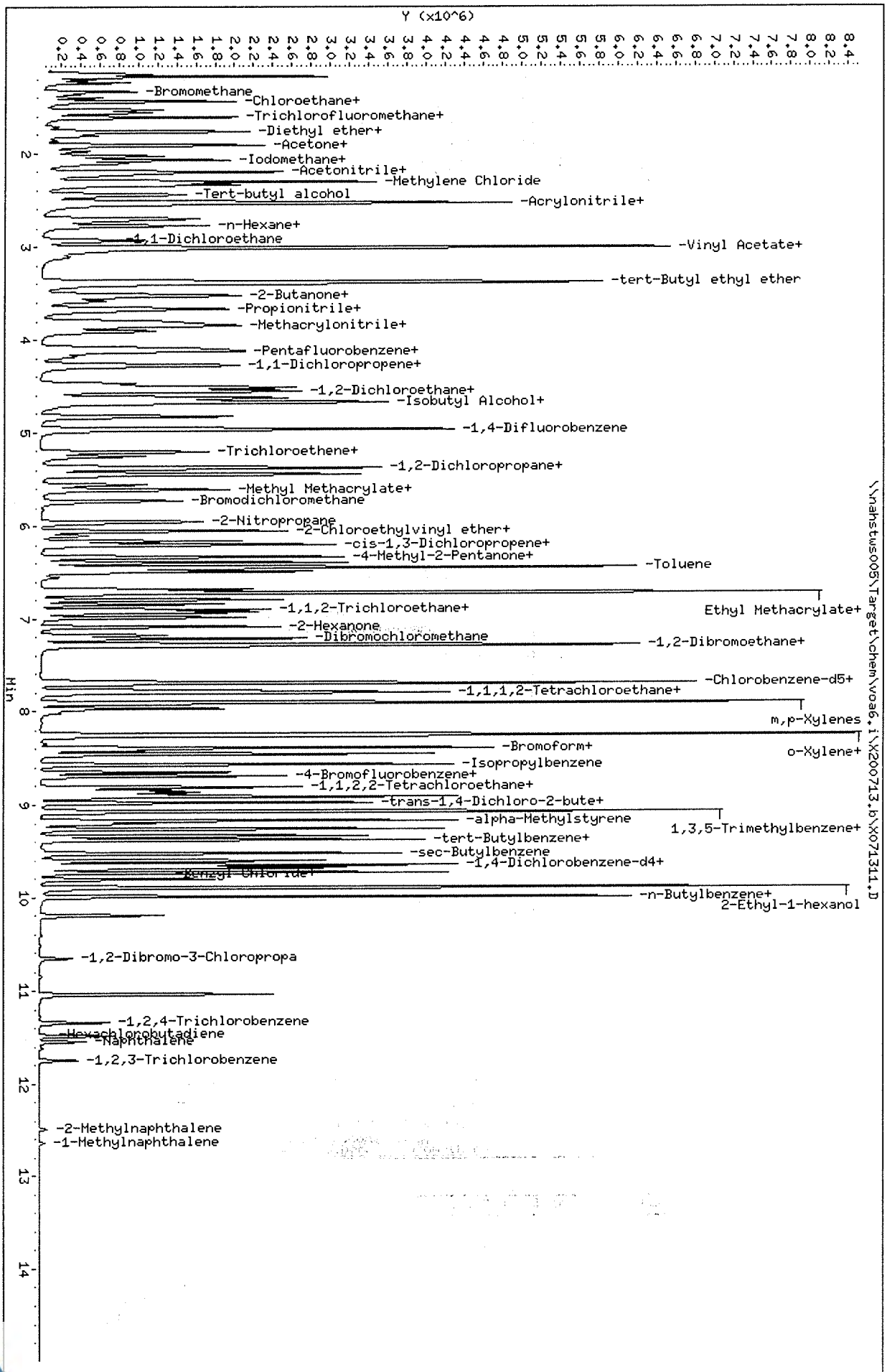
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

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

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	226606	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	377615	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	350855	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	165433	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.979)	499552	200.000	198.07
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	688409	200.000	200.04(A)
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	1699318	200.000	184.90
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	662646	200.000	196.73
53 1,1,2-Trichloroethane	83	6.847	6.847	(0.893)	404715	200.000	188.39
11 1,1-Dichloroethene	96	1.912	1.912	(0.456)	363508	200.000	183.36
33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	911285	200.000	202.81(A)
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.843)	573367	200.000	197.24
17 Methylene Chloride	84	2.306	2.306	(0.550)	499769	200.000	191.30
38 Trichloroethene	130	5.207	5.207	(1.048)	541719	200.000	199.32
5 Vinyl Chloride	62	1.138	1.138	(0.272)	766186	200.000	205.61(A)

QC Flag Legend

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



Data File: \\nahstws005\Target\chem\voa6.i\X200713.b\X071311.D
Date : 13-JUL-2020 14:30
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\X200713.b\X071313.D Page 1
Report Date: 21-Aug-2020 15:22

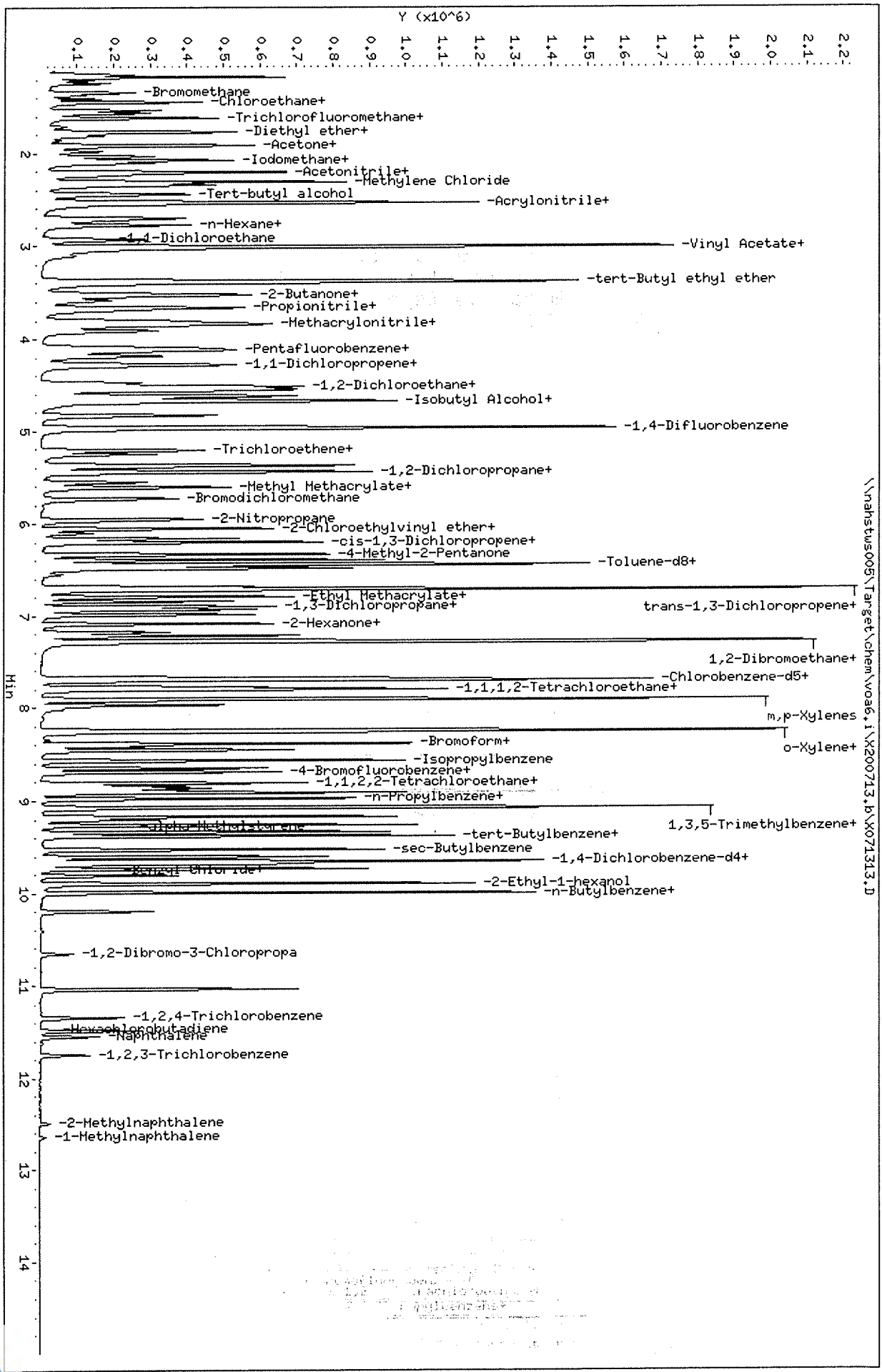
ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X200713.b\X071313.D
Lab Smp Id: ICV Client Smp ID: ICV
Inj Date : 13-JUL-2020 15:42
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\X200713.b\8260W.m
Meth Date : 21-Aug-2020 15:22 voa6.i Quant Type: ISTD
Cal Date : 13-JUL-2020 14:30 Cal File: X071311.D
Als bottle: 15 QC Sample: METHSPIKE
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI-Hou11.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

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

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	247155	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	407373	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	373467	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.669	(1.000)	159419	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.979)	141230	51.2819	51.28
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	190337	50.9658	50.96
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	473220	48.3739	48.37
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	178443	49.3711	49.37
53 1,1,2-Trichloroethane	83	6.840	6.847	(0.892)	114924	50.2570	50.25
11 1,1-Dichloroethene	96	1.919	1.912	(0.458)	95261	44.0570	44.05
33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	249342	51.4385	51.43
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.843)	155775	49.1327	49.13
17 Methylene Chloride	84	2.305	2.306	(0.550)	127302	43.6183	43.61
38 Trichloroethene	130	5.214	5.207	(1.049)	141901	48.3975	48.39
5 Vinyl Chloride	62	1.145	1.138	(0.273)	169254	41.6454	41.64



Data File: \\nahstws005\Target\chem\voa6.i\X200713.b\X071313.D
Date : 13-JUL-2020 15:42
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: 41208 **Analyst:** Presenta Cabascango

Date: 07-23-2020 **Reviewer:**

Method: 8260 **Laboratory:** Houston

Comments:

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	pH
1	BFB	TUNE	07-23-2020 10:33 am	1.00	50 mL	50 mL	X072301a.D	Liquid	Y	NA
	Auto find/ purged									
2	BFB	TUNE	07-23-2020 10:57 am	1.00	50 mL	50 mL	X072302.D	Liquid	Y	NA
	Auto find/ purged									
3	CCV	CCV	07-23-2020 11:21 am	1.00	50 mL	50 mL	X072303.D	Liquid	Y	NA
	10 uL cal std/50 mL DI									
4	CCB	SAMP	07-23-2020 11:45 am	1.00	50 mL	50 mL	X072304.D	Liquid	Y	NA
5	VLCSW-200723	LCS	07-23-2020 12:09 pm	1.00	50 mL	50 mL	X072305.D	Liquid	Y	NA
	4.0 uL cal std/50 mL DI									
6	BLANK	SAMP	07-23-2020 12:33 pm	1.00	50 mL	50 mL	X072306.D	Liquid	Y	NA
7	VBLKW-200723	MBLK	07-23-2020 12:57 pm	1.00	50 mL	50 mL	X072307.D	Liquid	Y	NA
8	HS20071033-09	SAMP	07-23-2020 01:21 pm	1.00	50 mL	50 mL	X072308.D	Liquid	Y	<2
9	HS20071033-01	SAMP	07-23-2020 01:45 pm	1.00	50 mL	50 mL	X072309.D	Liquid	Y	<2
10	HS20071033-02	SAMP	07-23-2020 02:09 pm	1.00	50 mL	50 mL	X072310.D	Liquid	Y	<2
11	HS20071033-03	SAMP	07-23-2020 02:33 pm	25.00	2 mL	50 mL	X072311.D	Liquid	Y	<2
12	HS20071033-05	SAMP	07-23-2020 02:57 pm	500.0(	100 µL	50 mL	X072312.D	Liquid	Y	<2
13	HS20071033-03	SAMP	07-23-2020 03:21 pm	5.00	10 mL	50 mL	X072313.D	Liquid	Y	<2
14	HS20071033-05	SAMP	07-23-2020 03:45 pm	25.00	2 mL	50 mL	X072314.D	Liquid	Y	<2
15	HS20071033-03MS	MS	07-23-2020 04:09 pm	25.00	2 mL	50 mL	X072315.D	Liquid	Y	<2
	3.5 uL cal std/40 mL samp									
16	HS20071033-03MSD	MSD	07-23-2020 04:33 pm	25.00	2 mL	50 mL	X072316.D	Liquid	Y	<2
	3.5 uL cal std/40 mL samp									
17	HS20071033-05MS	MS	07-23-2020 04:57 pm	500.0(	100 µL	50 mL	X072317.D	Liquid	Y	<2
	3.5 uL cal std/40 mL samp									
18	HS20071033-05MSD	MSD	07-23-2020 05:21 pm	500.0(	100 µL	50 mL	X072318.D	Liquid	Y	<2
	3.5 uL cal std/40 mL samp									
19	HS20070763-02	SAMP	07-23-2020 05:45 pm	1.00	50 mL	50 mL	X072319.D	Liquid	Y	<2
20	HS20071033-04	SAMP	07-23-2020 06:09 pm	5.00	10 mL	50 mL	X072320.D	Liquid	Y	<2
21	HS20071033-04	SAMP	07-23-2020 06:33 pm	25.00	2 mL	50 mL	X072321.D	Liquid	Y	<2
22	HS20071033-06	SAMP	07-23-2020 06:57 pm	10.00	5 mL	50 mL	X072322.D	Liquid	Y	<2
23	HS20071033-06	SAMP	07-23-2020 07:21 pm	100.0(	500 µL	50 mL	X072323.D	Liquid	Y	<2
24	HS20071033-08	SAMP	07-23-2020 07:46 pm	20.00	2.5 mL	50 mL	X072324.D	Liquid	Y	<2
25	HS20071033-08	SAMP	07-23-2020 08:10 pm	200.0(	250 µL	50 mL	X072325.D	Liquid	Y	<2
26	HS20071033-07	SAMP	07-23-2020 08:34 pm	25.00	2 mL	50 mL	X072326.D	Liquid	Y	<2
27	HS20071033-07	SAMP	07-23-2020 08:58 pm	500.0(	100 µL	50 mL	X072327.D	Liquid	Y	<2
28	CCV-END	CCV	07-23-2020 09:22 pm	1.00	50 mL	50 mL	X072328.D	Liquid	Y	na
	10 uL cal std/50 mL DI									
29	HS20070713-09	SAMP	07-23-2020 09:46 pm	10.00	5 mL	50 mL	X072329.D	Liquid	Y	<2
30	BLANK	SAMP	07-23-2020 10:10 pm	1.00	50 mL	50 mL	X072330.D	Liquid	Y	<2

Chemical	Value
SURR SPK ID	31106-38-06
IS ID	31106-38-03
CAL STD ID	31106-39-01/02
BFB ID	31106-38-06
pH Paper	634-64-11

FORM 2
WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20071033

	CLIENT SAMPLE NO.	SMC1 #	SMC2 (DCE)#	SMC3 (TOL)#	OTHER #	TOT OUT
01	VLCSW-200723	98	98	98	100	0
02	VBLKW-200723	95	95	97	90	0
03	HS20071033-09	88	90	106	97	0
04	HS20071033-01	94	90	102	100	0
05	HS20071033-02	91	89	102	98	0
06	HS20071033-03	91	90	101	100	0
07	HS20071033-05	91	91	109	104	0
08	HS20071033-03	92	91	102	101	0
09	HS20071033-05	91	91	98	93	0
10	HS20071033-03	93	91	102	99	0
11	HS20071033-03	91	88	102	98	0
12	HS20071033-05	92	88	100	100	0
13	HS20071033-05	94	97	99	98	0
14	HS20071033-04	92	93	100	99	0
15	HS20071033-04	92	91	102	101	0
16	HS20071033-06	91	92	101	102	0
17	HS20071033-06	93	92	101	98	0
18	HS20071033-08	92	92	102	97	0
19	HS20071033-08	101	111	102	101	0
20	HS20071033-07	93	91	103	98	0
21	HS20071033-07	91	91	103	98	0
22						
23						
24						
25						
26						
27						
28						

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

Column to be used to flag recovery values

* Values outside of contract required QC limits

D System Monitoring Compound diluted out

FORM 4
VOLATILE METHOD BLANK SUMMARY

CLIENT SAMPLE NO.

VBLKW-200723

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20071033

Lab File ID: X072307 Lab Sample ID: VBLKW-200723

Date Analyzed: 07/23/20 Time Analyzed: 1257

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-200723	VLCSW-200723	X072305	1209
02	HS20071033-0	HS20071033-09	X072308	1321
03	HS20071033-0	HS20071033-01	X072309	1345
04	HS20071033-0	HS20071033-02	X072310	1409
05	HS20071033-0	HS20071033-03	X072311	1433
06	HS20071033-0	HS20071033-05	X072312	1457
07	HS20071033-0	HS20071033-03	X072313	1521
08	HS20071033-0	HS20071033-05	X072314	1545
09	HS20071033-0	HS20071033-03M	X072315	1609
10	HS20071033-0	HS20071033-03M	X072316	1633
11	HS20071033-0	HS20071033-05M	X072317	1657
12	HS20071033-0	HS20071033-05M	X072318	1721
13	HS20071033-0	HS20071033-04	X072320	1809
14	HS20071033-0	HS20071033-04	X072321	1833
15	HS20071033-0	HS20071033-06	X072322	1857
16	HS20071033-0	HS20071033-06	X072323	1921
17	HS20071033-0	HS20071033-08	X072324	1946
18	HS20071033-0	HS20071033-08	X072325	2010
19	HS20071033-0	HS20071033-07	X072326	2034
20	HS20071033-0	HS20071033-07	X072327	2058
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.: HS20071033

Lab File ID: X072302 BFB Injection Date: 07/23/20

Instrument ID: VOA6 BFB Injection Time: 1057

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	29.6
75	30.0 - 60.0% of mass 95	51.0
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	7.4
173	Less than 2.0% of mass 174	0.7 (1.3)1
174	Greater than 50.0% of mass 95	55.0
175	5.0 - 9.0% of mass 174	4.6 (8.4)1
176	95.0 - 101.0% of mass 174	53.7 (97.6)1
177	5.0 - 9.0% of mass 176	4.2 (7.9)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	X072303	07/23/20	1121
02	VLCSW-200723	VLCSW-200723	X072305	07/23/20	1209
03	VBLKW-200723	VBLKW-200723	X072307	07/23/20	1257
04	HS20071033-0	HS20071033-09	X072308	07/23/20	1321
05	HS20071033-0	HS20071033-01	X072309	07/23/20	1345
06	HS20071033-0	HS20071033-02	X072310	07/23/20	1409
07	HS20071033-0	HS20071033-03	X072311	07/23/20	1433
08	HS20071033-0	HS20071033-05	X072312	07/23/20	1457
09	HS20071033-0	HS20071033-03	X072313	07/23/20	1521
10	HS20071033-0	HS20071033-05	X072314	07/23/20	1545
11	HS20071033-0	HS20071033-03M	X072315	07/23/20	1609
12	HS20071033-0	HS20071033-03M	X072316	07/23/20	1633
13	HS20071033-0	HS20071033-05M	X072317	07/23/20	1657
14	HS20071033-0	HS20071033-05M	X072318	07/23/20	1721
15	HS20071033-0	HS20071033-04	X072320	07/23/20	1809
16	HS20071033-0	HS20071033-04	X072321	07/23/20	1833
17	HS20071033-0	HS20071033-06	X072322	07/23/20	1857
18	HS20071033-0	HS20071033-06	X072323	07/23/20	1921
19	HS20071033-0	HS20071033-08	X072324	07/23/20	1946
20	HS20071033-0	HS20071033-08	X072325	07/23/20	2010
21	HS20071033-0	HS20071033-07	X072326	07/23/20	2034
22	HS20071033-0	HS20071033-07	X072327	07/23/20	2058

FORM 5
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20071033

Lab File ID: X072302 BFB Injection Date: 07/23/20

Instrument ID: VOA6 BFB Injection Time: 1057

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	29.6
75	30.0 - 60.0% of mass 95	51.0
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	7.4
173	Less than 2.0% of mass 174	0.7 (1.3)1
174	Greater than 50.0% of mass 95	55.0
175	5.0 - 9.0% of mass 174	4.6 (8.4)1
176	95.0 - 101.0% of mass 174	53.7 (97.6)1
177	5.0 - 9.0% of mass 176	4.2 (7.9)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-END	CCV-END	X072328	07/23/20	2122
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

FORM 7B
VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20071033

Instrument ID: VOA6 Calibration Date: 07/23/20 Time: 1121

Lab File ID: X072303 Init. Calib. Date(s): 07/13/20 07/13/20

Init. Calib. Times: 1027 1430

GC Column: DB624 ID: 0.18 (mm)

COMPOUND	RRF or AMOUNT	RRF50.000 or AMOUNT	CCAL RRF50.000	MIN RRF	%D or %DRIFT	MAX %D or %DRIFT	CURV TYPE
Vinyl Chloride	0.8220000	0.8672693	0.8672693	0.1	-5.51	20.00	AVRG
Methylene Chloride	49.670189	50.000000	0.5843368	0.1	0.66	20.00	LINR
1,1-Dichloroethene	0.4370000	0.4618643	0.4618643	0.1	-5.69	20.00	AVRG
1,2-Dichloroethane	0.5950000	0.6119593	0.6119593	0.1	-2.85	20.00	AVRG
cis-1,2-Dichloroethene	0.6410000	0.5909884	0.5909884	0.1	7.80	20.00	AVRG
1,1,2-Trichloroethane	0.3060000	0.3227540	0.3227540	0.1	-5.48	20.00	AVRG
Trichloroethene	0.3600000	0.3654812	0.3654812	0.2	-1.52	20.00	AVRG
Dibromofluoromethane	46.585672	50.000000	0.5191776	0.1	6.83	20.00	LINR
1,2-Dichloroethane-d4	47.457920	50.000000	0.7167511	0.1	5.08	20.00	LINR
Toluene-d8	1.3100000	1.2325952	1.2325952	0.1	5.91	20.00	AVRG
4-Bromofluorobenzene	48.366037	50.000000	0.4681794	0.1	3.27	20.00	LINR

FORM 7B
VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20071033

Instrument ID: VOA6 Calibration Date: 07/23/20 Time: 2122

Lab File ID: X072328 Init. Calib. Date(s): 07/13/20 07/13/20

Init. Calib. Times: 1027 1430

GC Column: DB624 ID: 0.18 (mm)

COMPOUND	RRF or AMOUNT	RRF50.000 or AMOUNT	CCAL RRF50.000	MIN RRF	%D or %DRIFT	MAX %D or %DRIFT	CURV TYPE
Vinyl Chloride	0.8220000	0.8763837	0.8763837	0.1	-6.62	50.00	AVRG
Methylene Chloride	57.791297	50.000000	0.6772882	0.1	-15.58	50.00	LINR
1,1-Dichloroethene	0.4370000	0.4447554	0.4447554	0.1	-1.77	50.00	AVRG
1,2-Dichloroethane	0.5950000	0.6139677	0.6139677	0.1	-3.19	50.00	AVRG
cis-1,2-Dichloroethene	0.6410000	0.6607142	0.6607142	0.1	-3.08	50.00	AVRG
1,1,2-Trichloroethane	0.3060000	0.3078995	0.3078995	0.1	-0.62	50.00	AVRG
Trichloroethene	0.3600000	0.3473963	0.3473963	0.2	3.50	50.00	AVRG
Dibromofluoromethane	51.217128	50.000000	0.5707022	0.1	-2.43	50.00	LINR
1,2-Dichloroethane-d4	50.848749	50.000000	0.7683310	0.1	-1.70	50.00	LINR
Toluene-d8	1.3100000	1.2471282	1.2471282	0.1	4.80	50.00	AVRG
4-Bromofluorobenzene	48.738037	50.000000	0.4717408	0.1	2.52	50.00	LINR

FORM VII VOA

FORM 8
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20071033

Lab File ID (Standard): X072303 Date Analyzed: 07/23/20

Instrument ID: VOA6 Time Analyzed: 1121

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	252873	4.19	420577	4.97	381749	7.67
	UPPER LIMIT	505746	4.69	841154	5.47	763498	8.17
	LOWER LIMIT	126437	3.69	210289	4.47	190875	7.17
	CLIENT SAMPLE NO.						
01	VLCSW-200723	267727	4.19	442288	4.97	391525	7.67
02	VBLKW-200723	304973	4.19	499511	4.97	426570	7.67
03	HS20071033-09	313818	4.19	494982	4.97	416732	7.67
04	HS20071033-01	307357	4.19	501051	4.97	433731	7.67
05	HS20071033-02	320377	4.19	503486	4.97	442770	7.67
06	HS20071033-03	320266	4.19	506279	4.97	435364	7.67
07	HS20071033-05	315753	4.19	507587	4.97	406650	7.67
08	HS20071033-03	313486	4.19	503332	4.97	429191	7.67
09	HS20071033-05	281189	4.19	459017	4.97	395211	7.67
10	HS20071033-03	290716	4.19	468724	4.97	406281	7.67
11	HS20071033-03	292294	4.19	459256	4.97	401673	7.67
12	HS20071033-05	291393	4.19	462156	4.97	404958	7.67
13	HS20071033-05	275712	4.19	419166	4.97	406637	7.67
14	HS20071033-04	313348	4.19	498315	4.97	432151	7.67
15	HS20071033-04	317342	4.19	509951	4.97	437881	7.67
16	HS20071033-06	316823	4.19	512740	4.97	437395	7.67
17	HS20071033-06	313255	4.19	516283	4.97	450033	7.67
18	HS20071033-08	298285	4.19	487992	4.97	412865	7.67
19	HS20071033-08	254958	4.19	489460	4.97	409080	7.67
20	HS20071033-07	306819	4.19	498241	4.97	399043	7.67

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.: HS20071033

Lab File ID (Standard): X072303 Date Analyzed: 07/23/20

Instrument ID: VOA6 Time Analyzed: 1121

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	252873	4.19	420577	4.97	381749	7.67
	UPPER LIMIT	505746	4.69	841154	5.47	763498	8.17
	LOWER LIMIT	126437	3.69	210289	4.47	190875	7.17
	CLIENT SAMPLE NO.						
01	HS20071033-07	314064	4.19	505420	4.97	434237	7.67
02							
03							
04							
05							
06							
07							
08							
09							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							

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

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

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

FORM VIII VOA

FORM 8
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20071033

Lab File ID (Standard): X072303 Date Analyzed: 07/23/20

Instrument ID: VOA6 Time Analyzed: 1121

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

		IS4 (DCB) AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	172172	9.67				
	UPPER LIMIT	344344	10.17				
	LOWER LIMIT	86086	9.17				
	CLIENT SAMPLE NO.						
01	VLCSW-200723	179237	9.67				
02	VBLKW-200723	187002	9.67				
03	HS20071033-09	166975	9.67				
04	HS20071033-01	190649	9.67				
05	HS20071033-02	192967	9.67				
06	HS20071033-03	197139	9.67				
07	HS20071033-05	191178	9.67				
08	HS20071033-03	194520	9.67				
09	HS20071033-05	176831	9.67				
10	HS20071033-03	177442	9.66				
11	HS20071033-03	177829	9.67				
12	HS20071033-05	184270	9.67				
13	HS20071033-05	179401	9.66				
14	HS20071033-04	191000	9.67				
15	HS20071033-04	193245	9.67				
16	HS20071033-06	193305	9.67				
17	HS20071033-06	193738	9.67				
18	HS20071033-08	176899	9.67				
19	HS20071033-08	168867	9.67				
20	HS20071033-07	168683	9.67				

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 8
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20071033

Lab File ID (Standard): X072303 Date Analyzed: 07/23/20

Instrument ID: VOA6 Time Analyzed: 1121

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

		IS4(DCB) AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	172172	9.67				
	UPPER LIMIT	344344	10.17				
	LOWER LIMIT	86086	9.17				
	CLIENT SAMPLE NO.						
01	HS20071033-07	185803	9.67				
02							
03							
04							
05							
06							
07							
08							
09							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							

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

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

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

Data File: \\nahstws005\Target\chem\voa6.i\X200723.b\X072302.D

Date : 23-JUL-2020 10:57

Client ID: BFB

Instrument: voa6.i

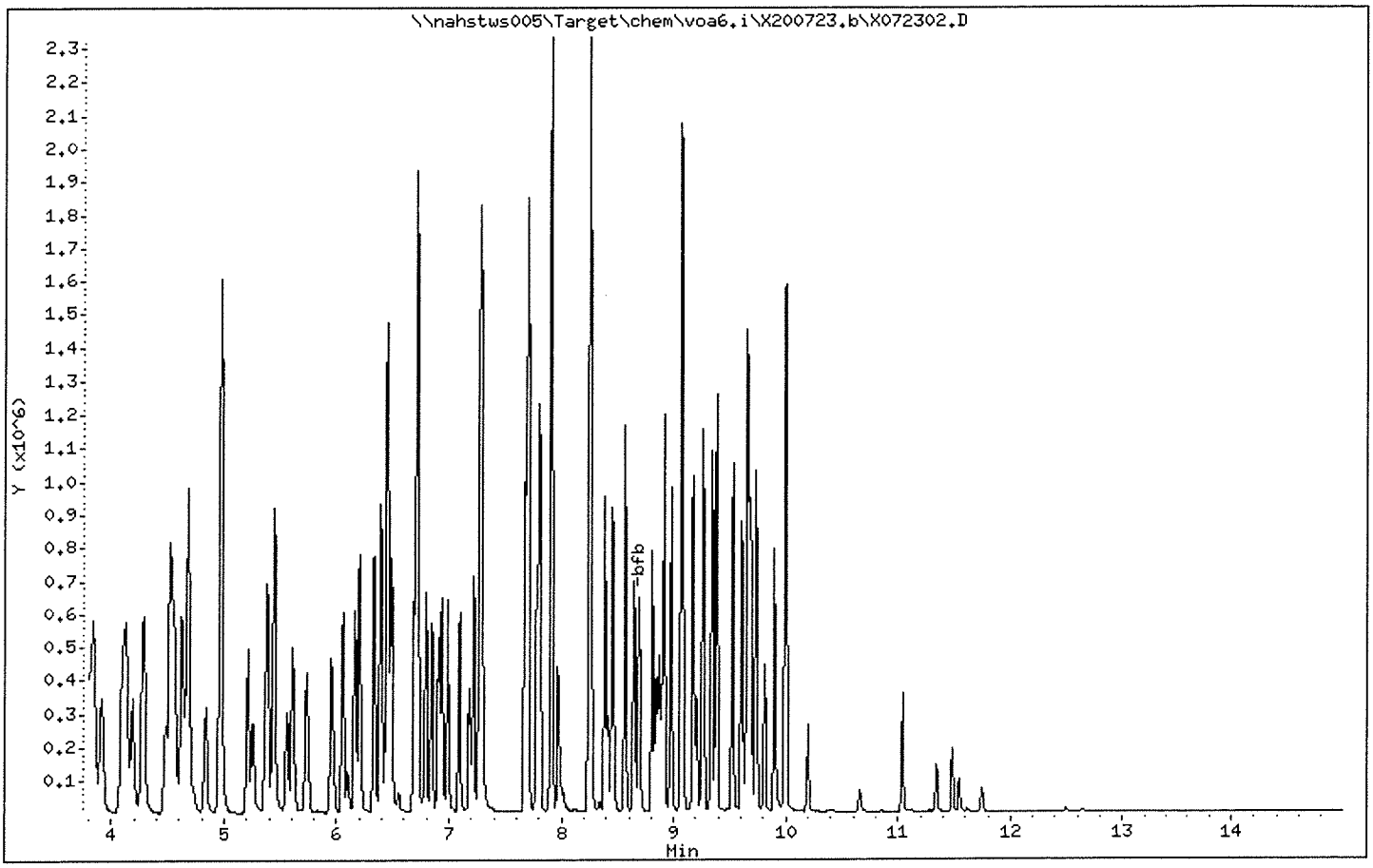
Sample Info: BFB;BFB;3;;BFB

Volume Injected (uL): 2.0

Operator: PC

Column phase: DB624

Column diameter: 0.25



Data File: \\nahstws005\Target\chem\voa6.i\X200723.b\X072302.D

Date : 23-JUL-2020 10:57

Client ID: BFB

Instrument: voa6.i

Sample Info: BFB;BFB;3;;BFB

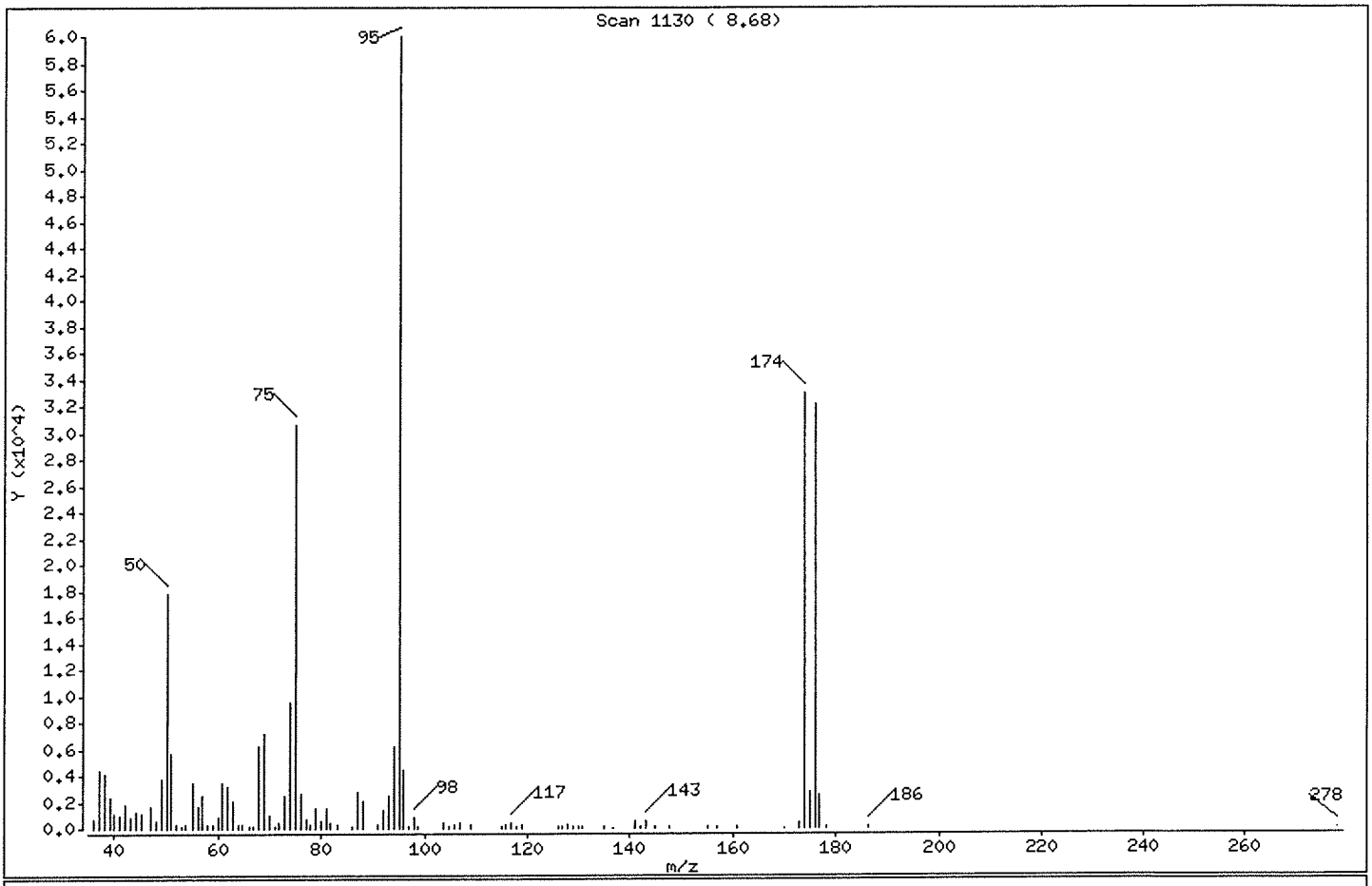
Volume Injected (uL): 2.0

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	29.57
75	30.00 - 60.00% of mass 95	50.96
96	5.00 - 9.00% of mass 95	7.36
173	Less than 2.00% of mass 174	0.73 (1.32)
174	Greater than 50.00% of mass 95	55.02
175	5.00 - 9.00% of mass 174	4.62 (8.39)
176	95.00 - 101.00% of mass 174	53.68 (97.55)
177	5.00 - 9.00% of mass 176	4.22 (7.87)

Data File: \\nahstws005\Target\chem\voa6.i\X200723.b\X072302.D

Date : 23-JUL-2020 10:57

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: X072302.D
Spectrum: Scan 1130 (8.68)
Location of Maximum: 95.00
Number of points: 94

m/z	Y	m/z	Y	m/z	Y	m/z	Y
35.90	742	60.90	3422	86.90	2726	128.90	193
37.00	4412	62.00	3214	88.00	2102	129.80	146
38.00	4087	63.00	2099	90.80	338	130.80	86
39.00	2385	64.00	250	92.00	1406	134.90	70
40.00	1129	64.80	232	93.00	2466	136.80	59
41.10	997	66.00	130	94.00	6208	140.90	502
42.10	1840	66.80	191	95.00	60032	141.90	72
43.00	875	68.00	6254	96.00	4417	142.90	591
44.00	1273	69.00	7126	96.90	142	144.70	94
45.10	1059	70.00	966	98.00	764	147.70	125
47.00	1602	70.90	173	98.90	126	155.10	174
47.90	565	71.90	363	103.80	350	156.80	104
49.00	3713	73.00	2512	104.80	206	160.90	79
50.00	17752	74.00	9492	105.90	304	170.10	65
51.00	5726	75.00	30592	107.00	373	172.90	436
52.00	335	76.00	2673	109.00	308	173.90	33032
53.00	107	77.00	753	115.00	106	174.90	2772
53.80	237	77.90	221	115.70	240	175.90	32224
55.00	3417	78.90	1493	116.80	393	176.90	2536
56.00	1635	79.90	513	117.90	157	178.10	73
57.00	2448	80.90	1565	118.80	219	186.30	75
58.00	269	81.80	392	126.00	70	278.20	58
59.00	332	83.10	289	126.90	166		
60.00	801	86.10	111	127.90	299		

Data File: \\nahstws005\Target\chem\voa6.i\X200723.b\X072303.D Page 1
Report Date: 21-Aug-2020 16:46

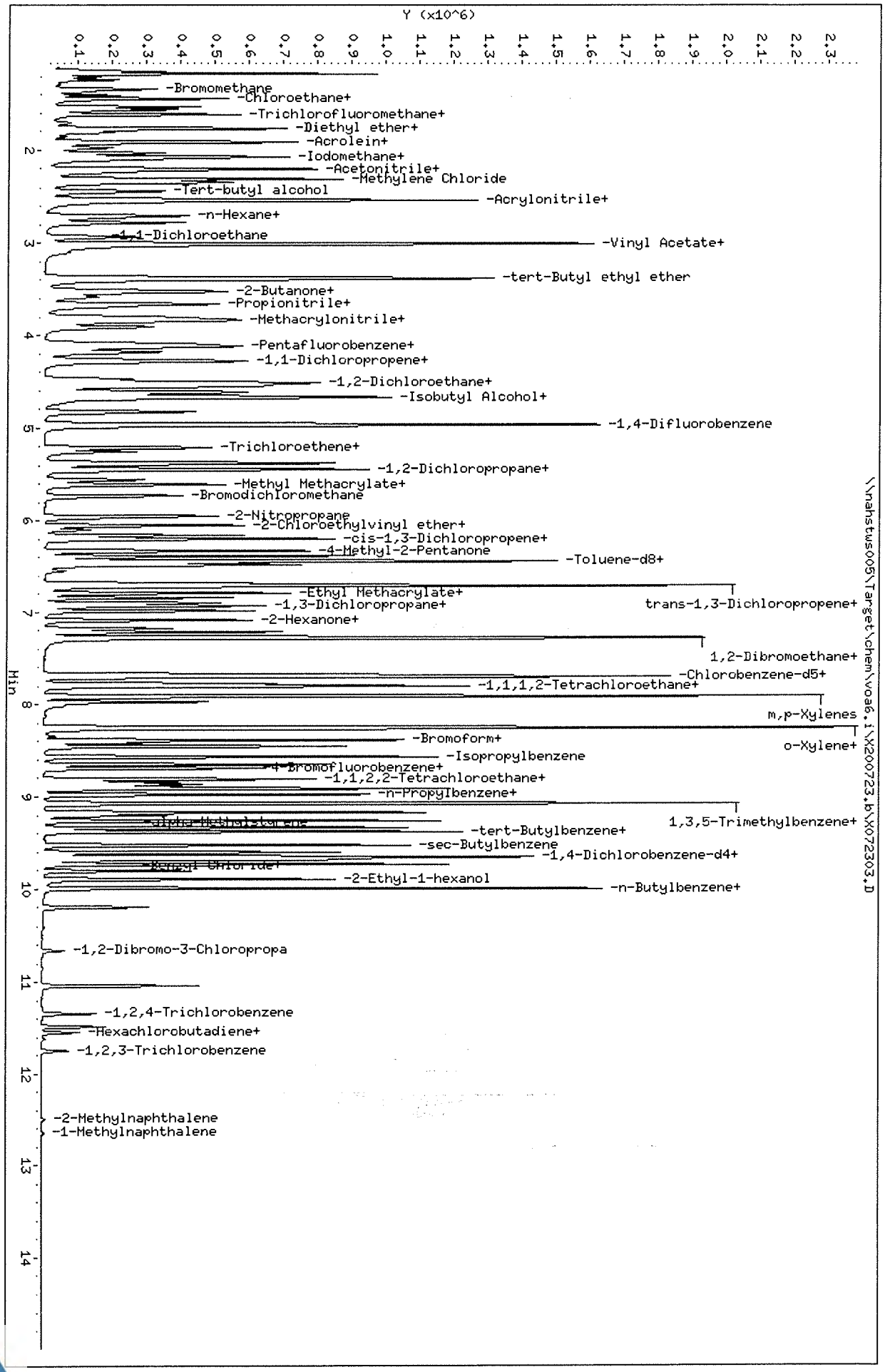
ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X200723.b\X072303.D
Lab Smp Id: CCV Client Smp ID: CCV
Inj Date : 23-JUL-2020 11:21
Operator : PC Inst ID: voa6.i
Smp Info : CCV;CCV;2;;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200723.b\8260W.m
Meth Date : 21-Aug-2020 16:46 voa6.i Quant Type: ISTD
Cal Date : 13-JUL-2020 13:18 Cal File: X071308.D
Als bottle: 3 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI-Hou11.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

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

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
*	1 Pentafluorobenzene	168	4.189	4.189	(1.000)	252873	50.0000	
*	36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	420577	50.0000	
*	47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	381749	50.0000	
*	70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	172172	50.0000	
$	30 Dibromofluoromethane	113	4.103	4.103	(0.979)	131286	50.0000	46.58
$	35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	181247	50.0000	47.45
$	48 Toluene-d8	98	6.388	6.388	(0.833)	470542	50.0000	47.05
$	69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	178727	50.0000	48.36
	53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	123211	50.0000	52.71
	11 1,1-Dichloroethene	96	1.919	1.919	(0.458)	116793	50.0000	52.79
	33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	257376	50.0000	51.42
	27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.843)	149445	50.0000	46.07
	17 Methylene Chloride	84	2.305	2.305	(0.550)	147763	50.0000	49.67
	38 Trichloroethene	130	5.214	5.214	(1.049)	153713	50.0000	50.78
	5 Vinyl Chloride	62	1.145	1.145	(0.273)	219309	50.0000	52.74



Data File: \\nahstws005\Target\chem\voa6.i\X200723.b\X072303.D
Date : 23-JUL-2020 11:21
Client ID: CCV
Sample Info: CCV;CCV;2;;;
Purge Volume: 5.0
Column phase: DB624

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

Data File: \\nahstws005\Target\chem\voa6.i\X200723.b\X072305.D Page 1
Report Date: 21-Aug-2020 16:46

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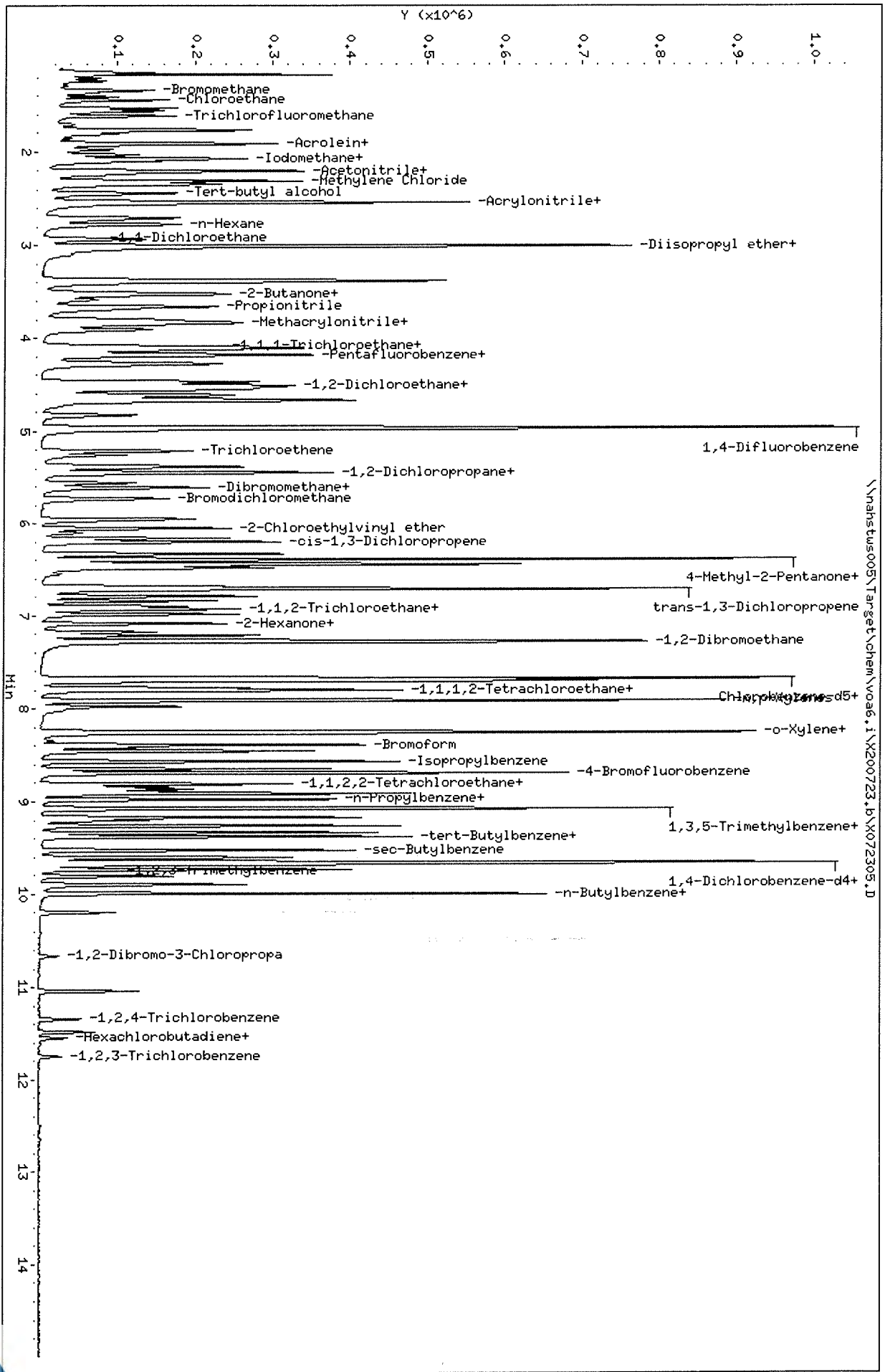
Data file : \\nahstws005\Target\chem\voa6.i\X200723.b\X072305.D
Lab Smp Id: VLCSW-200723 Client Smp ID: VLCSW-200723
Inj Date : 23-JUL-2020 12:09
Operator : PC Inst ID: voa6.i
Smp Info : VLCSW-200723;VLCSW-200723;3;;LCS
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200723.b\8260W.m
Meth Date : 21-Aug-2020 16:46 voa6.i Quant Type: ISTD
Cal Date : 13-JUL-2020 13:18 Cal File: X071308.D
Als bottle: 5 QC Sample: LCS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI-Hou11.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

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

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	267727	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	442288	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	391525	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	179237	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.979)	147062	49.2932	49.29
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	197269	48.7778	48.77
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	503116	49.0579	49.05
$ 69 4-Bromofluorobenzene	95	8.695	8.688	(1.134)	190003	50.1532	50.15
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	49303	20.5661	20.56
11 1,1-Dichloroethene	96	1.919	1.919	(0.458)	46872	20.0120	20.01
33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	108796	20.6725	20.67
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.843)	68759	20.0207	20.02
17 Methylene Chloride	84	2.305	2.305	(0.550)	68483	20.9656	20.96
38 Trichloroethene	130	5.214	5.214	(1.049)	61370	19.2788	19.27
5 Vinyl Chloride	62	1.145	1.145	(0.273)	86081	19.5530	19.55



Data File: \\nahstws005\Target\chem\voa6.i\X200723.b\X072305.D
Date : 23-JUL-2020 12:09
Client ID: VLCSW-200723
Sample Info: VLCSW-200723;VLCSW-200723;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\X200723.b\X072307.D
Lab Smp Id: VBLKW-200723 Client Smp ID: VBLKW-200723
Inj Date : 23-JUL-2020 12:57
Operator : PC Inst ID: voa6.i
Smp Info : VBLKW-200723;VBLKW-200723;3;;BLANK
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200723.b\8260W.m
Meth Date : 21-Aug-2020 16:46 voa6.i Quant Type: ISTD
Cal Date : 13-JUL-2020 13:18 Cal File: X071308.D
Als bottle: 7 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI-Houll.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

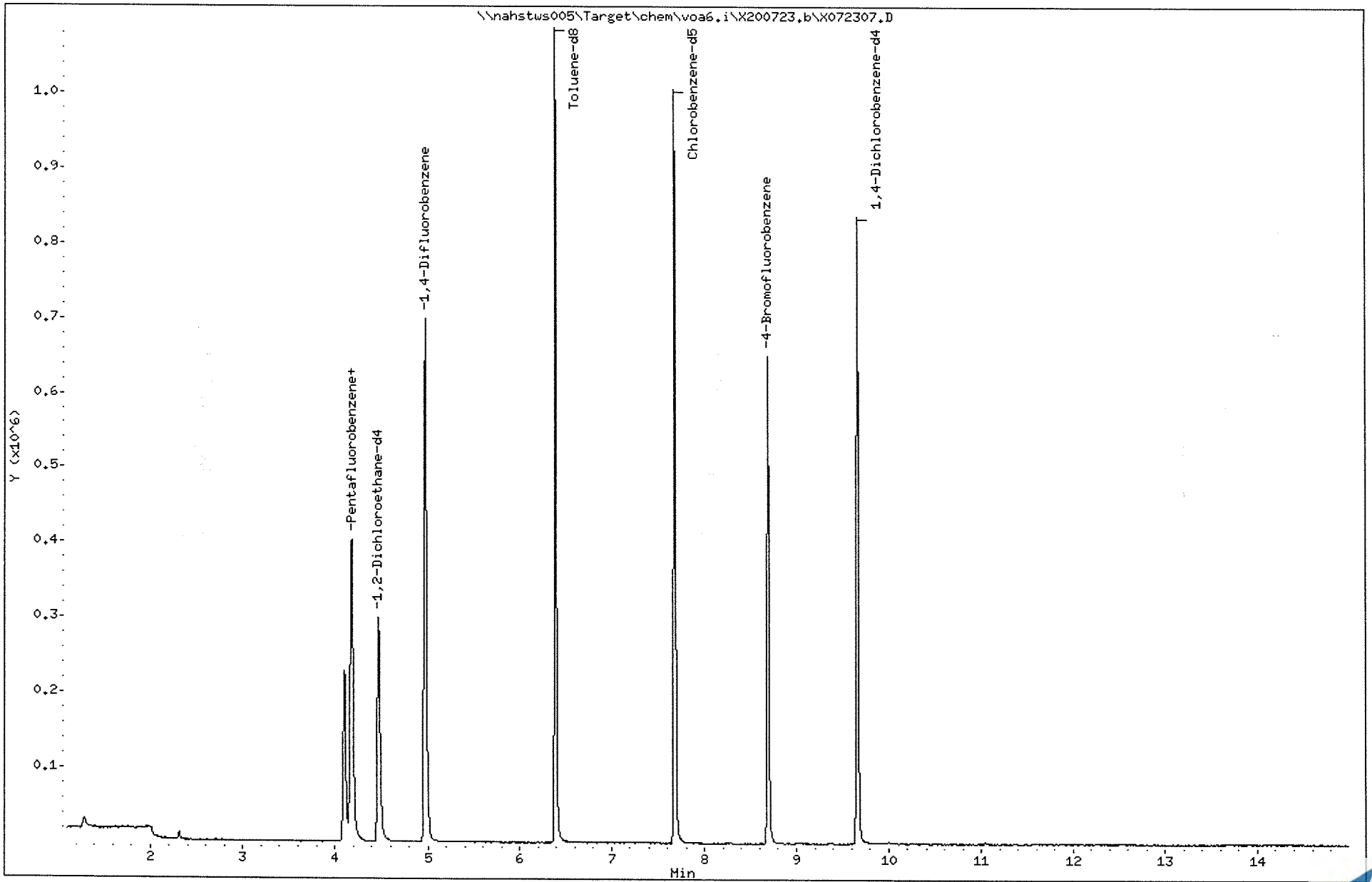
Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	304973	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	499511	50.0000	
* 47 Chlorobenzene-d5	117	7.670	7.671	(1.000)	426570	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	187002	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.979)	161999	47.6656	47.66
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	219251	47.6005	47.60
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	543825	48.6708	48.67
$ 69 4-Bromofluorobenzene	95	8.695	8.688	(1.134)	186472	45.1242	45.12

Data File: \\nahstws005\Target\chem\voa6.i\X200723.b\X072307.D
Date : 23-JUL-2020 12:57
Client ID: VBLKW-200723
Sample Info: VBLKW-200723;VBLKW-200723;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\X200723.b\X072308.D Page 1
Report Date: 21-Aug-2020 18:17

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X200723.b\X072308.D
Lab Smp Id: HS20071033-09 Client Smp ID: HS20071033-09
Inj Date : 23-JUL-2020 13:21
Operator : PC Inst ID: voa6.i
Smp Info : HS20071033-09;HS20071033-09;;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200723.b\8260W.m
Meth Date : 21-Aug-2020 18:16 dev.giga Quant Type: ISTD
Cal Date : 13-JUL-2020 13:18 Cal File: X071308.D
Als bottle: 8
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI-Hou11.sub
Target Version: 4.14

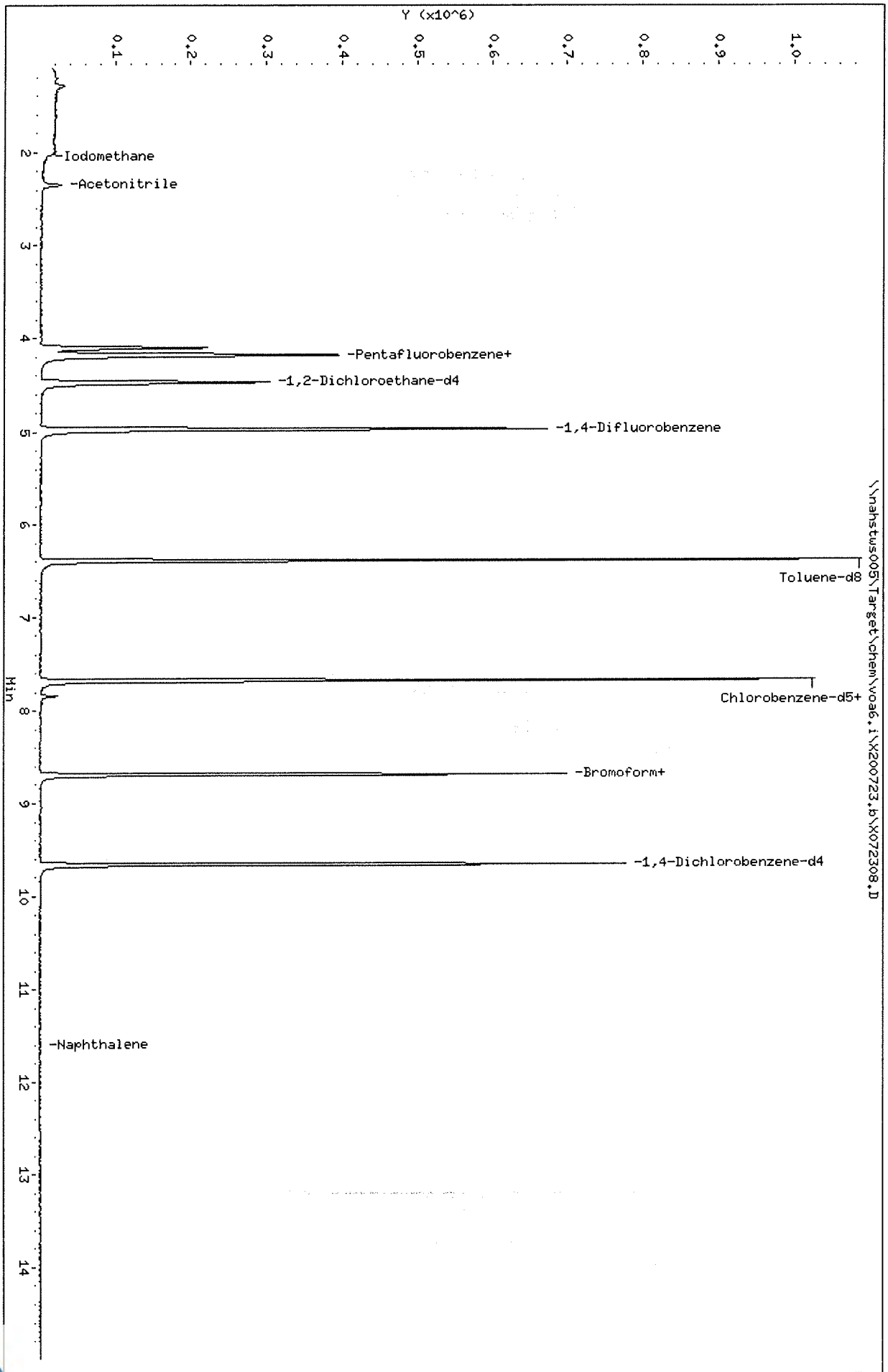
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

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

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	313818	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	494982	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	416732	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	166975	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.104	(0.979)	154438	44.1540	44.15
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	212518	44.8580	44.85
$ 48 Toluene-d8	98	6.388	6.389	(0.833)	579231	53.0634	53.06
$ 69 4-Bromofluorobenzene	95	8.695	8.688	(1.134)	196372	48.6835	48.68

Data File: \\nahstws005\Target\chem\voa6.i\X200723.b\X072308.D
Date : 23-JUL-2020 13:21
Client ID: HS200710J3-09
Sample Info: HS200710J3-09;HS200710J3-09;;;
Purge Volume: 5.0
Column phase: DB624

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



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Data file : \\nahstws005\Target\chem\voa6.i\X200723.b\X072309.D
Lab Smp Id: HS20071033-01 Client Smp ID: HS20071033-01
Inj Date : 23-JUL-2020 13:45
Operator : PC Inst ID: voa6.i
Smp Info : HS20071033-01;HS20071033-01;;;
Misc Info : HS18090001;WATER;0;1;
Comment   :
Method   : \\nahstws005\Target\chem\voa6.i\X200723.b\8260W.m
Meth Date : 21-Aug-2020 18:16 dev.giga Quant Type: ISTD
Cal Date : 13-JUL-2020 13:18 Cal File: X071308.D
Als bottle: 9
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI-Hou11.sub
Target Version: 4.14

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

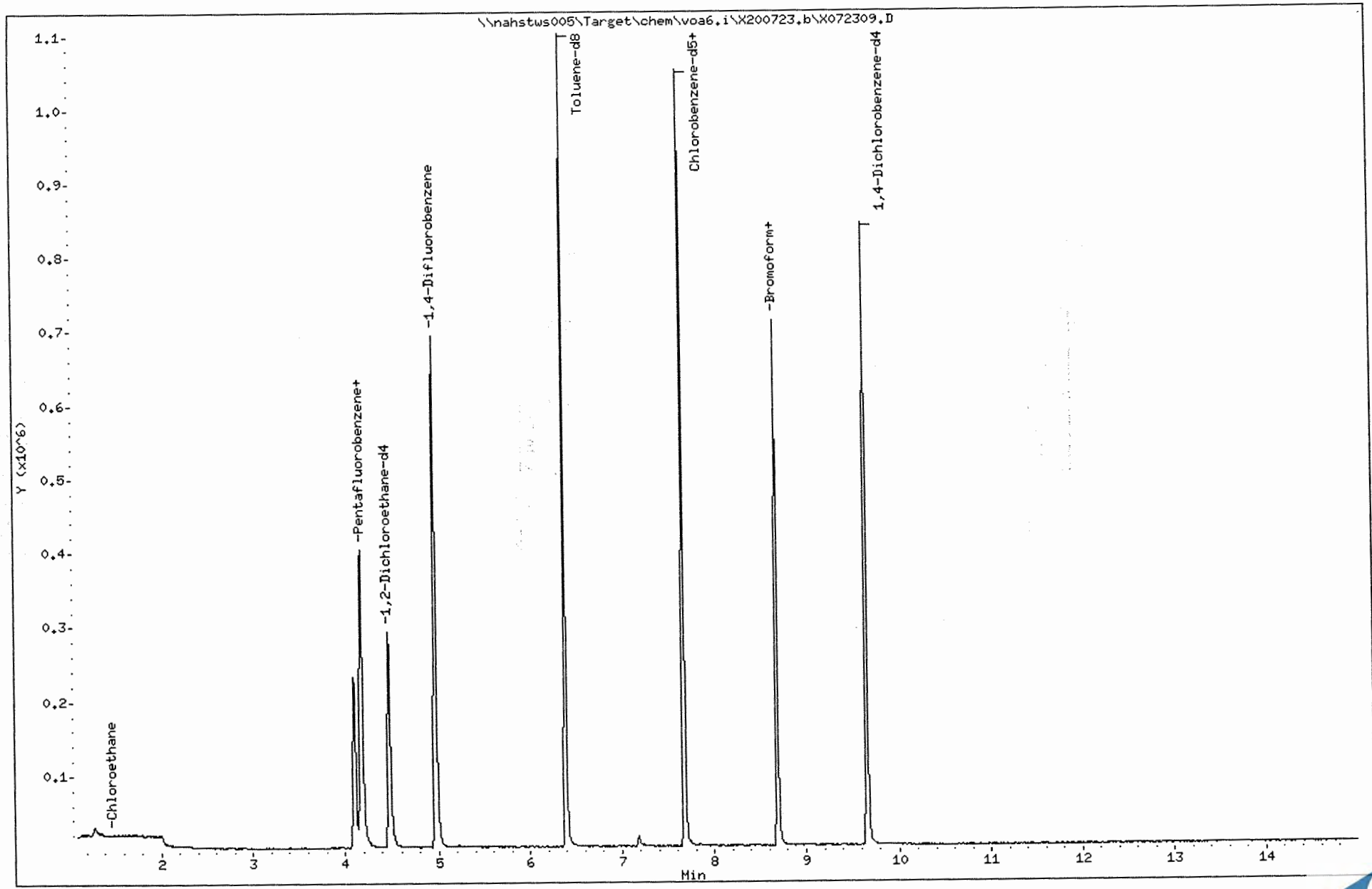
Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	307357	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	501051	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	433731	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	190649	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.104	(0.979)	160497	46.8559	46.85
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	207847	44.7947	44.79
$ 48 Toluene-d8	98	6.388	6.389	(0.833)	577704	50.8493	50.84
$ 69 4-Bromofluorobenzene	95	8.695	8.688	(1.134)	208830	49.7546	49.75

Data File: \\nahstws005\Target\chem\voa6.i\X200723.b\X072309.D
Date : 23-JUL-2020 13:45
Client ID: HS20071033-01
Sample Info: HS20071033-01;HS20071033-01;;;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i

Operator: PC
Column diameter: 0.18



Data File: \\nahstws005\Target\chem\voa6.i\X200723.b\X072310.D Page 1
Report Date: 21-Aug-2020 18:17

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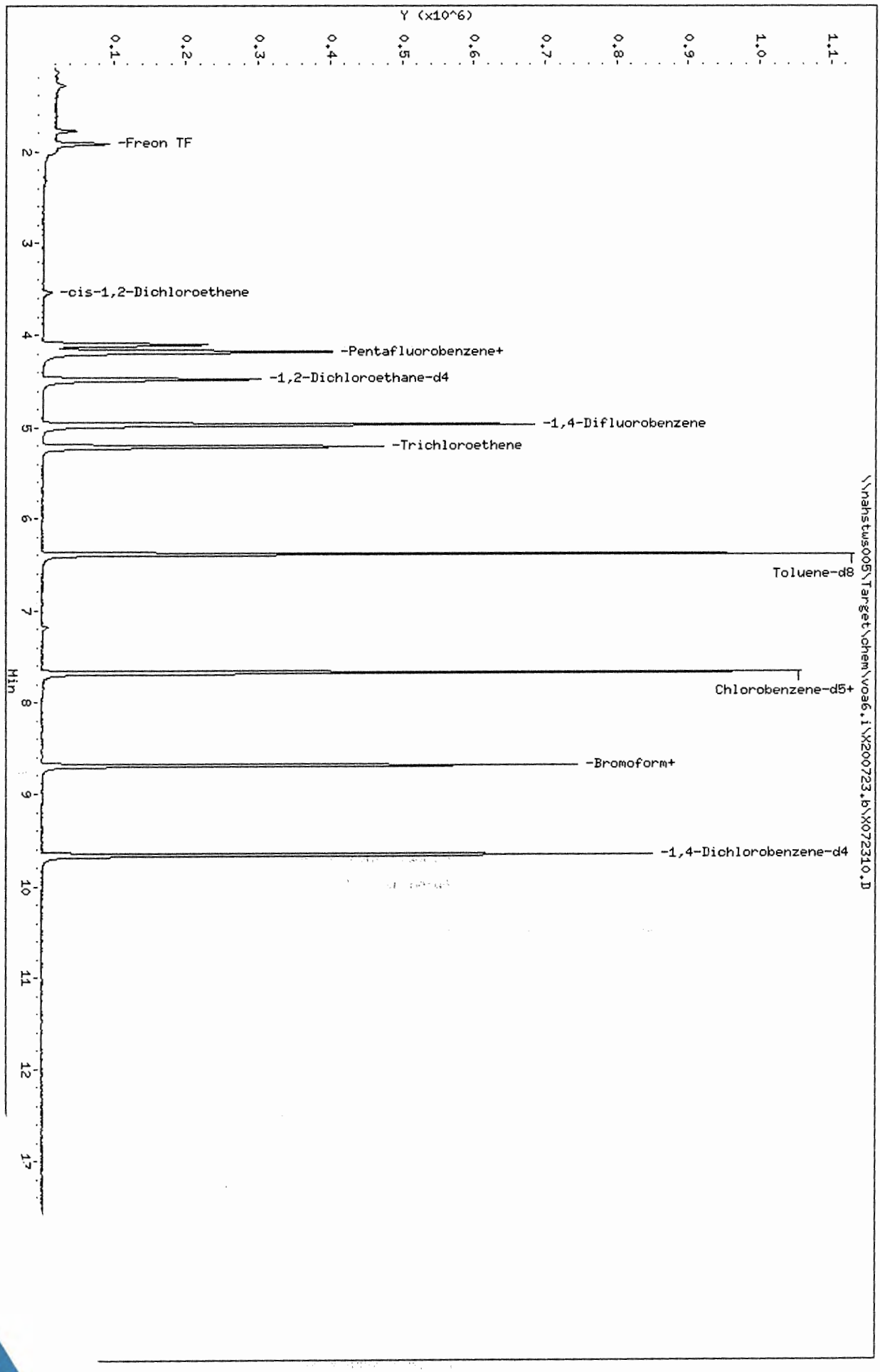
Data file : \\nahstws005\Target\chem\voa6.i\X200723.b\X072310.D
Lab Smp Id: HS20071033-02 Client Smp ID: HS20071033-02
Inj Date : 23-JUL-2020 14:09
Operator : PC Inst ID: voa6.i
Smp Info : HS20071033-02;HS20071033-02;;;
Misc Info : HS18090001;WATER;0;1;
Comment   :
Method   : \\nahstws005\Target\chem\voa6.i\X200723.b\8260W.m
Meth Date : 21-Aug-2020 18:16 dev.giga Quant Type: ISTD
Cal Date : 13-JUL-2020 13:18 Cal File: X071308.D
Als bottle: 10
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI-Hou11.sub
Target Version: 4.14

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

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

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	320377	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	503486	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	442770	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	192967	50.0000	
$ 30 Dibromofluoromethane	113	4.104	4.104	(0.979)	162990	45.6478	45.64
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	216017	44.6645	44.66
$ 48 Toluene-d8	98	6.389	6.389	(0.833)	591565	51.0064	51.00
$ 69 4-Bromofluorobenzene	95	8.695	8.688	(1.134)	210088	49.0247	49.02
27 cis-1,2-Dichloroethene	96	3.538	3.530	(0.844)	5773	1.40470	1.40
38 Trichloroethene	130	5.214	5.214	(1.049)	150927	41.6494	41.64
5 Vinyl Chloride	62	1.145	1.145	(0.273)	3223	0.61178	0.61



Data File: \\nahstws005\Target\chem\voa6.i\X200723.b\X072310.D
Date : 23-JUL-2020 14:09
Client ID: HS200710330-02
Sample Info: HS200710330-02;HS200710330-02;;;
Purge Volume: 5.0
Column phase: DB624

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

Data File: \\nahstws005\Target\chem\voa6.i\X200723.b\X072310.D

Date : 23-JUL-2020 14:09

Client ID: HS20071033-02

Instrument: voa6.i

Sample Info: HS20071033-02;HS20071033-02;;;

Purge Volume: 5.0

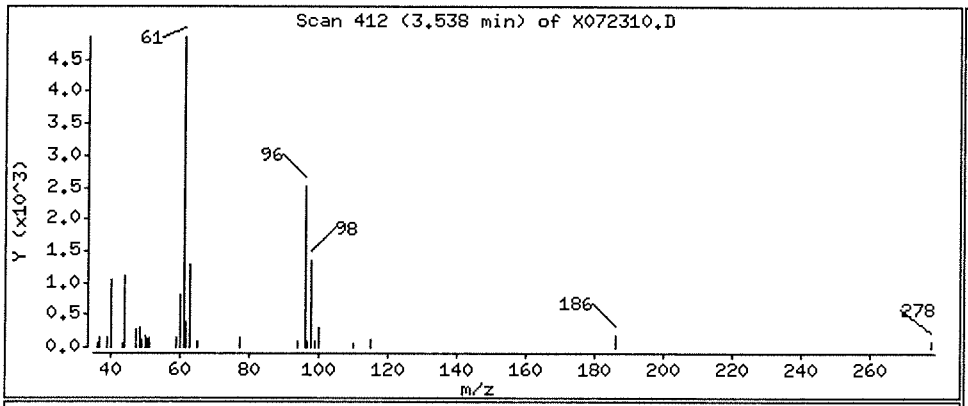
Operator: PC

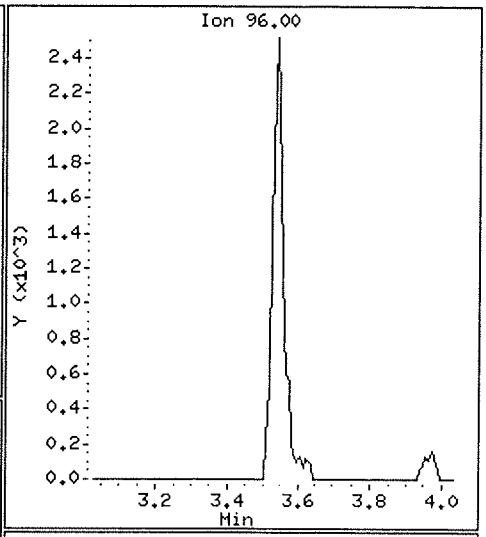
Column phase: DB624

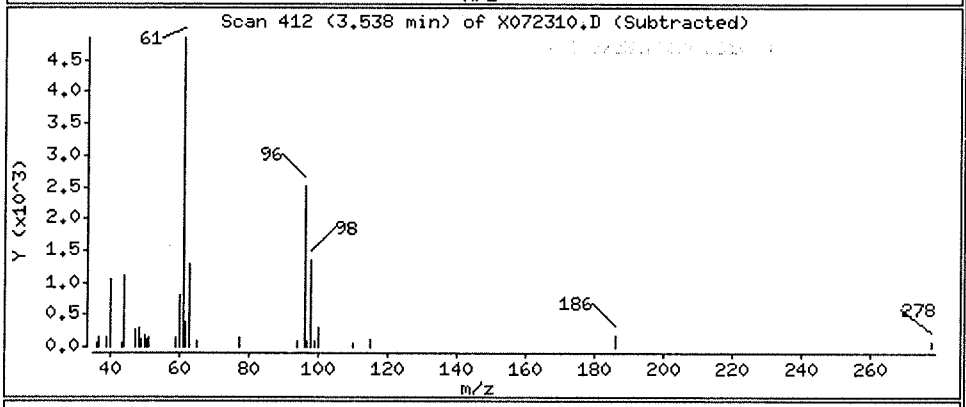
Column diameter: 0.18

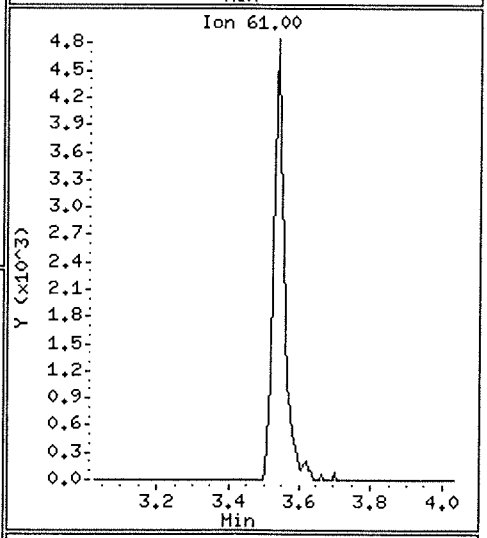
27 cis-1,2-Dichloroethene

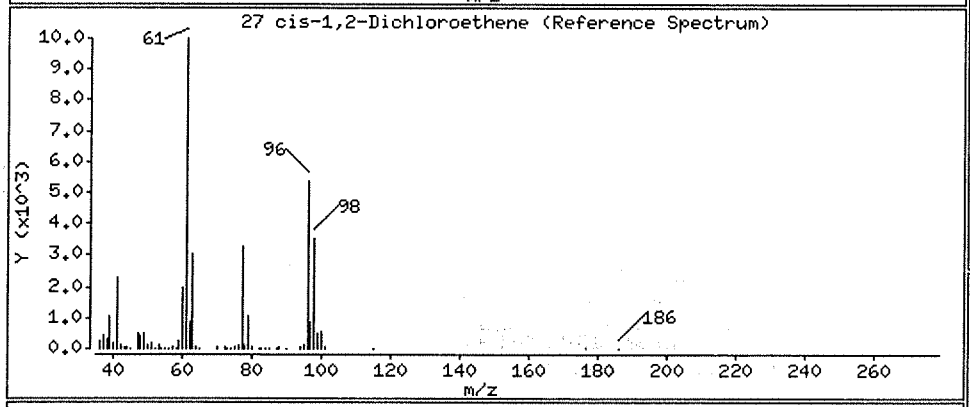
Concentration: 1.40 ug/l

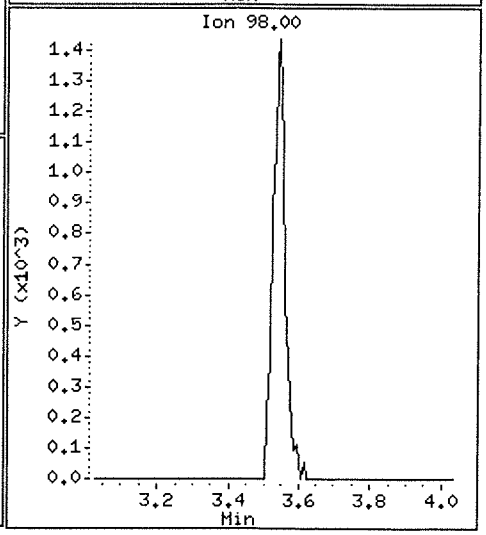


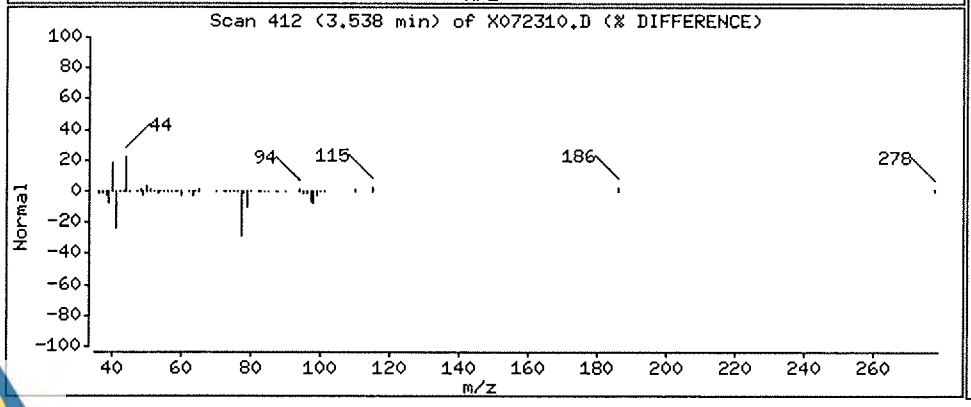












Data File: \\nahstws005\Target\chem\voa6.i\X200723.b\X072310.D

Date : 23-JUL-2020 14:09

Client ID: HS20071033-02

Instrument: voa6.i

Sample Info: HS20071033-02;HS20071033-02;;;

Purge Volume: 5.0

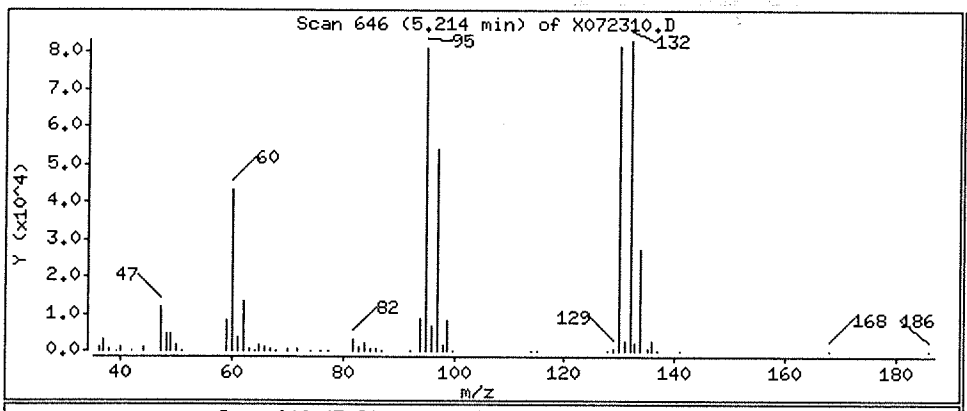
Operator: PC

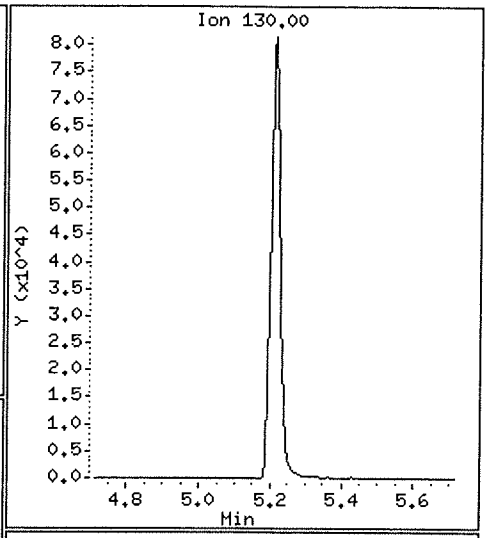
Column phase: DB624

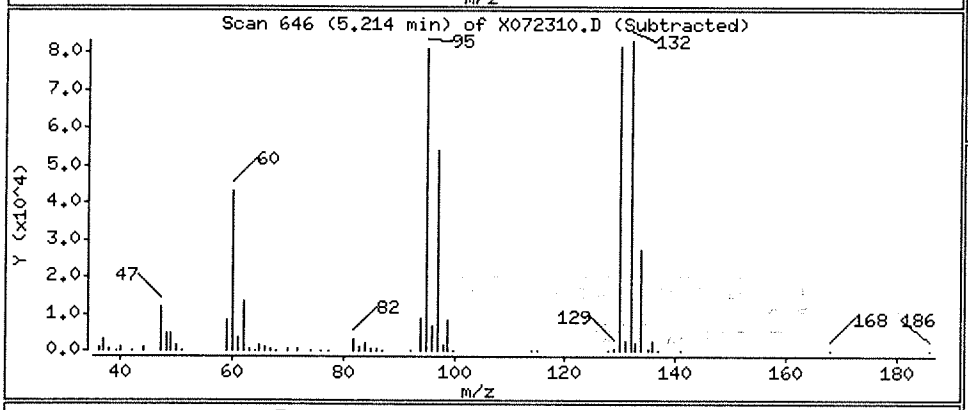
Column diameter: 0.18

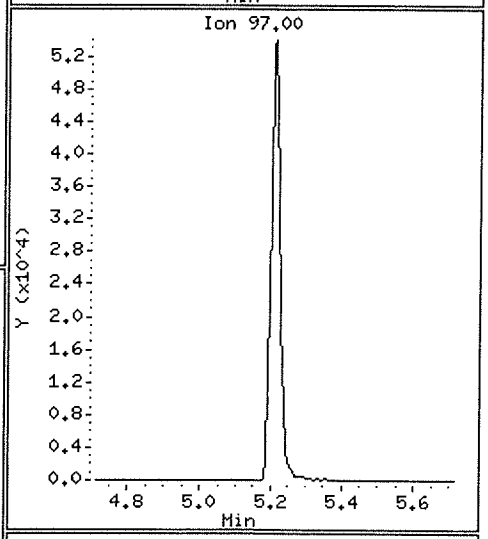
38 Trichloroethene

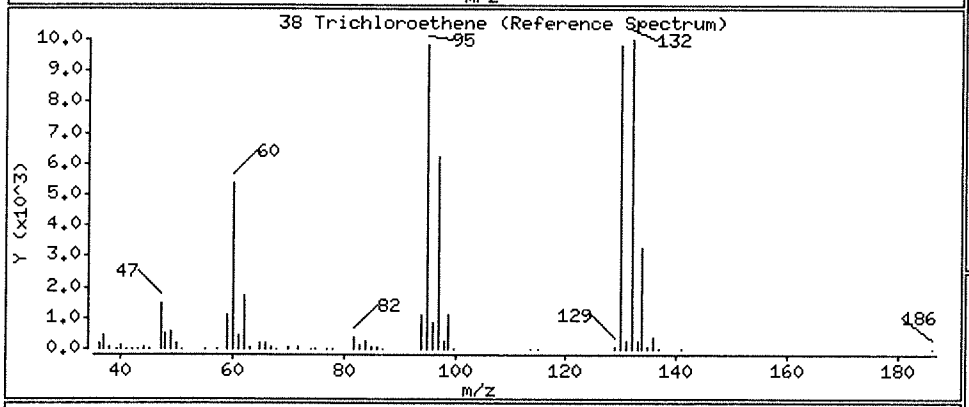
Concentration: 41.64 ug/l

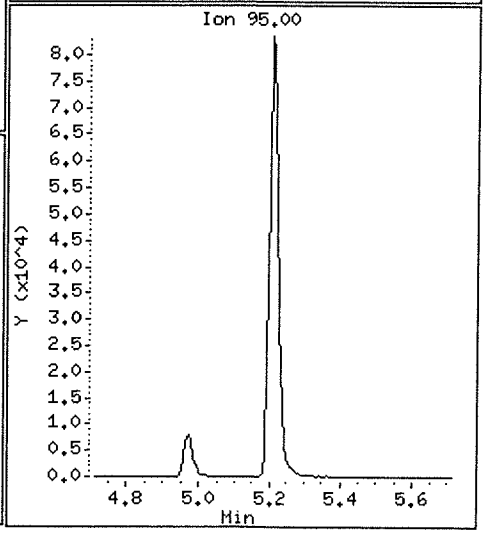


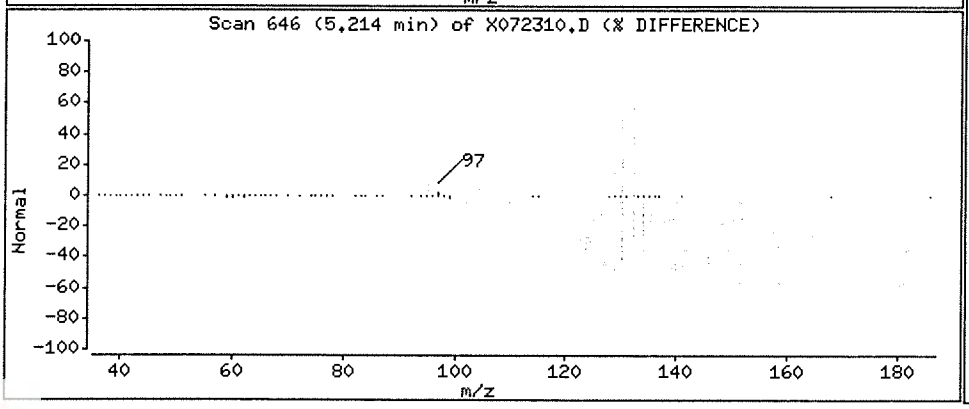












Data File: \\nahstws005\Target\chem\voa6.i\X200723.b\X072310.D

Date : 23-JUL-2020 14:09

Client ID: HS20071033-02

Instrument: voa6.i

Sample Info: HS20071033-02;HS20071033-02;;;

Purge Volume: 5.0

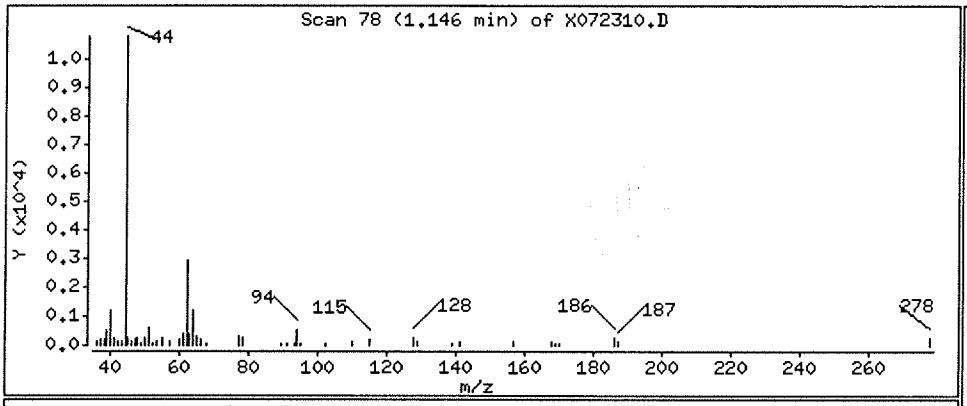
Operator: PC

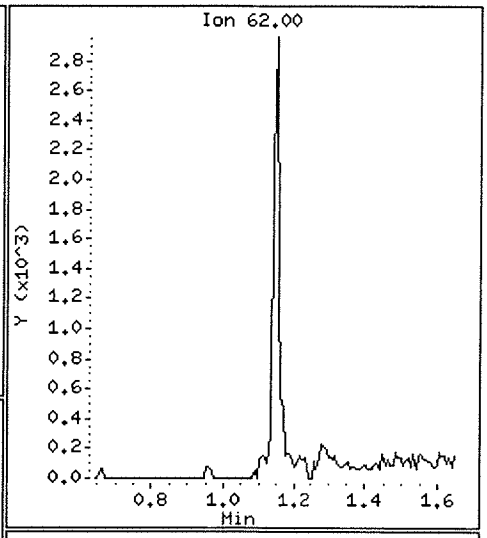
Column phase: DB624

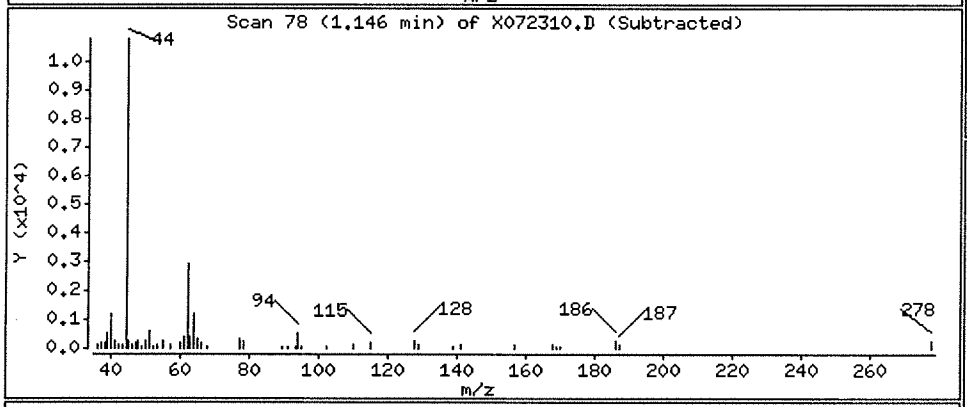
Column diameter: 0.18

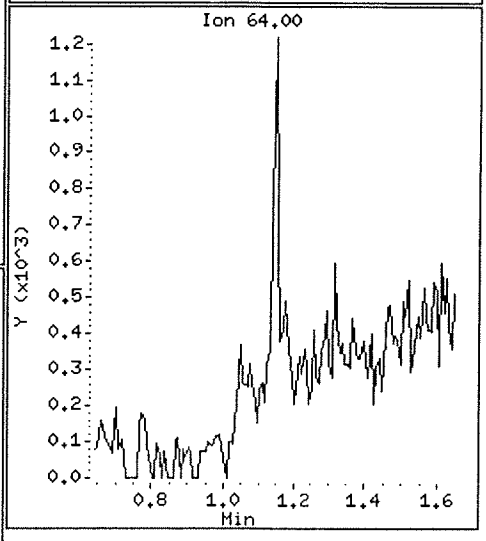
5 Vinyl Chloride

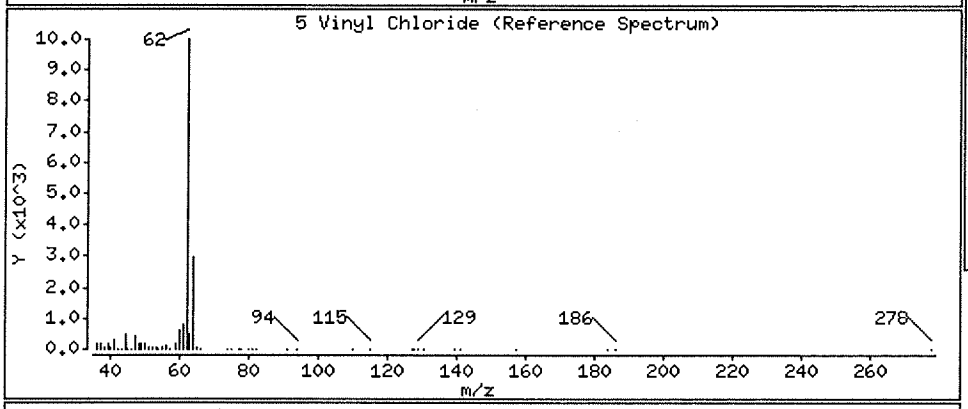
Concentration: 0.61 ug/l

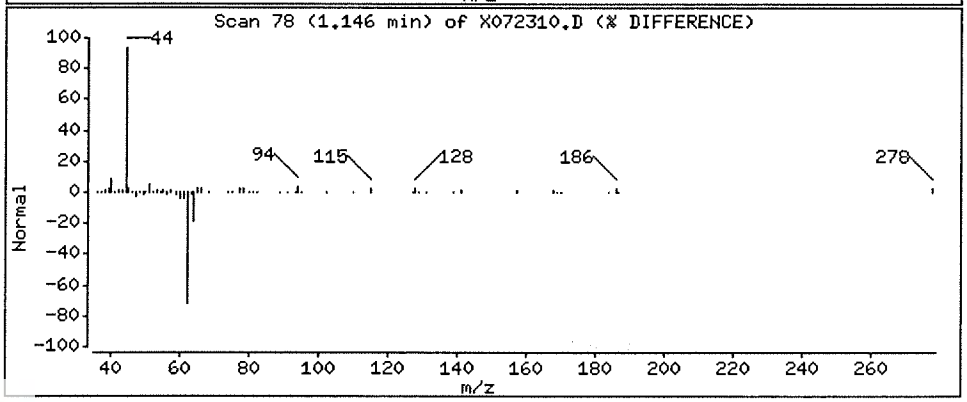












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Data file : \\nahstws005\Target\chem\voa6.i\X200723.b\X072311.D
Lab Smp Id: HS20071033-03 Client Smp ID: HS20071033-03
Inj Date : 23-JUL-2020 14:33
Operator : PC Inst ID: voa6.i
Smp Info : HS20071033-03;HS20071033-03;;;
Misc Info : HS18090001;WATER;0;25;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200723.b\8260W.m
Meth Date : 21-Aug-2020 18:16 dev.giga Quant Type: ISTD
Cal Date : 13-JUL-2020 13:18 Cal File: X071308.D
Als bottle: 11
Dil Factor: 25.00000
Integrator: HP RTE Compound Sublist: CBI-Hou11.sub
Target Version: 4.14

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

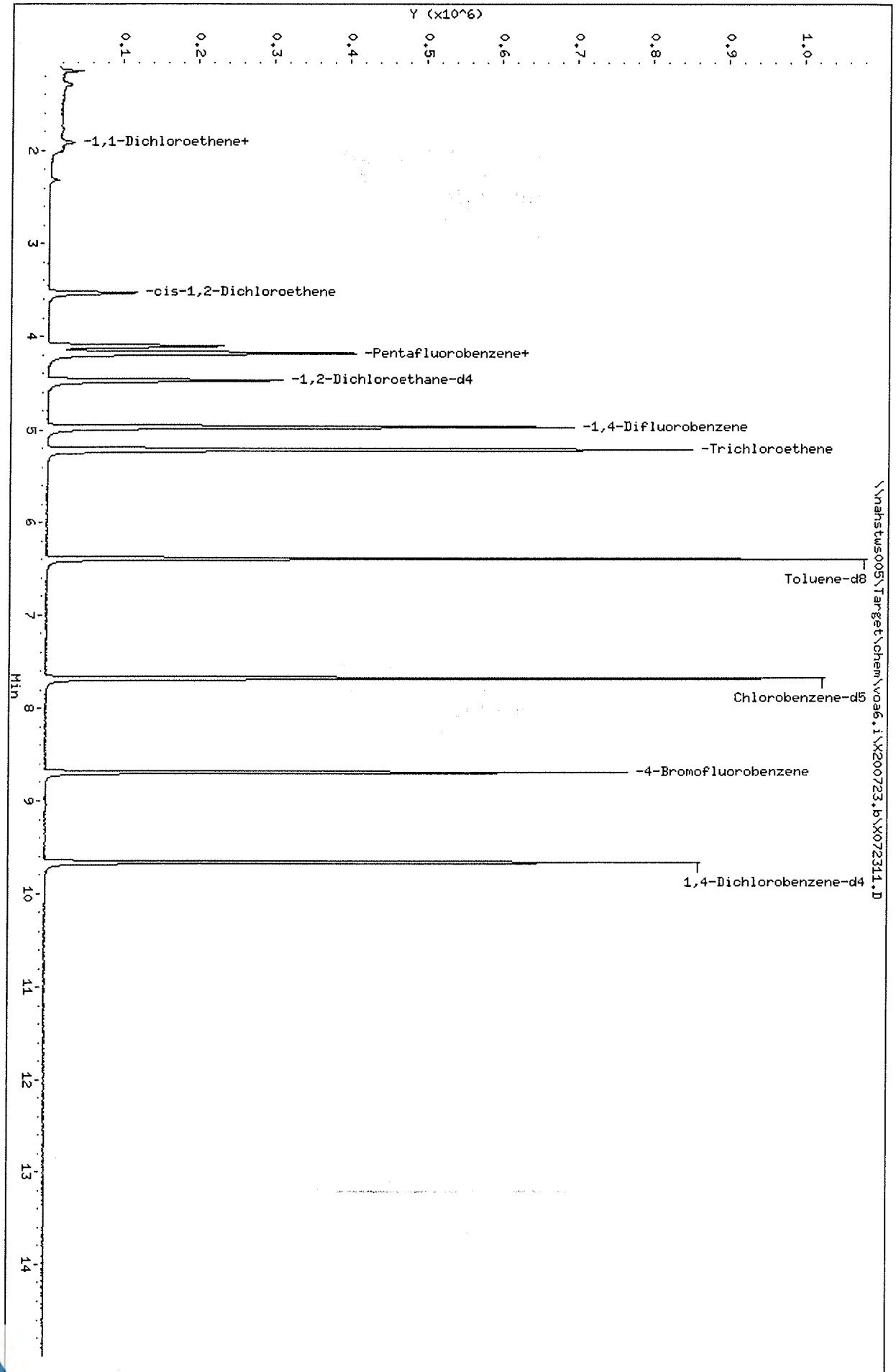
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	320266	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	506279	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	435364	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	197139	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.104	(0.979)	161864	45.3477	45.34
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	217352	44.9539	44.95
$ 48 Toluene-d8	98	6.388	6.389	(0.833)	578069	50.6906	50.69
$ 69 4-Bromofluorobenzene	95	8.695	8.688	(1.134)	209872	49.8160	49.81
11 1,1-Dichloroethene	96	1.912	1.919	(0.456)	2221	0.79270	19.81(a)
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.843)	51516	12.5393	313.48
38 Trichloroethene	130	5.214	5.214	(1.049)	266229	73.0626	1826.56
5 Vinyl Chloride	62	1.145	1.145	(0.273)	18720	3.55462	88.86

QC Flag Legend

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

Data File: \\nahstws005\Target\chem\voa6.i\X200723.b\X072311.D
Date : 23-JUL-2020 14:33
Client ID: HS200710333-03
Sample Info: HS200710333-03;HS200710333-03;;;
Purge Volume: 5.0
Column phase: DB624

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



Data File: \\nahstws005\Target\chem\voa6.i\X200723.b\X072311.D

Date : 23-JUL-2020 14:33

Client ID: HS20071033-03

Instrument: voa6.i

Sample Info: HS20071033-03;HS20071033-03;;;

Purge Volume: 5.0

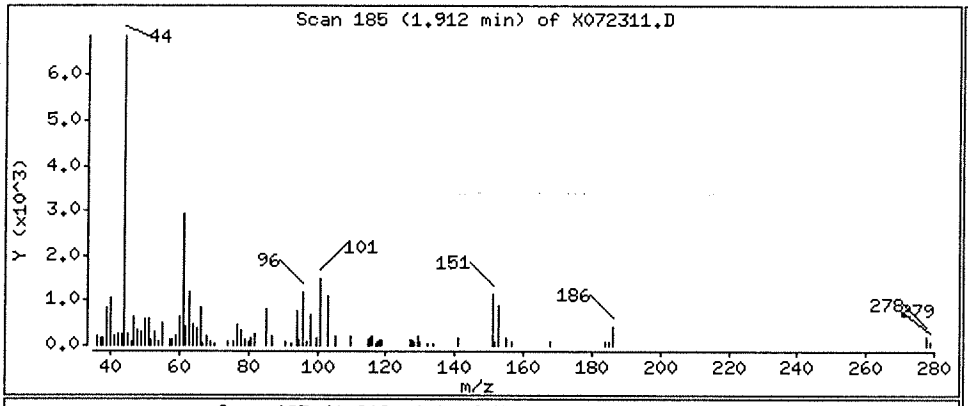
Operator: PC

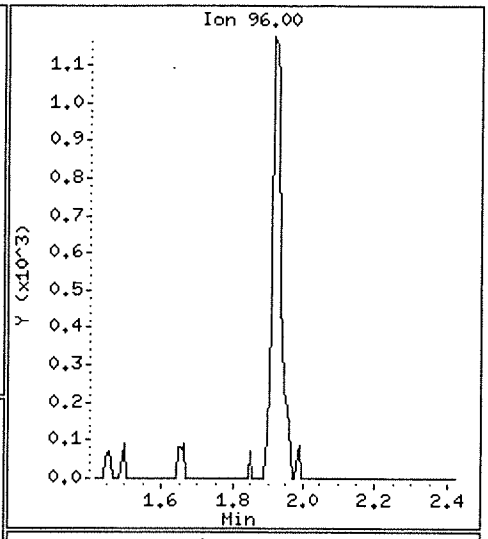
Column phase: DB624

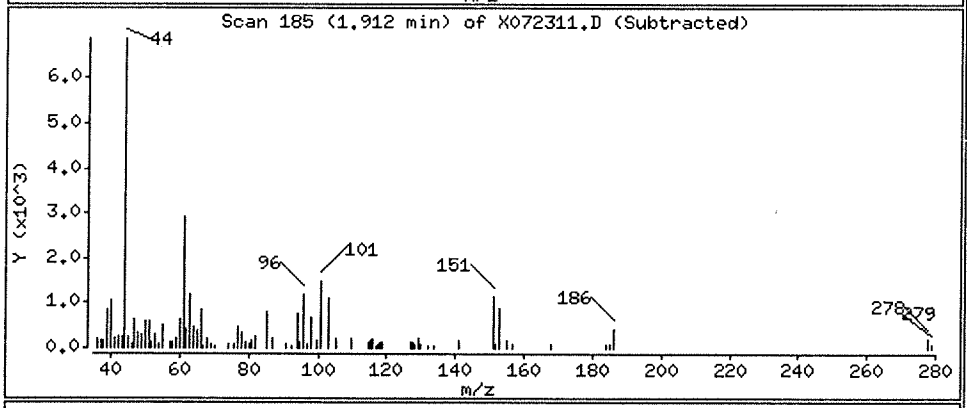
Column diameter: 0.18

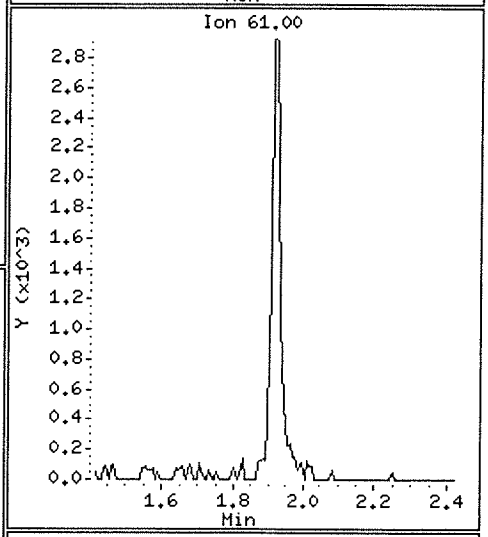
11 1,1-Dichloroethene

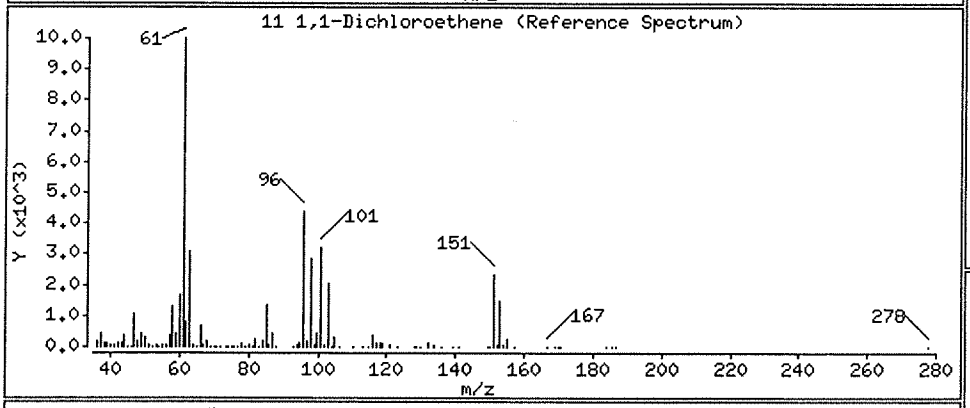
Concentration: 19.81 ug/l

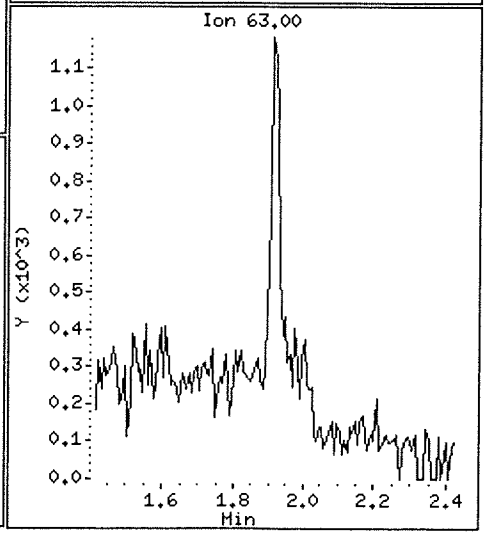


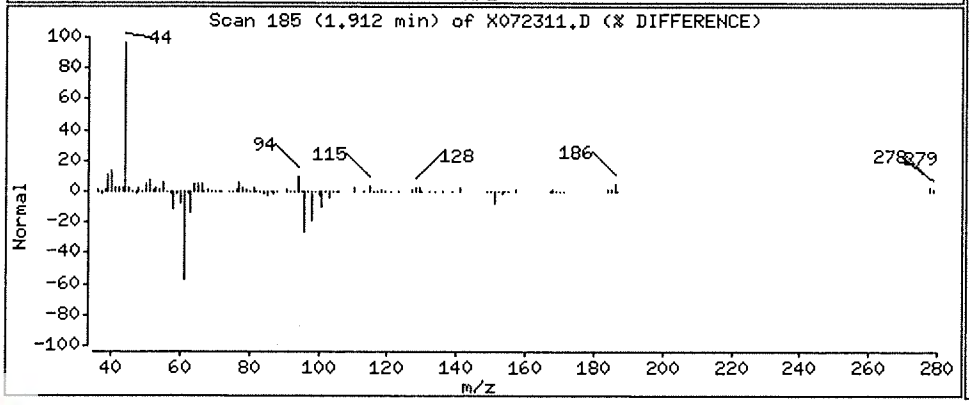












Data File: \\nahstws005\Target\chem\voa6.i\X200723.b\X072311.D

Date : 23-JUL-2020 14:33

Client ID: HS20071033-03

Instrument: voa6.i

Sample Info: HS20071033-03;HS20071033-03;;;

Purge Volume: 5.0

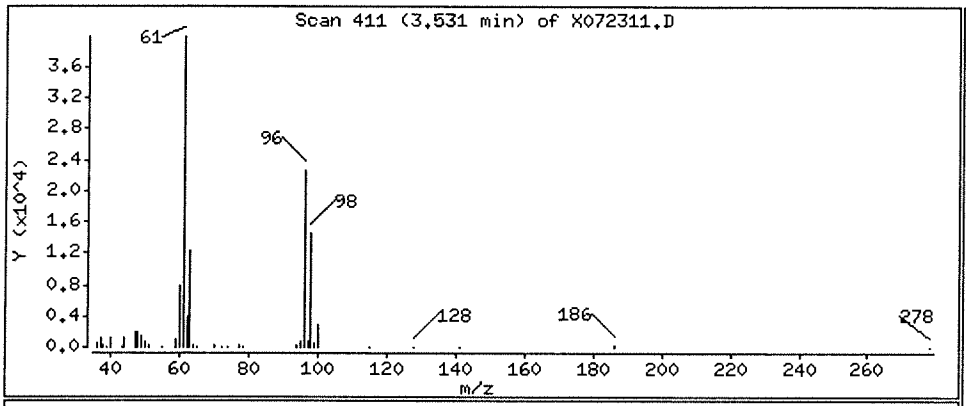
Operator: PC

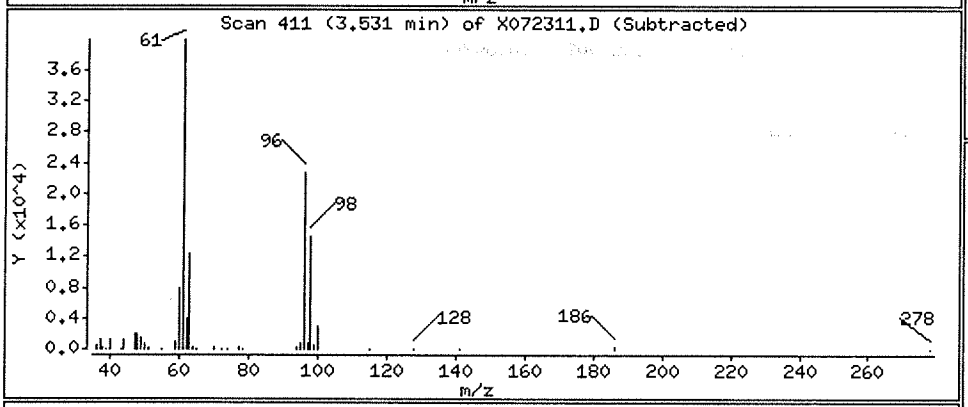
Column phase: DB624

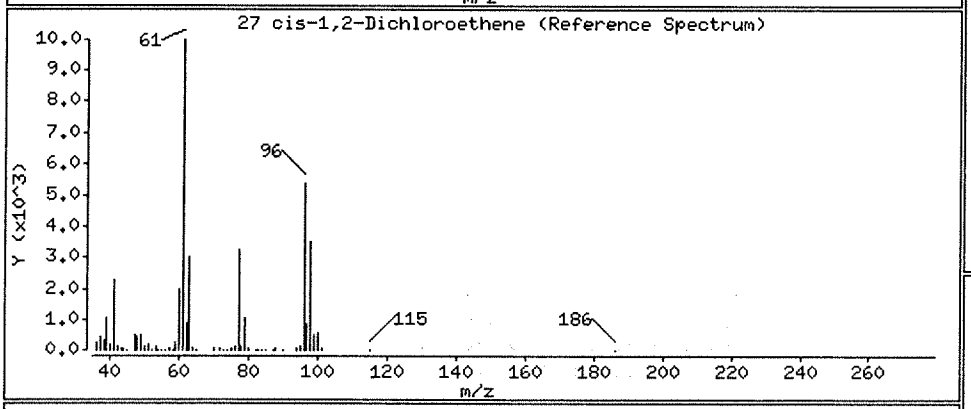
Column diameter: 0.18

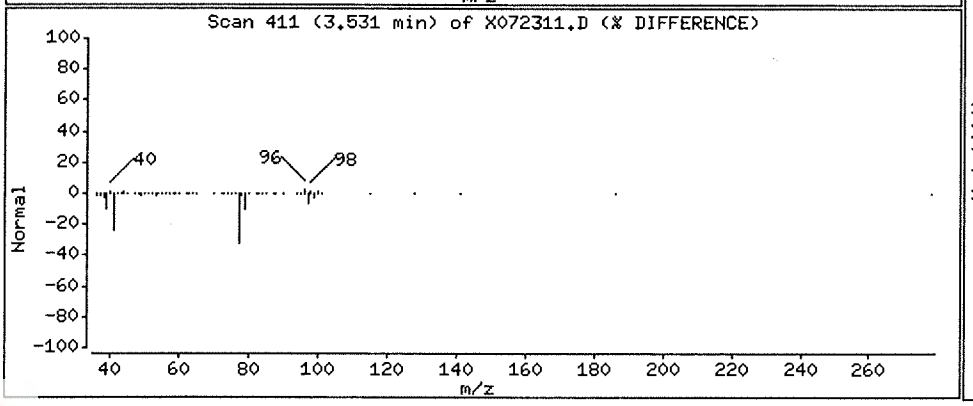
27 cis-1,2-Dichloroethene

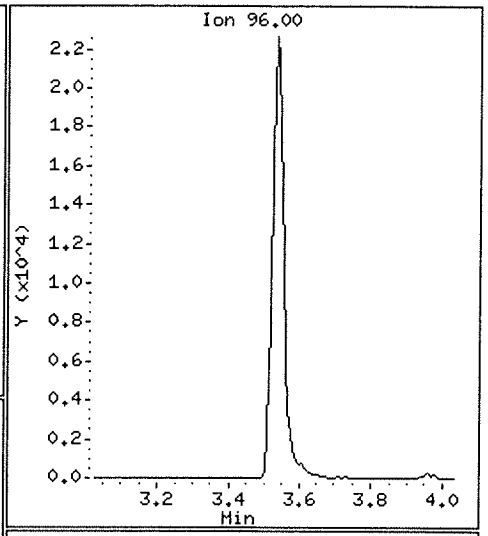
Concentration: 313.48 ug/l

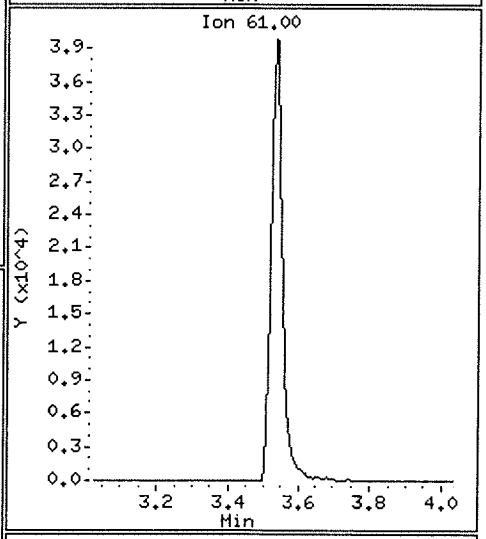


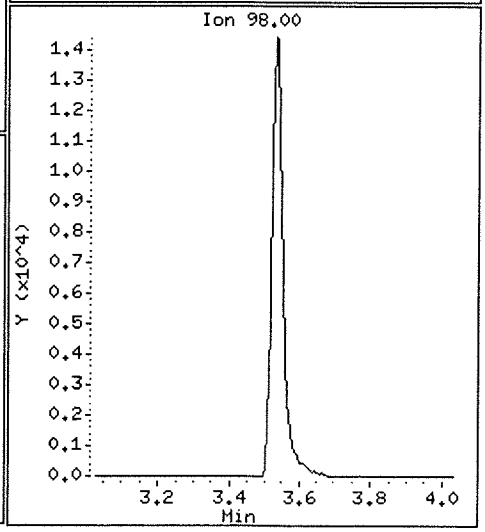












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Date : 23-JUL-2020 14:33

Client ID: HS20071033-03

Instrument: voa6.i

Sample Info: HS20071033-03;HS20071033-03;;;

Purge Volume: 5.0

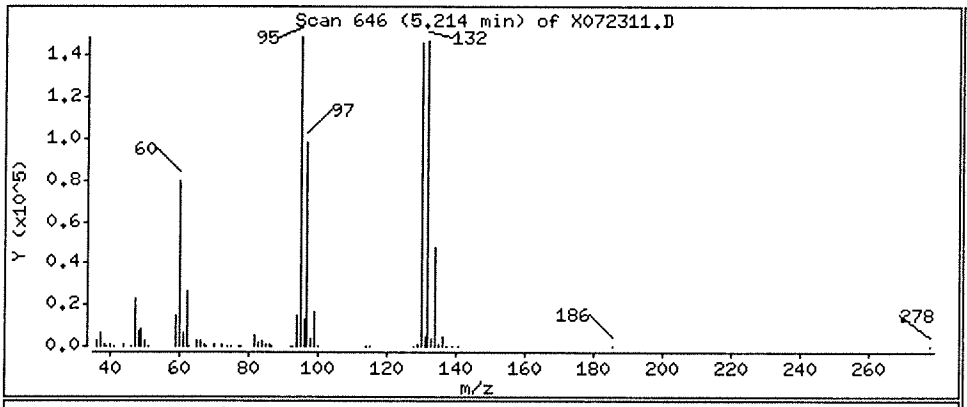
Operator: PC

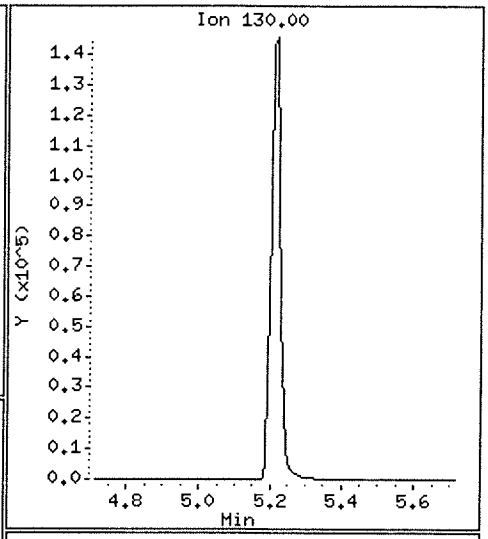
Column phase: DB624

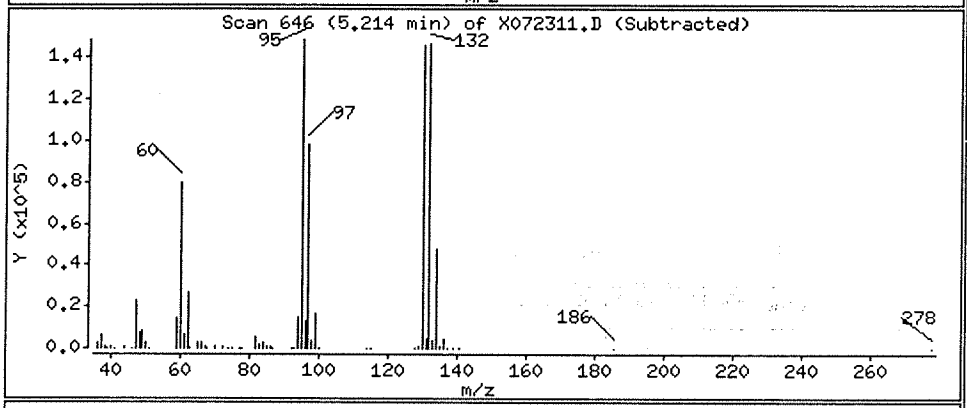
Column diameter: 0.18

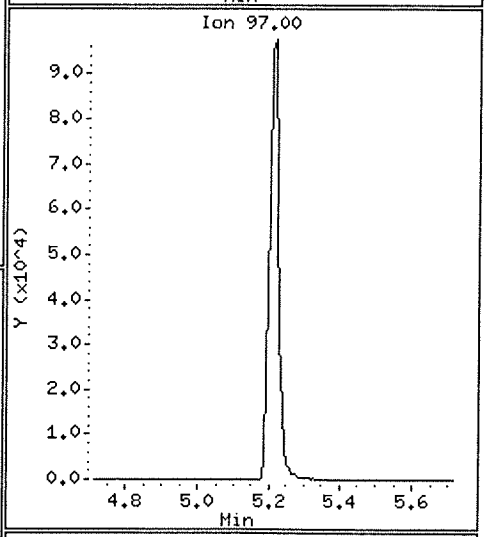
38 Trichloroethene

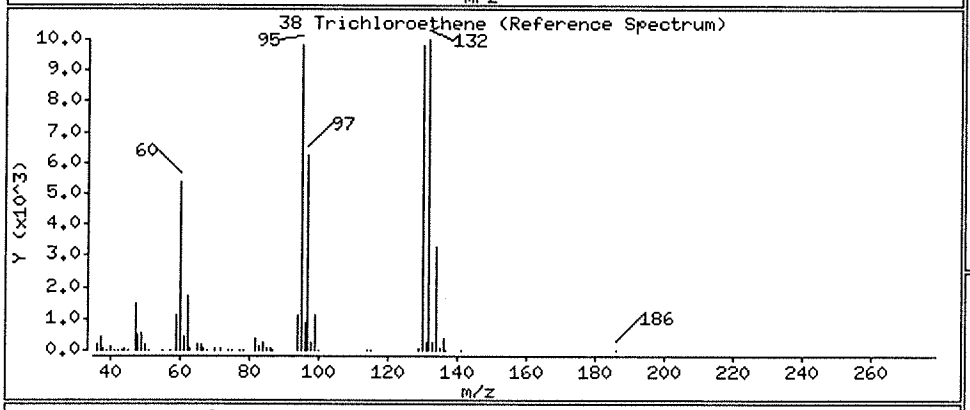
Concentration: 1826.56 ug/l

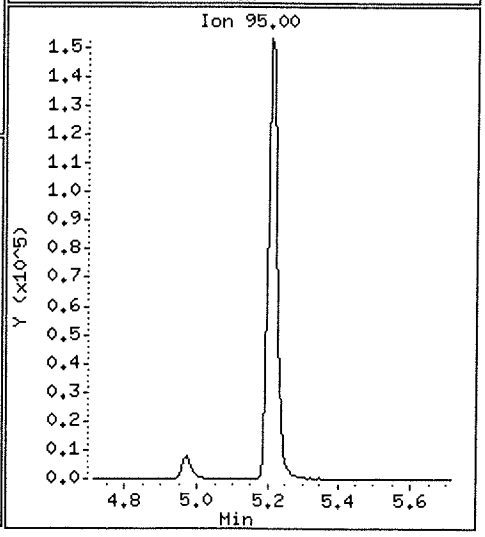


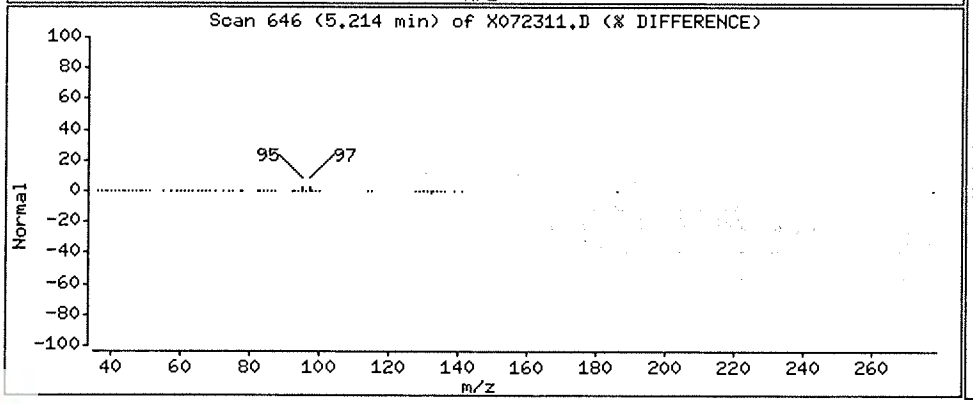












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Date : 23-JUL-2020 14:33

Client ID: HS20071033-03

Instrument: voa6.i

Sample Info: HS20071033-03;HS20071033-03;;;

Purge Volume: 5.0

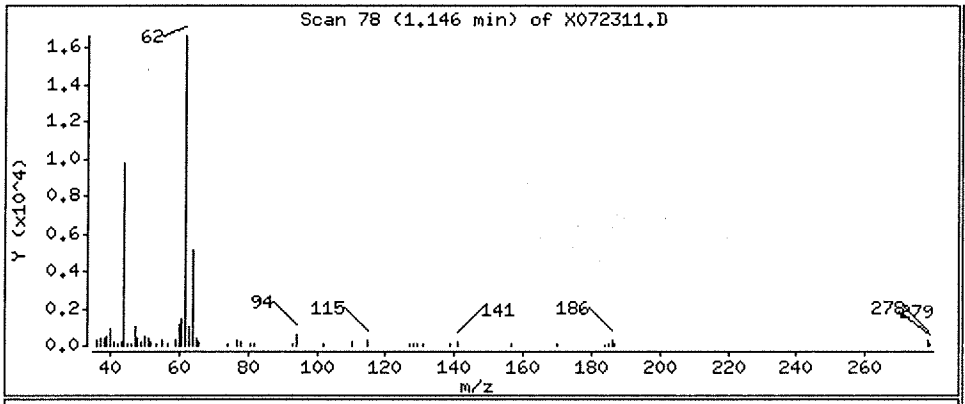
Operator: PC

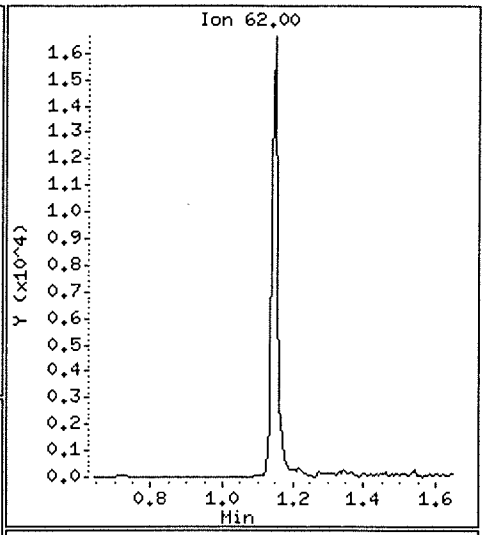
Column phase: DB624

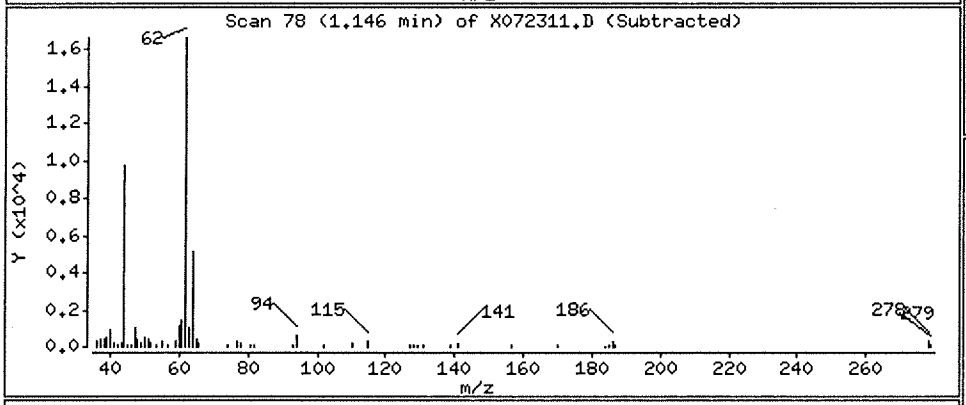
Column diameter: 0.18

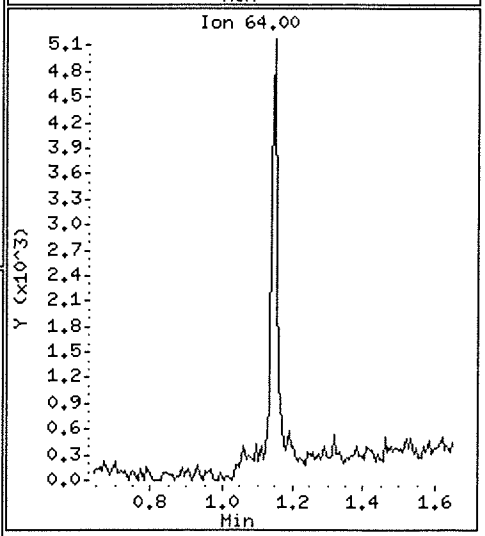
5 Vinyl Chloride

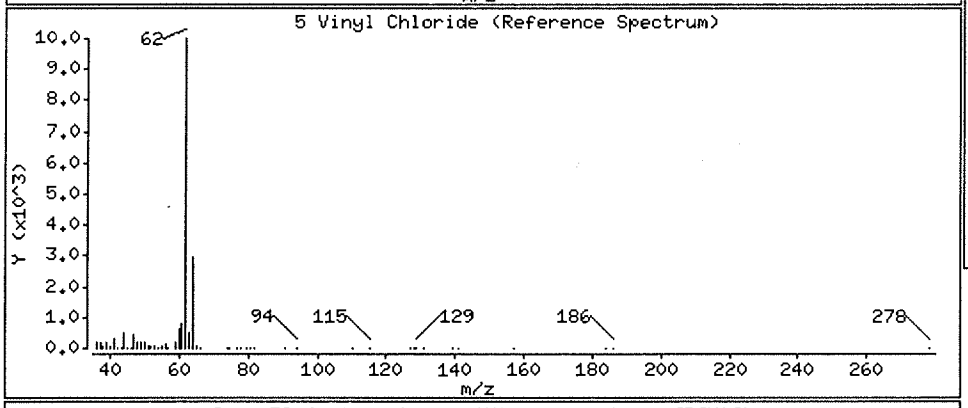
Concentration: 88.86 ug/l

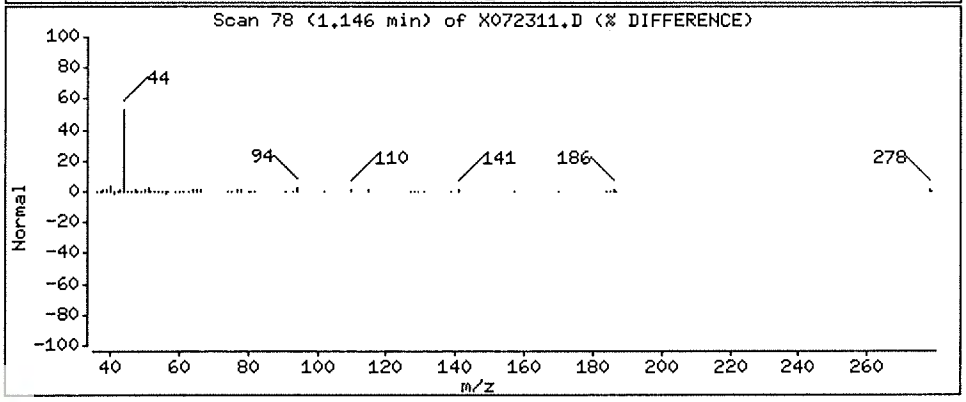












ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X200723.b\X072312.D
Lab Smp Id: HS20071033-05 Client Smp ID: HS20071033-05
Inj Date : 23-JUL-2020 14:57
Operator : PC Inst ID: voa6.i
Smp Info : HS20071033-05;HS20071033-05;;;
Misc Info : HS18090001;WATER;0;500;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200723.b\8260W.m
Meth Date : 21-Aug-2020 18:16 dev.giga Quant Type: ISTD
Cal Date : 13-JUL-2020 13:18 Cal File: X071308.D
Als bottle: 12
Dil Factor: 500.00000
Integrator: HP RTE Compound Sublist: CBI-Hou11.sub
Target Version: 4.14

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

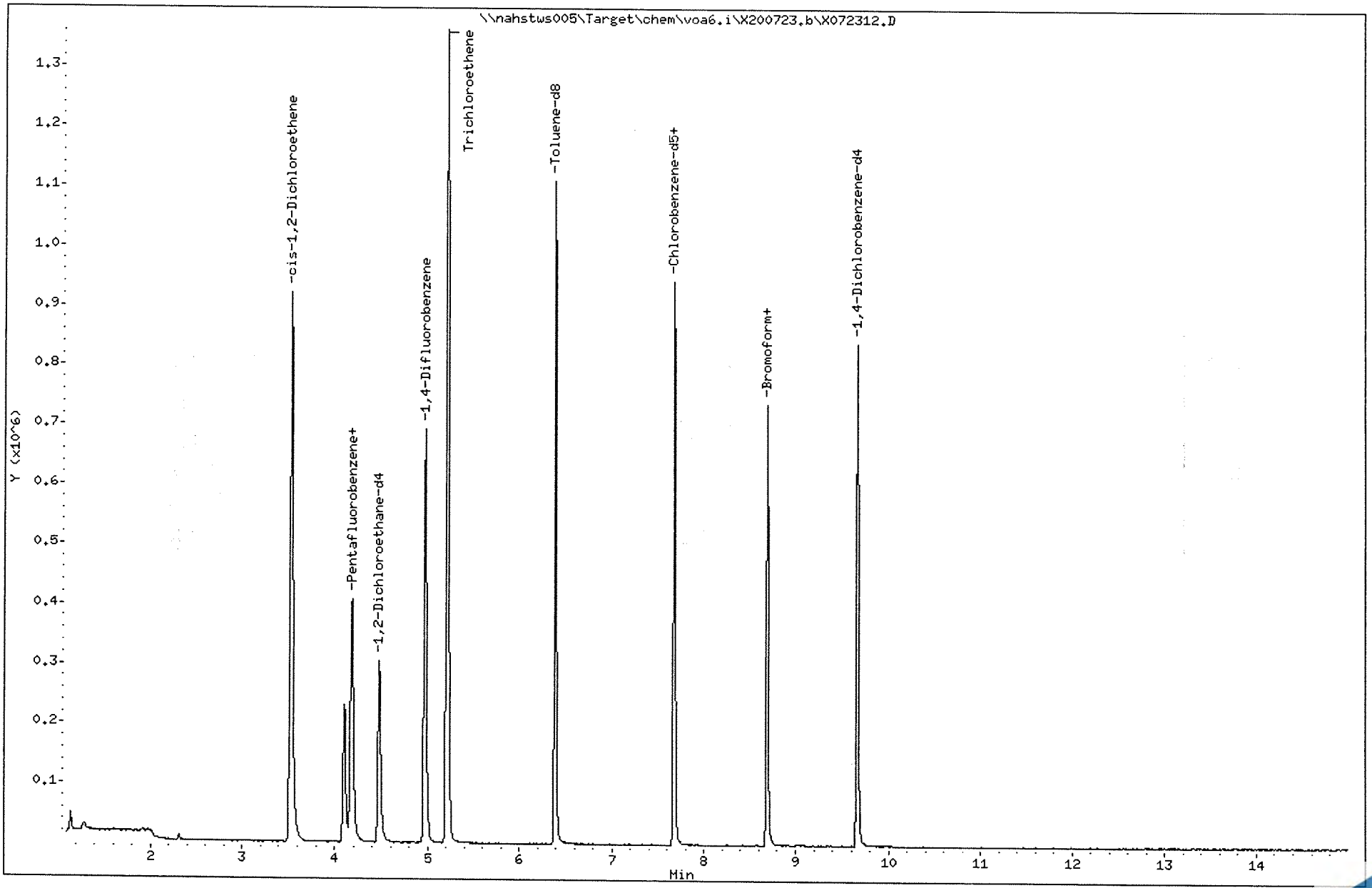
Name	Value	Description
DF	500.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
*	1 Pentafluorobenzene	168	4.189	4.189	(1.000)	315753	50.0000	
*	36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	507587	50.0000	
*	47 Chlorobenzene-d5	117	7.670	7.671	(1.000)	406650	50.0000	
*	70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	191178	50.0000	
$	30 Dibromofluoromethane	113	4.103	4.104	(0.979)	160307	45.5537	45.55
$	35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	215955	45.3007	45.30
$	48 Toluene-d8	98	6.388	6.389	(0.833)	583115	54.7436	54.74
$	69 4-Bromofluorobenzene	95	8.695	8.688	(1.134)	204830	52.0763	52.07
	27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.843)	393444	97.1354	48567.69
	38 Trichloroethene	130	5.213	5.214	(1.049)	424505	116.199	58099.43
	5 Vinyl Chloride	62	1.145	1.145	(0.273)	20010	3.85387	1926.93

Data File: \\nahstws005\Target\chem\voa6.i\X200723.b\X072312.D
Date : 23-JUL-2020 14:57
Client ID: HS20071033-05
Sample Info: HS20071033-05;HS20071033-05;;;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i

Operator: PC
Column diameter: 0.18



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Date : 23-JUL-2020 14:57

Client ID: HS20071033-05

Instrument: voa6.i

Sample Info: HS20071033-05;HS20071033-05;;;

Purge Volume: 5.0

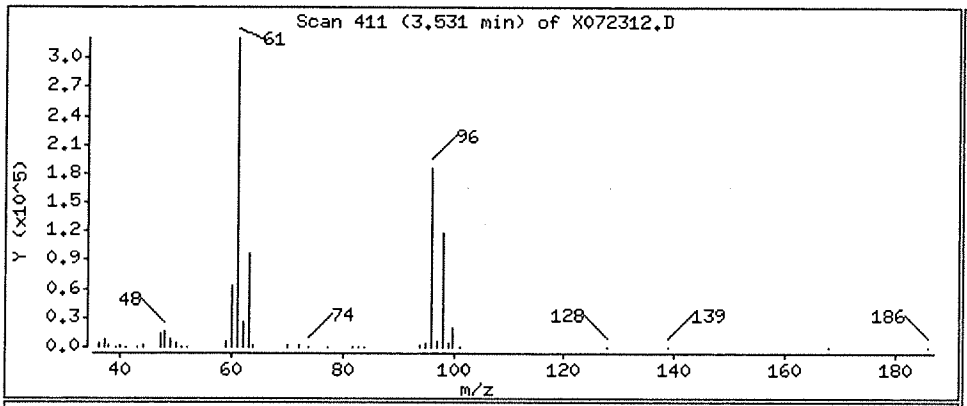
Operator: PC

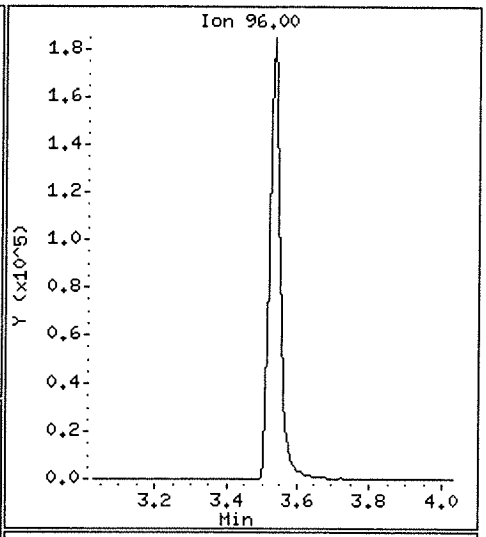
Column phase: DB624

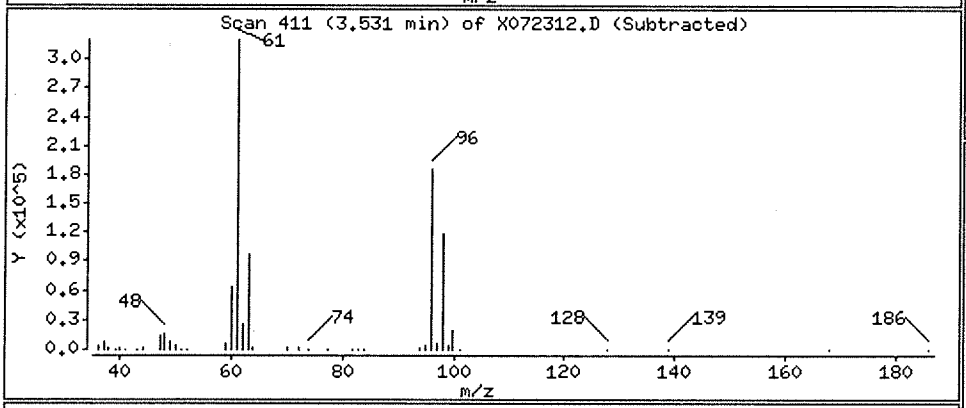
Column diameter: 0.18

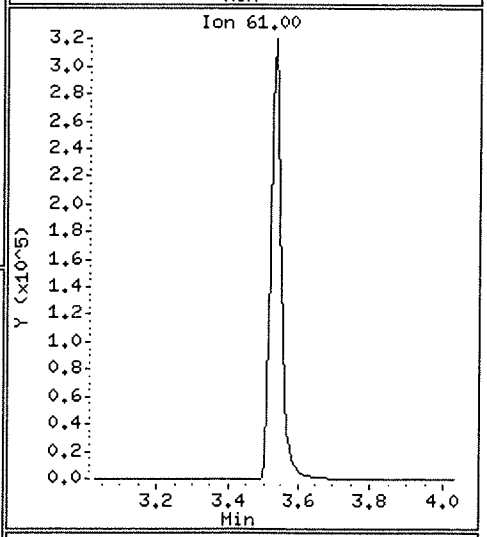
27 cis-1,2-Dichloroethene

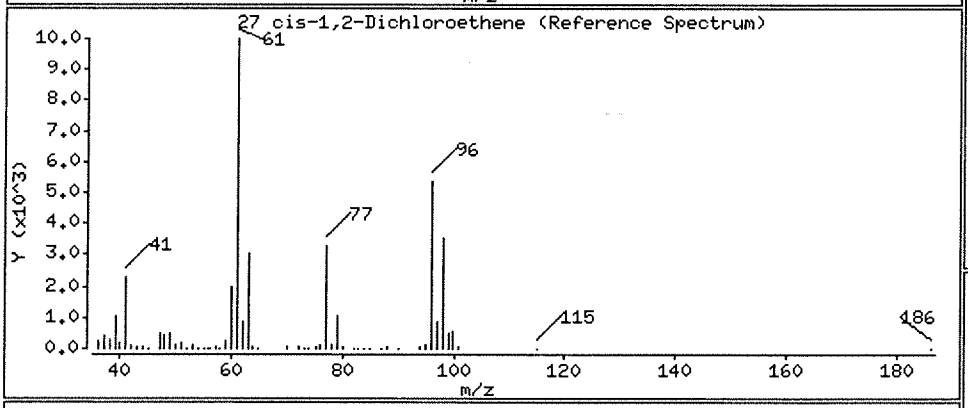
Concentration: 48567.69 ug/l

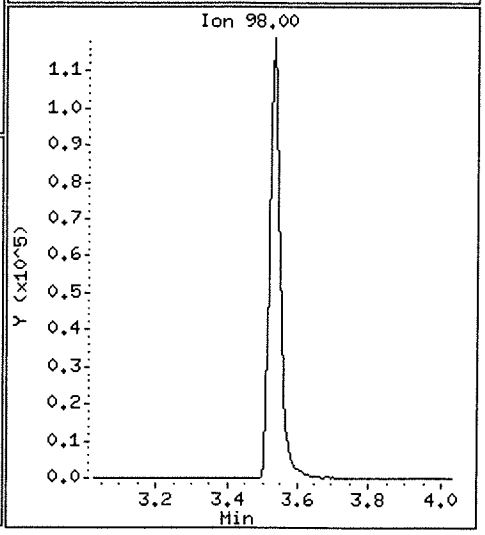


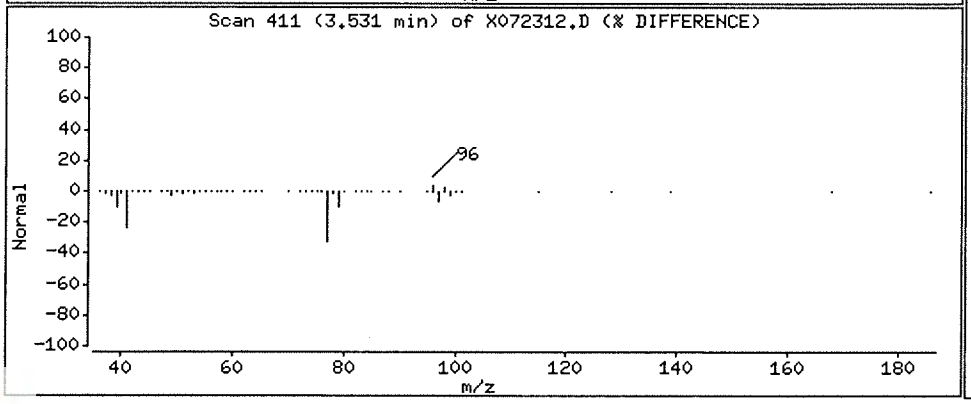












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Date : 23-JUL-2020 14:57

Client ID: HS20071033-05

Instrument: voa6.i

Sample Info: HS20071033-05;HS20071033-05;;;

Purge Volume: 5.0

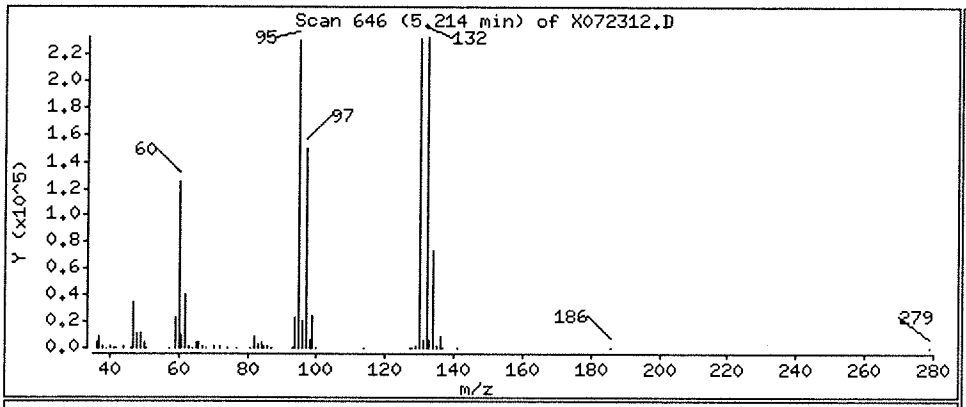
Operator: PC

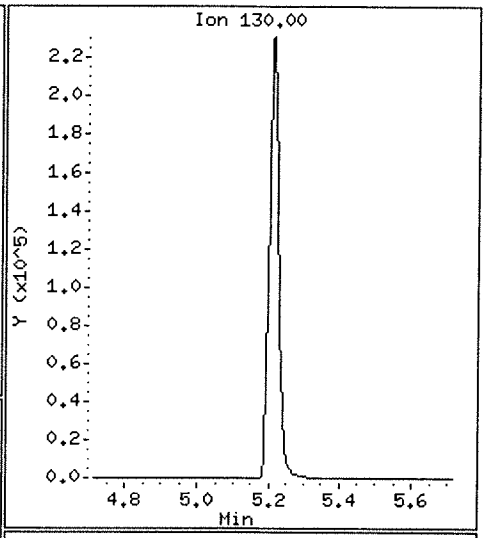
Column phase: DB624

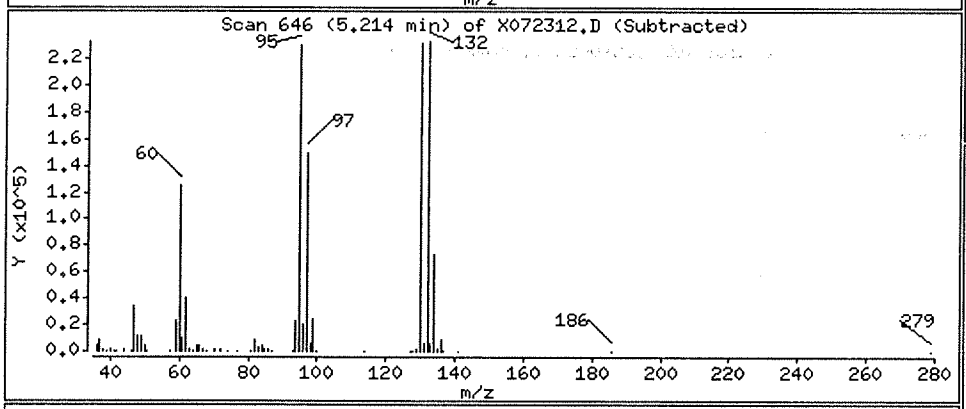
Column diameter: 0.18

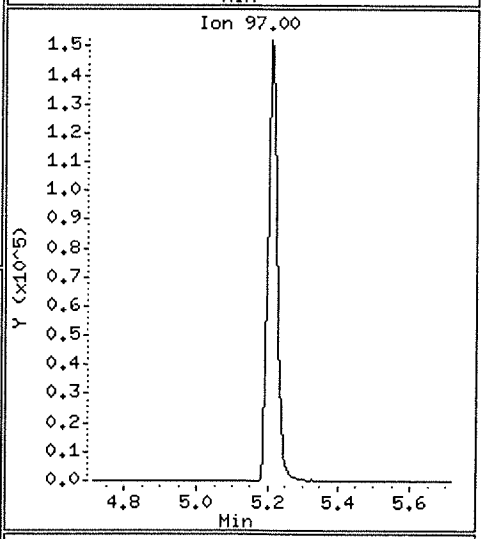
38 Trichloroethene

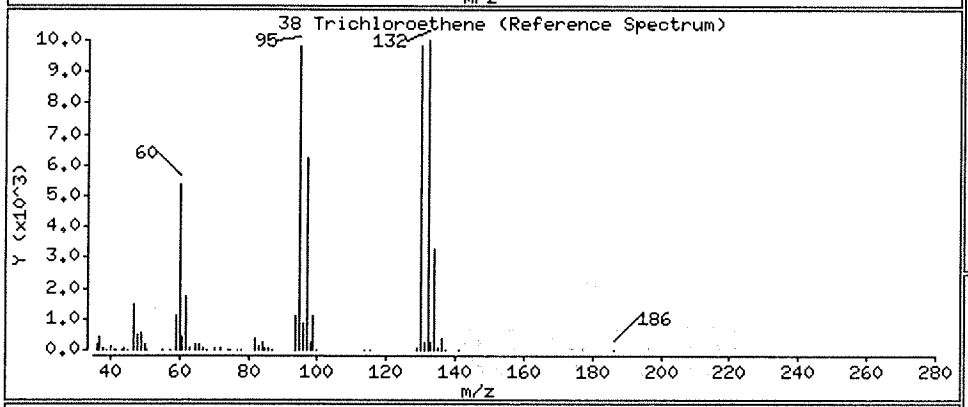
Concentration: 58099.43 ug/l

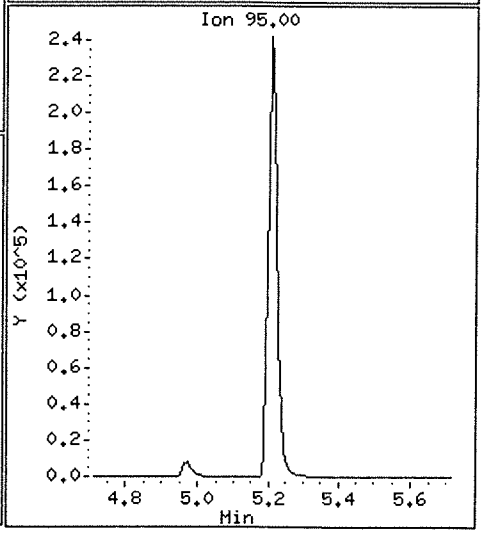


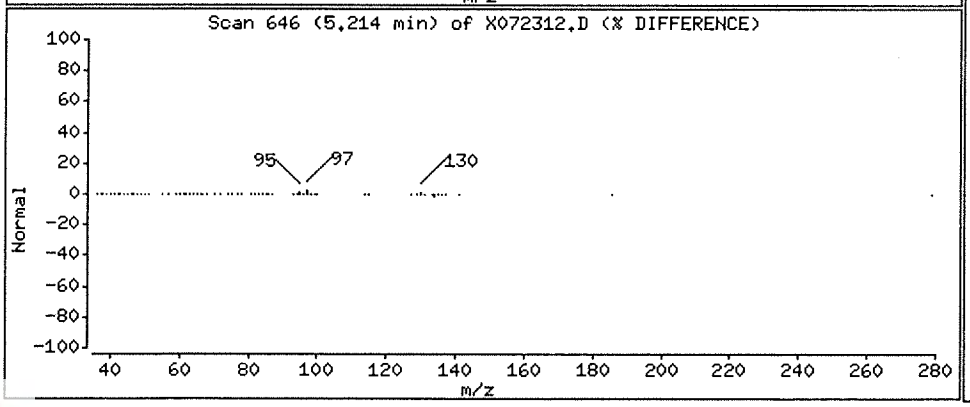












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Date : 23-JUL-2020 14:57

Client ID: HS20071033-05

Instrument: voa6.i

Sample Info: HS20071033-05;HS20071033-05;;;

Purge Volume: 5.0

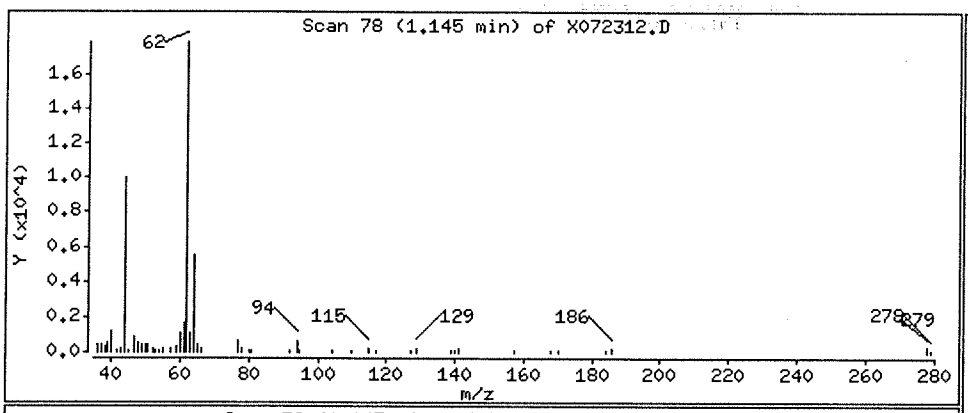
Operator: PC

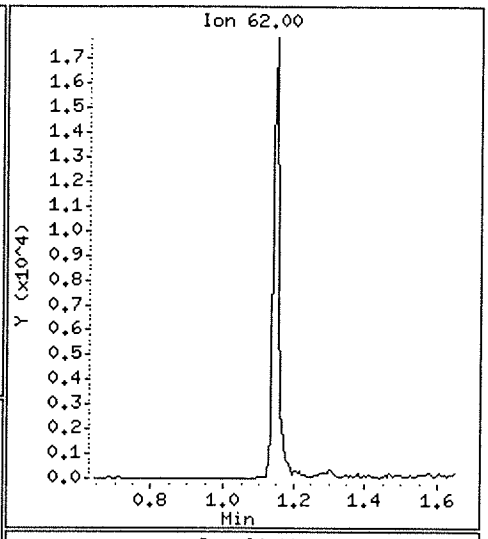
Column phase: DB624

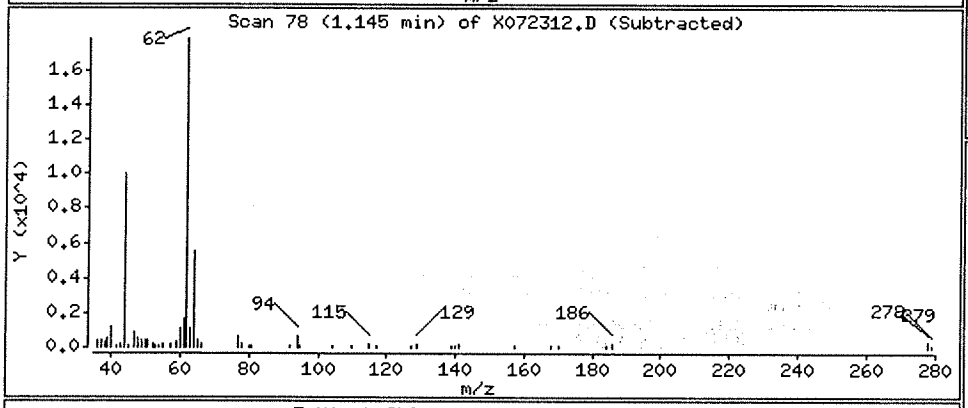
Column diameter: 0.18

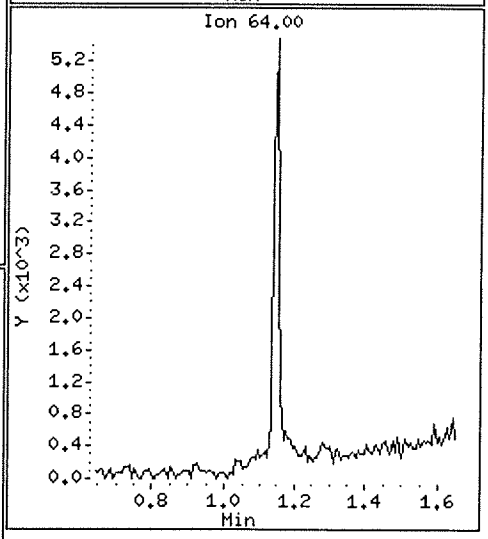
5 Vinyl Chloride

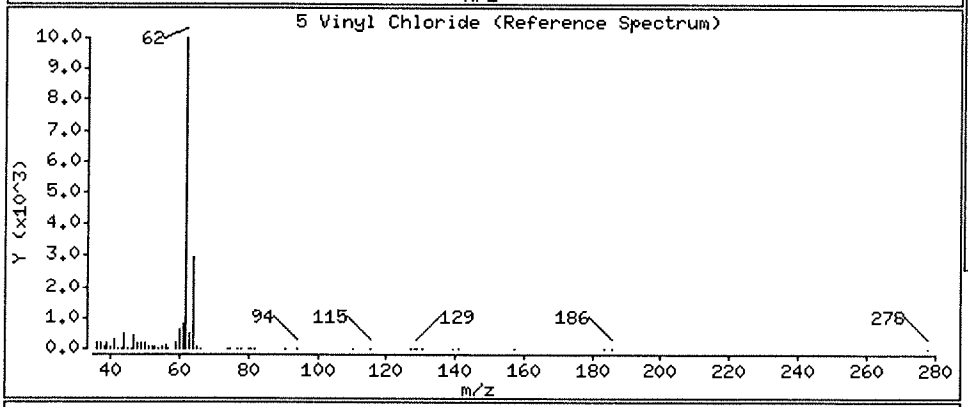
Concentration: 1926.93 ug/l

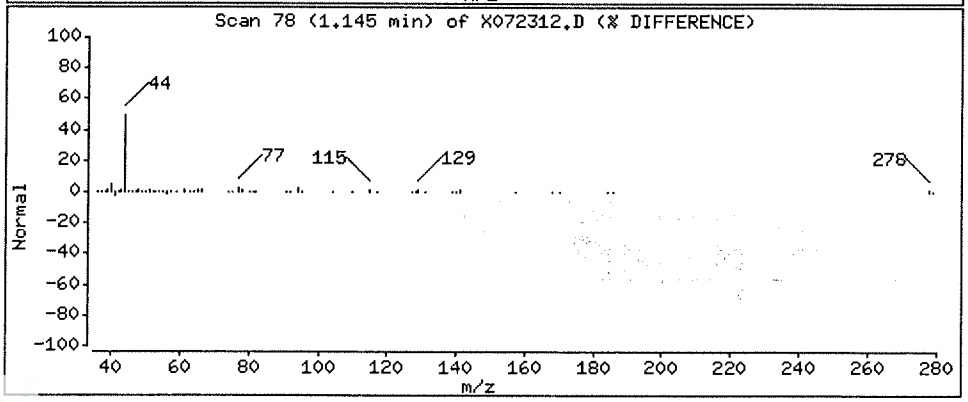












ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X200723.b\X072313.D
Lab Smp Id: HS20071033-03 Client Smp ID: HS20071033-03
Inj Date : 23-JUL-2020 15:21
Operator : PC Inst ID: voa6.i
Smp Info : HS20071033-03;HS20071033-03;;;
Misc Info : HS18090001;WATER;0;5;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200723.b\8260W.m
Meth Date : 21-Aug-2020 18:16 dev.giga Quant Type: ISTD
Cal Date : 13-JUL-2020 13:18 Cal File: X071308.D
Als bottle: 13
Dil Factor: 5.00000
Integrator: HP RTE Compound Sublist: CBI-Hou11.sub
Target Version: 4.14

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

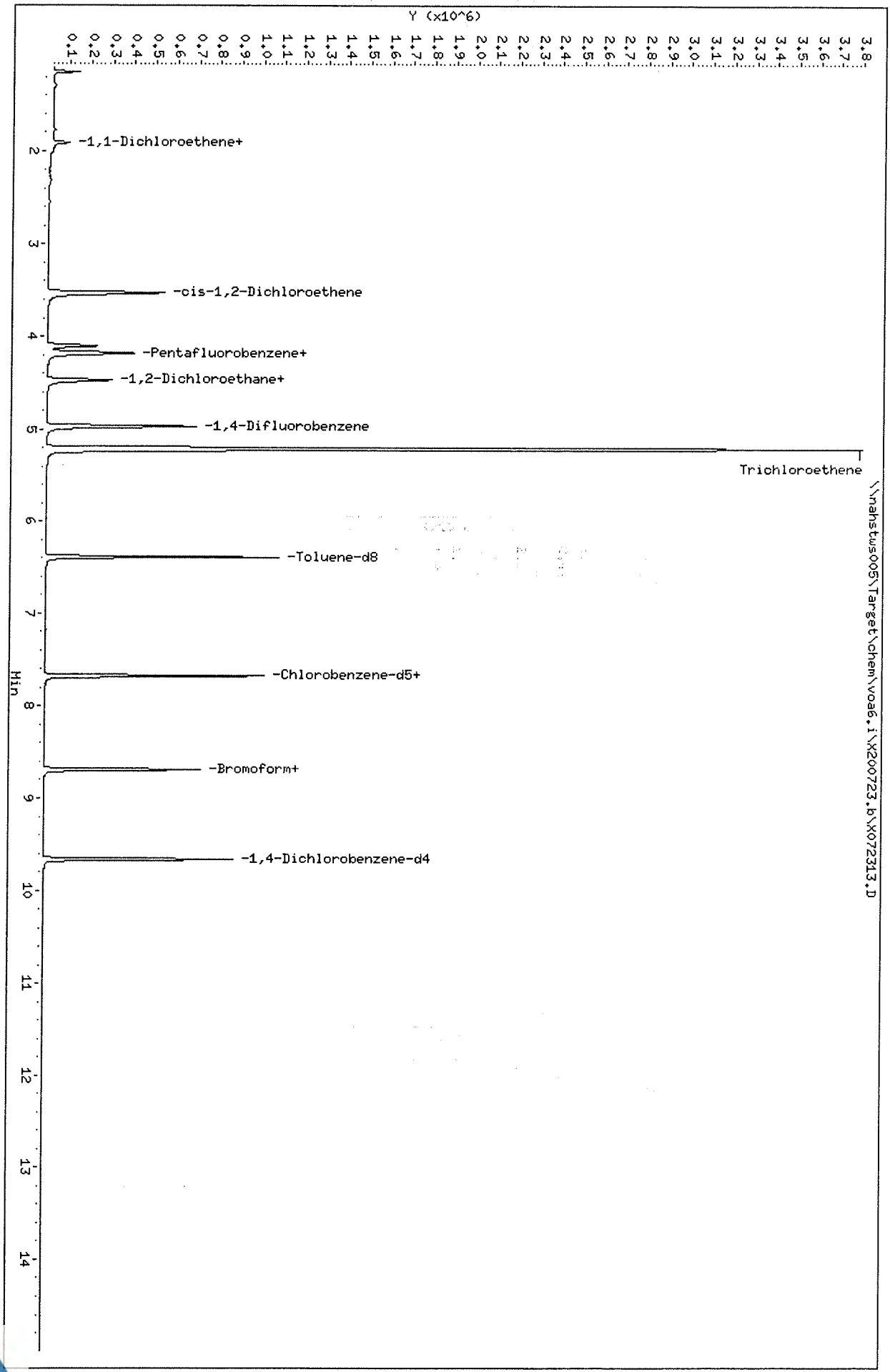
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	313486	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	503332	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	429191	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	194520	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.104	(0.979)	161426	46.2046	46.20
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	214510	45.3228	45.32
$ 48 Toluene-d8	98	6.388	6.389	(0.833)	575228	51.1669	51.16
$ 69 4-Bromofluorobenzene	95	8.695	8.688	(1.134)	208921	50.3088	50.30
11 1,1-Dichloroethene	96	1.919	1.919	(0.458)	9576	3.49168	17.45(a)
33 1,2-Dichloroethane	62	4.569	4.562	(0.919)	4780	0.79810	3.99(a)
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.843)	232179	57.7360	288.68
38 Trichloroethene	130	5.214	5.214	(1.049)	1181069	326.025	1630.12(A)
5 Vinyl Chloride	62	1.145	1.145	(0.273)	82991	16.0994	80.49

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\X200723.b\X072313.D
Date : 23-JUL-2020 15:21
Client ID: HS200714033-03
Sample Info: HS200714033-03;HS200714033-03;;;
Purge Volume: 5.0
Column phase: DB624

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



Data File: \\nahstws005\Target\chem\voa6.i\X200723.b\X072313.D

Date : 23-JUL-2020 15:21

Client ID: HS20071033-03

Instrument: voa6.i

Sample Info: HS20071033-03;HS20071033-03;;;

Purge Volume: 5.0

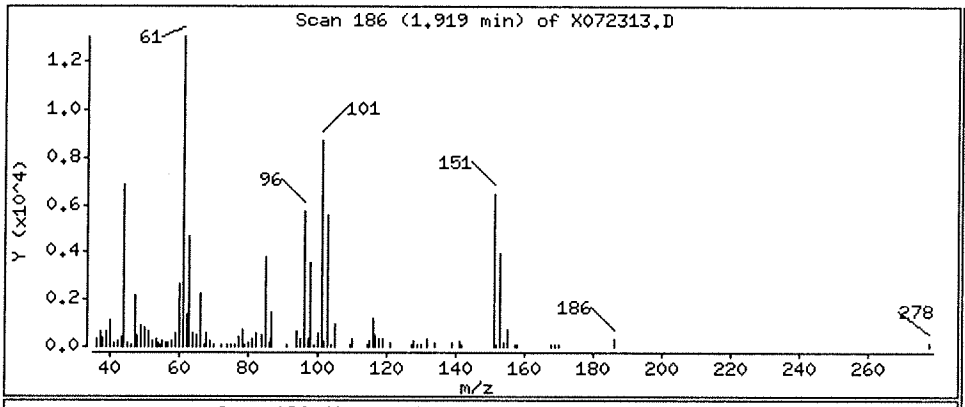
Operator: PC

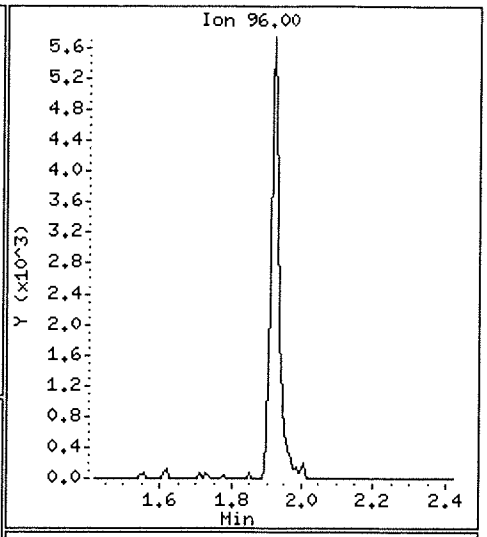
Column phase: DB624

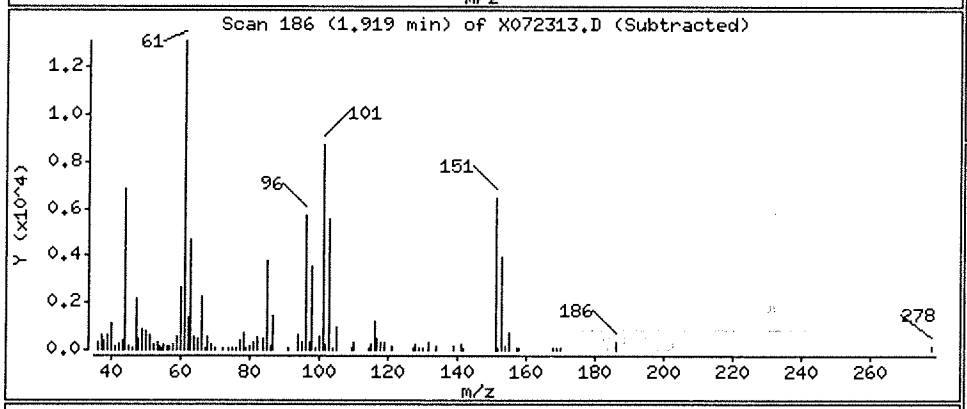
Column diameter: 0.18

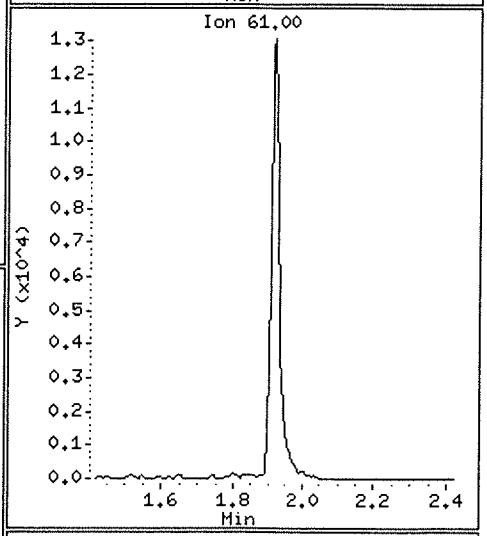
11 1,1-Dichloroethene

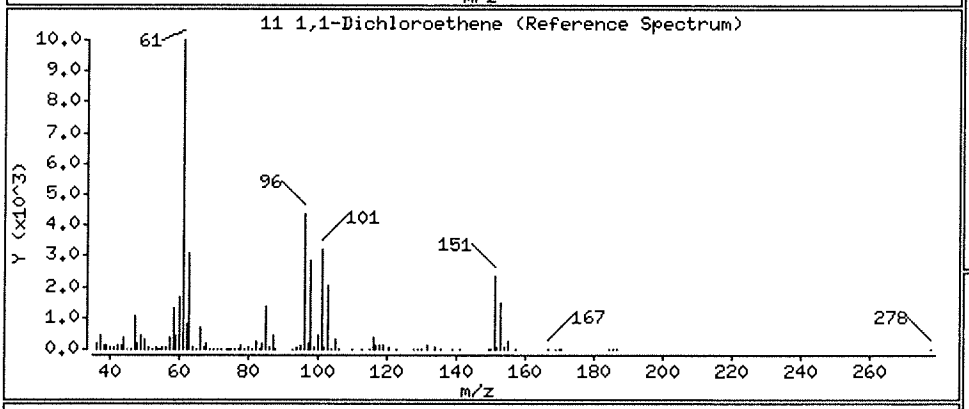
Concentration: 17.45 ug/l

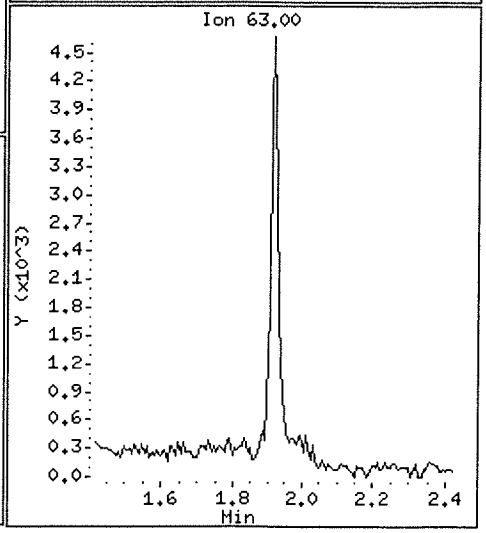


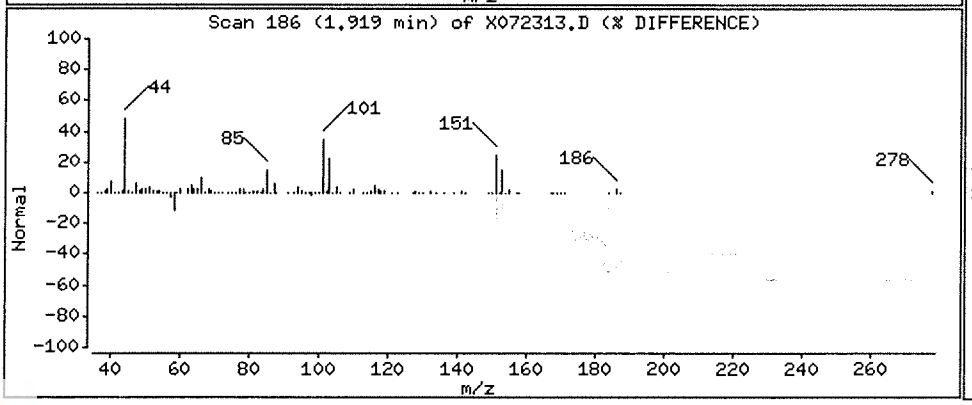












Data File: \\nahstws005\Target\chem\voa6.i\X200723.b\X072313.D

Date : 23-JUL-2020 15:21

Client ID: HS20071033-03

Instrument: voa6.i

Sample Info: HS20071033-03;HS20071033-03;;;

Purge Volume: 5.0

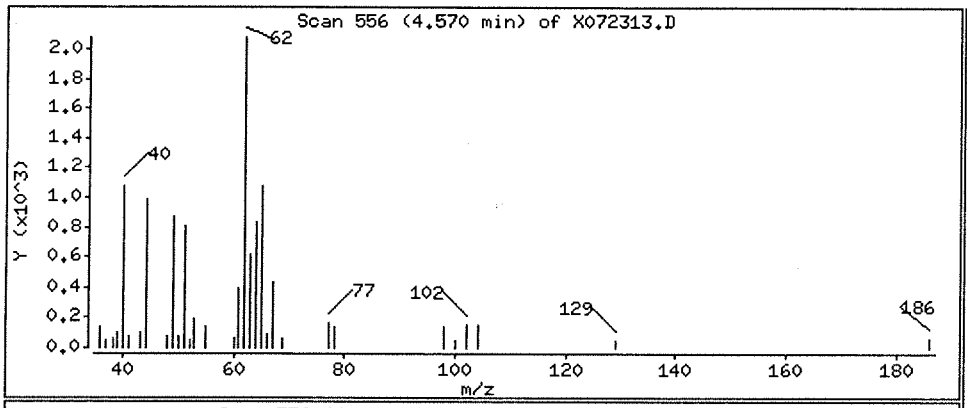
Operator: PC

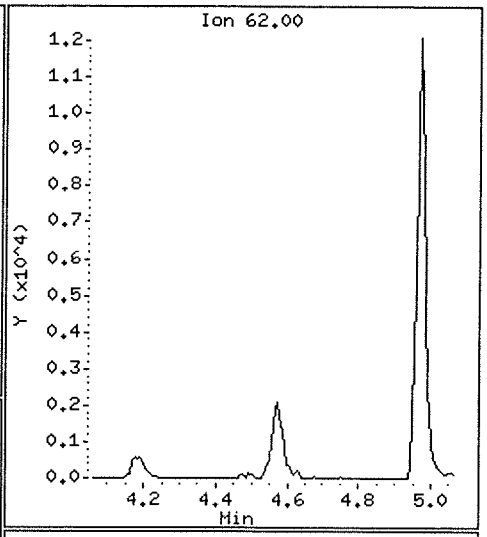
Column phase: DB624

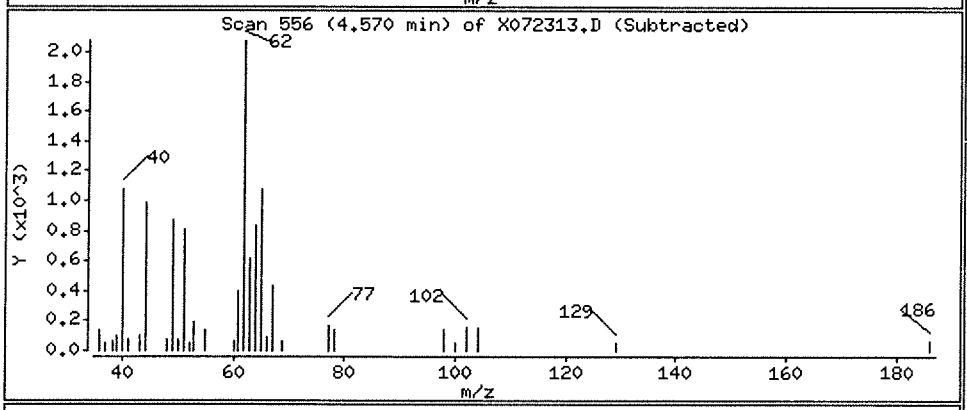
Column diameter: 0.18

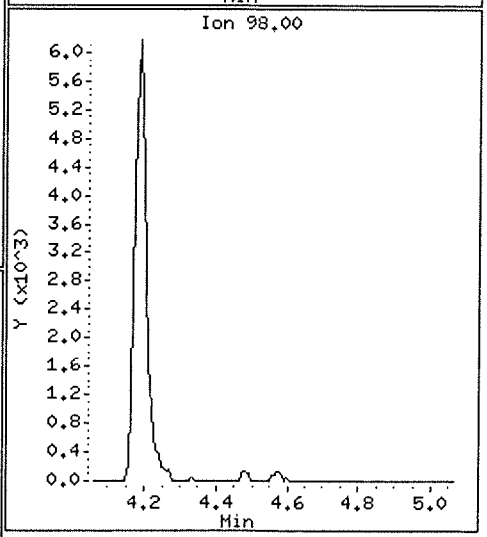
33 1,2-Dichloroethane

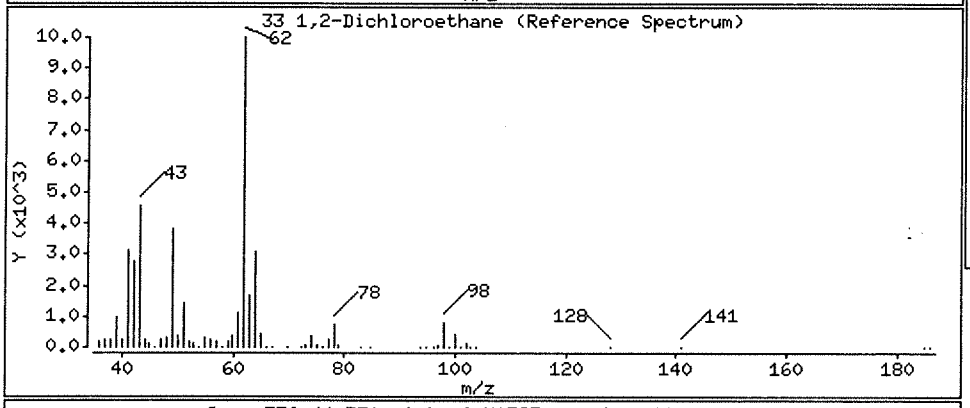
Concentration: 3.99 ug/l

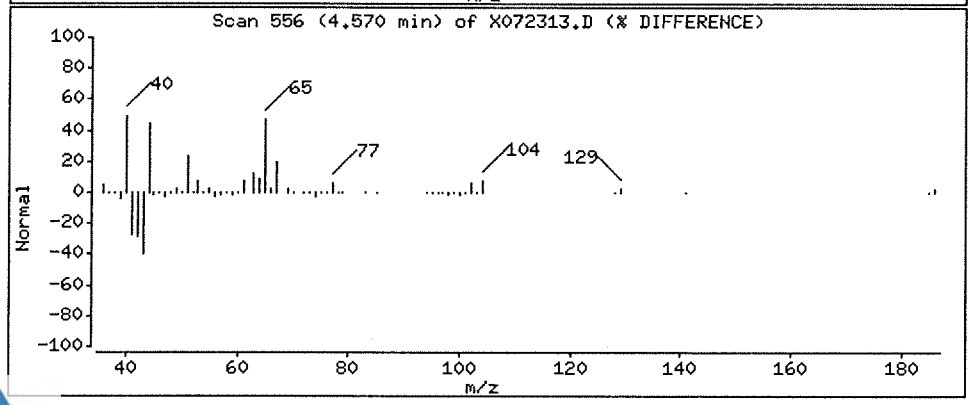












Data File: \\nahstws005\Target\chem\voa6.i\X200723.b\X072313.D

Date : 23-JUL-2020 15:21

Client ID: HS20071033-03

Instrument: voa6.i

Sample Info: HS20071033-03;HS20071033-03;;;

Purge Volume: 5.0

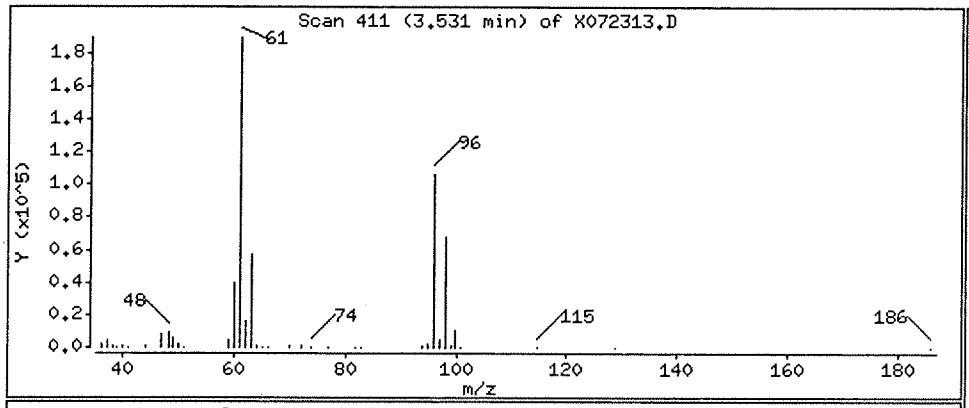
Operator: PC

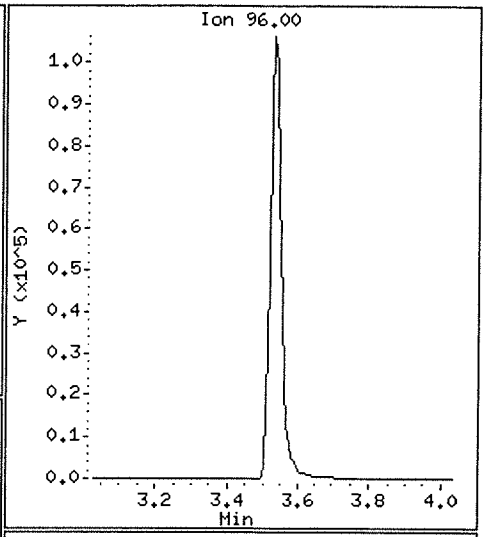
Column phase: DB624

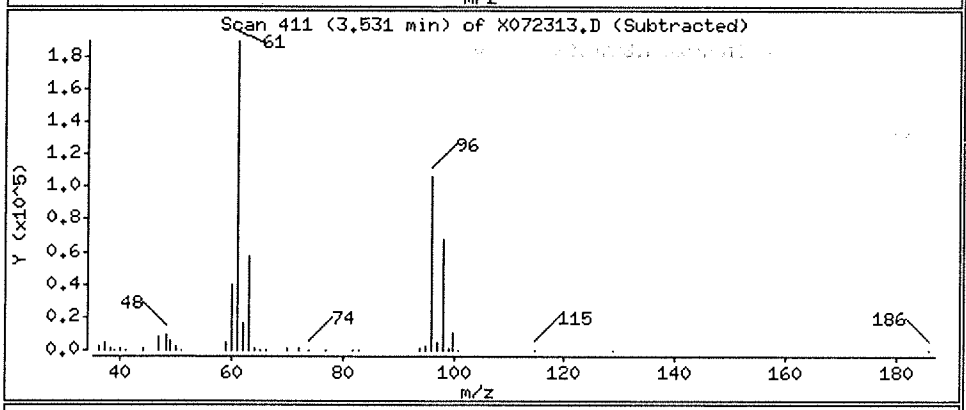
Column diameter: 0.18

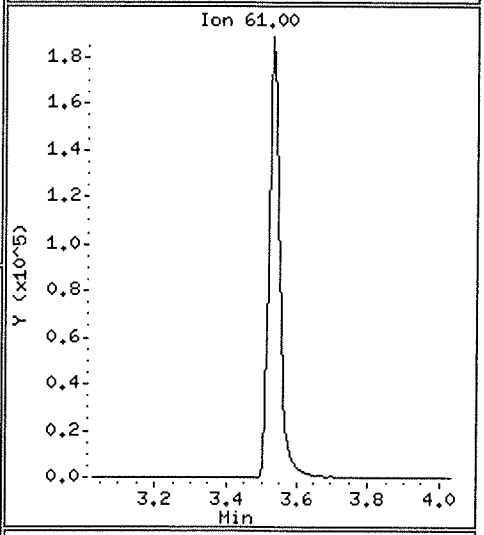
27 cis-1,2-Dichloroethene

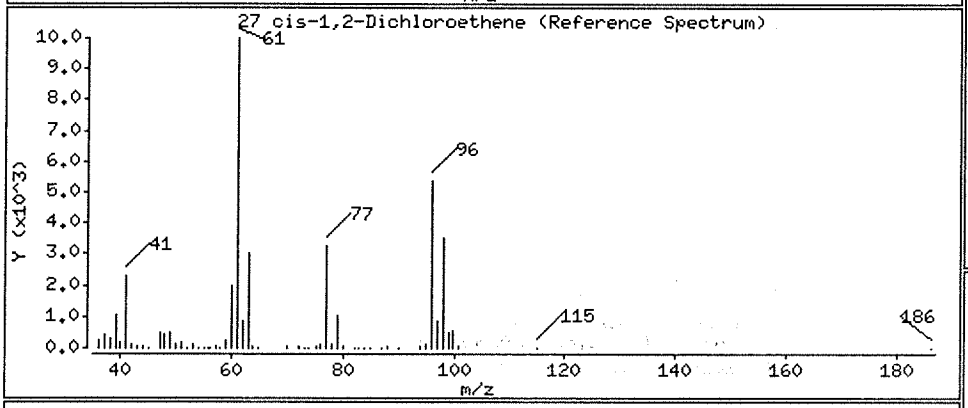
Concentration: 288.68 ug/l

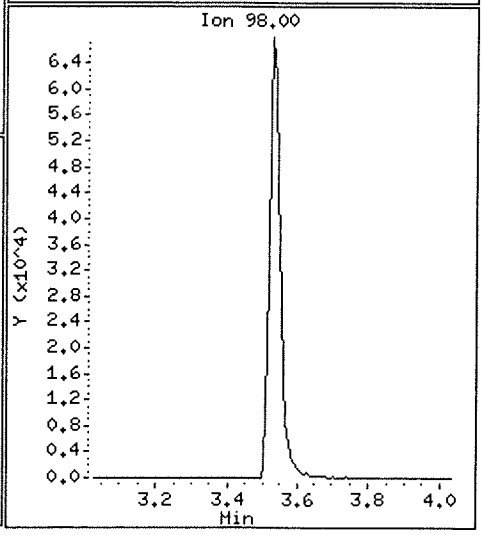


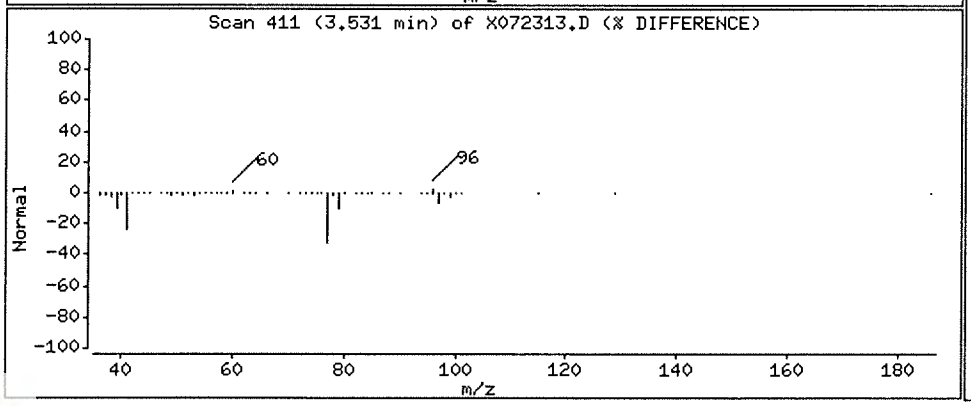












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Date : 23-JUL-2020 15:21

Client ID: HS20071033-03

Instrument: voa6.i

Sample Info: HS20071033-03;HS20071033-03;;;

Purge Volume: 5.0

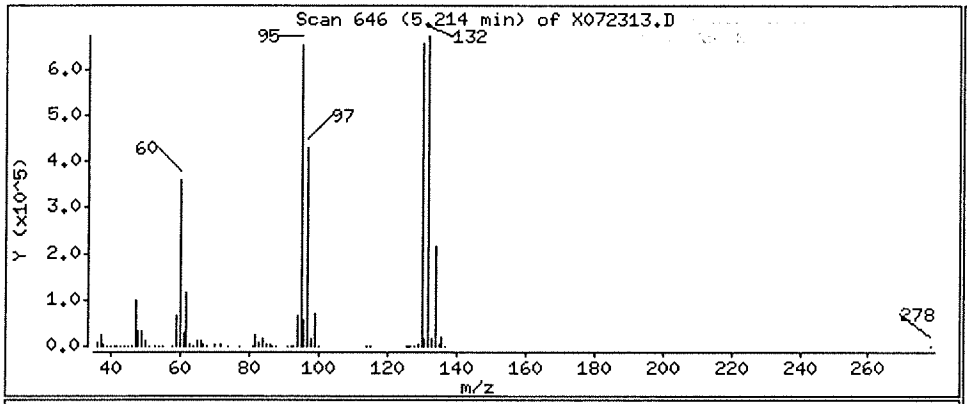
Operator: PC

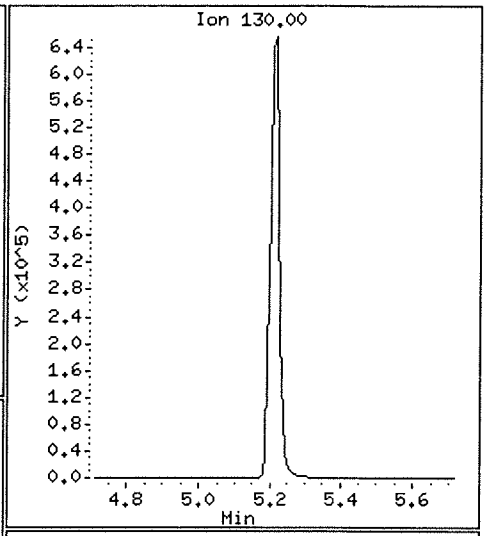
Column phase: DB624

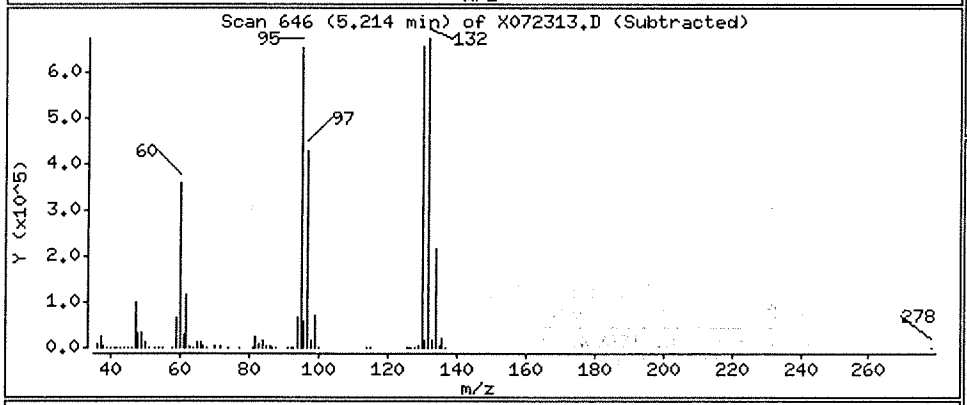
Column diameter: 0.18

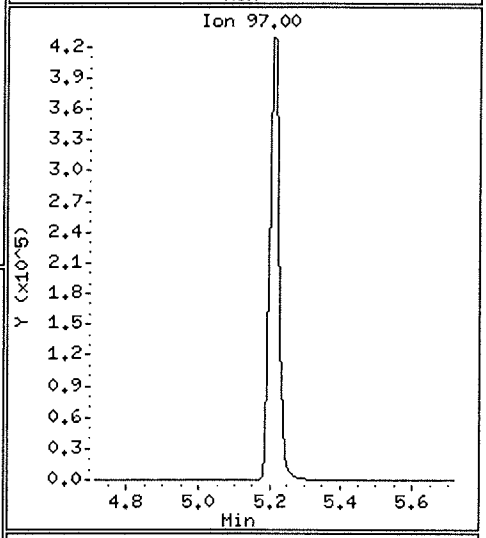
38 Trichloroethene

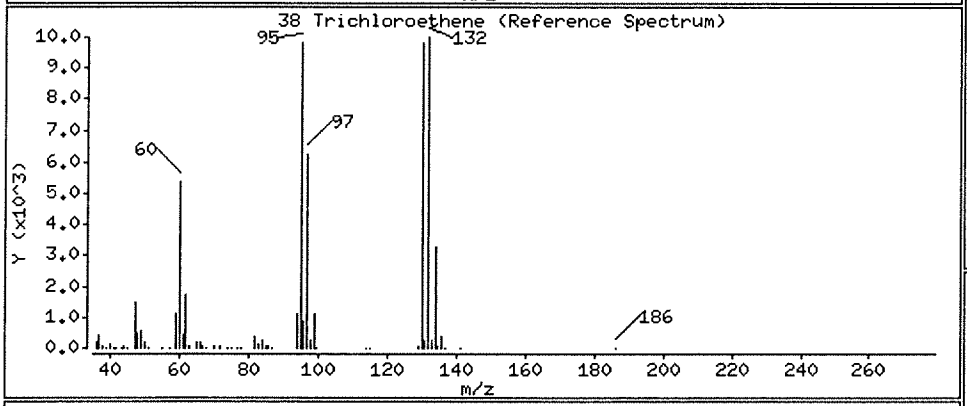
Concentration: 1630.12 ug/l

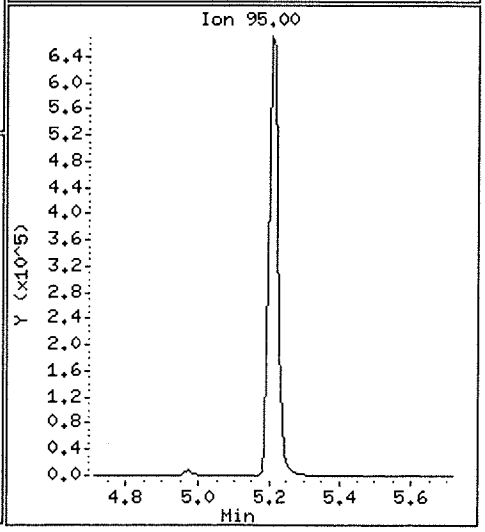


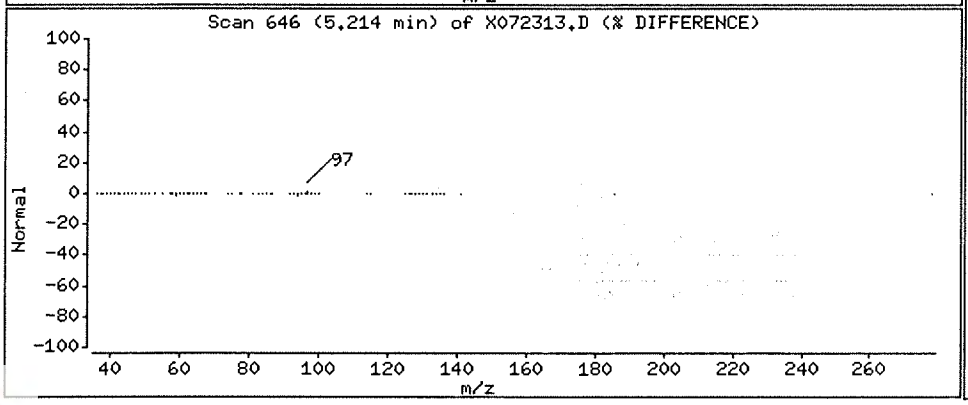












Data File: \\nahstws005\Target\chem\voa6.i\X200723.b\X072313.D

Date : 23-JUL-2020 15:21

Client ID: HS20071033-03

Instrument: voa6.i

Sample Info: HS20071033-03;HS20071033-03;;;

Purge Volume: 5.0

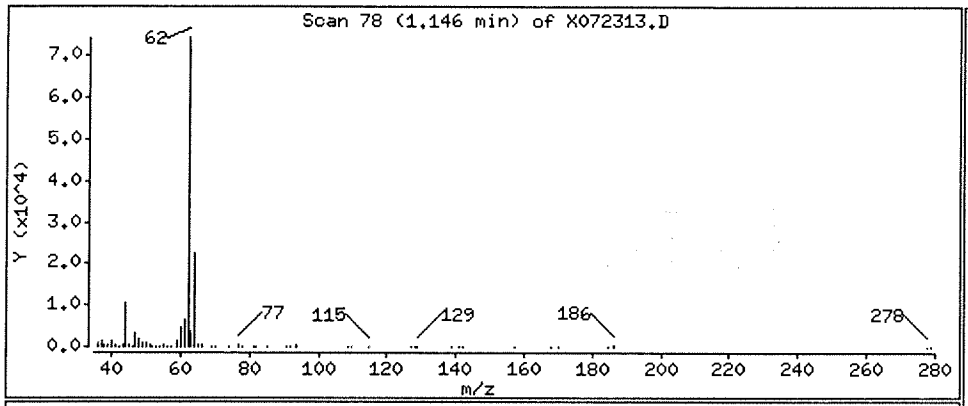
Operator: PC

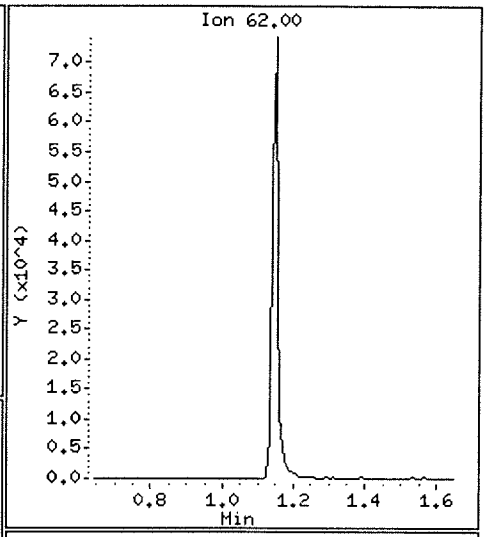
Column phase: DB624

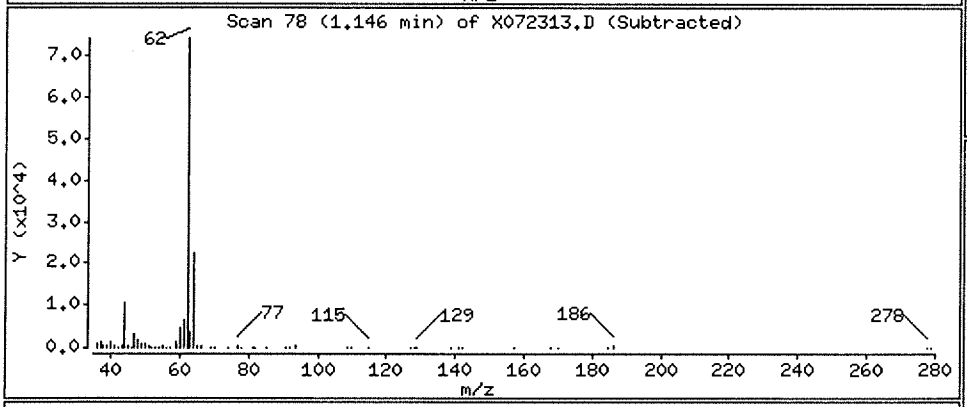
Column diameter: 0.18

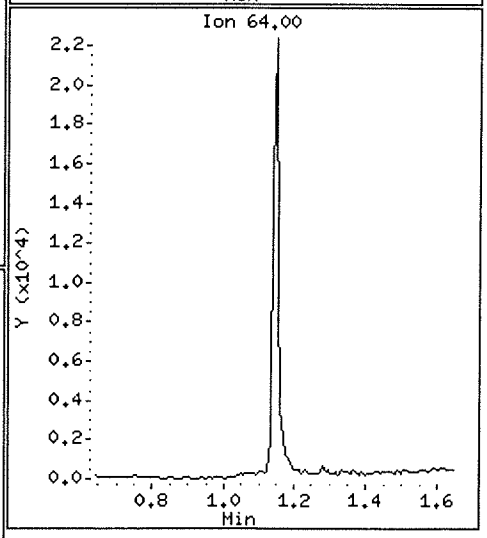
5 Vinyl Chloride

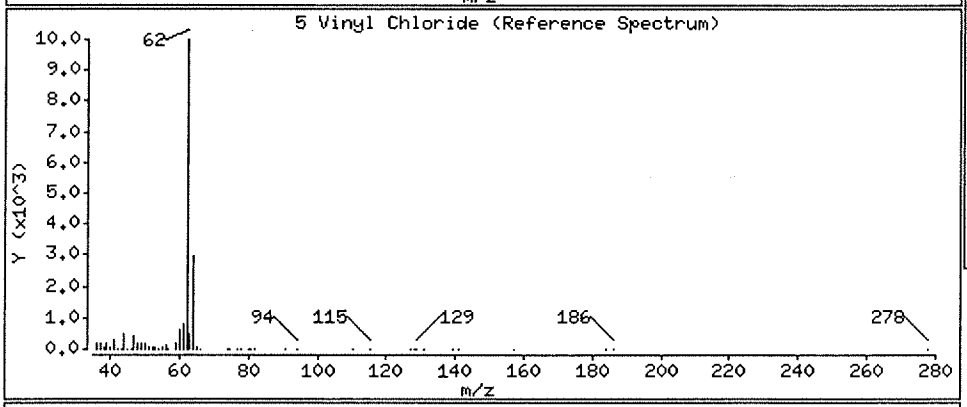
Concentration: 80.49 ug/l

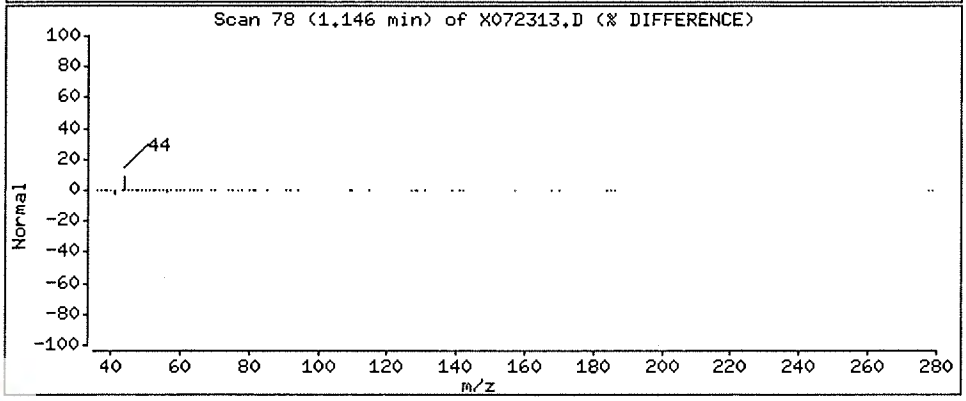












Data File: \\nahstws005\Target\chem\voa6.i\X200723.b\X072314.D Page 1
Report Date: 21-Aug-2020 18:17

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X200723.b\X072314.D
Lab Smp Id: HS20071033-05 Client Smp ID: HS20071033-05
Inj Date : 23-JUL-2020 15:45
Operator : PC Inst ID: voa6.i
Smp Info : HS20071033-05;HS20071033-05;;;
Misc Info : HS18090001;WATER;0;25;
Comment   :
Method   : \\nahstws005\Target\chem\voa6.i\X200723.b\8260W.m
Meth Date : 21-Aug-2020 18:16 dev.giga Quant Type: ISTD
Cal Date : 13-JUL-2020 13:18 Cal File: X071308.D
Als bottle: 14
Dil Factor: 25.00000
Integrator: HP RTE Compound Sublist: CBI-Hou11.sub
Target Version: 4.14

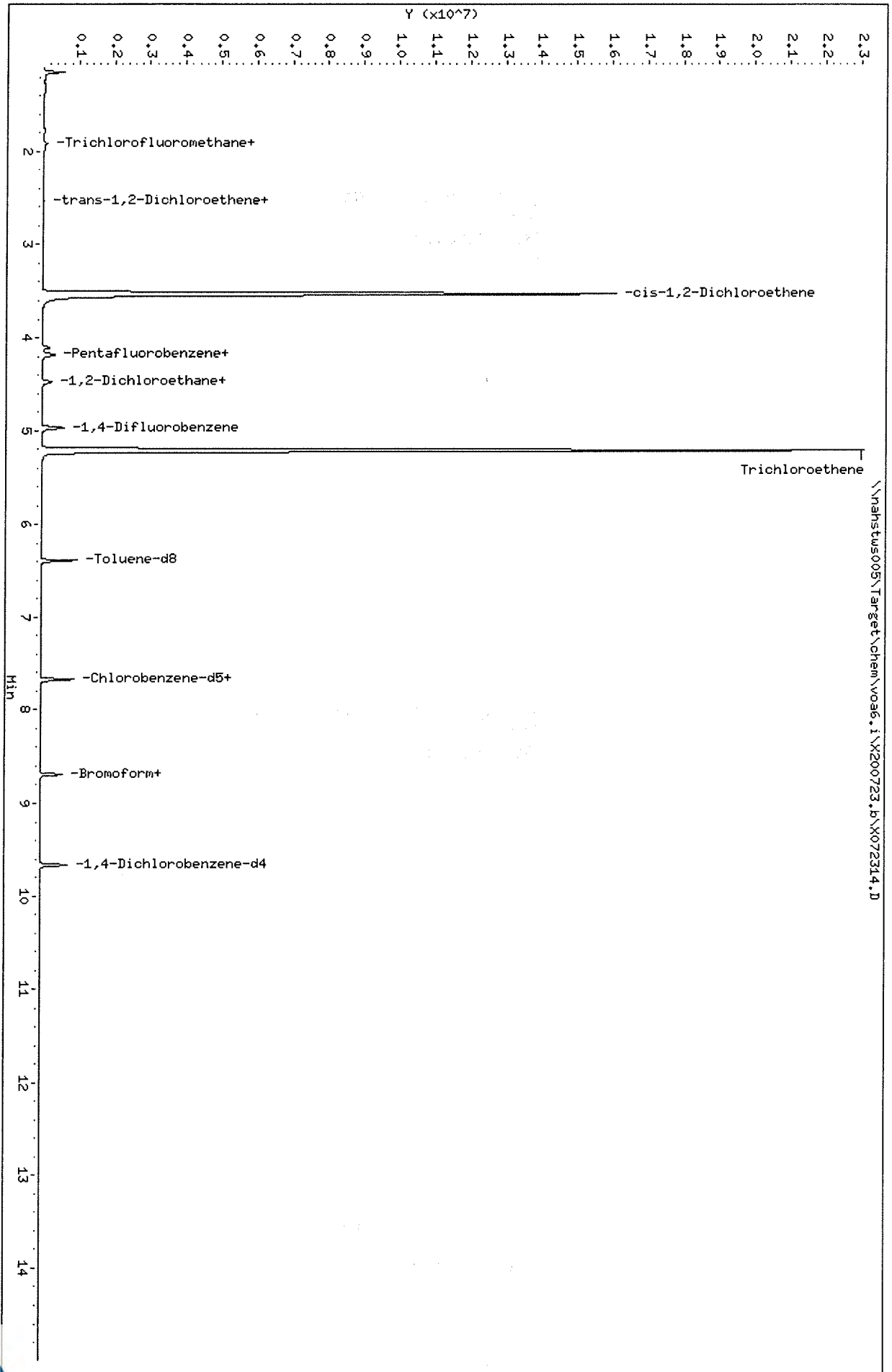
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

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	4.189	4.189	(1.000)	281189	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	459017	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	395211	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	176831	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.104	(0.979)	143087	45.6586	45.65
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	193600	45.6010	45.60
$ 48 Toluene-d8	98	6.388	6.389	(0.833)	506575	48.9345	48.93
$ 69 4-Bromofluorobenzene	95	8.695	8.688	(1.134)	178408	46.6160	46.61
11 1,1-Dichloroethene	96	1.919	1.919	(0.458)	14707	5.97853	149.46
33 1,2-Dichloroethane	62	4.569	4.562	(0.919)	11008	2.01542	50.38(a)
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.843)	6860556	1901.97	47549.17(A)
38 Trichloroethene	130	5.214	5.214	(1.049)	6949798	2103.65	52591.19(A)
5 Vinyl Chloride	62	1.145	1.145	(0.273)	389324	84.1998	2104.99

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\X200723.b\X072314.D
Date : 23-JUL-2020 15:45
Client ID: HS20071033-05
Sample Info: HS20071033-05;HS20071033-05;;;
Purge Volume: 5.0
Column phase: DB624

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

Data File: \\nahstws005\Target\chem\voa6.i\X200723.b\X072314.D

Date : 23-JUL-2020 15:45

Client ID: HS20071033-05

Instrument: voa6.i

Sample Info: HS20071033-05;HS20071033-05;;;

Purge Volume: 5.0

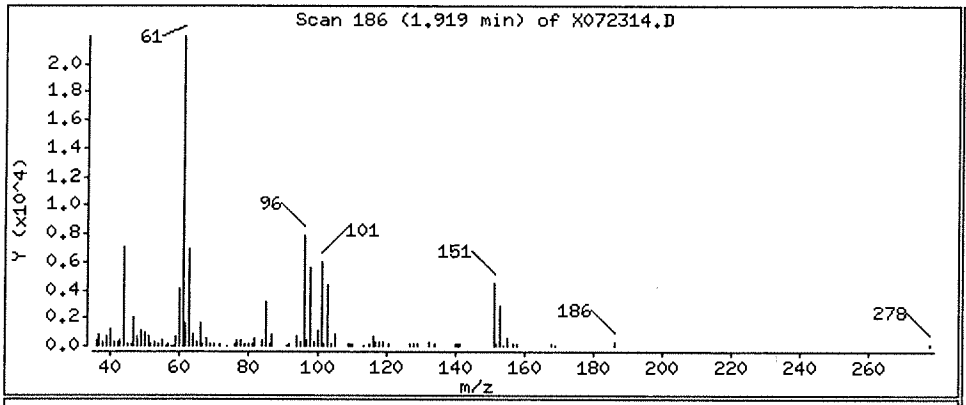
Operator: PC

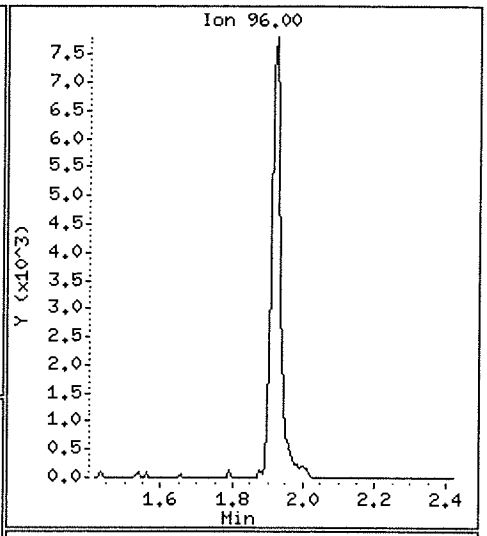
Column phase: DB624

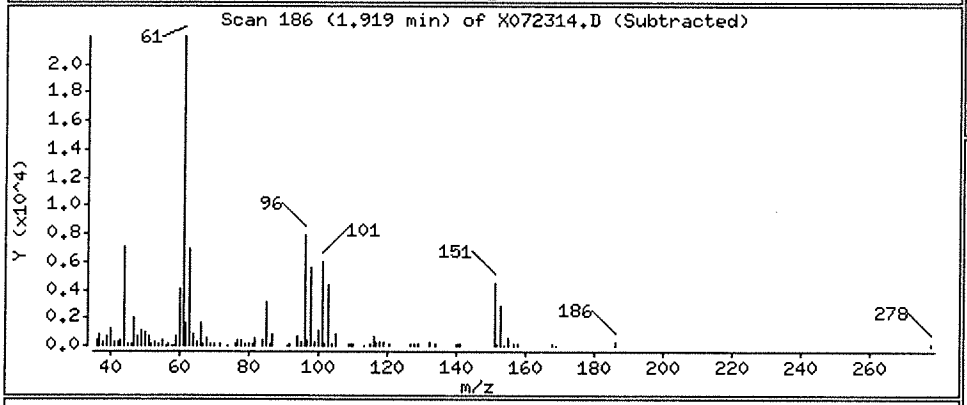
Column diameter: 0.18

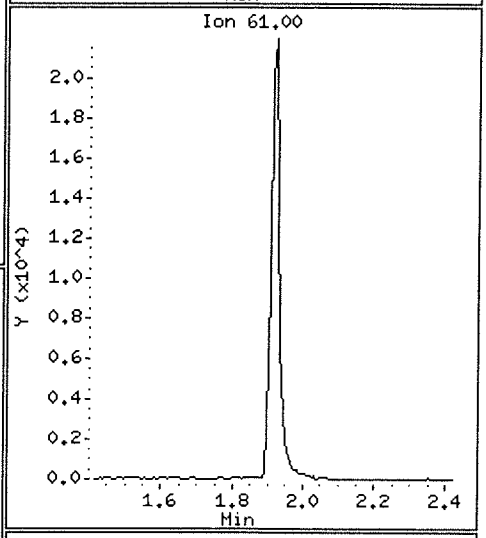
11 1,1-Dichloroethene

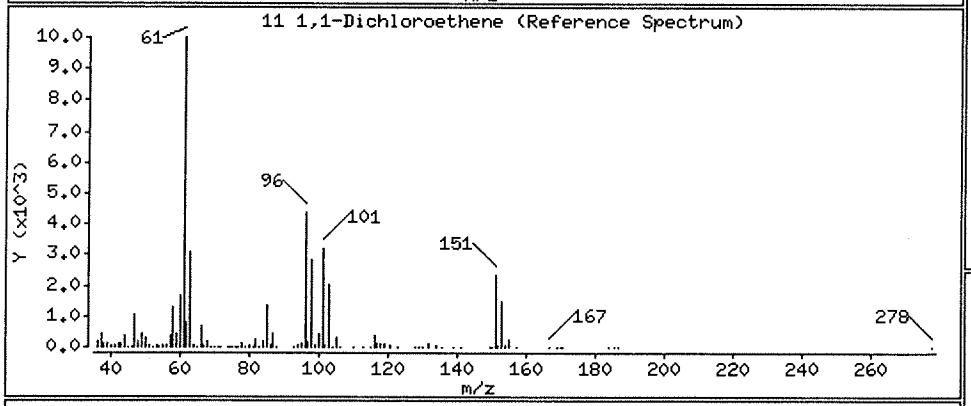
Concentration: 149.46 ug/l

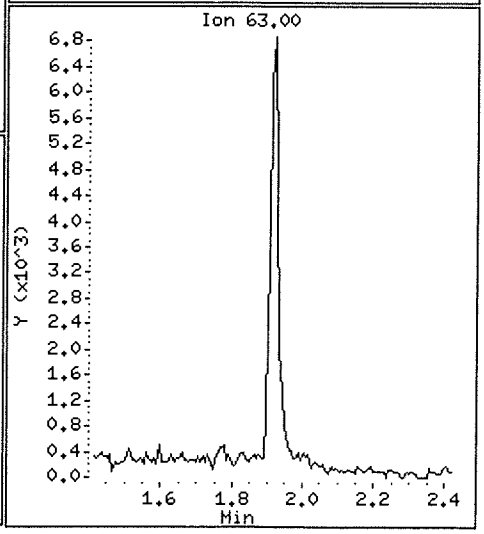


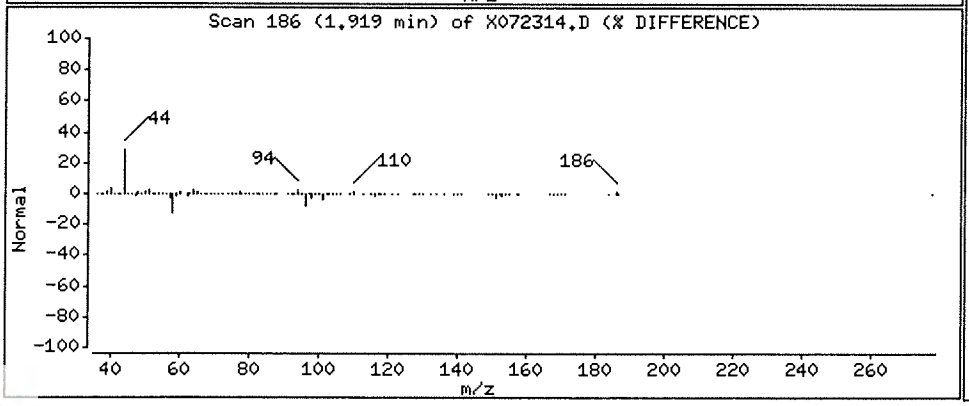












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Date : 23-JUL-2020 15:45

Client ID: HS20071033-05

Instrument: voa6.i

Sample Info: HS20071033-05;HS20071033-05;;;

Purge Volume: 5.0

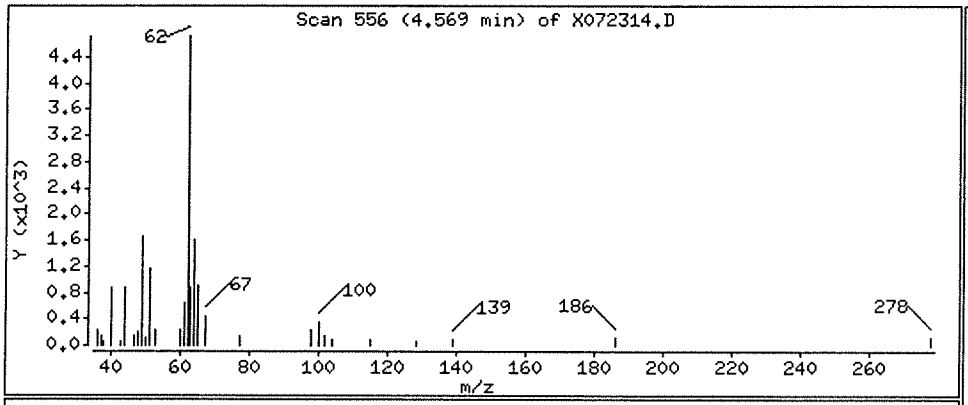
Operator: PC

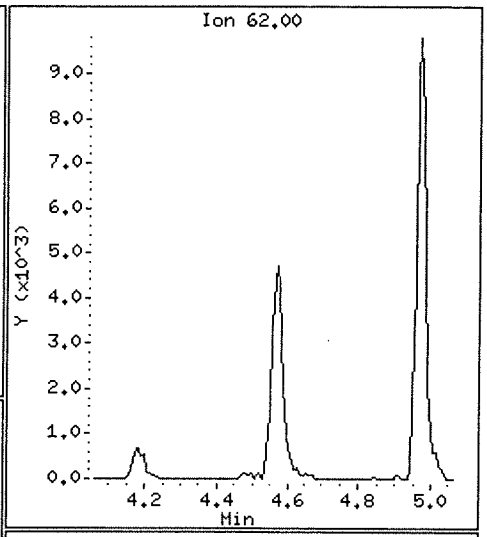
Column phase: DB624

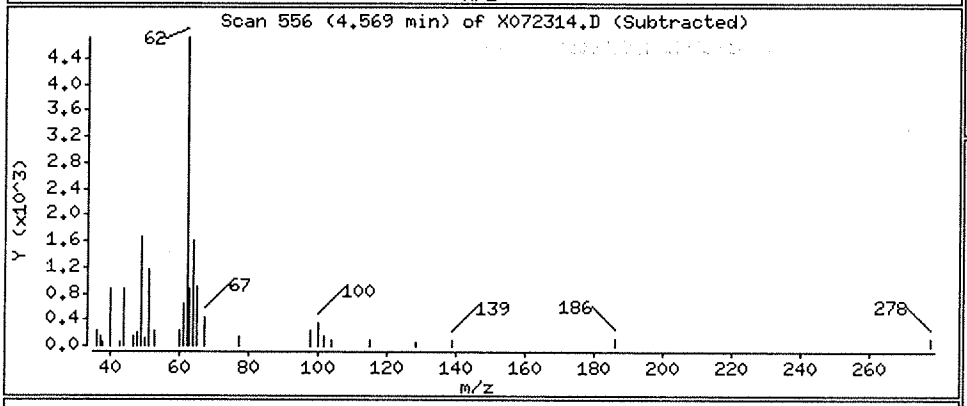
Column diameter: 0.18

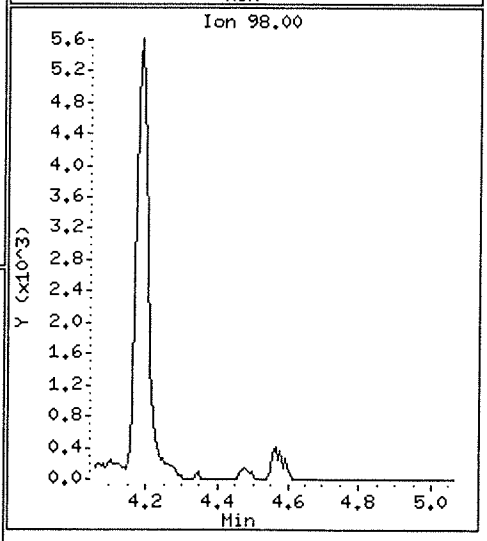
33 1,2-Dichloroethane

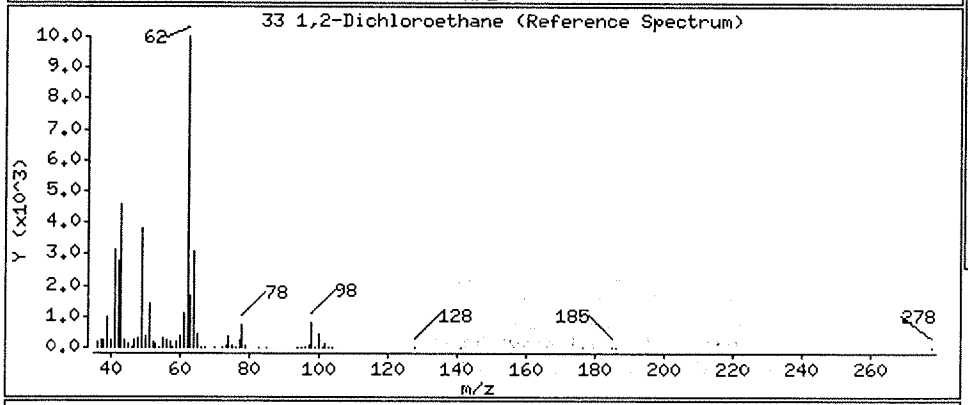
Concentration: 50.38 ug/l

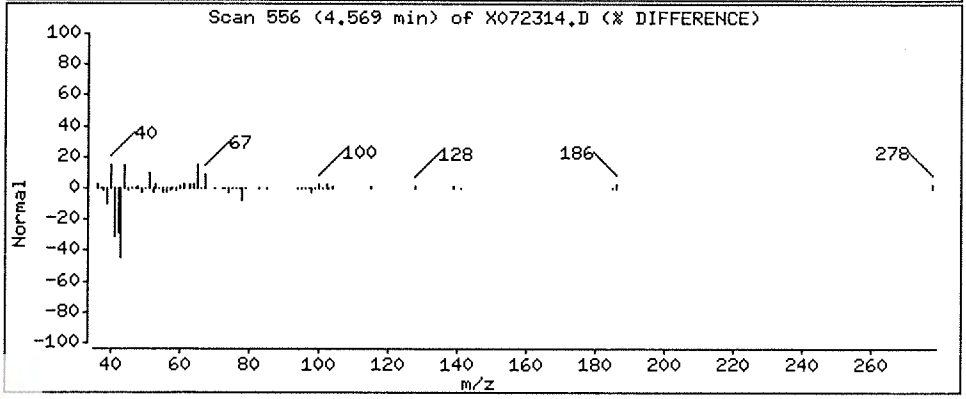












Data File: \\nahstws005\Target\chem\voa6.i\X200723.b\X072314.D

Date : 23-JUL-2020 15:45

Client ID: HS20071033-05

Instrument: voa6.i

Sample Info: HS20071033-05;HS20071033-05;;;

Purge Volume: 5.0

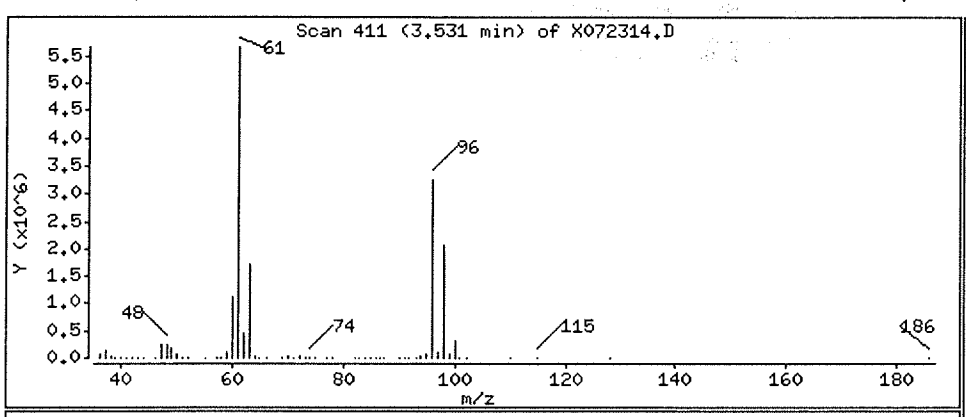
Operator: PC

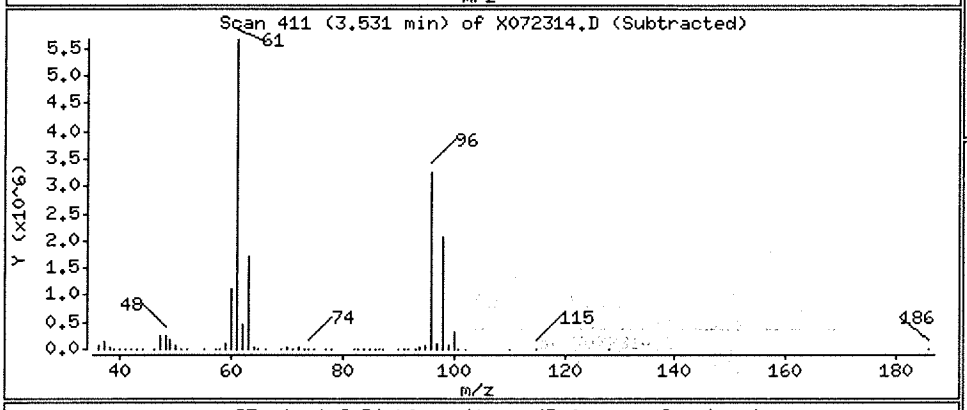
Column phase: DB624

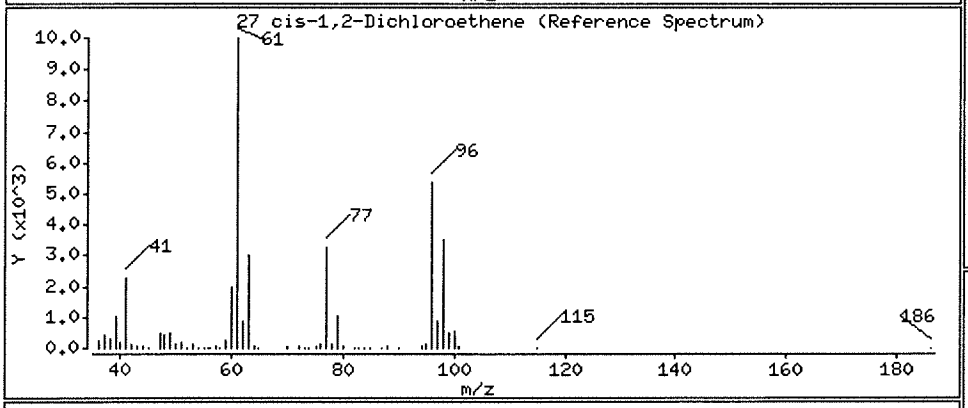
Column diameter: 0.18

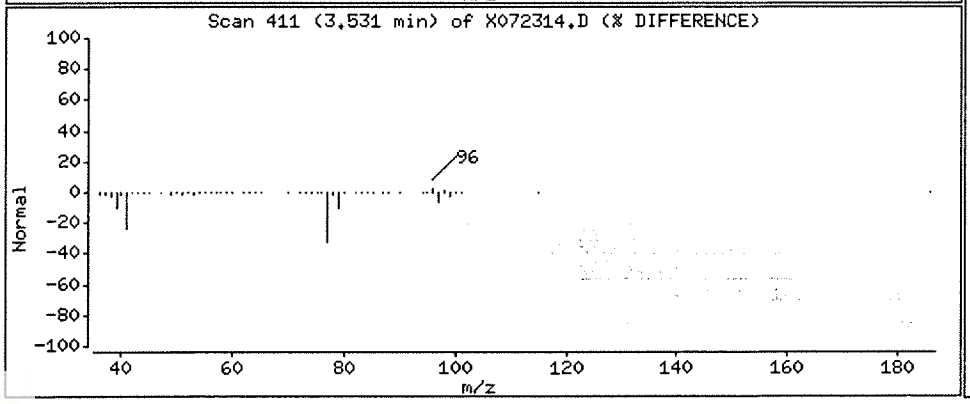
27 cis-1,2-Dichloroethene

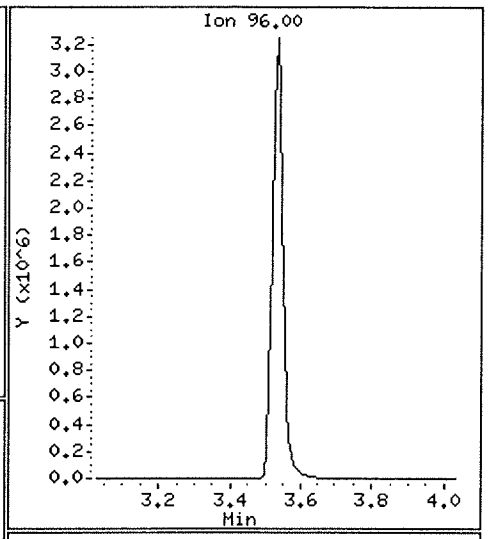
Concentration: 47549.17 ug/l

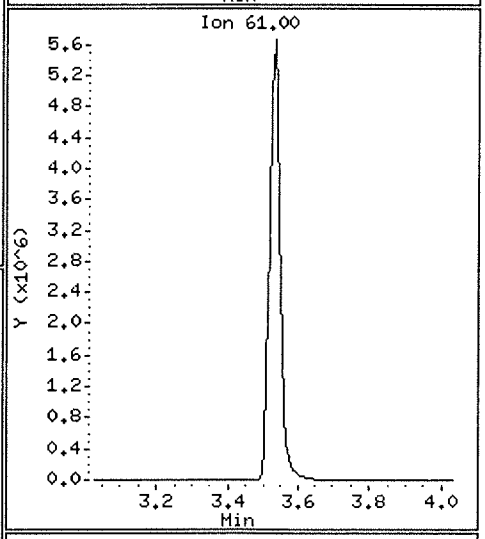


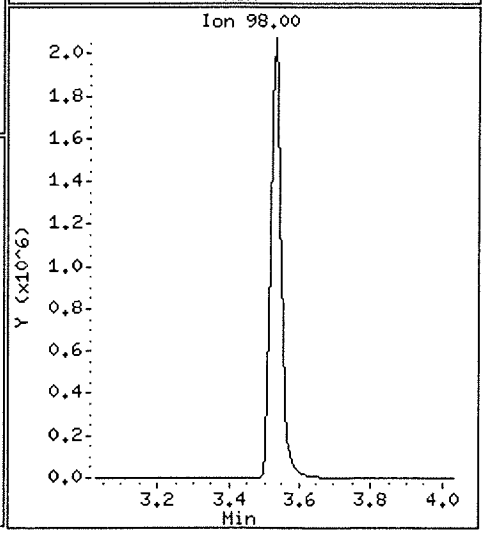












Data File: \\nahstws005\Target\chem\voa6.i\X200723.b\X072314.D

Date : 23-JUL-2020 15:45

Client ID: HS20071033-05

Instrument: voa6.i

Sample Info: HS20071033-05;HS20071033-05;;;

Purge Volume: 5.0

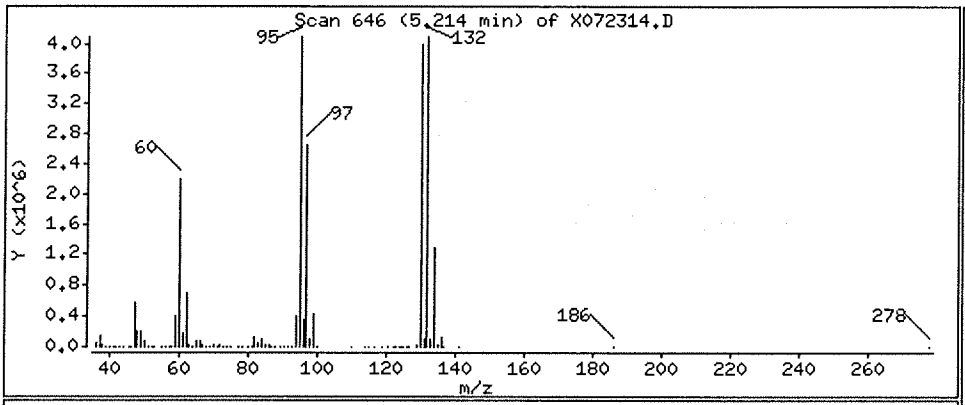
Operator: PC

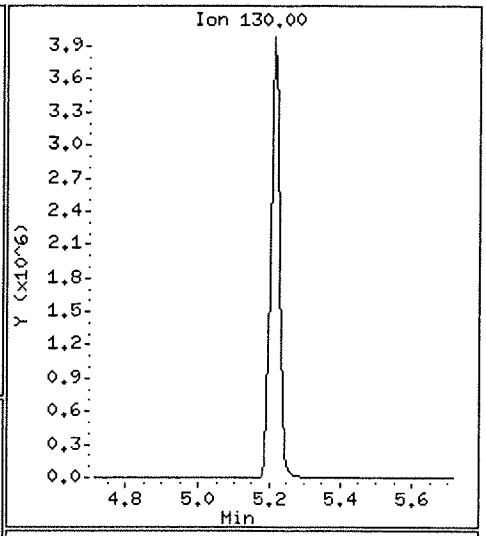
Column phase: DB624

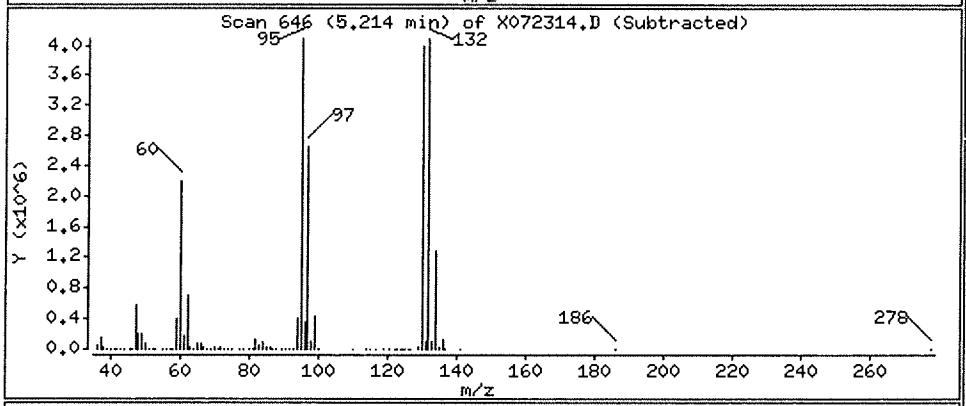
Column diameter: 0.18

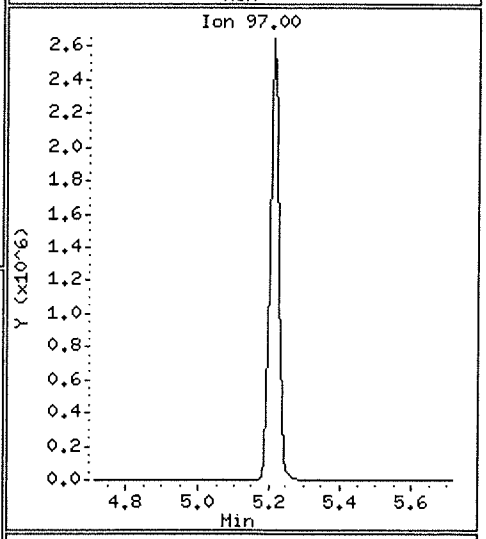
38 Trichloroethene

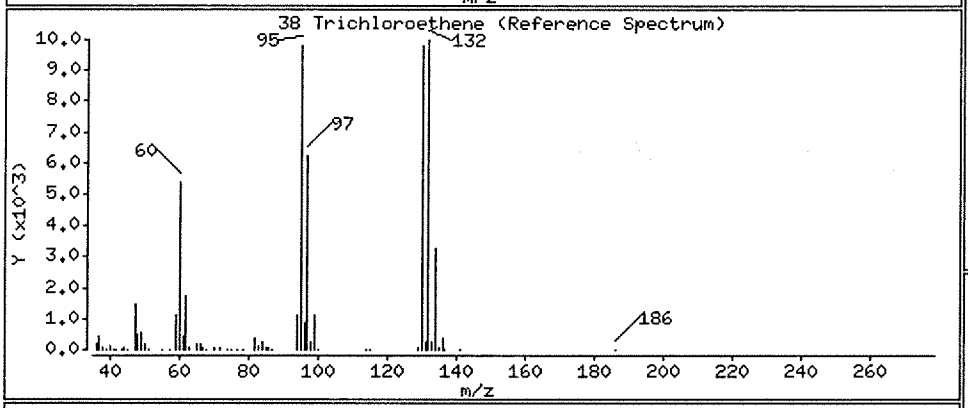
Concentration: 52591.19 ug/l

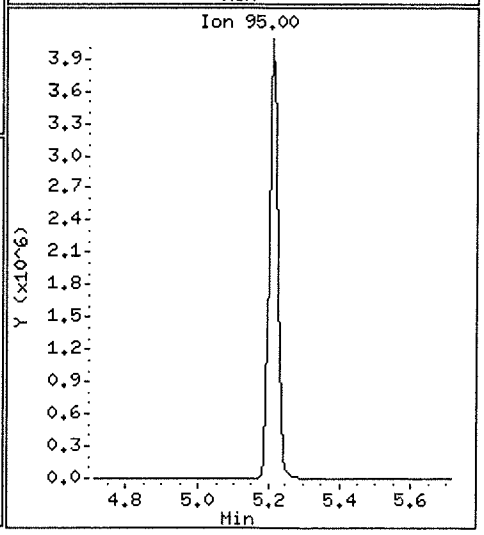


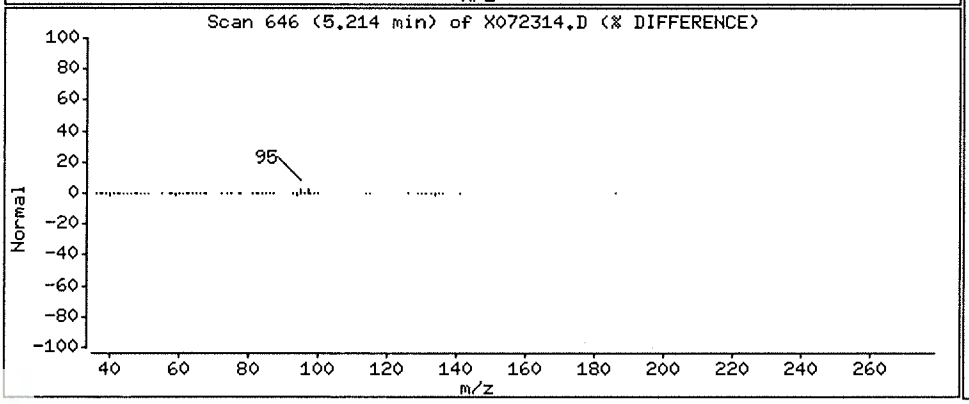












ile: \\nahstws005\Target\chem\voa6.i\X200723.b\X072314.D

: 23-JUL-2020 15:45

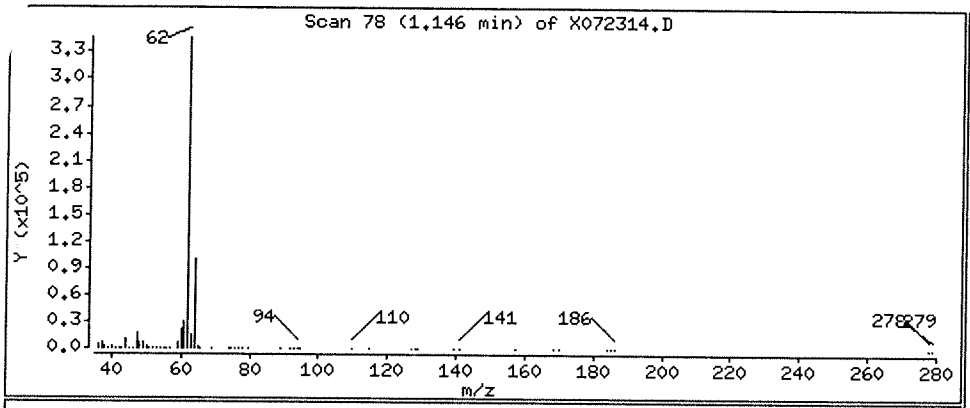
ent ID: HS20071033-05 Instrument: voa6.i

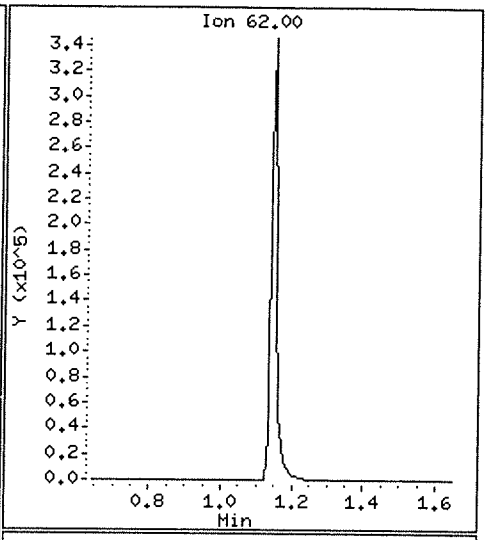
mple Info: HS20071033-05;HS20071033-05;;;

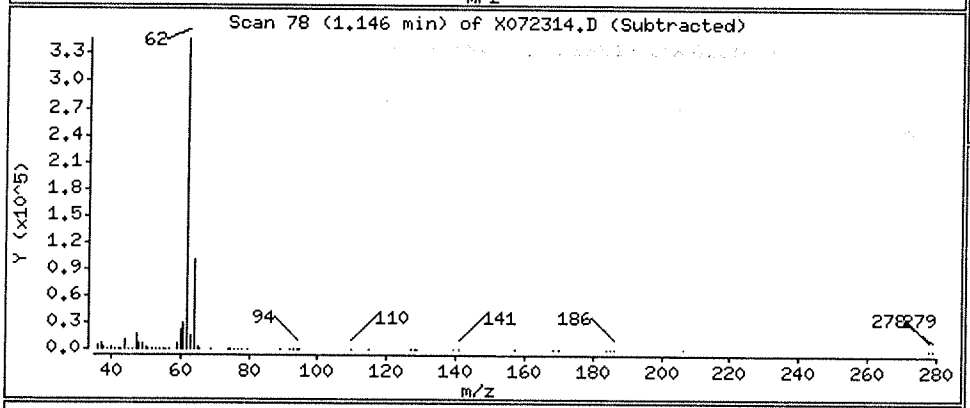
urge Volume: 5.0 Operator: PC

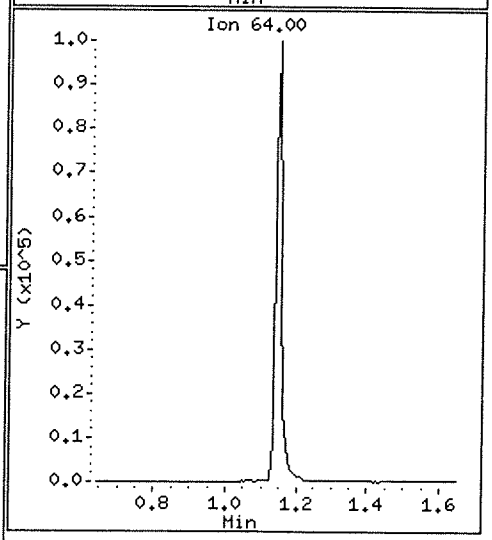
Column phase: DB624 Column diameter: 0.18

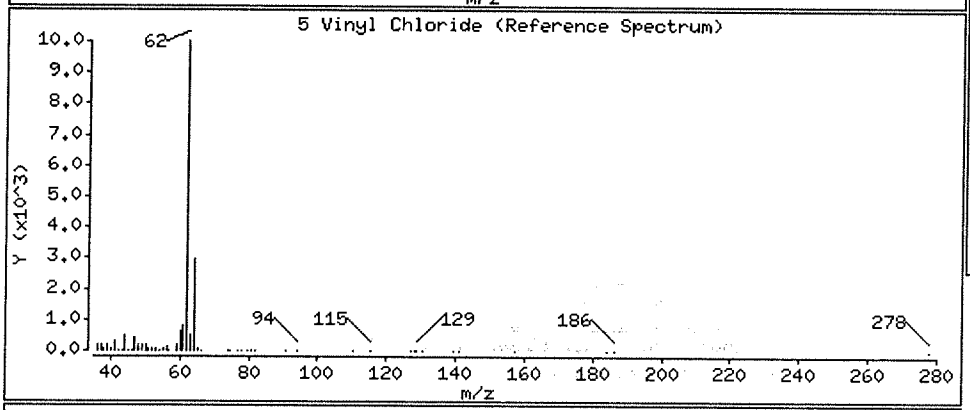
5 Vinyl Chloride Concentration: 2104.99 ug/l

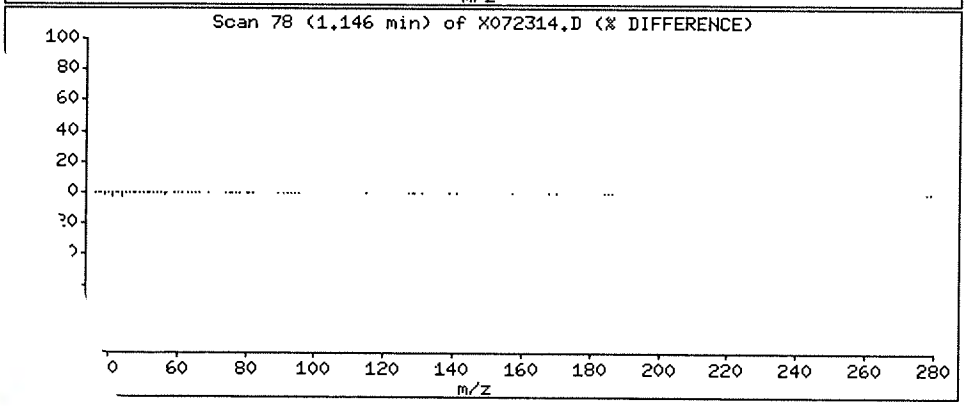












Data File: \\nahstws005\Target\chem\voa6.i\X200723.b\X072315.D Page 1
Report Date: 21-Aug-2020 18:18

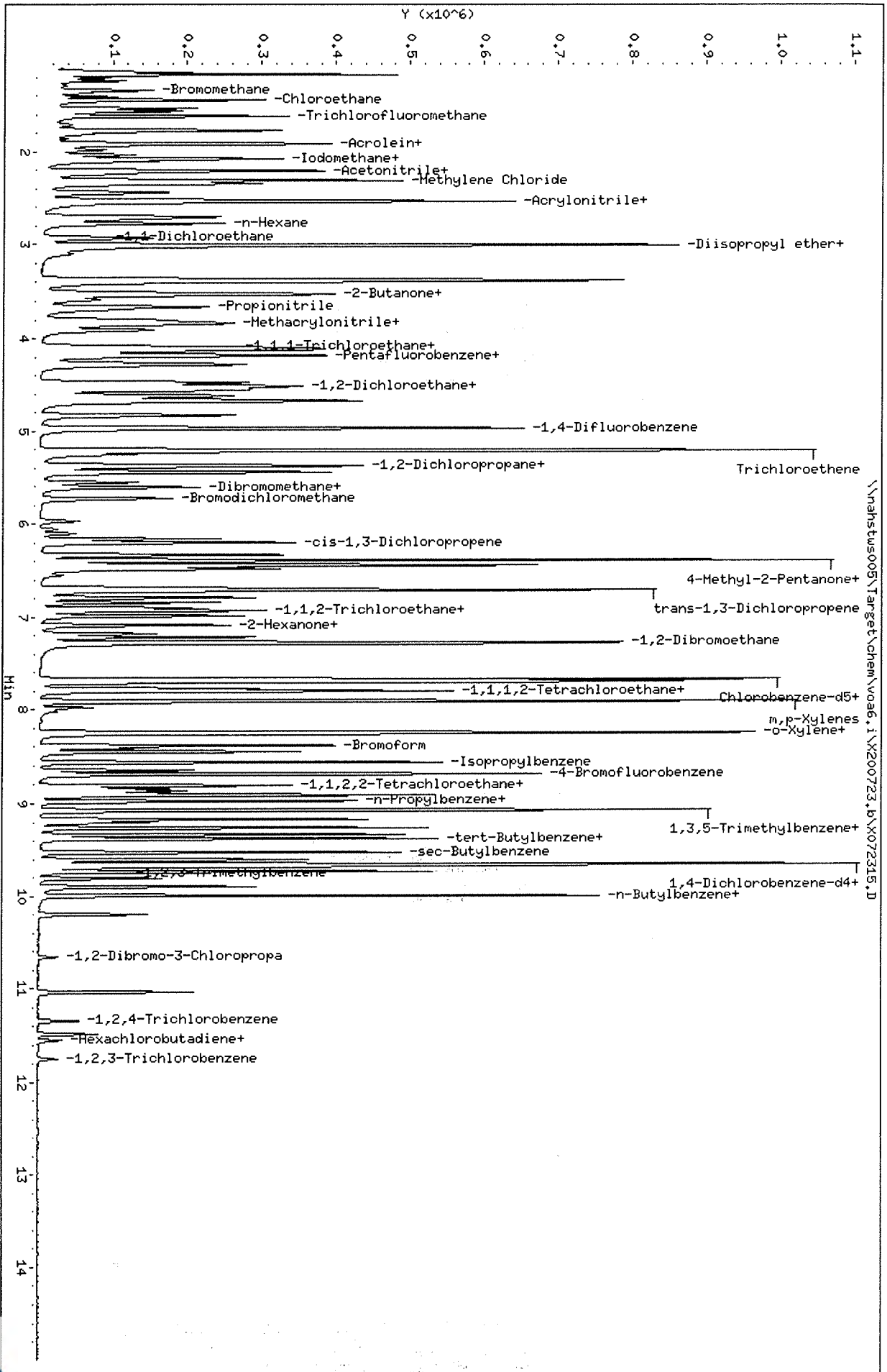
ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X200723.b\X072315.D
Lab Smp Id: HS20071033-03MS Client Smp ID: HS20071033-03MS
Inj Date : 23-JUL-2020 16:09
Operator : PC Inst ID: voa6.i
Smp Info : HS20071033-03MS;HS20071033-03MS;3;;MS
Misc Info : HS18090001;WATER;0;25;
Comment   :
Method   : \\nahstws005\Target\chem\voa6.i\X200723.b\8260W.m
Meth Date : 21-Aug-2020 18:16 dev.giga Quant Type: ISTD
Cal Date : 13-JUL-2020 13:18 Cal File: X071308.D
Als bottle: 15 QC Sample: MS
Dil Factor: 25.00000
Integrator: HP RTE Compound Sublist: CBI-Houl1.sub
Target Version: 4.14

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	4.189	4.189	(1.000)	290716	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	468724	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	406281	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.669	(1.000)	177442	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.104	(0.979)	150218	46.3645	46.36
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	199423	45.4345	45.43
$ 48 Toluene-d8	98	6.388	6.389	(0.833)	545455	51.2546	51.25
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	194246	49.4030	49.40
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	52776	21.2152	530.38
11 1,1-Dichloroethene	96	1.919	1.919	(0.458)	55306	21.7456	543.64
33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	112979	20.2565	506.41
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.843)	128191	34.3740	859.35
17 Methylene Chloride	84	2.306	2.306	(0.550)	72601	20.4359	510.89
38 Trichloroethene	130	5.207	5.214	(1.048)	318438	94.3925	2359.81
5 Vinyl Chloride	62	1.145	1.145	(0.273)	123319	25.7964	644.90



Data File: \\nahstws005\Target\chem\voa6.i\X200723.b\X072315.D
Date : 23-JUL-2020 16:09
Client ID: HS20071033-03MS
Sample Info: HS20071033-03MS;HS20071033-03MS;3;;MS
Purge Volume: 5.0
Column phase: DB624

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

Data File: \\nahstws005\Target\chem\voa6.i\X200723.b\X072316.D Page 1
Report Date: 21-Aug-2020 18:18

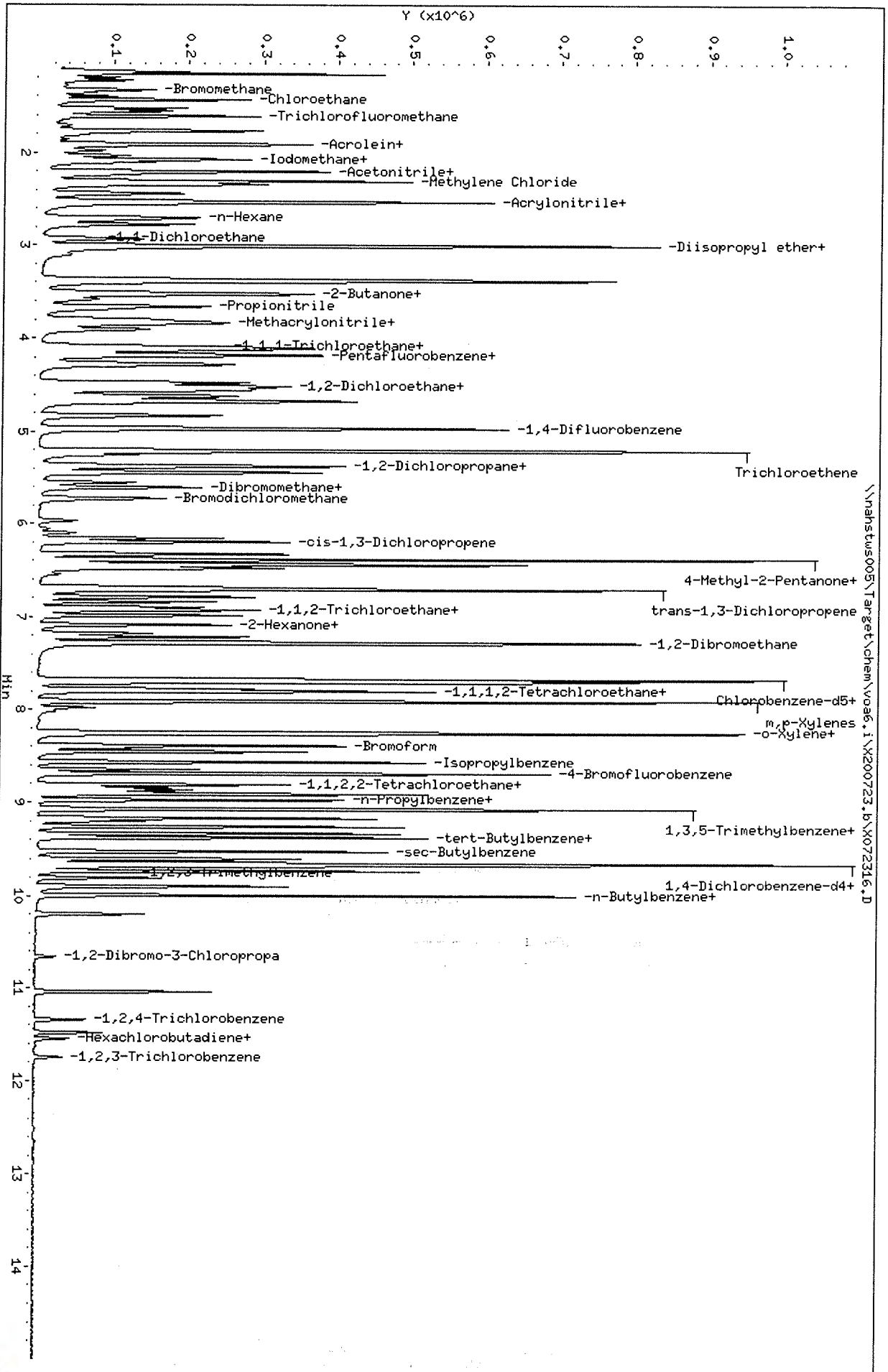
ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X200723.b\X072316.D
Lab Smp Id: HS20071033-03MSD Client Smp ID: HS20071033-03MSD
Inj Date : 23-JUL-2020 16:33
Operator : PC Inst ID: voa6.i
Smp Info : HS20071033-03MSD;HS20071033-03MSD;3;;MSD
Misc Info : HS18090001;WATER;0;25;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200723.b\8260W.m
Meth Date : 21-Aug-2020 18:16 dev.giga Quant Type: ISTD
Cal Date : 13-JUL-2020 13:18 Cal File: X071308.D
Als bottle: 15 QC Sample: MSD
Dil Factor: 25.00000
Integrator: HP RTE Compound Sublist: CBI-Houll.sub
Target Version: 4.14

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	4.189	4.189	(1.000)	292294	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	459256	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	401673	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	177829	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.104	(0.979)	148042	45.4446	45.44
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	195107	44.2204	44.22
$ 48 Toluene-d8	98	6.388	6.389	(0.833)	537542	51.0905	51.09
$ 69 4-Bromofluorobenzene	95	8.695	8.688	(1.134)	190690	49.0512	49.05
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	52005	21.1451	528.62
11 1,1-Dichloroethene	96	1.919	1.919	(0.458)	48480	18.9588	473.97
33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	113939	20.8498	521.24
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.843)	120062	32.0205	800.51
17 Methylene Chloride	84	2.305	2.306	(0.550)	73955	20.7229	518.07
38 Trichloroethene	130	5.206	5.214	(1.048)	297156	89.8999	2247.49
5 Vinyl Chloride	62	1.145	1.145	(0.273)	118717	24.6997	617.49



Data File: \\nahstws005\Target\chem\voa6.i\X200723.b\X072316.D
Date : 23-JUL-2020 16:33
Client ID: HS20071033-03HSD
Sample Info: HS20071033-03HSD;HS20071033-03HSD;3;;HSD
Purge Volume: 5.0
Column phase: DB624

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

Data File: \\nahstws005\Target\chem\voa6.i\X200723.b\X072317.D Page 1
Report Date: 21-Aug-2020 18:18

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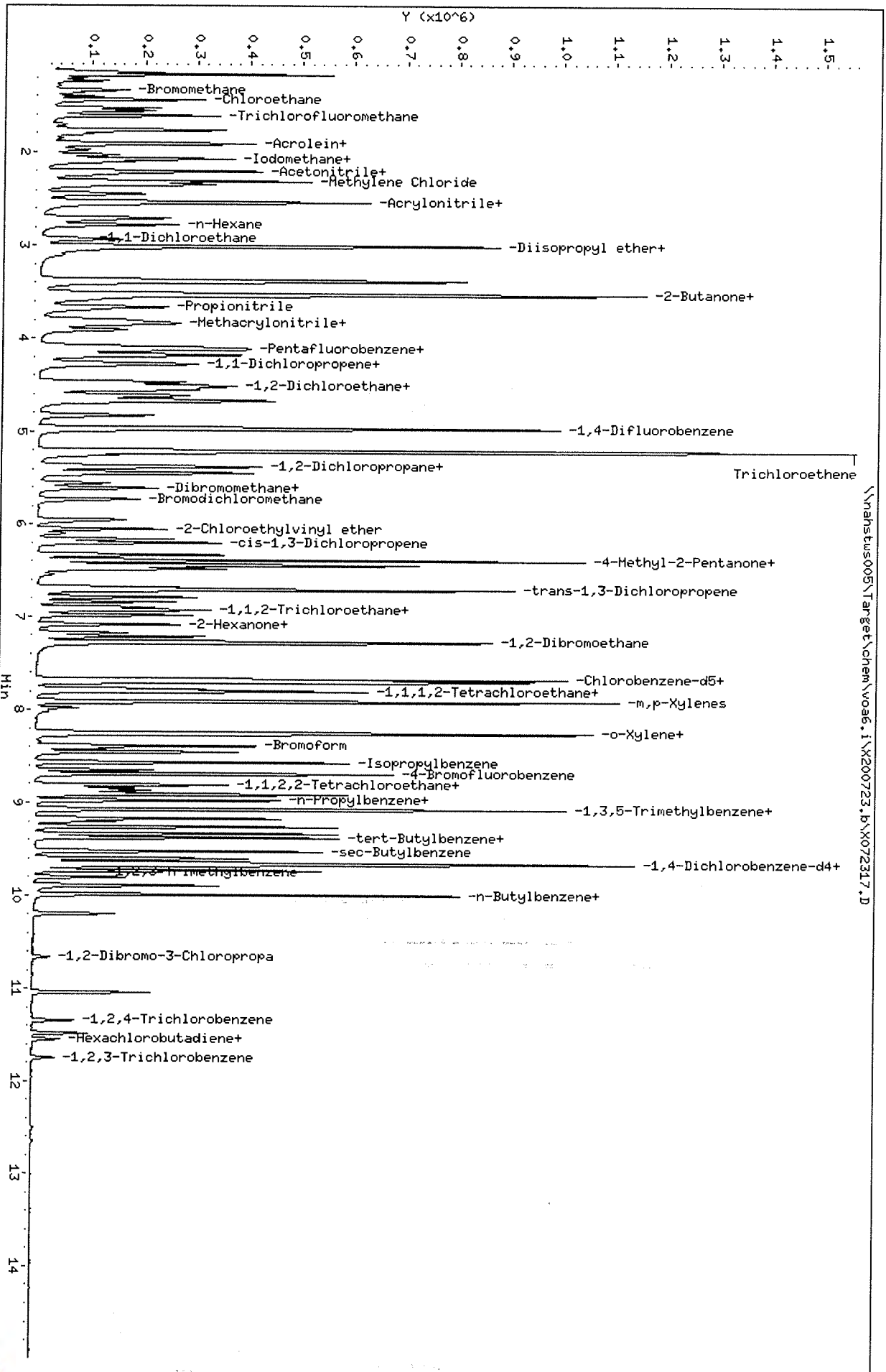
Data file : \\nahstws005\Target\chem\voa6.i\X200723.b\X072317.D
Lab Smp Id: HS20071033-05MS Client Smp ID: HS20071033-05MS
Inj Date : 23-JUL-2020 16:57
Operator : PC Inst ID: voa6.i
Smp Info : HS20071033-05MS;HS20071033-05MS;3;;MS
Misc Info : HS18090001;WATER;0;500;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200723.b\8260W.m
Meth Date : 21-Aug-2020 18:16 dev.giga Quant Type: ISTD
Cal Date : 13-JUL-2020 13:18 Cal File: X071308.D
Als bottle: 16 QC Sample: MS
Dil Factor: 500.00000
Integrator: HP RTE Compound Sublist: CBI-Hou11.sub
Target Version: 4.14

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

Name	Value	Description
DF	500.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
*	1 Pentafluorobenzene	168	4.189	4.189	(1.000)	291393	50.0000	
*	36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	462156	50.0000	
*	47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	404958	50.0000	
*	70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	184270	50.0000	
$	30 Dibromofluoromethane	113	4.103	4.104	(0.979)	149860	46.1462	46.14
$	35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	194237	44.1598	44.15
$	48 Toluene-d8	98	6.388	6.389	(0.833)	533335	50.2794	50.27
$	69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	197008	50.2786	50.27
	53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	56799	22.9070	11453.50
	11 1,1-Dichloroethene	96	1.919	1.919	(0.458)	61426	24.0958	12047.91
	33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	126366	22.9788	11489.37
	27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.843)	451818	120.872	60436.09
	17 Methylene Chloride	84	2.306	2.306	(0.550)	80014	22.6079	11303.95
	38 Trichloroethene	130	5.207	5.214	(1.048)	478340	143.806	71903.11
	5 Vinyl Chloride	62	1.145	1.145	(0.273)	142508	29.7412	14870.58



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Client ID: HS20071033-05MS
Sample Info: HS20071033-05MS;HS20071033-05MS;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\X200723.b\X072318.D Page 1
Report Date: 21-Aug-2020 18:18

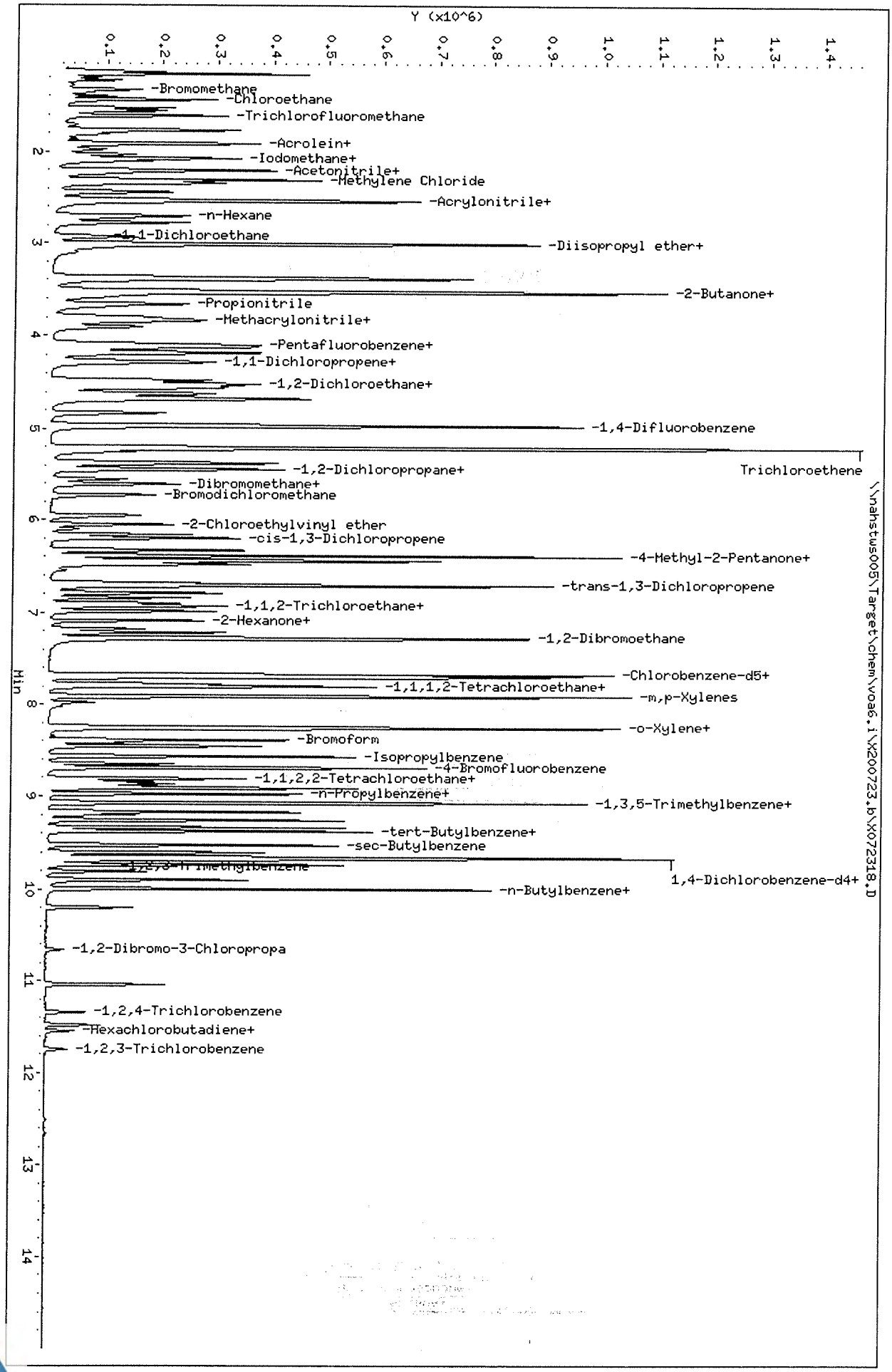
ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X200723.b\X072318.D
Lab Smp Id: HS20071033-05MSD Client Smp ID: HS20071033-05MSD
Inj Date : 23-JUL-2020 17:21
Operator : PC Inst ID: voa6.i
Smp Info : HS20071033-05MSD;HS20071033-05MSD;3;;MSD
Misc Info : HS18090001;WATER;0;500;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200723.b\8260W.m
Meth Date : 21-Aug-2020 18:16 dev.giga Quant Type: ISTD
Cal Date : 13-JUL-2020 13:18 Cal File: X071308.D
Als bottle: 16 QC Sample: MSD
Dil Factor: 500.00000
Integrator: HP RTE Compound Sublist: CBI-Hou11.sub
Target Version: 4.14

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

Name	Value	Description
DF	500.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	275712	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	419166	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	406637	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.669	(1.000)	179401	50.0000	
$ 30 Dibromofluoromethane	113	4.104	4.104	(0.979)	143882	46.8264	46.82
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	201835	48.4637	48.46
$ 48 Toluene-d8	98	6.389	6.389	(0.833)	526270	49.4085	49.40
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	192513	48.9142	48.91
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	57550	23.1141	11557.02
11 1,1-Dichloroethene	96	1.919	1.919	(0.458)	56422	23.3917	11695.84
33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	125193	25.1003	12550.14
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.843)	430630	121.756	60878.03
17 Methylene Chloride	84	2.306	2.306	(0.550)	78252	23.4140	11707.01
38 Trichloroethene	130	5.207	5.214	(1.048)	438896	145.481	72740.31
5 Vinyl Chloride	62	1.145	1.145	(0.273)	121213	26.7357	13367.84



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Date : 23-JUL-2020 17:21
Client ID: HS20071033-05MSD
Sample Info: HS20071033-05MSD;HS20071033-05MSD;3;;MSD
Purge Volume: 5.0
Column phase: DB624

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

Data File: \\nahstws005\Target\chem\voa6.i\X200723.b\X072320.D Page 1
Report Date: 21-Aug-2020 18:18

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X200723.b\X072320.D
Lab Smp Id: HS20071033-04 Client Smp ID: HS20071033-04
Inj Date : 23-JUL-2020 18:09
Operator : PC Inst ID: voa6.i
Smp Info : HS20071033-04;HS20071033-04;;;
Misc Info : HS18090001;WATER;0;5;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200723.b\8260W.m
Meth Date : 21-Aug-2020 18:16 dev.giga Quant Type: ISTD
Cal Date : 13-JUL-2020 13:18 Cal File: X071308.D
Als bottle: 18
Dil Factor: 5.00000
Integrator: HP RTE Compound Sublist: CBI-Hou11.sub
Target Version: 4.14

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

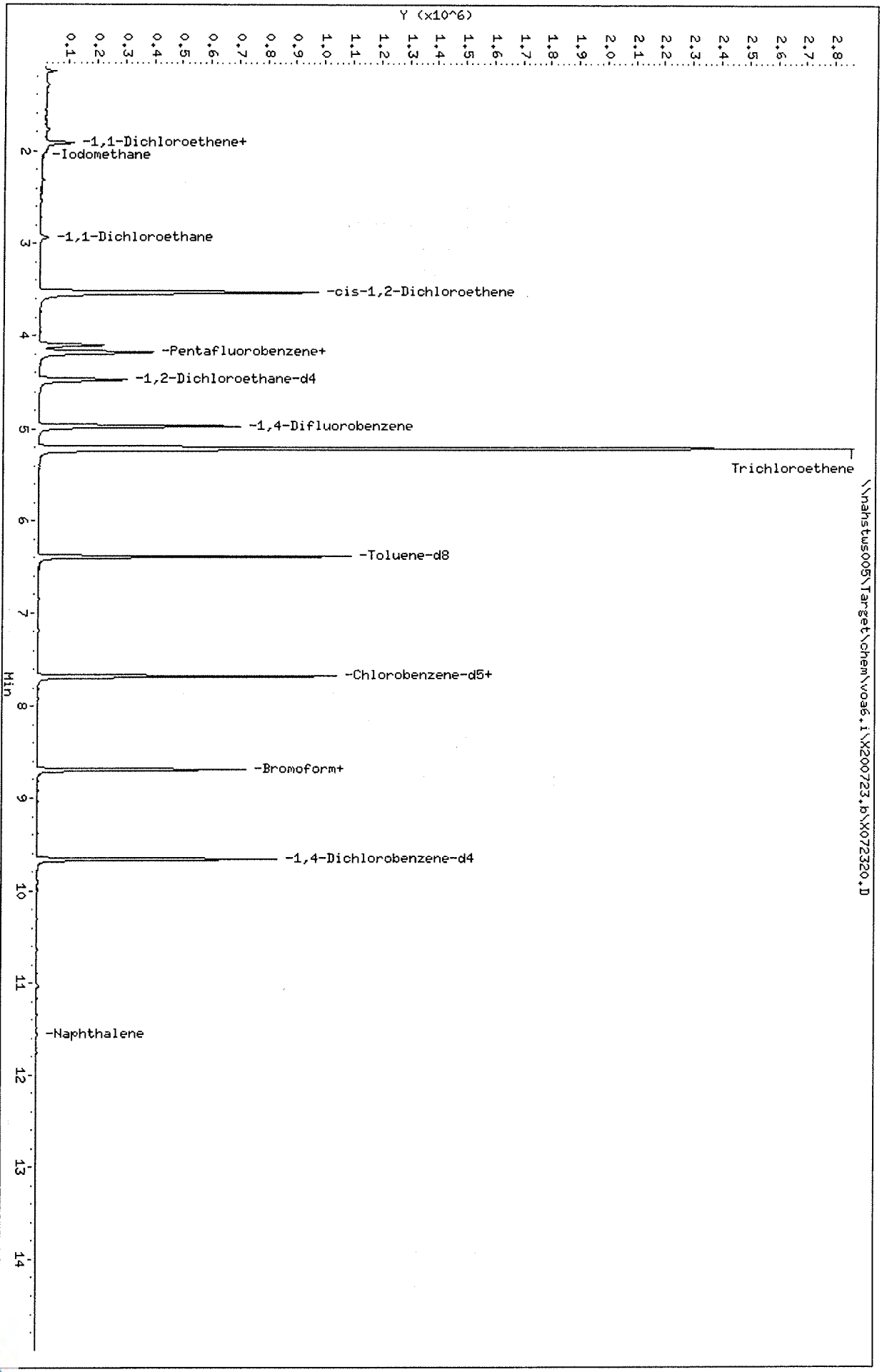
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	313348	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	498315	50.0000	
* 47 Chlorobenzene-d5	117	7.670	7.671	(1.000)	432151	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	191000	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.104	(0.979)	160285	45.8977	45.89
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	219760	46.4441	46.44
$ 48 Toluene-d8	98	6.388	6.389	(0.833)	568976	50.2642	50.26
$ 69 4-Bromofluorobenzene	95	8.695	8.688	(1.134)	207715	49.6690	49.66
11 1,1-Dichloroethene	96	1.919	1.919	(0.458)	16394	5.98035	29.90
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.843)	416614	103.645	518.22
38 Trichloroethene	130	5.206	5.214	(1.048)	882213	245.980	1229.89(A)
5 Vinyl Chloride	62	1.145	1.145	(0.273)	23527	4.56602	22.83

QC Flag Legend

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

Data File: \\nahstws005\Target\chem\voa6.i\X200723.b\X072320.D
Date : 23-JUL-2020 18:09
Client ID: HS200710J3-04
Sample Info: HS200710J3-04;HS200710J3-04;;;
Purge Volume: 5.0
Column phase: DB624

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



Data File: \\nahstws005\Target\chem\voa6.i\X200723.b\X072320.D

Date : 23-JUL-2020 18:09

Client ID: HS20071033-04

Instrument: voa6.i

Sample Info: HS20071033-04;HS20071033-04;;;

Purge Volume: 5.0

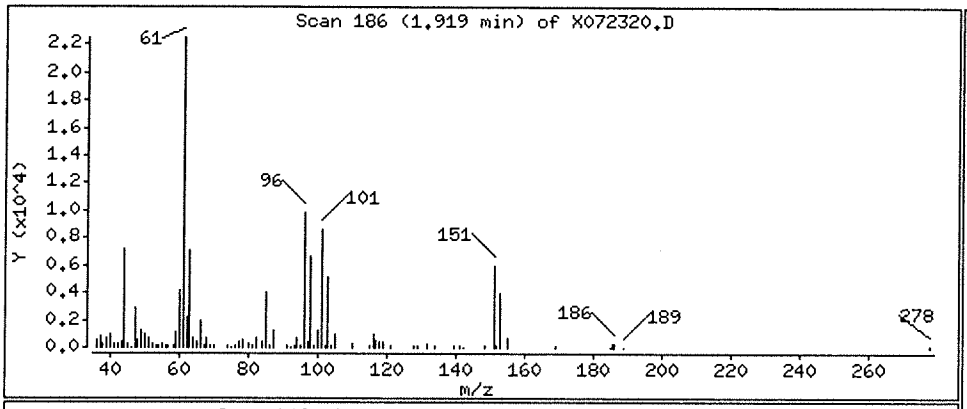
Operator: PC

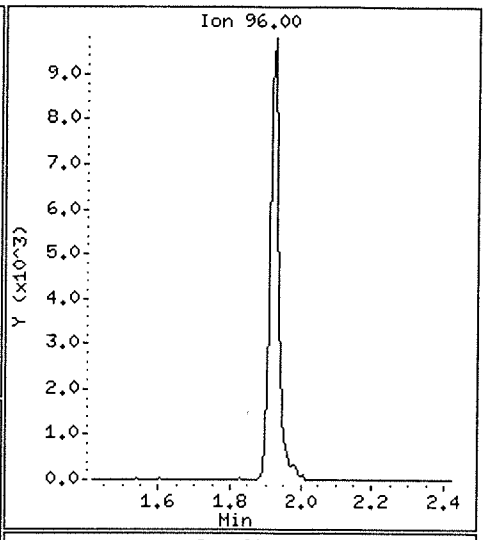
Column phase: DB624

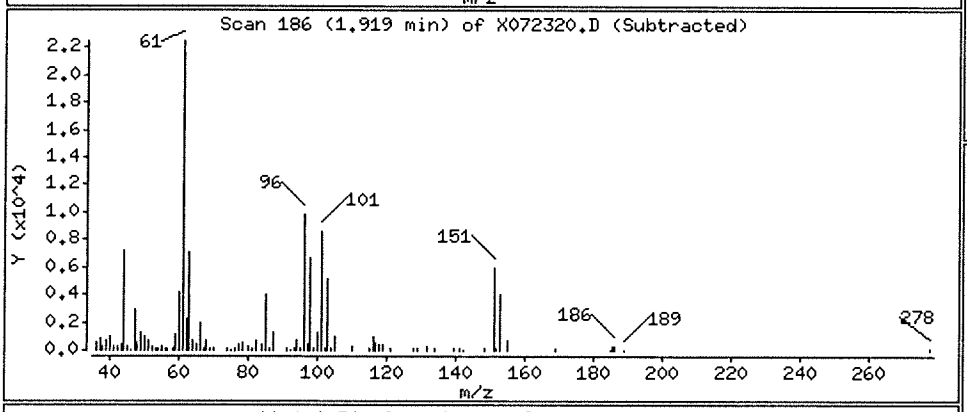
Column diameter: 0.18

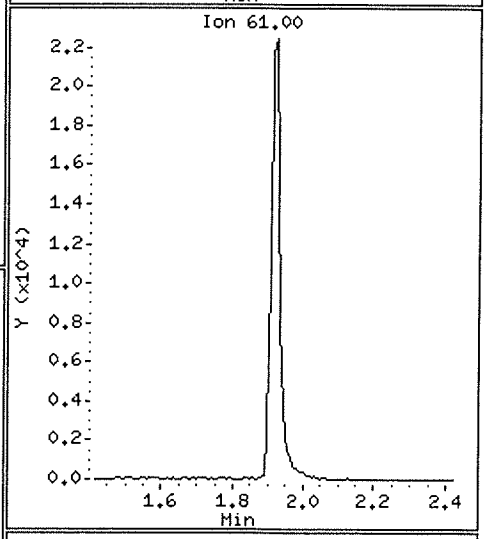
11 1,1-Dichloroethene

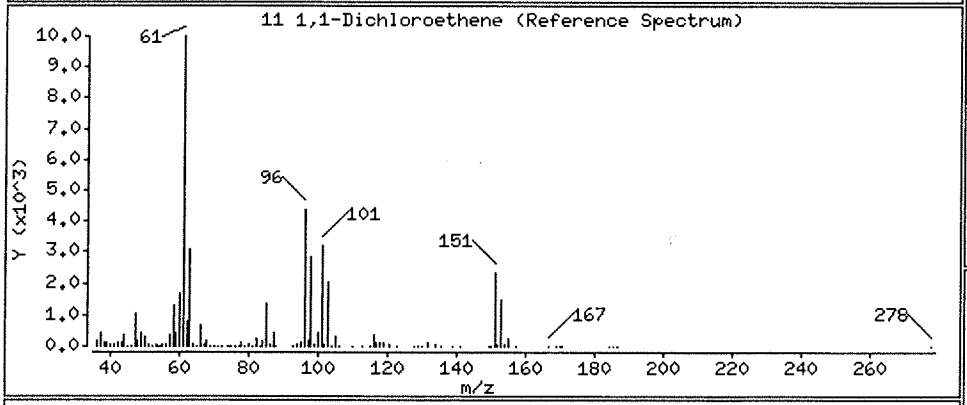
Concentration: 29.90 ug/l

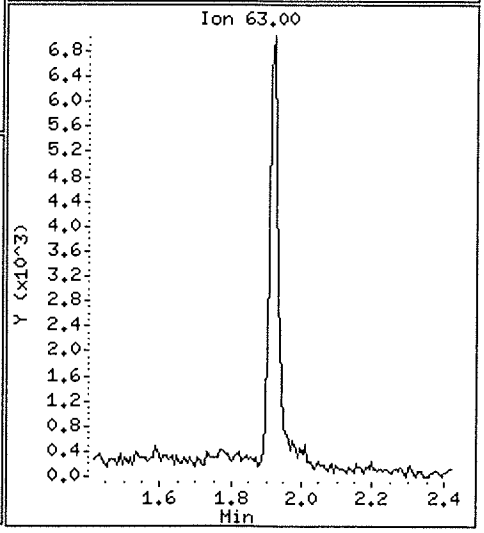


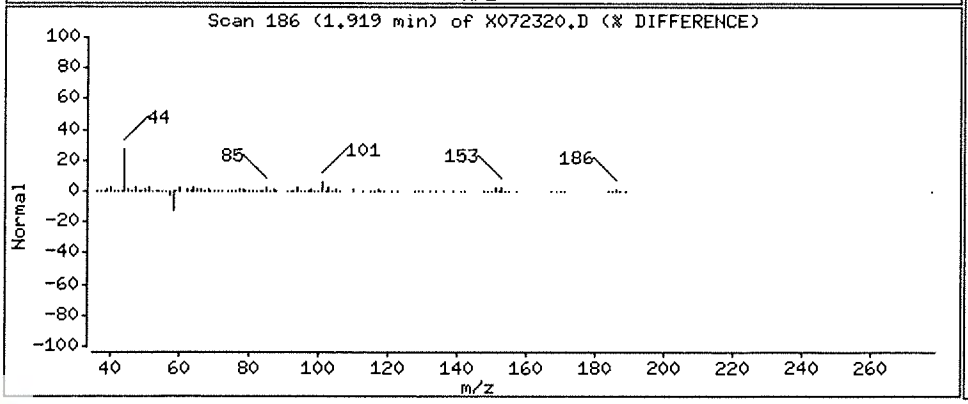












Data File: \\nahstws005\Target\chem\voa6.i\X200723.b\X072320.D

Date : 23-JUL-2020 18:09

Client ID: HS20071033-04

Instrument: voa6.i

Sample Info: HS20071033-04;HS20071033-04;;;

Purge Volume: 5.0

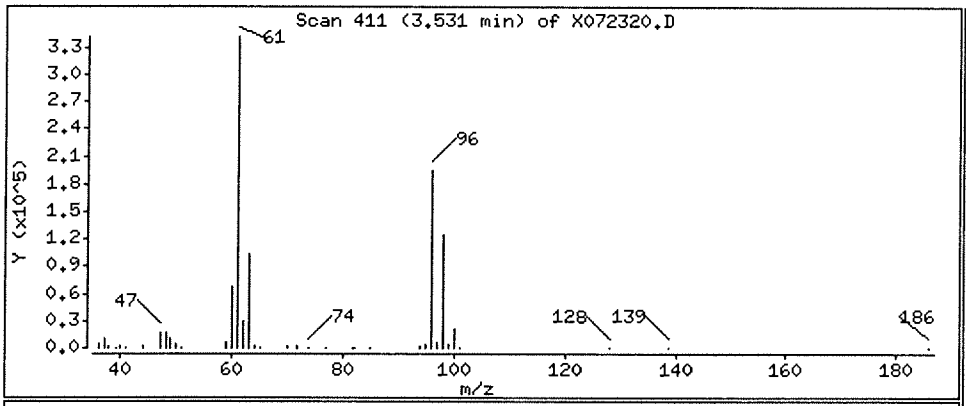
Operator: PC

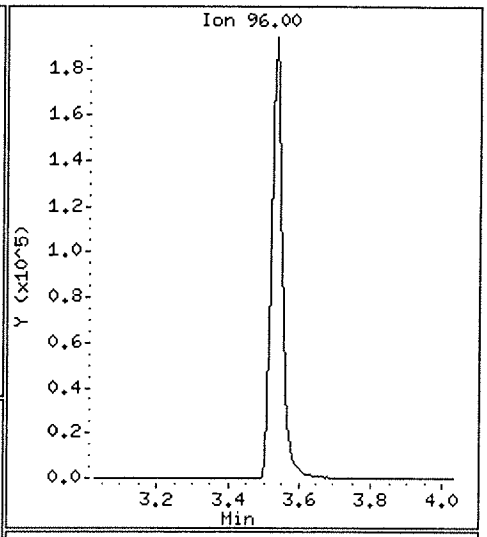
Column phase: DB624

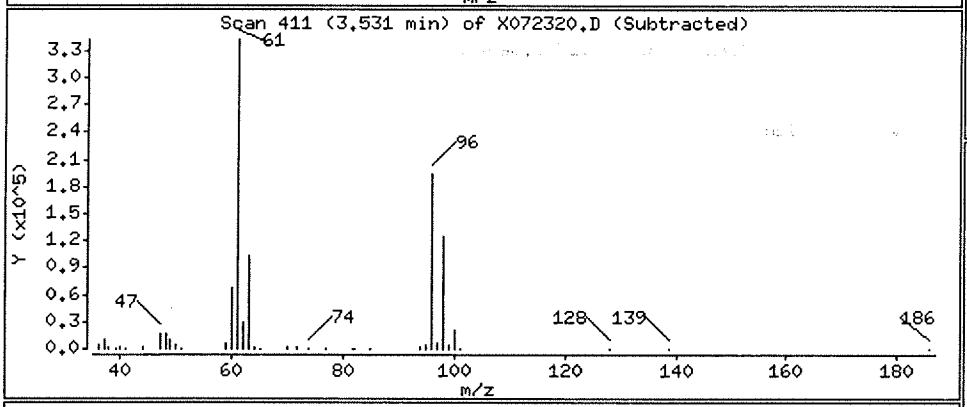
Column diameter: 0.18

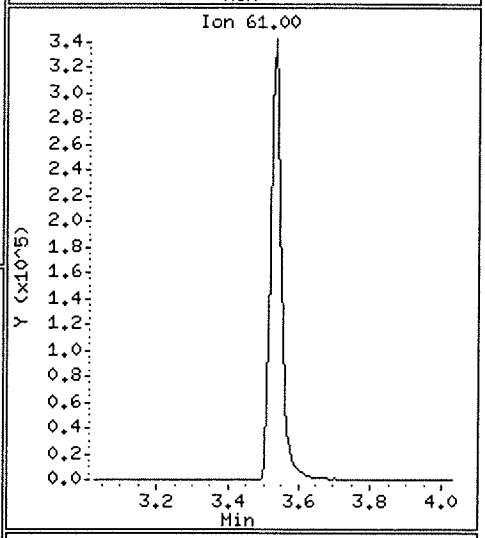
27 cis-1,2-Dichloroethene

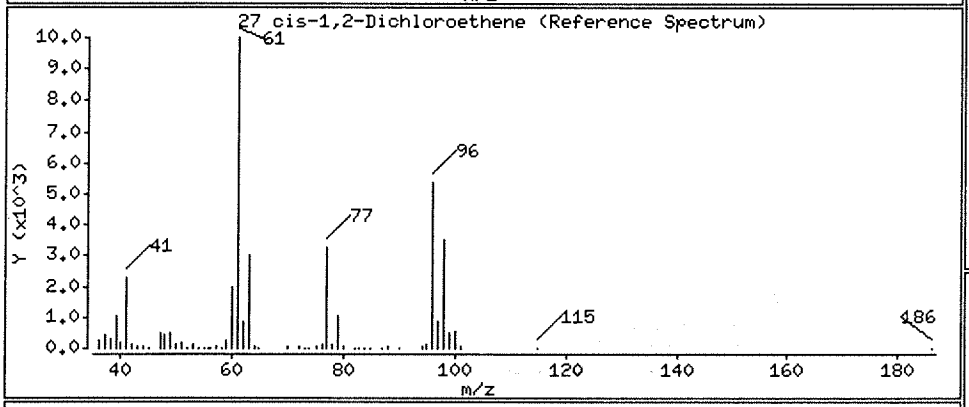
Concentration: 518.22 ug/l

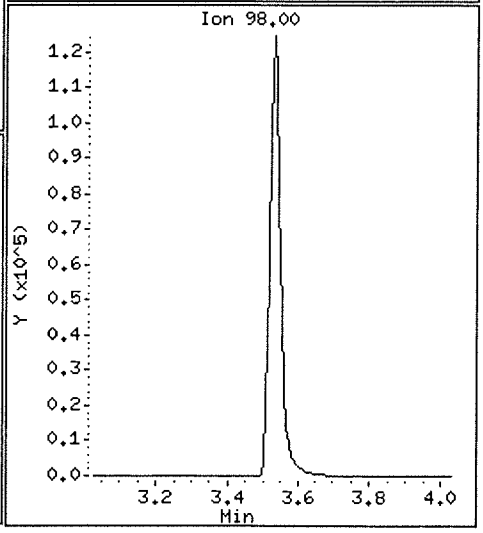


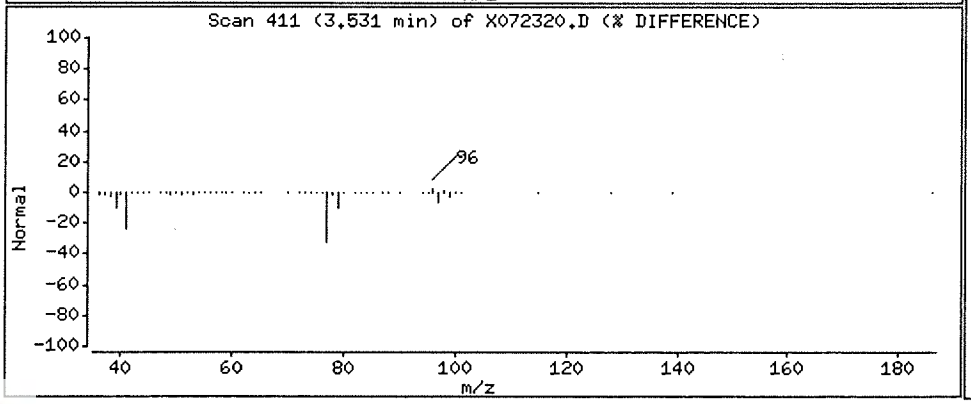












Data File: \\nahstws005\Target\chem\voa6.i\X200723.b\X072320.D

Date : 23-JUL-2020 18:09

Client ID: HS20071033-04

Instrument: voa6.i

Sample Info: HS20071033-04;HS20071033-04;;;

Purge Volume: 5.0

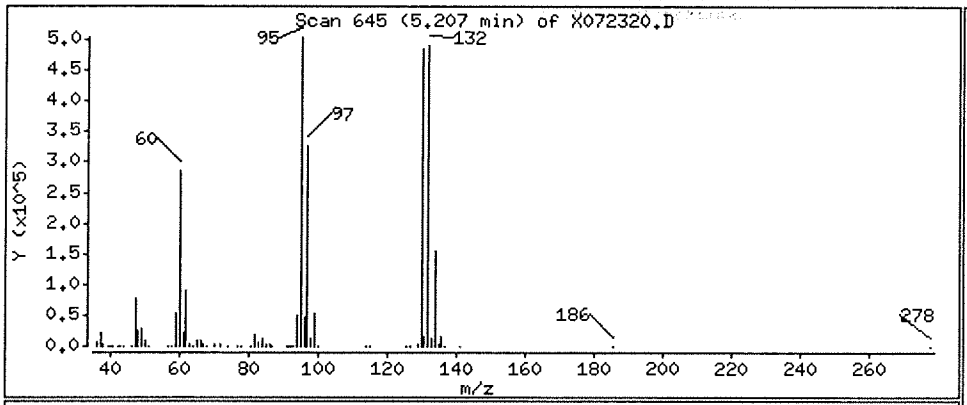
Operator: PC

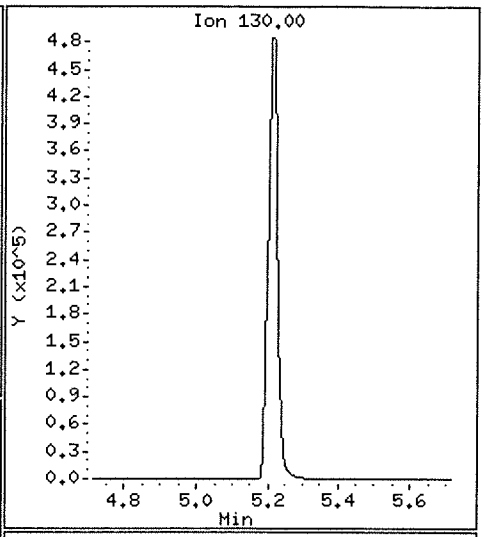
Column phase: DB624

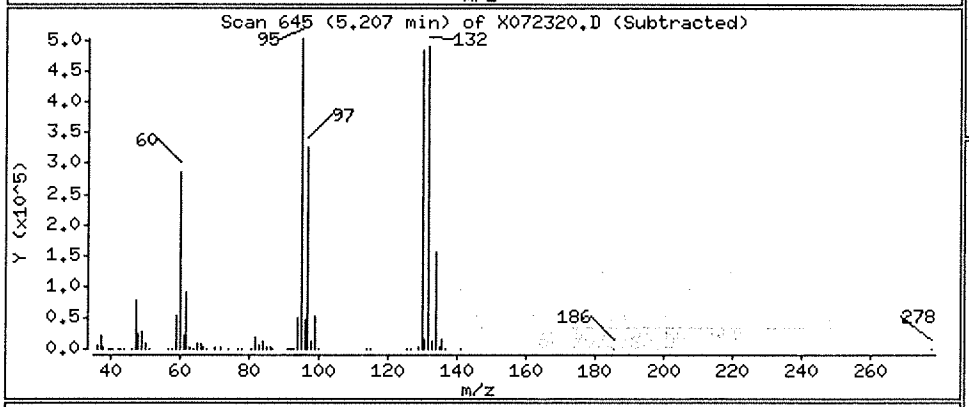
Column diameter: 0.18

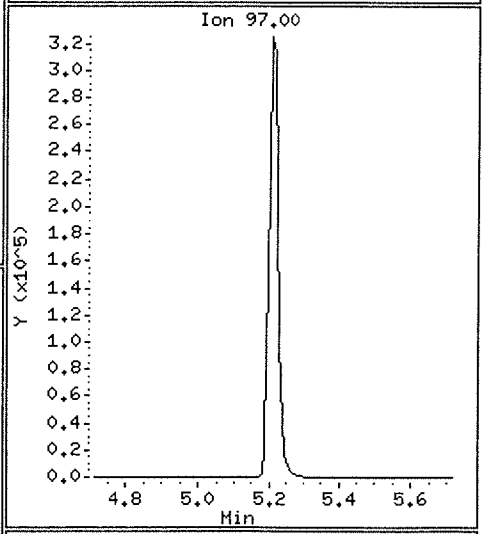
38 Trichloroethene

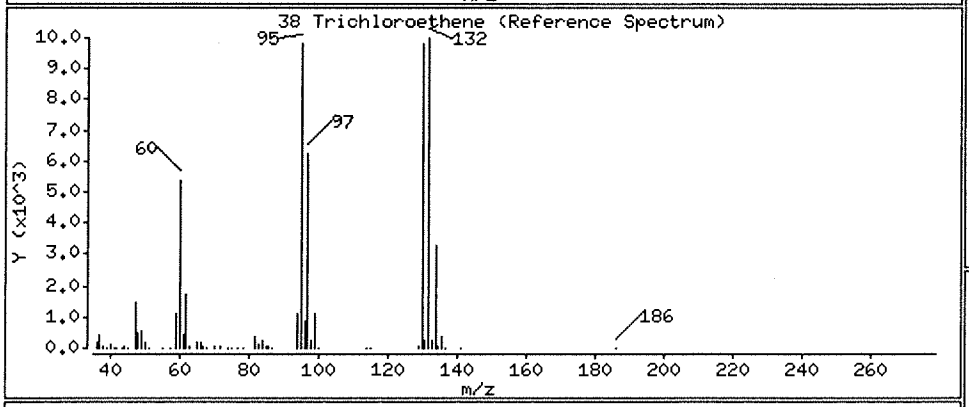
Concentration: 1229.89 ug/l

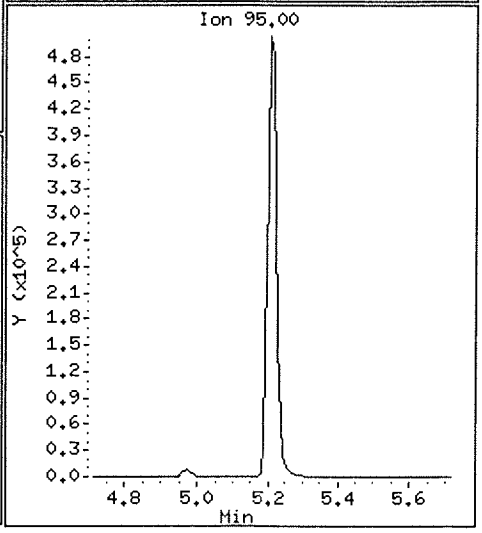


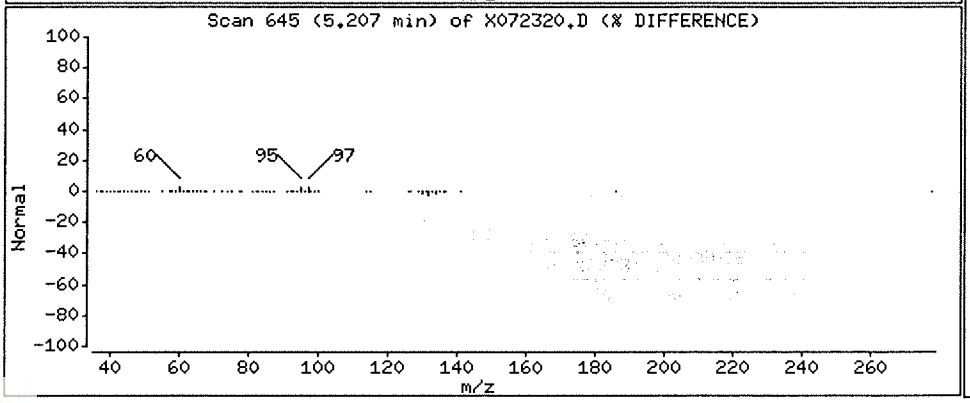












Data File: \\nahstws005\Target\chem\voa6.i\X200723.b\X072320.D

Date : 23-JUL-2020 18:09

Client ID: HS20071033-04

Instrument: voa6.i

Sample Info: HS20071033-04;HS20071033-04;;;

Purge Volume: 5.0

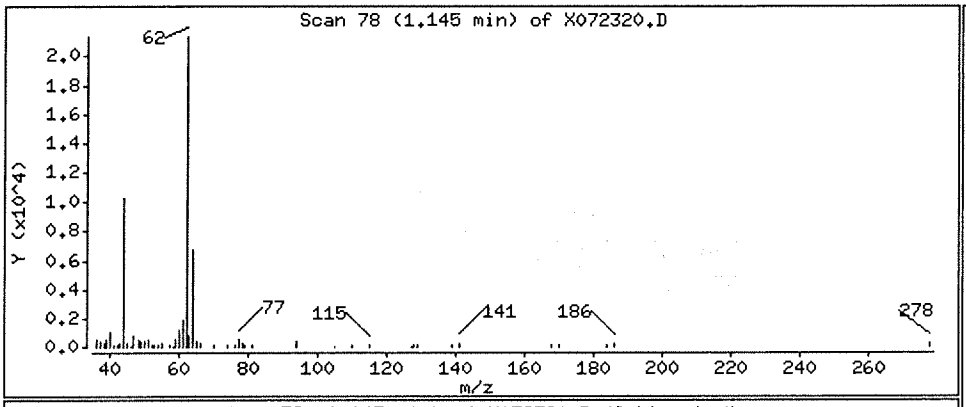
Operator: PC

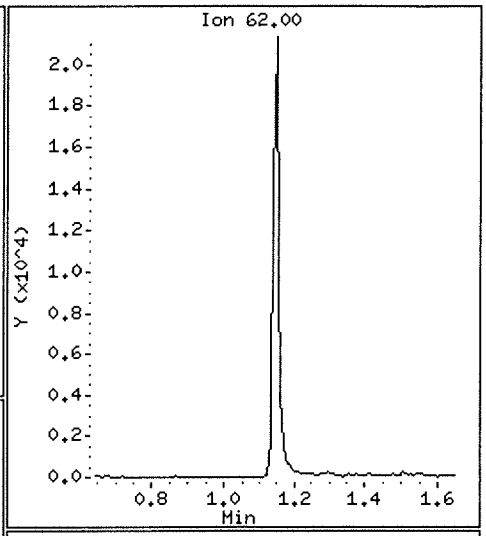
Column phase: DB624

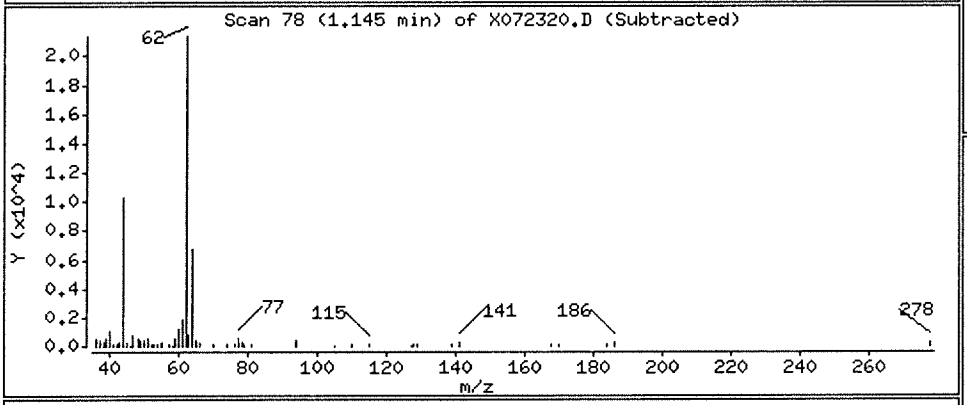
Column diameter: 0.18

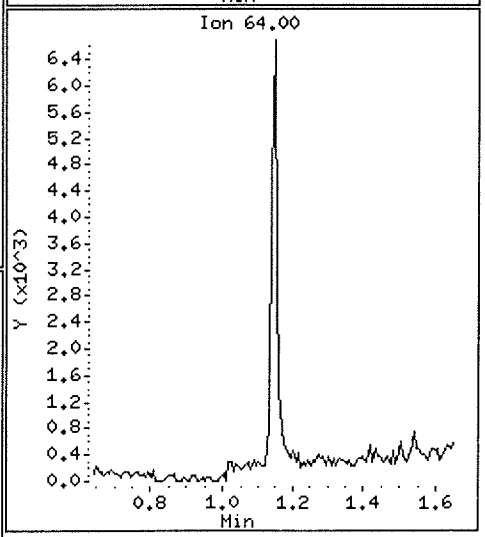
5 Vinyl Chloride

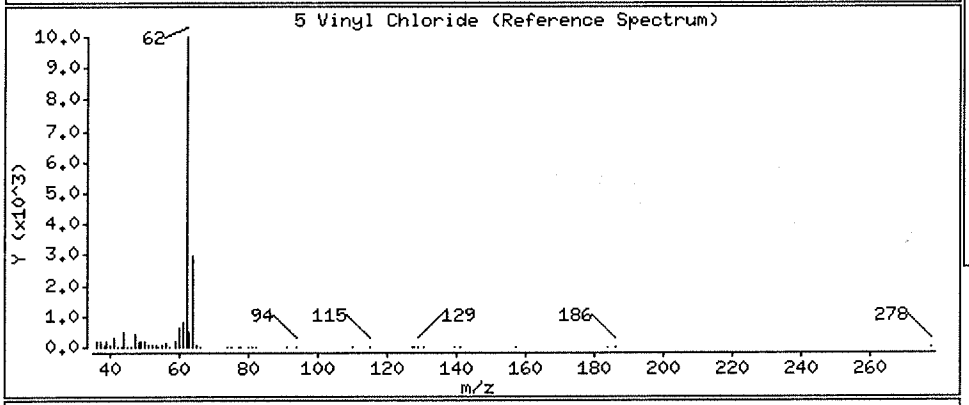
Concentration: 22.83 ug/l

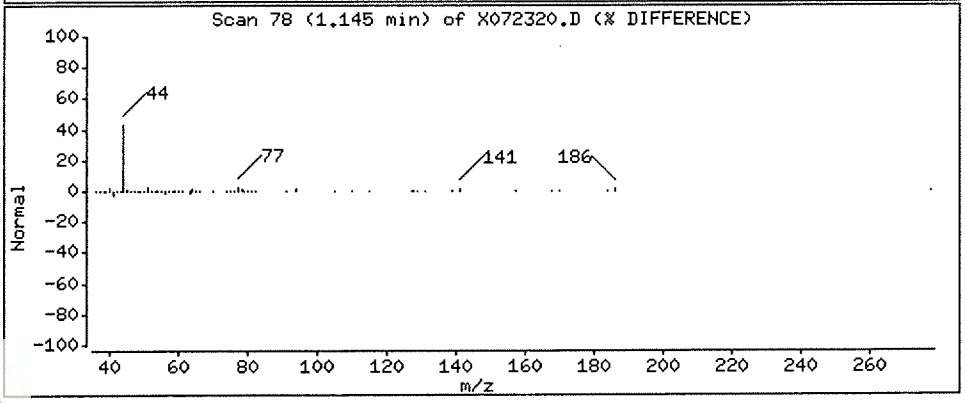












Data File: \\nahstws005\Target\chem\voa6.i\X200723.b\X072321.D Page 1
Report Date: 21-Aug-2020 18:18

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X200723.b\X072321.D
Lab Smp Id: HS20071033-04 Client Smp ID: HS20071033-04
Inj Date : 23-JUL-2020 18:33
Operator : PC Inst ID: voa6.i
Smp Info : HS20071033-04;HS20071033-04;;;
Misc Info : HS18090001;WATER;0;25;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200723.b\8260W.m
Meth Date : 21-Aug-2020 18:16 dev.giga Quant Type: ISTD
Cal Date : 13-JUL-2020 13:18 Cal File: X071308.D
Als bottle: 19
Dil Factor: 25.00000
Integrator: HP RTE Compound Sublist: CBI-Hou11.sub
Target Version: 4.14

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

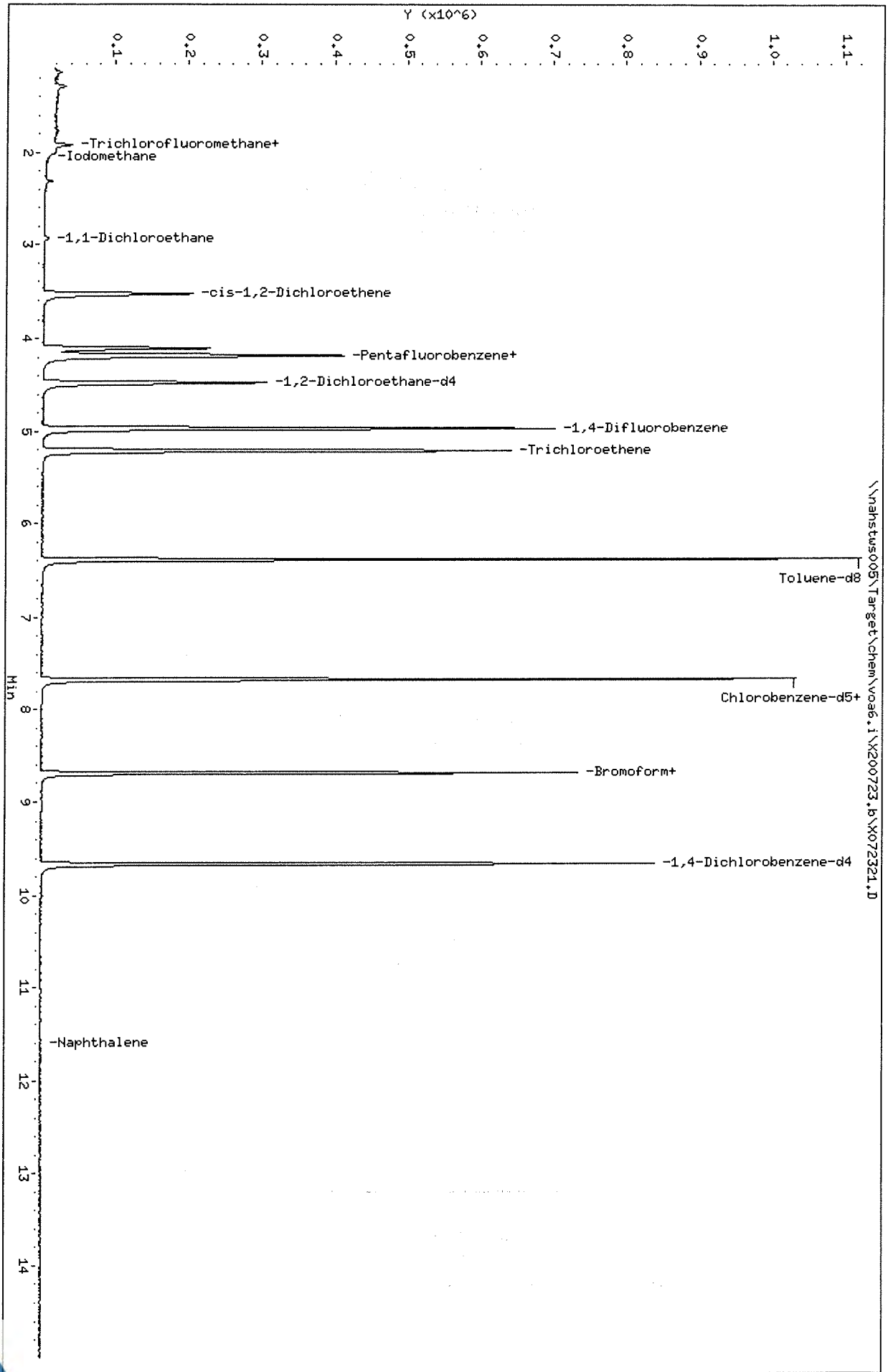
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	317342	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	509951	50.0000	
* 47 Chlorobenzene-d5	117	7.670	7.671	(1.000)	437881	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	193245	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.104	(0.979)	162957	46.0759	46.07
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	217780	45.4536	45.45
$ 48 Toluene-d8	98	6.388	6.389	(0.833)	584025	50.9185	50.91
$ 69 4-Bromofluorobenzene	95	8.695	8.688	(1.134)	213764	50.4550	50.45
11 1,1-Dichloroethene	96	1.919	1.919	(0.458)	3407	1.22719	30.67(a)
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.843)	91937	22.5842	564.60
38 Trichloroethene	130	5.214	5.214	(1.049)	201233	54.8277	1370.69
5 Vinyl Chloride	62	1.145	1.145	(0.273)	5051	0.96794	24.19

QC Flag Legend

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

Data File: \\nahstws005\Target\chem\voa6.i\X200723.b\X072321.D
Date : 23-JUL-2020 18:33
Client ID: HS20071033-04
Sample Info: HS20071033-04;HS20071033-04;;;
Purge Volume: 5.0
Column phase: DB624

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



Data File: \\nahstws005\Target\chem\voa6.i\X200723.b\X072321.D

Date : 23-JUL-2020 18:33

Client ID: HS20071033-04

Instrument: voa6.i

Sample Info: HS20071033-04;HS20071033-04;;;

Purge Volume: 5.0

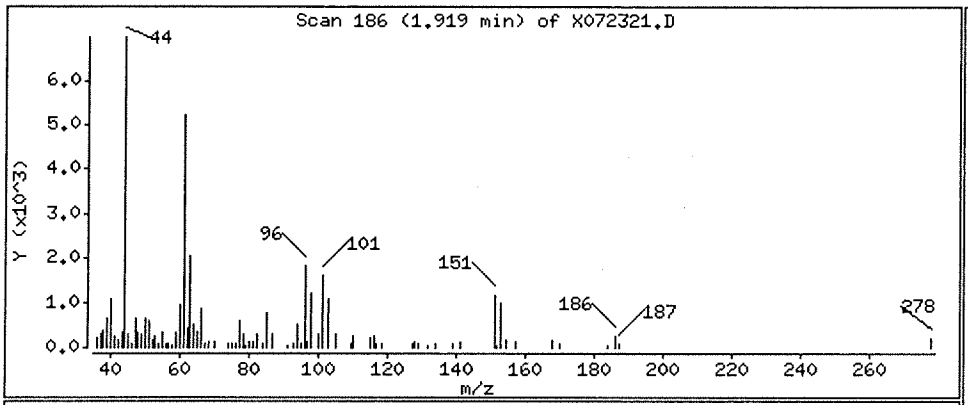
Operator: PC

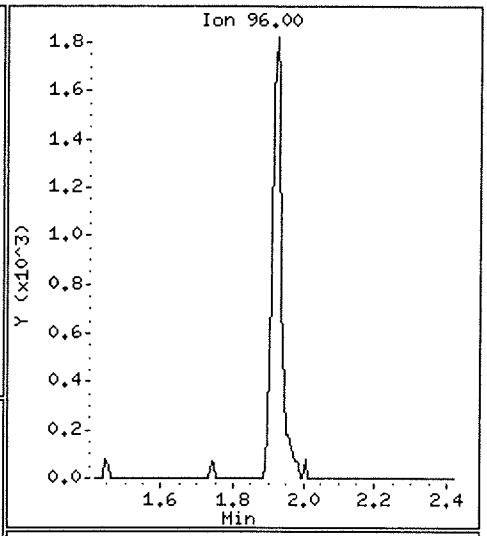
Column phase: DB624

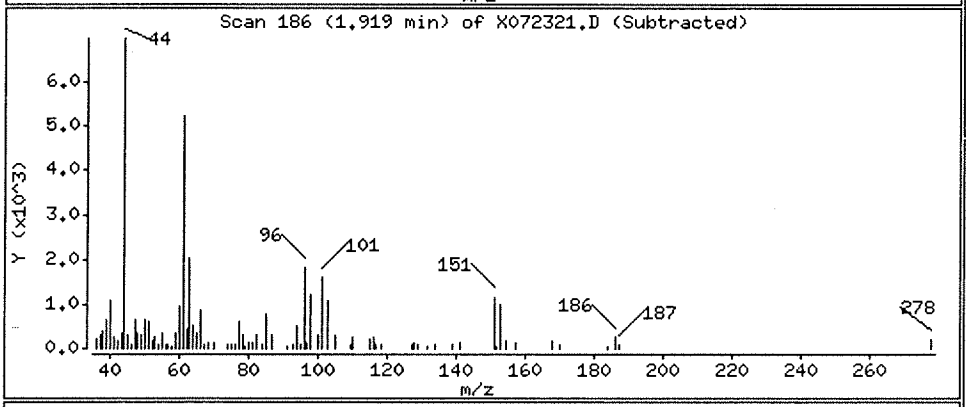
Column diameter: 0.18

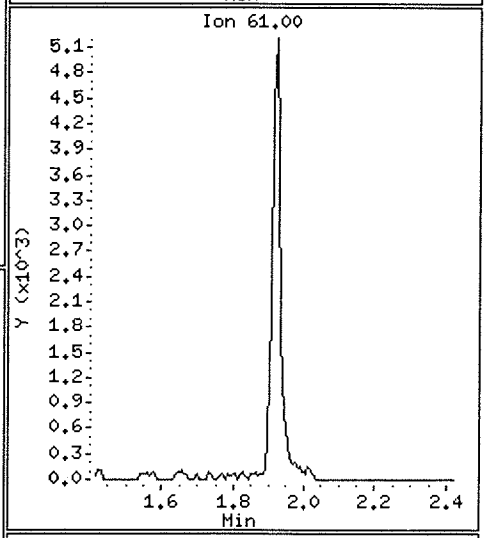
11 1,1-Dichloroethene

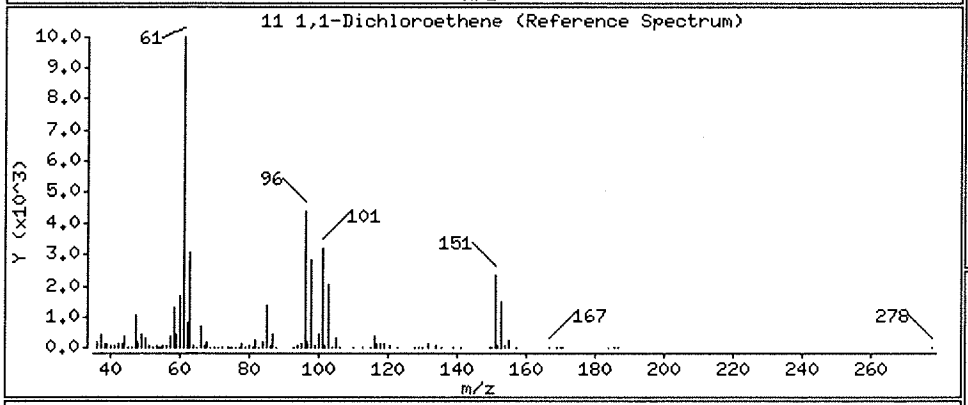
Concentration: 30.67 ug/l

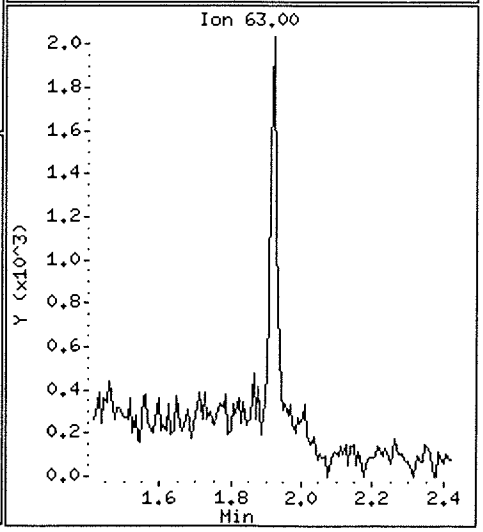


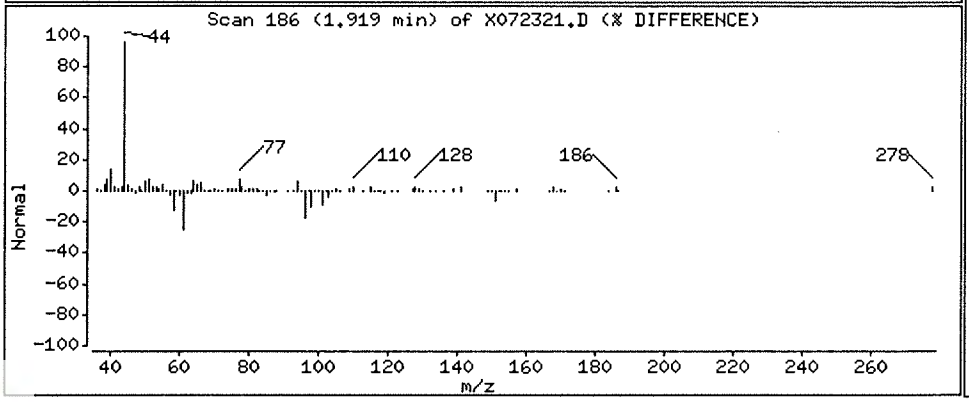












Data File: \\nahstws005\Target\chem\voa6.i\X200723.b\X072321.D Page 4

Date : 23-JUL-2020 18:33

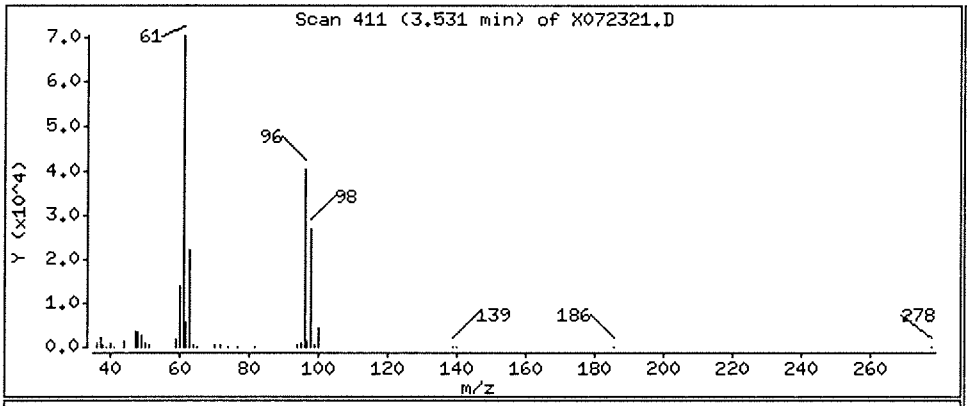
Client ID: HS20071033-04 Instrument: voa6.i

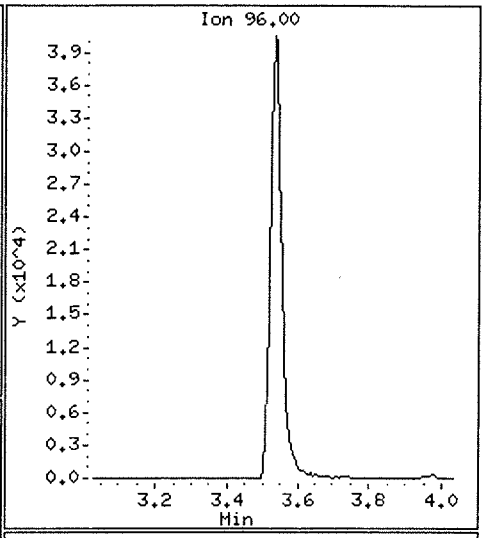
Sample Info: HS20071033-04;HS20071033-04;;;

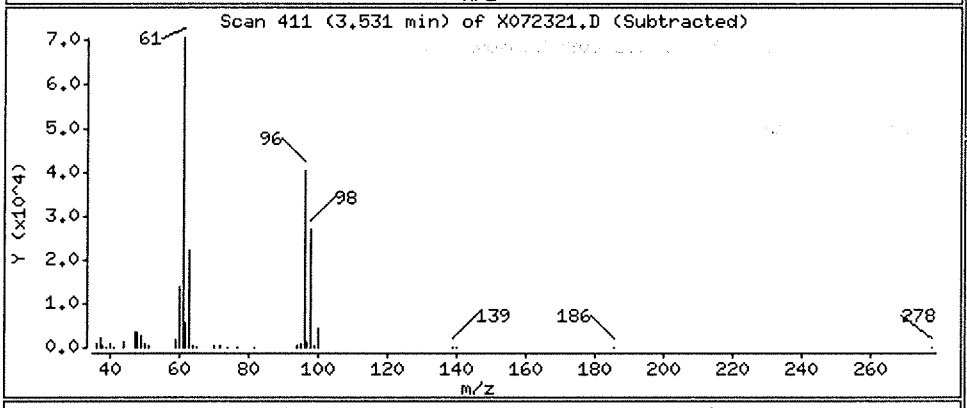
Purge Volume: 5.0 Operator: PC

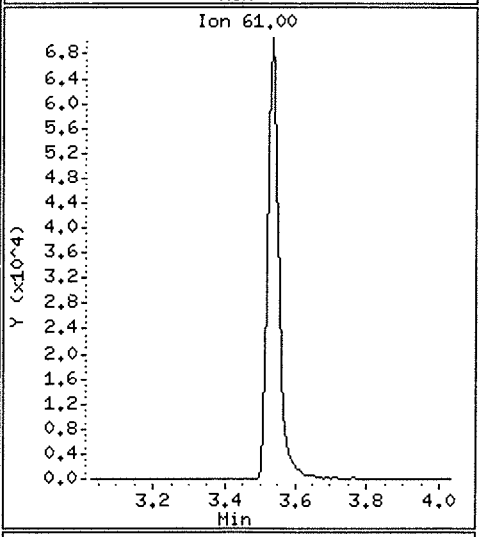
Column phase: DB624 Column diameter: 0.18

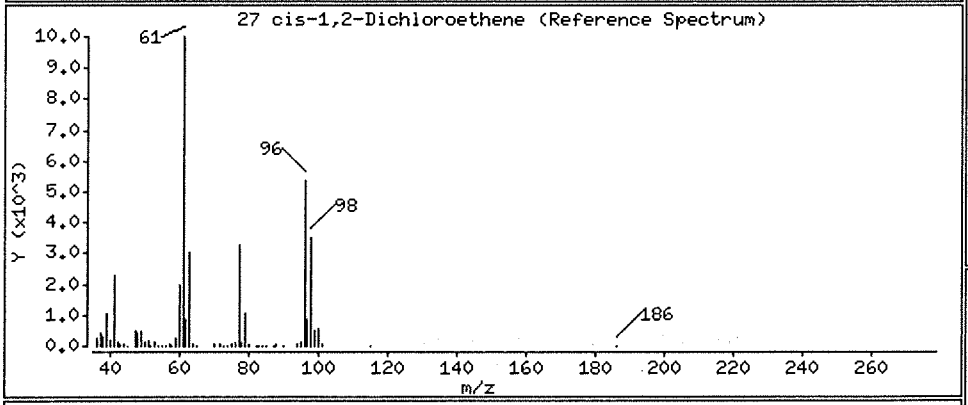
27 cis-1,2-Dichloroethene Concentration: 564.60 ug/l

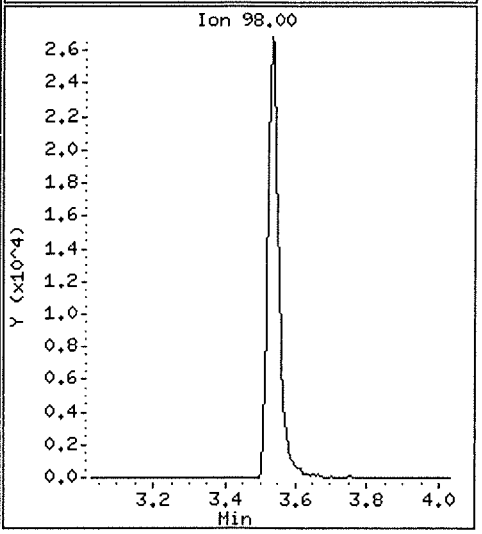


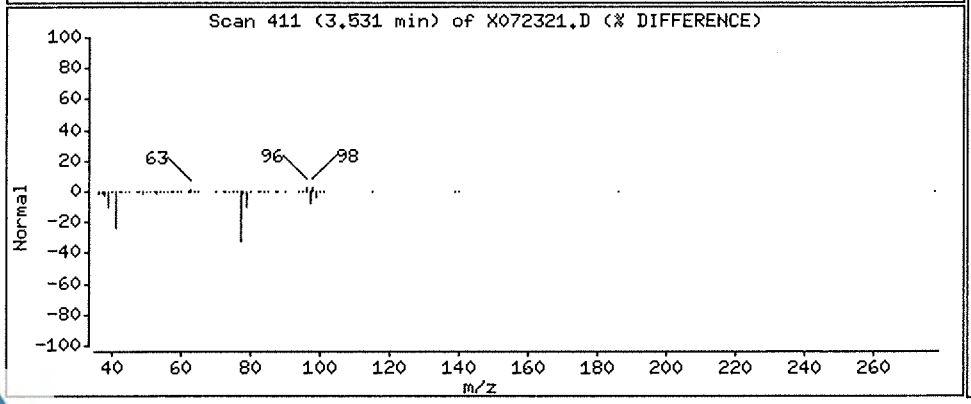












Data File: \\nahstws005\Target\chem\voa6.i\X200723.b\X072321.D Page 5

Date : 23-JUL-2020 18:33

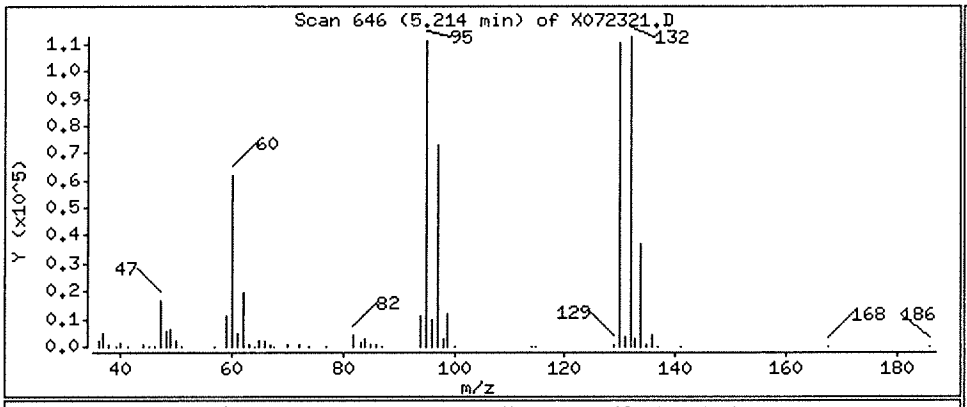
Client ID: HS20071033-04 Instrument: voa6.i

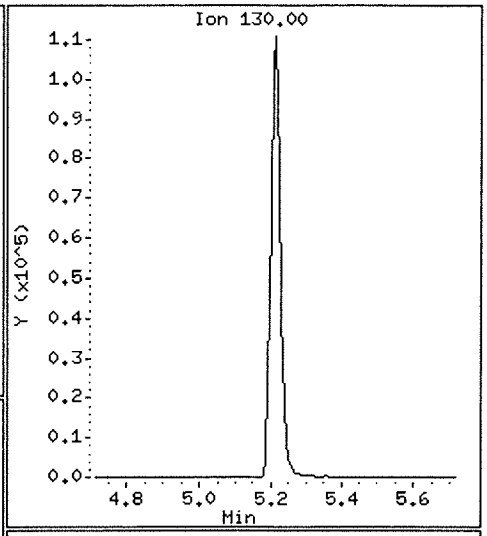
Sample Info: HS20071033-04;HS20071033-04;;;

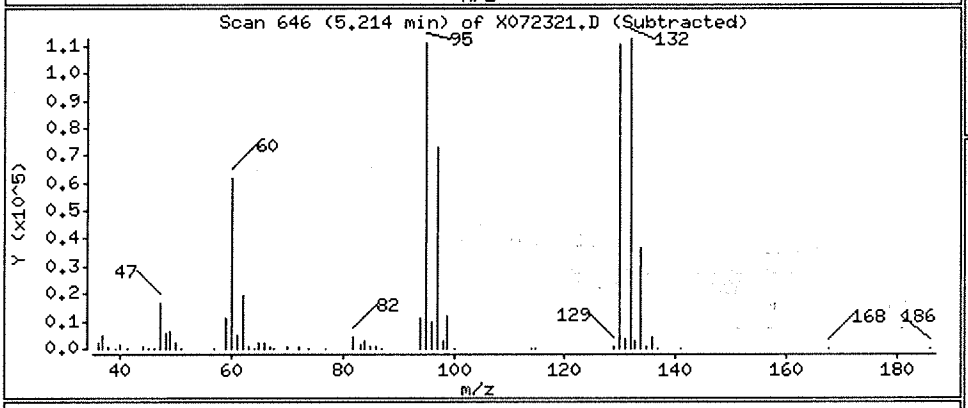
Purge Volume: 5.0 Operator: PC

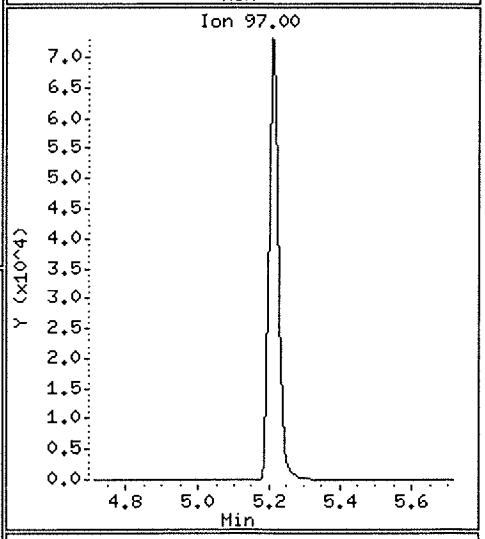
Column phase: DB624 Column diameter: 0.18

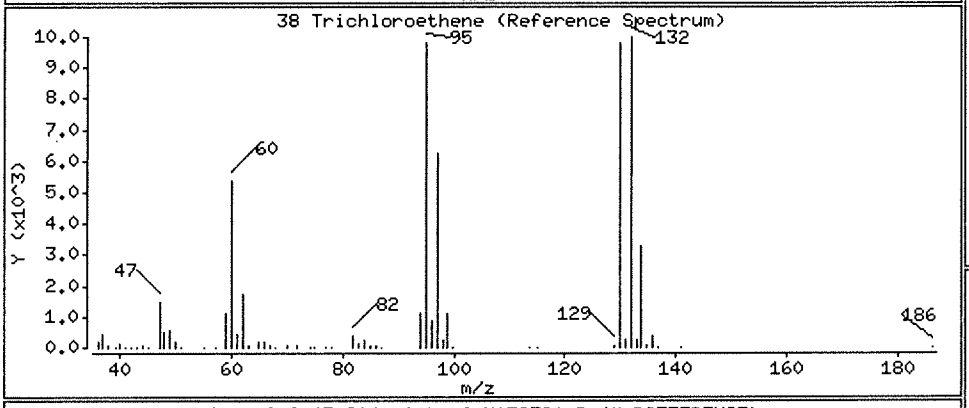
38 Trichloroethene Concentration: 1370.69 ug/l

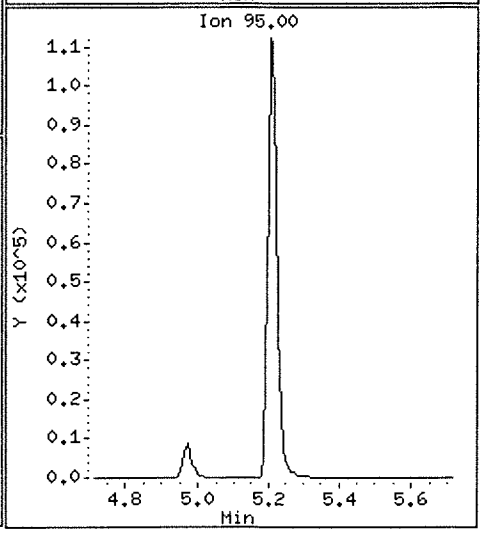


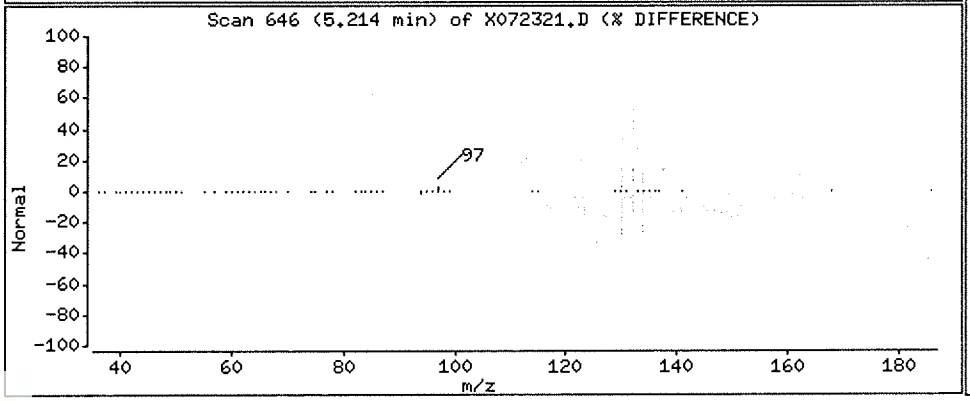












Data File: \\nahstws005\Target\chem\voa6.i\X200723.b\X072321.D

Date : 23-JUL-2020 18:33

Client ID: HS20071033-04

Instrument: voa6.i

Sample Info: HS20071033-04;HS20071033-04;;;

Purge Volume: 5.0

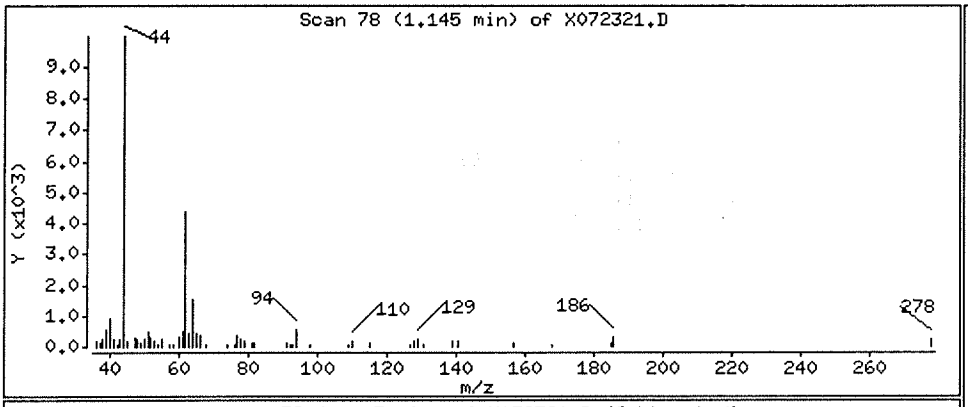
Operator: PC

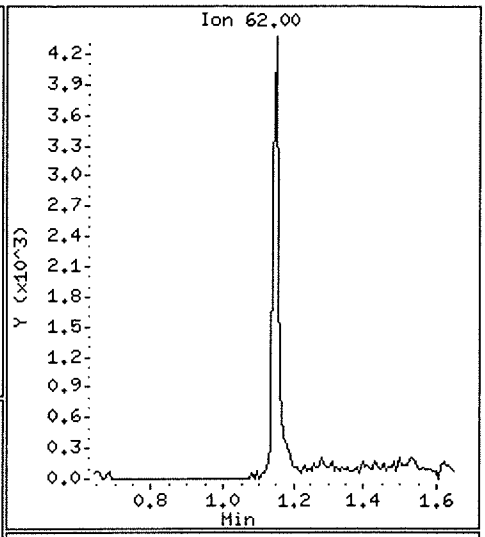
Column phase: DB624

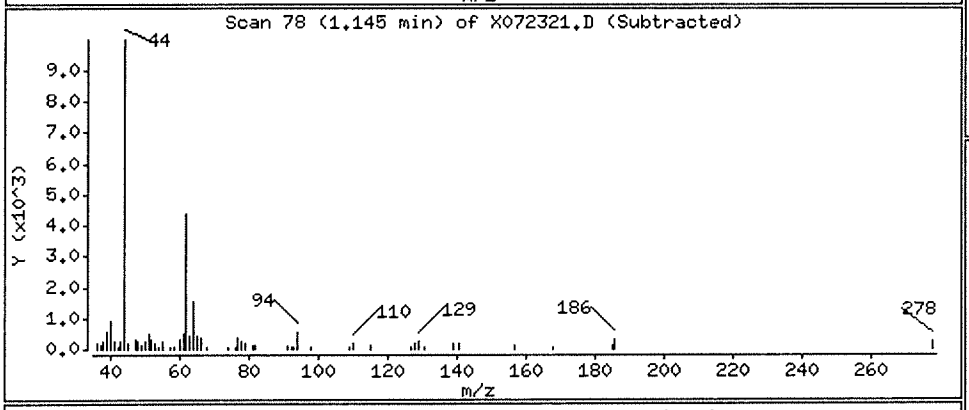
Column diameter: 0.18

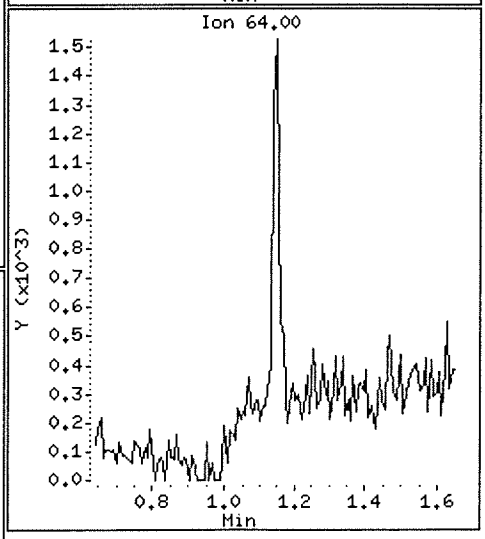
5 Vinyl Chloride

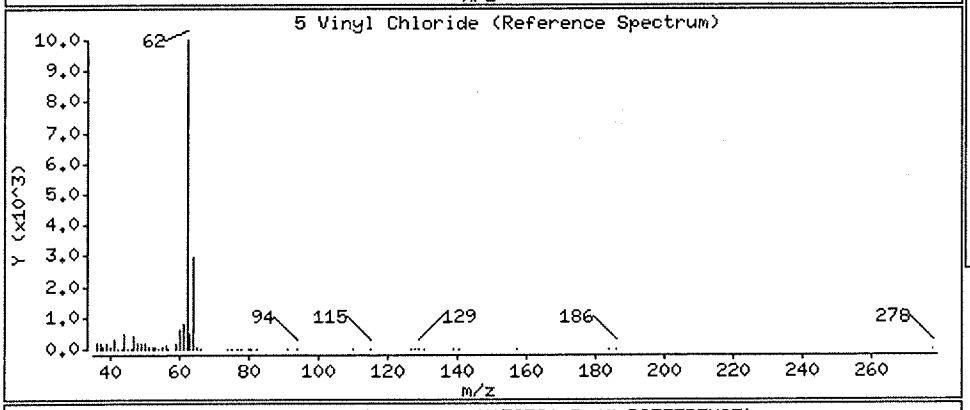
Concentration: 24.19 ug/l

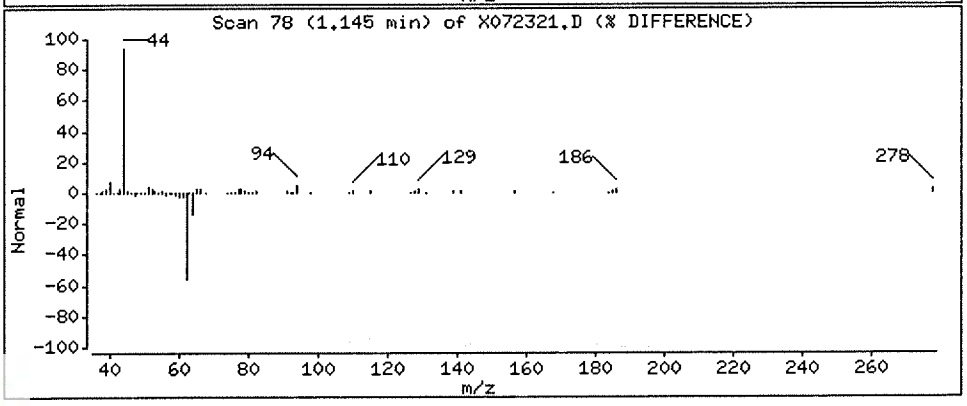












Data File: \\nahstws005\Target\chem\voa6.i\X200723.b\X072322.D Page 1
Report Date: 21-Aug-2020 16:42

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X200723.b\X072322.D
Lab Smp Id: HS20071033-06 Client Smp ID: HS20071033-06
Inj Date : 23-JUL-2020 18:57
Operator : PC Inst ID: voa6.i
Smp Info : HS20071033-06;HS20071033-06;;;
Misc Info : HS18090001;WATER;0;10;
Comment   :
Method   : \\nahstws005\Target\chem\voa6.i\X200723.b\8260W.m
Meth Date : 21-Aug-2020 16:39 voa6.i Quant Type: ISTD
Cal Date : 13-JUL-2020 13:18 Cal File: X071308.D
Als bottle: 20
Dil Factor: 10.00000
Integrator: HP RTE Compound Sublist: CBI-Hou11.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

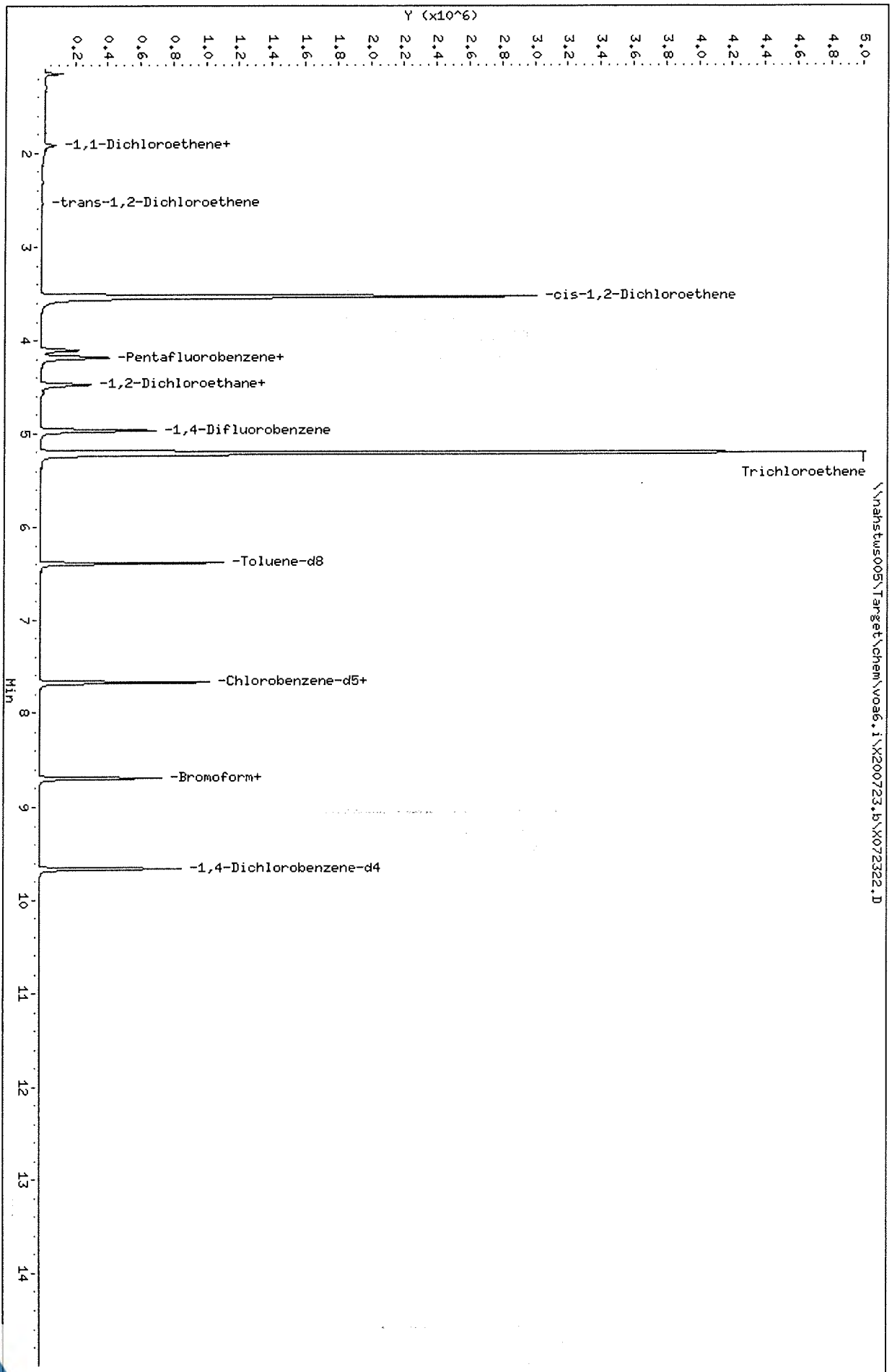
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
*	1 Pentafluorobenzene	168	4.189	4.189	(1.000)	316823	50.0000	
*	36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	512740	50.0000	
*	47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	437395	50.0000	
*	70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	193305	50.0000	
$	30 Dibromofluoromethane	113	4.103	4.103	(0.979)	161341	45.6930	45.69
$	35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	220003	45.9888	45.98
$	48 Toluene-d8	98	6.388	6.388	(0.833)	579420	50.5731	50.57
$	69 4-Bromofluorobenzene	95	8.695	8.688	(1.134)	215332	50.8861	50.88
	11 1,1-Dichloroethene	96	1.919	1.919	(0.458)	5743	2.07201	20.72(a)
	33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	14677	2.40561	24.05(a)
	27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.843)	1276303	314.036	3140.35(A)
	38 Trichloroethene	130	5.214	5.214	(1.049)	1553887	421.068	4210.67(A)
	5 Vinyl Chloride	62	1.145	1.145	(0.273)	75698	14.5300	145.30

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\X200723.b\X072322.D
Date : 23-JUL-2020 18:57
Client ID: HS20071033-06
Sample Info: HS20071033-06;HS20071033-06;;;
Purge Volume: 5.0
Column phase: DB624

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



Data File: \\nahstws005\Target\chem\voa6.i\X200723.b\X072322.D

Date : 23-JUL-2020 18:57

Client ID: HS20071033-06

Instrument: voa6.i

Sample Info: HS20071033-06;HS20071033-06;;;

Purge Volume: 5.0

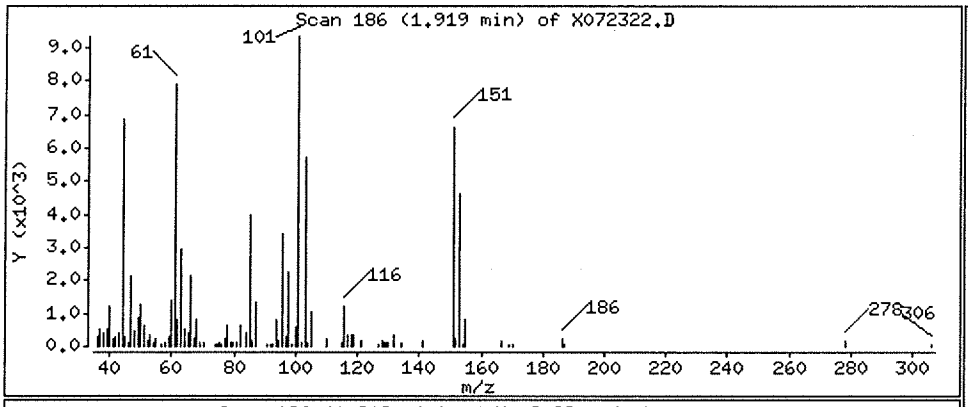
Operator: PC

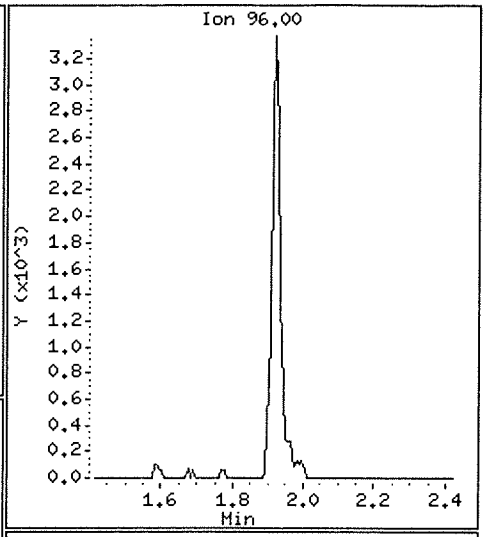
Column phase: DB624

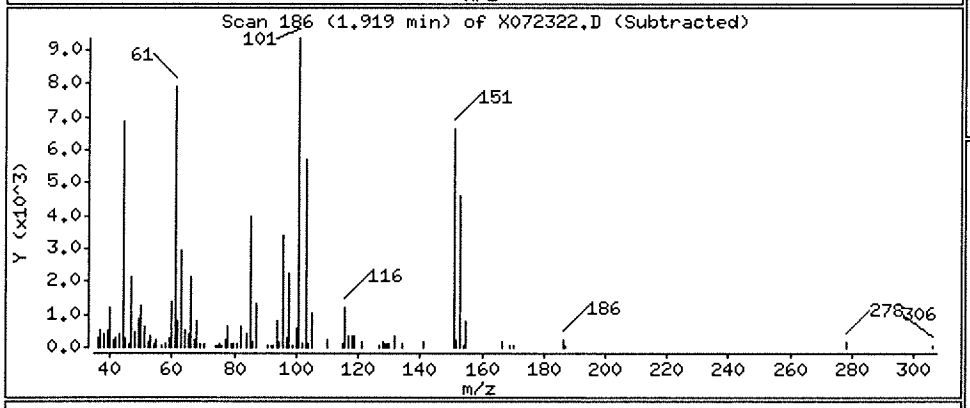
Column diameter: 0.18

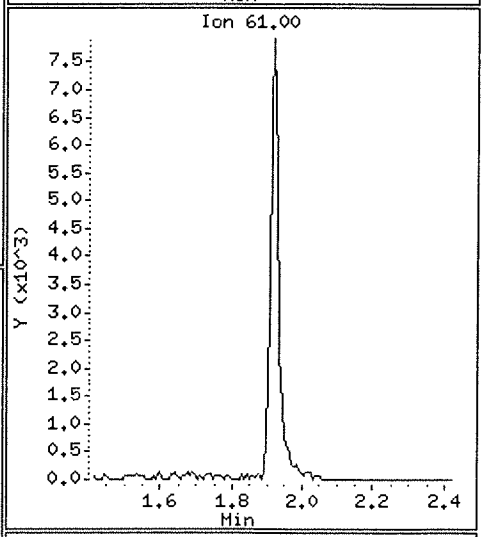
11 1,1-Dichloroethene

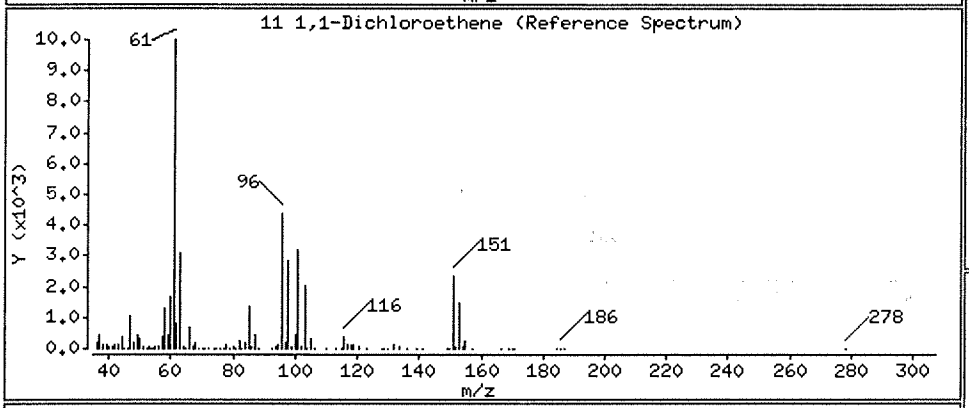
Concentration: 20.72 ug/l

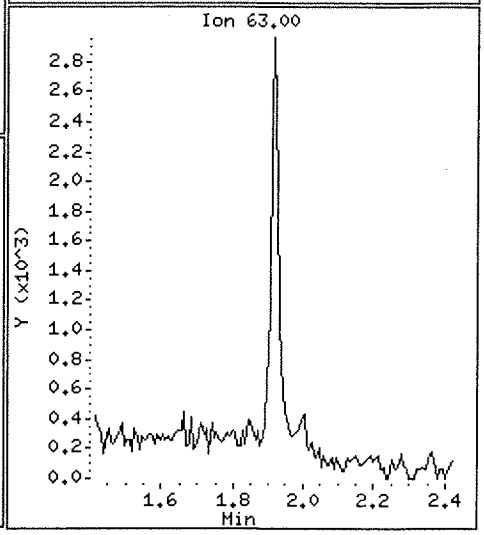


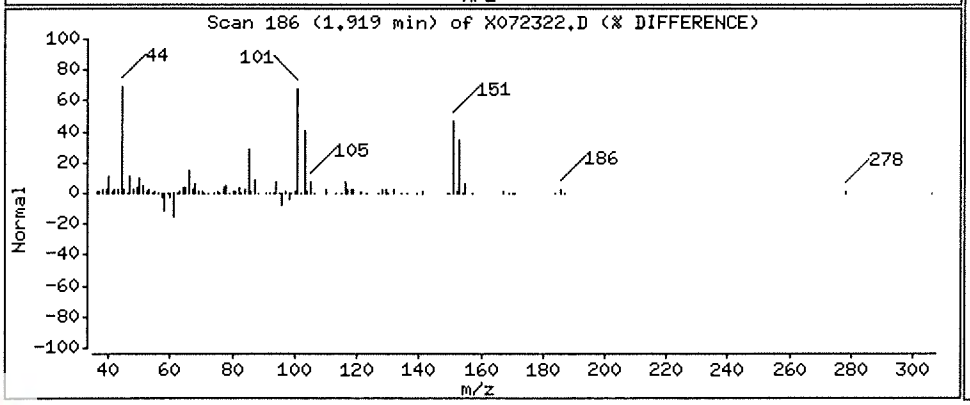












Data File: \\nahstws005\Target\chem\voa6.i\X200723.b\X072322.D

Date : 23-JUL-2020 18:57

Client ID: HS20071033-06

Instrument: voa6.i

Sample Info: HS20071033-06;HS20071033-06;;;

Purge Volume: 5.0

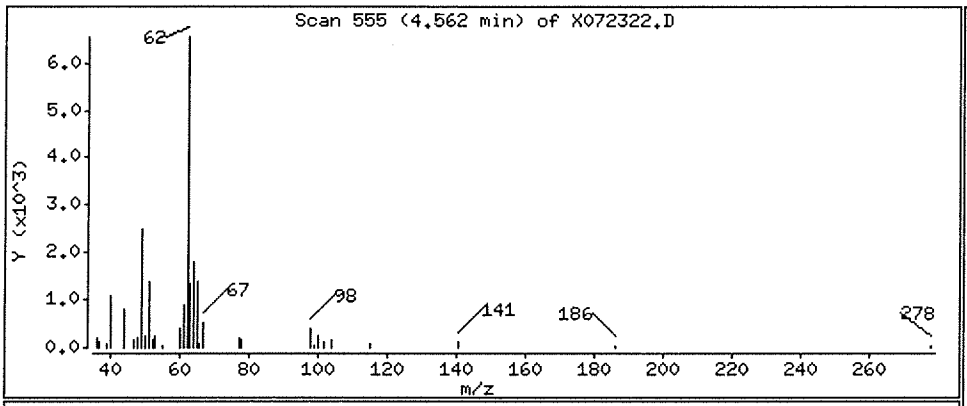
Operator: PC

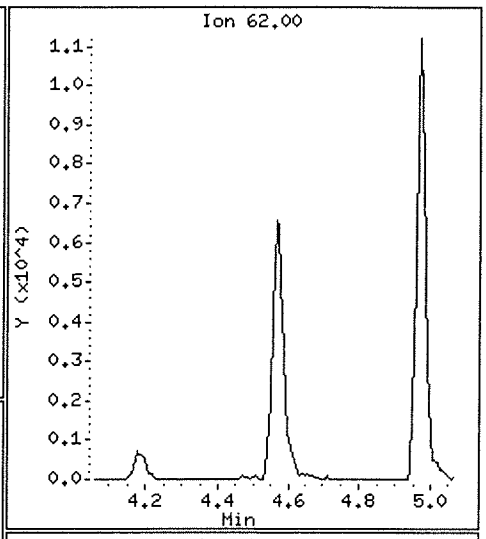
Column phase: DB624

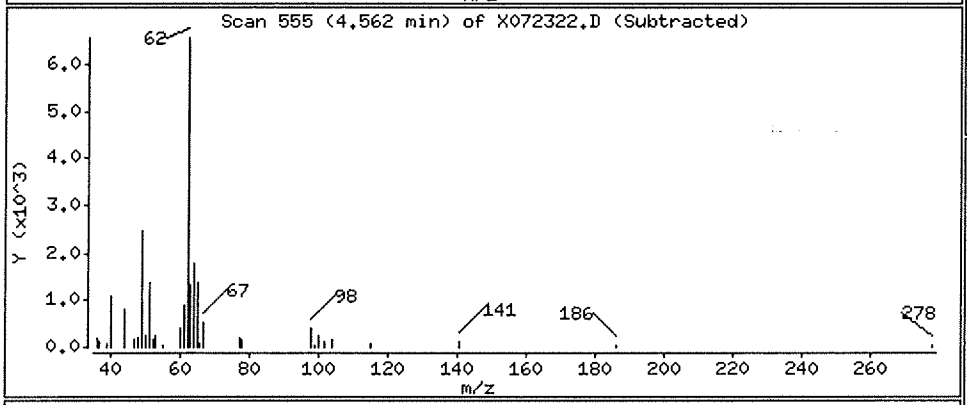
Column diameter: 0.18

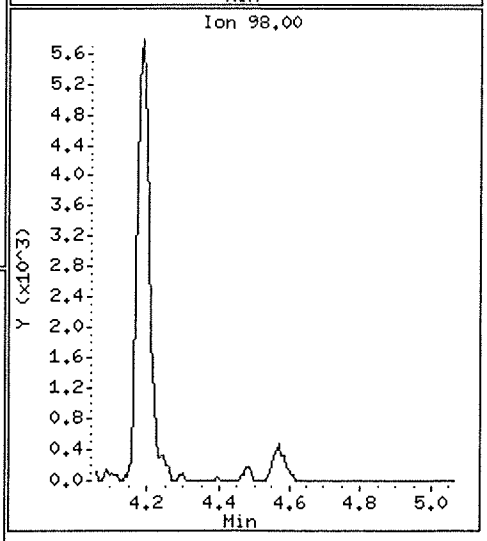
33 1,2-Dichloroethane

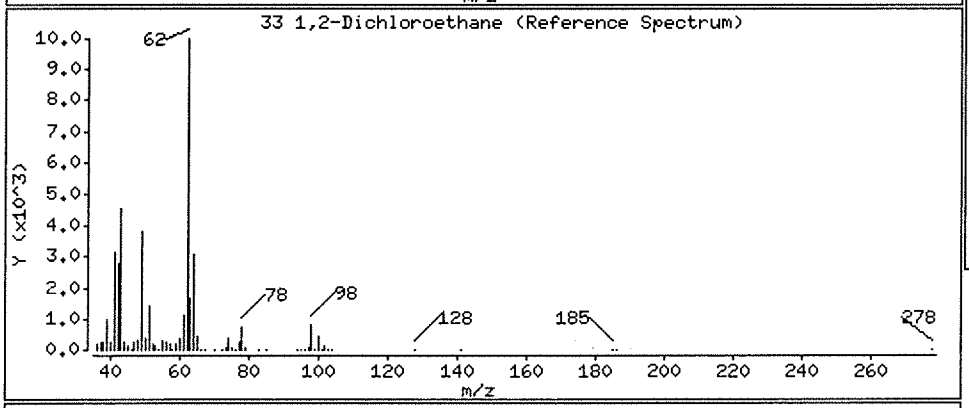
Concentration: 24.05 ug/l

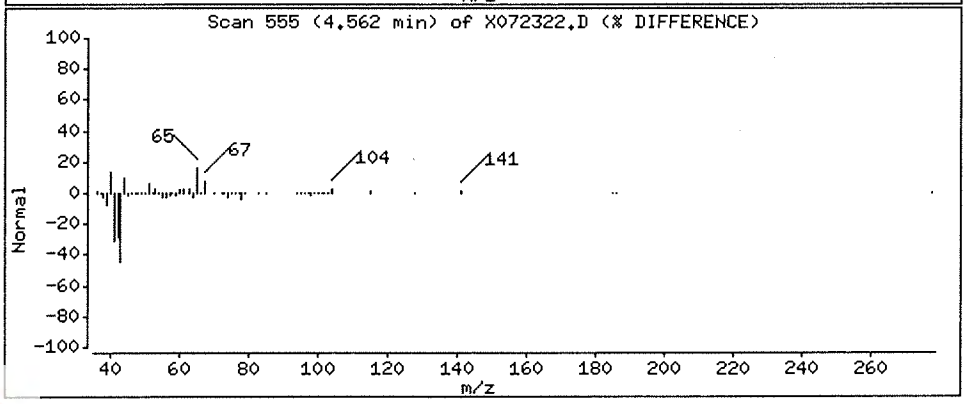












Data File: \\nahstws005\Target\chem\voa6.i\X200723.b\X072322.D Page 5

Date : 23-JUL-2020 18:57

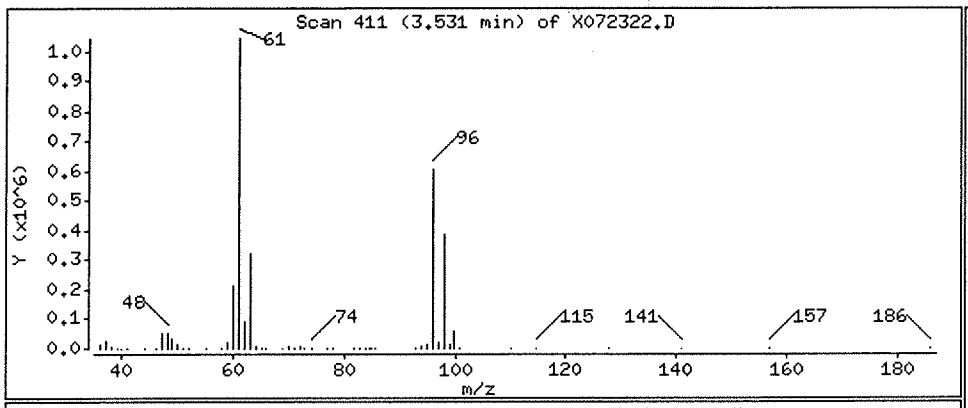
Client ID: HS20071033-06 Instrument: voa6.i

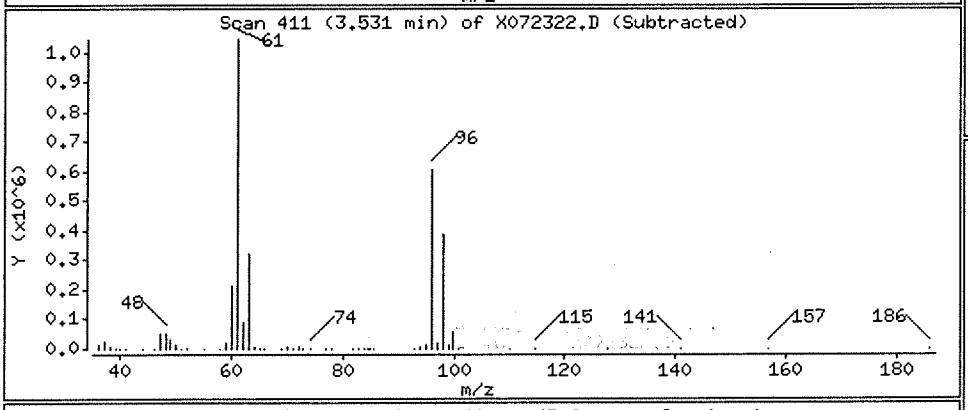
Sample Info: HS20071033-06;HS20071033-06;;;

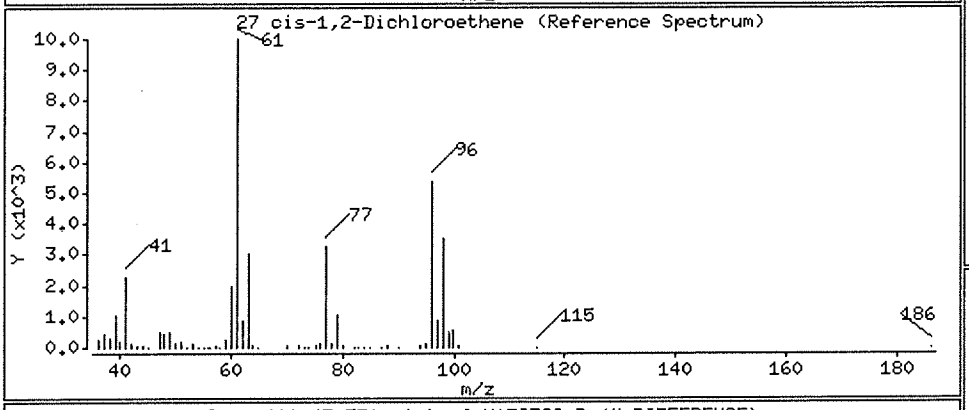
Purge Volume: 5.0 Operator: PC

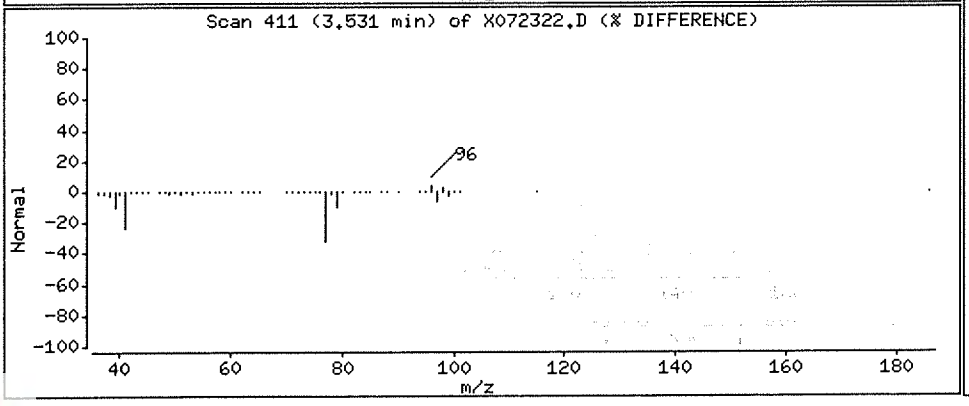
Column phase: DB624 Column diameter: 0.18

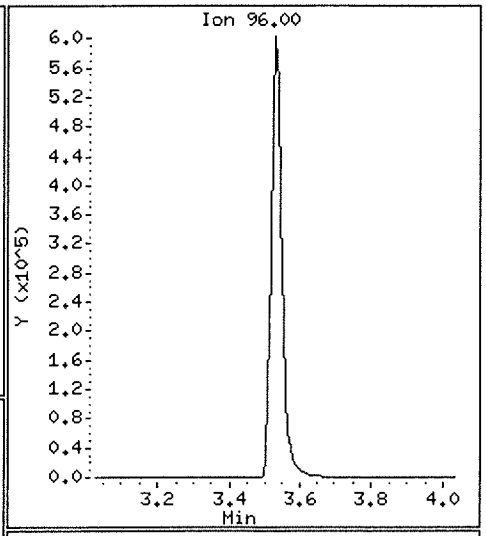
27 cis-1,2-Dichloroethene Concentration: 3140.35 ug/l

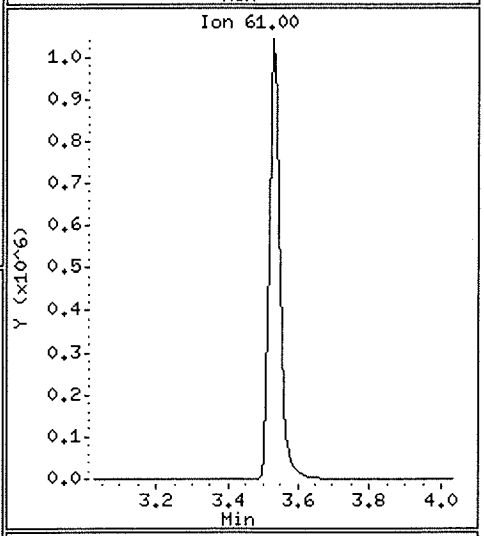


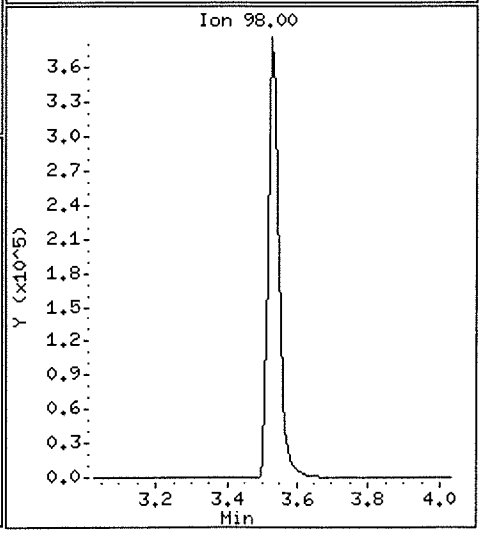












Data File: \\nahstws005\Target\chem\voa6.i\X200723.b\X072322.D

Date : 23-JUL-2020 18:57

Client ID: HS20071033-06

Instrument: voa6.i

Sample Info: HS20071033-06;HS20071033-06;;;

Purge Volume: 5.0

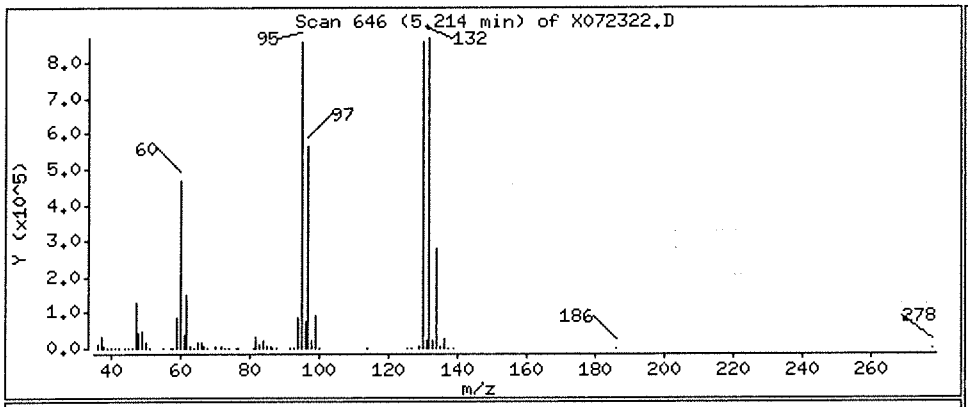
Operator: PC

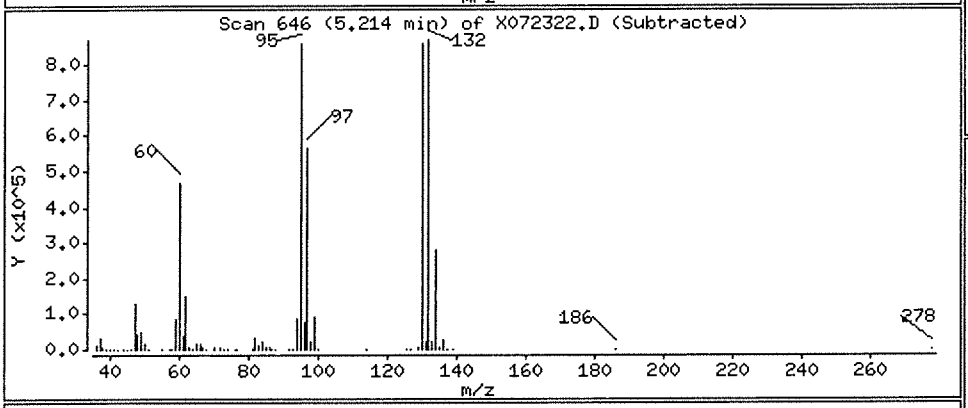
Column phase: DB624

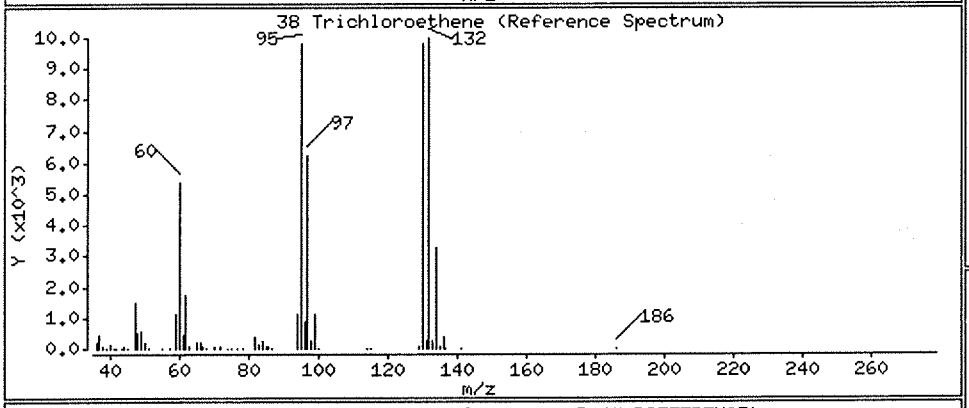
Column diameter: 0.18

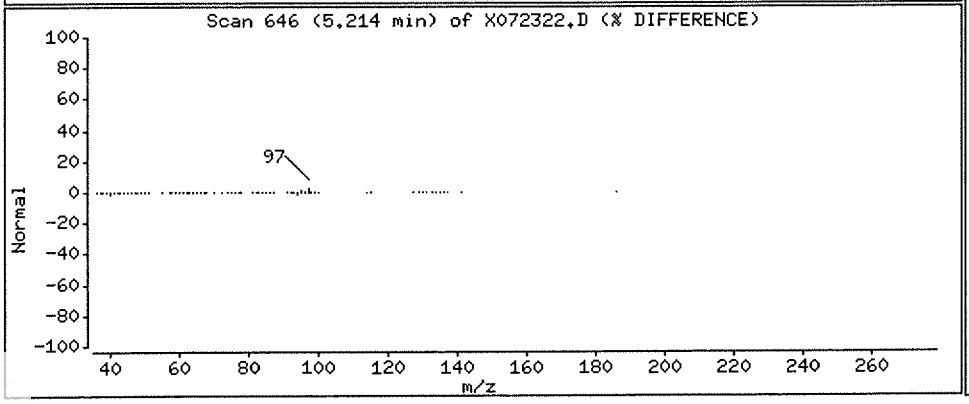
38 Trichloroethene

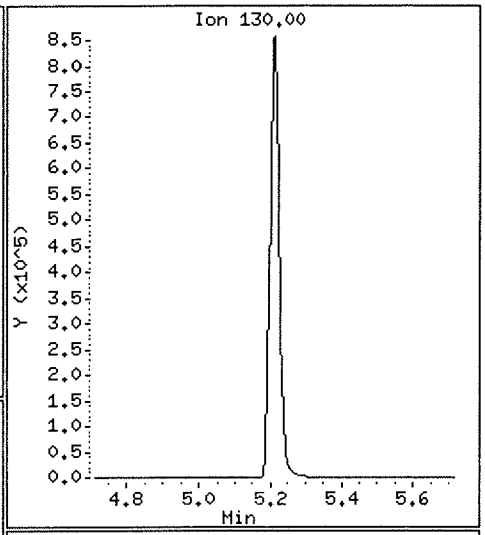
Concentration: 4210.67 ug/l

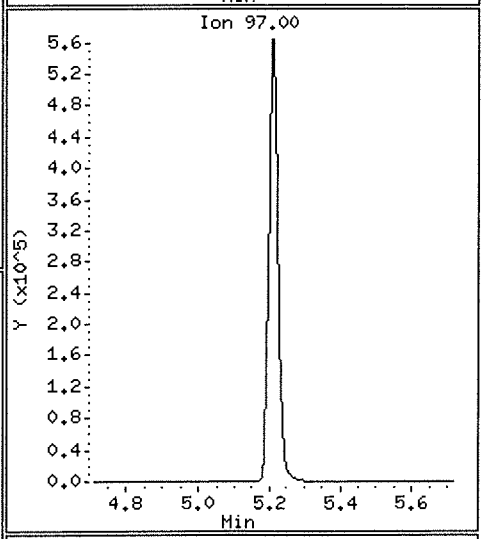


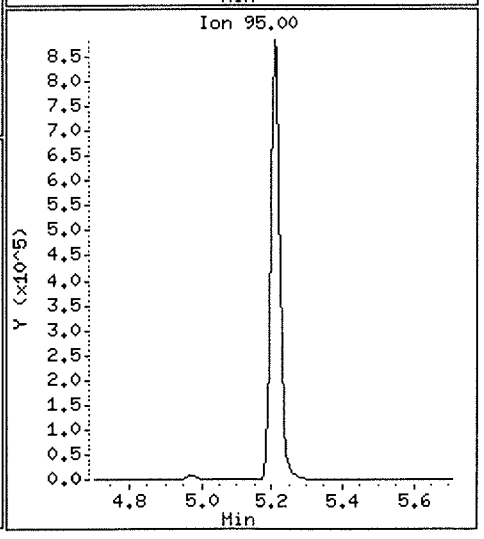












Data File: \\nahstws005\Target\chem\voa6.i\X200723.b\X072322.D

Date : 23-JUL-2020 18:57

Client ID: HS20071033-06

Instrument: voa6.i

Sample Info: HS20071033-06;HS20071033-06;;;

Purge Volume: 5.0

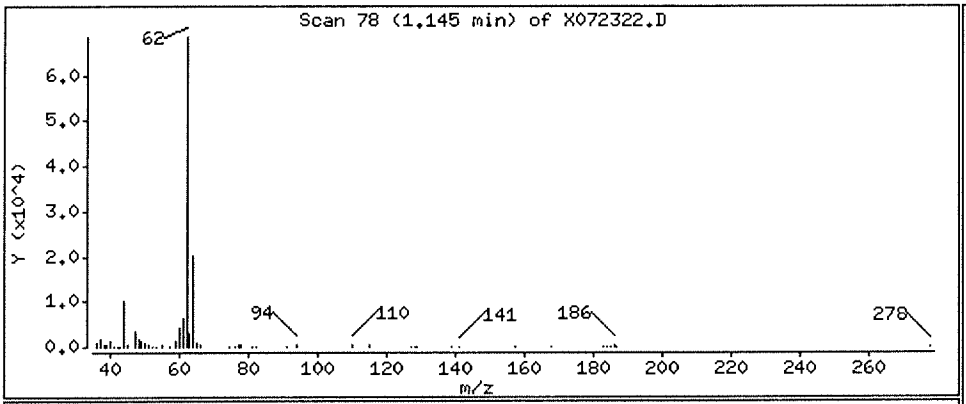
Operator: PC

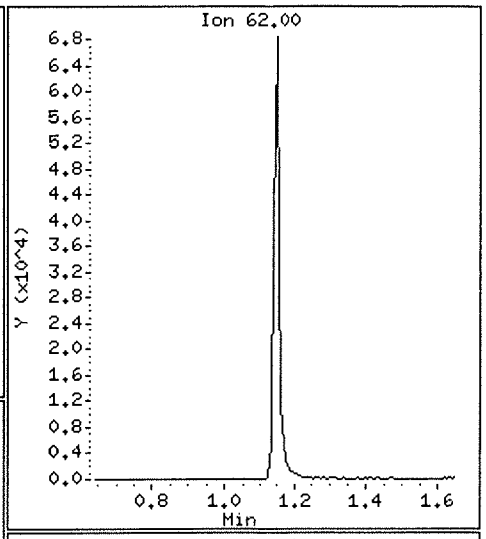
Column phase: DB624

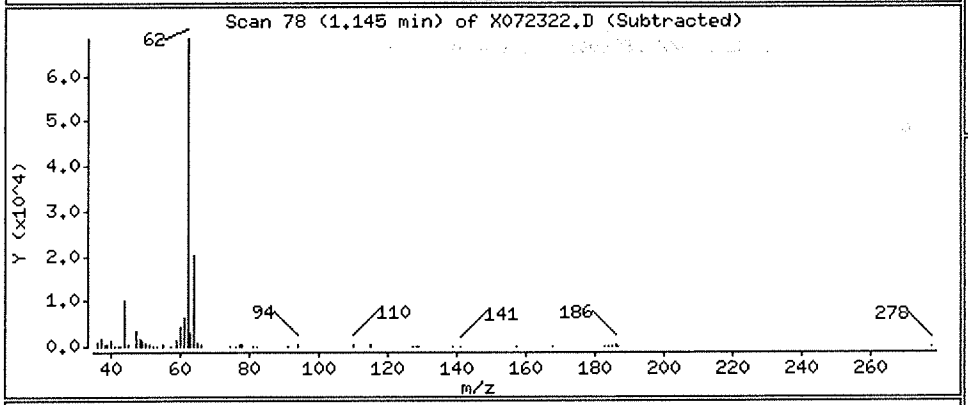
Column diameter: 0.18

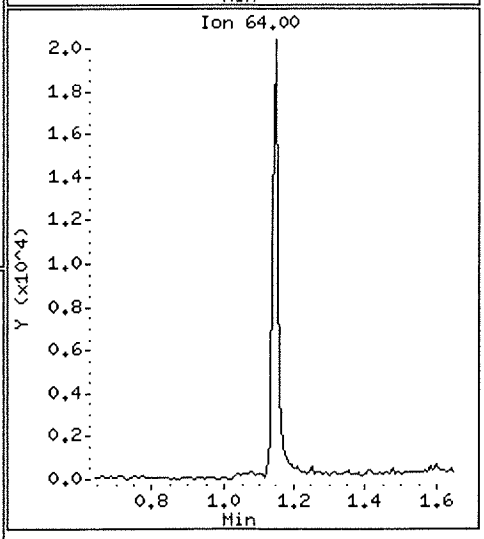
5 Vinyl Chloride

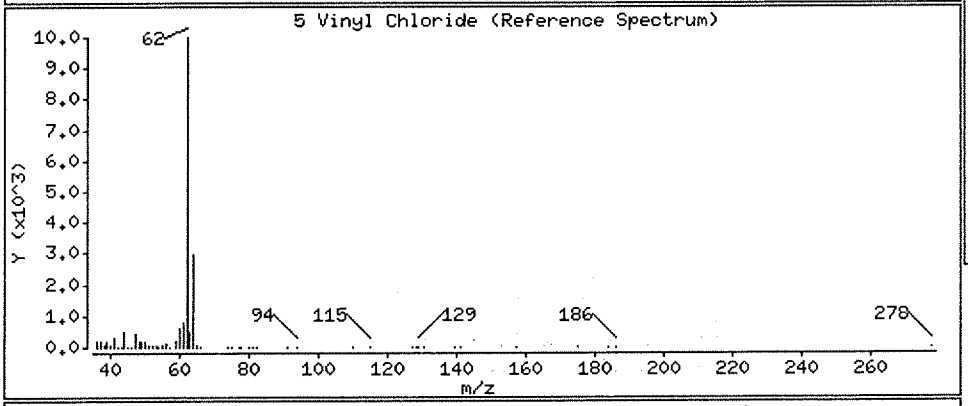
Concentration: 145.30 ug/l

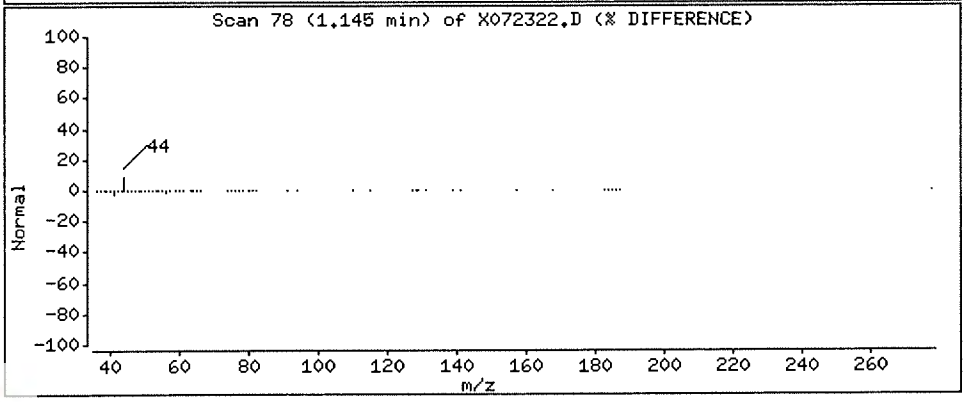












Data File: \\nahstws005\Target\chem\voa6.i\X200723.b\X072323.D Page 1
Report Date: 21-Aug-2020 16:42

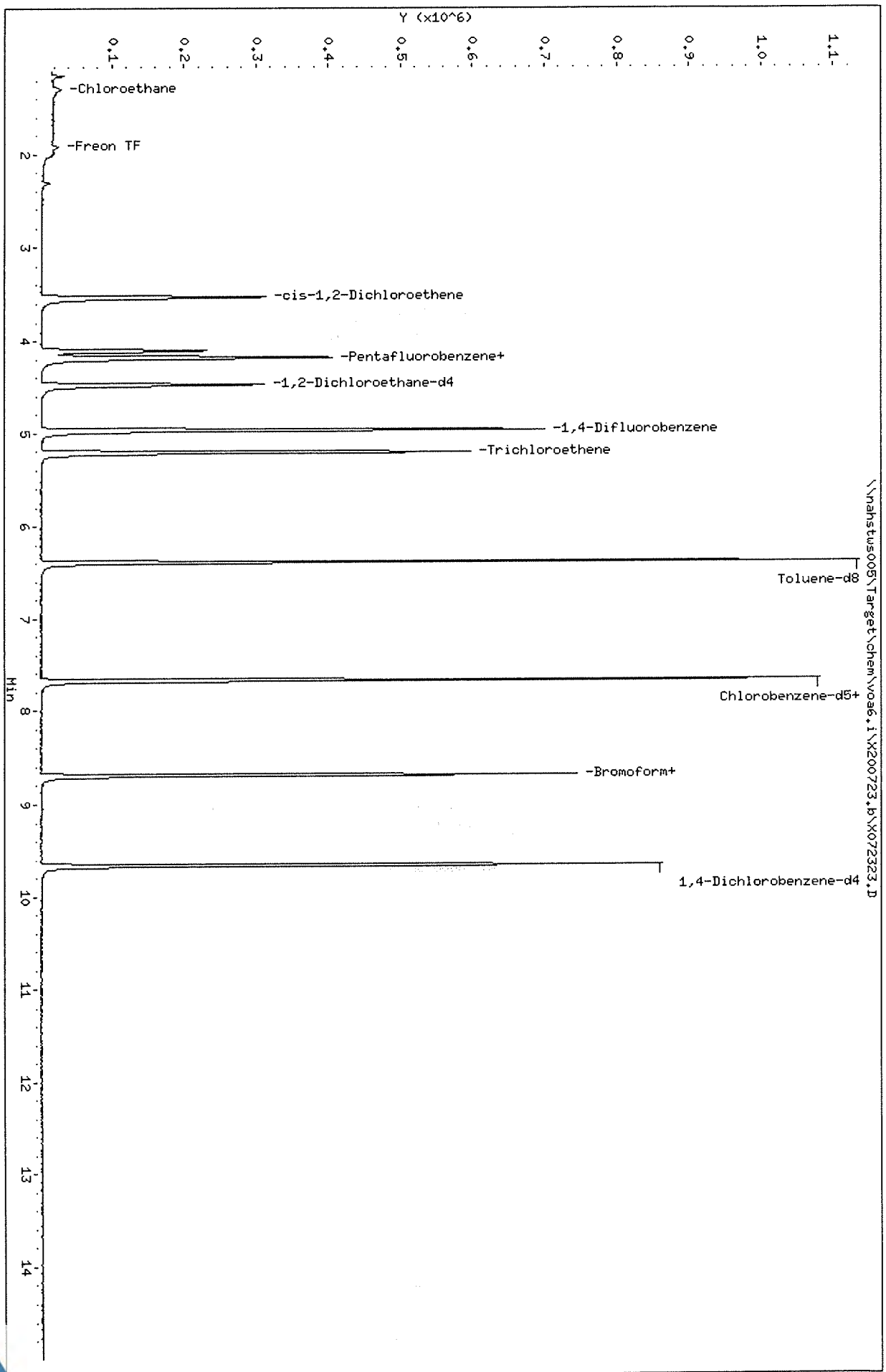
ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X200723.b\X072323.D
Lab Smp Id: HS20071033-06 Client Smp ID: HS20071033-06
Inj Date : 23-JUL-2020 19:21
Operator : PC Inst ID: voa6.i
Smp Info : HS20071033-06;HS20071033-06;;;
Misc Info : HS18090001;WATER;0;100;
Comment   :
Method   : \\nahstws005\Target\chem\voa6.i\X200723.b\8260W.m
Meth Date : 21-Aug-2020 16:39 voa6.i Quant Type: ISTD
Cal Date : 13-JUL-2020 13:18 Cal File: X071308.D
Als bottle: 21
Dil Factor: 100.00000
Integrator: HP RTE Compound Sublist: CBI-Hou11.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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	4.189	4.189	(1.000)	313255	50.0000	
*	36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	516283	50.0000	
*	47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	450033	50.0000	
*	70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	193738	50.0000	
$	30 Dibromofluoromethane	113	4.103	4.103	(0.979)	162735	46.6144	46.61
$	35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	218811	46.2586	46.25
$	48 Toluene-d8	98	6.388	6.388	(0.833)	596777	50.6253	50.62
$	69 4-Bromofluorobenzene	95	8.695	8.688	(1.134)	213370	48.9866	48.98
	27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.843)	131418	32.7038	3270.38
	38 Trichloroethene	130	5.214	5.214	(1.049)	188205	50.6492	5064.92
	5 Vinyl Chloride	62	1.145	1.145	(0.273)	10104	1.96152	196.15



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Date : 23-JUL-2020 19:21
Client ID: HS200710J3-06
Sample Info: HS200710J3-06;HS200710J3-06;;;
Purge Volume: 5.0
Column phase: DB624

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

Data File: \\nahstws005\Target\chem\voa6.i\X200723.b\X072323.D

Date : 23-JUL-2020 19:21

Client ID: HS20071033-06

Instrument: voa6.i

Sample Info: HS20071033-06;HS20071033-06;;;

Purge Volume: 5.0

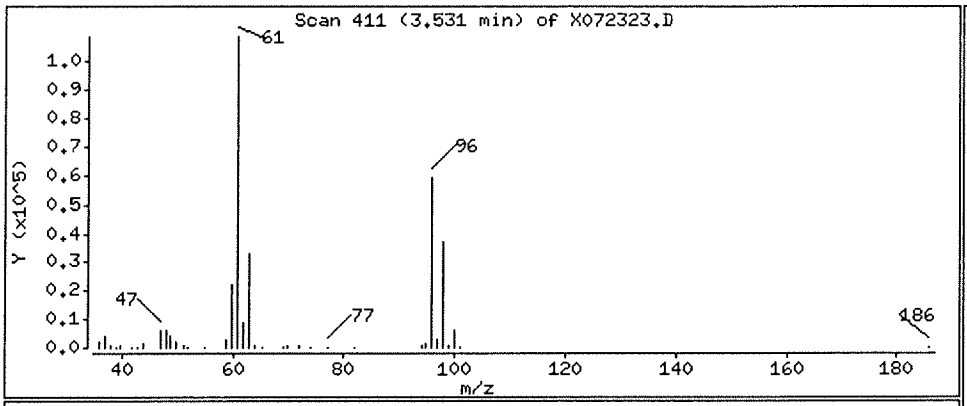
Operator: PC

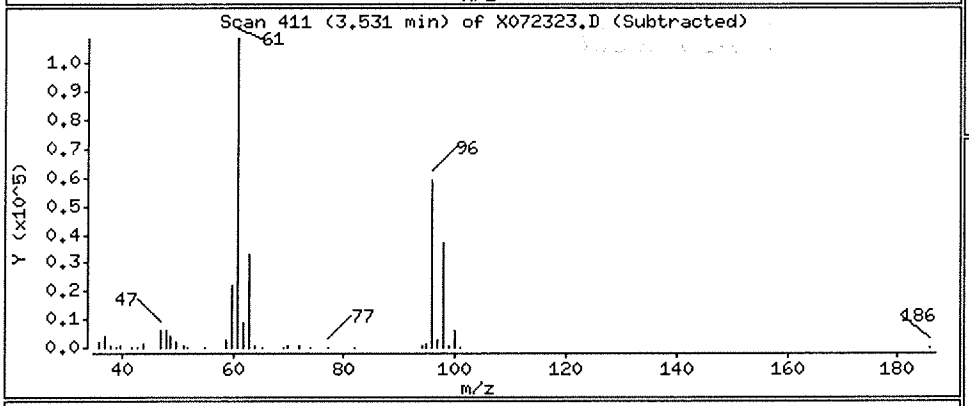
Column phase: DB624

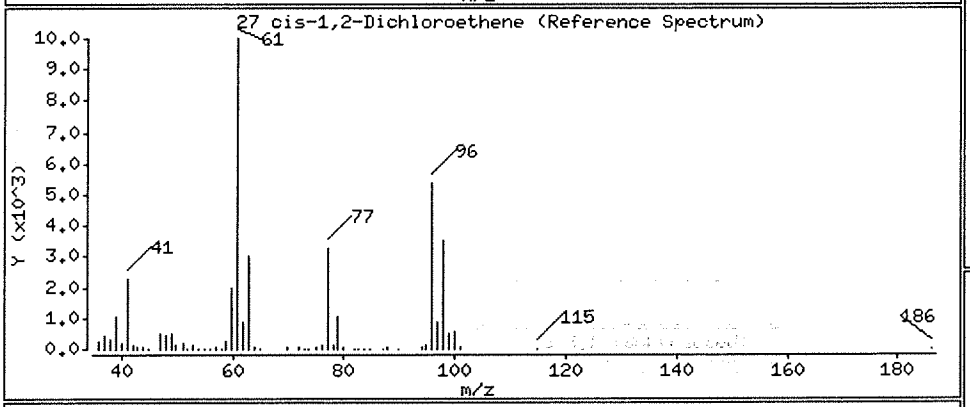
Column diameter: 0.18

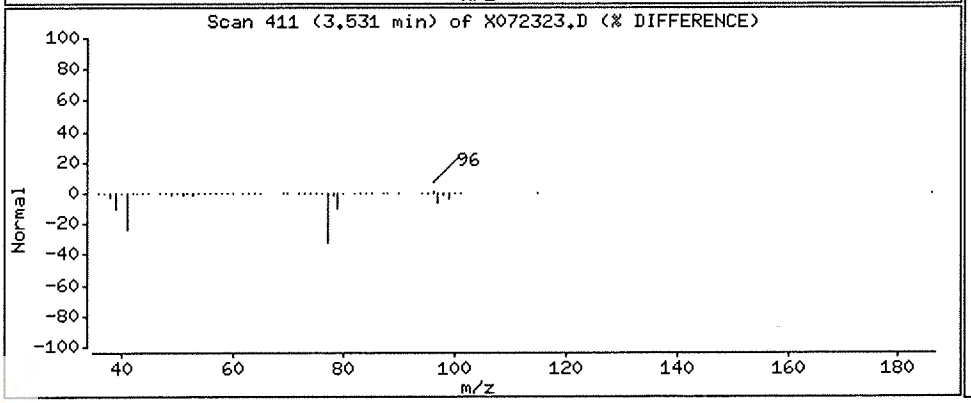
27 cis-1,2-Dichloroethene

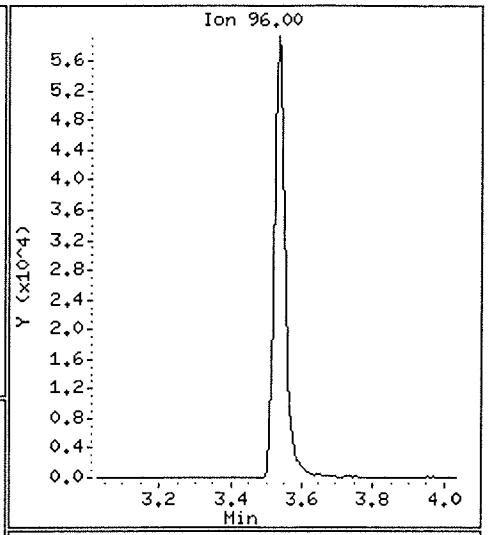
Concentration: 3270.38 ug/l

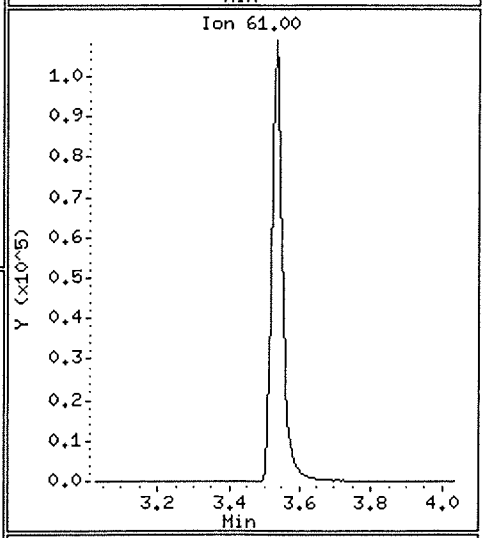


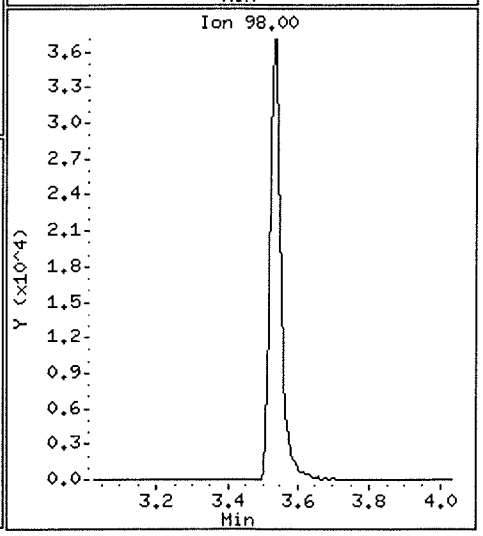












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: 23-JUL-2020 19:21

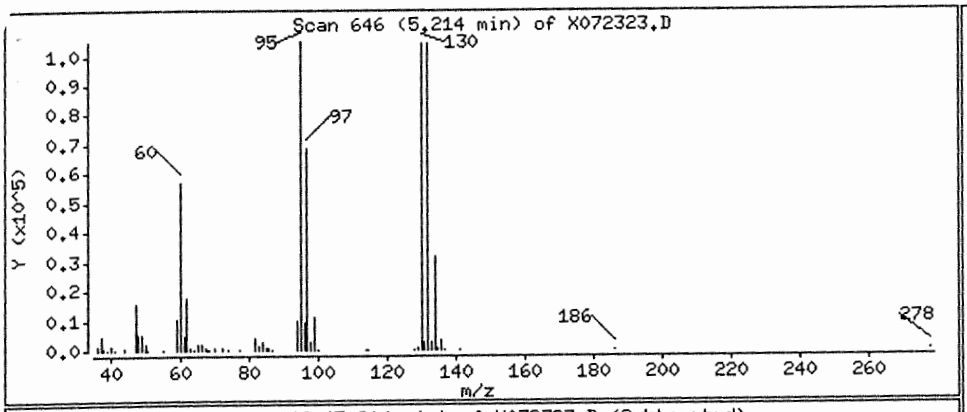
ient ID: HS20071033-06 Instrument: voa6.i

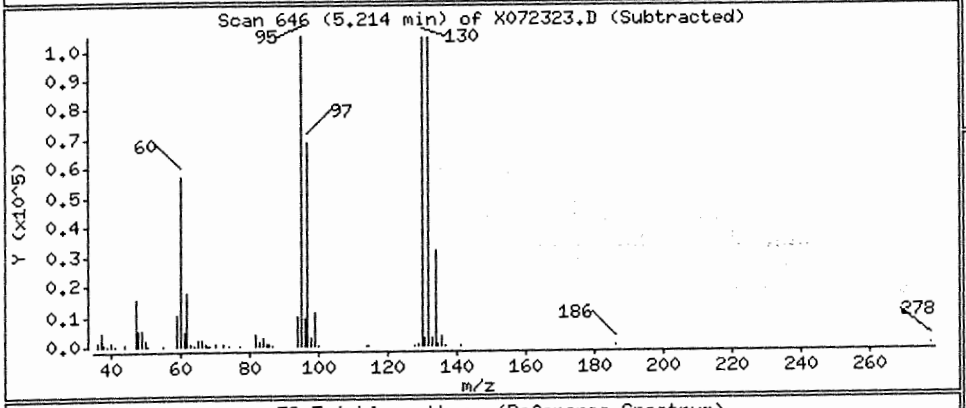
ample Info: HS20071033-06;HS20071033-06;;;

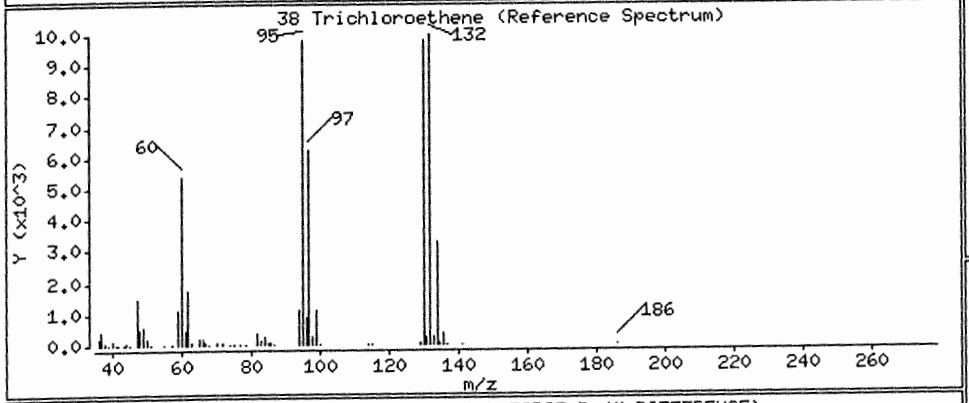
Purge Volume: 5.0 Operator: PC

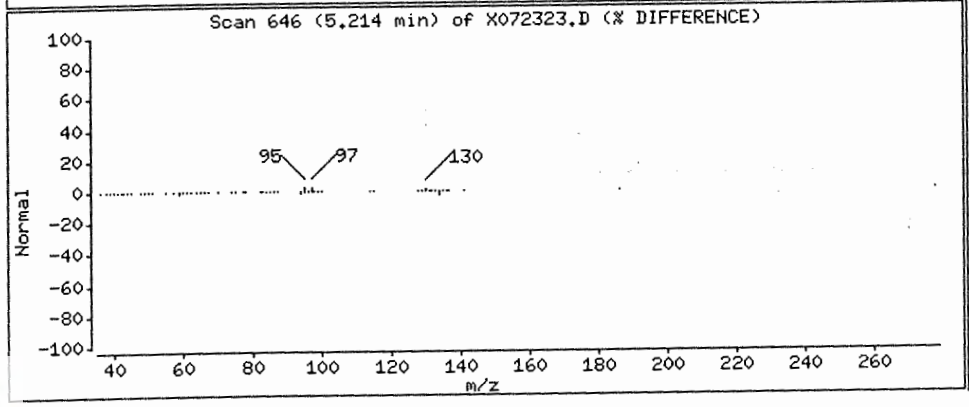
Column phase: DB624 Column diameter: 0.18

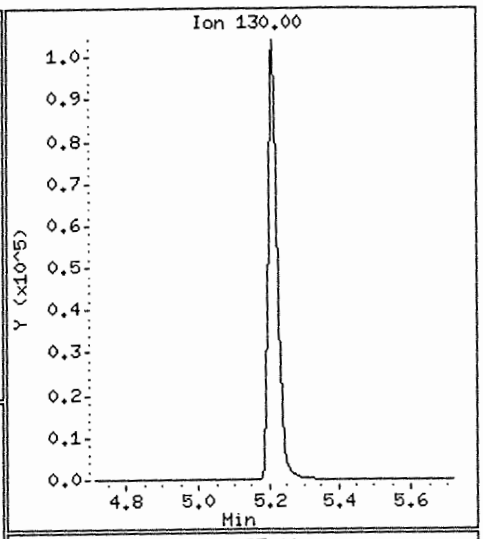
38 Trichloroethene Concentration: 5064.92 ug/l

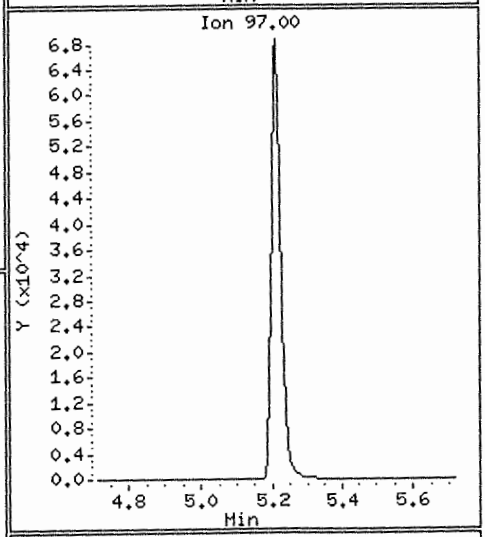


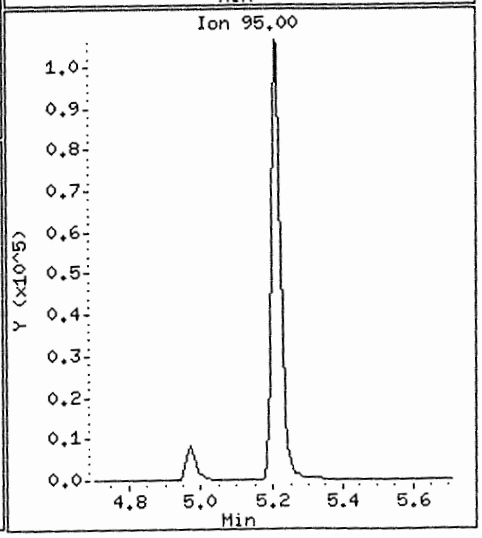












Data File: \\nahstws005\Target\chem\voa6.i\X200723.b\X072323.D Page 5

Date : 23-JUL-2020 19:21

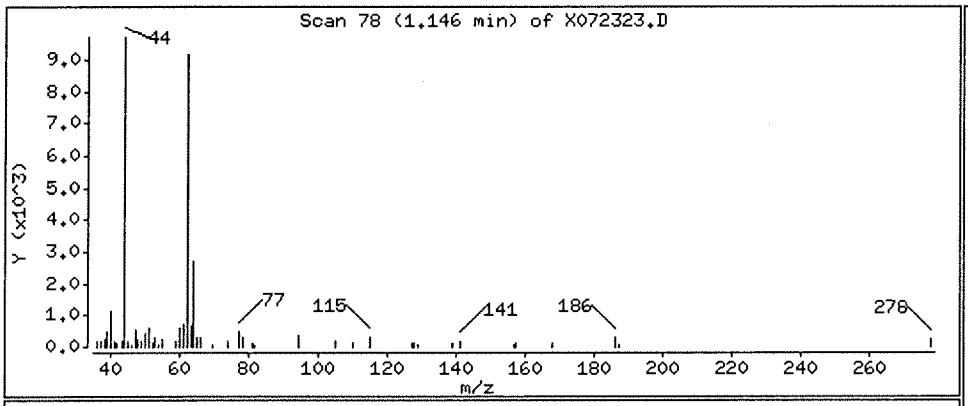
Client ID: HS20071033-06 Instrument: voa6.i

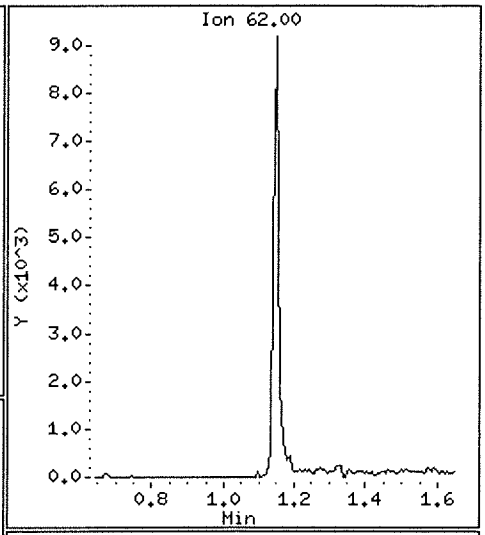
Sample Info: HS20071033-06;HS20071033-06;;;

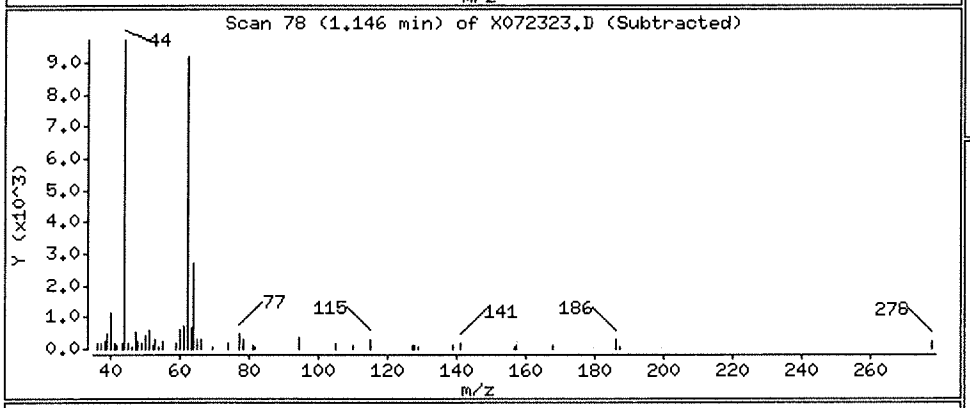
Purge Volume: 5.0 Operator: PC

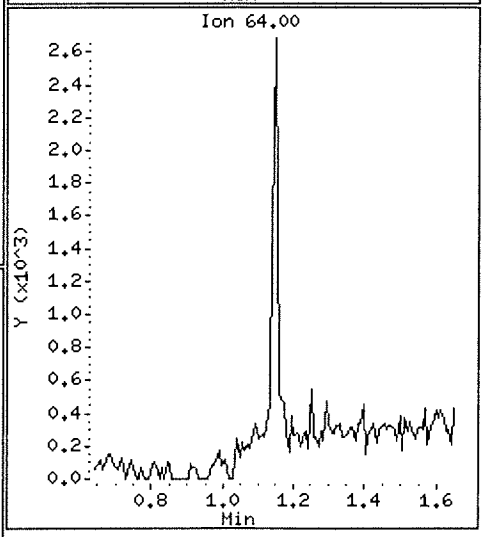
Column phase: DB624 Column diameter: 0.18

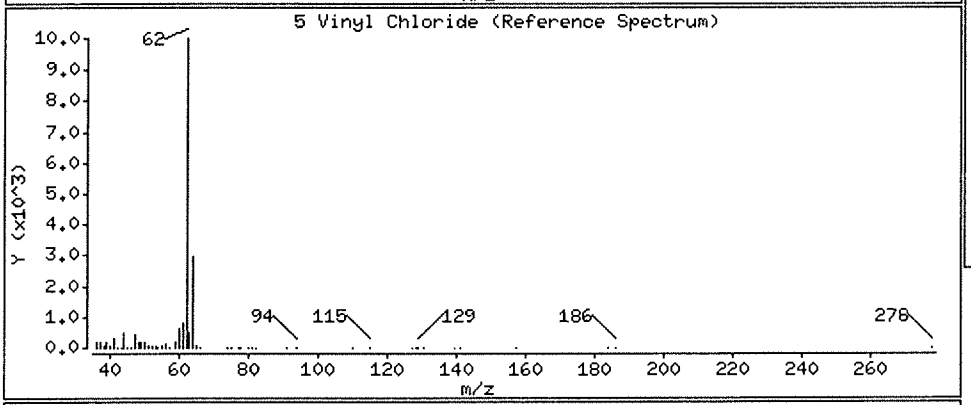
5 Vinyl Chloride Concentration: 196.15 ug/l

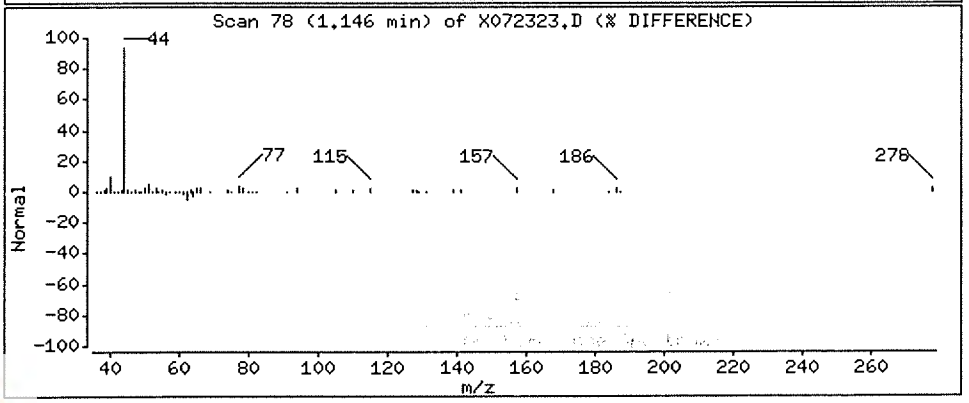












Data File: \\nahstws005\Target\chem\voa6.i\X200723.b\X072324.D Page 1
Report Date: 21-Aug-2020 16:42

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X200723.b\X072324.D
Lab Smp Id: HS20071033-08 Client Smp ID: HS20071033-08
Inj Date : 23-JUL-2020 19:46
Operator : PC Inst ID: voa6.i
Smp Info : HS20071033-08;HS20071033-08;;;
Misc Info : HS18090001;WATER;0;20;
Comment   :
Method   : \\nahstws005\Target\chem\voa6.i\X200723.b\8260W.m
Meth Date : 21-Aug-2020 16:39 voa6.i Quant Type: ISTD
Cal Date : 13-JUL-2020 13:18 Cal File: X071308.D
Als bottle: 22
Dil Factor: 20.00000
Integrator: HP RTE Compound Sublist: CBI-Hou11.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

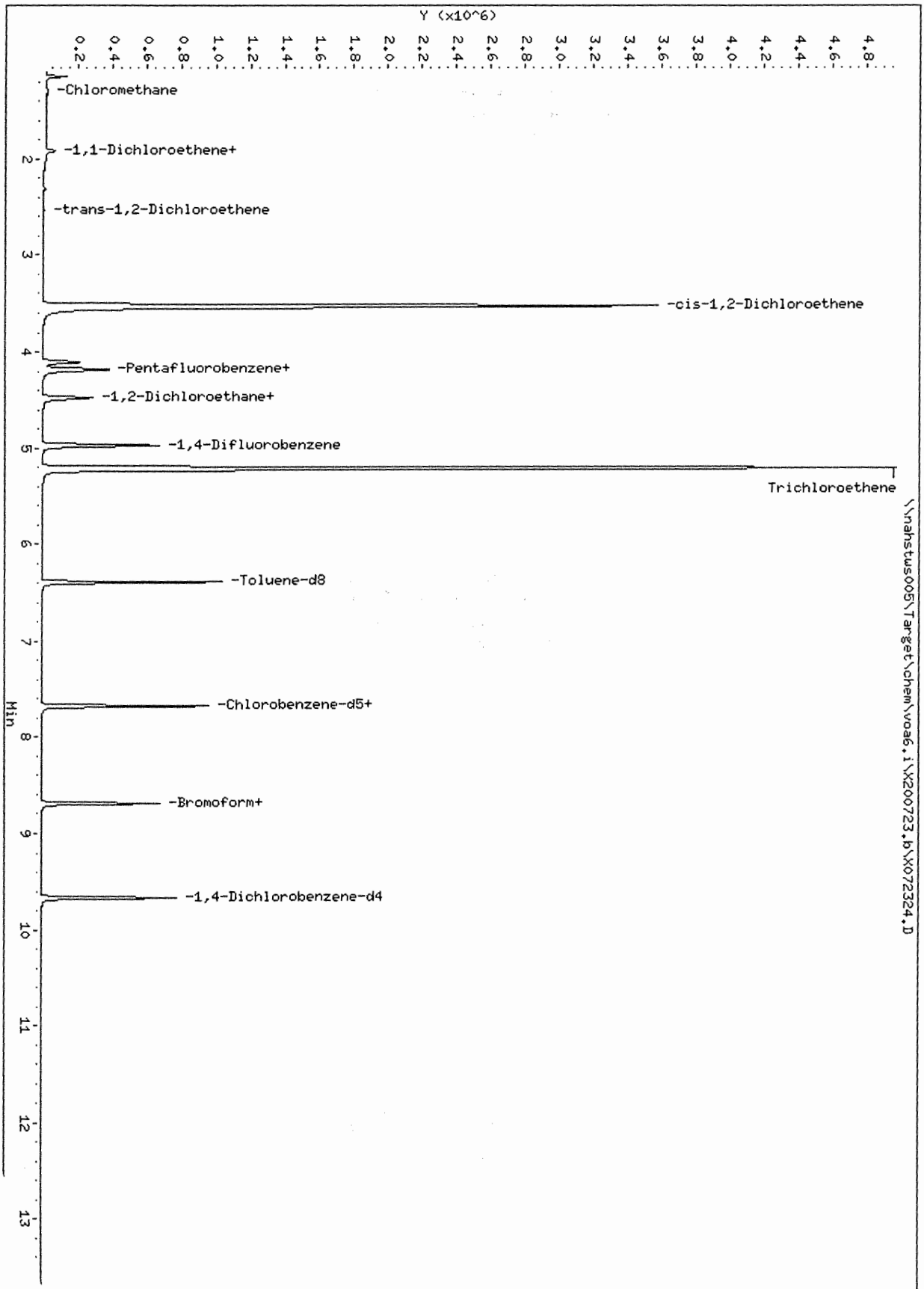
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	298285	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	487992	50.0000	
* 47 Chlorobenzene-d5	117	7.670	7.671	(1.000)	412865	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	176899	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.979)	153368	46.1352	46.13
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	208378	46.2638	46.26
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	551500	50.9962	50.99
$ 69 4-Bromofluorobenzene	95	8.695	8.688	(1.134)	193797	48.4931	48.49
11 1,1-Dichloroethene	96	1.919	1.919	(0.458)	6524	2.50007	50.00(a)
33 1,2-Dichloroethane	62	4.569	4.562	(0.919)	7131	1.22807	24.56(a)
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.843)	1501413	392.384	7847.67(A)
38 Trichloroethene	130	5.214	5.214	(1.049)	1551855	441.843	8836.86(A)
5 Vinyl Chloride	62	1.145	1.145	(0.273)	77574	15.8155	316.30

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: \\nahstus005\Target\chem\voa6.i\X200723.b\X072324.D
Date : 23-JUL-2020 19:46
Client ID: HS200710333-08
Sample Info: HS200710333-08;HS200710333-08;;;
Purge Volume: 5.0
Column phase: DB624

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



Data File: \\nahstws005\Target\chem\voa6.i\X200723.b\X072324.D

Date : 23-JUL-2020 19:46

Client ID: HS20071033-08

Instrument: voa6.i

Sample Info: HS20071033-08;HS20071033-08;;;

Purge Volume: 5.0

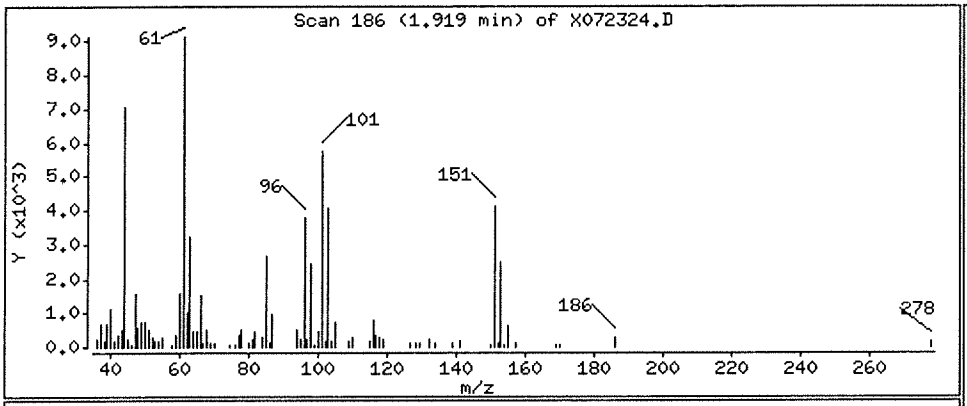
Operator: PC

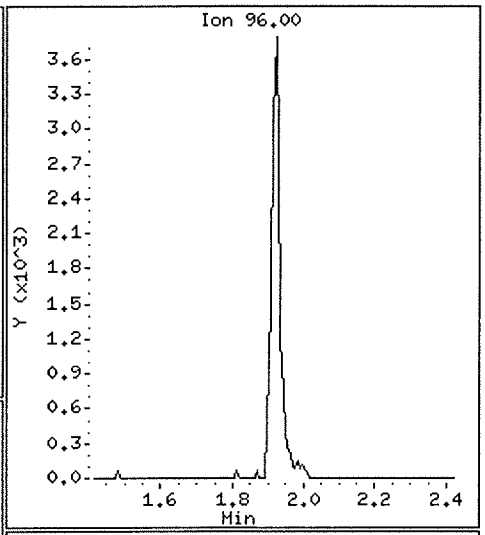
Column phase: DB624

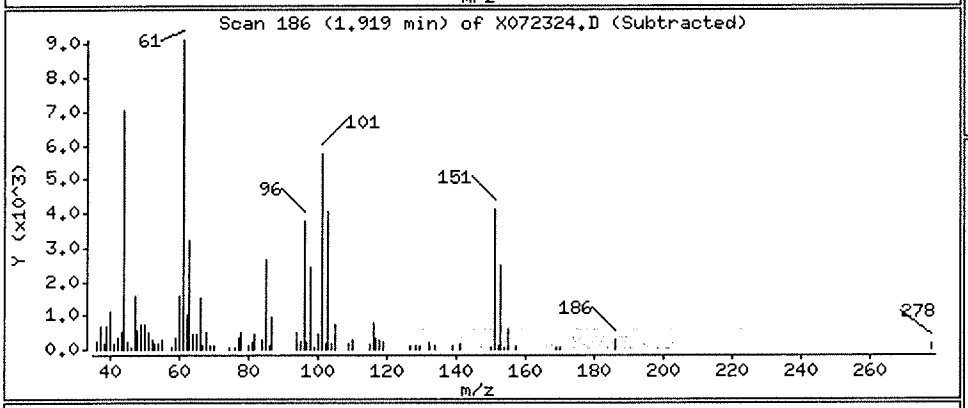
Column diameter: 0.18

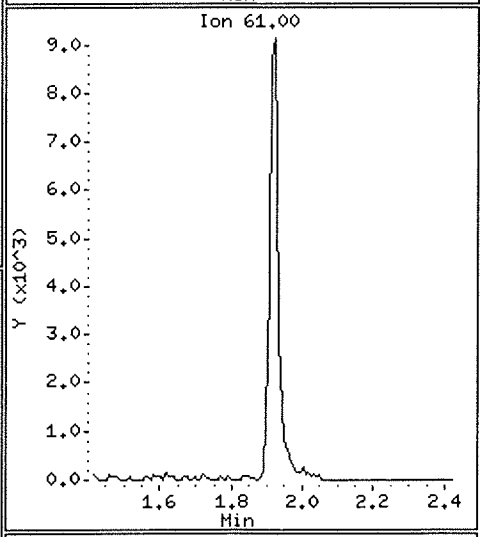
11 1,1-Dichloroethene

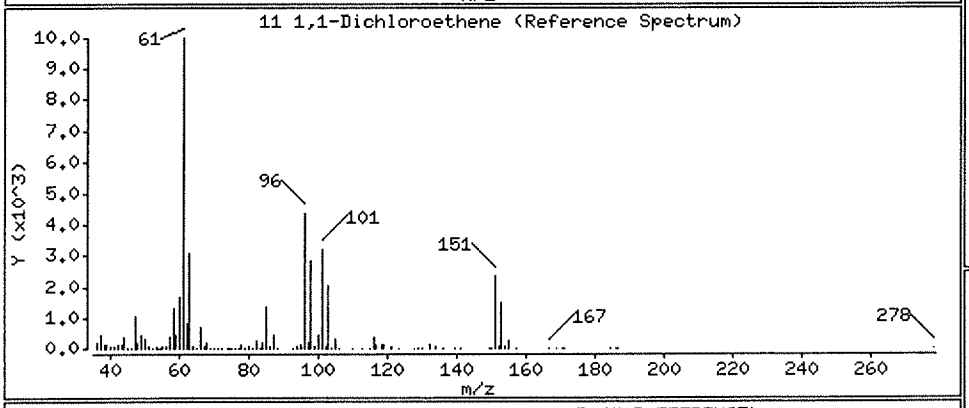
Concentration: 50.00 ug/l

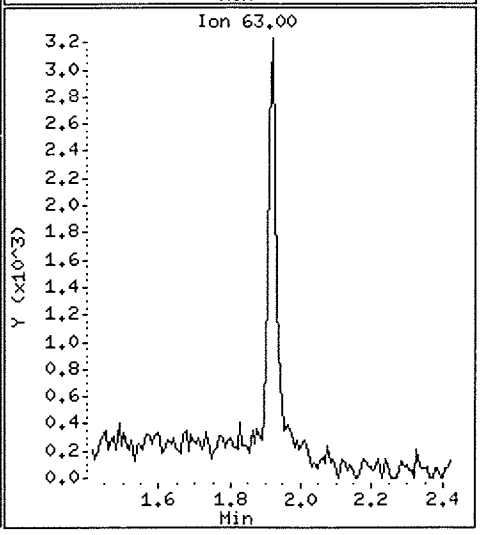


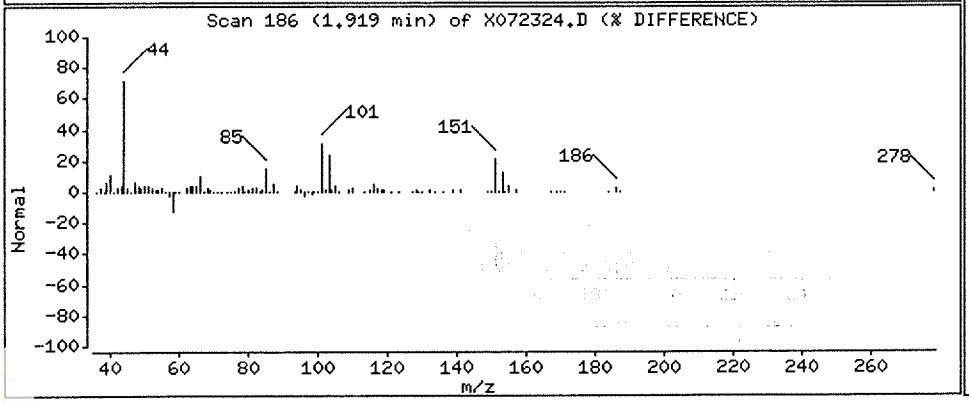












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Date : 23-JUL-2020 19:46

Client ID: HS20071033-08

Instrument: voa6.i

Sample Info: HS20071033-08;HS20071033-08;;;

Purge Volume: 5.0

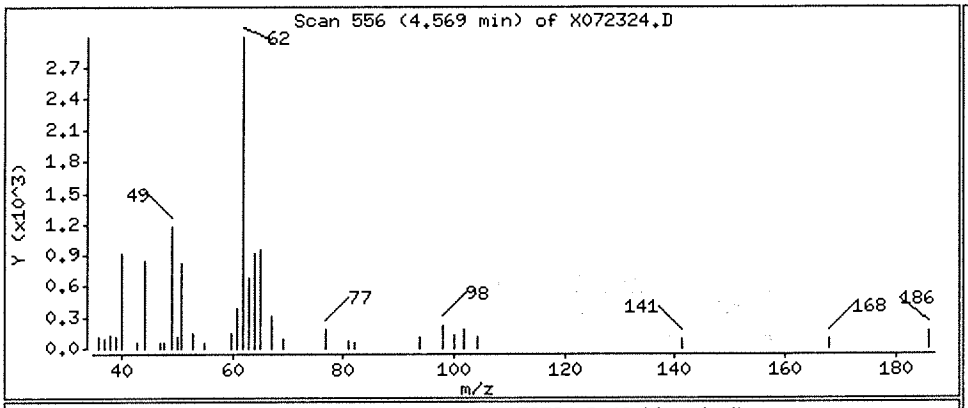
Operator: PC

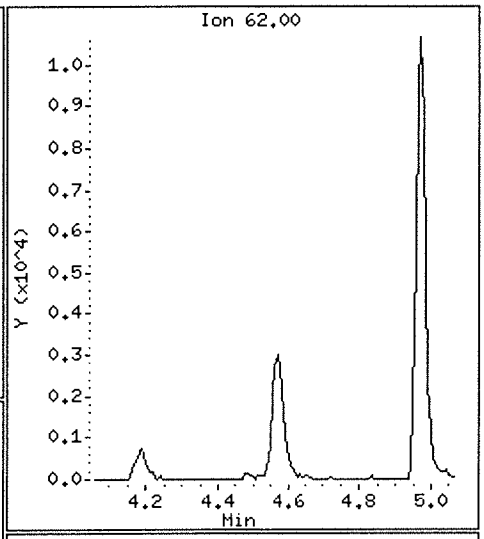
Column phase: DB624

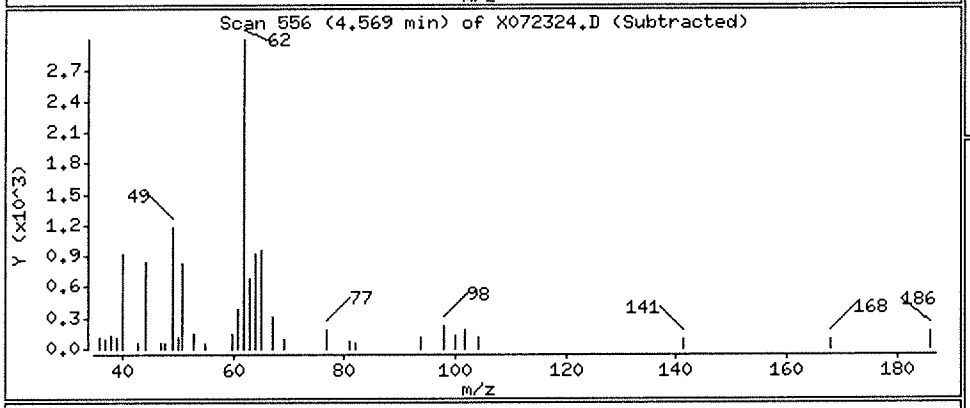
Column diameter: 0.18

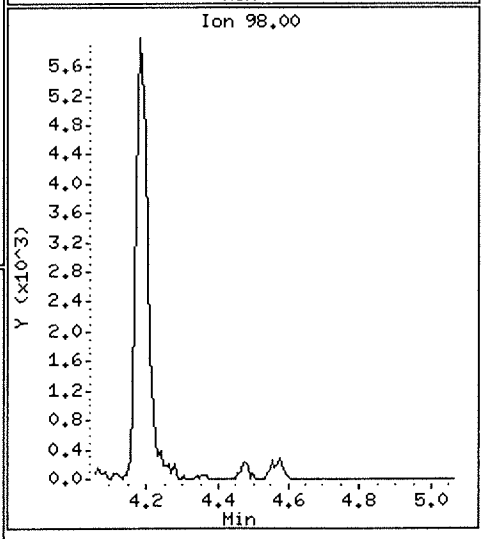
33 1,2-Dichloroethane

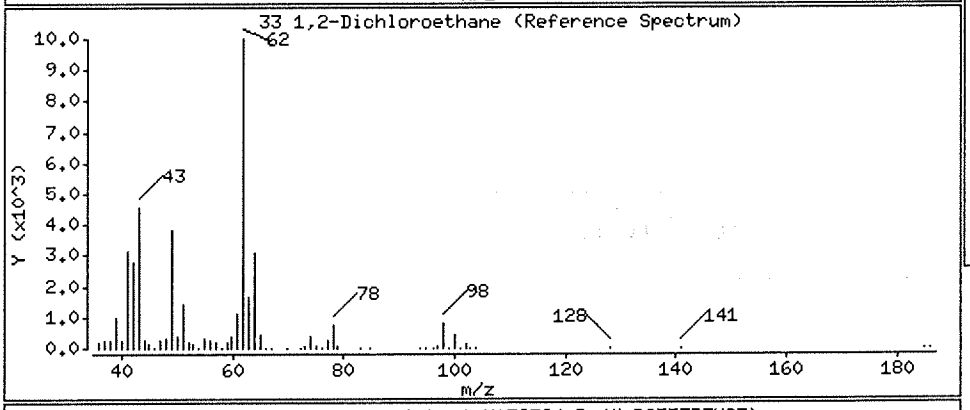
Concentration: 24.56 ug/l

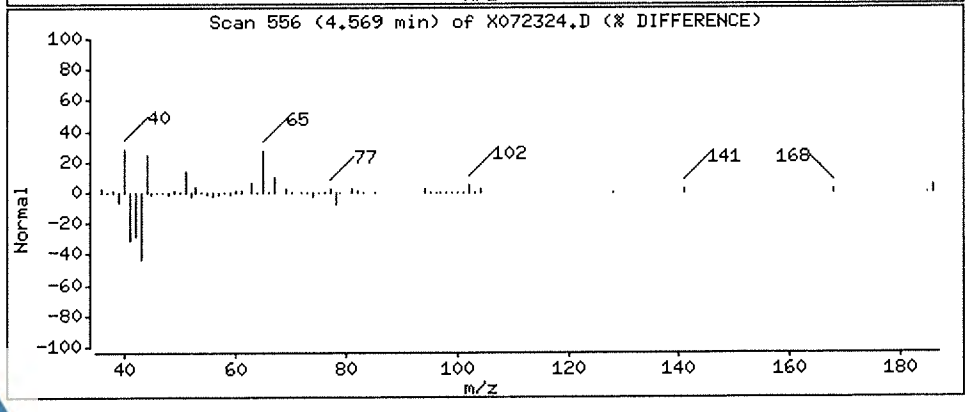












Data File: \\nahstws005\Target\chem\voa6.i\X200723.b\X072324.D

Date : 23-JUL-2020 19:46

Client ID: HS20071033-08

Instrument: voa6.i

Sample Info: HS20071033-08;HS20071033-08;;;

Purge Volume: 5.0

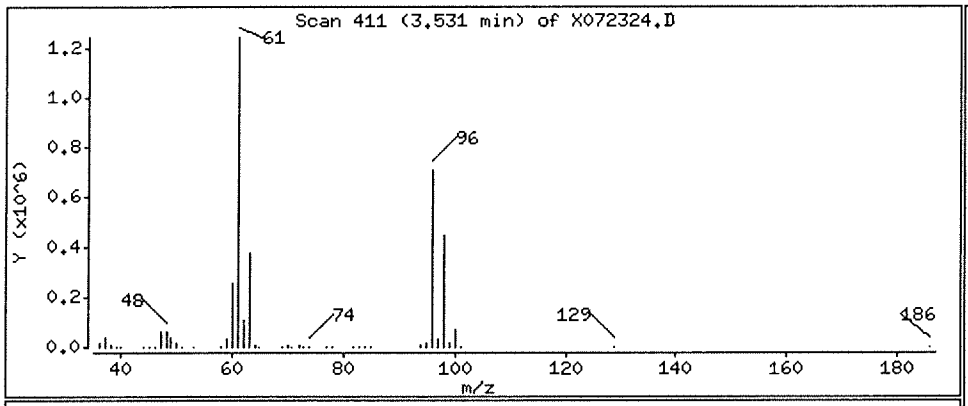
Operator: PC

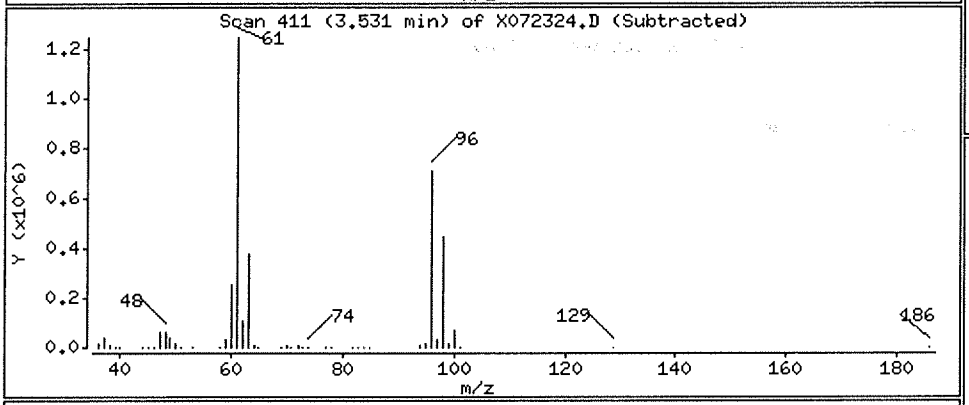
Column phase: DB624

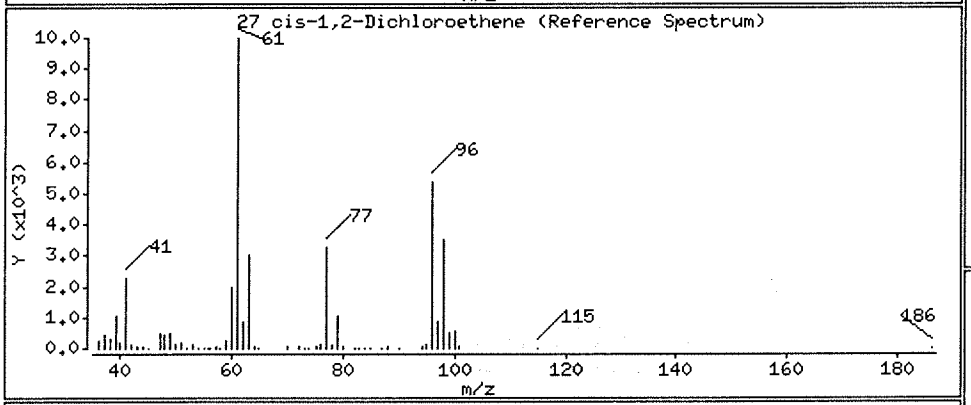
Column diameter: 0.18

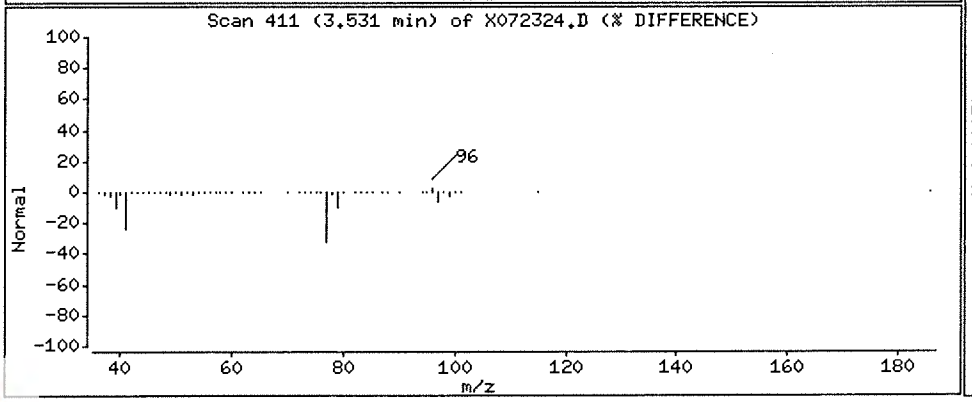
27 cis-1,2-Dichloroethene

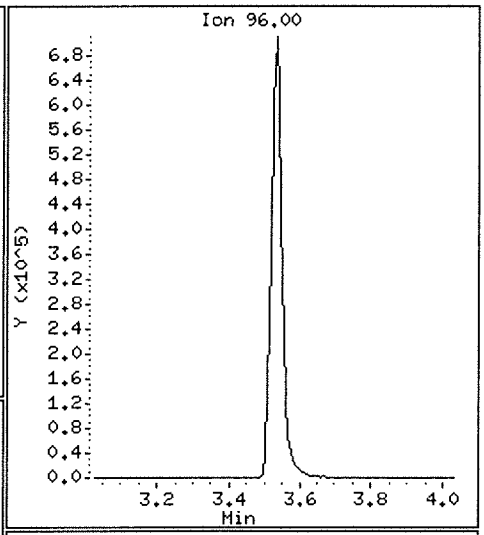
Concentration: 7847.67 ug/l

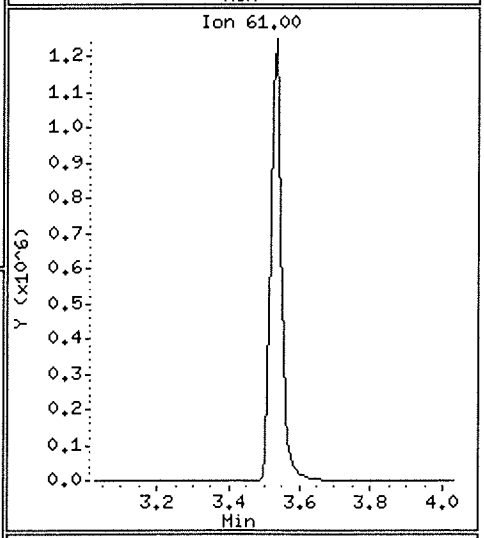


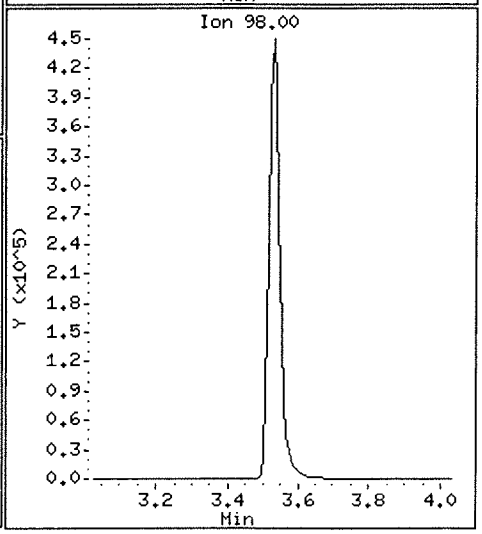












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Date : 23-JUL-2020 19:46

Client ID: HS20071033-08

Instrument: voa6.i

Sample Info: HS20071033-08;HS20071033-08;;;

Purge Volume: 5.0

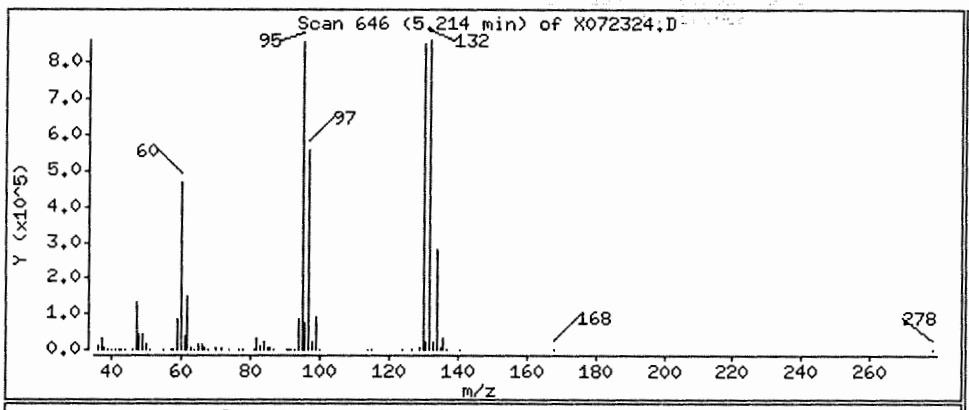
Operator: PC

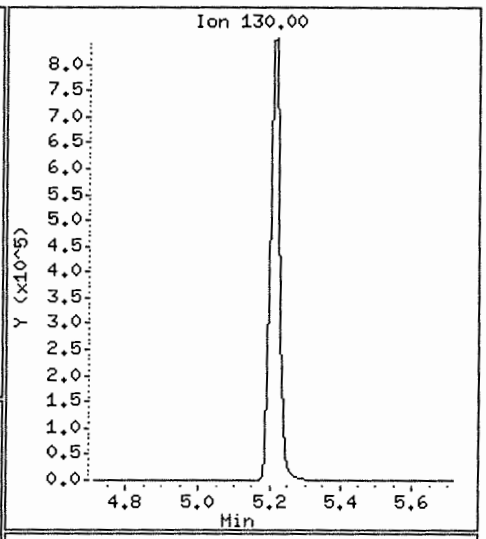
Column phase: DB624

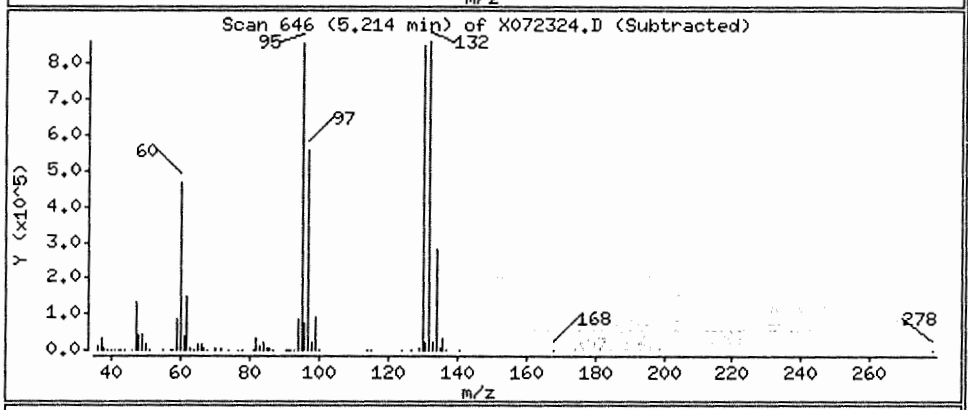
Column diameter: 0.18

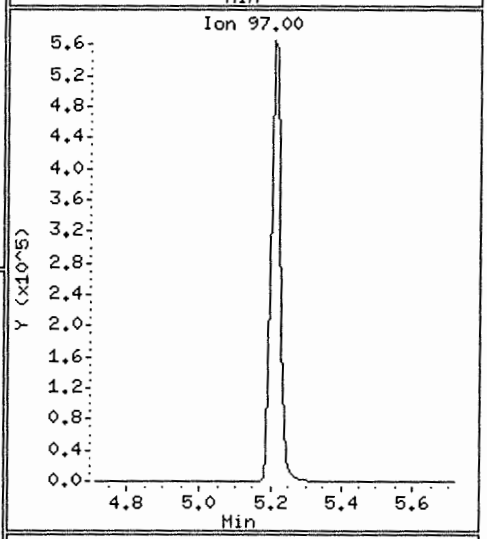
38 Trichloroethene

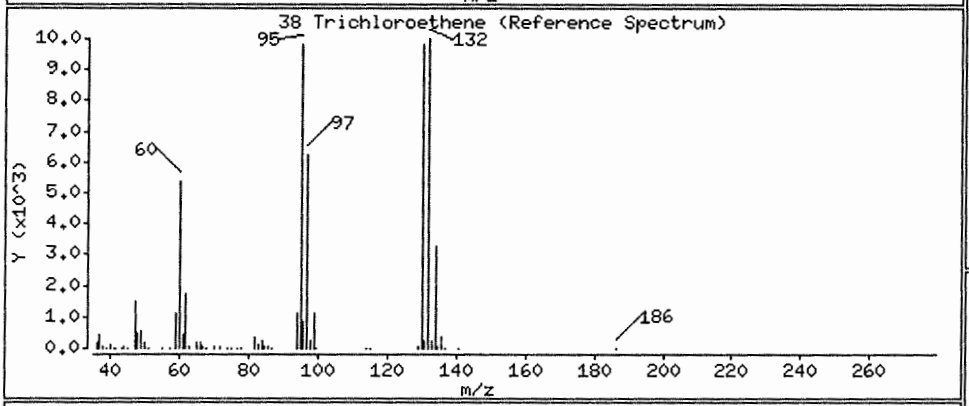
Concentration: 8836.86 ug/l

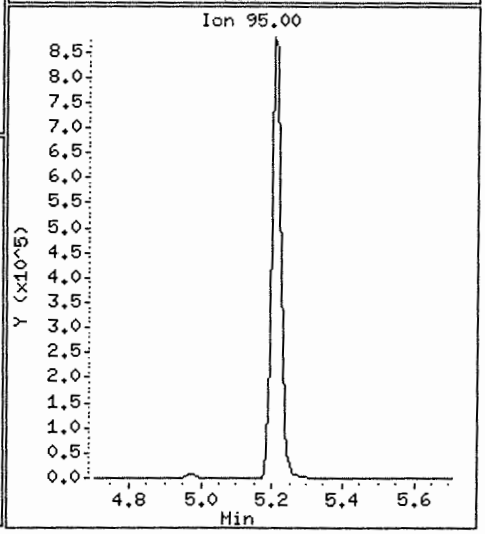


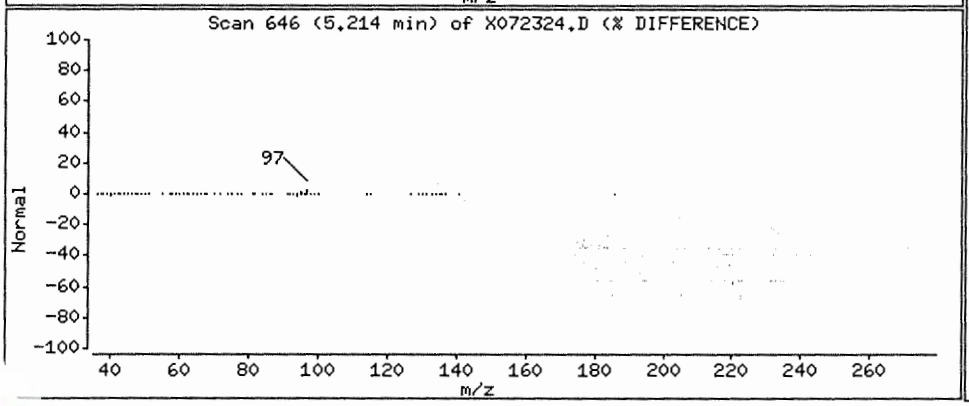












Data File: \\nahstws005\Target\chem\voa6.i\X200723.b\X072324.D

Date : 23-JUL-2020 19:46

Client ID: HS20071033-08

Instrument: voa6.i

Sample Info: HS20071033-08;HS20071033-08;;;

Purge Volume: 5.0

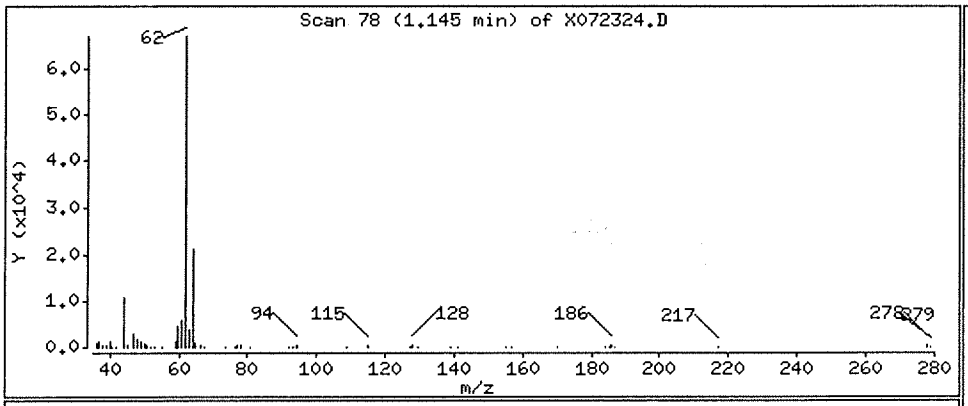
Operator: PC

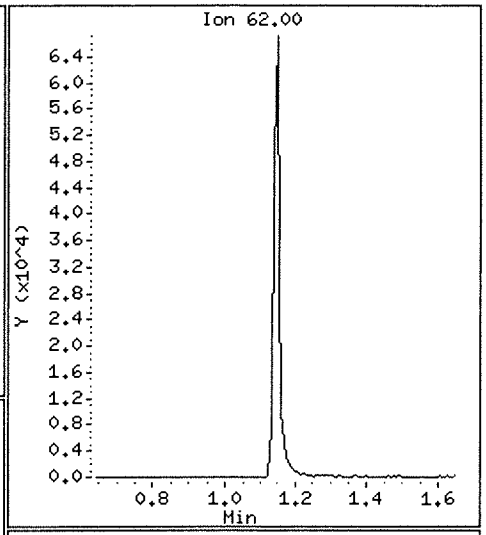
Column phase: DB624

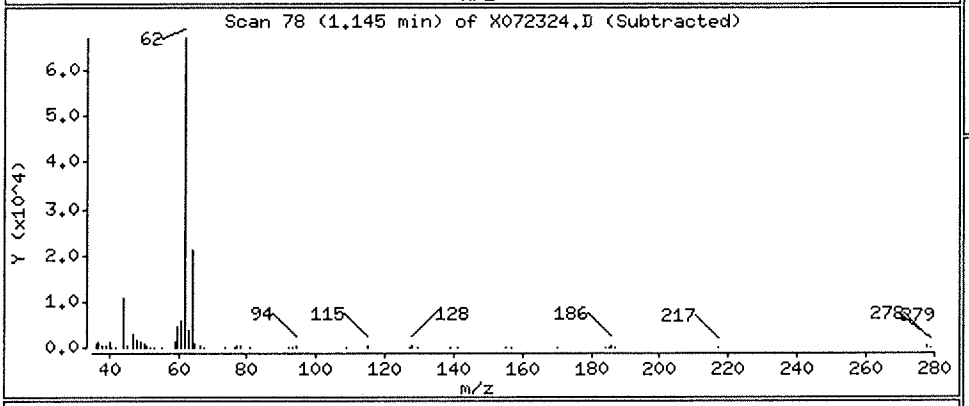
Column diameter: 0.18

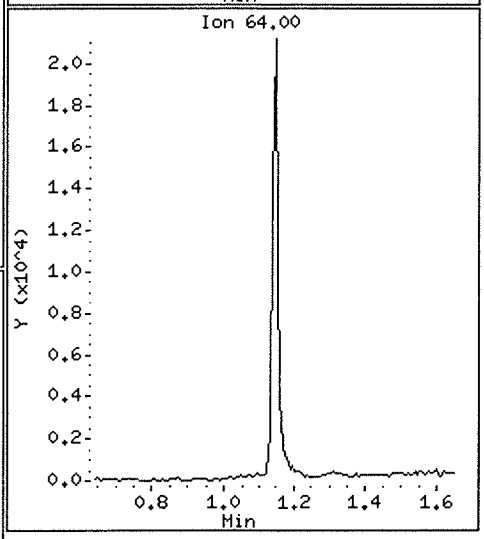
5 Vinyl Chloride

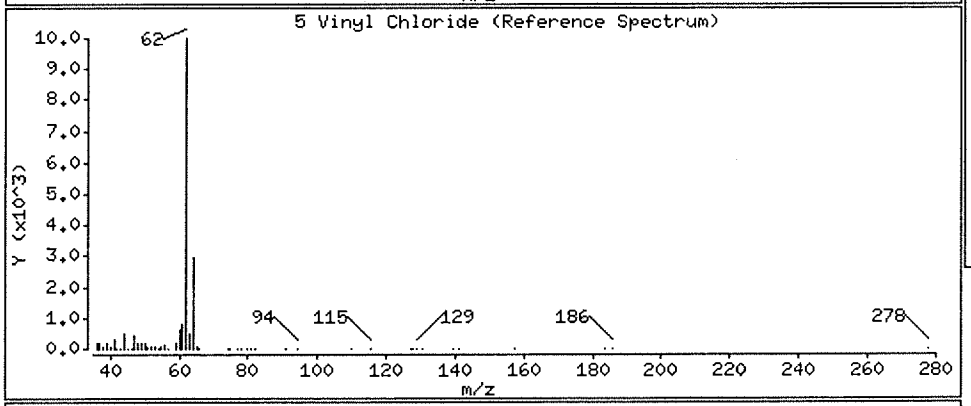
Concentration: 316.30 ug/l

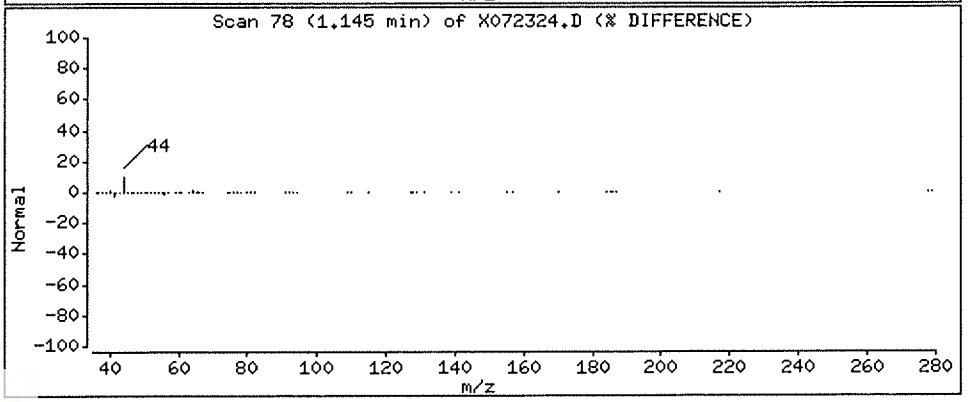












Data File: \\nahstws005\Target\chem\voa6.i\X200723.b\X072325.D Page 1
Report Date: 21-Aug-2020 16:42

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X200723.b\X072325.D
Lab Smp Id: HS20071033-08 Client Smp ID: HS20071033-08
Inj Date : 23-JUL-2020 20:10
Operator : PC Inst ID: voa6.i
Smp Info : HS20071033-08;HS20071033-08;;;
Misc Info : HS18090001;WATER;0;200;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200723.b\8260W.m
Meth Date : 21-Aug-2020 16:39 voa6.i Quant Type: ISTD
Cal Date : 13-JUL-2020 13:18 Cal File: X071308.D
Als bottle: 23
Dil Factor: 200.00000
Integrator: HP RTE Compound Sublist: CBI-Hou11.sub
Target Version: 4.14
Processing Host: NAHSTW7056

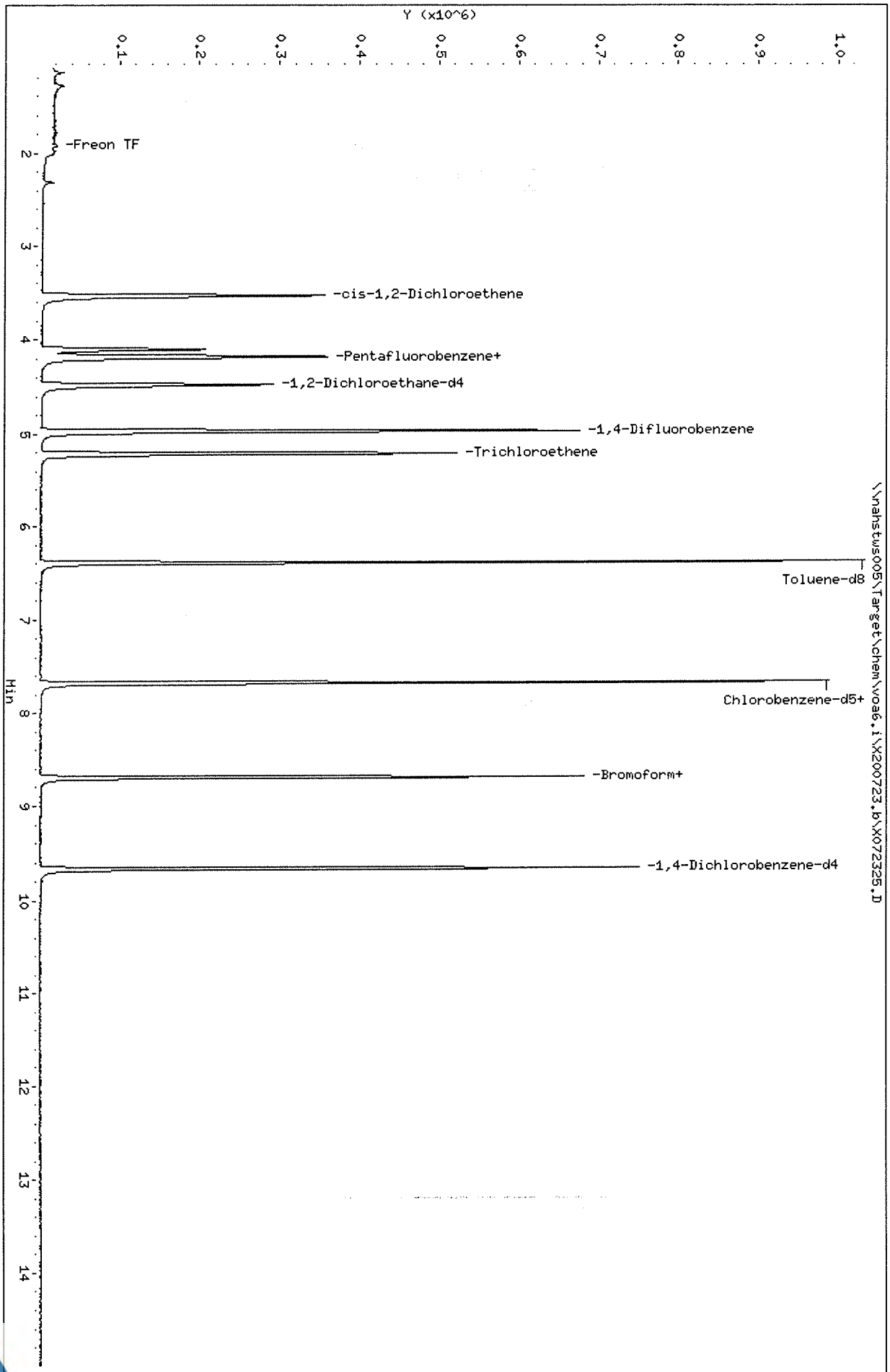
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	200.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	254958	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	489460	50.0000	
* 47 Chlorobenzene-d5	117	7.670	7.671	(1.000)	409080	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	168867	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.979)	143168	50.3932	50.39
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	213308	55.3393	55.33
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	549146	51.2483	51.24
$ 69 4-Bromofluorobenzene	95	8.695	8.688	(1.134)	199451	50.3904	50.39
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.843)	151612	46.3561	9271.22
38 Trichloroethene	130	5.214	5.214	(1.049)	160979	45.6964	9139.27
5 Vinyl Chloride	62	1.145	1.145	(0.273)	8506	2.02887	405.77

Data File: \\nahstws005\Target\chem\voa6.i\X200723.b\X072325.D
Date : 23-JUL-2020 20:10
Client ID: HS200710J3-08
Sample Info: HS200710J3-08;HS200710J3-08;;;
Purge Volume: 5.0
Column phase: DB624

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



Data File: \\nahstws005\Target\chem\voa6.i\X200723.b\X072325.D

Date : 23-JUL-2020 20:10

Client ID: HS20071033-08

Instrument: voa6.i

Sample Info: HS20071033-08;HS20071033-08;;;

Purge Volume: 5.0

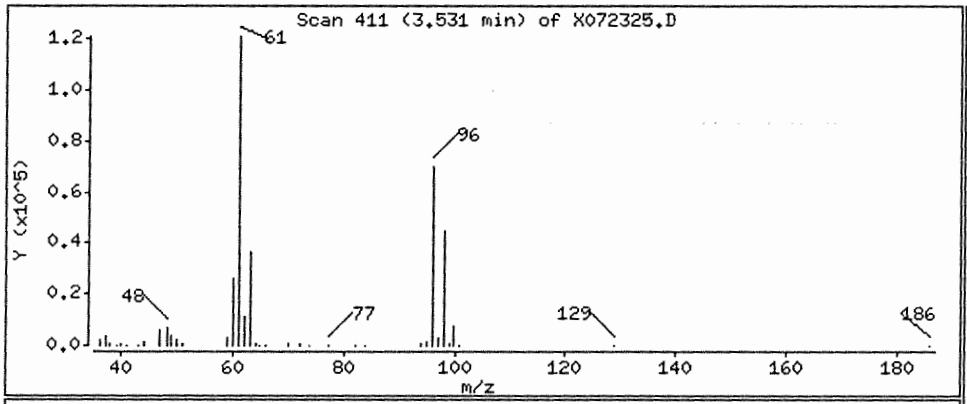
Operator: PC

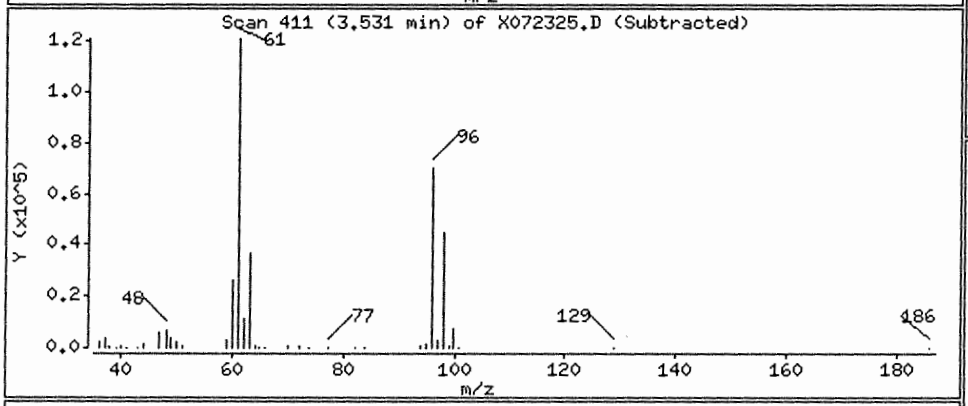
Column phase: DB624

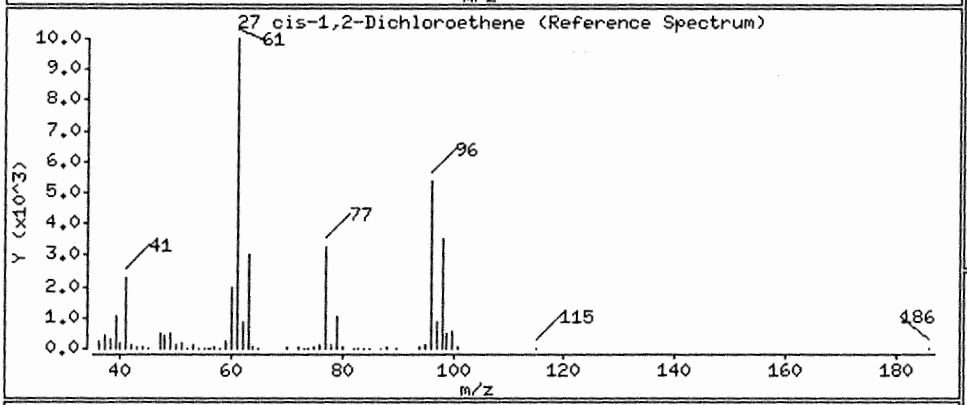
Column diameter: 0.18

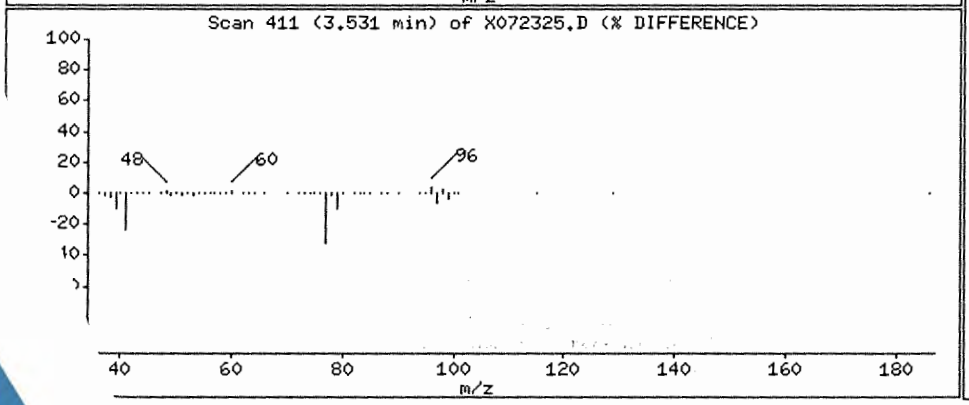
27 cis-1,2-Dichloroethene

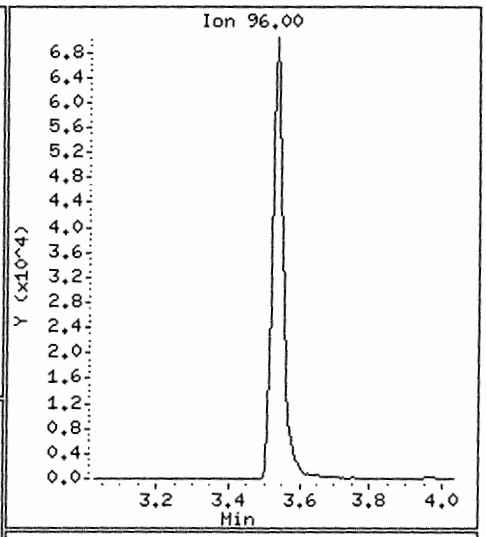
Concentration: 9271.22 ug/l

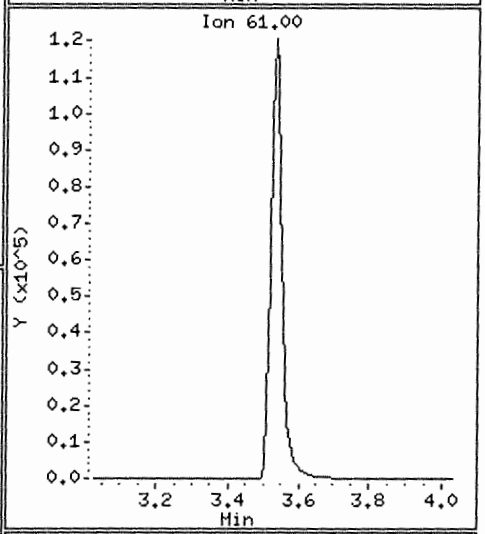


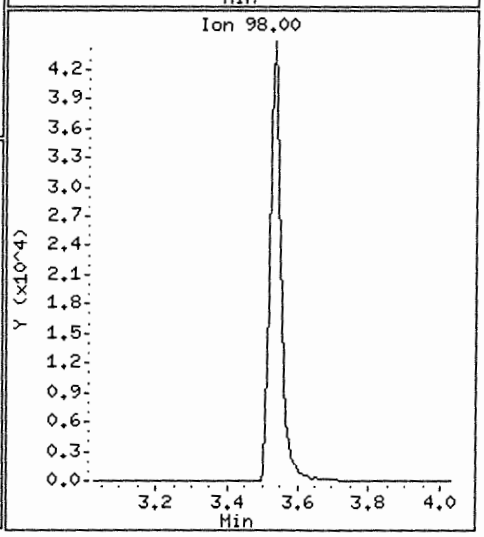












Data File: \\nahstws005\Target\chem\voa6.i\X200723.b\X072325.D

Date : 23-JUL-2020 20:10

Client ID: HS20071033-08

Instrument: voa6.i

Sample Info: HS20071033-08;HS20071033-08;;;

Purge Volume: 5.0

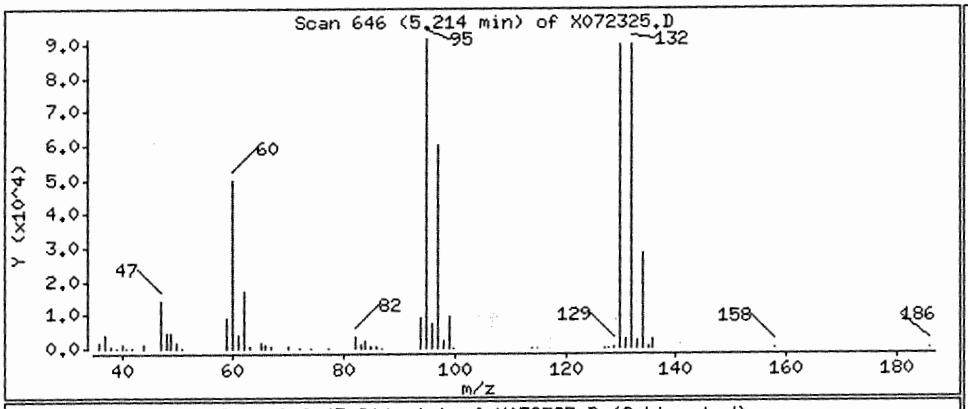
Operator: PC

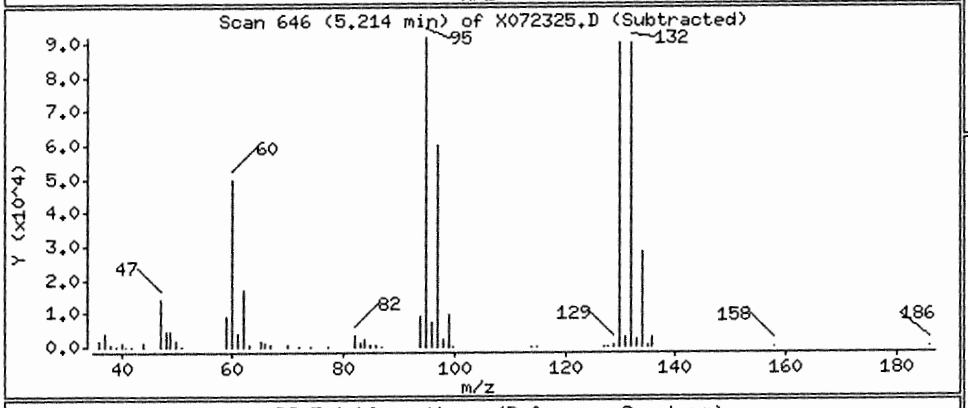
Column phase: DB624

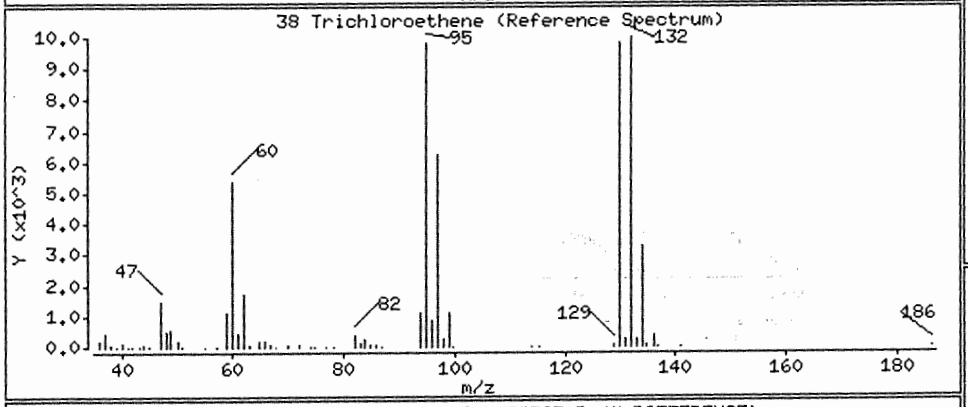
Column diameter: 0.18

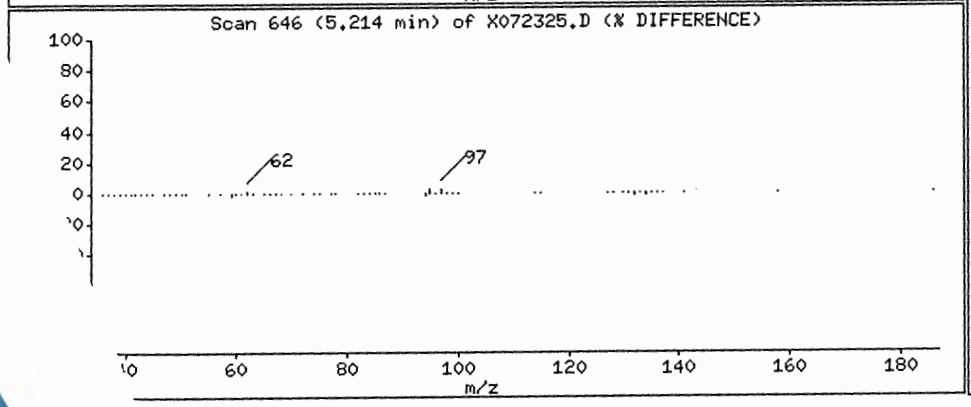
38 Trichloroethene

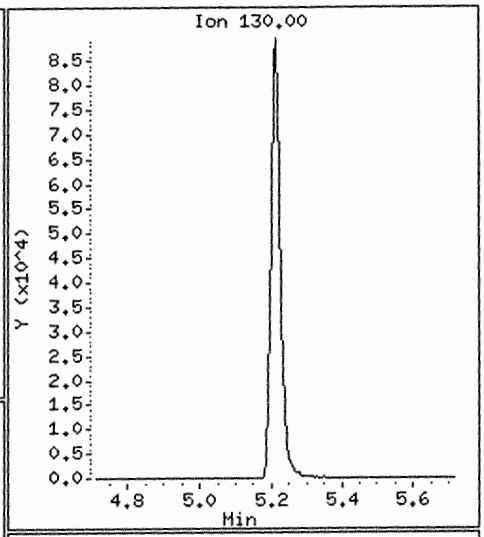
Concentration: 9139.27 ug/l

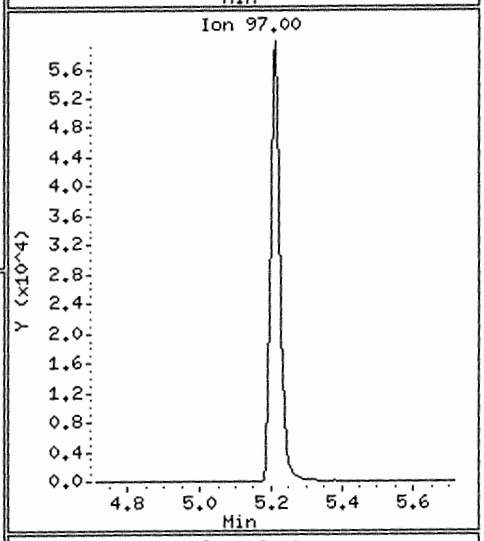


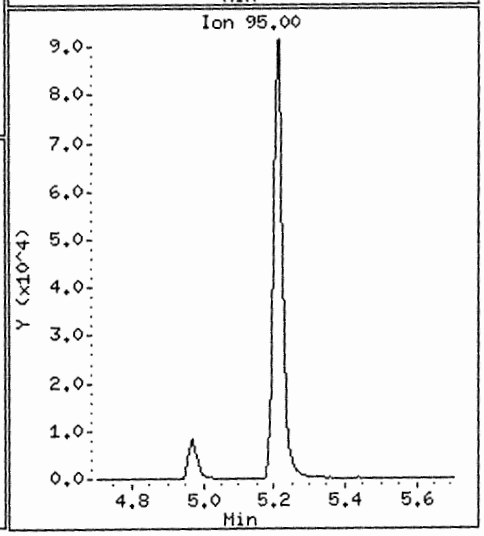












Data File: \\nahstws005\Target\chem\voa6.i\X200723.b\X072325.D

Date : 23-JUL-2020 20:10

Client ID: HS20071033-08

Instrument: voa6.i

Sample Info: HS20071033-08;HS20071033-08;;;

Purge Volume: 5.0

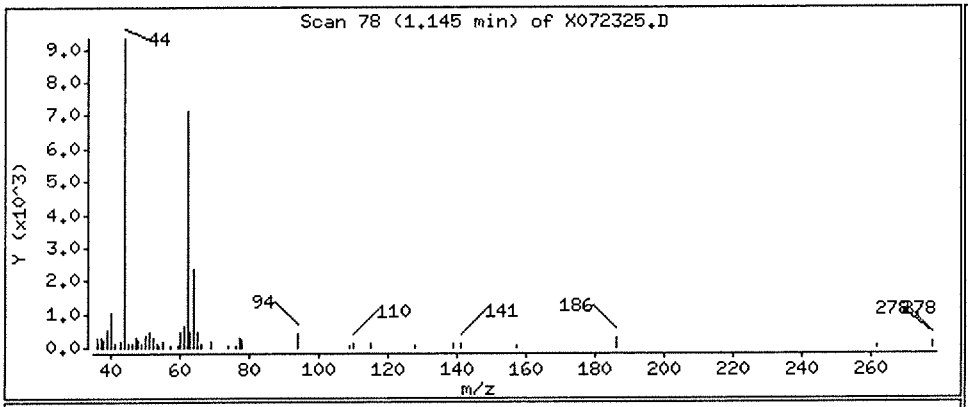
Operator: PC

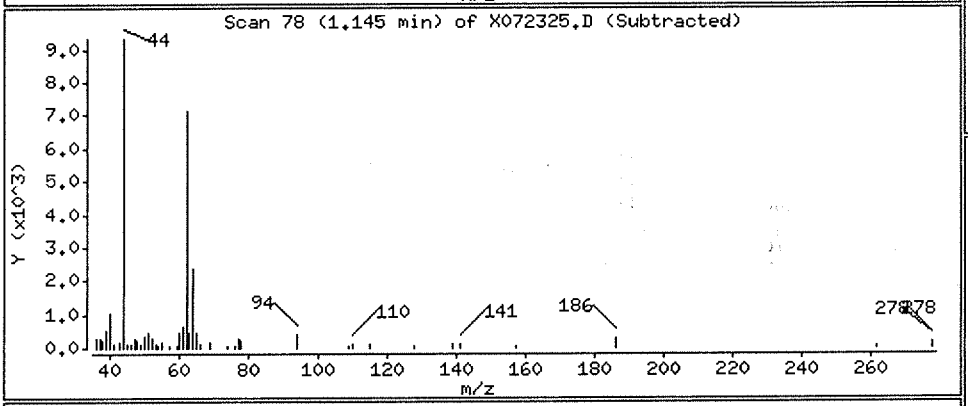
Column phase: DB624

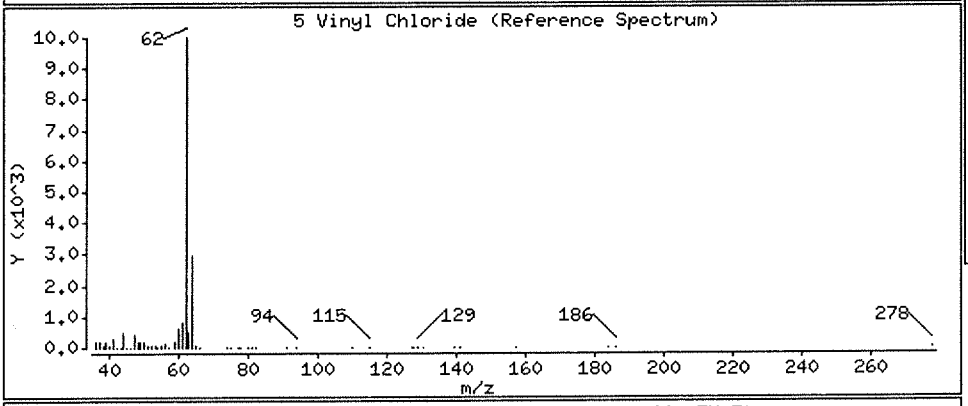
Column diameter: 0.18

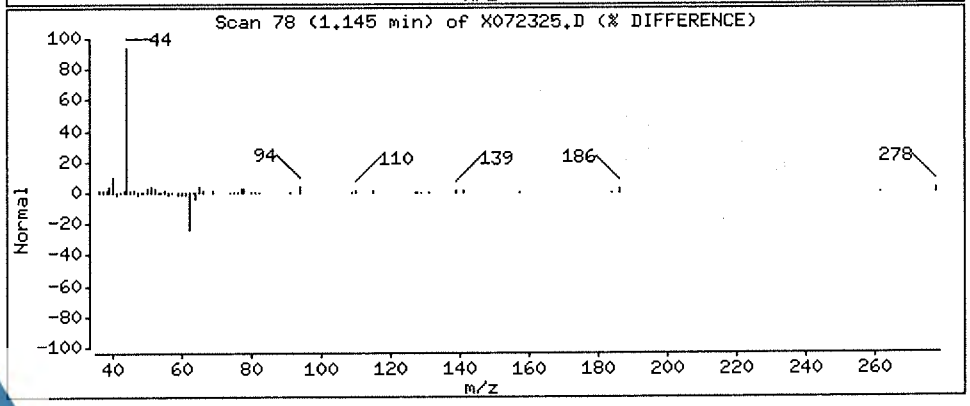
5 Vinyl Chloride

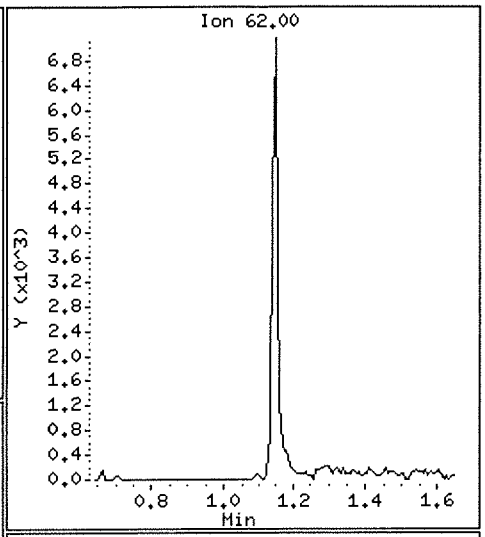
Concentration: 405.77 ug/l

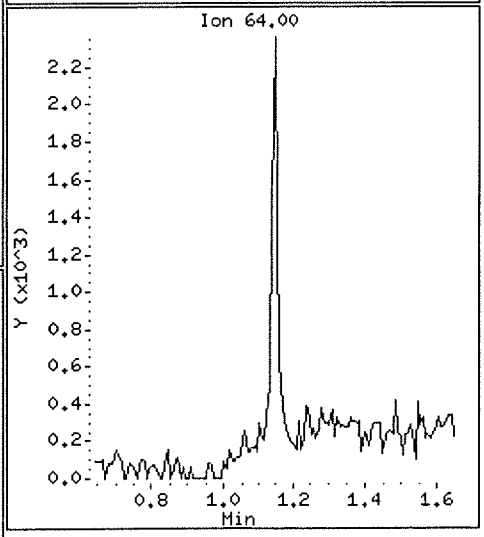












ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X200723.b\X072326.D
Lab Smp Id: HS20071033-07 Client Smp ID: HS20071033-07
Inj Date : 23-JUL-2020 20:34
Operator : PC Inst ID: voa6.i
Smp Info : HS20071033-07;HS20071033-07;;;
Misc Info : HS18090001;WATER;0;25;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200723.b\8260W.m
Meth Date : 21-Aug-2020 16:39 voa6.i Quant Type: ISTD
Cal Date : 13-JUL-2020 13:18 Cal File: X071308.D
Als bottle: 24
Dil Factor: 25.00000
Integrator: HP RTE Compound Sublist: CBI-Hou11.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

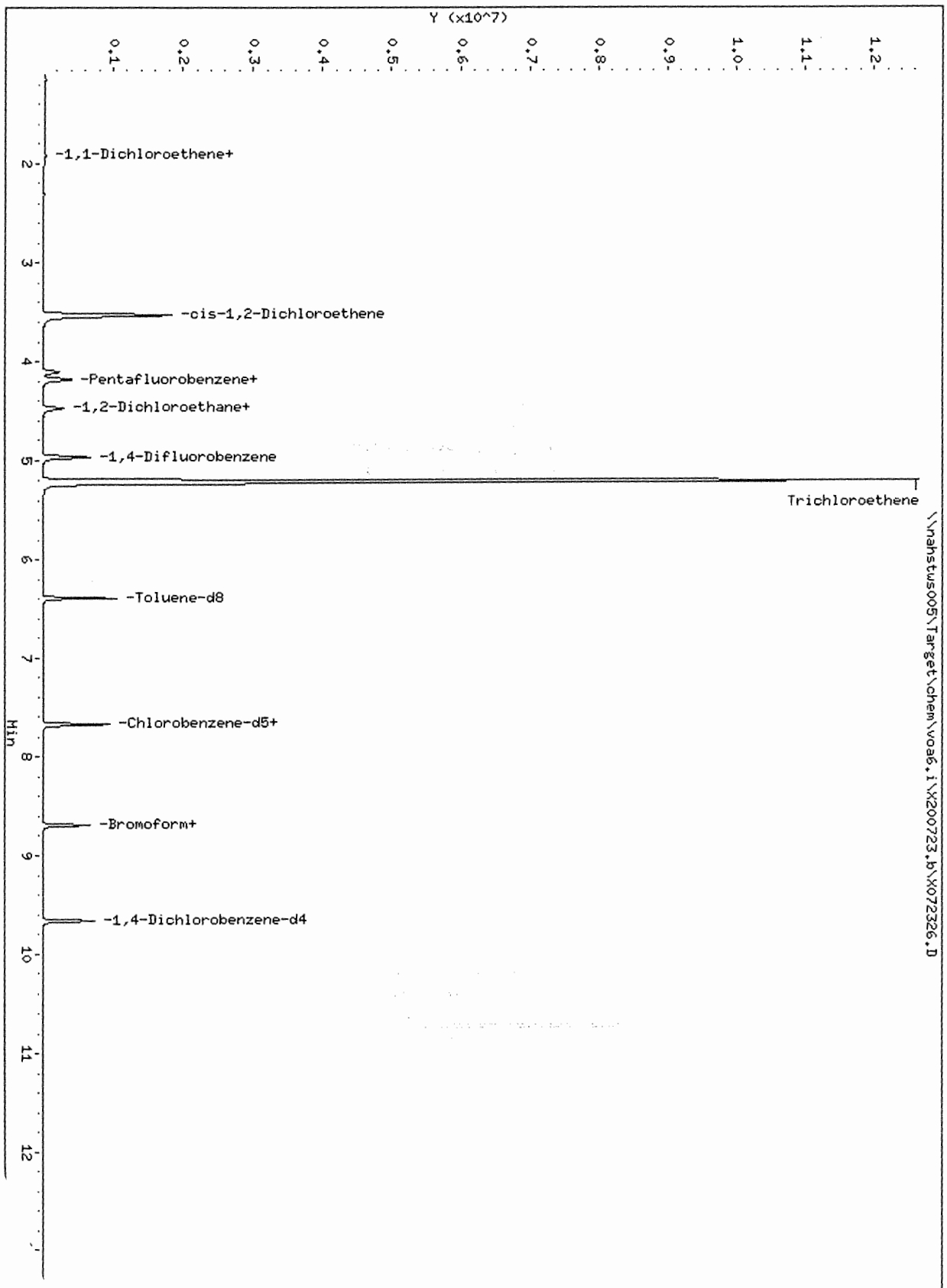
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	306819	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	498241	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	399043	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	168683	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.979)	159549	46.6605	46.66
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	211326	45.6181	45.61
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	536629	51.3398	51.33
$ 69 4-Bromofluorobenzene	95	8.695	8.688	(1.134)	189061	48.9517	48.95
11 1,1-Dichloroethene	96	1.919	1.919	(0.458)	4690	1.74727	43.68(a)
33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	6044	1.01946	25.48(a)
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.843)	802980	204.016	5100.40(A)
38 Trichloroethene	130	5.214	5.214	(1.049)	3843521	1071.81	26795.34(A)
5 Vinyl Chloride	62	1.145	1.145	(0.273)	22544	4.46835	111.70

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\X200723.b\X072326.D
Date : 23-JUL-2020 20:34
Client ID: HS200710330-07
Sample Info: HS200710330-07;HS200710330-07;;;
Purge Volume: 5.0
Column phase: DB624

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



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Date : 23-JUL-2020 20:34

Client ID: HS20071033-07

Instrument: voa6.i

Sample Info: HS20071033-07;HS20071033-07;;;

Purge Volume: 5.0

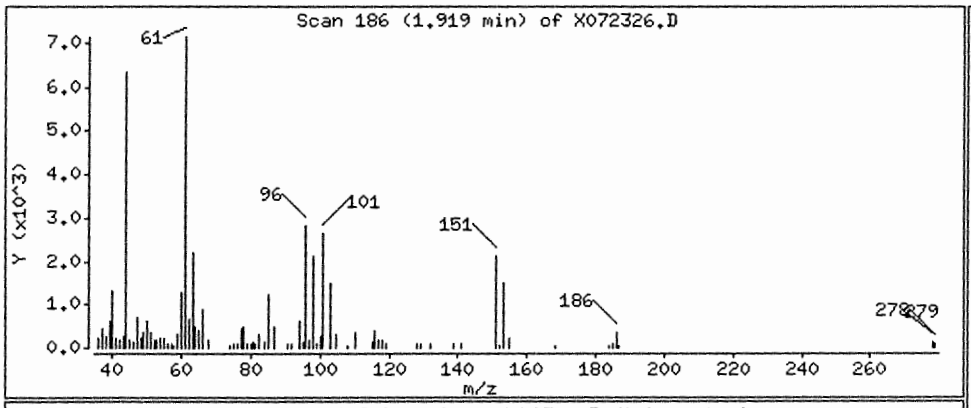
Operator: PC

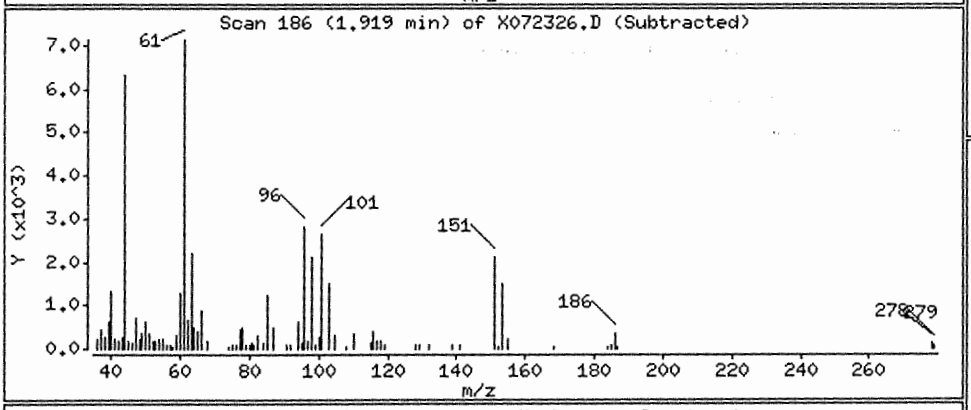
Column phase: DB624

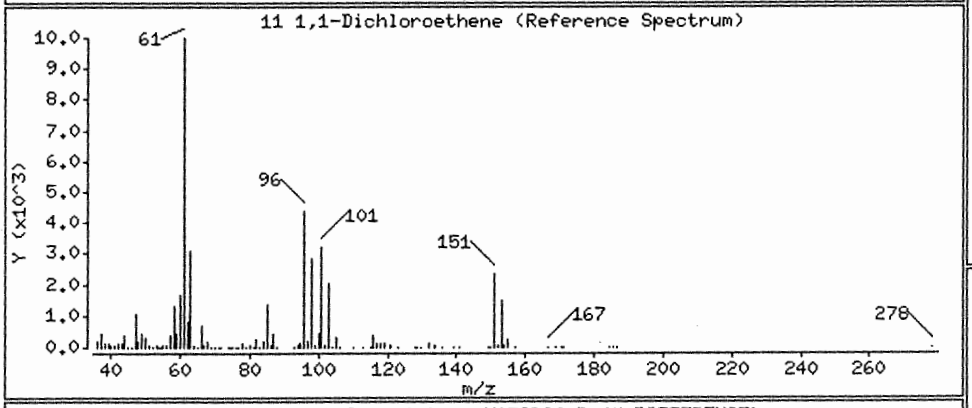
Column diameter: 0.18

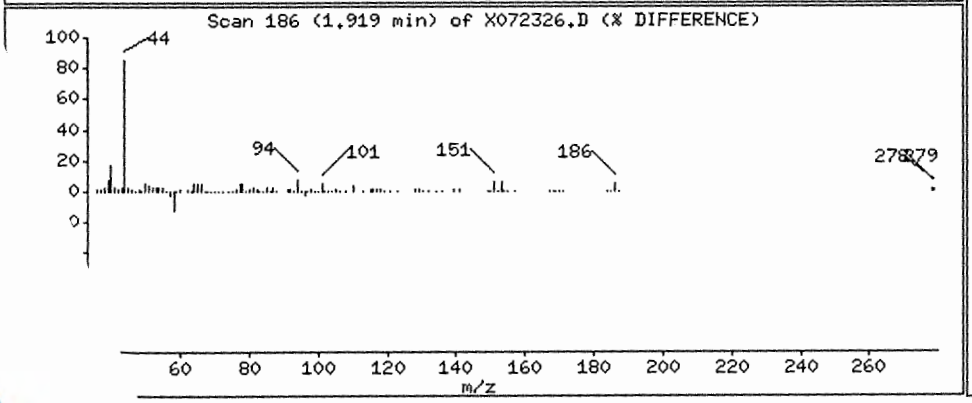
11 1,1-Dichloroethene

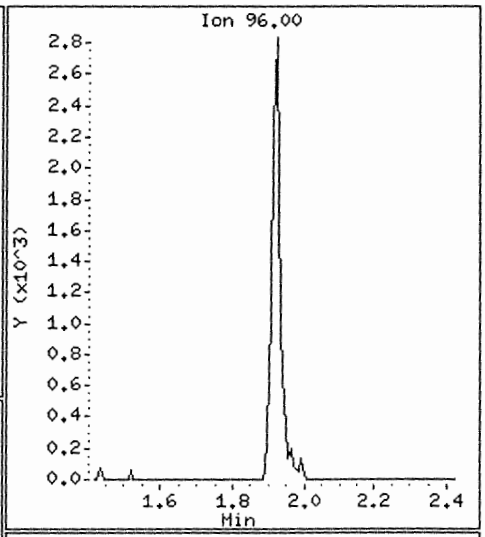
Concentration: 43.68 ug/l

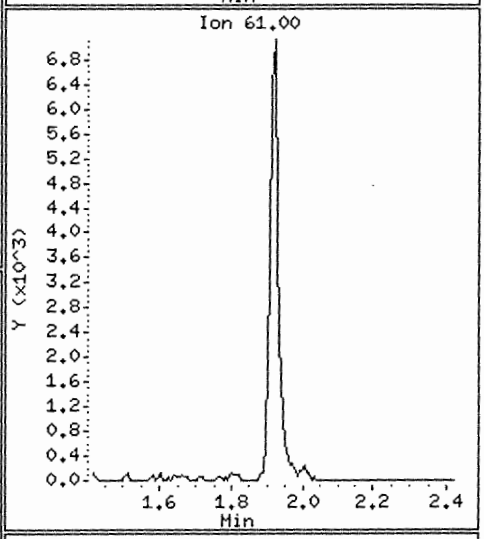


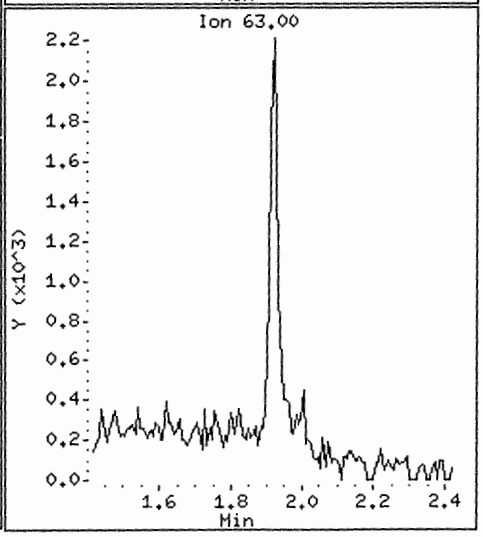












Data File: \\nahstws005\Target\chem\voa6.i\X200723.b\X072326.D

Date : 23-JUL-2020 20:34

Client ID: HS20071033-07

Instrument: voa6.i

Sample Info: HS20071033-07;HS20071033-07;;;

Purge Volume: 5.0

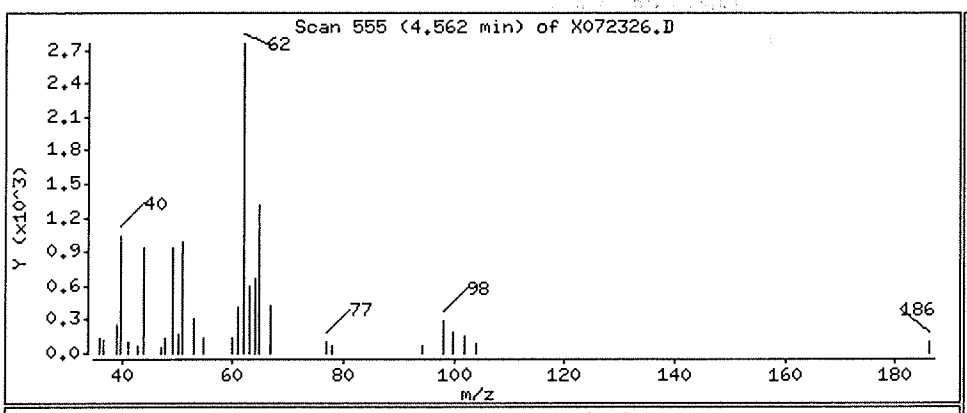
Operator: PC

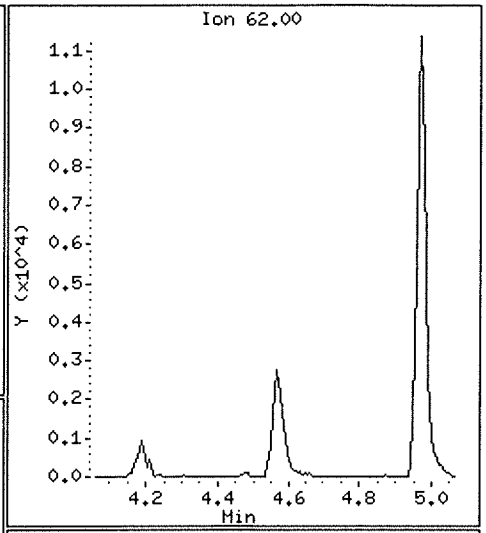
Column phase: DB624

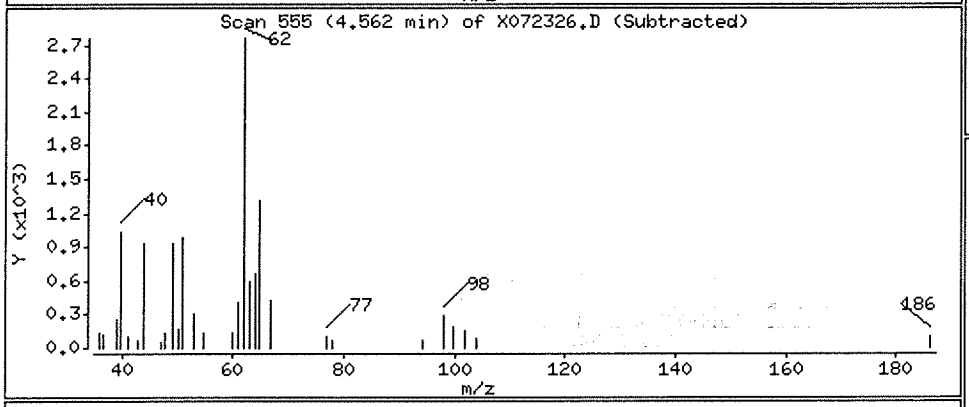
Column diameter: 0.18

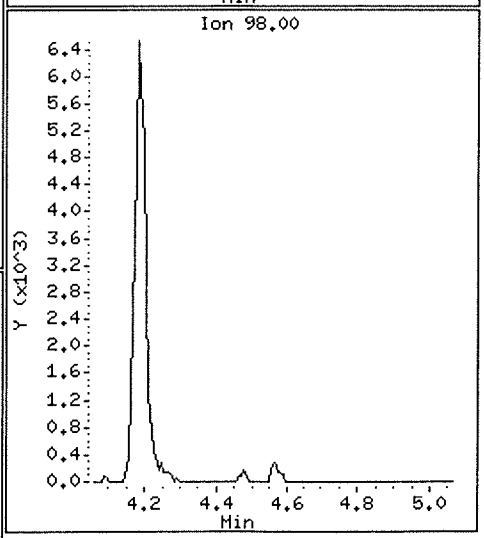
33 1,2-Dichloroethane

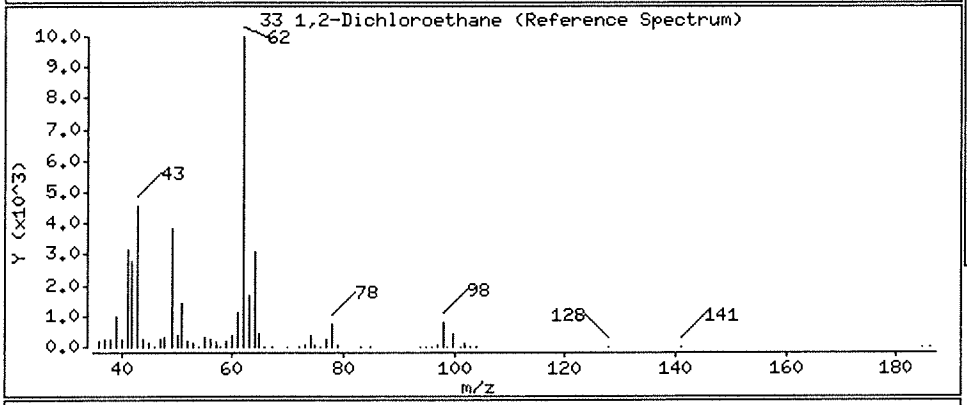
Concentration: 25.48 ug/l

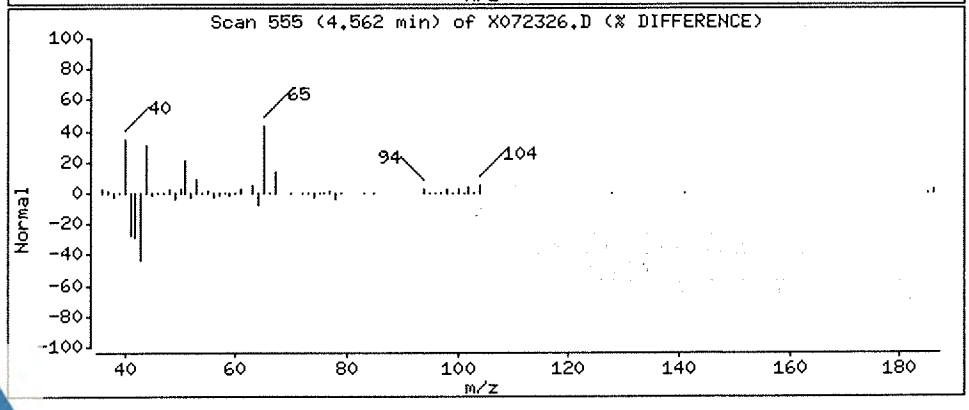












Data File: \\nahstws005\Target\chem\voa6.i\X200723.b\X072326.D

Date : 23-JUL-2020 20:34

Client ID: HS20071033-07

Instrument: voa6.i

Sample Info: HS20071033-07;HS20071033-07;;;

Purge Volume: 5.0

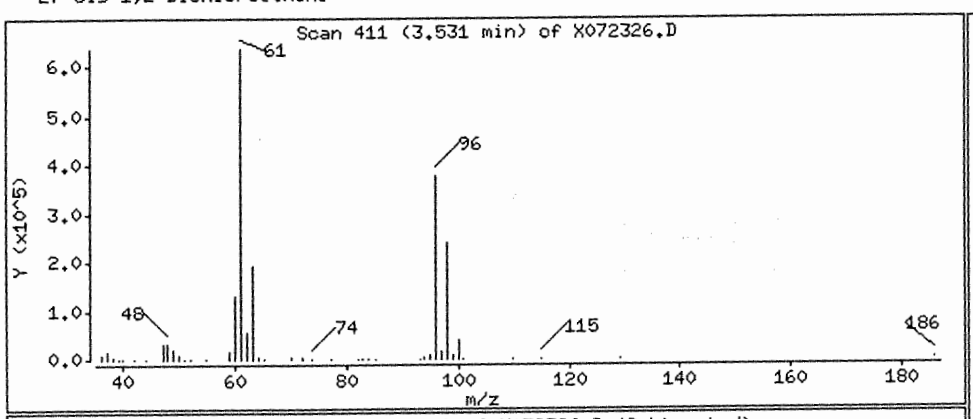
Operator: PC

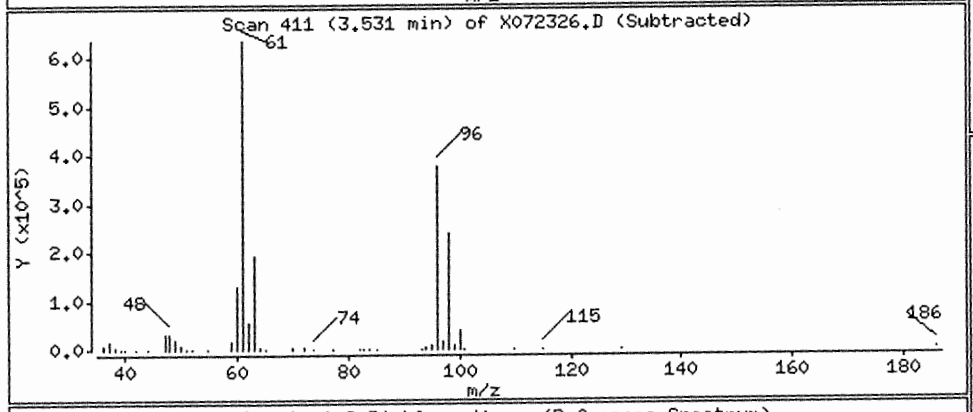
Column phase: DB624

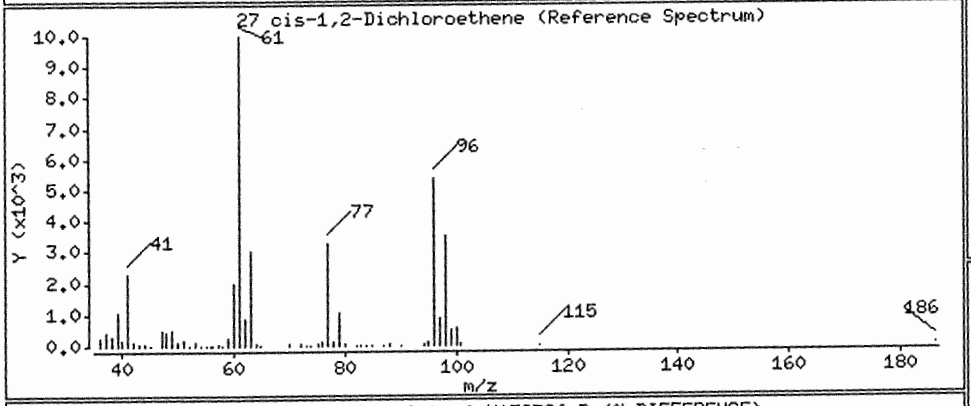
Column diameter: 0.18

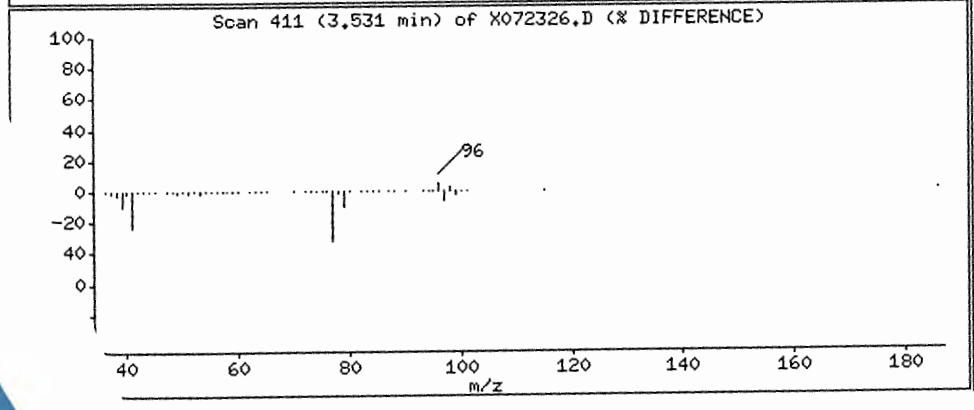
27 cis-1,2-Dichloroethene

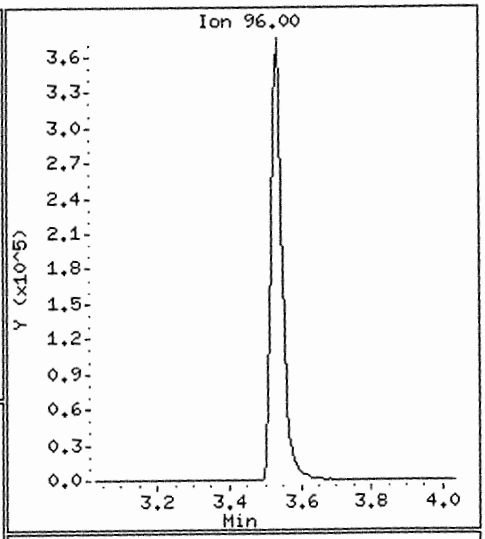
Concentration: 5100.40 ug/l

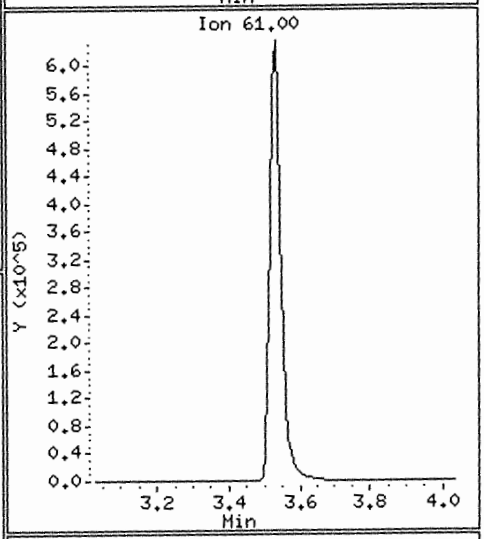


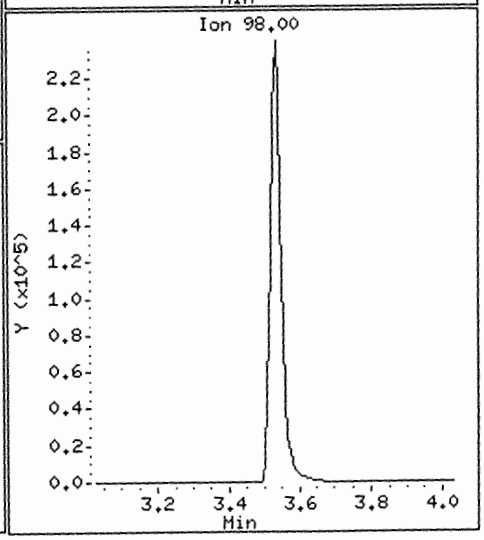












Data File: \\nahstws005\Target\chem\voa6.i\X200723.b\X072326.D Page 6

Date : 23-JUL-2020 20:34

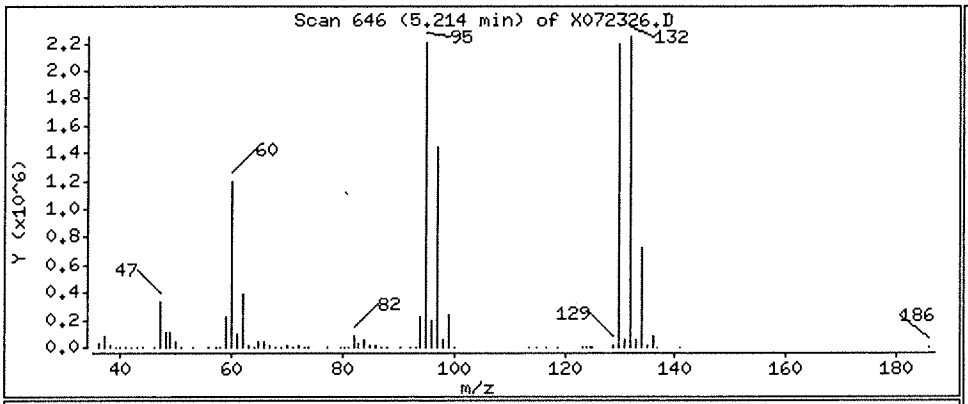
Client ID: HS20071033-07 Instrument: voa6.i

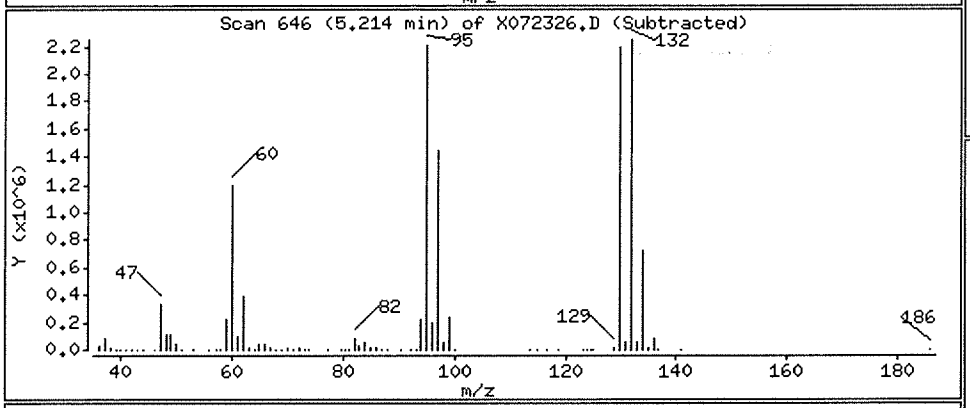
Sample Info: HS20071033-07;HS20071033-07;;;

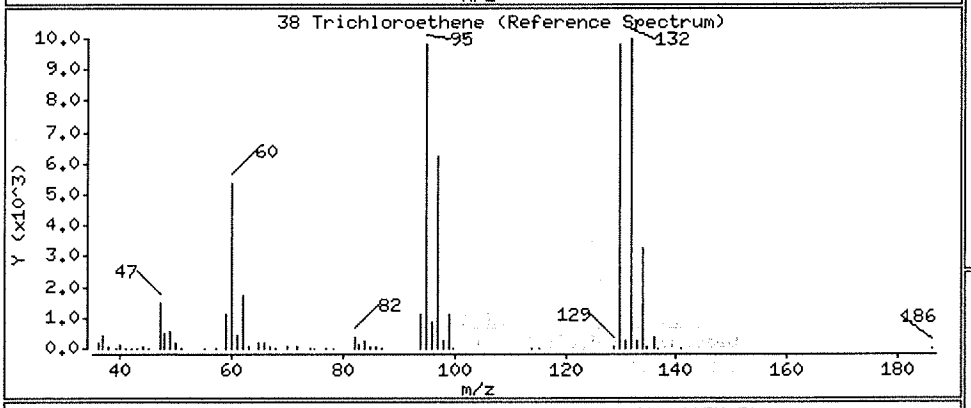
Purge Volume: 5.0 Operator: PC

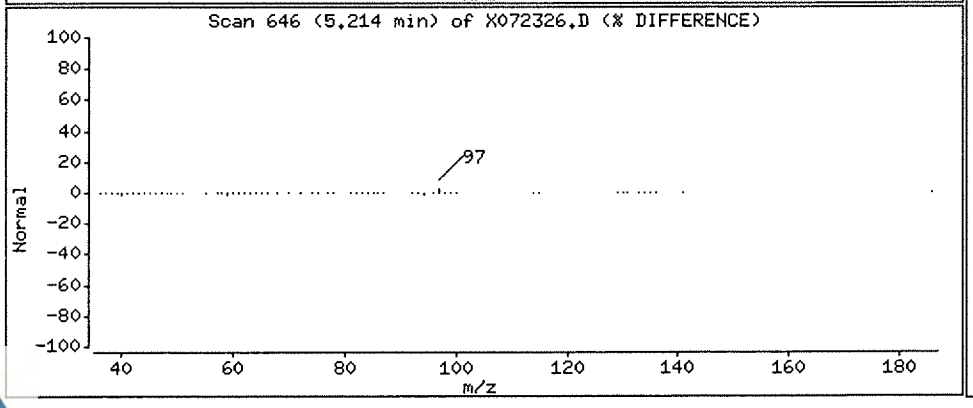
Column phase: DB624 Column diameter: 0.18

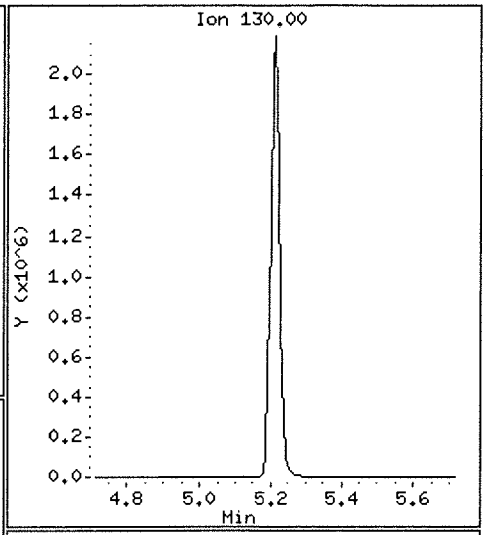
38 Trichloroethene Concentration: 26795.34 ug/l

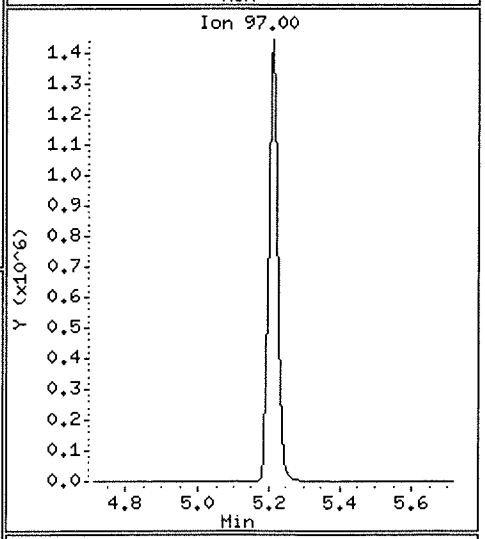


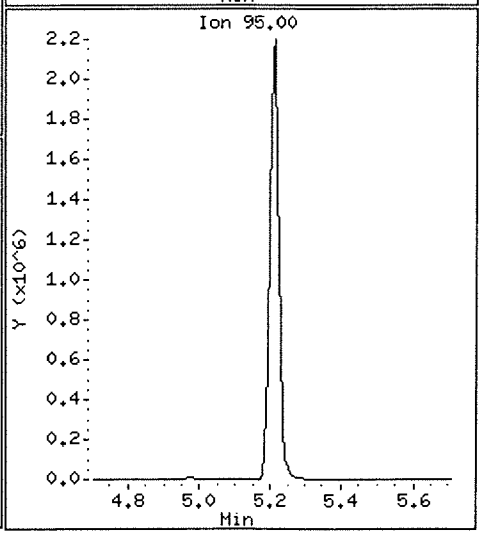












Data File: \\nahstws005\Target\chem\voa6.i\X200723.b\X072326.D

Date : 23-JUL-2020 20:34

Client ID: HS20071033-07

Instrument: voa6.i

Sample Info: HS20071033-07;HS20071033-07;;;

Purge Volume: 5.0

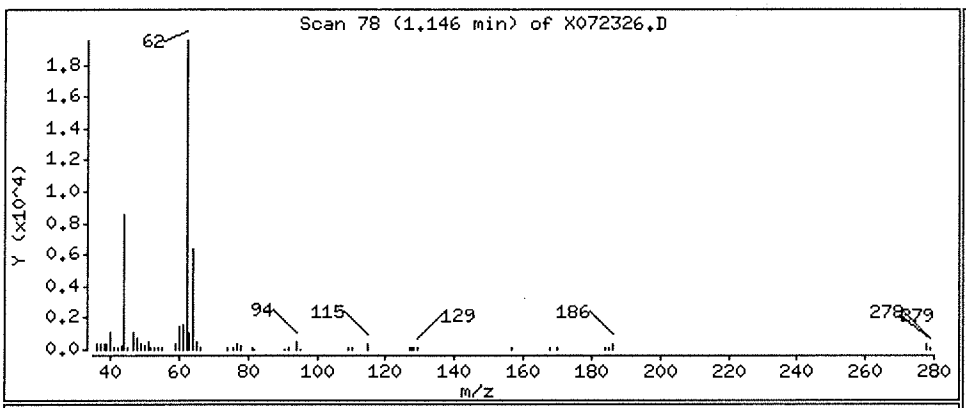
Operator: PC

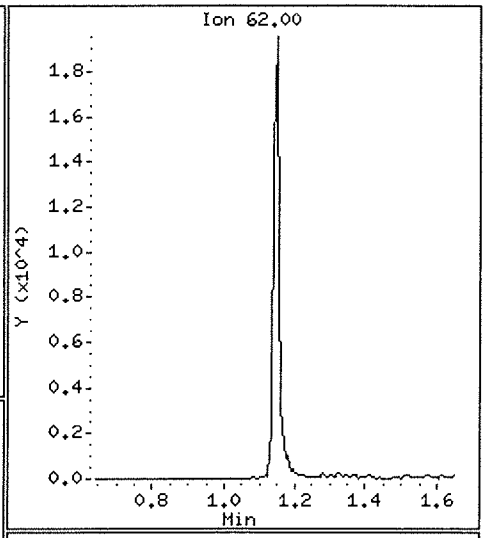
Column phase: DB624

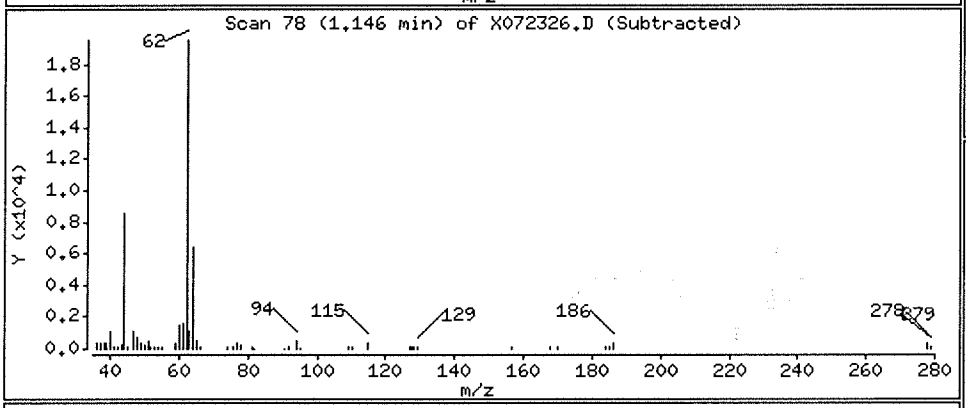
Column diameter: 0.18

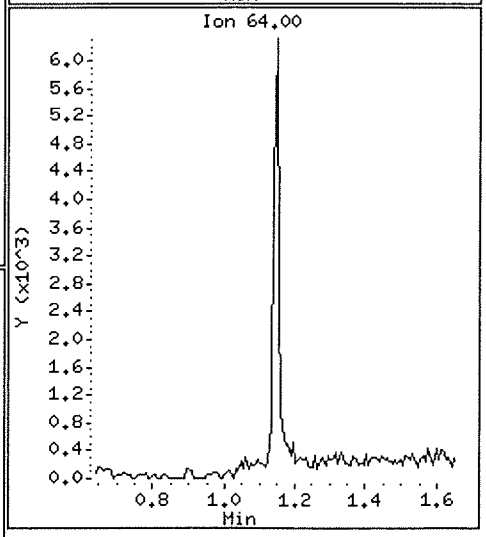
5 Vinyl Chloride

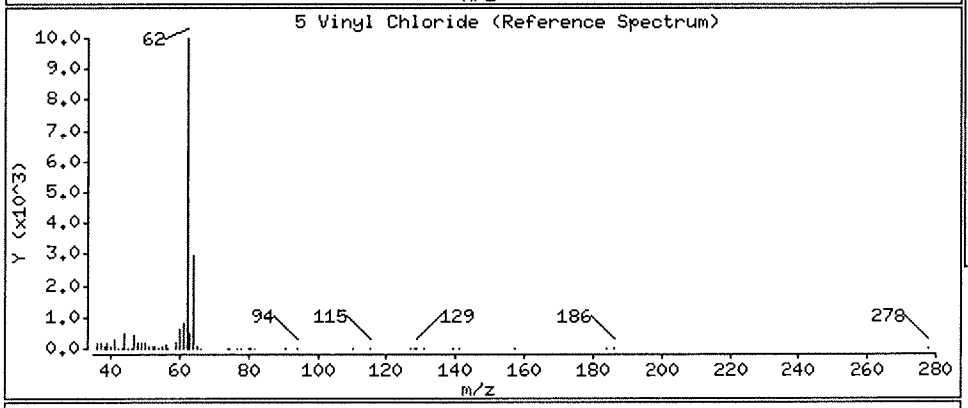
Concentration: 111.70 ug/l

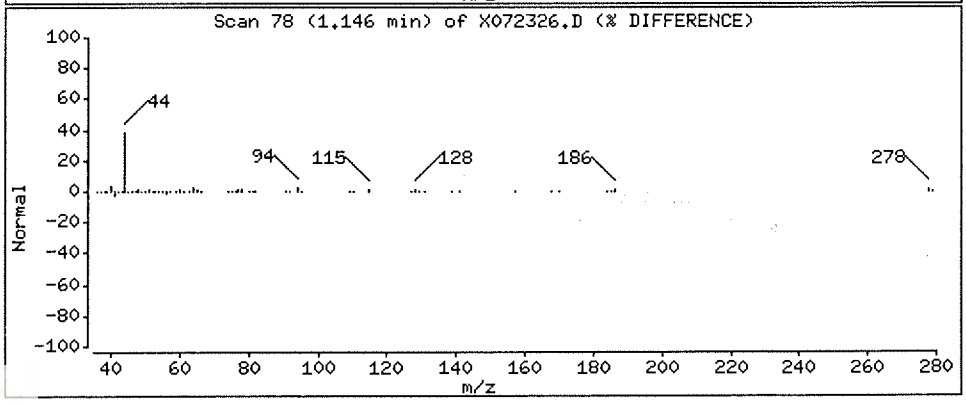












Data File: \\nahstws005\Target\chem\voa6.i\X200723.b\X072327.D Page 1
Report Date: 21-Aug-2020 16:42

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X200723.b\X072327.D
Lab Smp Id: HS20071033-07 Client Smp ID: HS20071033-07
Inj Date : 23-JUL-2020 20:58
Operator : PC Inst ID: voa6.i
Smp Info : HS20071033-07;HS20071033-07;;;
Misc Info : HS18090001;WATER;0;500;
Comment   :
Method   : \\nahstws005\Target\chem\voa6.i\X200723.b\8260W.m
Meth Date : 21-Aug-2020 16:39 voa6.i Quant Type: ISTD
Cal Date : 13-JUL-2020 13:18 Cal File: X071308.D
Als bottle: 25
Dil Factor: 500.00000
Integrator: HP RTE Compound Sublist: CBI-Houl1.sub
Target Version: 4.14
Processing Host: NAHSTW7056

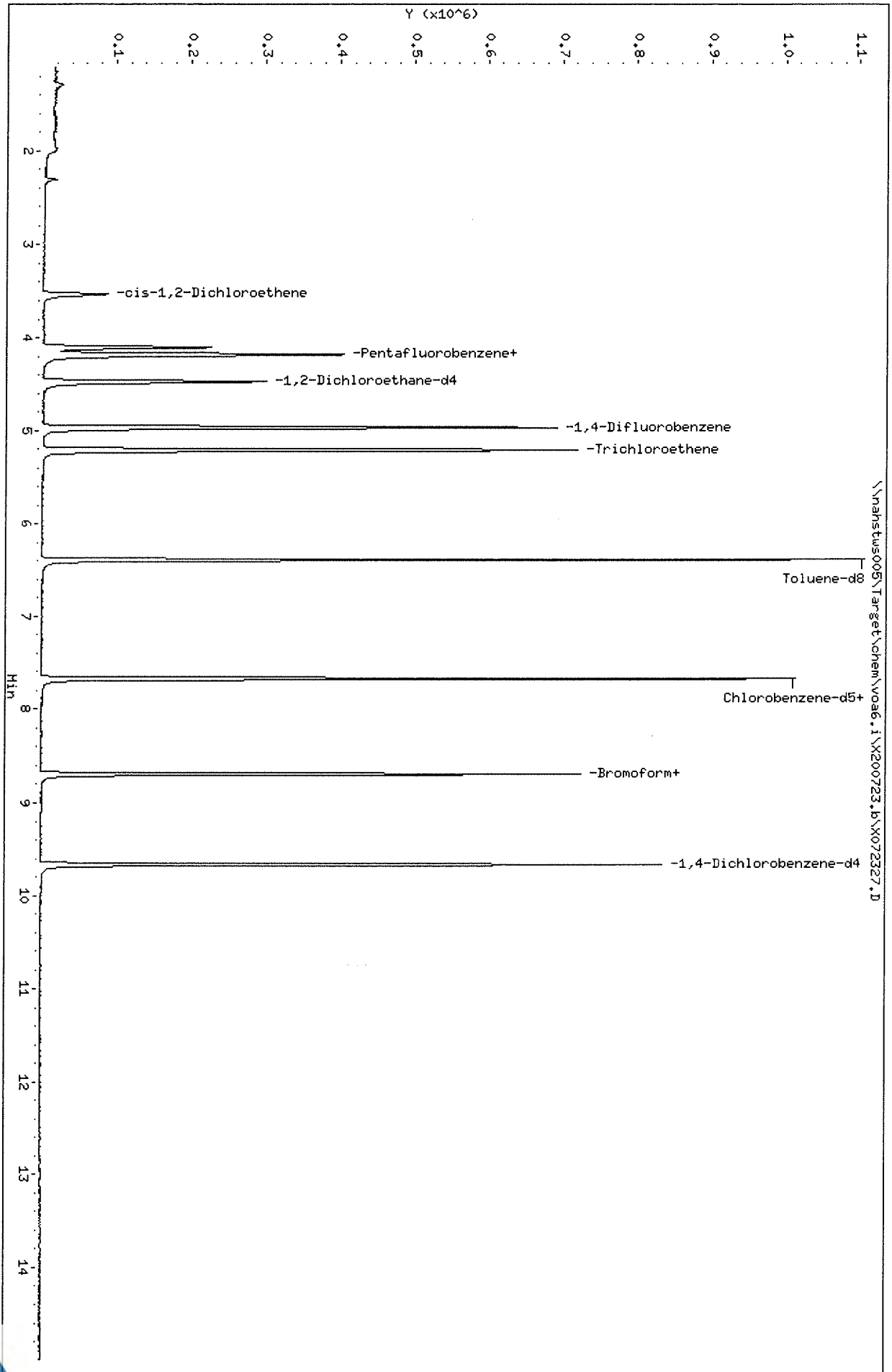
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	500.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	314064	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	505420	50.0000	
* 47 Chlorobenzene-d5	117	7.670	7.671	(1.000)	434237	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	185803	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.979)	159857	45.6704	45.67
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	216420	45.6398	45.63
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	586909	51.5993	51.59
$ 69 4-Bromofluorobenzene	95	8.695	8.688	(1.134)	206716	49.1875	49.18
27 cis-1,2-Dichloroethene	96	3.537	3.530	(0.844)	38970	9.67285	4836.42
38 Trichloroethene	130	5.214	5.214	(1.049)	225184	61.9034	30951.71

Data File: \\nahstws005\Target\chem\voa6.i\X200723.b\X072327.D
Date : 23-JUL-2020 20:58
Client ID: HS200710333-07
Sample Info: HS200710333-07;HS200710333-07;;;
Purge Volume: 5.0
Column phase: DB624

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



Data File: \\nahstws005\Target\chem\voa6.i\X200723.b\X072327.D

Date : 23-JUL-2020 20:58

Client ID: HS20071033-07

Instrument: voa6.i

Sample Info: HS20071033-07;HS20071033-07;;;

Purge Volume: 5.0

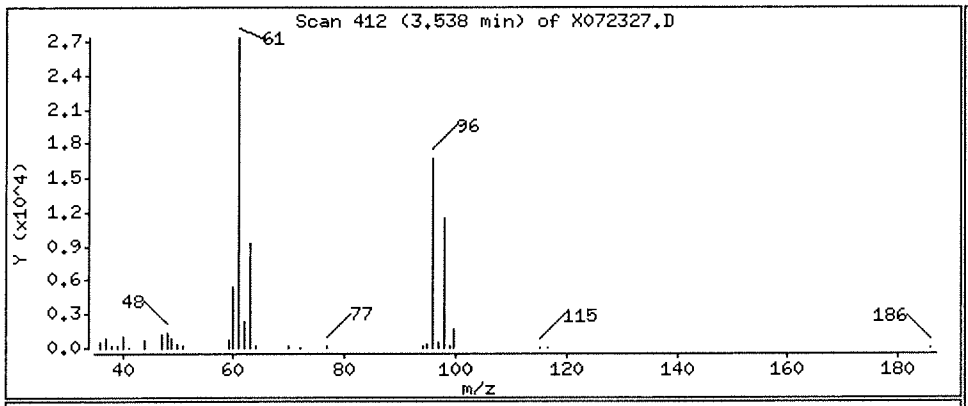
Operator: PC

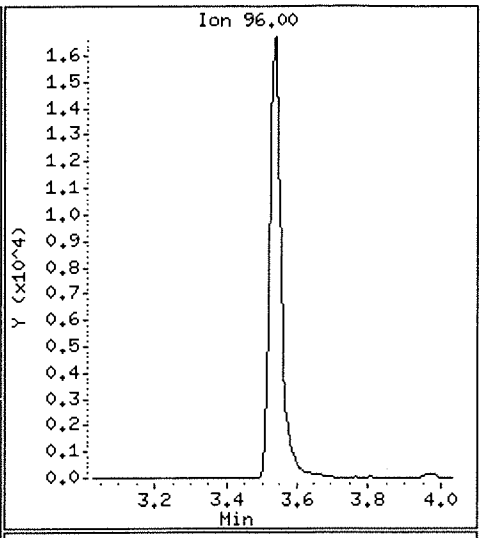
Column phase: DB624

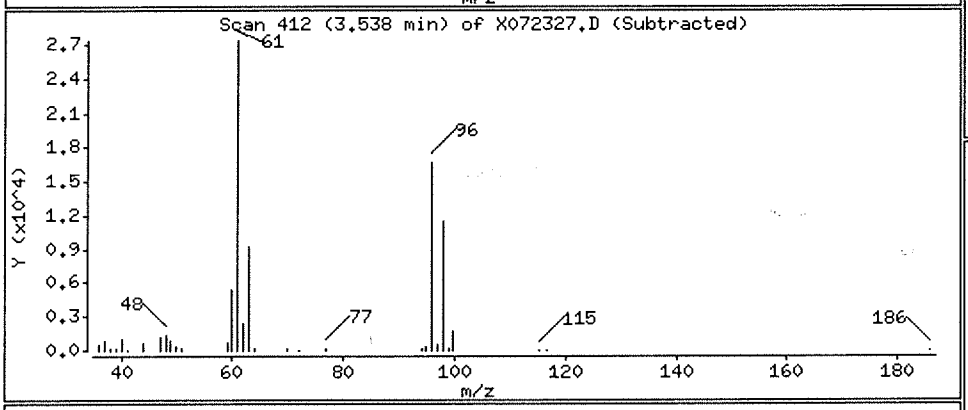
Column diameter: 0.18

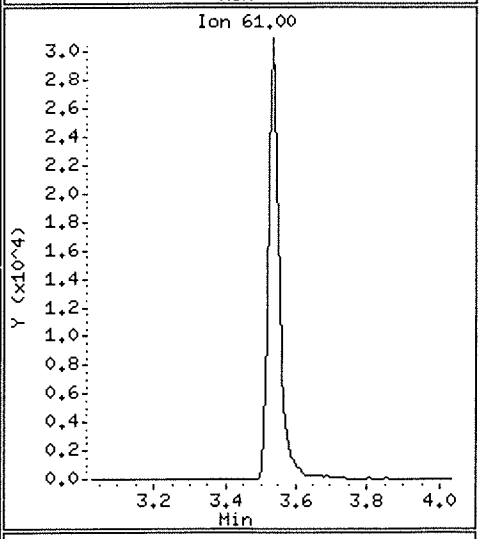
27 cis-1,2-Dichloroethene

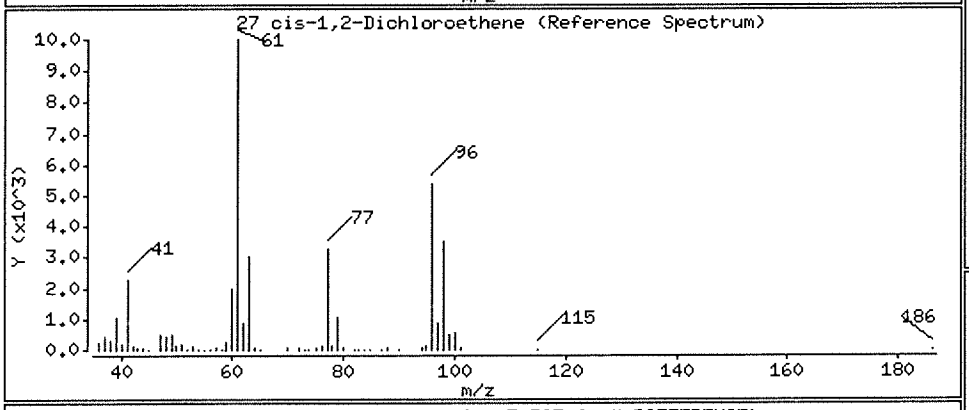
Concentration: 4836.42 ug/l

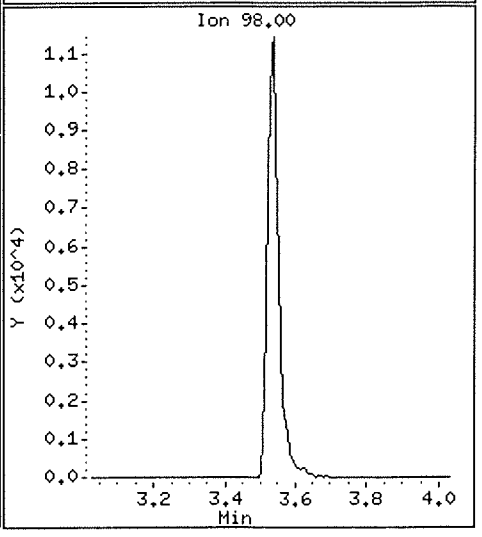


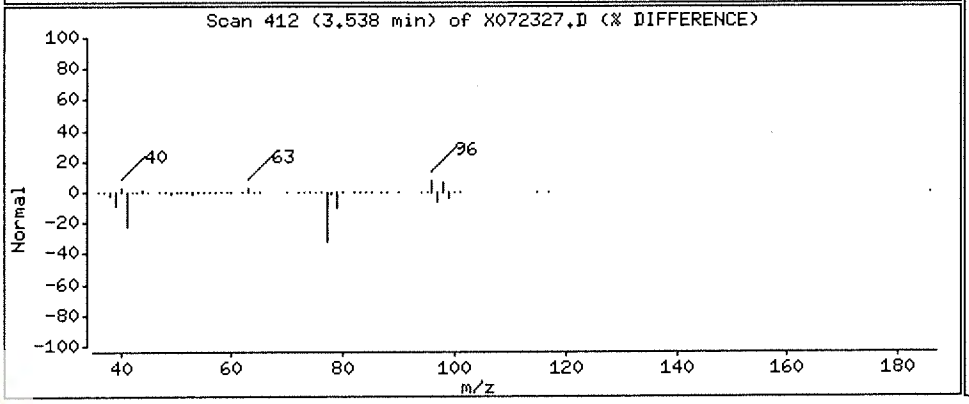












Data File: \\nahstws005\Target\chem\voa6.i\X200723.b\X072327.D

Date : 23-JUL-2020 20:58

Client ID: HS20071033-07

Instrument: voa6.i

Sample Info: HS20071033-07;HS20071033-07;;;

Purge Volume: 5.0

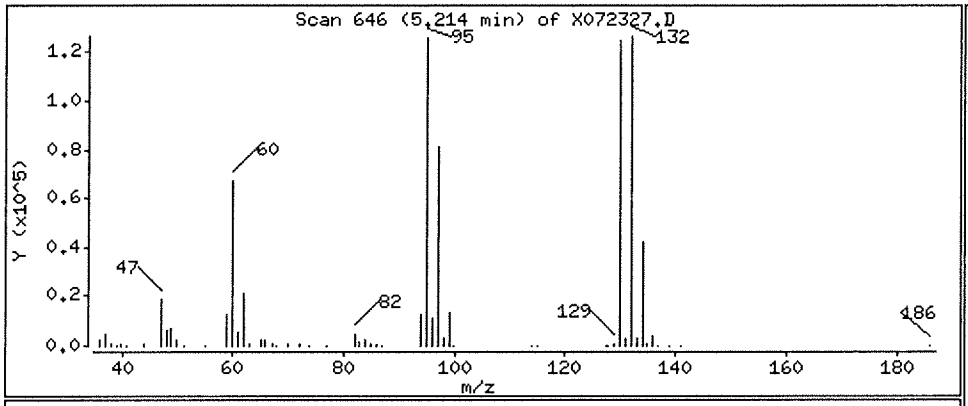
Operator: PC

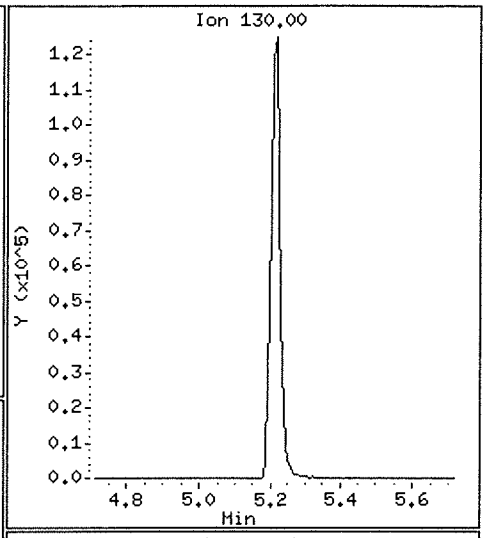
Column phase: DB624

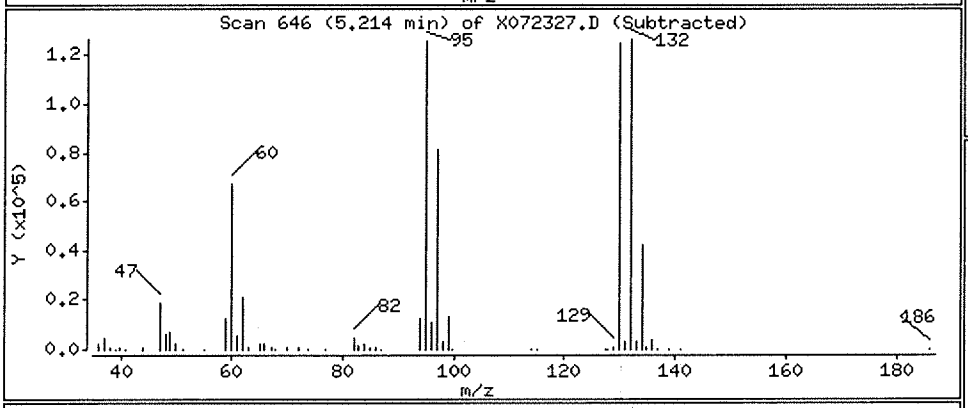
Column diameter: 0.18

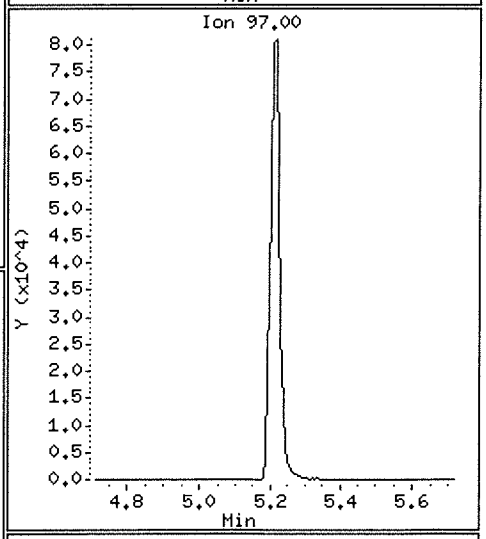
38 Trichloroethene

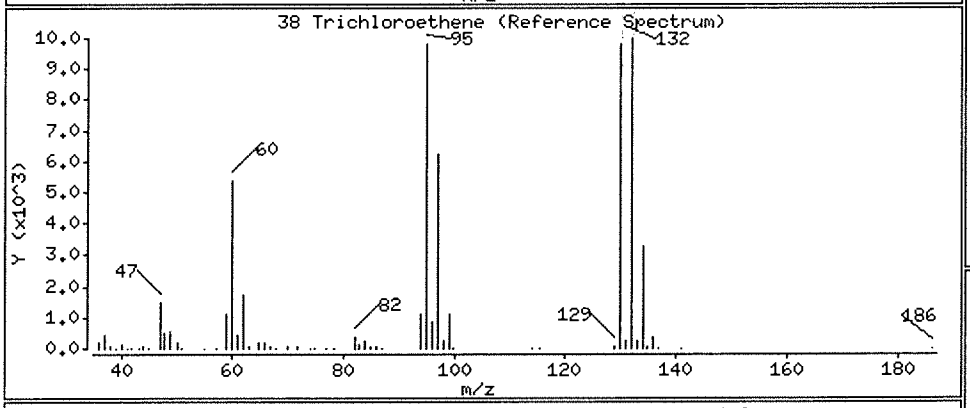
Concentration: 30951.71 ug/l

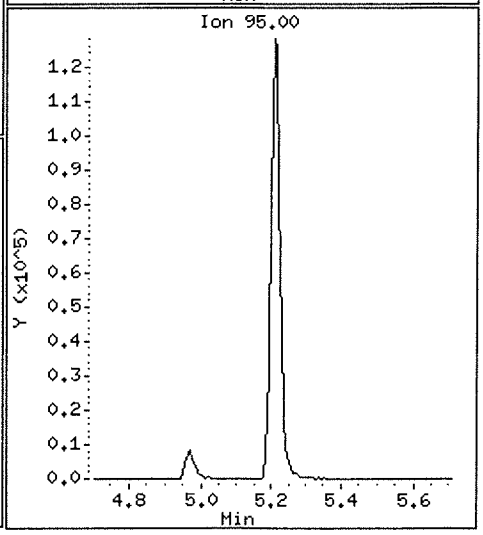


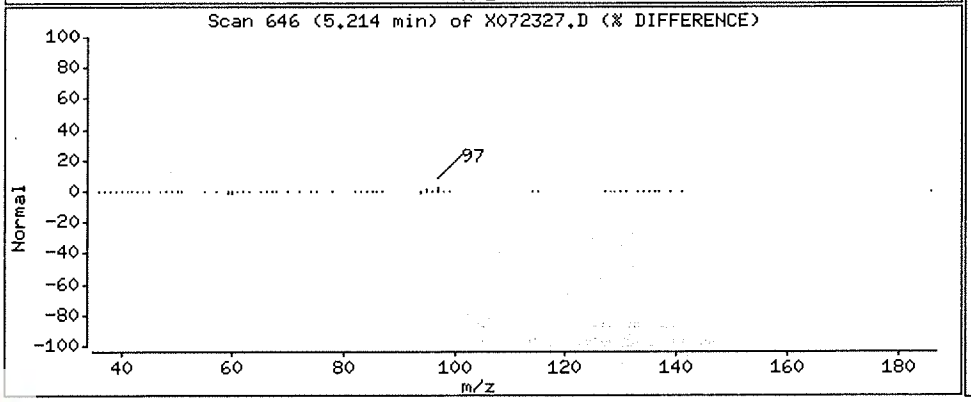












Data File: \\nahstws005\Target\chem\voa6.i\X200723.b\X072328.D Page 1
Report Date: 21-Aug-2020 16:46

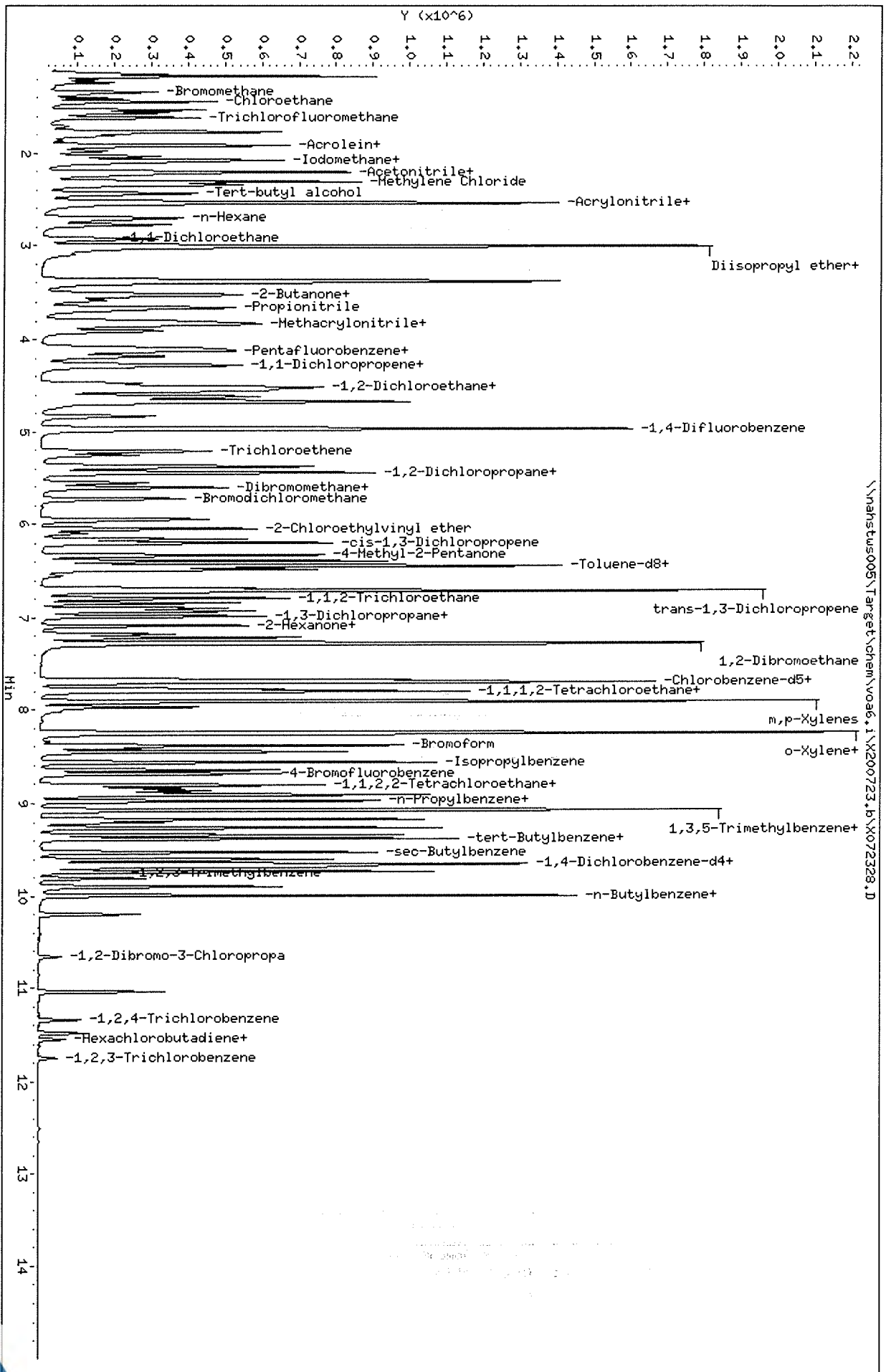
ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X200723.b\X072328.D
Lab Smp Id: CCV-END Client Smp ID: CCV-END
Inj Date : 23-JUL-2020 21:22
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\X200723.b\8260W.m
Meth Date : 21-Aug-2020 16:46 voa6.i Quant Type: ISTD
Cal Date : 13-JUL-2020 13:18 Cal File: X071308.D
Als bottle: 26 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI-Hou11.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

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

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	245445	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	423620	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	386087	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	167703	50.0000	
$ 30 Dibromofluoromethane	113	4.104	4.104	(0.979)	140076	50.0000	51.21
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	188583	50.0000	50.84
$ 48 Toluene-d8	98	6.389	6.389	(0.833)	481500	50.0000	47.61
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	182133	50.0000	48.73
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	118876	50.0000	50.28
11 1,1-Dichloroethene	96	1.919	1.919	(0.458)	109163	50.0000	50.83
33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	260089	50.0000	51.59
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.843)	162169	50.0000	51.50
17 Methylene Chloride	84	2.306	2.306	(0.550)	166237	50.0000	57.79
38 Trichloroethene	130	5.214	5.214	(1.049)	147164	50.0000	48.26
5 Vinyl Chloride	62	1.145	1.145	(0.273)	215104	50.0000	53.29



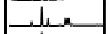
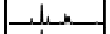
Data File: \\nahstws005\Target\chem\voa6.i\X200723.b\X072328.D
Date : 23-JUL-2020 21:22
Client ID: CCV-END
Sample Info: CCV-END;CCV-END;2;;;
Purge Volume: 5.0
Column phase: DB624

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

HS20071033 Wet Chem Raw Data (9056_W)

ALS WO# HS20071033

Sequence: 072720
Last Update Operator: alshs.nouser

CD	Name	Comment	Type	Position	Dilution	Level	Instrument Method	Processing Method	me	Status
	STD1		Calibration	GB1	1.00	1	Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	STD2		Calibration	GB2	1.00	2	Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	STD3		Calibration	GB3	1.00	3	Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	STD4		Calibration	GB4	1.00	4	Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	STD5		Calibration	GB5	1.00	5	Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	STD6		Calibration	GB6	1.00	6	Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	ICV		Unknown	GB7	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	ICB		Unknown	BA3	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	CCV		Unknown	BA2	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	CCB		Unknown	BA3	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	MBLK-072720		Unknown	BB6	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	LCS-072720		Unknown	BA8	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	CCV1		Unknown	BA4	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	CCB		Unknown	BA5	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	CCV		Unknown	BA2	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	CCB		Unknown	BA3	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	HS20071033-03	9056_W	Unknown	GC1	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	HS20071033-03MS	9056_W	Unknown	GC2	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	HS20071033-03MSD	9056_W	Unknown	GC3	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	CCV1		Unknown	BA4	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	CCB		Unknown	BA5	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	HS20071147-05	9056_W	Unknown	GC8	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	HS20071147-05MS	9056_W	Unknown	GD1	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	HS20071147-05MSD	9056_W	Unknown	GD2	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	CCV		Unknown	BA2	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	CCB		Unknown	BA3	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished

Sequence: 072720
Last Update Operator: alshs.nouser

Inject Time
6/2/2020 11:02:48 AM -05:00
6/2/2020 11:20:59 AM -05:00
6/2/2020 11:39:04 AM -05:00
6/2/2020 11:57:10 AM -05:00
6/2/2020 12:15:18 PM -05:00
6/2/2020 12:33:22 PM -05:00
6/2/2020 12:51:27 PM -05:00
6/2/2020 1:45:50 PM -05:00
7/27/2020 3:48:35 PM -05:00
7/27/2020 4:06:43 PM -05:00
7/27/2020 5:01:04 PM -05:00
7/27/2020 5:19:11 PM -05:00
7/27/2020 5:37:16 PM -05:00
7/27/2020 5:55:26 PM -05:00
7/27/2020 9:14:48 PM -05:00
7/27/2020 9:32:53 PM -05:00
7/27/2020 11:39:37 PM -05:00
7/27/2020 11:57:44 PM -05:00
7/28/2020 12:15:49 AM -05:00
7/28/2020 12:33:58 AM -05:00
7/28/2020 12:52:03 AM -05:00
7/28/2020 2:22:34 AM -05:00
7/28/2020 2:40:40 AM -05:00
7/28/2020 2:58:47 AM -05:00
7/28/2020 3:53:04 AM -05:00
7/28/2020 4:11:11 AM -05:00

Sequence: 072720
Injection #6: STD6

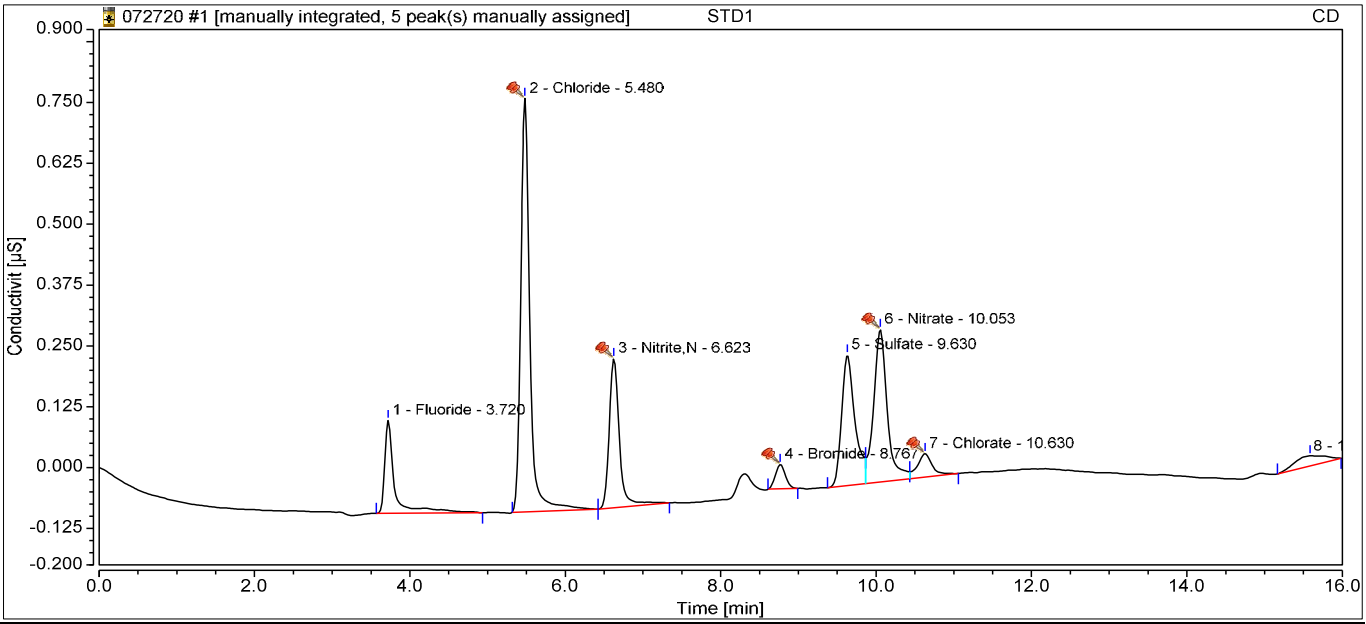
Calibration

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/x***	***Area***	***6***	***10.8139***	***0.99942***	***-0.0046***	***0.3376***	***0.0000***
2	Chloride	Lin, WithOffset, 1/x	Area	6	3.4292	0.99994	0.0066	0.2216	0.0000
3	Nitrite,N	Lin, WithOffset, 1/x	Area	6	25.3231	0.99619	0.0124	0.4569	0.0000
4	Bromide	Lin, WithOffset, 1/x	Area	6	11.6783	0.99936	-0.0023	0.0890	0.0000
5	Sulfate	Lin, WithOffset, 1/x	Area	6	4.6337	0.99991	-0.0317	0.1582	0.0000
6	Nitrate	Lin, WithOffset, 1/x	Area	6	5.8899	0.99981	0.0058	0.5970	0.0000
7	Chlorate	Lin, WithOffset, 1/x	Area	6	15.6369	0.99851	0.0032	0.0971	0.0000
8	Phosphate	Lin, WithOffset, 1/x	Area	5	24.1443	0.99440	-0.0555	0.1862	0.0000
Maximum					**25.3231**	0.99994			
Minimum					3.4292	**0.99440**			

1 STD1

Sample Name:	**STD1**	*Injection Volume:*	**5.00**
Vial Number:	**GB1**	*Channel:*	**CD**
Sample Type:	**Calibration Standard**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**06/02/2020 11:02**	*Sample Weight:*	**1.0000**

Run Time:



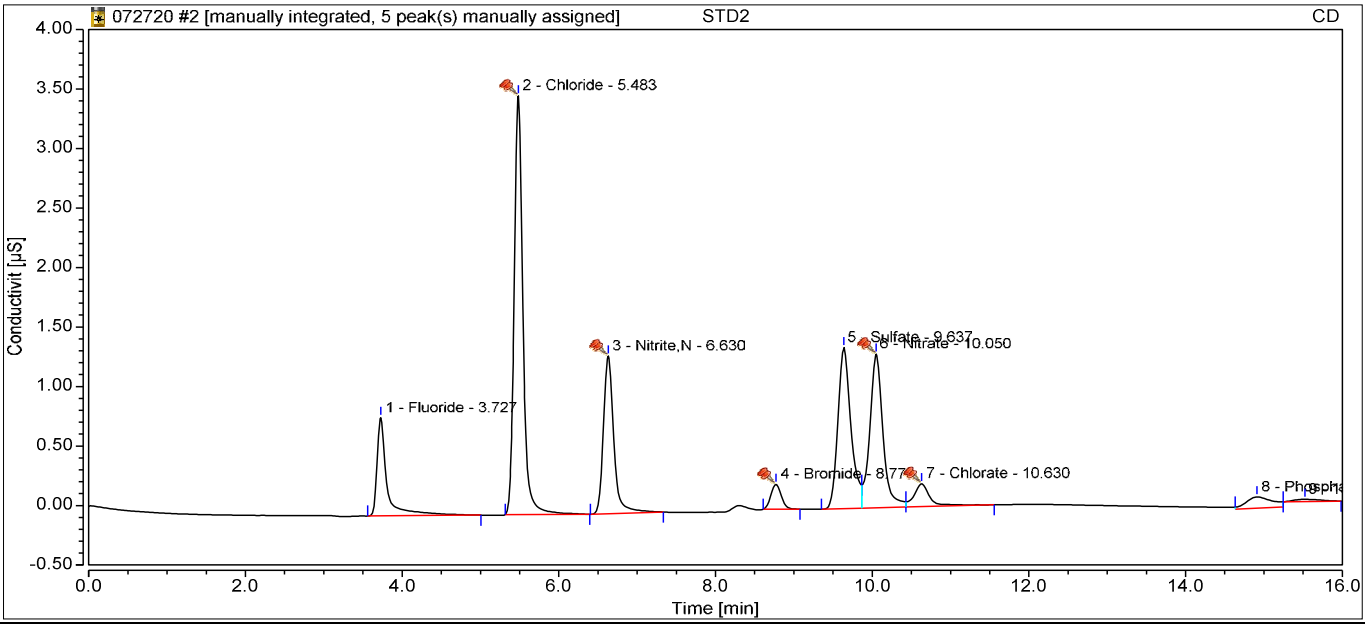
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.72	Fluoride	BMB	0.029	0.0982	0.0982	1.0000
2	5.48	Chloride	BMB^	0.115	0.4904	0.4904	1.0000
3	6.62	Nitrite,N	BMB*^	0.046	0.0745	0.0745	1.0000
4	8.77	Bromide	BMB^	0.007	0.1093	0.1093	1.0000
5	9.63	Sulfate	BM	0.053	0.5374	0.5374	1.0000
6	10.05	Nitrate	M ^	0.064	0.0969	0.0969	1.0000
7	10.63	Chlorate	MB^	0.011	0.0775	0.0775	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**0.325**		**1.48**	

2 STD2

Sample Name:	**STD2**	*Injection Volume:*	**5.00**
Vial Number:	**GB2**	*Channel:*	**CD**
Sample Type:	**Calibration Standard**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**06/02/2020 11:20**	*Sample Weight:*	**1.0000**

Run Time:



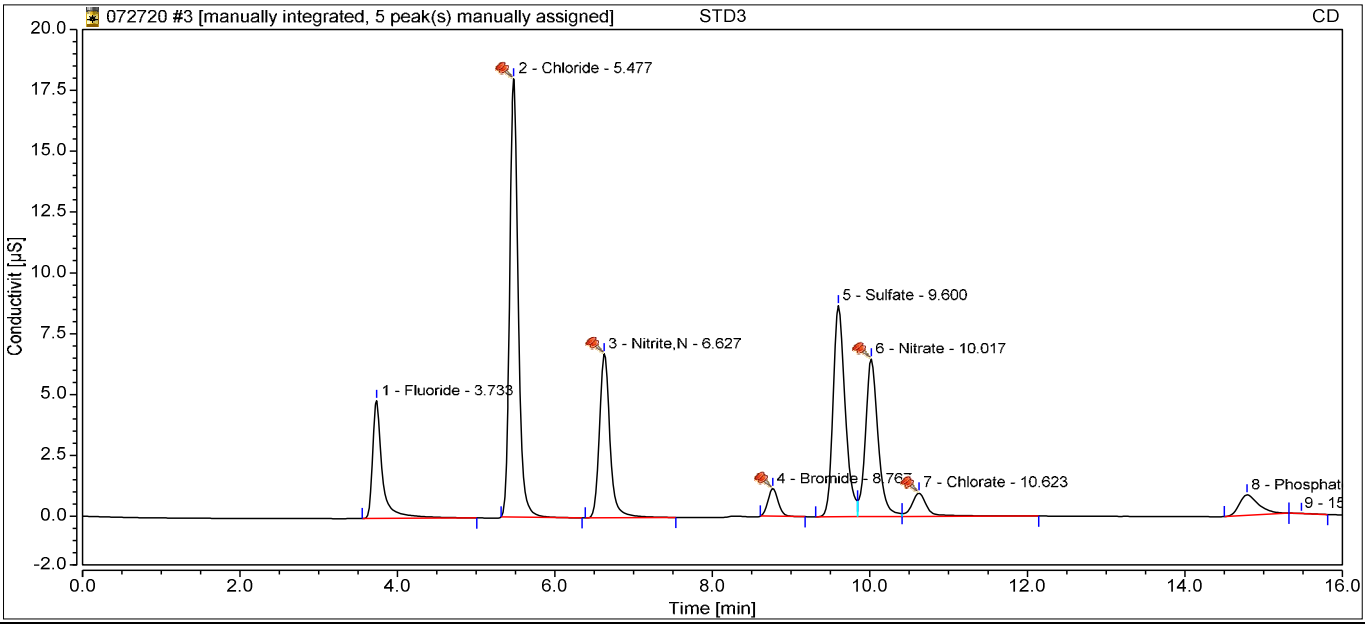
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.73	Fluoride	BMB	0.122	0.3761	0.3761	1.0000
2	5.48	Chloride	BMB^	0.452	2.0081	2.0081	1.0000
3	6.63	Nitrite,N	BMB*^	0.202	0.4159	0.4159	1.0000
4	8.77	Bromide	BMB^	0.032	0.3810	0.3810	1.0000
5	9.64	Sulfate	BM	0.263	1.8631	1.8631	1.0000
6	10.05	Nitrate	M ^	0.253	0.4135	0.4135	1.0000
7	10.63	Chlorate	MB^	0.046	0.4359	0.4359	1.0000
8	14.91	Phosphate	M *	0.037	0.4982	0.4982	1.0000
Total:			**0.000**	**1.407**		**6.39**	

3 STD3

Sample Name:	**STD3**	*Injection Volume:*	**5.00**
Vial Number:	**GB3**	*Channel:*	**CD**
Sample Type:	**Calibration Standard**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**06/02/2020 11:39**	*Sample Weight:*	**1.0000**

Run Time:



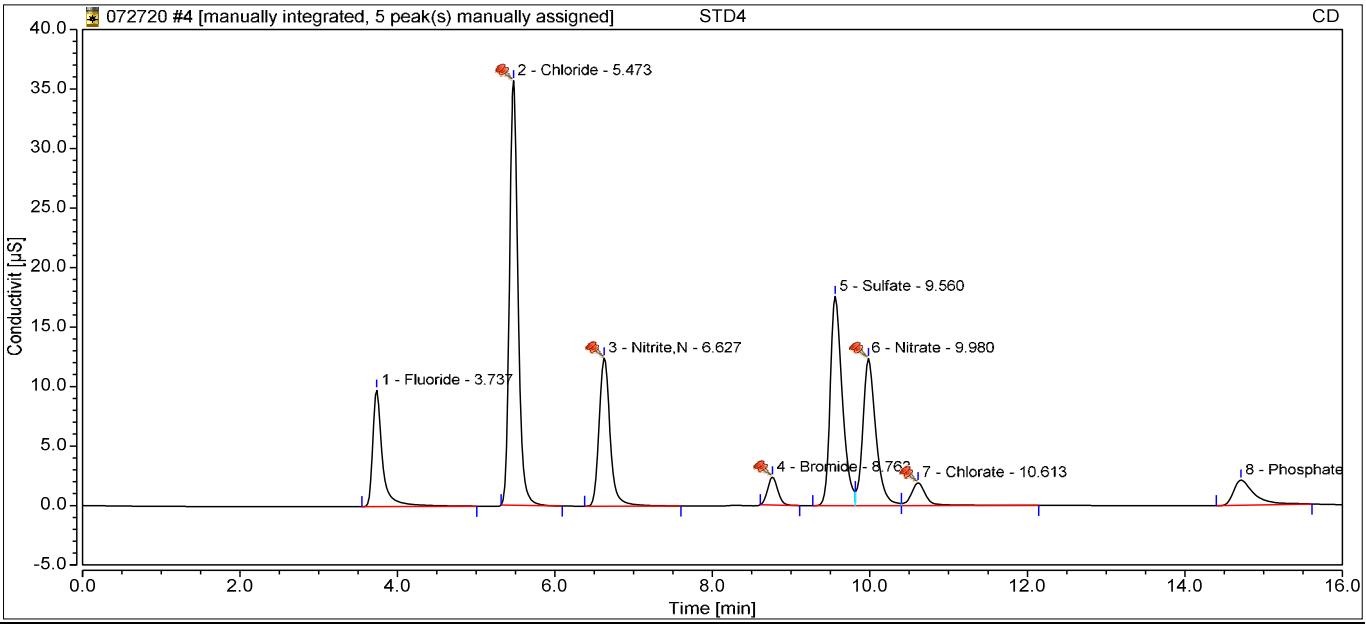
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.73	Fluoride	BMB	0.697	2.0782	2.0782	1.0000
2	5.48	Chloride	BMB^	2.257	10.1575	10.1575	1.0000
3	6.63	Nitrite,N	BMB*^	1.049	2.2692	2.2692	1.0000
4	8.77	Bromide	BMB^	0.172	1.9524	1.9524	1.0000
5	9.60	Sulfate	BM	1.543	9.9532	9.9532	1.0000
6	10.02	Nitrate	M ^	1.213	2.0220	2.0220	1.0000
7	10.62	Chlorate	MB^	0.220	2.2332	2.2332	1.0000
8	14.79	Phosphate	BMB	0.243	1.6042	1.6042	1.0000
Total:			**0.000**	**7.394**		**32.27**	

4 STD4

Sample Name:	**STD4**	*Injection Volume:*	**5.00**
Vial Number:	**GB4**	*Channel:*	**CD**
Sample Type:	**Calibration Standard**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**06/02/2020 11:57**	*Sample Weight:*	**1.0000**

Run Time:



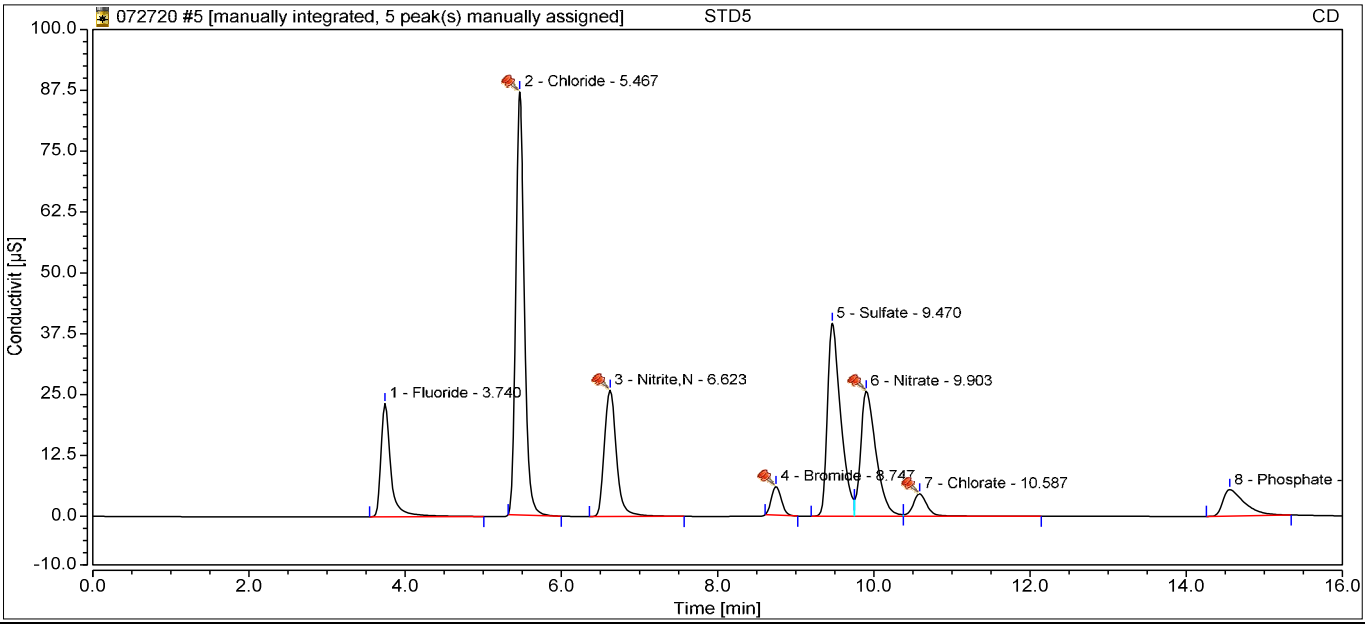
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.74	Fluoride	BMB	1.406	4.1793	4.1793	1.0000
2	5.47	Chloride	BMB^	4.475	20.1656	20.1656	1.0000
3	6.63	Nitrite,N	BMB*^	2.031	4.4170	4.4170	1.0000
4	8.76	Bromide	BMB^	0.350	3.9560	3.9560	1.0000
5	9.56	Sulfate	BM	3.131	19.9943	19.9943	1.0000
6	9.98	Nitrate	M ^	2.388	3.9909	3.9909	1.0000
7	10.61	Chlorate	MB^	0.410	4.1864	4.1864	1.0000
8	14.71	Phosphate	BMB*	0.647	3.7708	3.7708	1.0000
Total:			**0.000**	**14.837**		**64.66**	

5 STD5

Sample Name:	**STD5**	*Injection Volume:*	**5.00**
Vial Number:	**GB5**	*Channel:*	**CD**
Sample Type:	**Calibration Standard**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**06/02/2020 12:15**	*Sample Weight:*	**1.0000**

Run Time:



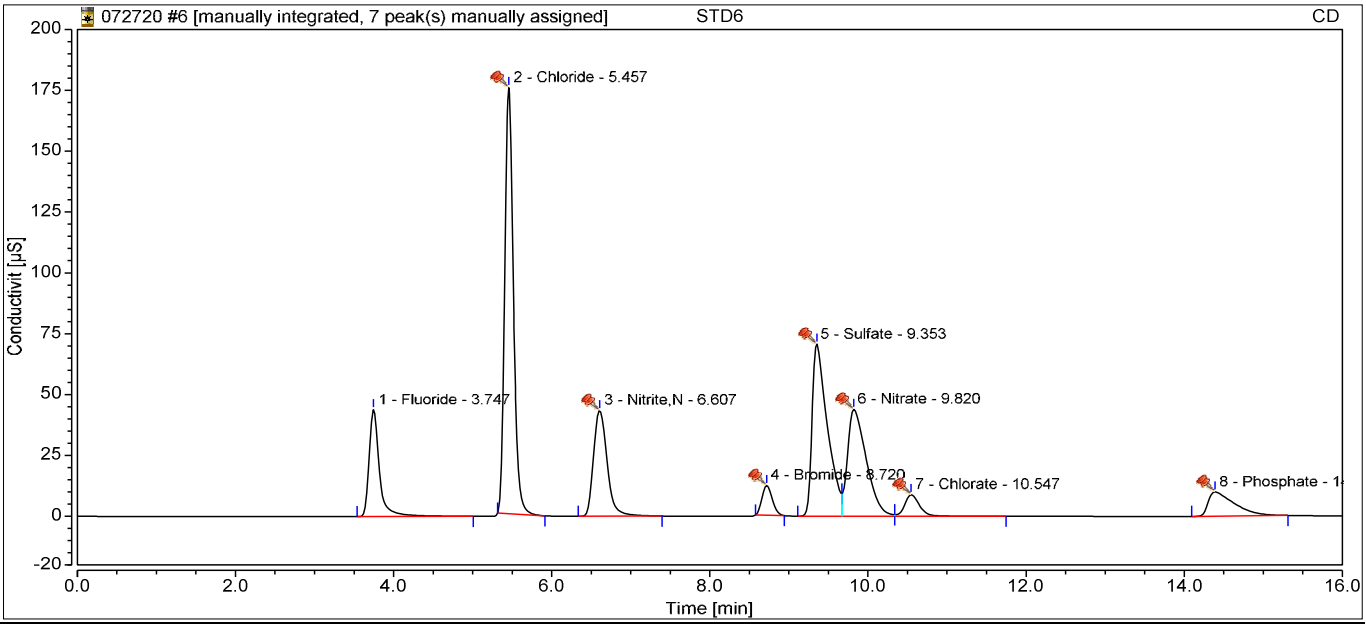
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.74	Fluoride	BMB	3.409	10.1112	10.1112	1.0000
2	5.47	Chloride	BMB^	10.962	49.4436	49.4436	1.0000
3	6.62	Nitrite,N	BMB*^	4.673	10.1996	10.1996	1.0000
4	8.75	Bromide	BMB^	0.860	9.6874	9.6874	1.0000
5	9.47	Sulfate	BM	7.832	49.7141	49.7141	1.0000
6	9.90	Nitrate	M ^	5.855	9.7981	9.7981	1.0000
7	10.59	Chlorate	MB^	0.963	9.8794	9.8794	1.0000
8	14.56	Phosphate	BMB*	1.744	9.6675	9.6675	1.0000
Total:			**0.000**	**36.299**		**158.50**	

6 STD6

Sample Name:	**STD6**	*Injection Volume:*	**5.00**
Vial Number:	**GB6**	*Channel:*	**CD**
Sample Type:	**Calibration Standard**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**06/02/2020 12:33**	*Sample Weight:*	**1.0000**

Run Time:



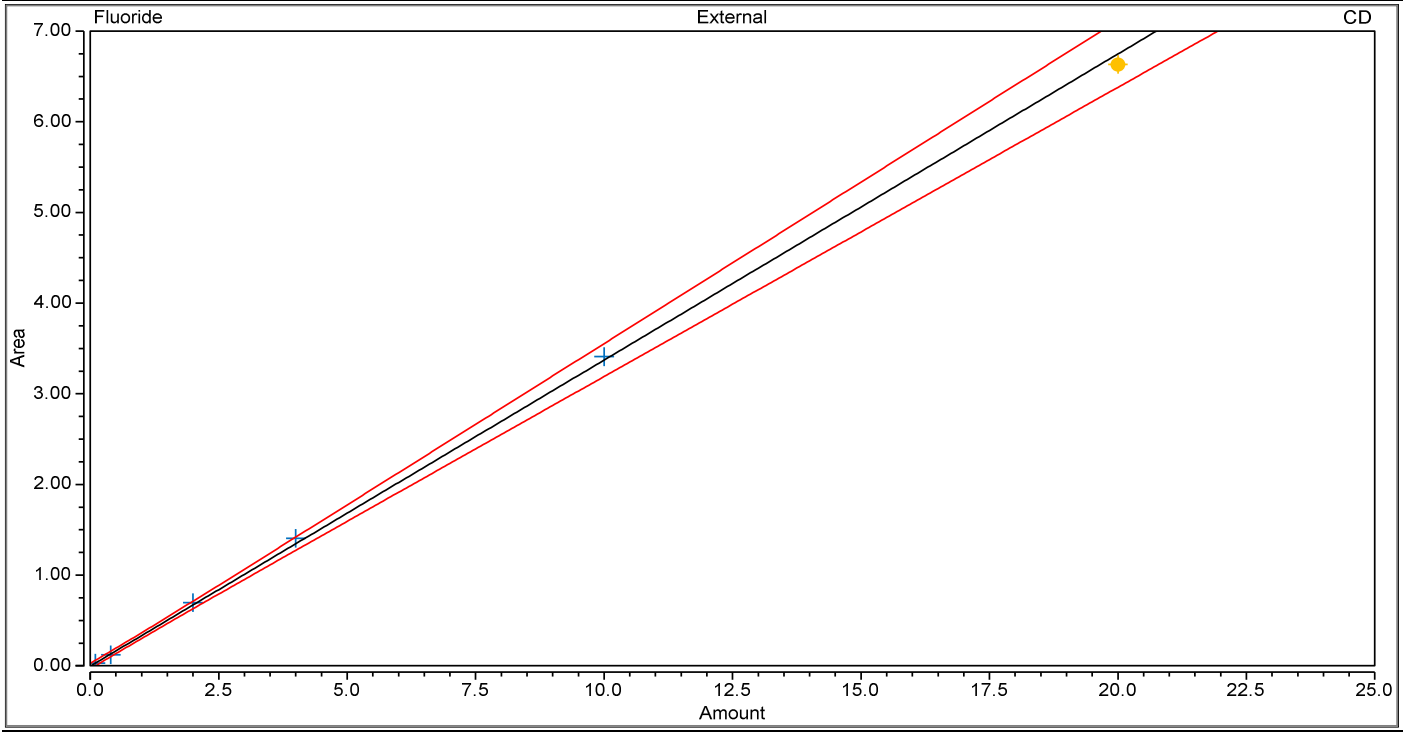
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.75	Fluoride	BMB	6.632	19.6569	19.6569	1.0000
2	5.46	Chloride	BMB^	22.217	100.2349	100.2349	1.0000
3	6.61	Nitrite,N	BMB*^	8.750	19.1238	19.1238	1.0000
4	8.72	Bromide	BMB*^	1.815	20.4140	20.4140	1.0000
5	9.35	Sulfate	BM ^	15.855	100.4380	100.4380	1.0000
6	9.82	Nitrate	M ^	12.052	20.1786	20.1786	1.0000
7	10.55	Chlorate	MB^	1.916	19.6877	19.6877	1.0000
8	14.39	Phosphate	BMB*^	3.828	20.8593	20.8593	1.0000
Total:			**0.000**	**73.065**		**320.59**	

Calibration

Calibration Details	Fluoride		
Calibration Type	Lin, WithOffset, 1/A	*Offset (C0)*	-0.0046
Evaluation Type	Area	*Slope (C1)*	0.3376
Number of Calibration Points	6	*Curve (C2)*	0.0000
Number of disabled Calibration Points	0	*R-Square*	0.9994

Calibration Plot **Fluoride**



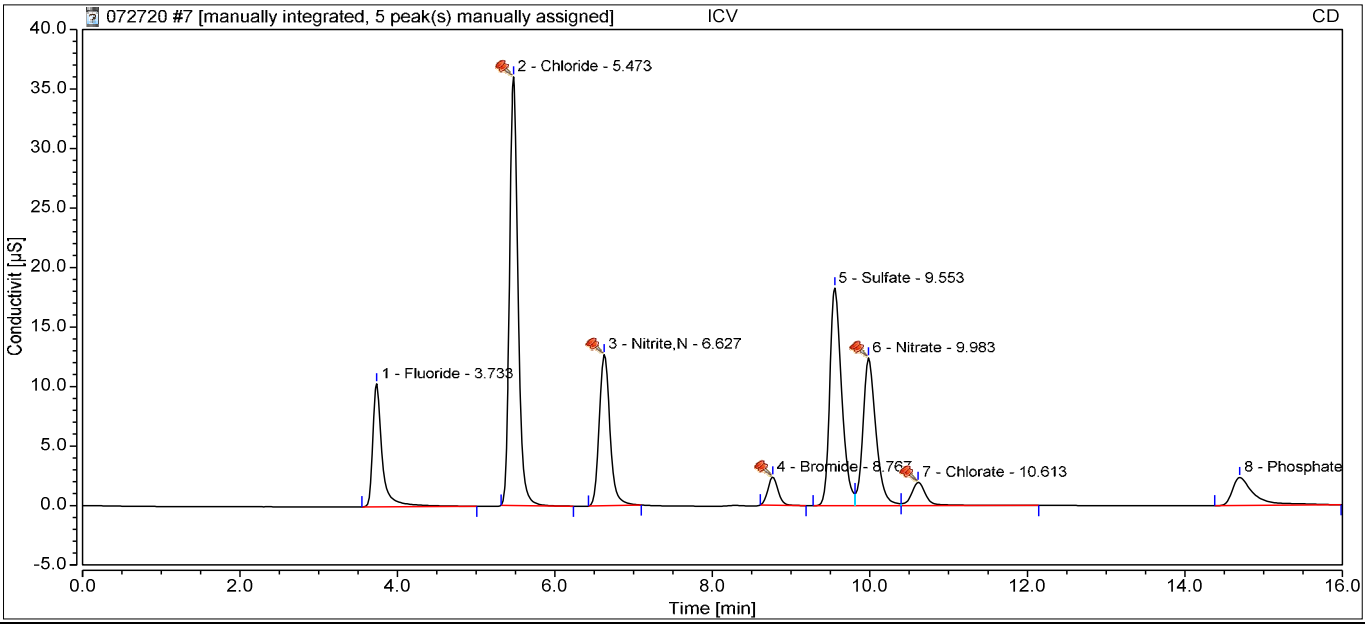
Calibration Results **Fluoride**

No.	Injection Name	Calibration Level	X Value CD Fluoride	Y Value CD Fluoride	Y Value CD Fluoride	Area µS*min CD Fluoride	Height µS CD Fluoride
1	STD1	1	0.1000	0.0285	0.0285	0.029	0.191
2	STD2	2	0.4000	0.1224	0.1224	0.122	0.826
3	STD3	3	2.0000	0.6970	0.6970	0.697	4.841
4	STD4	4	4.0000	1.4064	1.4064	1.406	9.790
5	STD5	5	10.0000	3.4092	3.4092	3.409	23.253
6	STD6	6	20.0000	6.6320	6.6320	6.632	43.889

7 ICV

Sample Name:	**ICV**	*Injection Volume:*	**5.00**
Vial Number:	**GB7**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**06/02/2020 12:51**	*Sample Weight:*	**1.0000**

Run Time:



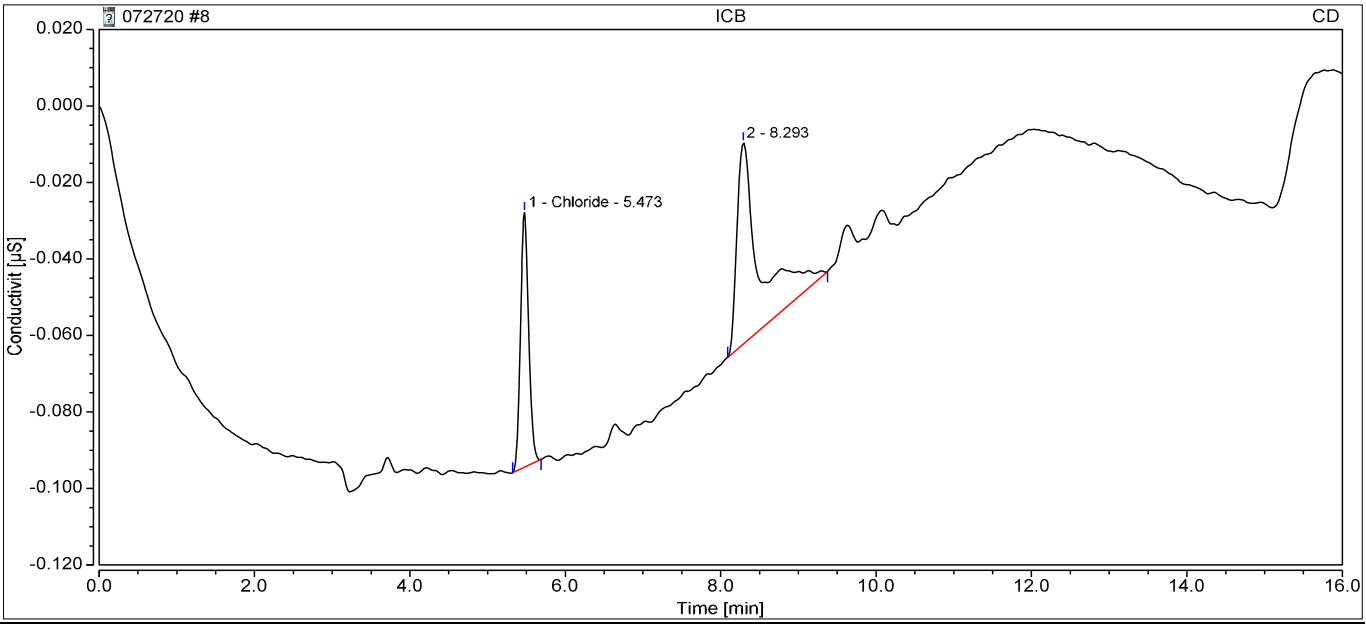
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.73	Fluoride	BMB	1.442	4.2839	4.2839	1.0000
2	5.47	Chloride	BMB^	4.508	20.3168	20.3168	1.0000
3	6.63	Nitrite,N	BMB*^	2.013	4.3785	4.3785	1.0000
4	8.77	Bromide	BMB^	0.352	3.9794	3.9794	1.0000
5	9.55	Sulfate	BM	3.208	20.4827	20.4827	1.0000
6	9.98	Nitrate	M ^	2.387	3.9894	3.9894	1.0000
7	10.61	Chlorate	MB^	0.412	4.2081	4.2081	1.0000
8	14.70	Phosphate	BMB	0.762	4.3926	4.3926	1.0000
Total:			**0.000**	**15.085**		**66.03**	

8 ICB

Sample Name:	**ICB**	*Injection Volume:*	**5.00**
Vial Number:	**BA3**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**06/02/2020 13:45**	*Sample Weight:*	**1.0000**

Run Time:



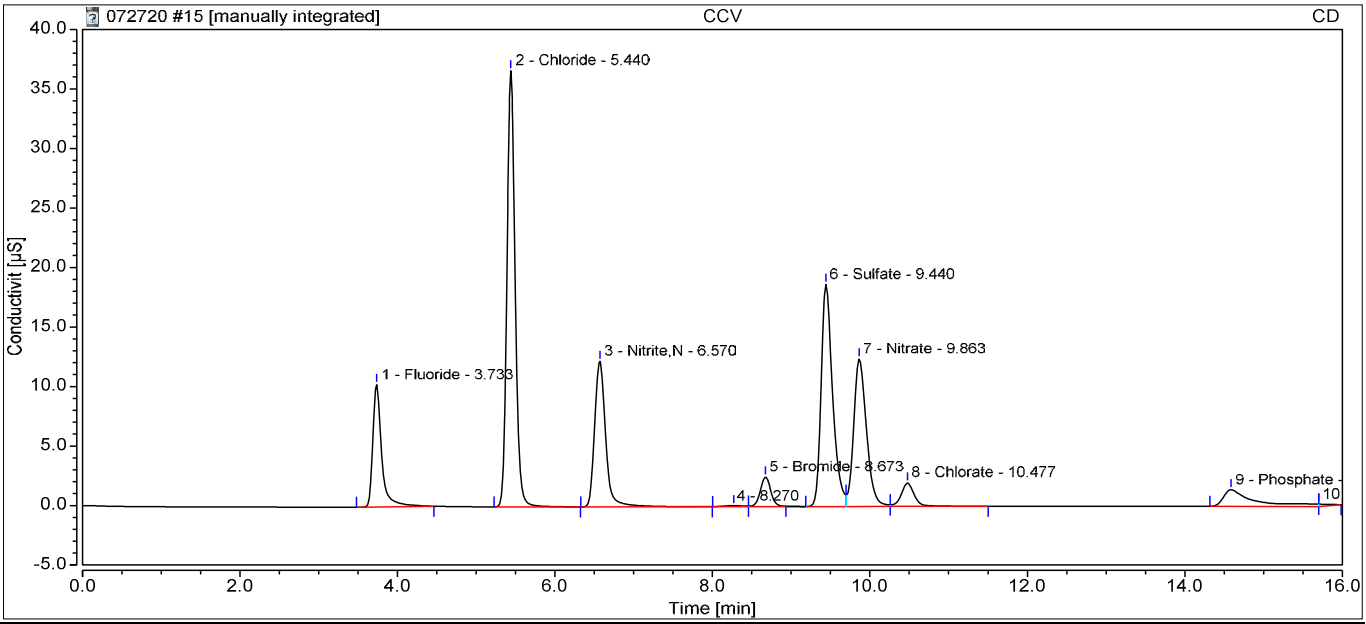
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	1.0000
1	5.47	Chloride	BMB	0.008	0.0067	0.0067	1.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Sulfate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**0.008**		**0.01**	

15 CCV

Sample Name:	**CCV**	*Injection Volume:*	**5.00**
Vial Number:	**BA2**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**07/27/2020 15:48**	*Sample Weight:*	**1.0000**

Run Time:



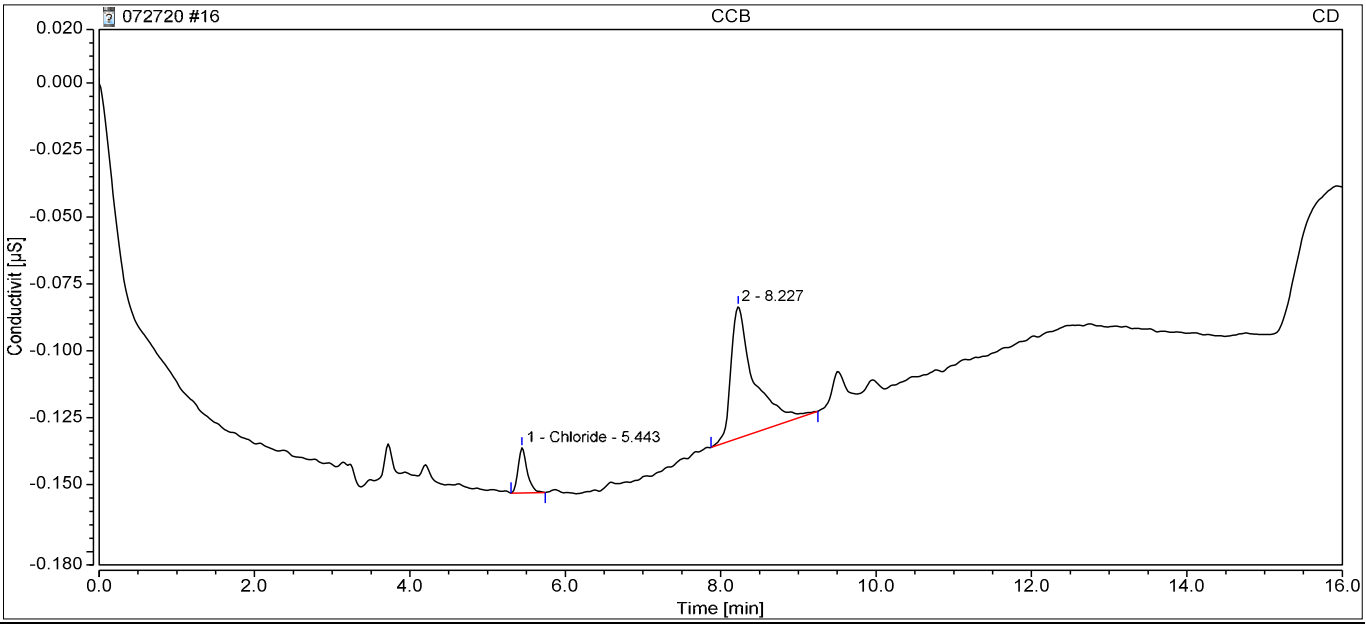
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.73	Fluoride	BMB*	1.333	3.9605	3.9605	1.0000
2	5.44	Chloride	BMB	4.453	20.0663	20.0663	1.0000
3	6.57	Nitrite,N	BMB	1.981	4.3093	4.3093	1.0000
5	8.67	Bromide	M *	0.386	4.3553	4.3553	1.0000
6	9.44	Sulfate	M	3.152	20.1250	20.1250	1.0000
7	9.86	Nitrate	M	2.315	3.8676	3.8676	1.0000
8	10.48	Chlorate	MB	0.384	3.9156	3.9156	1.0000
9	14.59	Phosphate	BM *	0.633	3.6959	3.6959	1.0000
Total:			**0.000**	**14.635**		**64.30**	

16 CCB

Sample Name:	**CCB**	*Injection Volume:*	**5.00**
Vial Number:	**BA3**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**07/27/2020 16:06**	*Sample Weight:*	**1.0000**

Run Time:



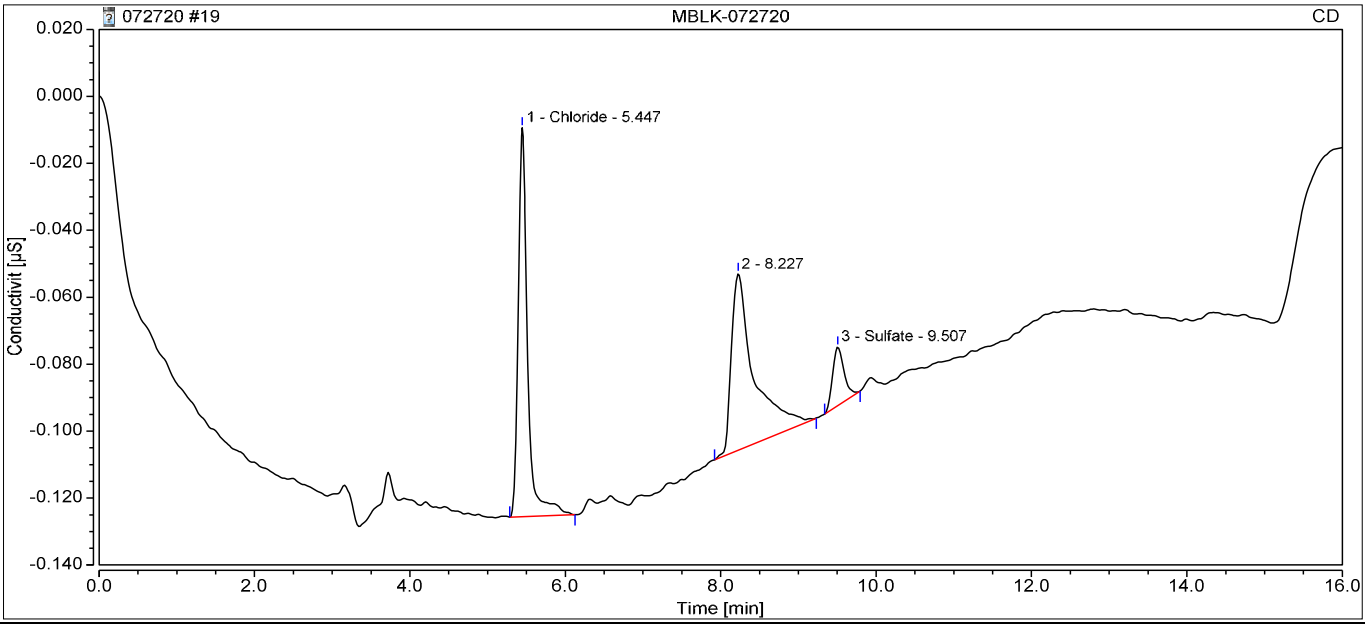
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	1.0000
1	5.44	Chloride	BMB	0.002	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Sulfate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**0.002**		**0.00**	

19 MBLK-072720

Sample Name:	**MBLK-072720**	*Injection Volume:*	**5.00**
Vial Number:	**BB6**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**07/27/2020 17:01**	*Sample Weight:*	**1.0000**

Run Time:

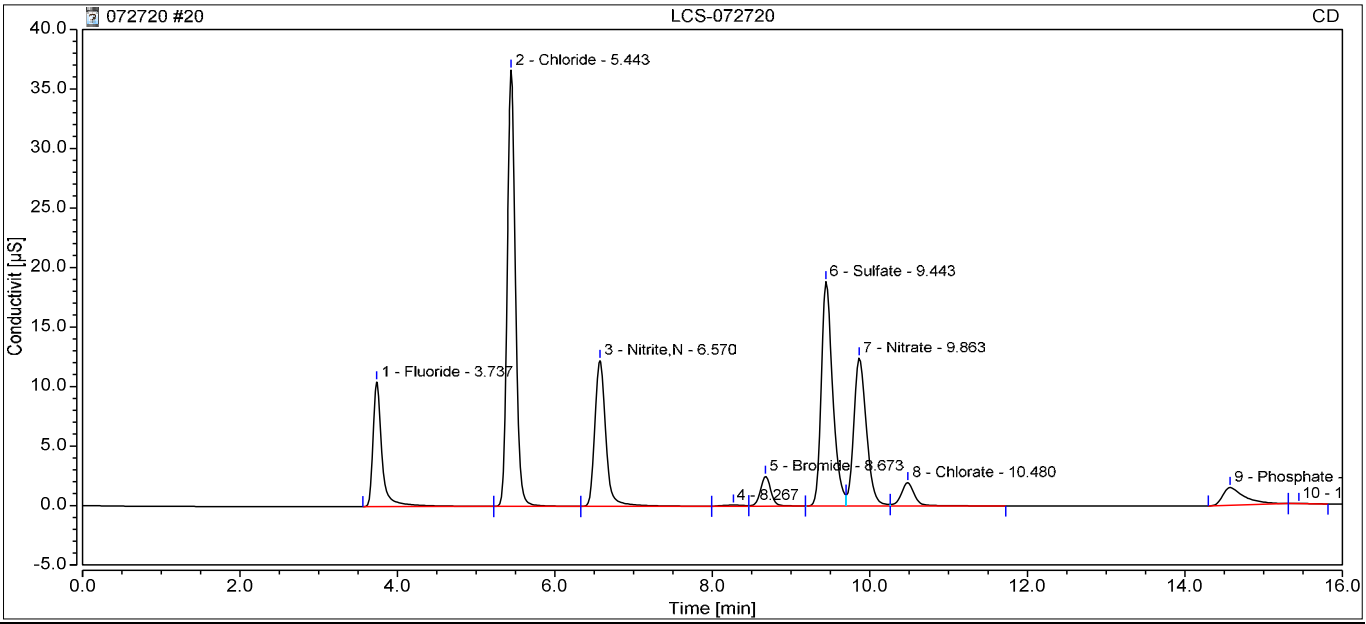


Integration Results

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
1	5.45	Chloride	BMB	0.016	0.0428	0.0428	1.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
3	9.51	Sulfate	BMB	0.003	0.2192	0.2192	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**		**0.26**	

20 LCS-072720			
Sample Name:	**LCS-072720**	*Injection Volume:*	**5.00**
Vial Number:	**BA8**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**07/27/2020 17:19**	*Sample Weight:*	**1.0000**

Run Time:



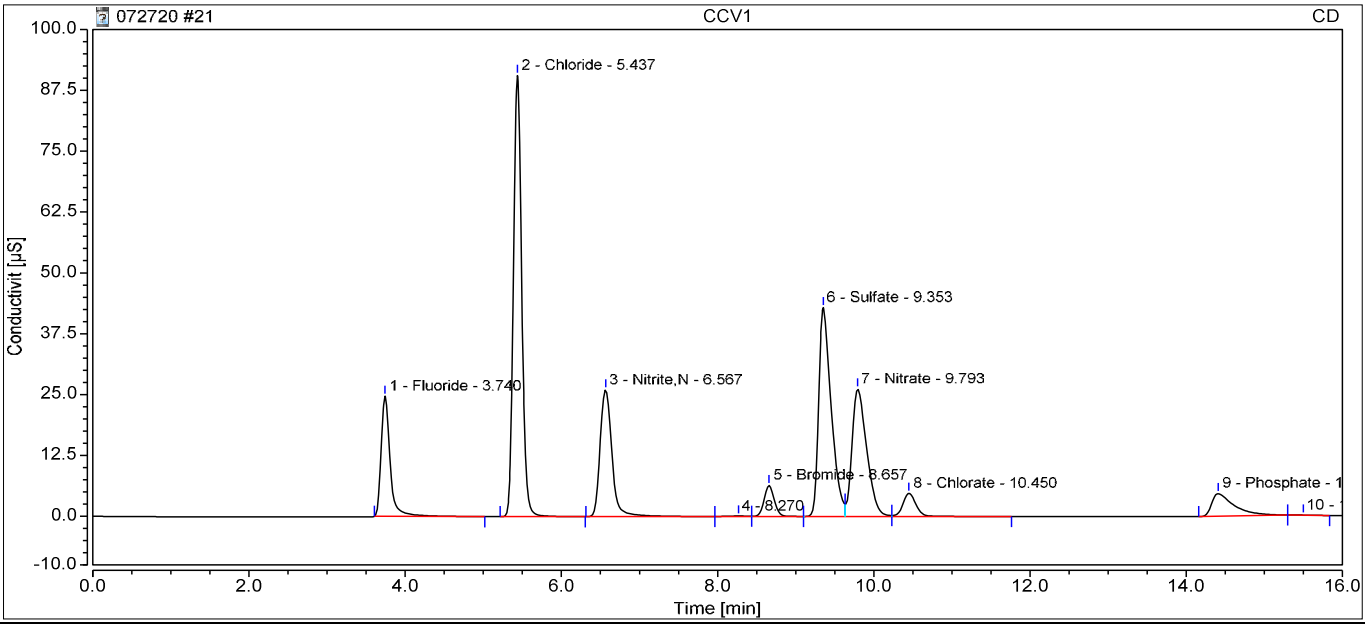
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.74	Fluoride	BMB	1.387	4.1218	4.1218	1.0000
2	5.44	Chloride	BMB	4.457	20.0826	20.0826	1.0000
3	6.57	Nitrite,N	BMB	1.978	4.3029	4.3029	1.0000
5	8.67	Bromide	M	0.389	4.3980	4.3980	1.0000
6	9.44	Sulfate	M	3.186	20.3412	20.3412	1.0000
7	9.86	Nitrate	M	2.313	3.8645	3.8645	1.0000
8	10.48	Chlorate	MB	0.385	3.9353	3.9353	1.0000
9	14.57	Phosphate	BMB	0.479	2.8721	2.8721	1.0000
Total:			**0.000**	**14.575**		**63.92**	

21 CCV1

Sample Name:	**CCV1**	*Injection Volume:*	**5.00**
Vial Number:	**BA4**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**07/27/2020 17:37**	*Sample Weight:*	**1.0000**

Run Time:



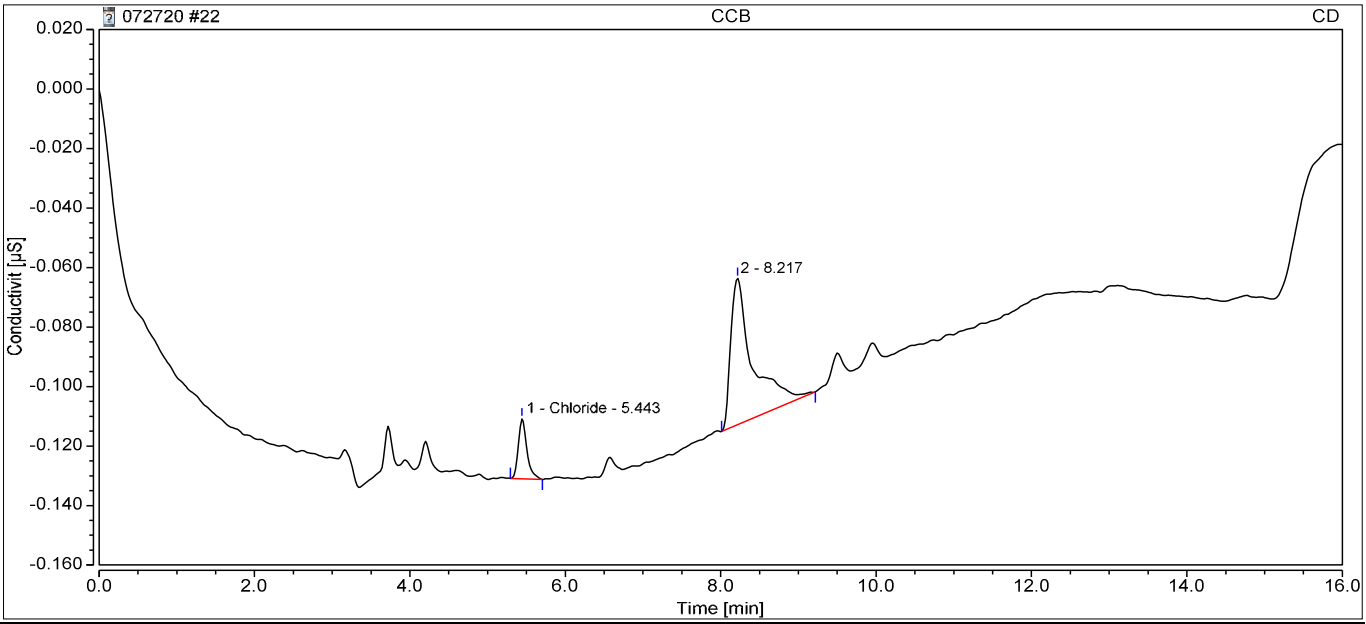
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.74	Fluoride	BMB	3.259	9.6657	9.6657	1.0000
2	5.44	Chloride	BMB	11.065	49.9078	49.9078	1.0000
3	6.57	Nitrite,N	BMB	4.594	10.0274	10.0274	1.0000
5	8.66	Bromide	M	0.972	10.9439	10.9439	1.0000
6	9.35	Sulfate	M	7.953	50.4785	50.4785	1.0000
7	9.79	Nitrate	M	5.701	9.5403	9.5403	1.0000
8	10.45	Chlorate	MB	0.933	9.5765	9.5765	1.0000
9	14.41	Phosphate	BMB	1.544	8.5925	8.5925	1.0000
Total:			**0.000**	**36.022**		**158.73**	

22 CCB

Sample Name:	**CCB**	*Injection Volume:*	**5.00**
Vial Number:	**BA5**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**07/27/2020 17:55**	*Sample Weight:*	**1.0000**

Run Time:



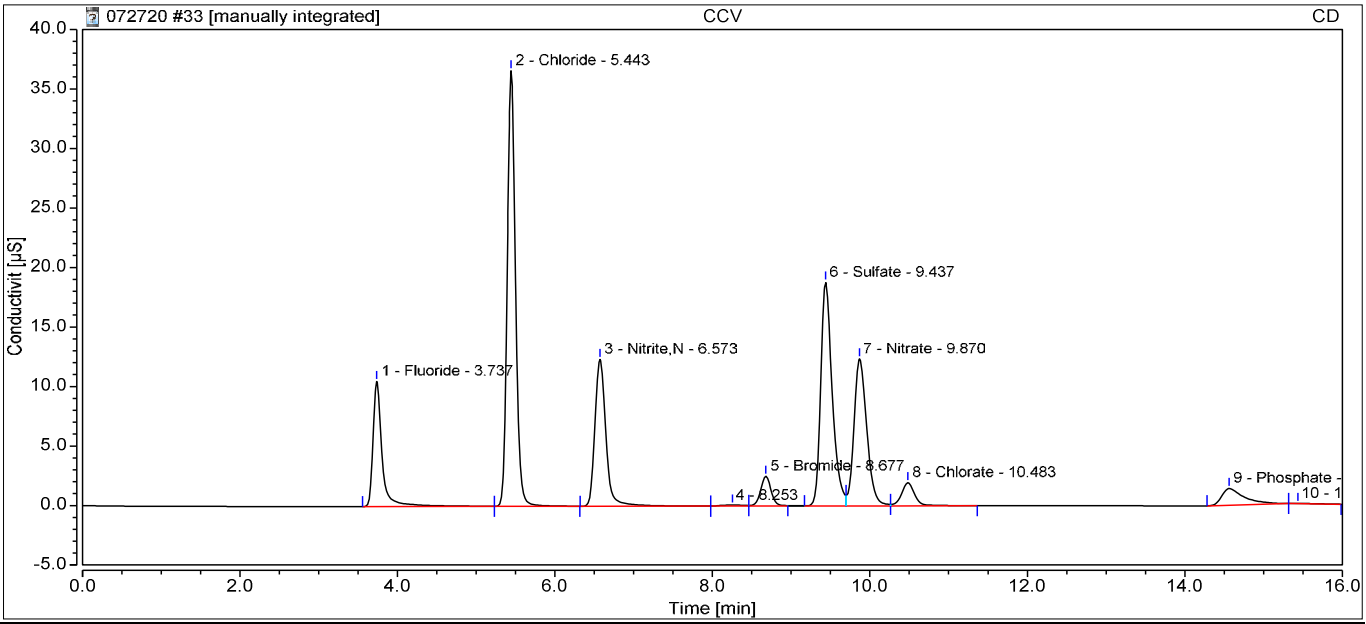
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	1.0000
1	5.44	Chloride	BMB	0.003	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Sulfate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**0.003**		**0.00**	

33 CCV

Sample Name:	**CCV**	*Injection Volume:*	**5.00**
Vial Number:	**BA2**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**07/27/2020 21:14**	*Sample Weight:*	**1.0000**

Run Time:



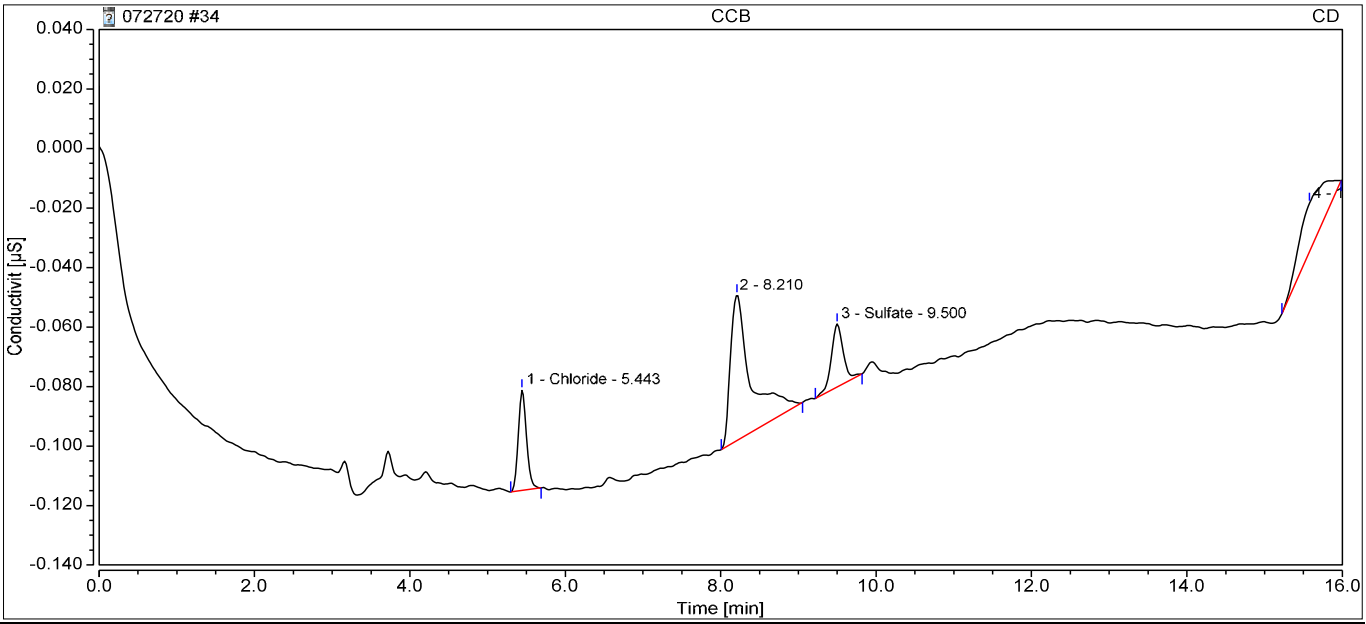
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.74	Fluoride	BMB	1.390	4.1317	4.1317	1.0000
2	5.44	Chloride	BMB	4.466	20.1239	20.1239	1.0000
3	6.57	Nitrite,N	BMB	1.989	4.3252	4.3252	1.0000
5	8.68	Bromide	M *	0.385	4.3510	4.3510	1.0000
6	9.44	Sulfate	M	3.188	20.3526	20.3526	1.0000
7	9.87	Nitrate	M	2.315	3.8677	3.8677	1.0000
8	10.48	Chlorate	MB	0.380	3.8740	3.8740	1.0000
9	14.56	Phosphate	BMB	0.462	2.7781	2.7781	1.0000
Total:			**0.000**	**14.573**		**63.80**	

34 CCB

Sample Name:	**CCB**	*Injection Volume:*	**5.00**
Vial Number:	**BA3**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**07/27/2020 21:32**	*Sample Weight:*	**1.0000**

Run Time:



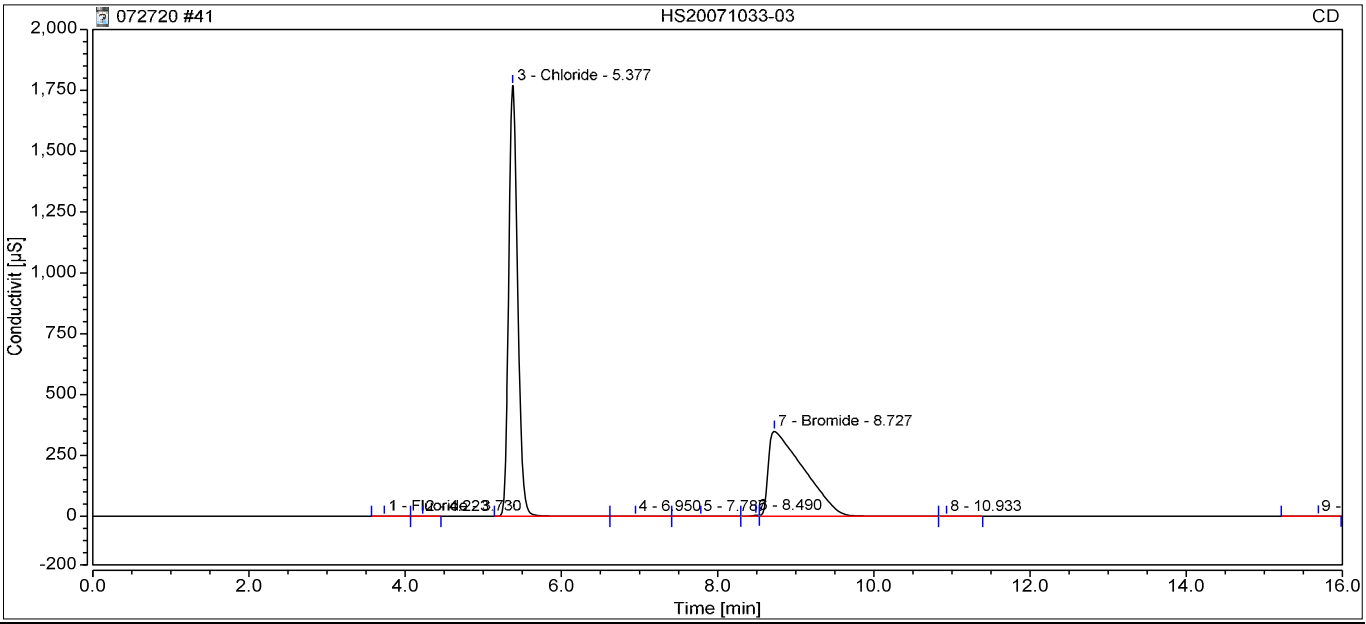
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	1.0000
1	5.44	Chloride	BMB	0.004	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
3	9.50	Sulfate	BMB	0.004	0.2239	0.2239	1.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**0.008**		**0.22**	

41 HS20071033-03

Sample Name:	**HS20071033-03**	*Injection Volume:*	**5.00**
Vial Number:	**GC1**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**07/27/2020 23:39**	*Sample Weight:*	**1.0000**

Run Time:



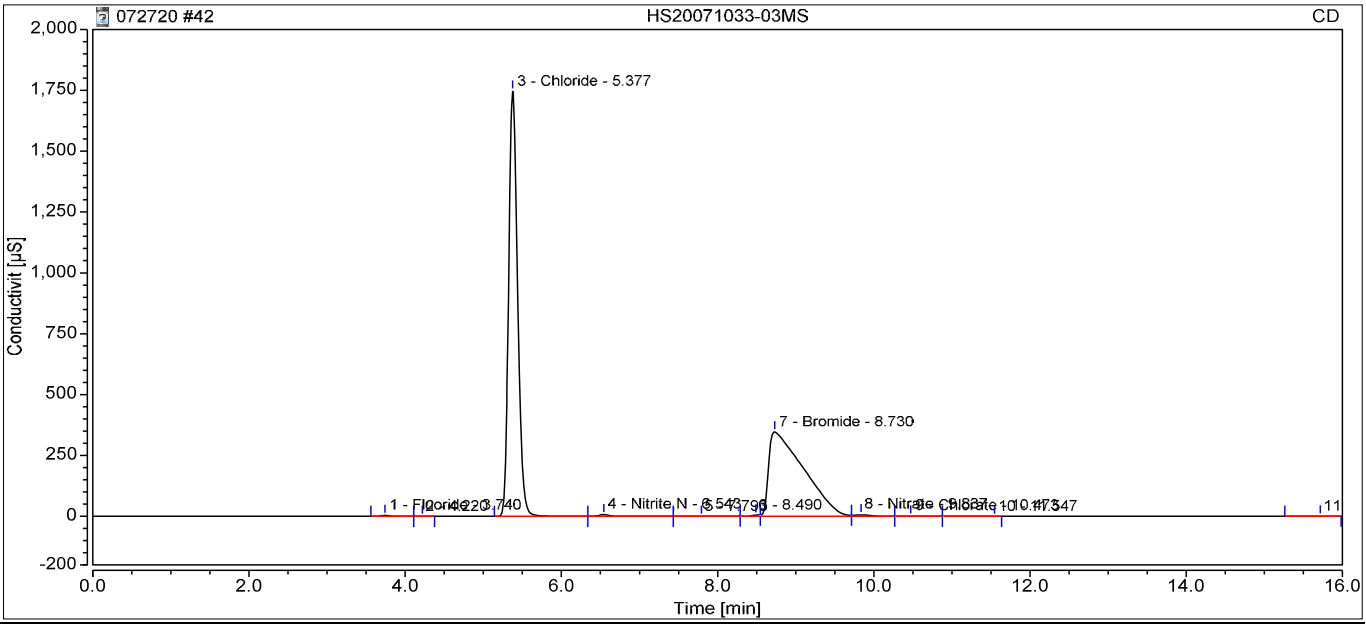
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.73	Fluoride	BMB	0.052	0.1688	0.1688	1.0000
3	5.38	Chloride	BMB	234.827	1059.7592	1059.7592	1.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	1.0000
7	8.73	Bromide	M	182.634	2051.1049	2051.1049	1.0000
n.a.	n.a.	Sulfate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**417.514**		**3111.03**	

42 HS20071033-03MS

Sample Name:	**HS20071033-03MS**	*Injection Volume:*	**5.00**
Vial Number:	**GC2**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**07/27/2020 23:57**	*Sample Weight:*	**1.0000**

Run Time:



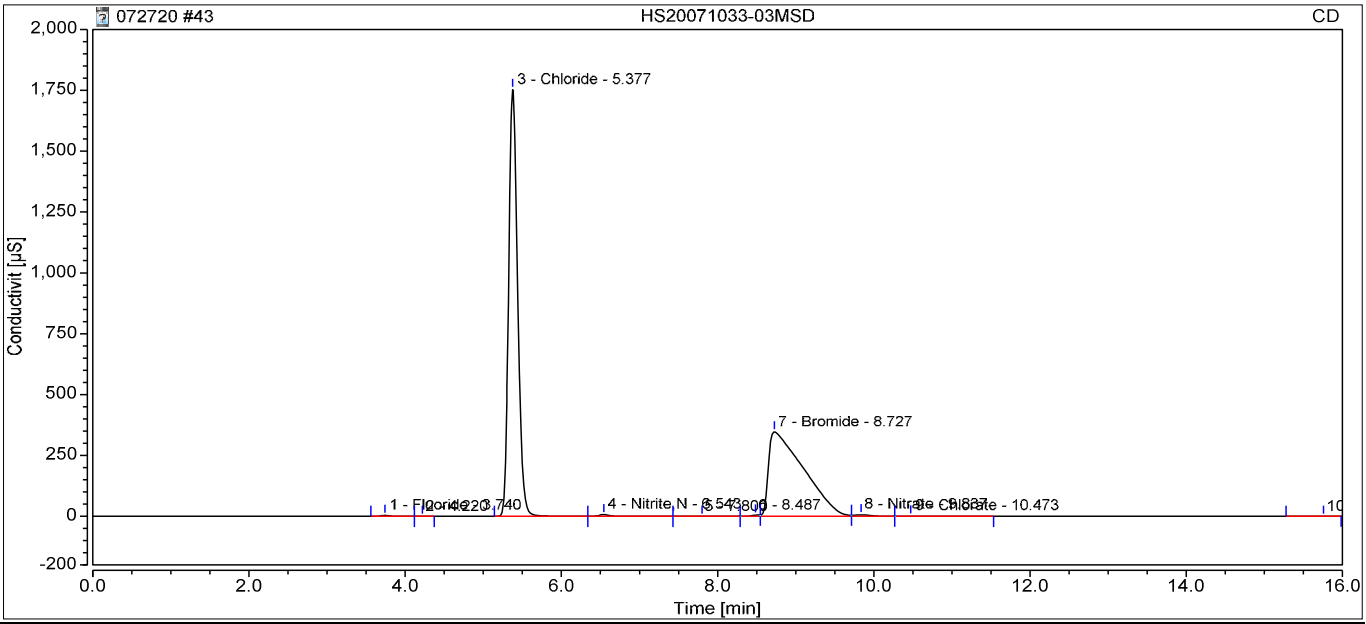
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.74	Fluoride	BMB	0.584	1.7429	1.7429	1.0000
3	5.38	Chloride	BMB	231.046	1042.6945	1042.6945	1.0000
4	6.54	Nitrite,N	BMB	1.043	2.2560	2.2560	1.0000
7	8.73	Bromide	M	179.396	2014.7415	2014.7415	1.0000
n.a.	n.a.	Sulfate	n.a.	n.a.	n.a.	n.a.	1.0000
8	9.84	Nitrate	M	1.503	2.5088	2.5088	1.0000
9	10.47	Chlorate	M	0.239	2.4318	2.4318	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**413.812**		**3066.38**	

43 HS20071033-03MSD

Sample Name:	**HS20071033-03MSD**	*Injection Volume:*	**5.00**
Vial Number:	**GC3**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**07/28/2020 00:15**	*Sample Weight:*	**1.0000**

Run Time:



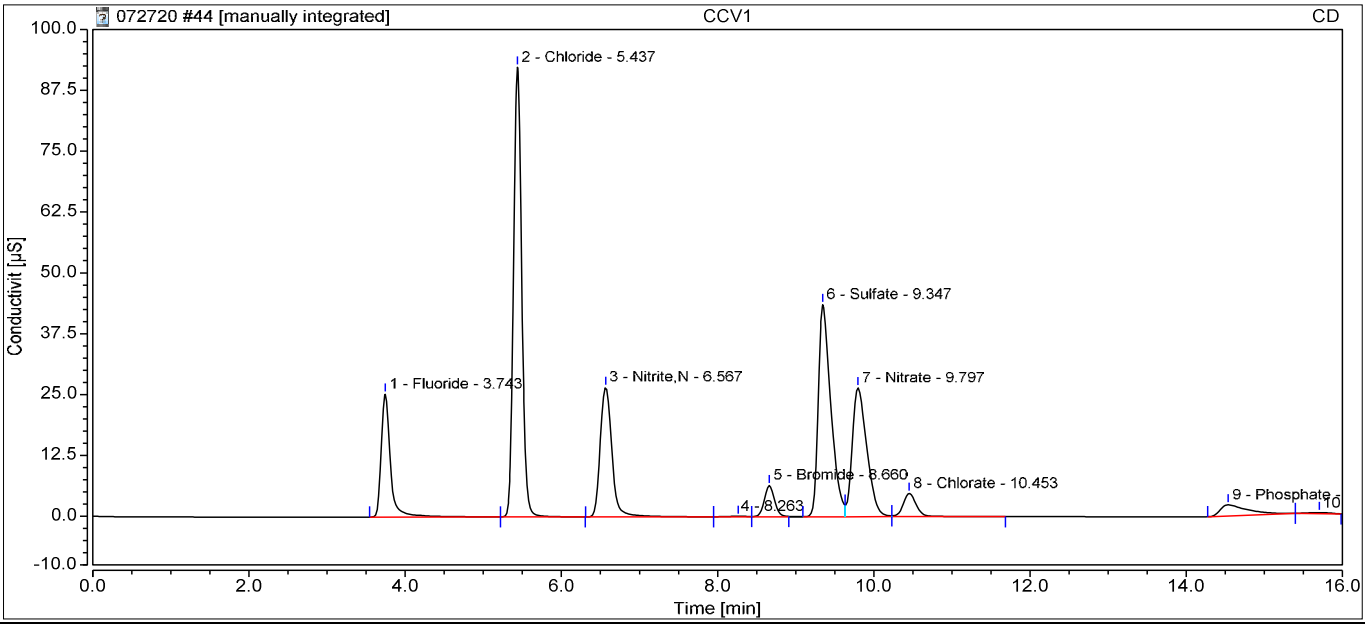
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.74	Fluoride	BMB	0.595	1.7766	1.7766	1.0000
3	5.38	Chloride	BMB	232.077	1047.3465	1047.3465	1.0000
4	6.54	Nitrite,N	BMB	1.049	2.2678	2.2678	1.0000
7	8.73	Bromide	M	180.013	2021.6644	2021.6644	1.0000
n.a.	n.a.	Sulfate	n.a.	n.a.	n.a.	n.a.	1.0000
8	9.84	Nitrate	M	1.492	2.4887	2.4887	1.0000
9	10.47	Chlorate	MB	0.248	2.5230	2.5230	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**415.473**		**3078.07**	

44 CCV1

Sample Name:	**CCV1**	*Injection Volume:*	**5.00**
Vial Number:	**BA4**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**07/28/2020 00:33**	*Sample Weight:*	**1.0000**

Run Time:



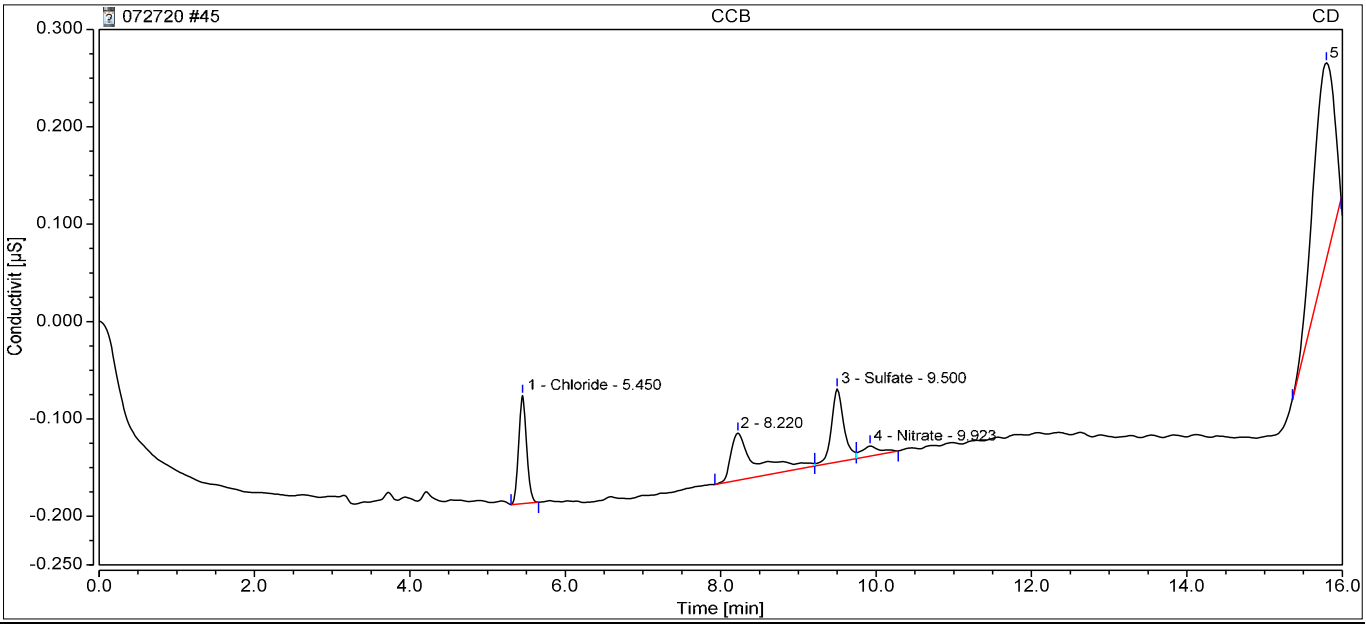
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.74	Fluoride	BMB	3.442	10.2099	10.2099	1.0000
2	5.44	Chloride	BMB	11.185	50.4504	50.4504	1.0000
3	6.57	Nitrite,N	BMB	4.633	10.1124	10.1124	1.0000
5	8.66	Bromide	M *	0.972	10.9368	10.9368	1.0000
6	9.35	Sulfate	M	8.124	51.5650	51.5650	1.0000
7	9.80	Nitrate	M	5.729	9.5860	9.5860	1.0000
8	10.45	Chlorate	MB	0.945	9.6935	9.6935	1.0000
9	14.54	Phosphate	BMB	0.911	5.1897	5.1897	1.0000
Total:			**0.000**	**35.941**		**157.74**	

45 CCB

Sample Name:	**CCB**	*Injection Volume:*	**5.00**
Vial Number:	**BA5**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**07/28/2020 00:52**	*Sample Weight:*	**1.0000**

Run Time:



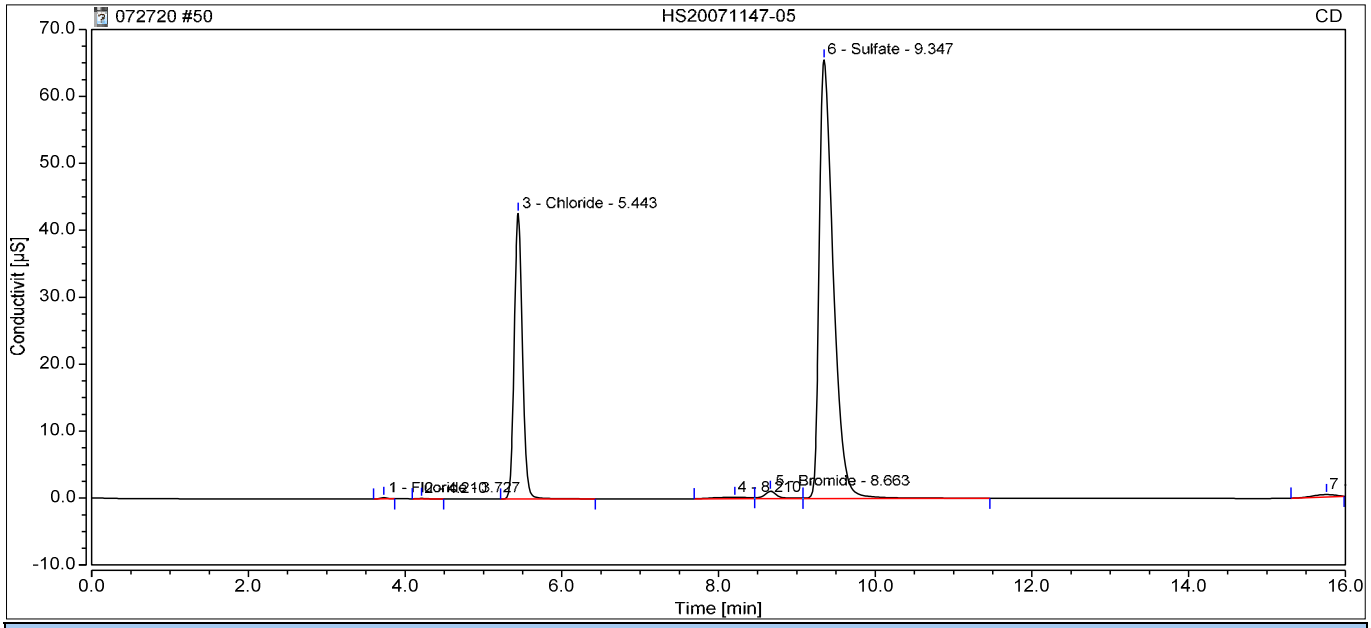
Integration Results

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
1	5.45	Chloride	BMB	0.013	0.0298	0.0298	1.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
3	9.50	Sulfate	M	0.014	0.2885	0.2885	1.0000
4	9.92	Nitrate	MB	0.003	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**	**0.030**		**0.32**	

50 HS20071147-05

Sample Name:	**HS20071147-05**	*Injection Volume:*	**5.00**
Vial Number:	**GC8**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**07/28/2020 02:22**	*Sample Weight:*	**1.0000**

Run Time:



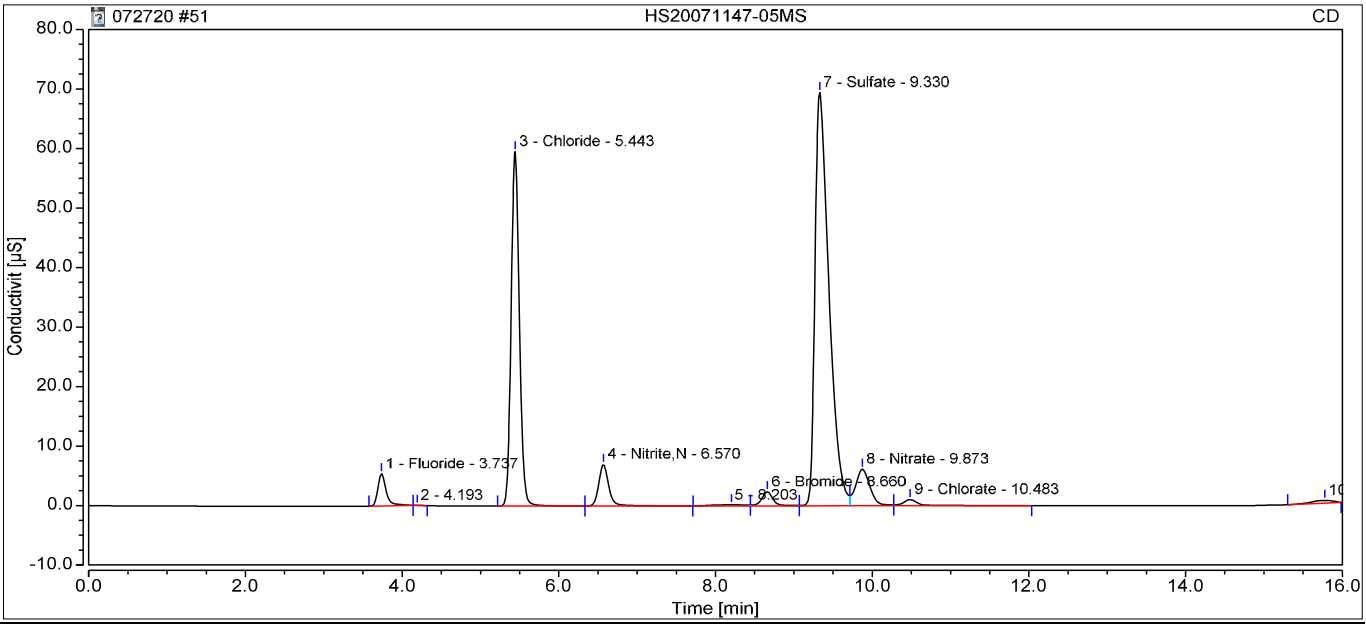
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.73	Fluoride	BMB	0.019	0.0700	0.0700	1.0000
3	5.44	Chloride	BMB	5.143	23.1800	23.1800	1.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	1.0000
5	8.66	Bromide	M	0.215	2.4453	2.4453	1.0000
6	9.35	Sulfate	MB	13.637	86.4197	86.4197	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**	**19.015**		**112.11**	

51 HS20071147-05MS

Sample Name:	**HS20071147-05MS**	*Injection Volume:*	**5.00**
Vial Number:	**GD1**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**07/28/2020 02:40**	*Sample Weight:*	**1.0000**

Run Time:



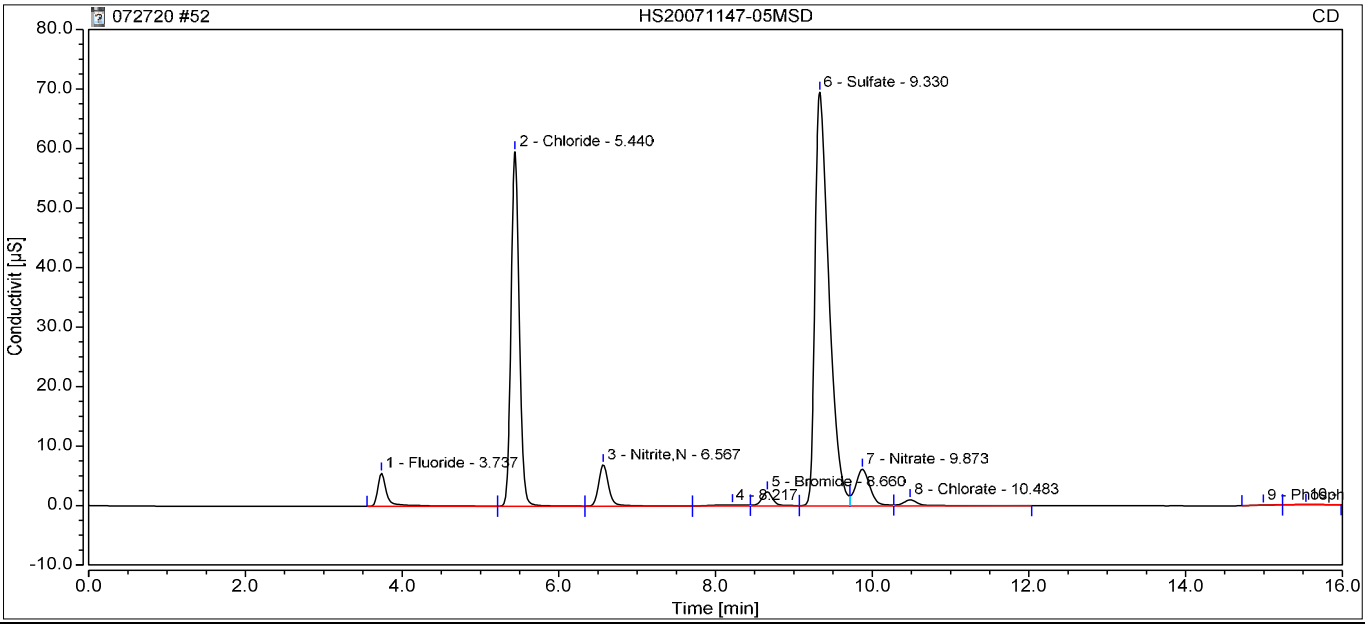
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.74	Fluoride	BMB	0.660	1.9677	1.9677	1.0000
3	5.44	Chloride	BMB	7.213	32.5223	32.5223	1.0000
4	6.57	Nitrite,N	BMB	1.050	2.2704	2.2704	1.0000
6	8.66	Bromide	M	0.404	4.5621	4.5621	1.0000
7	9.33	Sulfate	M	14.380	91.1161	91.1161	1.0000
8	9.87	Nitrate	M	1.316	2.1945	2.1945	1.0000
9	10.48	Chlorate	MB	0.245	2.4924	2.4924	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**25.268**		**137.13**	

52 HS20071147-05MSD

Sample Name:	**HS20071147-05MSD**	*Injection Volume:*	**5.00**
Vial Number:	**GD2**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**07/28/2020 02:58**	*Sample Weight:*	**1.0000**

Run Time:



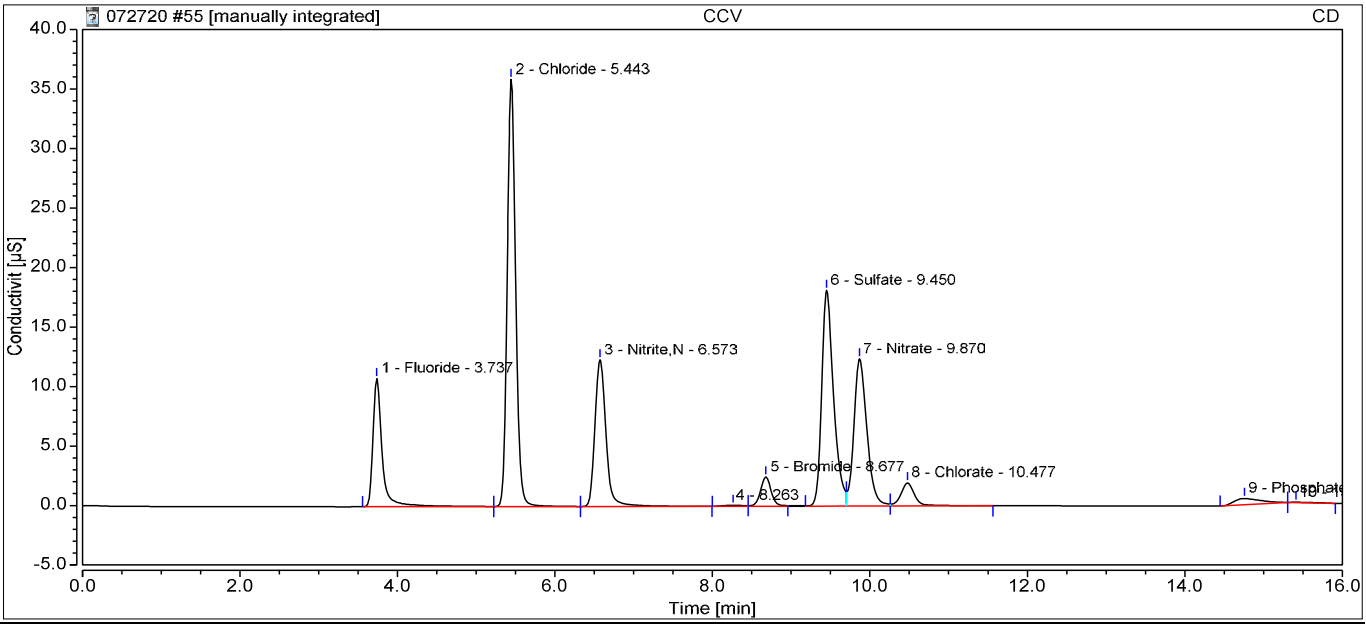
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.74	Fluoride	BMB	0.758	2.2577	2.2577	1.0000
2	5.44	Chloride	BMB	7.220	32.5540	32.5540	1.0000
3	6.57	Nitrite,N	BMB	1.051	2.2727	2.2727	1.0000
5	8.66	Bromide	M	0.405	4.5711	4.5711	1.0000
6	9.33	Sulfate	M	14.392	91.1888	91.1888	1.0000
7	9.87	Nitrate	M	1.314	2.1913	2.1913	1.0000
8	10.48	Chlorate	MB	0.237	2.4116	2.4116	1.0000
9	14.99	Phosphate	BMB	0.011	0.3547	0.3547	1.0000
Total:			**0.000**	**25.387**		**137.80**	

55 CCV

Sample Name:	**CCV**	*Injection Volume:*	**5.00**
Vial Number:	**BA2**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**07/28/2020 03:53**	*Sample Weight:*	**1.0000**

Run Time:



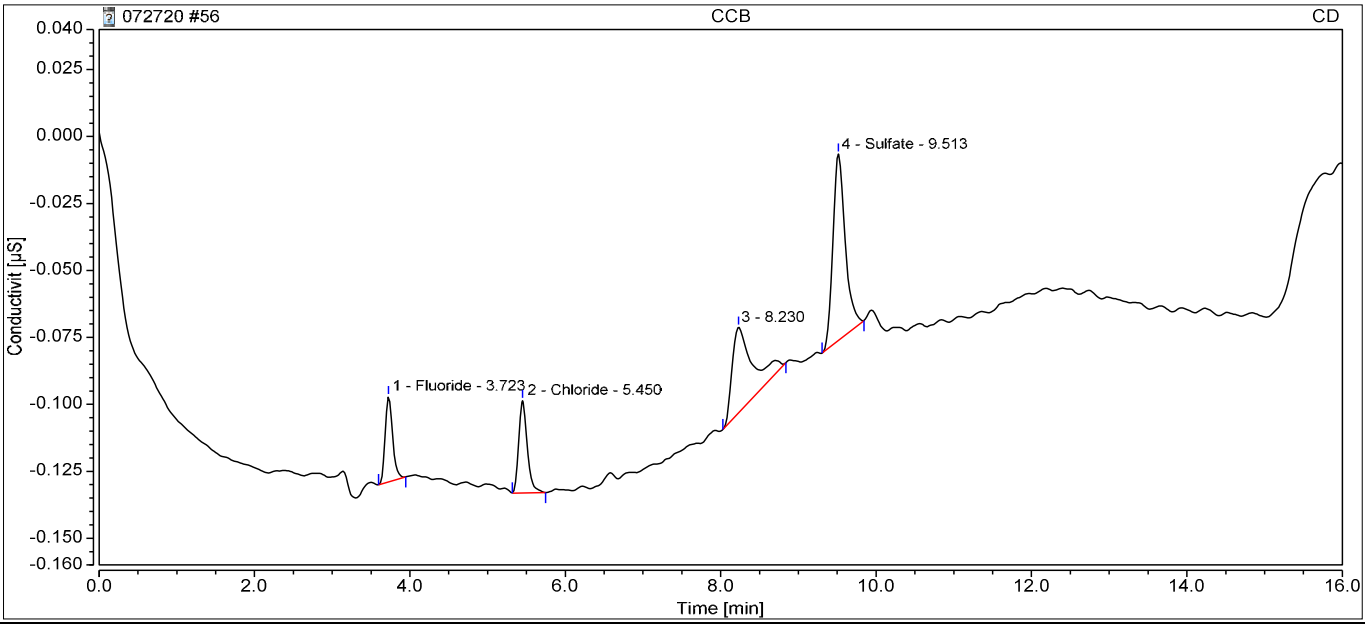
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.74	Fluoride	BMB	1.449	4.3049	4.3049	1.0000
2	5.44	Chloride	BMB	4.470	20.1419	20.1419	1.0000
3	6.57	Nitrite,N	BMB	1.996	4.3402	4.3402	1.0000
5	8.68	Bromide	M *	0.387	4.3697	4.3697	1.0000
6	9.45	Sulfate	M	3.179	20.2982	20.2982	1.0000
7	9.87	Nitrate	M	2.347	3.9221	3.9221	1.0000
8	10.48	Chlorate	MB	0.395	4.0330	4.0330	1.0000
9	14.76	Phosphate	BMB	0.198	1.3595	1.3595	1.0000
Total:			**0.000**	**14.420**		**62.77**	

56 CCB

Sample Name:	**CCB**	*Injection Volume:*	**5.00**
Vial Number:	**BA3**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**07/28/2020 04:11**	*Sample Weight:*	**1.0000**

Run Time:



Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.72	Fluoride	BMB	0.004	0.0241	0.0241	1.0000
2	5.45	Chloride	BMB	0.004	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
4	9.51	Sulfate	BMB	0.013	0.2814	0.2814	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**		**0.31**	

Sequence: 072820
Last Update Operator: alshs.nouser

CD	Name	Comment	Type	Position	Dilution	Level	Instrument Method	Processing Method	me	Status
	STD1		Calibration	GB1	1.00	1	Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	STD2		Calibration	GB2	1.00	2	Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	STD3		Calibration	GB3	1.00	3	Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	STD4		Calibration	GB4	1.00	4	Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	STD5		Calibration	GB5	1.00	5	Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	STD6		Calibration	GB6	1.00	6	Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	ICV		Unknown	GB7	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	ICB		Unknown	BA3	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	CCV		Unknown	BA2	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	CCB		Unknown	BA3	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	MBLK-072820		Unknown	BA1	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	LCS-072820		Unknown	BA8	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	CCV1		Unknown	BA4	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	CCB		Unknown	BA5	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	CCV		Unknown	BA2	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	CCB		Unknown	BA3	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	HS20071033-06DF5		Unknown	RE5	5.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	CCV1		Unknown	BA4	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	CCB		Unknown	BA5	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	HS20071033-03DF5		Unknown	RE6	5.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	HS20071033-03MSDF5		Unknown	RE7	5.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	HS20071033-03MSDDF5		Unknown	RE8	5.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	HS20071033-05DF5		Unknown	GA6	5.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	HS20071033-05MSDF5		Unknown	GA7	5.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	HS20071033-05MSDDF5		Unknown	GA8	5.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	CCV		Unknown	BA2	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	CCB		Unknown	BA3	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished

Sequence: 072820
Last Update Operator: alshs.nouser

Inject Time
6/2/2020 11:02:48 AM -05:00
6/2/2020 11:20:59 AM -05:00
6/2/2020 11:39:04 AM -05:00
6/2/2020 11:57:10 AM -05:00
6/2/2020 12:15:18 PM -05:00
6/2/2020 12:33:22 PM -05:00
6/2/2020 12:51:27 PM -05:00
6/2/2020 1:45:50 PM -05:00
7/28/2020 12:11:33 PM -05:00
7/28/2020 12:29:43 PM -05:00
7/28/2020 1:24:07 PM -05:00
7/28/2020 1:42:12 PM -05:00
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7/29/2020 6:24:44 AM -05:00
7/29/2020 6:42:50 AM -05:00
7/29/2020 7:00:58 AM -05:00
7/29/2020 7:19:03 AM -05:00
7/29/2020 7:37:08 AM -05:00
7/29/2020 7:55:18 AM -05:00
7/29/2020 8:13:26 AM -05:00
7/29/2020 8:31:31 AM -05:00
7/29/2020 8:49:37 AM -05:00
7/29/2020 9:07:42 AM -05:00

Sequence: 072820
Injection #6: STD6

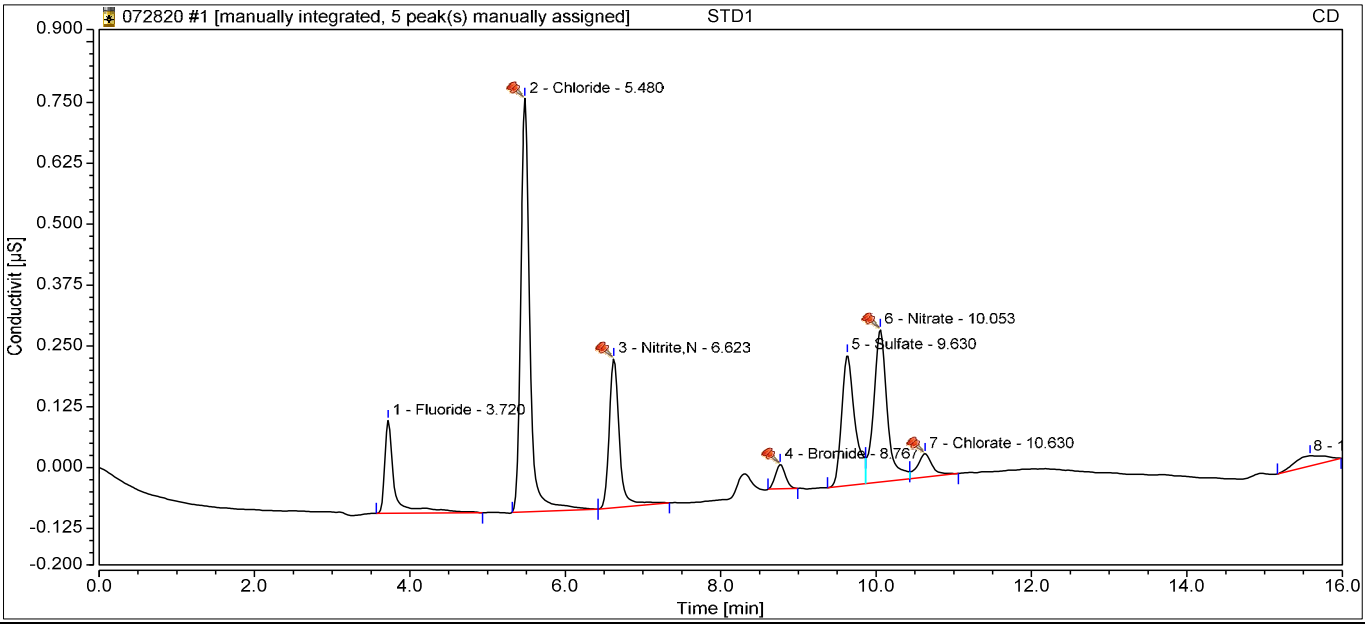
Calibration

Peak No.	Peak Name	Cal.Type	Eval.Type	Number of Points	Rel.Std.Dev. %	Coeff.of Determination	C0 (Offset)	C1 (Slope)	C2 (Curve)
1	*Fluoride*	*Lin, WithOffset, 1/*	*Area*	*6*	*10.8139*	*0.99942*	*-0.0046*	*0.3376*	*0.0000*
2	Chloride	Lin, WithOffset, 1/	Area	6	3.4292	0.99994	0.0066	0.2216	0.0000
3	Nitrite,N	Lin, WithOffset, 1/	Area	6	25.3231	0.99619	0.0124	0.4569	0.0000
4	Bromide	Lin, WithOffset, 1/	Area	6	11.6783	0.99936	-0.0023	0.0890	0.0000
5	Sulfate	Lin, WithOffset, 1/	Area	6	4.6337	0.99991	-0.0317	0.1582	0.0000
6	Nitrate	Lin, WithOffset, 1/	Area	6	5.8899	0.99981	0.0058	0.5970	0.0000
7	Chlorate	Lin, WithOffset, 1/	Area	6	15.6369	0.99851	0.0032	0.0971	0.0000
8	Phosphate	Lin, WithOffset, 1/	Area	5	24.1443	0.99440	-0.0555	0.1862	0.0000
Maximum					**25.3231**	0.99994			
Minimum					3.4292	**0.99440**			

1 STD1

Sample Name:	**STD1**	*Injection Volume:*	**5.00**
Vial Number:	**GB1**	*Channel:*	**CD**
Sample Type:	**Calibration Standard**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**06/02/2020 11:02**	*Sample Weight:*	**1.0000**

Run Time:



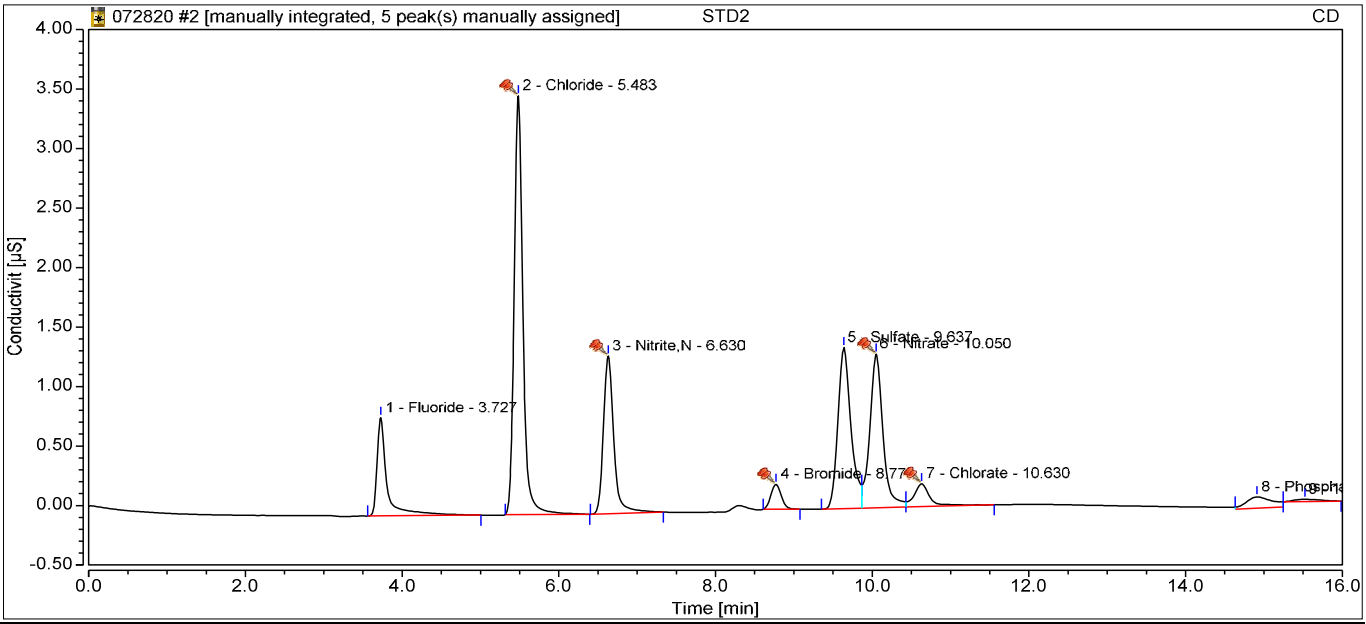
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.72	Fluoride	BMB	0.029	0.0982	0.0982	1.0000
2	5.48	Chloride	BMB^	0.115	0.4904	0.4904	1.0000
3	6.62	Nitrite,N	BMB*^	0.046	0.0745	0.0745	1.0000
4	8.77	Bromide	BMB^	0.007	0.1093	0.1093	1.0000
5	9.63	Sulfate	BM	0.053	0.5374	0.5374	1.0000
6	10.05	Nitrate	M ^	0.064	0.0969	0.0969	1.0000
7	10.63	Chlorate	MB^	0.011	0.0775	0.0775	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**0.325**		**1.48**	

2 STD2

Sample Name:	**STD2**	*Injection Volume:*	**5.00**
Vial Number:	**GB2**	*Channel:*	**CD**
Sample Type:	**Calibration Standard**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**06/02/2020 11:20**	*Sample Weight:*	**1.0000**

Run Time:

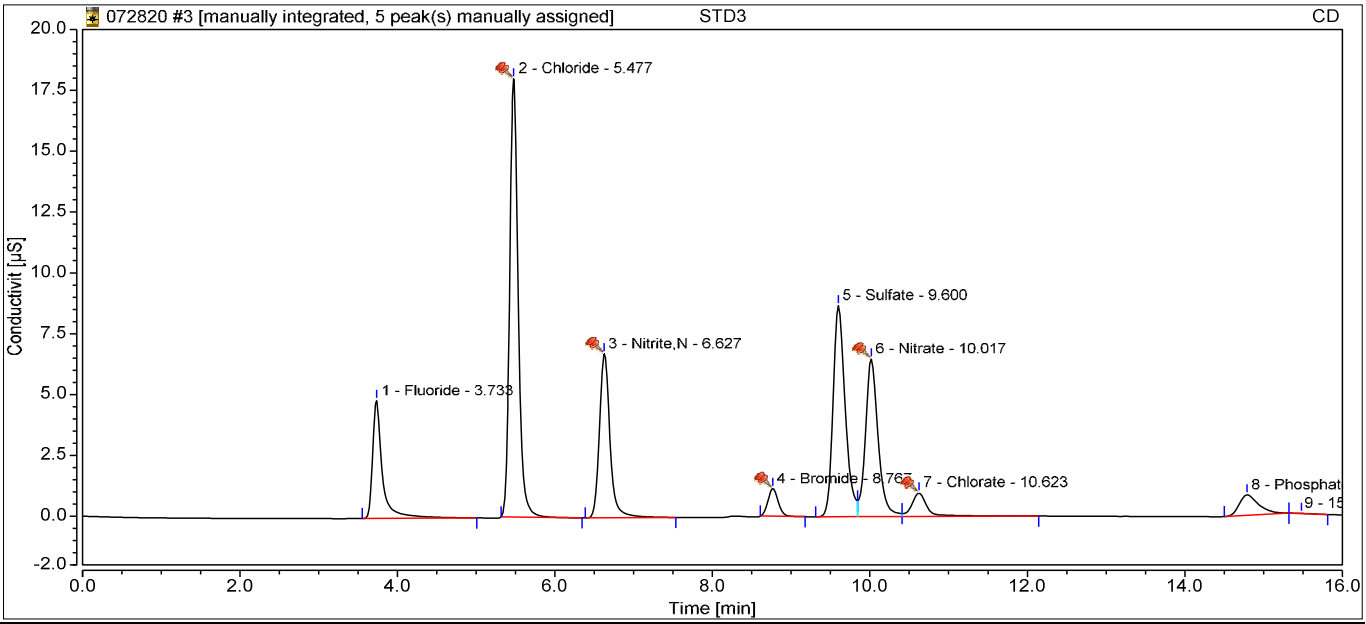


Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.73	Fluoride	BMB	0.122	0.3761	0.3761	1.0000
2	5.48	Chloride	BMB^	0.452	2.0081	2.0081	1.0000
3	6.63	Nitrite,N	BMB*^	0.202	0.4159	0.4159	1.0000
4	8.77	Bromide	BMB^	0.032	0.3810	0.3810	1.0000
5	9.64	Sulfate	BM	0.263	1.8631	1.8631	1.0000
6	10.05	Nitrate	M ^	0.253	0.4135	0.4135	1.0000
7	10.63	Chlorate	MB^	0.046	0.4359	0.4359	1.0000
8	14.91	Phosphate	M *	0.037	0.4982	0.4982	1.0000
Total:			**0.000**	**1.407**		**6.39**	

3 STD3			
Sample Name:	**STD3**	*Injection Volume:*	**5.00**
Vial Number:	**GB3**	*Channel:*	**CD**
Sample Type:	**Calibration Standard**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**06/02/2020 11:39**	*Sample Weight:*	**1.0000**

Run Time:



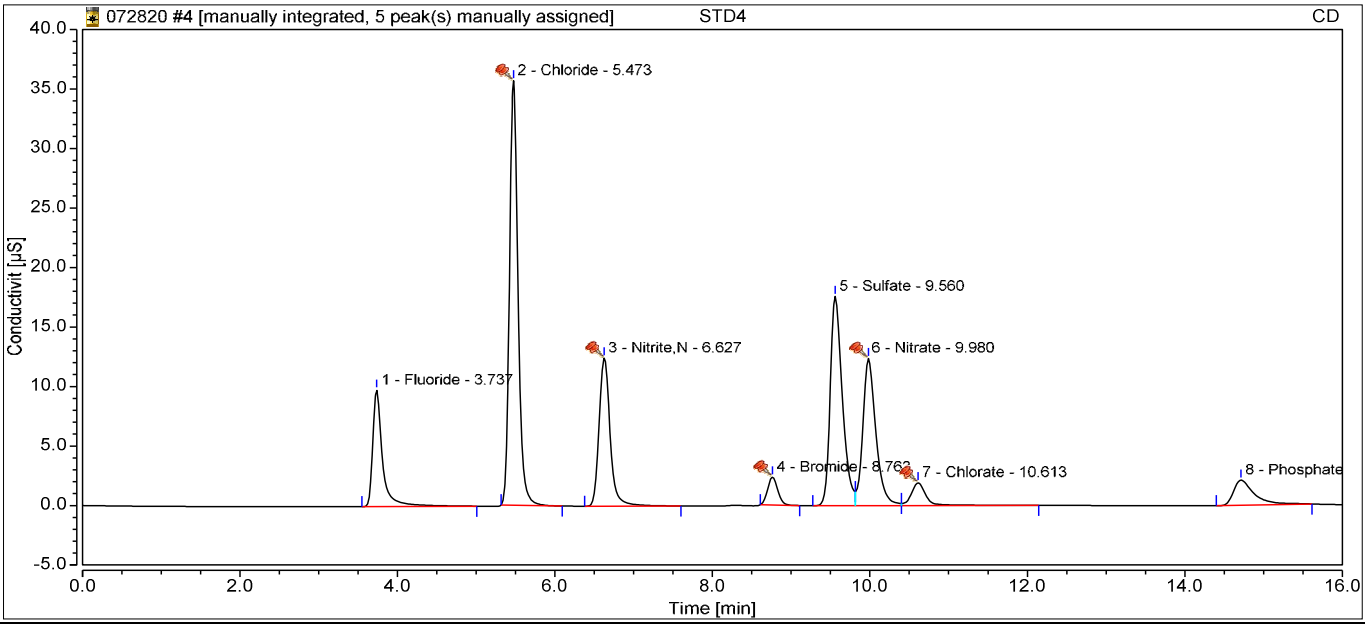
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.73	Fluoride	BMB	0.697	2.0782	2.0782	1.0000
2	5.48	Chloride	BMB^	2.257	10.1575	10.1575	1.0000
3	6.63	Nitrite,N	BMB*^	1.049	2.2692	2.2692	1.0000
4	8.77	Bromide	BMB^	0.172	1.9524	1.9524	1.0000
5	9.60	Sulfate	BM	1.543	9.9532	9.9532	1.0000
6	10.02	Nitrate	M ^	1.213	2.0220	2.0220	1.0000
7	10.62	Chlorate	MB^	0.220	2.2332	2.2332	1.0000
8	14.79	Phosphate	BMB	0.243	1.6042	1.6042	1.0000
Total:			**0.000**	**7.394**		**32.27**	

4 STD4

Sample Name:	**STD4**	*Injection Volume:*	**5.00**
Vial Number:	**GB4**	*Channel:*	**CD**
Sample Type:	**Calibration Standard**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**06/02/2020 11:57**	*Sample Weight:*	**1.0000**

Run Time:



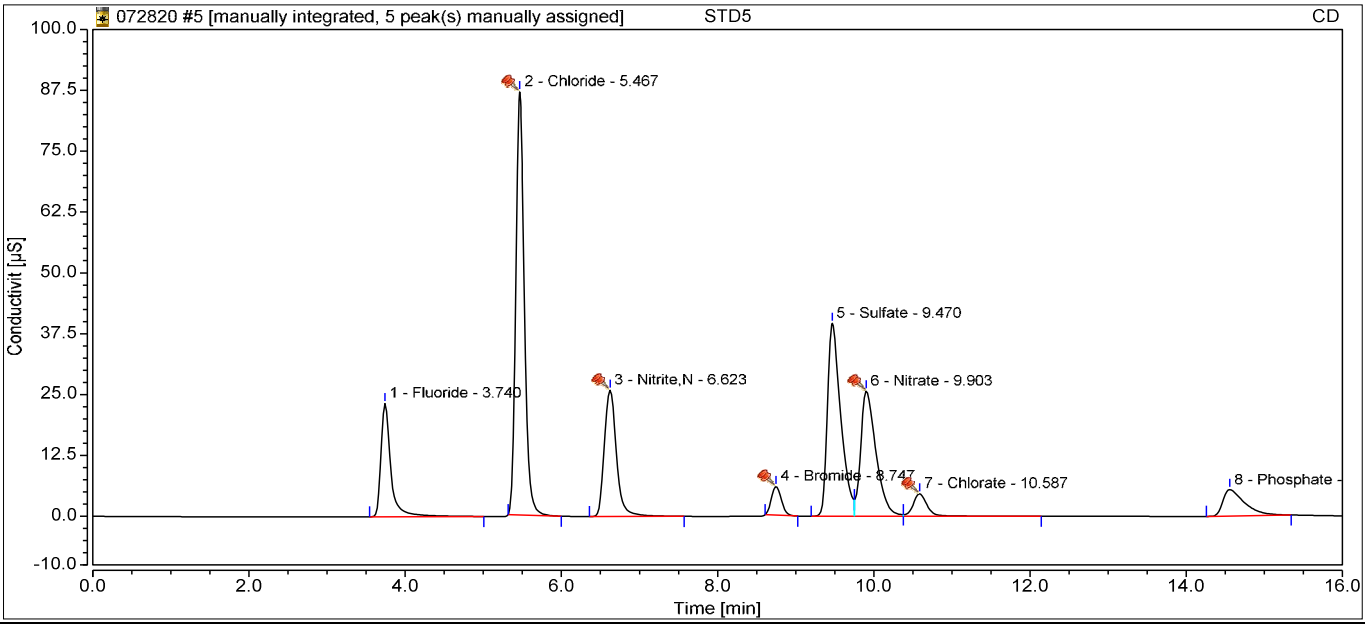
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.74	Fluoride	BMB	1.406	4.1793	4.1793	1.0000
2	5.47	Chloride	BMB^	4.475	20.1656	20.1656	1.0000
3	6.63	Nitrite,N	BMB*^	2.031	4.4170	4.4170	1.0000
4	8.76	Bromide	BMB^	0.350	3.9560	3.9560	1.0000
5	9.56	Sulfate	BM	3.131	19.9943	19.9943	1.0000
6	9.98	Nitrate	M ^	2.388	3.9909	3.9909	1.0000
7	10.61	Chlorate	MB^	0.410	4.1864	4.1864	1.0000
8	14.71	Phosphate	BMB*	0.647	3.7708	3.7708	1.0000
Total:			**0.000**	**14.837**		**64.66**	

5 STD5

Sample Name:	**STD5**	*Injection Volume:*	**5.00**
Vial Number:	**GB5**	*Channel:*	**CD**
Sample Type:	**Calibration Standard**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**06/02/2020 12:15**	*Sample Weight:*	**1.0000**

Run Time:



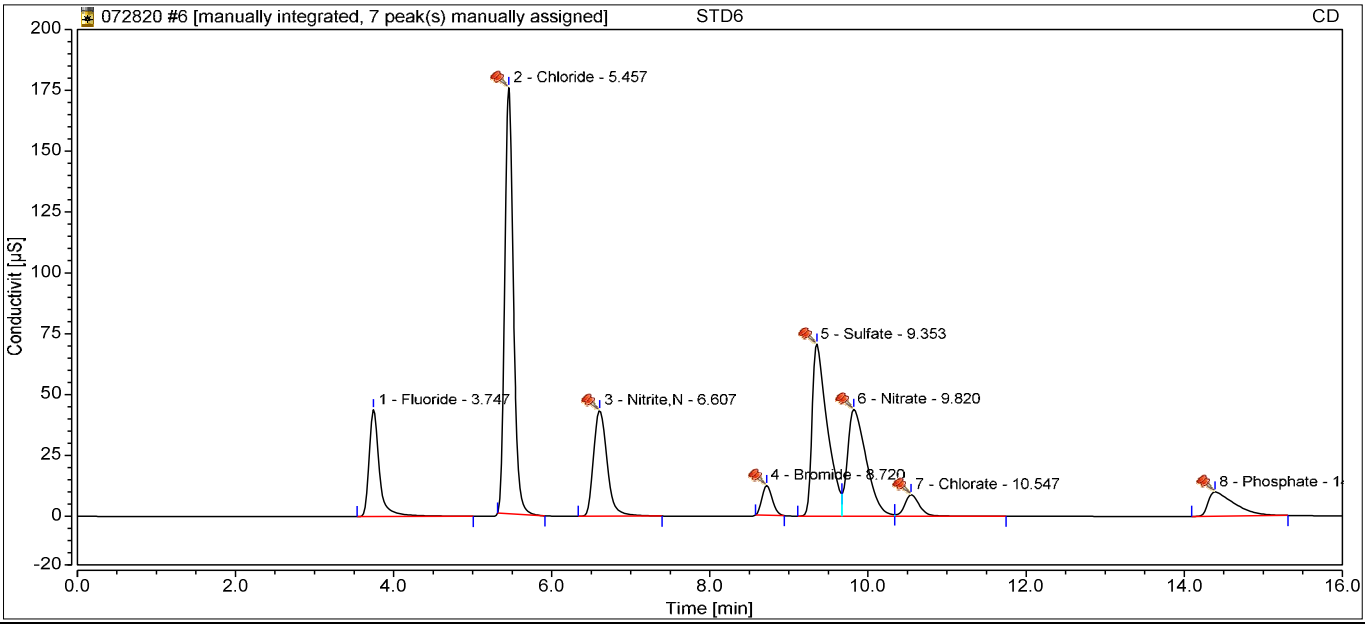
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.74	Fluoride	BMB	3.409	10.1112	10.1112	1.0000
2	5.47	Chloride	BMB^	10.962	49.4436	49.4436	1.0000
3	6.62	Nitrite,N	BMB*^	4.673	10.1996	10.1996	1.0000
4	8.75	Bromide	BMB^	0.860	9.6874	9.6874	1.0000
5	9.47	Sulfate	BM	7.832	49.7141	49.7141	1.0000
6	9.90	Nitrate	M ^	5.855	9.7981	9.7981	1.0000
7	10.59	Chlorate	MB^	0.963	9.8794	9.8794	1.0000
8	14.56	Phosphate	BMB*	1.744	9.6675	9.6675	1.0000
Total:			**0.000**	**36.299**		**158.50**	

6 STD6

Sample Name:	**STD6**	*Injection Volume:*	**5.00**
Vial Number:	**GB6**	*Channel:*	**CD**
Sample Type:	**Calibration Standard**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**06/02/2020 12:33**	*Sample Weight:*	**1.0000**

Run Time:



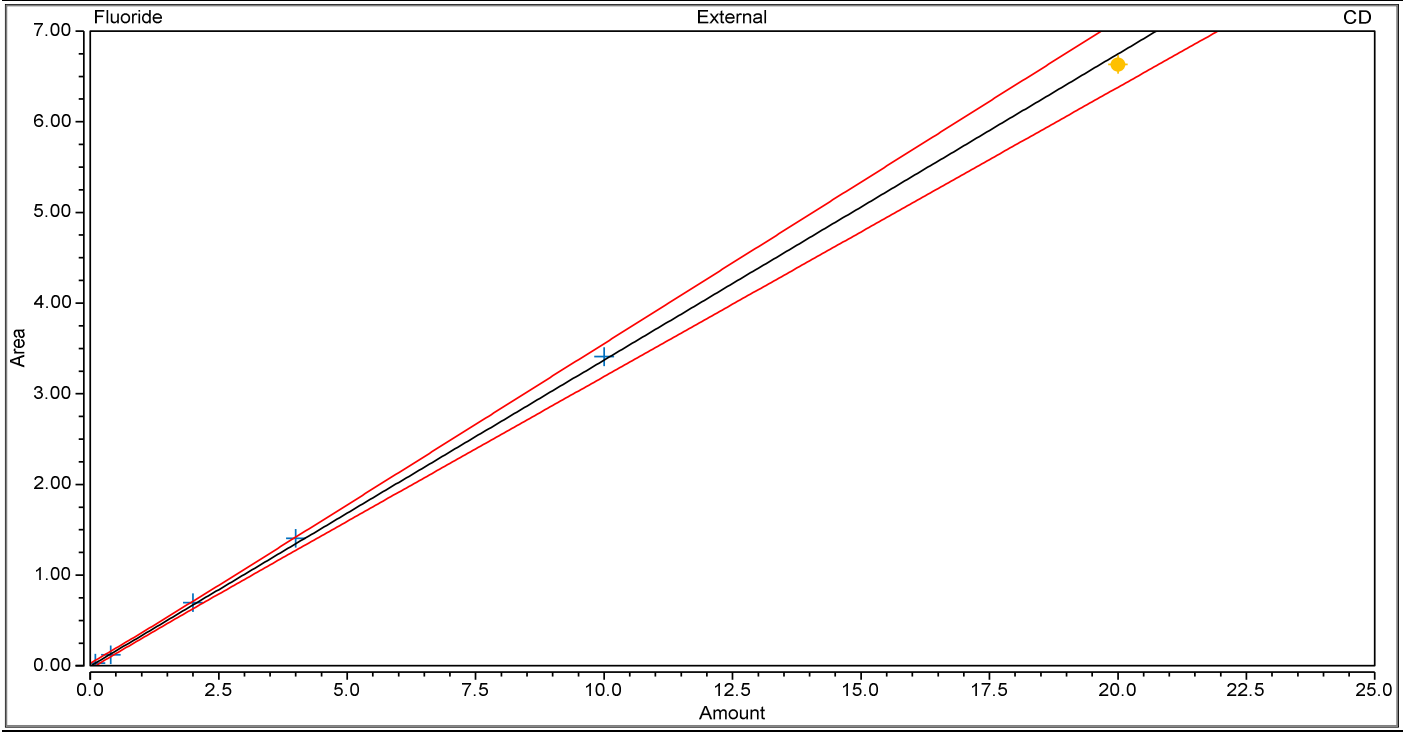
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.75	Fluoride	BMB	6.632	19.6569	19.6569	1.0000
2	5.46	Chloride	BMB^	22.217	100.2349	100.2349	1.0000
3	6.61	Nitrite,N	BMB*^	8.750	19.1238	19.1238	1.0000
4	8.72	Bromide	BMB*^	1.815	20.4140	20.4140	1.0000
5	9.35	Sulfate	BM ^	15.855	100.4380	100.4380	1.0000
6	9.82	Nitrate	M ^	12.052	20.1786	20.1786	1.0000
7	10.55	Chlorate	MB^	1.916	19.6877	19.6877	1.0000
8	14.39	Phosphate	BMB*^	3.828	20.8593	20.8593	1.0000
Total:			**0.000**	**73.065**		**320.59**	

Calibration

Calibration Details	Fluoride		
Calibration Type	Lin, WithOffset, 1/A	*Offset (C0)*	-0.0046
Evaluation Type	Area	*Slope (C1)*	0.3376
Number of Calibration Points	6	*Curve (C2)*	0.0000
Number of disabled Calibration Points	0	*R-Square*	0.9994

Calibration Plot **Fluoride**



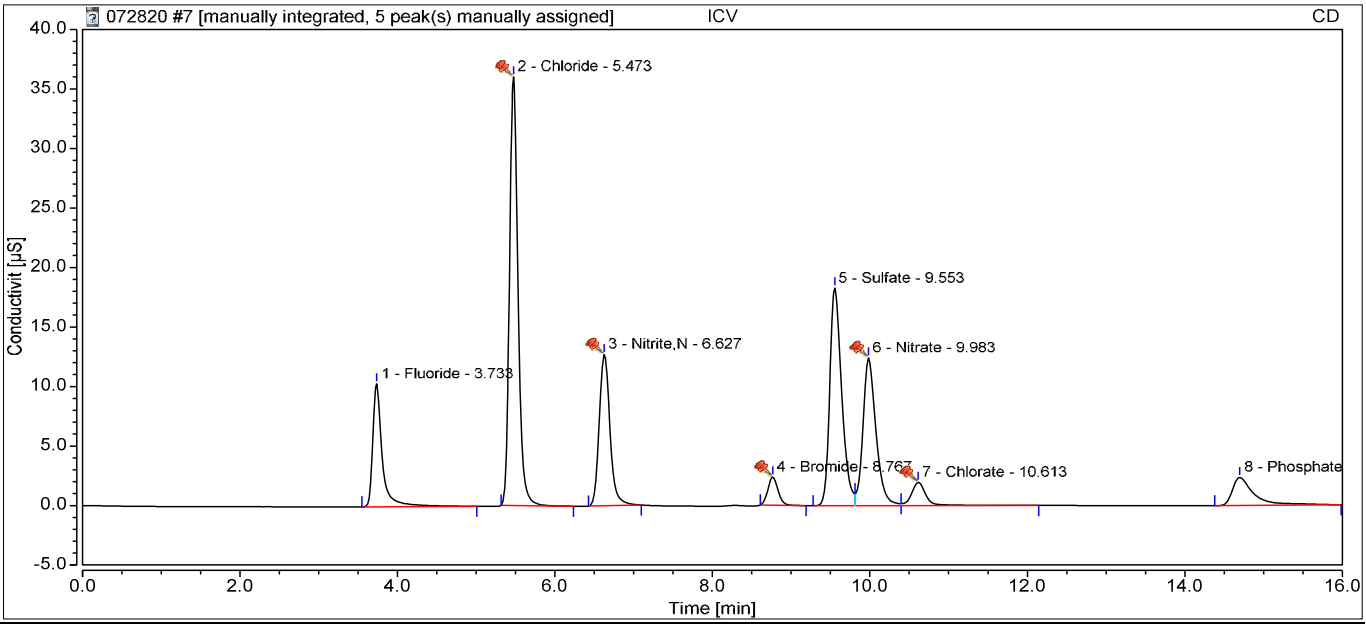
Calibration Results **Fluoride**

No.	Injection Name	Calibration Level	X Value CD Fluoride	Y Value CD Fluoride	Y Value CD Fluoride	Area µS*min CD Fluoride	Height µS CD Fluoride
1	STD1	1	0.1000	0.0285	0.0285	0.029	0.191
2	STD2	2	0.4000	0.1224	0.1224	0.122	0.826
3	STD3	3	2.0000	0.6970	0.6970	0.697	4.841
4	STD4	4	4.0000	1.4064	1.4064	1.406	9.790
5	STD5	5	10.0000	3.4092	3.4092	3.409	23.253
6	STD6	6	20.0000	6.6320	6.6320	6.632	43.889

7 ICV

Sample Name:	**ICV**	*Injection Volume:*	**5.00**
Vial Number:	**GB7**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**06/02/2020 12:51**	*Sample Weight:*	**1.0000**

Run Time:



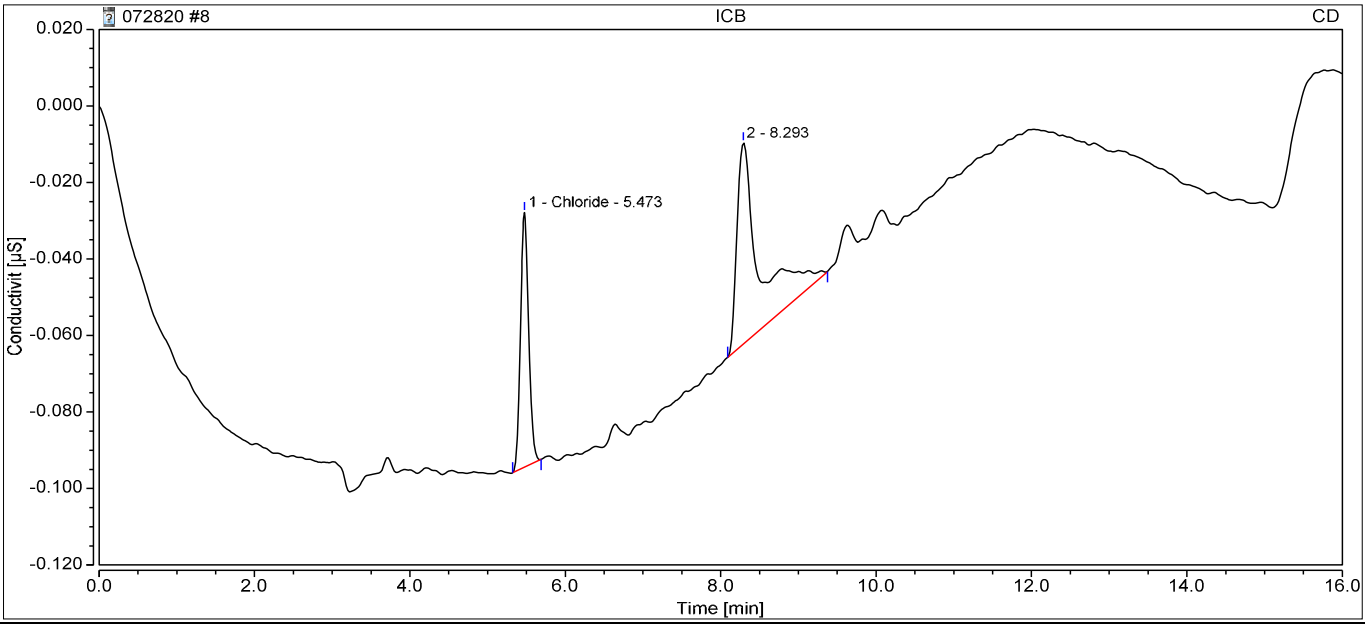
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.73	Fluoride	BMB	1.442	4.2839	4.2839	1.0000
2	5.47	Chloride	BMB^	4.508	20.3168	20.3168	1.0000
3	6.63	Nitrite,N	BMB*^	2.013	4.3785	4.3785	1.0000
4	8.77	Bromide	BMB^	0.352	3.9794	3.9794	1.0000
5	9.55	Sulfate	BM	3.208	20.4827	20.4827	1.0000
6	9.98	Nitrate	M ^	2.387	3.9894	3.9894	1.0000
7	10.61	Chlorate	MB^	0.412	4.2081	4.2081	1.0000
8	14.70	Phosphate	BMB	0.762	4.3926	4.3926	1.0000
Total:			**0.000**	**15.085**		**66.03**	

8 ICB

Sample Name:	**ICB**	*Injection Volume:*	**5.00**
Vial Number:	**BA3**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**06/02/2020 13:45**	*Sample Weight:*	**1.0000**

Run Time:



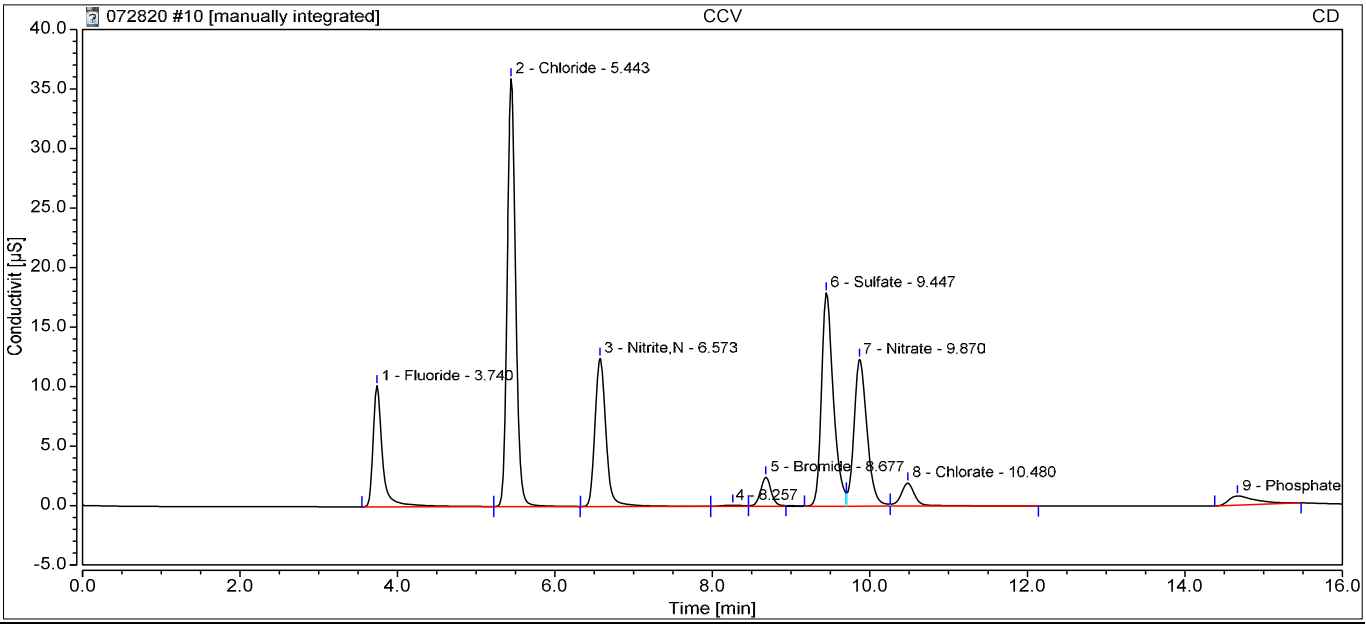
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	1.0000
1	5.47	Chloride	BMB	0.008	0.0067	0.0067	1.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Sulfate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**0.008**		**0.01**	

10 CCV

Sample Name:	**CCV**	*Injection Volume:*	**5.00**
Vial Number:	**BA2**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**07/28/2020 12:11**	*Sample Weight:*	**1.0000**

Run Time:



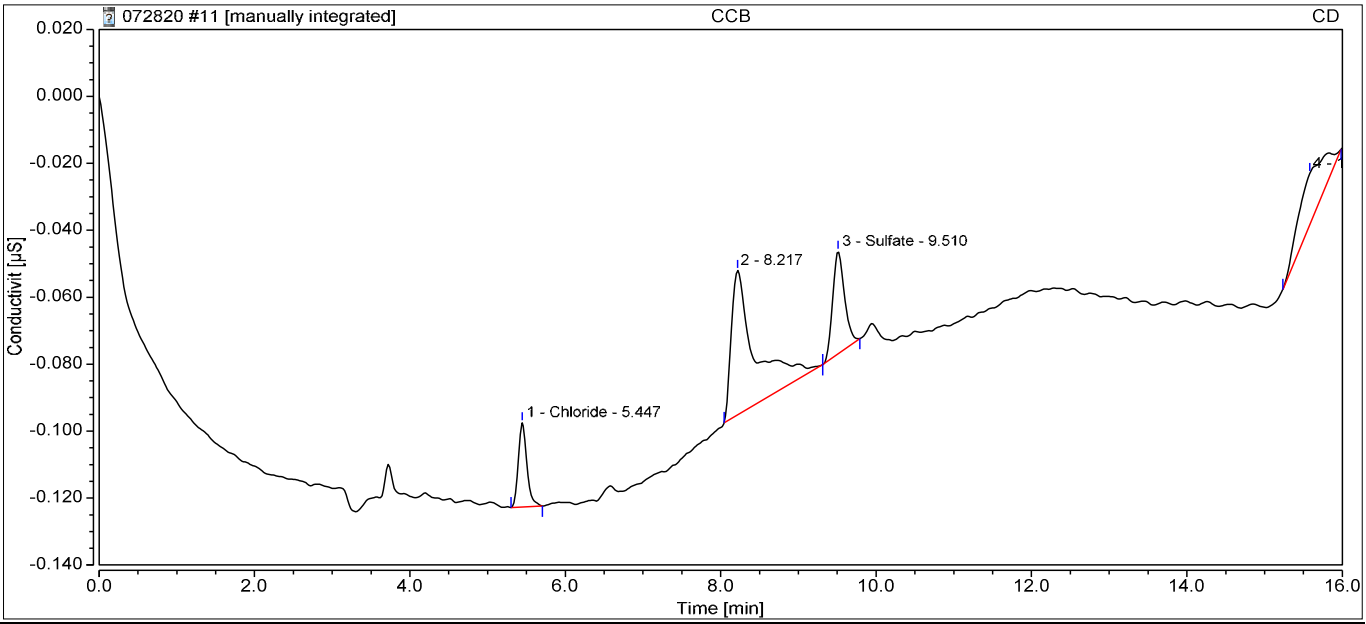
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.74	Fluoride	BMB	1.412	4.1969	4.1969	1.0000
2	5.44	Chloride	BMB	4.474	20.1598	20.1598	1.0000
3	6.57	Nitrite,N	BMB	2.002	4.3547	4.3547	1.0000
5	8.68	Bromide	M *	0.385	4.3514	4.3514	1.0000
6	9.45	Sulfate	M	3.164	20.2008	20.2008	1.0000
7	9.87	Nitrate	M	2.345	3.9186	3.9186	1.0000
8	10.48	Chlorate	MB	0.404	4.1300	4.1300	1.0000
9	14.67	Phosphate	BMB	0.311	1.9692	1.9692	1.0000
Total:			**0.000**	**14.498**		**63.28**	

11 CCB

Sample Name:	**CCB**	*Injection Volume:*	**5.00**
Vial Number:	**BA3**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**07/28/2020 12:29**	*Sample Weight:*	**1.0000**

Run Time:



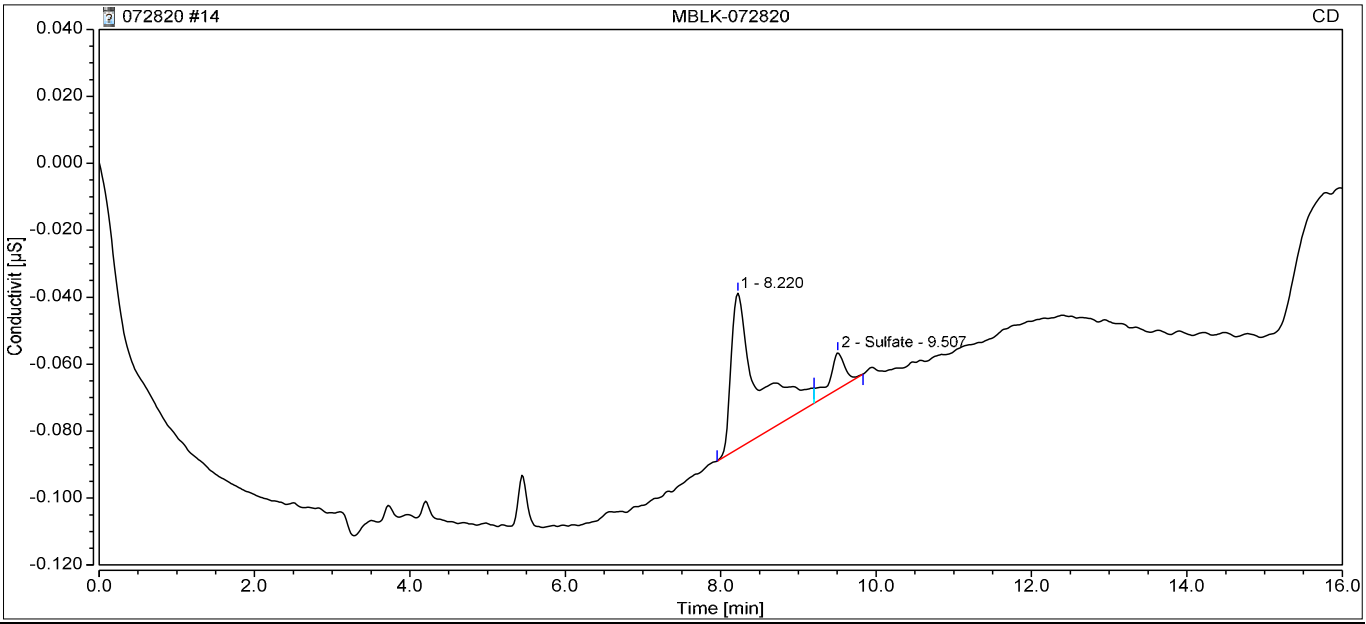
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	1.0000
1	5.45	Chloride	BMB	0.003	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
3	9.51	Sulfate	bMB*	0.005	0.2345	0.2345	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**	**0.009**		**0.23**	

14 MBLK-072820

Sample Name:	**MBLK-072820**	*Injection Volume:*	**5.00**
Vial Number:	**BA1**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**07/28/2020 13:24**	*Sample Weight:*	**1.0000**

Run Time:



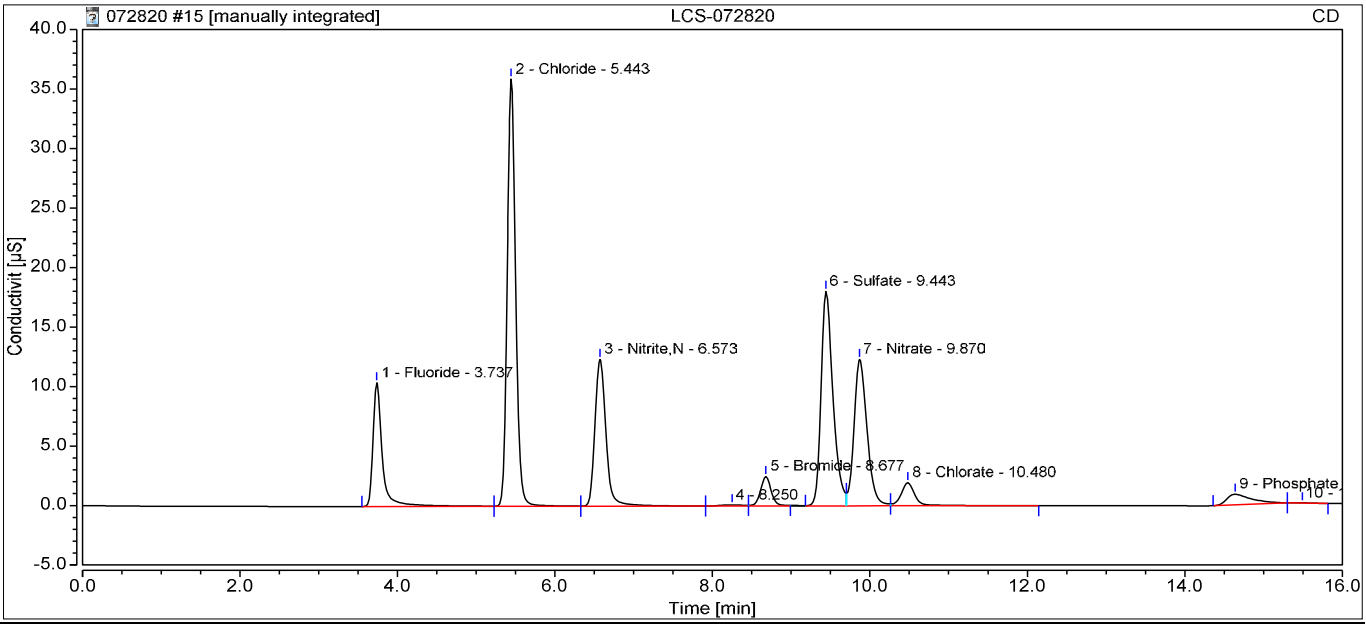
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Chloride	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
2	9.51	Sulfate	MB	0.003	0.2170	0.2170	1.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**0.003**		**0.22**	

15 LCS-072820

Sample Name:	**LCS-072820**	*Injection Volume:*	**5.00**
Vial Number:	**BA8**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**07/28/2020 13:42**	*Sample Weight:*	**1.0000**

Run Time:



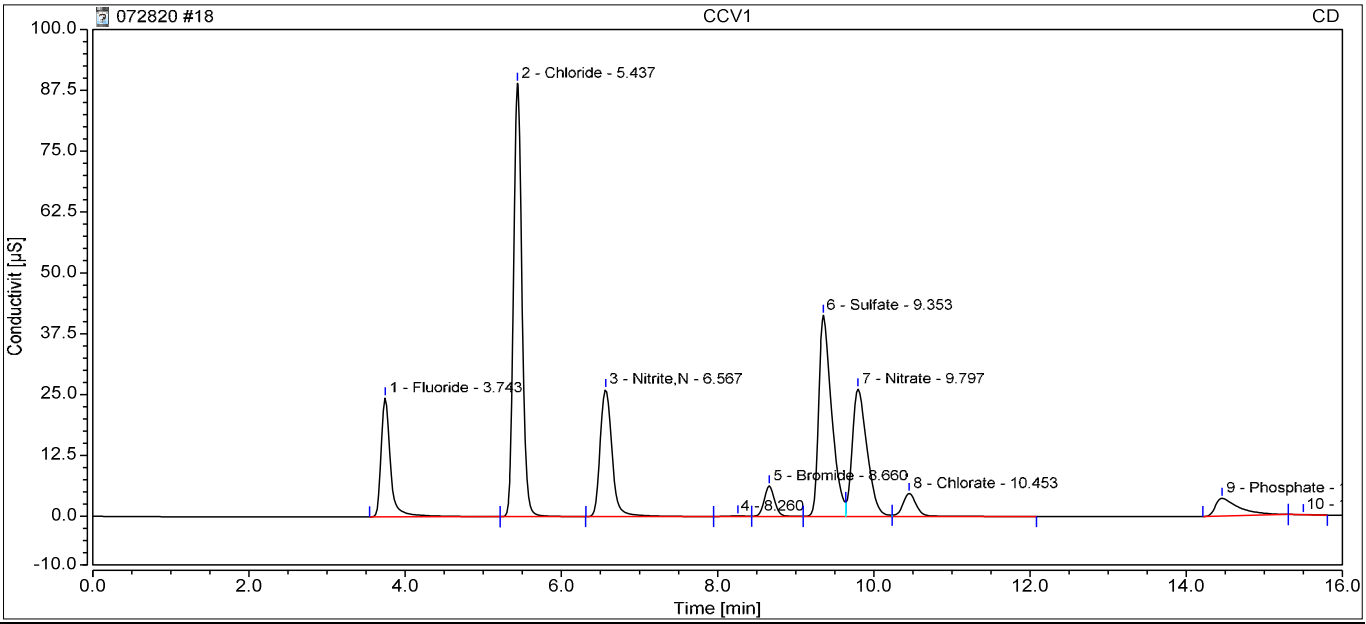
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.74	Fluoride	BMB	1.408	4.1849	4.1849	1.0000
2	5.44	Chloride	BMB	4.465	20.1232	20.1232	1.0000
3	6.57	Nitrite,N	BMB	1.991	4.3305	4.3305	1.0000
5	8.68	Bromide	M *	0.387	4.3729	4.3729	1.0000
6	9.44	Sulfate	M	3.169	20.2349	20.2349	1.0000
7	9.87	Nitrate	M	2.339	3.9078	3.9078	1.0000
8	10.48	Chlorate	MB	0.402	4.1060	4.1060	1.0000
9	14.64	Phosphate	BMB	0.325	2.0438	2.0438	1.0000
Total:			**0.000**	**14.487**		**63.30**	

18 CCV1

Sample Name:	**CCV1**	*Injection Volume:*	**5.00**
Vial Number:	**BA4**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**07/28/2020 14:36**	*Sample Weight:*	**1.0000**

Run Time:



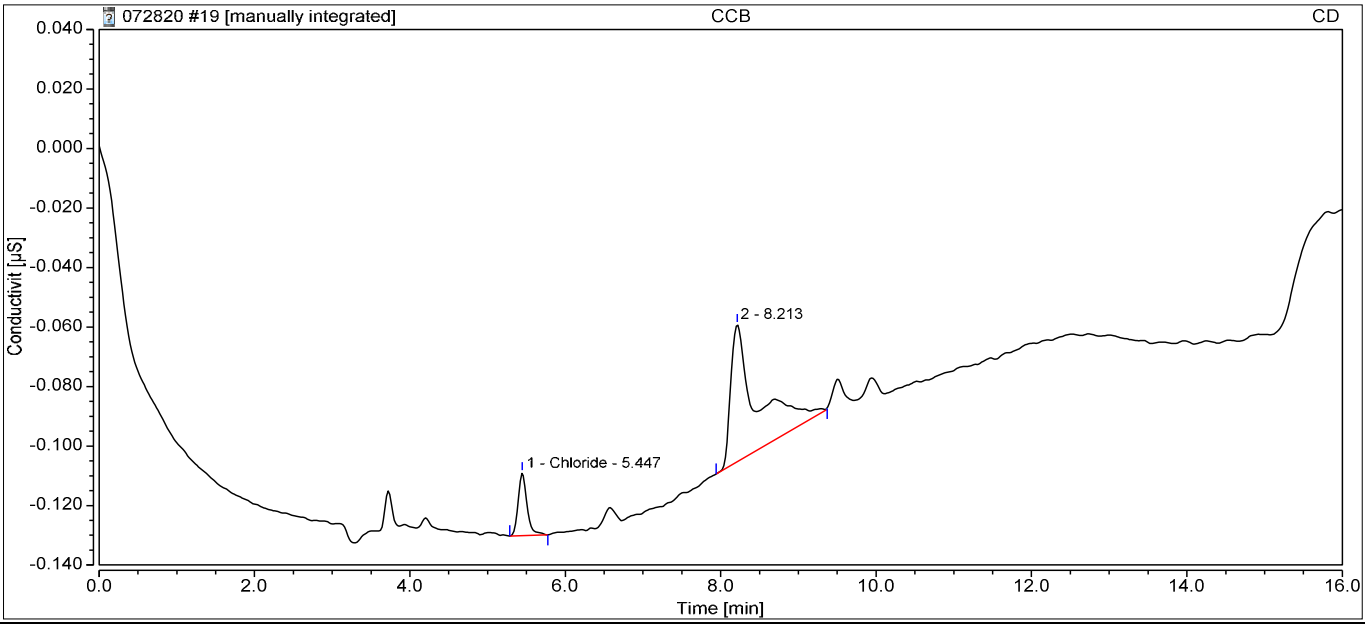
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.74	Fluoride	BMB	3.406	10.1021	10.1021	1.0000
2	5.44	Chloride	BMB	11.087	50.0074	50.0074	1.0000
3	6.57	Nitrite,N	BMB	4.629	10.1036	10.1036	1.0000
5	8.66	Bromide	M	0.975	10.9787	10.9787	1.0000
6	9.35	Sulfate	M	7.929	50.3274	50.3274	1.0000
7	9.80	Nitrate	M	5.762	9.6413	9.6413	1.0000
8	10.45	Chlorate	MB	0.957	9.8176	9.8176	1.0000
9	14.46	Phosphate	BMB	1.273	7.1339	7.1339	1.0000
Total:			**0.000**	**36.017**		**158.11**	

19 CCB

Sample Name:	**CCB**	*Injection Volume:*	**5.00**
Vial Number:	**BA5**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**07/28/2020 14:54**	*Sample Weight:*	**1.0000**

Run Time:



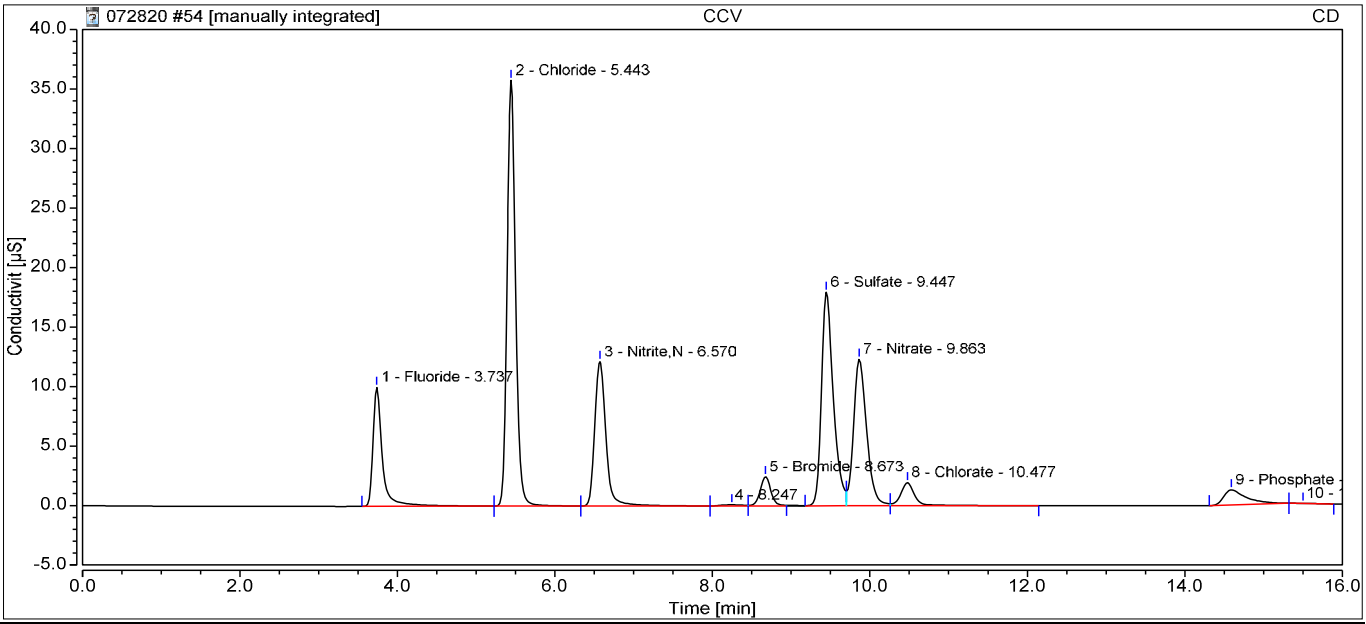
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	1.0000
1	5.45	Chloride	BMB	0.003	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Sulfate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**0.003**		**0.00**	

54 CCV

Sample Name:	**CCV**	*Injection Volume:*	**5.00**
Vial Number:	**BA2**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**07/29/2020 03:05**	*Sample Weight:*	**1.0000**

Run Time:



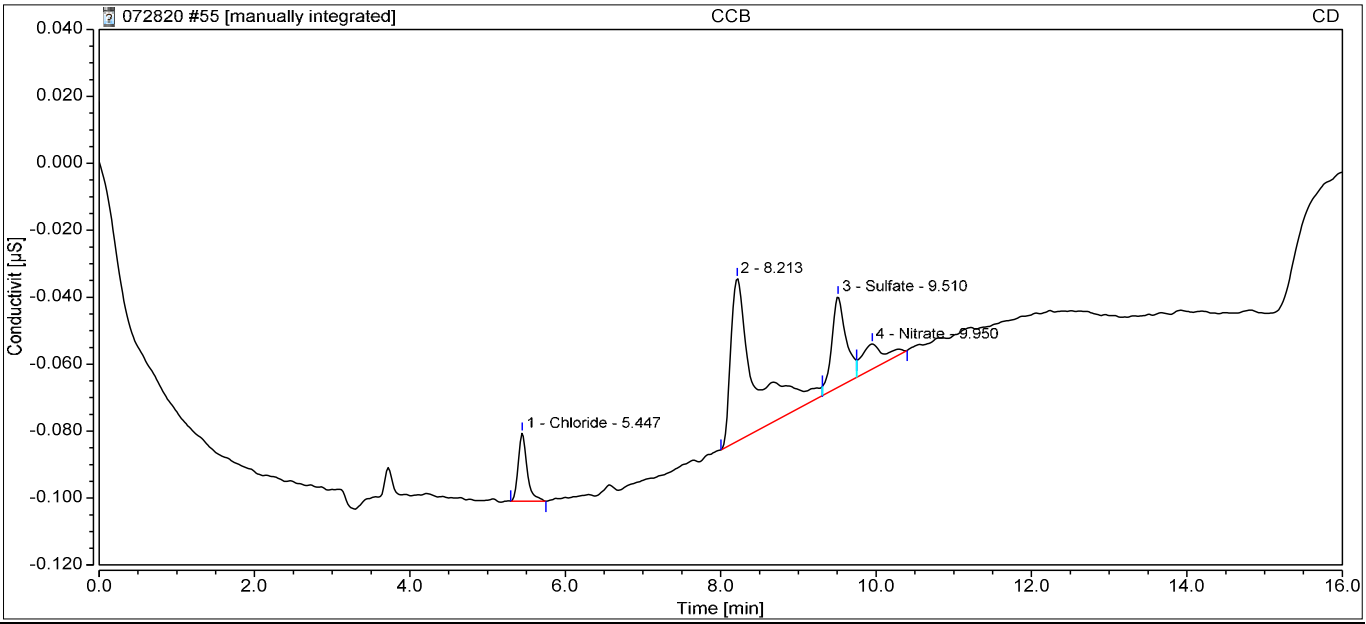
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.74	Fluoride	BMB	1.381	4.1052	4.1052	1.0000
2	5.44	Chloride	BMB	4.476	20.1695	20.1695	1.0000
3	6.57	Nitrite,N	BMB	1.986	4.3187	4.3187	1.0000
5	8.67	Bromide	M *	0.384	4.3391	4.3391	1.0000
6	9.45	Sulfate	M	3.145	20.0820	20.0820	1.0000
7	9.86	Nitrate	M	2.356	3.9363	3.9363	1.0000
8	10.48	Chlorate	MB	0.408	4.1651	4.1651	1.0000
9	14.59	Phosphate	BMB	0.427	2.5919	2.5919	1.0000
Total:			**0.000**	**14.562**		**63.71**	

55 CCB

Sample Name:	**CCB**	*Injection Volume:*	**5.00**
Vial Number:	**BA3**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**07/29/2020 03:23**	*Sample Weight:*	**1.0000**

Run Time:



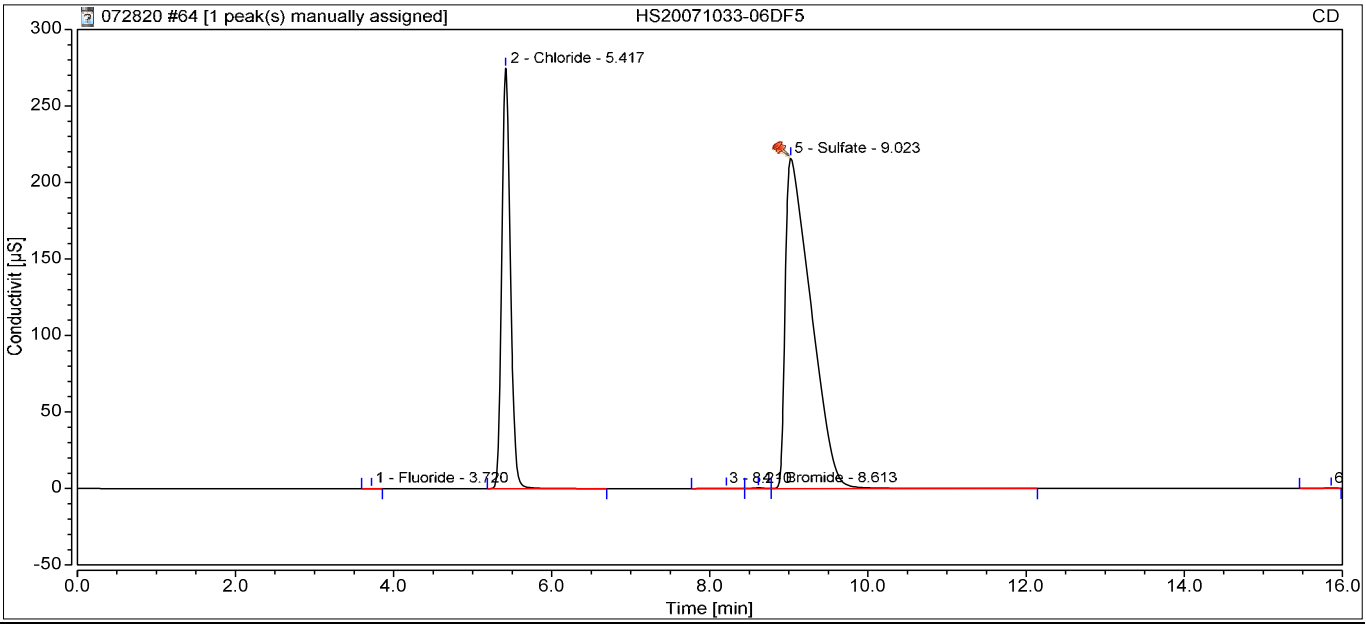
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	1.0000
1	5.45	Chloride	BMB	0.003	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
3	9.51	Sulfate	M *	0.006	0.2371	0.2371	1.0000
4	9.95	Nitrate	MB	0.003	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**	**0.011**		**0.24**	

64 HS20071033-06DF5

Sample Name:	**HS20071033-06DF5**	*Injection Volume:*	**5.00**
Vial Number:	**RE5**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**5.0000**
Recording Time:	**07/29/2020 06:06**	*Sample Weight:*	**1.0000**

Run Time:



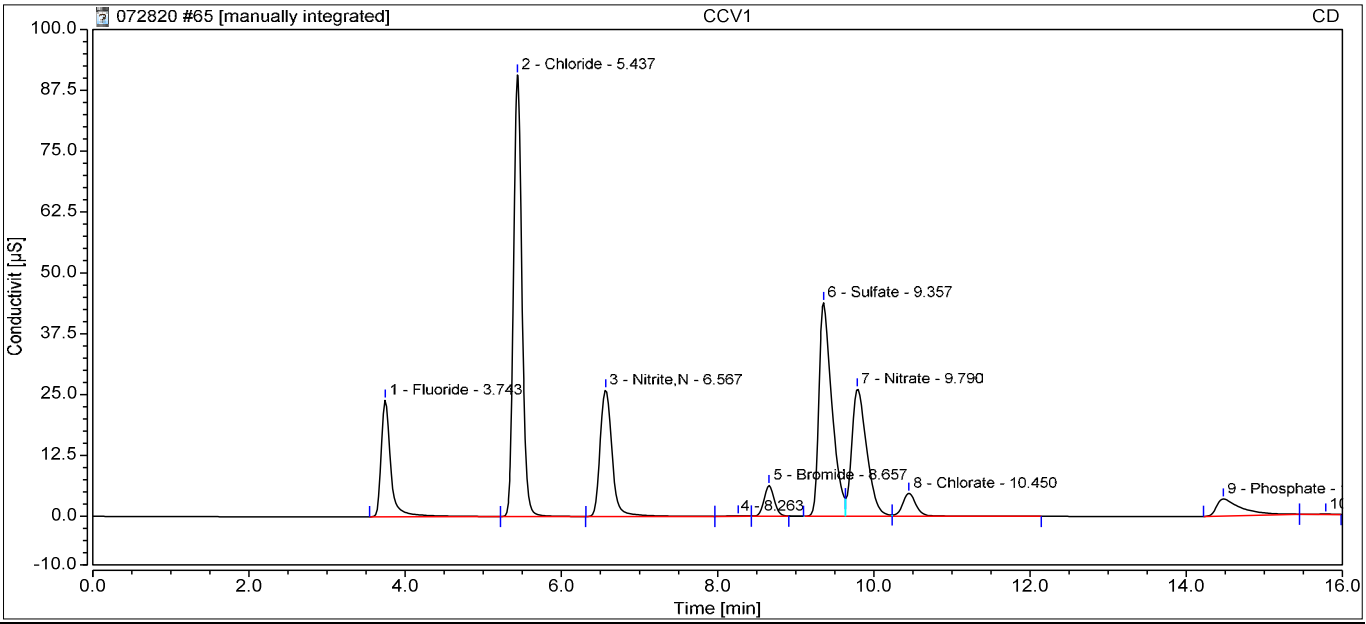
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.72	Fluoride	BMB	0.005	0.0284	0.1419	5.0000
2	5.42	Chloride	BMB	34.432	155.3657	776.8284	5.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	5.0000
4	8.61	Bromide	M	0.087	1.0074	5.0370	5.0000
5	9.02	Sulfate	MB^	80.862	511.4279	2557.1396	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**	**115.386**		**3339.15**	

65 CCV1

Sample Name:	**CCV1**	*Injection Volume:*	**5.00**
Vial Number:	**BA4**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**07/29/2020 06:24**	*Sample Weight:*	**1.0000**

Run Time:



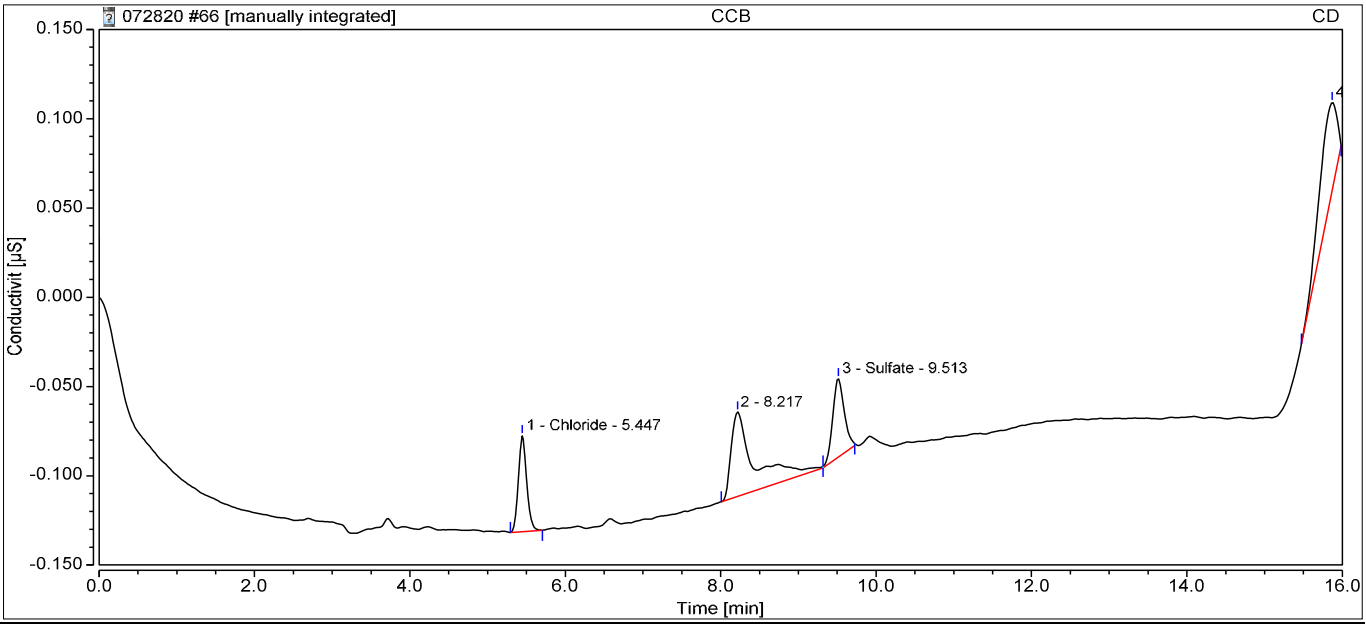
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.74	Fluoride	BMB	3.397	10.0759	10.0759	1.0000
2	5.44	Chloride	BMB	11.269	50.8294	50.8294	1.0000
3	6.57	Nitrite,N	BMB	4.627	10.0997	10.0997	1.0000
5	8.66	Bromide	M *	0.970	10.9211	10.9211	1.0000
6	9.36	Sulfate	M	8.483	53.8347	53.8347	1.0000
7	9.79	Nitrate	M	5.856	9.7992	9.7992	1.0000
8	10.45	Chlorate	MB	0.970	9.9516	9.9516	1.0000
9	14.48	Phosphate	BMB	1.267	7.1054	7.1054	1.0000
Total:			**0.000**	**36.840**		**162.62**	

66 CCB

Sample Name:	**CCB**	*Injection Volume:*	**5.00**
Vial Number:	**BA5**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**07/29/2020 06:42**	*Sample Weight:*	**1.0000**

Run Time:



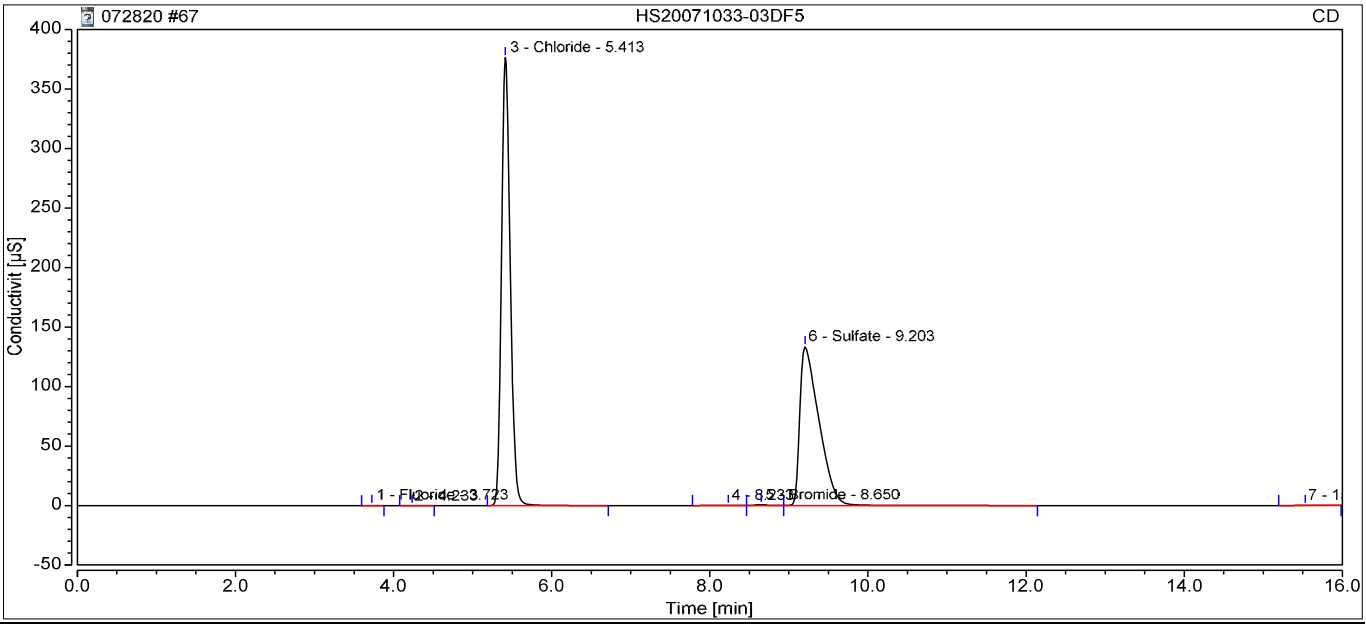
Integration Results

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	5.45	Chloride	BMB	0.007	0.0003	0.0003	1.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
3	9.51	Sulfate	M *	0.008	0.2481	0.2481	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**		**0.25**	

67 HS20071033-03DF5

Sample Name:	**HS20071033-03DF5**	*Injection Volume:*	**5.00**
Vial Number:	**RE6**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**5.0000**
Recording Time:	**07/29/2020 07:00**	*Sample Weight:*	**1.0000**

Run Time:



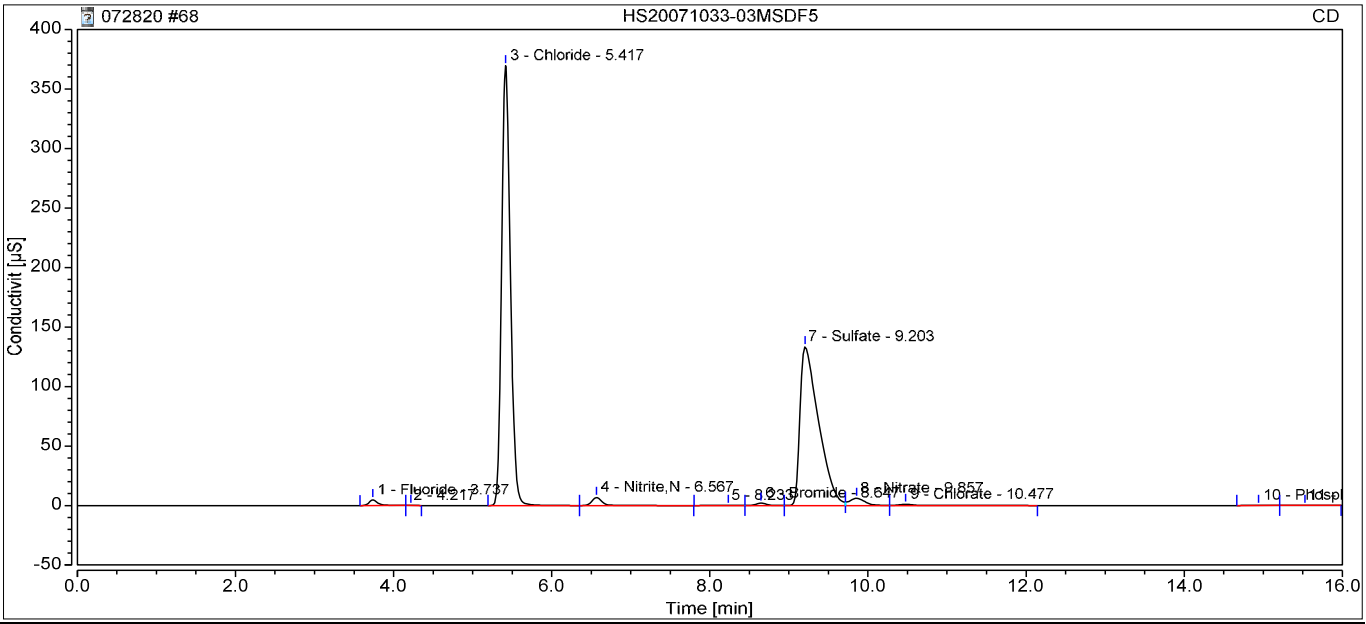
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.72	Fluoride	BMB	0.008	0.0382	0.1908	5.0000
3	5.41	Chloride	BMB	47.858	215.9553	1079.7765	5.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	5.0000
5	8.65	Bromide	M	0.145	1.6585	8.2923	5.0000
6	9.20	Sulfate	MB	37.440	236.9038	1184.5189	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**	**85.451**		**2272.78**	

68 HS20071033-03MSDF5

Sample Name:	**HS20071033-03MSDF5**	*Injection Volume:*	**5.00**
Vial Number:	**RE7**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**5.0000**
Recording Time:	**07/29/2020 07:19**	*Sample Weight:*	**1.0000**

Run Time:



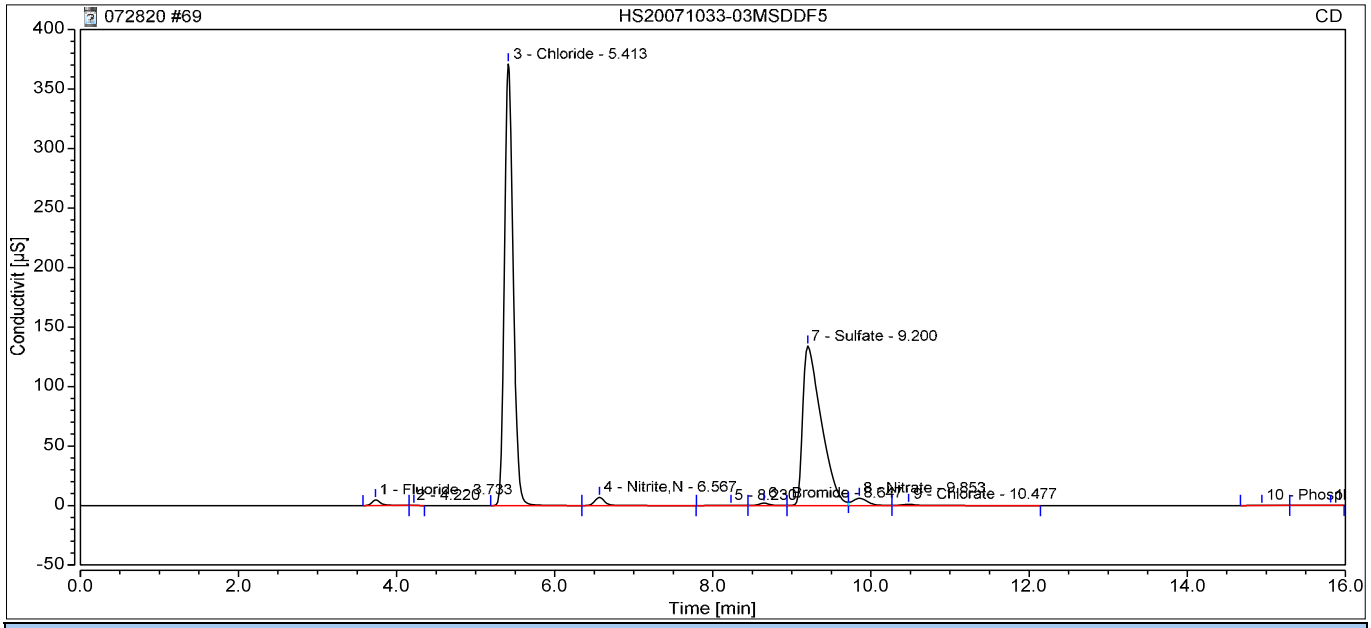
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.74	Fluoride	BMB	0.613	1.8281	9.1404	5.0000
3	5.42	Chloride	BMB	47.067	212.3869	1061.9347	5.0000
4	6.57	Nitrite,N	BMB	1.039	2.2467	11.2336	5.0000
6	8.65	Bromide	M	0.331	3.7395	18.6976	5.0000
7	9.20	Sulfate	M	36.212	229.1399	1145.6997	5.0000
8	9.86	Nitrate	M	1.383	2.3063	11.5314	5.0000
9	10.48	Chlorate	MB	0.252	2.5614	12.8069	5.0000
10	14.94	Phosphate	BMB	0.012	0.3647	1.8233	5.0000
Total:			**0.000**	**86.908**		**2272.87**	

69 HS20071033-03MSDDF5

Sample Name:	**HS20071033-03MSDDF5**	*Injection Volume:*	**5.00**
Vial Number:	**RE8**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**5.0000**
Recording Time:	**07/29/2020 07:37**	*Sample Weight:*	**1.0000**

Run Time:



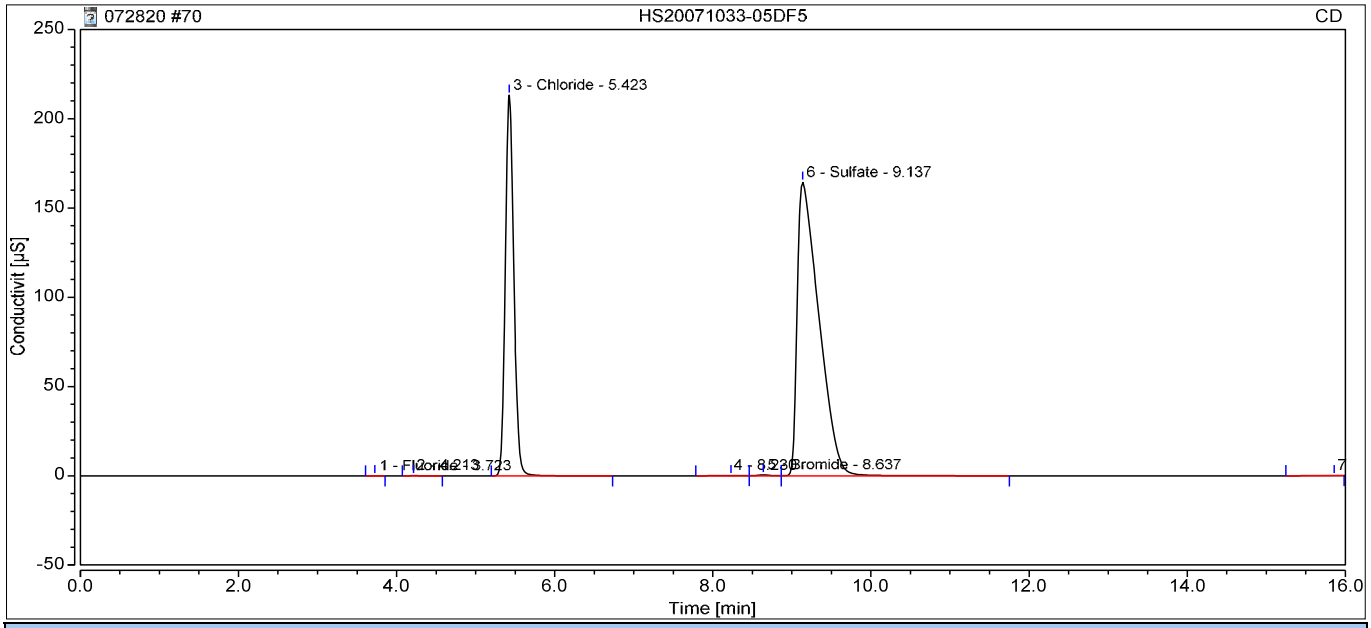
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.73	Fluoride	BMB	0.617	1.8418	9.2090	5.0000
3	5.41	Chloride	BMB	47.216	213.0576	1065.2882	5.0000
4	6.57	Nitrite,N	BMB	1.045	2.2591	11.2957	5.0000
6	8.65	Bromide	M	0.331	3.7425	18.7126	5.0000
7	9.20	Sulfate	M	36.384	230.2288	1151.1442	5.0000
8	9.85	Nitrate	M	1.381	2.3032	11.5158	5.0000
9	10.48	Chlorate	MB	0.250	2.5409	12.7044	5.0000
10	14.94	Phosphate	BMB	0.015	0.3760	1.8802	5.0000
Total:			**0.000**	**87.238**		**2281.75**	

70 HS20071033-05DF5

Sample Name:	**HS20071033-05DF5**	*Injection Volume:*	**5.00**
Vial Number:	**GA6**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**5.0000**
Recording Time:	**07/29/2020 07:55**	*Sample Weight:*	**1.0000**

Run Time:



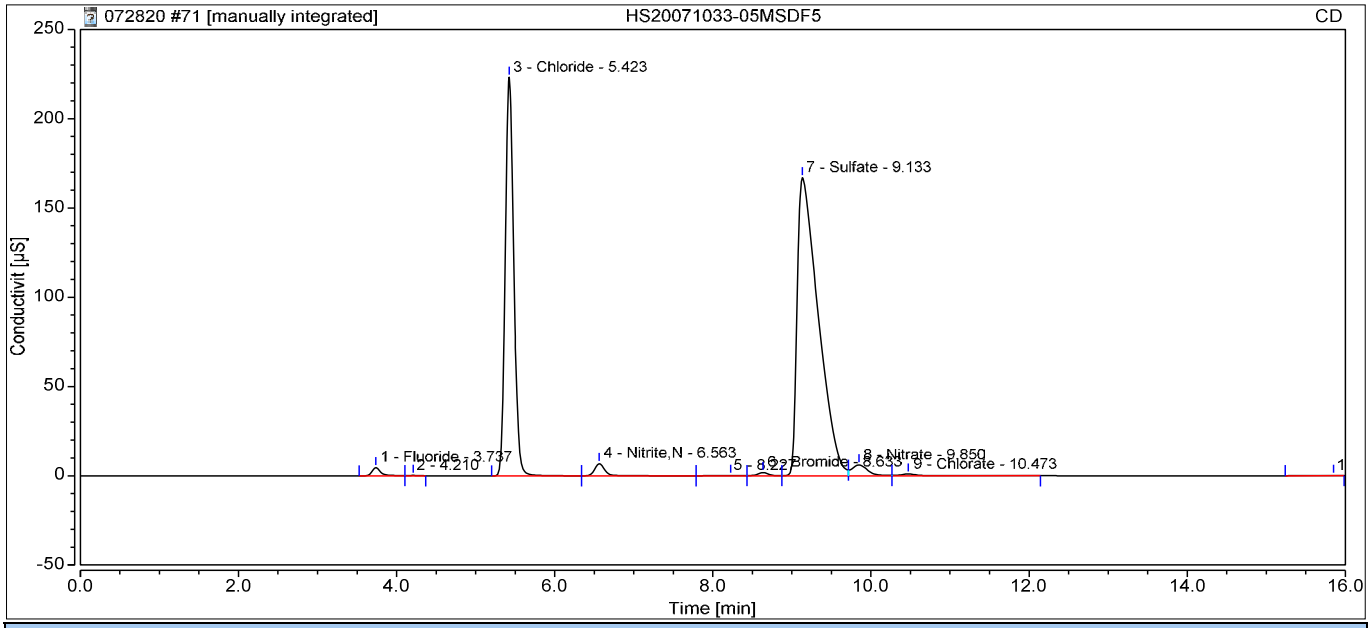
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.72	Fluoride	BMB	0.005	0.0286	0.1431	5.0000
3	5.42	Chloride	BMB	26.461	119.3919	596.9596	5.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	5.0000
5	8.64	Bromide	M	0.106	1.2157	6.0787	5.0000
6	9.14	Sulfate	MB	51.925	328.4806	1642.4030	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**	**78.497**		**2245.58**	

71 HS20071033-05MSDF5

Sample Name:	**HS20071033-05MSDF5**	*Injection Volume:*	**5.00**
Vial Number:	**GA7**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**5.0000**
Recording Time:	**07/29/2020 08:13**	*Sample Weight:*	**1.0000**

Run Time:



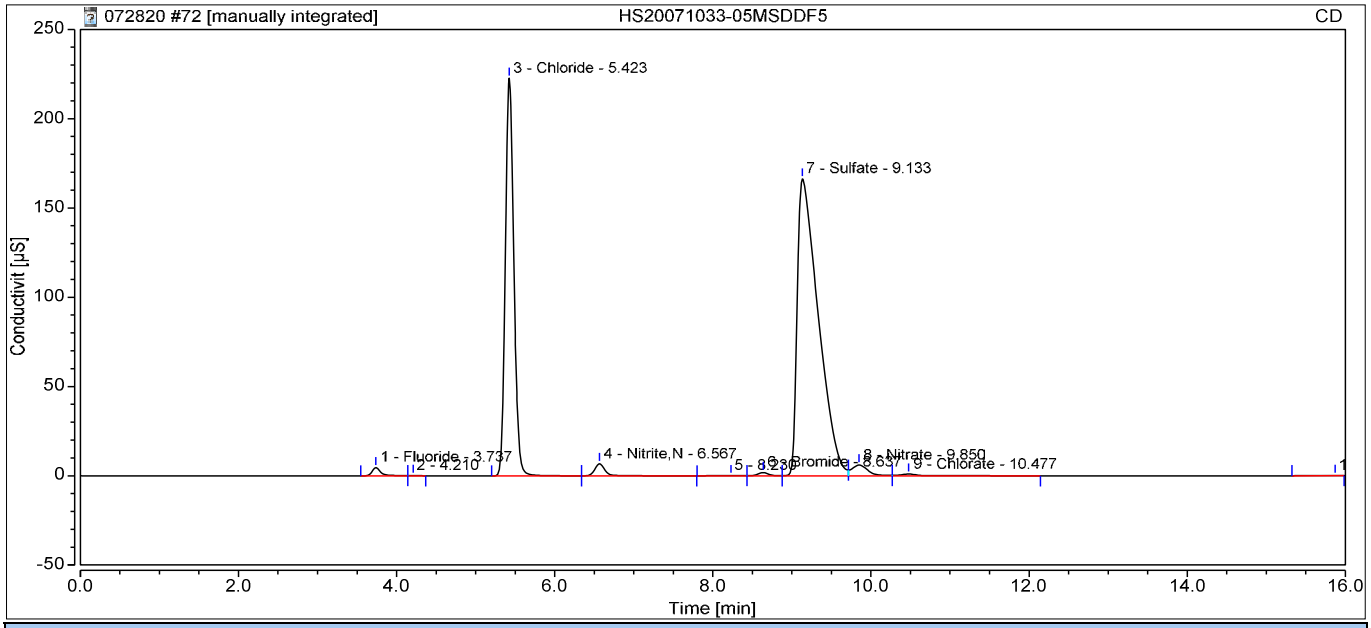
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.74	Fluoride	BM *	0.604	1.8028	9.0140	5.0000
3	5.42	Chloride	BMB	27.686	124.9182	624.5911	5.0000
4	6.56	Nitrite,N	BMB	1.039	2.2458	11.2288	5.0000
6	8.63	Bromide	M	0.295	3.3336	16.6682	5.0000
7	9.13	Sulfate	M	51.428	325.3435	1626.7173	5.0000
8	9.85	Nitrate	M	1.404	2.3415	11.7076	5.0000
9	10.47	Chlorate	MB	0.267	2.7139	13.5694	5.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	5.0000
Total:			**0.000**	**82.722**		**2313.50**	

72 HS20071033-05MSDDF5

Sample Name:	**HS20071033-05MSDDF5**	*Injection Volume:*	**5.00**
Vial Number:	**GA8**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**5.0000**
Recording Time:	**07/29/2020 08:31**	*Sample Weight:*	**1.0000**

Run Time:



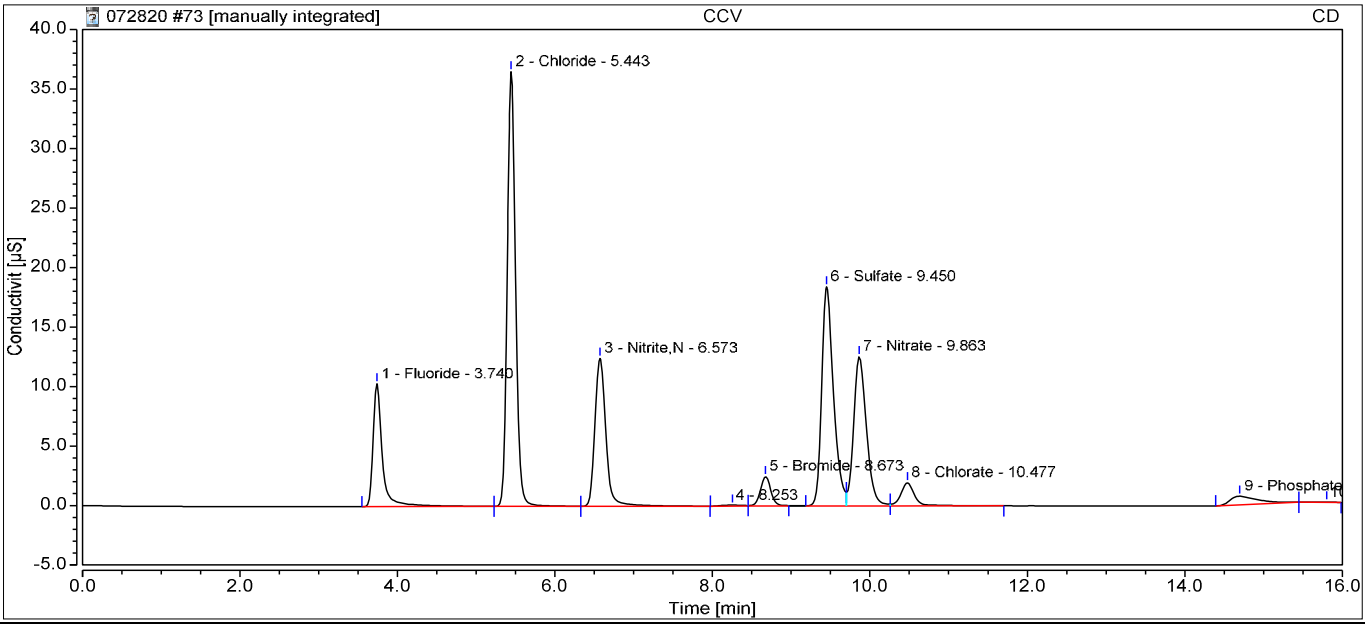
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.74	Fluoride	BM *	0.606	1.8079	9.0394	5.0000
3	5.42	Chloride	BMB	27.585	124.4636	622.3182	5.0000
4	6.57	Nitrite,N	BMB	1.036	2.2399	11.1996	5.0000
6	8.64	Bromide	M	0.293	3.3197	16.5986	5.0000
7	9.13	Sulfate	M	51.105	323.3005	1616.5023	5.0000
8	9.85	Nitrate	M	1.407	2.3468	11.7339	5.0000
9	10.48	Chlorate	MB	0.265	2.6905	13.4524	5.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	5.0000
Total:			**0.000**	**82.297**		**2300.84**	

73 CCV

Sample Name:	**CCV**	*Injection Volume:*	**5.00**
Vial Number:	**BA2**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**07/29/2020 08:49**	*Sample Weight:*	**1.0000**

Run Time:



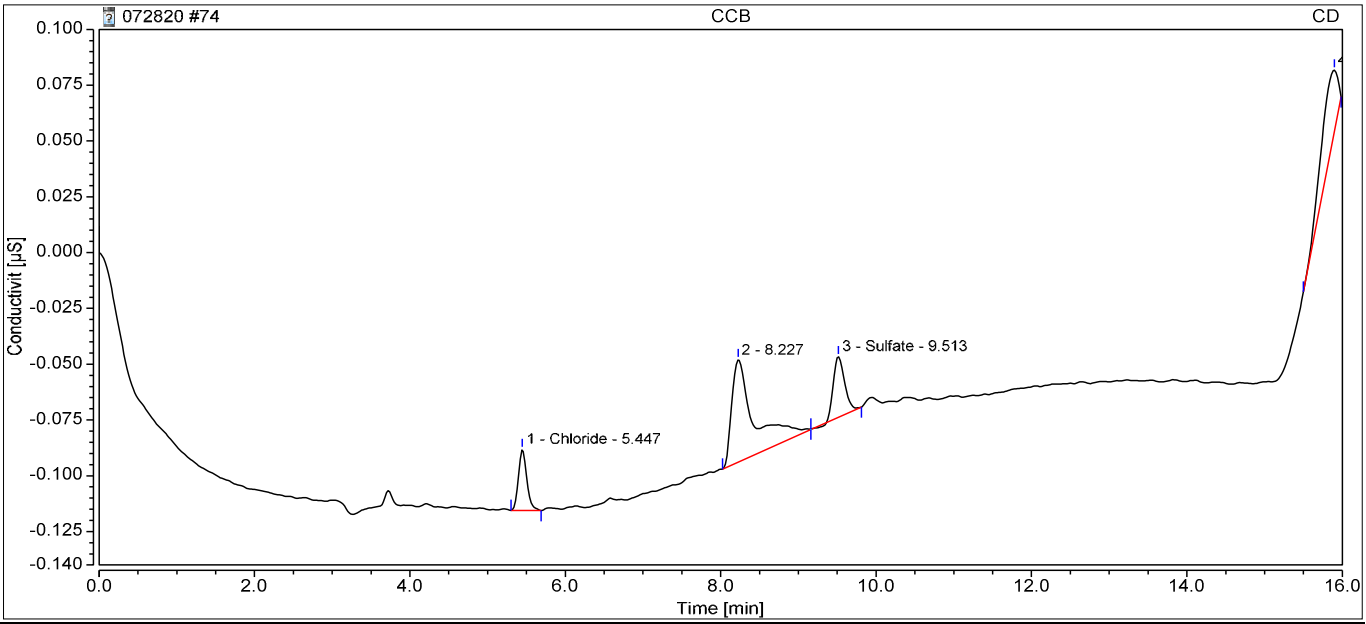
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.74	Fluoride	BMB	1.404	4.1736	4.1736	1.0000
2	5.44	Chloride	BMB	4.488	20.2228	20.2228	1.0000
3	6.57	Nitrite,N	BMB	1.999	4.3475	4.3475	1.0000
5	8.67	Bromide	M *	0.387	4.3737	4.3737	1.0000
6	9.45	Sulfate	M	3.212	20.5095	20.5095	1.0000
7	9.86	Nitrate	M	2.350	3.9271	3.9271	1.0000
8	10.48	Chlorate	MB	0.401	4.0928	4.0928	1.0000
9	14.70	Phosphate	BMB	0.292	1.8659	1.8659	1.0000
Total:			**0.000**	**14.533**		**63.51**	

74 CCB

Sample Name:	**CCB**	*Injection Volume:*	**5.00**
Vial Number:	**BA3**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**07/29/2020 09:07**	*Sample Weight:*	**1.0000**

Run Time:



Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	1.0000
1	5.45	Chloride	BMB	0.003	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
3	9.51	Sulfate	MB	0.005	0.2292	0.2292	1.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**0.008**		**0.23**	

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August 20, 2020

Susan Huang
Aptim Environmental & Infrastucture, Inc.
2500 City West Blvd., Suite 1700
Houston, TX 77042

Work Order: **HS20071147**

Laboratory Results for: **Longhorn Army Ammunition Plant 16 July 2020**

Dear Susan Huang,

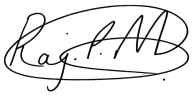
ALS Environmental received 12 sample(s) on Jul 24, 2020 for the analysis presented in the following report.

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

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

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

Sincerely,



Generated By: JUMOKE.LAWAL
RJ Modashia
Project Manager

ALS Houston, US Date: 20-Aug-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 July 2020
Work Order: HS20071147

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS20071147-01	16WW37-200723	Groundwater		23-Jul-2020 07:30	24-Jul-2020 09:20	☐
HS20071147-02	16WW38-200723	Groundwater		23-Jul-2020 08:15	24-Jul-2020 09:20	☐
HS20071147-03	16WW13-200723	Groundwater		23-Jul-2020 09:05	24-Jul-2020 09:20	☐
HS20071147-04	16WW13-200723-FD	Groundwater		23-Jul-2020 09:05	24-Jul-2020 09:20	☐
HS20071147-05	16WW42-200723	Groundwater		23-Jul-2020 09:50	24-Jul-2020 09:20	☐
HS20071147-06	16WW42-200723-FD	Groundwater		23-Jul-2020 09:50	24-Jul-2020 09:20	☐
HS20071147-07	16WW27-200723	Groundwater		23-Jul-2020 10:45	24-Jul-2020 09:20	☐
HS20071147-08	16WW43-200723	Groundwater		23-Jul-2020 11:30	24-Jul-2020 09:20	☐
HS20071147-09	16WW34-200723	Groundwater		23-Jul-2020 12:20	24-Jul-2020 09:20	☐
HS20071147-10	16WW33-200723	Groundwater		23-Jul-2020 13:05	24-Jul-2020 09:20	☐
HS20071147-11	16WW33-200723-FD	Groundwater		23-Jul-2020 13:05	24-Jul-2020 09:20	☐
HS20071147-12	Trip Blank-200723	Water	CG 060320 -160	23-Jul-2020 00:00	24-Jul-2020 09:20	☐

ALS Houston, US Date: 20-Aug-20

Client: Aptim Environmental & Infrastucture, Inc. **CASE NARRATIVE**
Project: Longhorn Army Ammunition Plant 16 July 2020
Work Order: HS20071147

Work Order Comments

• Analysis of Perchlorate was performed by ALS Houston TX, High Resolution. Laboratory. Final report attached.

The analysis for TOC was subcontracted to ALS Environmental in Kelso WA. Final report attached.

GCMS Volatiles by Method SW8260

Batch ID: R365877

Sample ID: 16WW13-200723-FD (HS20071147-04)

• Surrogate Toluene-d8 failed QC limits. Compound reported is not associated with the failed surrogate.

Sample ID: 16WW42-200723 (HS20071147-05MSD)

• MSD failed QC limits for some compounds.

Sample ID: Trip Blank-200723 (HS20071147-12)

• Surrogate Dibromofluoromethane exceeded QC limits. Sample is ND.

Sample ID: VLCSW-200729

• Methylene Chloride exceeded QC limits for LCS. CCV is OK. Samples are ND for this compound.

Batch ID: R365975

Sample ID: HS20071328-01MS

• MS and MSD are for an unrelated sample

Sample ID: VLCSW-200730

• Methylene Chloride exceeded QC limits for LCS. Samples are ND for this compound.

WetChemistry by Method SW9056

Batch ID: R365767

Sample ID: HS20071033-03 MS

• MS and MSD are for an unrelated sample

ALS Houston, US Date: 20-Aug-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 July 2020
Sample ID: 16WW37-200723
Collection Date: 23-Jul-2020 07:30

ANALYTICAL REPORT
WorkOrder:HS20071147
Lab ID:HS20071147-01
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	29-Jul-2020 22:15
1,1-Dichloroethene	**0.76**	J	**0.20**	**0.50**	**1.0**	**UG/L**	1	29-Jul-2020 22:15
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	29-Jul-2020 22:15
cis-1,2-Dichloroethene	**5.7**		**0.20**	**0.50**	**1.0**	**UG/L**	1	29-Jul-2020 22:15
Methylene chloride	1.0	U	0.40	1.0	2.0	UG/L	1	29-Jul-2020 22:15
Trichloroethene	**87**		**0.20**	**0.50**	**1.0**	**UG/L**	1	29-Jul-2020 22:15
Vinyl chloride	**0.41**	J	**0.20**	**0.50**	**1.0**	**UG/L**	1	29-Jul-2020 22:15
Surr: 1,2-Dichloroethane-d4	*107*			**0**	*81-118*	*%REC*	*1*	*29-Jul-2020 22:15*
Surr: 4-Bromofluorobenzene	*98.8*			**0**	*85-114*	*%REC*	*1*	*29-Jul-2020 22:15*
Surr: Dibromofluoromethane	*100*			**0**	*80-119*	*%REC*	*1*	*29-Jul-2020 22:15*
Surr: Toluene-d8	*105*			**0**	*89-112*	*%REC*	*1*	*29-Jul-2020 22:15*
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: GR
Subcontract Analysis	See Attached		0	0		NA	1	20-Aug-2020 14:41

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

ALS Houston, US Date: 20-Aug-20

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: Longhorn Army Ammunition Plant 16 July 2020 WorkOrder:HS20071147
Sample ID: 16WW38-200723 Lab ID:HS20071147-02
Collection Date: 23-Jul-2020 08:15 Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
1,1,2-Trichloroethane	5.0	U	1.5	5.0	5.0	UG/L	5	29-Jul-2020 17:26
1,1-Dichloroethene	**17**		**1.0**	**2.5**	**5.0**	**UG/L**	5	29-Jul-2020 17:26
1,2-Dichloroethane	2.5	U	1.0	2.5	5.0	UG/L	5	29-Jul-2020 17:26
cis-1,2-Dichloroethene	**940**		**1.0**	**2.5**	**5.0**	**UG/L**	5	29-Jul-2020 17:26
Methylene chloride	5.0	U	2.0	5.0	10	UG/L	5	29-Jul-2020 17:26
Trichloroethene	**2,400**		**5.0**	**12**	**25**	**UG/L**	25	29-Jul-2020 18:39
Vinyl chloride	**57**		**1.0**	**2.5**	**5.0**	**UG/L**	5	29-Jul-2020 17:26
Surr: 1,2-Dichloroethane-d4	*107*			**0**	*81-118*	*%REC*	*25*	*29-Jul-2020 18:39*
Surr: 1,2-Dichloroethane-d4	*109*			**0**	*81-118*	*%REC*	*5*	*29-Jul-2020 17:26*
Surr: 4-Bromofluorobenzene	*106*			**0**	*85-114*	*%REC*	*5*	*29-Jul-2020 17:26*
Surr: 4-Bromofluorobenzene	*99.4*			**0**	*85-114*	*%REC*	*25*	*29-Jul-2020 18:39*
Surr: Dibromofluoromethane	*99.8*			**0**	*80-119*	*%REC*	*5*	*29-Jul-2020 17:26*
Surr: Dibromofluoromethane	*97.9*			**0**	*80-119*	*%REC*	*25*	*29-Jul-2020 18:39*
Surr: Toluene-d8	*106*			**0**	*89-112*	*%REC*	*25*	*29-Jul-2020 18:39*
Surr: Toluene-d8	*99.8*			**0**	*89-112*	*%REC*	*5*	*29-Jul-2020 17:26*
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: GR
Subcontract Analysis	See Attached		0	0		NA	1	20-Aug-2020 14:41

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

ALS Houston, US Date: 20-Aug-20

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: Longhorn Army Ammunition Plant 16 July 2020 WorkOrder:HS20071147
Sample ID: 16WW13-200723 Lab ID:HS20071147-03
Collection Date: 23-Jul-2020 09:05 Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	UG/L	1	29-Jul-2020 16:38
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	29-Jul-2020 16:38
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	29-Jul-2020 16:38
cis-1,2-Dichloroethene	**180**		**0.20**	**0.50**	**1.0**	**UG/L**	1	29-Jul-2020 16:38
Methylene chloride	1.0	U	0.40	1.0	2.0	UG/L	1	29-Jul-2020 16:38
Trichloroethene	**190**		**1.0**	**2.5**	**5.0**	**UG/L**	5	29-Jul-2020 19:03
Vinyl chloride	**4.0**		**0.20**	**0.50**	**1.0**	**UG/L**	1	29-Jul-2020 16:38
Surr: 1,2-Dichloroethane-d4	*94.5*			**0**	*81-118*	*%REC*	*1*	*29-Jul-2020 16:38*
Surr: 1,2-Dichloroethane-d4	*84.4*			**0**	*81-118*	*%REC*	*5*	*29-Jul-2020 19:03*
Surr: 4-Bromofluorobenzene	*101*			**0**	*85-114*	*%REC*	*1*	*29-Jul-2020 16:38*
Surr: 4-Bromofluorobenzene	*97.8*			**0**	*85-114*	*%REC*	*5*	*29-Jul-2020 19:03*
Surr: Dibromofluoromethane	*103*			**0**	*80-119*	*%REC*	*1*	*29-Jul-2020 16:38*
Surr: Dibromofluoromethane	*98.3*			**0**	*80-119*	*%REC*	*5*	*29-Jul-2020 19:03*
Surr: Toluene-d8	*96.6*			**0**	*89-112*	*%REC*	*1*	*29-Jul-2020 16:38*
Surr: Toluene-d8	*97.9*			**0**	*89-112*	*%REC*	*5*	*29-Jul-2020 19:03*
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: GR
Subcontract Analysis	See Attached		0	0		NA	1	20-Aug-2020 14:41

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

ALS Houston, US Date: 20-Aug-20

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: Longhorn Army Ammunition Plant 16 July 2020 WorkOrder:HS20071147
Sample ID: 16WW13-200723-FD Lab ID:HS20071147-04
Collection Date: 23-Jul-2020 09:05 Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	UG/L	1	29-Jul-2020 17:02
1,1-Dichloroethene	**0.61**	J	**0.20**	**0.50**	**1.0**	**UG/L**	1	29-Jul-2020 17:02
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	29-Jul-2020 17:02
cis-1,2-Dichloroethene	**200**		**0.20**	**0.50**	**1.0**	**UG/L**	1	29-Jul-2020 17:02
Methylene chloride	1.0	U	0.40	1.0	2.0	UG/L	1	29-Jul-2020 17:02
Trichloroethene	**190**		**1.0**	**2.5**	**5.0**	**UG/L**	5	29-Jul-2020 19:27
Vinyl chloride	**3.9**		**0.20**	**0.50**	**1.0**	**UG/L**	1	29-Jul-2020 17:02
Surr: 1,2-Dichloroethane-d4	*95.0*			**0**	*81-118*	*%REC*	*5*	*29-Jul-2020 19:27*
Surr: 1,2-Dichloroethane-d4	*112*			**0**	*81-118*	*%REC*	*1*	*29-Jul-2020 17:02*
Surr: 4-Bromofluorobenzene	*103*			**0**	*85-114*	*%REC*	*1*	*29-Jul-2020 17:02*
Surr: 4-Bromofluorobenzene	*94.5*			**0**	*85-114*	*%REC*	*5*	*29-Jul-2020 19:27*
Surr: Dibromofluoromethane	*94.8*			**0**	*80-119*	*%REC*	*5*	*29-Jul-2020 19:27*
Surr: Dibromofluoromethane	*100*			**0**	*80-119*	*%REC*	*1*	*29-Jul-2020 17:02*
Surr: Toluene-d8	*105*			**0**	*89-112*	*%REC*	*1*	*29-Jul-2020 17:02*
Surr: Toluene-d8	*77.5*	*S*		**0**	*89-112*	*%REC*	*5*	*29-Jul-2020 19:27*
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: GR
Subcontract Analysis	See Attached		0	0		NA	1	20-Aug-2020 14:41

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

ALS Houston, US Date: 20-Aug-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 July 2020
Sample ID: 16WW42-200723
Collection Date: 23-Jul-2020 09:50

ANALYTICAL REPORT
WorkOrder:HS20071147
Lab ID:HS20071147-05
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	UG/L	1	29-Jul-2020 15:50
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	29-Jul-2020 15:50
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	29-Jul-2020 15:50
cis-1,2-Dichloroethene	**24**		**0.20**	**0.50**	**1.0**	**UG/L**	1	29-Jul-2020 15:50
Methylene chloride	1.0	U	0.40	1.0	2.0	UG/L	1	29-Jul-2020 15:50
Trichloroethene	**1.3**		**0.20**	**0.50**	**1.0**	**UG/L**	1	29-Jul-2020 15:50
Vinyl chloride	0.50	U	0.20	0.50	1.0	UG/L	1	29-Jul-2020 15:50
Surr: 1,2-Dichloroethane-d4	*87.7*			**0**	*81-118*	*%REC*	*1*	*29-Jul-2020 15:50*
Surr: 4-Bromofluorobenzene	*103*			**0**	*85-114*	*%REC*	*1*	*29-Jul-2020 15:50*
Surr: Dibromofluoromethane	*99.7*			**0**	*80-119*	*%REC*	*1*	*29-Jul-2020 15:50*
Surr: Toluene-d8	*104*			**0**	*89-112*	*%REC*	*1*	*29-Jul-2020 15:50*
ANIONS BY SW9056A		**Method:SW9056**						Analyst: YP
Bromide	**2.45**		**0.0300**	**0.100**	**0.100**	**mg/L**	1	28-Jul-2020 02:22
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: GR
Subcontract Analysis	See Attached		0	0		NA	1	20-Aug-2020 14:41
SUBCONTRACT ANALYSIS - TOC ANALYSIS		**Method:NA**						Analyst: SUBK
Subcontract Analysis	See Attached		0	0		NA	1	11-Aug-2020 09:29

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

ALS Houston, US Date: 20-Aug-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 July 2020
Sample ID: 16WW42-200723-FD
Collection Date: 23-Jul-2020 09:50

ANALYTICAL REPORT
WorkOrder:HS20071147
Lab ID:HS20071147-06
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	UG/L	1	29-Jul-2020 19:51
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	29-Jul-2020 19:51
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	29-Jul-2020 19:51
cis-1,2-Dichloroethene	**20**		**0.20**	**0.50**	**1.0**	**UG/L**	1	29-Jul-2020 19:51
Methylene chloride	1.0	U	0.40	1.0	2.0	UG/L	1	29-Jul-2020 19:51
Trichloroethene	**1.2**		**0.20**	**0.50**	**1.0**	**UG/L**	1	29-Jul-2020 19:51
Vinyl chloride	0.50	U	0.20	0.50	1.0	UG/L	1	29-Jul-2020 19:51
Surr: 1,2-Dichloroethane-d4	*99.7*			**0**	*81-118*	*%REC*	*1*	*29-Jul-2020 19:51*
Surr: 4-Bromofluorobenzene	*104*			**0**	*85-114*	*%REC*	*1*	*29-Jul-2020 19:51*
Surr: Dibromofluoromethane	*96.4*			**0**	*80-119*	*%REC*	*1*	*29-Jul-2020 19:51*
Surr: Toluene-d8	*104*			**0**	*89-112*	*%REC*	*1*	*29-Jul-2020 19:51*
ANIONS BY SW9056A		**Method:SW9056**						Analyst: YP
Bromide	**2.43**		**0.0300**	**0.100**	**0.100**	**mg/L**	1	28-Jul-2020 03:16
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: GR
Subcontract Analysis	See Attached		0	0		NA	1	20-Aug-2020 14:41
SUBCONTRACT ANALYSIS - TOC ANALYSIS		**Method:NA**						Analyst: SUBK
Subcontract Analysis	See Attached		0	0		NA	1	11-Aug-2020 09:29

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

ALS Houston, US Date: 20-Aug-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 July 2020
Sample ID: 16WW27-200723
Collection Date: 23-Jul-2020 10:45

ANALYTICAL REPORT
WorkOrder:HS20071147
Lab ID:HS20071147-07
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	1.0	U	0.30	1.0	1.0	UG/L	1	29-Jul-2020 20:15
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	29-Jul-2020 20:15
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	29-Jul-2020 20:15
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	29-Jul-2020 20:15
Methylene chloride	1.0	U	0.40	1.0	2.0	UG/L	1	29-Jul-2020 20:15
Trichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	29-Jul-2020 20:15
Vinyl chloride	0.50	U	0.20	0.50	1.0	UG/L	1	29-Jul-2020 20:15
Surr: 1,2-Dichloroethane-d4	*110*			**0**	*81-118*	*%REC*	*1*	*29-Jul-2020 20:15*
Surr: 4-Bromofluorobenzene	*101*			**0**	*85-114*	*%REC*	*1*	*29-Jul-2020 20:15*
Surr: Dibromofluoromethane	*100*			**0**	*80-119*	*%REC*	*1*	*29-Jul-2020 20:15*
Surr: Toluene-d8	*103*			**0**	*89-112*	*%REC*	*1*	*29-Jul-2020 20:15*
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: GR
Subcontract Analysis	See Attached		0	0		NA	1	20-Aug-2020 14:41

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

ALS Houston, US Date: 20-Aug-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 July 2020
Sample ID: 16WW43-200723
Collection Date: 23-Jul-2020 11:30

ANALYTICAL REPORT
WorkOrder:HS20071147
Lab ID:HS20071147-08
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	1.0	U	0.30	1.0	1.0	UG/L	1	29-Jul-2020 20:39
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	29-Jul-2020 20:39
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	29-Jul-2020 20:39
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	29-Jul-2020 20:39
Methylene chloride	1.0	U	0.40	1.0	2.0	UG/L	1	29-Jul-2020 20:39
Trichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	29-Jul-2020 20:39
Vinyl chloride	0.50	U	0.20	0.50	1.0	UG/L	1	29-Jul-2020 20:39
Surr: 1,2-Dichloroethane-d4	*105*			**0**	*81-118*	*%REC*	*1*	*29-Jul-2020 20:39*
Surr: 4-Bromofluorobenzene	*102*			**0**	*85-114*	*%REC*	*1*	*29-Jul-2020 20:39*
Surr: Dibromofluoromethane	*104*			**0**	*80-119*	*%REC*	*1*	*29-Jul-2020 20:39*
Surr: Toluene-d8	*97.8*			**0**	*89-112*	*%REC*	*1*	*29-Jul-2020 20:39*
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: GR
Subcontract Analysis	See Attached		0	0		NA	1	20-Aug-2020 14:41

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

ALS Houston, US Date: 20-Aug-20

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: Longhorn Army Ammunition Plant 16 July 2020 WorkOrder:HS20071147
Sample ID: 16WW34-200723 Lab ID:HS20071147-09
Collection Date: 23-Jul-2020 12:20 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	29-Jul-2020 21:03
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	29-Jul-2020 21:03
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	29-Jul-2020 21:03
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	29-Jul-2020 21:03
Methylene chloride	1.0	U	0.40	1.0	2.0	UG/L	1	29-Jul-2020 21:03
Trichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	29-Jul-2020 21:03
Vinyl chloride	0.50	U	0.20	0.50	1.0	UG/L	1	29-Jul-2020 21:03
Surr: 1,2-Dichloroethane-d4	*107*			**0**	*81-118*	*%REC*	*1*	*29-Jul-2020 21:03*
Surr: 4-Bromofluorobenzene	*106*			**0**	*85-114*	*%REC*	*1*	*29-Jul-2020 21:03*
Surr: Dibromofluoromethane	*82.7*			**0**	*80-119*	*%REC*	*1*	*29-Jul-2020 21:03*
Surr: Toluene-d8	*104*			**0**	*89-112*	*%REC*	*1*	*29-Jul-2020 21:03*
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: GR
Subcontract Analysis	See Attached		0	0		NA	1	20-Aug-2020 14:41

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

ALS Houston, US Date: 20-Aug-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 July 2020
Sample ID: 16WW33-200723
Collection Date: 23-Jul-2020 13:05

ANALYTICAL REPORT
WorkOrder:HS20071147
Lab ID:HS20071147-10
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	1.0	U	0.30	1.0	1.0	UG/L	1	30-Jul-2020 14:25
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	30-Jul-2020 14:25
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	30-Jul-2020 14:25
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	30-Jul-2020 14:25
Methylene chloride	1.0	U	0.40	1.0	2.0	UG/L	1	30-Jul-2020 14:25
Trichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	30-Jul-2020 14:25
Vinyl chloride	0.50	U	0.20	0.50	1.0	UG/L	1	30-Jul-2020 14:25
Surr: 1,2-Dichloroethane-d4	*107*			**0**	*81-118*	*%REC*	*1*	*30-Jul-2020 14:25*
Surr: 4-Bromofluorobenzene	*98.8*			**0**	*85-114*	*%REC*	*1*	*30-Jul-2020 14:25*
Surr: Dibromofluoromethane	*102*			**0**	*80-119*	*%REC*	*1*	*30-Jul-2020 14:25*
Surr: Toluene-d8	*106*			**0**	*89-112*	*%REC*	*1*	*30-Jul-2020 14:25*
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: GR
Subcontract Analysis	See Attached		0	0		NA	1	20-Aug-2020 14:41

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

ALS Houston, US Date: 20-Aug-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 July 2020
Sample ID: 16WW33-200723-FD
Collection Date: 23-Jul-2020 13:05

ANALYTICAL REPORT
WorkOrder:HS20071147
Lab ID:HS20071147-11
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	1.0	U	0.30	1.0	1.0	UG/L	1	30-Jul-2020 14:49
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	30-Jul-2020 14:49
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	30-Jul-2020 14:49
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	30-Jul-2020 14:49
Methylene chloride	1.0	U	0.40	1.0	2.0	UG/L	1	30-Jul-2020 14:49
Trichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	30-Jul-2020 14:49
Vinyl chloride	0.50	U	0.20	0.50	1.0	UG/L	1	30-Jul-2020 14:49
Surr: 1,2-Dichloroethane-d4	*105*			**0**	*81-118*	*%REC*	*1*	*30-Jul-2020 14:49*
Surr: 4-Bromofluorobenzene	*92.2*			**0**	*85-114*	*%REC*	*1*	*30-Jul-2020 14:49*
Surr: Dibromofluoromethane	*95.2*			**0**	*80-119*	*%REC*	*1*	*30-Jul-2020 14:49*
Surr: Toluene-d8	*96.6*			**0**	*89-112*	*%REC*	*1*	*30-Jul-2020 14:49*
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: GR
Subcontract Analysis	See Attached		0	0		NA	1	20-Aug-2020 14:41

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

ALS Houston, US Date: 20-Aug-20

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: Longhorn Army Ammunition Plant 16 July 2020 WorkOrder:HS20071147
Sample ID: Trip Blank-200723 Lab ID:HS20071147-12
Collection Date: 23-Jul-2020 00:00 Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	UG/L	1	29-Jul-2020 15:26
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	29-Jul-2020 15:26
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	29-Jul-2020 15:26
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	29-Jul-2020 15:26
Methylene chloride	1.0	U	0.40	1.0	2.0	UG/L	1	29-Jul-2020 15:26
Trichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	29-Jul-2020 15:26
Vinyl chloride	0.50	U	0.20	0.50	1.0	UG/L	1	29-Jul-2020 15:26
Surr: 1,2-Dichloroethane-d4	*114*			**0**	*81-118*	*%REC*	*1*	*29-Jul-2020 15:26*
Surr: 4-Bromofluorobenzene	*104*			**0**	*85-114*	*%REC*	*1*	*29-Jul-2020 15:26*
Surr: Dibromofluoromethane	*120*	*S*		**0**	*80-119*	*%REC*	*1*	*29-Jul-2020 15:26*
Surr: Toluene-d8	*107*			**0**	*89-112*	*%REC*	*1*	*29-Jul-2020 15:26*

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

ALS Houston, US Date: 20-Aug-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 July 2020
WorkOrder: HS20071147

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: R365767 (0)	**Test Name :** ANIONS BY SW9056A				**Matrix:** Groundwater	
HS20071147-05	16WW42-200723	23 Jul 2020 09:50			28 Jul 2020 02:22	1
HS20071147-06	16WW42-200723-FD	23 Jul 2020 09:50			28 Jul 2020 03:16	1
Batch ID: R365877 (0)	**Test Name :** VOLATILES ORGANICS BY METHOD 8260C				**Matrix:** Water	
HS20071147-12	Trip Blank-200723	23 Jul 2020 00:00			29 Jul 2020 15:26	1
Batch ID: R365877 (0)	**Test Name :** VOLATILES ORGANICS BY METHOD 8260C				**Matrix:** Groundwater	
HS20071147-01	16WW37-200723	23 Jul 2020 07:30			29 Jul 2020 22:15	1
HS20071147-02	16WW38-200723	23 Jul 2020 08:15			29 Jul 2020 18:39	25
HS20071147-02	16WW38-200723	23 Jul 2020 08:15			29 Jul 2020 17:26	5
HS20071147-03	16WW13-200723	23 Jul 2020 09:05			29 Jul 2020 19:03	5
HS20071147-03	16WW13-200723	23 Jul 2020 09:05			29 Jul 2020 16:38	1
HS20071147-04	16WW13-200723-FD	23 Jul 2020 09:05			29 Jul 2020 19:27	5
HS20071147-04	16WW13-200723-FD	23 Jul 2020 09:05			29 Jul 2020 17:02	1
HS20071147-05	16WW42-200723	23 Jul 2020 09:50			29 Jul 2020 15:50	1
HS20071147-06	16WW42-200723-FD	23 Jul 2020 09:50			29 Jul 2020 19:51	1
HS20071147-07	16WW27-200723	23 Jul 2020 10:45			29 Jul 2020 20:15	1
HS20071147-08	16WW43-200723	23 Jul 2020 11:30			29 Jul 2020 20:39	1
HS20071147-09	16WW34-200723	23 Jul 2020 12:20			29 Jul 2020 21:03	1
Batch ID: R365975 (0)	**Test Name :** VOLATILES ORGANICS BY METHOD 8260C				**Matrix:** Groundwater	
HS20071147-10	16WW33-200723	23 Jul 2020 13:05			30 Jul 2020 14:25	1
HS20071147-11	16WW33-200723-FD	23 Jul 2020 13:05			30 Jul 2020 14:49	1
Batch ID: R366513 (0)	**Test Name :** SUBCONTRACT ANALYSIS - TOC ANALYSIS				**Matrix:** Groundwater	
HS20071147-05	16WW42-200723	23 Jul 2020 09:50			11 Aug 2020 09:29	1
HS20071147-06	16WW42-200723-FD	23 Jul 2020 09:50			11 Aug 2020 09:29	1
Batch ID: R367128 (0)	**Test Name :** SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)				**Matrix:** Groundwater	
HS20071147-01	16WW37-200723	23 Jul 2020 07:30			20 Aug 2020 14:41	1
HS20071147-02	16WW38-200723	23 Jul 2020 08:15			20 Aug 2020 14:41	1
HS20071147-03	16WW13-200723	23 Jul 2020 09:05			20 Aug 2020 14:41	1
HS20071147-04	16WW13-200723-FD	23 Jul 2020 09:05			20 Aug 2020 14:41	1
HS20071147-05	16WW42-200723	23 Jul 2020 09:50			20 Aug 2020 14:41	1
HS20071147-06	16WW42-200723-FD	23 Jul 2020 09:50			20 Aug 2020 14:41	1
HS20071147-07	16WW27-200723	23 Jul 2020 10:45			20 Aug 2020 14:41	1
HS20071147-08	16WW43-200723	23 Jul 2020 11:30			20 Aug 2020 14:41	1
HS20071147-09	16WW34-200723	23 Jul 2020 12:20			20 Aug 2020 14:41	1
HS20071147-10	16WW33-200723	23 Jul 2020 13:05			20 Aug 2020 14:41	1
HS20071147-11	16WW33-200723-FD	23 Jul 2020 13:05			20 Aug 2020 14:41	1

ALS Houston, US Date: 20-Aug-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 July 2020
WorkOrder: HS20071147

QC BATCH REPORT

Batch ID: R365877 (0) **Instrument: VOA6** **Method: VOLATILES ORGANICS BY METHOD 8260C**

MBLK Sample ID: **VBLKW-200729** Units: **UG/L** Analysis Date: **29-Jul-2020 15:02**
Client ID: Run ID: **VOA6_365877** SeqNo: **5678976** 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	*56.36*	*1.0*	*50*	*0*	*113*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*51.13*	*1.0*	*50*	*0*	*102*	*85 - 114*				
Surr: Dibromofluoromethane	*51.34*	*1.0*	*50*	*0*	*103*	*80 - 119*				
Surr: Toluene-d8	*53*	*1.0*	*50*	*0*	*106*	*89 - 112*				

LCS Sample ID: **VLCSW-200729** Units: **UG/L** Analysis Date: **29-Jul-2020 14:14**
Client ID: Run ID: **VOA6_365877** SeqNo: **5678975** 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	19.74	1.0	20	0	98.7	80 - 119				
1,1-Dichloroethene	22.3	1.0	20	0	112	71 - 131				
1,2-Dichloroethane	24.09	1.0	20	0	120	73 - 128				
cis-1,2-Dichloroethene	21.69	1.0	20	0	108	78 - 123				
Methylene chloride	27.61	2.0	20	0	138	74 - 124				S
Trichloroethene	17.01	1.0	20	0	85.1	79 - 123				
Vinyl chloride	18.99	1.0	20	0	94.9	58 - 137				
Surr: 1,2-Dichloroethane-d4	*57.23*	*1.0*	*50*	*0*	*114*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*42.96*	*1.0*	*50*	*0*	*85.9*	*85 - 114*				
Surr: Dibromofluoromethane	*54.13*	*1.0*	*50*	*0*	*108*	*80 - 119*				
Surr: Toluene-d8	*46.35*	*1.0*	*50*	*0*	*92.7*	*89 - 112*				

ALS Houston, US Date: 20-Aug-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 July 2020
WorkOrder: HS20071147

QC BATCH REPORT

Batch ID: R365877 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MS Sample ID: **HS20071147-05MS** Units: **UG/L** Analysis Date: **29-Jul-2020 17:51**
Client ID: **16WW42-200723** Run ID: **VOA6_365877** SeqNo: **5679412** 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	18.99	1.0	20	0	94.9	80 - 119				
1,1-Dichloroethene	24.63	1.0	20	0	123	71 - 131				
1,2-Dichloroethane	22.78	1.0	20	0	114	73 - 128				
cis-1,2-Dichloroethene	46.21	1.0	20	24.05	111	78 - 123				
Methylene chloride	24.73	2.0	20	0	124	74 - 124				
Trichloroethene	21.43	1.0	20	1.279	101	79 - 123				
Vinyl chloride	21.68	1.0	20	0	108	58 - 137				
Surr: 1,2-Dichloroethane-d4	*50.33*	*1.0*	*50*	*0*	*101*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*46*	*1.0*	*50*	*0*	*92.0*	*85 - 114*				
Surr: Dibromofluoromethane	*49.35*	*1.0*	*50*	*0*	*98.7*	*80 - 119*				
Surr: Toluene-d8	*48.35*	*1.0*	*50*	*0*	*96.7*	*89 - 112*				

MSD Sample ID: **HS20071147-05MSD** Units: **UG/L** Analysis Date: **29-Jul-2020 18:15**
Client ID: **16WW42-200723** Run ID: **VOA6_365877** SeqNo: **5679413** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,2-Trichloroethane	22.53	1.0	20	0	113	80 - 119	18.99	17.1	20	
1,1-Dichloroethene	27.6	1.0	20	0	138	71 - 131	24.63	11.4	20	S
1,2-Dichloroethane	24.26	1.0	20	0	121	73 - 128	22.78	6.26	20	
cis-1,2-Dichloroethene	52.85	1.0	20	24.05	144	78 - 123	46.21	13.4	20	S
Methylene chloride	28.74	2.0	20	0	144	74 - 124	24.73	15	20	S
Trichloroethene	23.49	1.0	20	1.279	111	79 - 123	21.43	9.16	20	
Vinyl chloride	25.54	1.0	20	0	128	58 - 137	21.68	16.3	20	
Surr: 1,2-Dichloroethane-d4	*58.89*	*1.0*	*50*	*0*	*118*	*81 - 118*	*50.33*	*15.7*	*20*	
Surr: 4-Bromofluorobenzene	*47.94*	*1.0*	*50*	*0*	*95.9*	*85 - 114*	*46*	*4.14*	*20*	
Surr: Dibromofluoromethane	*48.99*	*1.0*	*50*	*0*	*98.0*	*80 - 119*	*49.35*	*0.729*	*20*	
Surr: Toluene-d8	*52.44*	*1.0*	*50*	*0*	*105*	*89 - 112*	*48.35*	*8.12*	*20*	

The following samples were analyzed in this batch:

HS20071147-01	HS20071147-02	HS20071147-03	HS20071147-04
HS20071147-05	HS20071147-06	HS20071147-07	HS20071147-08
HS20071147-09	HS20071147-12		

ALS Houston, US Date: 20-Aug-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 July 2020
WorkOrder: HS20071147

QC BATCH REPORT

Batch ID: R365975 (0) **Instrument: VOA6** **Method: VOLATILES ORGANICS BY METHOD 8260C**

MBLK Sample ID: **VBLKW-200730** Units: **UG/L** Analysis Date: **30-Jul-2020 13:13**
Client ID: Run ID: **VOA6_365975** SeqNo: **5681126** 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	*53.79*	*1.0*	*50*	*0*	*108*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*50.09*	*1.0*	*50*	*0*	*100*	*85 - 114*				
Surr: Dibromofluoromethane	*50.32*	*1.0*	*50*	*0*	*101*	*80 - 119*				
Surr: Toluene-d8	*53.45*	*1.0*	*50*	*0*	*107*	*89 - 112*				

LCS Sample ID: **VLCSW-200730** Units: **UG/L** Analysis Date: **30-Jul-2020 12:25**
Client ID: Run ID: **VOA6_365975** SeqNo: **5681125** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,2-Trichloroethane	20.54	1.0	20	0	103	80 - 119				
1,1-Dichloroethene	21.44	1.0	20	0	107	71 - 131				
1,2-Dichloroethane	22.82	1.0	20	0	114	73 - 128				
cis-1,2-Dichloroethene	20.76	1.0	20	0	104	78 - 123				
Methylene chloride	26.7	2.0	20	0	133	74 - 124				S
Trichloroethene	18.17	1.0	20	0	90.8	79 - 123				
Vinyl chloride	19.3	1.0	20	0	96.5	58 - 137				
Surr: 1,2-Dichloroethane-d4	*57.81*	*1.0*	*50*	*0*	*116*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*46.76*	*1.0*	*50*	*0*	*93.5*	*85 - 114*				
Surr: Dibromofluoromethane	*50.16*	*1.0*	*50*	*0*	*100*	*80 - 119*				
Surr: Toluene-d8	*44.93*	*1.0*	*50*	*0*	*89.9*	*89 - 112*				

ALS Houston, US Date: 20-Aug-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 July 2020
WorkOrder: HS20071147

QC BATCH REPORT

Batch ID: R365975 (0) **Instrument: VOA6** **Method: VOLATILES ORGANICS BY METHOD 8260C**

MS Sample ID: **HS20071328-01MS** Units: **UG/L** Analysis Date: **30-Jul-2020 16:49**
Client ID: Run ID: **VOA6_365975** SeqNo: **5681132** 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	19.22	1.0	20	0	96.1	80 - 119				
1,1-Dichloroethene	26.96	1.0	20	0	135	71 - 131				S
1,2-Dichloroethane	24.42	1.0	20	0	122	73 - 128				
cis-1,2-Dichloroethene	27.61	1.0	20	0	138	78 - 123				S
Methylene chloride	26.23	2.0	20	0	131	74 - 124				S
Trichloroethene	17.88	1.0	20	0	89.4	79 - 123				
Vinyl chloride	25.05	1.0	20	0	125	58 - 137				
Surr: 1,2-Dichloroethane-d4	*62.13*	*1.0*	*50*	*0*	*124*	*81 - 118*				S
Surr: 4-Bromofluorobenzene	*43.8*	*1.0*	*50*	*0*	*87.6*	*85 - 114*				
Surr: Dibromofluoromethane	*62.87*	*1.0*	*50*	*0*	*126*	*80 - 119*				S
Surr: Toluene-d8	*40.36*	*1.0*	*50*	*0*	*80.7*	*89 - 112*				S

MSD Sample ID: **HS20071328-01MSD** Units: **UG/L** Analysis Date: **30-Jul-2020 17:13**
Client ID: Run ID: **VOA6_365975** SeqNo: **5681133** 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	24.25	1.0	20	0	121	80 - 119	19.22	23.2	20	SR
1,1-Dichloroethene	25.29	1.0	20	0	126	71 - 131	26.96	6.41	20	
1,2-Dichloroethane	26.27	1.0	20	0	131	73 - 128	24.42	7.28	20	S
cis-1,2-Dichloroethene	23.48	1.0	20	0	117	78 - 123	27.61	16.1	20	
Methylene chloride	24.39	2.0	20	0	122	74 - 124	26.23	7.27	20	
Trichloroethene	21.54	1.0	20	0	108	79 - 123	17.88	18.6	20	
Vinyl chloride	23.9	1.0	20	0	120	58 - 137	25.05	4.68	20	
Surr: 1,2-Dichloroethane-d4	*56.79*	*1.0*	*50*	*0*	*114*	*81 - 118*	*62.13*	*8.98*	*20*	
Surr: 4-Bromofluorobenzene	*51.82*	*1.0*	*50*	*0*	*104*	*85 - 114*	*43.8*	*16.8*	*20*	
Surr: Dibromofluoromethane	*50.4*	*1.0*	*50*	*0*	*101*	*80 - 119*	*62.87*	*22*	*20*	R
Surr: Toluene-d8	*50.88*	*1.0*	*50*	*0*	*102*	*89 - 112*	*40.36*	*23*	*20*	R

The following samples were analyzed in this batch: HS20071147-10 HS20071147-11

ALS Houston, US Date: 20-Aug-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 July 2020
WorkOrder: HS20071147

QC BATCH REPORT

Batch ID: R365767 (0) **Instrument: ICS-Integrion** **Method: ANIONS BY SW9056A**

MBLK Sample ID: **MBLK-072720** Units: **mg/L** Analysis Date: **27-Jul-2020 17:01**
Client ID: Run ID: **ICS-Integrion_365767** SeqNo: **5676598** 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

LCS Sample ID: **LCS-072720** Units: **mg/L** Analysis Date: **27-Jul-2020 17:19**
Client ID: Run ID: **ICS-Integrion_365767** SeqNo: **5676599** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromide	4.398	0.100	4	0	110	80 - 120				

MS Sample ID: **HS20071147-05MS** Units: **mg/L** Analysis Date: **28-Jul-2020 02:40**
Client ID: **16WW42-200723** Run ID: **ICS-Integrion_365767** SeqNo: **5676619** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromide	4.562	0.100	2	2.445	106	80 - 120				

MS Sample ID: **HS20071033-03MS** Units: **mg/L** Analysis Date: **27-Jul-2020 23:57**
Client ID: Run ID: **ICS-Integrion_365767** SeqNo: **5676610** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromide	2015	0.100	2	2051	-1820	80 - 120				SEO

MSD Sample ID: **HS20071147-05MSD** Units: **mg/L** Analysis Date: **28-Jul-2020 02:58**
Client ID: **16WW42-200723** Run ID: **ICS-Integrion_365767** SeqNo: **5676620** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromide	4.571	0.100	2	2.445	106	80 - 120	4.562	0.197	20	

MSD Sample ID: **HS20071033-03MSD** Units: **mg/L** Analysis Date: **28-Jul-2020 00:15**
Client ID: Run ID: **ICS-Integrion_365767** SeqNo: **5676611** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromide	2022	0.100	2	2051	-1470	80 - 120	2015	0.343	20	SEO

The following samples were analyzed in this batch: HS20071147-05 HS20071147-06

ALS Houston, US Date: 20-Aug-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 July 2020
WorkOrder: **HS20071147**

QUALIFIERS, ACRONYMS, UNITS

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

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

CERTIFICATIONS,ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
Arkansas	20-030-0	26-Mar-2021
California	2919, 2020-2021	30-Apr-2021
Dept of Defense	ANAB L2231 V010	22-Dec-2021
Florida	E87611-30-07/01/2020	30-Jun-2021
Illinois	2000322020-4	09-May-2021
Kentucky	123043, 2020-2021	30-Apr-2021
Louisiana	03087, 2020-2021	30-Jun-2021
Maryland	343, 2019-2020	30-Sep-2020
North Carolina	624-2020	31-Dec-2020
North Dakota	R-193 2020-2021	30-Apr-2021
Oklahoma	2019-141	31-Aug-2020
Texas	T104704231-20-26	30-Apr-2021

ALS Houston, US Date: 20-Aug-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 July 2020
Work Order: HS20071147

SAMPLE TRACKING

Lab Samp ID	Client Sample ID	Action	Date	Person	New Location
HS20071147-01	16WW37-200723	Login	7/24/2020 2:55:43 PM	JRM	Sub
HS20071147-01	16WW37-200723	Login	7/24/2020 2:55:43 PM	JRM	VOA241
HS20071147-02	16WW38-200723	Login	7/24/2020 2:55:43 PM	JRM	Sub
HS20071147-02	16WW38-200723	Login	7/24/2020 2:55:43 PM	JRM	VOA241
HS20071147-03	16WW13-200723	Login	7/24/2020 2:55:43 PM	JRM	Sub
HS20071147-03	16WW13-200723	Login	7/24/2020 2:55:43 PM	JRM	WET218
HS20071147-03	16WW13-200723	Login	7/24/2020 2:55:43 PM	JRM	VOA241
HS20071147-03	16WW13-200723	Login	7/24/2020 2:55:43 PM	JRM	Sub
HS20071147-04	16WW13-200723-FD	Login	7/24/2020 2:55:43 PM	JRM	Sub
HS20071147-04	16WW13-200723-FD	Login	7/24/2020 2:55:43 PM	JRM	VOA241
HS20071147-05	16WW42-200723	Login	7/24/2020 2:55:43 PM	JRM	Sub
HS20071147-05	16WW42-200723	Login	7/24/2020 2:55:43 PM	JRM	WET218
HS20071147-05	16WW42-200723	Login	7/24/2020 2:55:43 PM	JRM	VOA241
HS20071147-05	16WW42-200723	Login	7/24/2020 2:55:43 PM	JRM	Sub
HS20071147-06	16WW42-200723-FD	Login	7/24/2020 2:55:43 PM	JRM	Sub
HS20071147-06	16WW42-200723-FD	Login	7/24/2020 2:55:43 PM	JRM	WET218
HS20071147-06	16WW42-200723-FD	Login	7/24/2020 2:55:43 PM	JRM	VOA241
HS20071147-06	16WW42-200723-FD	Login	7/24/2020 2:55:43 PM	JRM	Sub
HS20071147-07	16WW27-200723	Login	7/24/2020 2:55:43 PM	JRM	Sub
HS20071147-07	16WW27-200723	Login	7/24/2020 2:55:43 PM	JRM	VOA241
HS20071147-08	16WW43-200723	Login	7/24/2020 2:55:43 PM	JRM	Sub
HS20071147-08	16WW43-200723	Login	7/24/2020 2:55:43 PM	JRM	VOA241
HS20071147-12	Trip Blank-200723	Login	7/24/2020 2:55:43 PM	JRM	VOA241

ALS Houston, US Date: 20-Aug-20

Sample Receipt Checklist

Work Order ID: HS20071147 **Date/Time Received:** **24-Jul-2020 09:20**

Client Name: CBI-Houston **Received by:** **Paresh M. Giga**

Completed By:	/S/ Jared R. Makan	24-Jul-2020 15:00	**Reviewed by:**	/S/ RJ Modashia	25-Jul-2020 15:37
	eSignature	Date/Time		eSignature	Date/Time

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

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
VOA/TX1005/TX1006 Solids in hermetically sealed vials?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	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):	1.2°C/1.2°C UC/C	IR31
Cooler(s)/Kit(s):	45815	
Date/Time sample(s) sent to storage:	7/24/2020 15:06	

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

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

Corrective Action:

CHAIN OF CUSTODY

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

Page 1 of 1

Project: APTIM LONGHORN ARMY AMMN. PLANT (LHAAP) GROUNDWATER TREATMENT PLANT (GWTP) KARNACK, TEXAS	Project No. 501032
Job: **LHAAP 16 JULY 2020_ALS**	
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.#
16ww37-200723	wG	7/23/20/0730		4	X					X						
16ww38-200723	wG	7/23/20/0815		4	X					X						
16WW13-200723	wG	7/23/20/0905		4	X					X						
16ww13-200723-FD	wG	7/23/20/0905		4	X					X						
16ww42-200723	wG	7/23/20/0950		7	X	X			X	X						
16ww42-200723-FD	wG	7/23/20/0950		7	X	X			X	X						
16ww27-200723	wG	7/23/20/1045		4	X					X						
16ww43-200723	wG	7/23/20/1130		4	X					X						

Additional Remarks: Standard TAT on all parameters. Please email results to Susan.Huang@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	7/23/20	1430		7/24/2020	0.9:20.						

For Lab Use Only

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

Remarks:

wic.

45815 1.2°.
+31
Client

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

HS20071147

Aptim Environmental & Infrastucture, Inc.
Longhorn Army Ammunition Plant 16 July 2020

CHAIN OF CUSTODY

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

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

Project No. 501032

Job: **LHAAP 16 JULY 2020_ALS**

Prepared By: Scott Beesinger

P.O. Number

Field Sample I.D. / Time	Sample Matrix	Date /	MS / MSD	No. OF CONTAINERS	VOC by SW 8260B	TOC by SM5310C	MEE by RSK 175	Anions (bromide, sulfate, nitrate) by SW9056 and Alkalinity by SM2320	Bromide by SW9056	Perchlorate by SW6850	Metals (arsenic, chromium, manganese, nickel, thallium) by SW6020				Remarks (Preservatives, etc.)	Lab I.D.#
16WW34-200723	WG	7/23/20/1220		4	X					X						
16WW33-200723	WG	7/23/20/1305		4	X					X						
16WW33-200723-FD	WG	7/23/20/1305		4	X					X						
TRIPBLANK-200723	W	7/23/20		2	X											

Additional Remarks: Standard TAT on all parameters. Please email results to Susan.Huang@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	7/23/20	1430		7/24/2020	cp: TC.						

For Lab Use Only

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

Remarks:

HS20071147

Aptim Environmental & Infrastucture, Inc.
Longhorn Army Ammunition Plant 16 July 2020

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

TRK# 0221 1891 8877 8314

RETURNS MON-SAT
PRIORITY OVERNIGHT

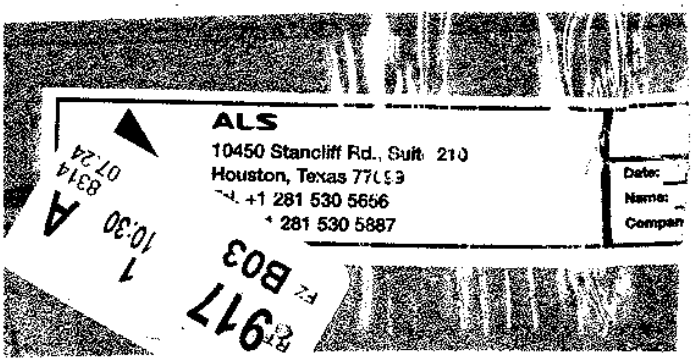
FedEx
TRK# 0221 1891 8877 8314

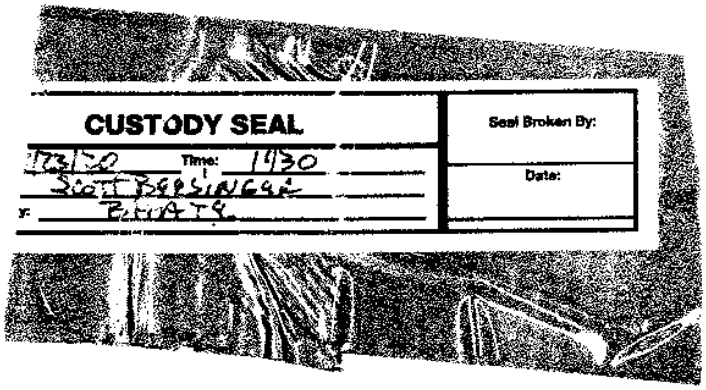
FRI - 24 JUL 10:30A
PRIORITY OVERNIGHT

AB SGRA

77099
TX-US
IAH

FTD 3922825 73J0120 GGGA 56BC3/C6A6/05A2





August 20, 2020 Service Request No:E2000680

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

Laboratory Results for: HS20071147

Dear RJ,

Enclosed are the results of the sample(s) submitted to our laboratory July 27, 2020
For your reference, these analyses have been assigned our service request number **E2000680.**

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current TNI standards, where applicable, and except as noted in the laboratory case narrative provided. All results are intended to be considered in their entirety and ALS Environmental is not responsible for use of less than the complete final report. Results apply only to the items submitted to the laboratory, as received for analysis. In accordance with the current TNI Standard, a statement on the estimated uncertainty of measurement of any quantitative analysis will be supplied upon request.

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

Corey Grandits
Project Manager

ADDRESS 10450 Stancliff Rd., Suite 210, Houston, TX 77099
PHONE +1 281 530 5656 | FAX +1 281 530 5887
ALS Group USA, Corp.
dba ALS Environmental

Certificate of Analysis

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

ALS Environmental

Client:	ALS Houston	**Service Request No.:**	E2000680
Project:	HS20071147	**Date Received:**	07/27/20
Sample Matrix:	GW		

CASE NARRATIVE

All analyses were performed in adherence to the quality assurance program of ALS Environmental. This report contains analytical results for samples designated for Tier IV. When appropriate to the method, method blank results have been reported with each analytical test.

Sample Receipt

Eleven samples were received for analysis at ALS Environmental in Houston on 07/27/20.

The samples were received in good condition and are consistent with the accompanying chain of custody form. The samples were stored in a refrigerator at 4°C upon receipt at the laboratory.

Data Validation Notes and Discussion

Precision and Accuracy:

EQ2000318: Laboratory Control Spike/Duplicate Laboratory Control Spike (LCS/DLCS) samples were analyzed and reported in addition to a MS/MSD for this extraction batch. MS/MSD was performed on an unrelated sample. LCS and LCSD recoveries are within QC limits.

DoD Certification is held for the method/matrix/analytes provided in this report.

The results of analyses are given in the attached laboratory report. All results are intended to be considered in their entirety, and ALS Environmental (ALS) is not responsible for utilization of less than the complete report.

Use of ALS group USA Corp dba ALS Environmental (ALS)'s Name. Client shall not use ALS's name or trademark in any marketing or reporting materials, press releases or in any other manner ("Materials") whatsoever and shall not attribute to ALS any test result, tolerance or specification derived from ALS's data ("Attribution") without ALS's prior written consent, which may be withheld by ALS for any reason in its sole discretion. To request ALS's consent, Client shall provide copies of the proposed Materials or Attribution and describe in writing Client's proposed use of such Materials or Attribution. If ALS has not provided written approval of the Materials or Attribution within ten (10) days of receipt from Client, Client's request to use ALS's name or trademark in any Materials or Attribution shall be deemed denied. ALS may, in its discretion, reasonably charge Client for its time in reviewing Materials or Attribution requests. Client acknowledges and agrees that the unauthorized use of ALS's name or trademark may cause ALS to incur irreparable harm for which the recovery of money damages will be inadequate. Accordingly, Client acknowledges and agrees that a violation shall justify preliminary injunctive relief. For questions contact the laboratory.

Client: ALS Environmental - US **Service Request:**E2000680
Project: HS20071147

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
E2000680-001	16WW37-200723	7/23/2020	0730
E2000680-002	16WW38-200723	7/23/2020	0815
E2000680-003	16WW13-200723	7/23/2020	0905
E2000680-004	16WW13-200723-FD	7/23/2020	0905
E2000680-005	16WW42-200723	7/23/2020	0950
E2000680-006	16WW42-200723-FD	7/23/2020	0950
E2000680-007	16WW27-200723	7/23/2020	1045
E2000680-008	16WW43-200723	7/23/2020	1130
E2000680-009	16WW34-200723	7/23/2020	1220
E2000680-010	16WW33-200723	7/23/2020	1305
E2000680-011	16WW33-200723-FD	7/23/2020	1305

Service Request Summary

Folder #: **E2000680**
Client Name: ALS Environmental - US
Project Name: HS20071147
Project Number:

Report To: RJ Modashia
ALS Laboratory Group
10450 Stancliff Road
Houston, TX 77099-4338
USA
Phone Number: 281-530-5656
Cell Number:
Fax Number: 281-530-5887
E-mail: rj.modashia@alsglobal.com

Project Chemist: Corey Grandits
Originating Lab: HOUSTON
Logged By: CGRANDITS
Date Received: 07/27/20
Internal Due Date: 8/7/2020
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: Y
Report to MDL?: Y
P.O. Number: HS20071147
EDD: No EDD Specified

11 250 mL-Plastic Bottle HDPE WM CLEAR Unpreserved
Location: EHRMS-WIC 4C
Pressure Gas:

Lab Samp No.	Client Samp No	Matrix	Collected	HOUSTON ClO4 DOD/6850
E2000680-001	16WW37-200723	Ground Water	07/23/20 0730	**IV**
E2000680-002	16WW38-200723	Ground Water	07/23/20 0815	**IV**
E2000680-003	16WW13-200723	Ground Water	07/23/20 0905	**IV**
E2000680-004	16WW13-200723-FD	Ground Water	07/23/20 0905	**IV**
E2000680-005	16WW42-200723	Ground Water	07/23/20 0950	**IV**
E2000680-006	16WW42-200723-FD	Ground Water	07/23/20 0950	**IV**
E2000680-007	16WW27-200723	Ground Water	07/23/20 1045	**IV**
E2000680-008	16WW43-200723	Ground Water	07/23/20 1130	**IV**
E2000680-009	16WW34-200723	Ground Water	07/23/20 1220	**IV**
E2000680-010	16WW33-200723	Ground Water	07/23/20 1305	**IV**
E2000680-011	16WW33-200723-FD	Ground Water	07/23/20 1305	**IV**

Service Request Summary

Folder #: **E2000680**
Client Name: ALS Environmental - US
Project Name: HS20071147
Project Number:

Report To: RJ Modashia
ALS Laboratory Group
10450 Stancliff Road
Houston, TX 77099-4338
USA
Phone Number: 281-530-5656
Cell Number:
Fax Number: 281-530-5887
E-mail: rj.modashia@alsglobal.com

Project Chemist: Corey Grandits
Originating Lab: HOUSTON
Logged By: CGRANDITS
Date Received: 07/27/20
Internal Due Date: 8/7/2020
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: Y
Report to MDL?: Y
P.O. Number: HS20071147
EDD: No EDD Specified

11 250 mL-Plastic Bottle HDPE WM CLEAR Unpreserved
Location: EHRMS-WIC 4C
Pressure Gas:

Test Comments:

Group	Test/Method	Samples	Comments
Semivoa GCMS	ClO4 DOD/6850	11	Level II due 8/7,level IV 8/14

Data Qualifiers

Lab Standard

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

Data Qualifiers

Lab Standard

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

ALS Laboratory Group

Acronyms

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

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

ALS Environmental

State Certifications, Accreditations, and Licenses

Agency	Number	Expire Date
American Association for Laboratory Accreditation	2897.01 2020	11/30/2021
Arkansas Department of Environmental Quality	20-030-0	3/26/2021
Department of Defense	A2LA 2897.01	11/30/2021
Hawaii Department of Health	2020	4/30/2021
Illinois Environmental Protection Agency	2000322020-4	5/9/2021
Louisiana Department of Health and Hospitals	LA028-2020	12/31/2020
Maine Department of Health and Human Services	2020016	6/5/2022
Minnesota Department of Health	1785988	12/31/2020
Nebraska Department of Health and Human Services	NE-OS-25-13 (2020)	4/30/2021
Nevada Department of Concervation and Natural Resources	TX026932021-1	7/31/2021
New Hampshire Environmental Laboratory Accreditation Program	209420	4/24/2021
New York Department of Health	11707	3/31/2021
Oklahoma Department of Environmental Quality	2019-067	8/31/2020
Tennessee Department of Environment and Concervation	04016-2020	4/30/2021
Texas Commision on Environmental Quality	T104704231-20-26	4/30/2021
United States Department of Agriculture	P330-19-00299	10/10/2022
Washington Department of Health	C819	11/14/2020

Chain of Custody

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

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

E2000680 5
ALS Laboratory Group
HS20071147

Subcontract Chain of Custody

SAMPLING STATE: **Dept of Defense** **COC ID: 14375**

SUBCONTRACT TO:

ALS Environmental
10450 Stancliff RoadSuite 210
Houston, TX 77084

Phone: +1 281 530 5656

CUSTOMER INFORMATION:

Company:	ALS Houston
Contact:	RJ Modashia
Address:	10450 Stancliff Rd, Ste 210
Phone:	+1 281 530 5656
Email:	RJ.Modashia@alsglobal.com
Alternate Contact:	Jumoke M. Lawal
Email:	jumoke.lawal@alsglobal.com

INVOICE INFORMATION:

Company:	ALS Houston
Contact:	Accounts Payable
Address:	10450 Stancliff Rd, Ste 210
Phone:	+1 281 530 5656
Reference:	HS20071147
TSR:	Sonia West

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	**HS20071147-01**	**16WW37-200723**	**Groundwater**	**23 Jul 2020 07:30**
	SUB_Perch-6850			06 Aug 2020
2.	**HS20071147-02**	**16WW38-200723**	**Groundwater**	**23 Jul 2020 08:15**
	SUB_Perch-6850			06 Aug 2020
3.	**HS20071147-03**	**16WW13-200723**	**Groundwater**	**23 Jul 2020 09:05**
	SUB_Perch-6850			06 Aug 2020
4.	**HS20071147-04**	**16WW13-200723-FD**	**Groundwater**	**23 Jul 2020 09:05**
	SUB_Perch-6850			06 Aug 2020
5.	**HS20071147-05**	**16WW42-200723**	**Groundwater**	**23 Jul 2020 09:50**
	SUB_Perch-6850			06 Aug 2020
6.	**HS20071147-06**	**16WW42-200723-FD**	**Groundwater**	**23 Jul 2020 09:50**
	SUB_Perch-6850			06 Aug 2020
7.	**HS20071147-07**	**16WW27-200723**	**Groundwater**	**23 Jul 2020 10:45**
	SUB_Perch-6850			06 Aug 2020
8.	**HS20071147-08**	**16WW43-200723**	**Groundwater**	**23 Jul 2020 11:30**
	SUB_Perch-6850			06 Aug 2020
9.	**HS20071147-09**	**16WW34-200723**	**Groundwater**	**23 Jul 2020 12:20**

Subcontract Chain of Custody

SAMPLING STATE: **Dept of Defense** **COC ID: 14375**

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
	SUB_Perch-6850			06 Aug 2020
10.	**HS20071147-10**	**16WW33-200723**	**Groundwater**	**23 Jul 2020 13:05**
	SUB_Perch-6850			06 Aug 2020
11.	**HS20071147-11**	**16WW33-200723-FD**	**Groundwater**	**23 Jul 2020 13:05**
	SUB_Perch-6850			06 Aug 2020

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

QC Level: DOD IV (DoD Data Package)

Relinquished By: _____ Date/Time: _____

Received By: _____ Date/Time: 7/27/20 0900

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

ALS Environmental

Cooler Receipt Form

Project Chemist CH

Client/Project ALS-H

Thermometer ID SM041231

Date/Time Received: 7/27/20 Initials: CH Date/Time Logged in: 7/27/20 Initials CH

1. Method of delivery: ○ US Mail ○ Fed Ex ○ UPS ○ DHL ✓ ALS Courier ○ Client
2. Samples received in: ✓ Cooler ○ Box ○ Envelope ○ Other
3. Were custody seals on coolers? ○ Yes ✓ No
   Were they intact? ○ Yes ○ No ✓ N/A
   Were they signed and dated? ○ Yes ○ No ✓ N/A
   If yes, how many and where?
4. Packing Material: ○ Inserts ✓ Baggies ○ Bubble Wrap ○ Gel Packs ✓ Wet Ice ○ Sleeves ○ Other
5. Foreign or Regulated Soil? ○ Yes ○ No Location of Sampling:

Cooler Tracking Number	COC ID	Date Opened	Time Opened	Opened By	Temp. °C	Temp Blank?
-		7/27/20	0900	CH	1.7	X
						☐
						☐
						☐

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

Notes, Discrepancies, & Resolutions:

Service request Label: E2000680 5
ALS Laboratory Group
HS20071147

HS-HRMSCoolerReceipt R1.0

ALS Environmental - Houston HRMS

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SAMPLE ACCEPTANCE POLICY

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

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

- ✓ Intact on outside of cooler, signed and dated

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

The following is required on each COC:

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

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

Sample Integrity (mandatory):

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

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

Temperature Requirement (varies by sample matrix):

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

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

Preparation Information Benchsheets

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

Preparation Information Benchsheet

Prep Run#: 362575 **Prep WorkFlow:** GenExt28Day **Status:** Prepped
Team: Semivoa GCMS/GRIVERA **Prep Method:** Method **Prep Date/Time:** 7/30/20 08:45

#	Lab Code	Client ID	B#	Method /Test	pH	Cl	Matrix	Amt. Ext.	Sample Description
1	E2000680-001	16WW37-200723	.01	6850/ClO4 DOD			Ground Water	10mL	
2	E2000680-002	16WW38-200723	.01	6850/ClO4 DOD			Ground Water	10mL	
3	E2000680-003	16WW13-200723	.01	6850/ClO4 DOD			Ground Water	10mL	
4	E2000680-004	16WW13-200723-FD	.01	6850/ClO4 DOD			Ground Water	10mL	
5	E2000680-005	16WW42-200723	.01	6850/ClO4 DOD			Ground Water	10mL	
6	E2000680-006	16WW42-200723-FD	.01	6850/ClO4 DOD			Ground Water	10mL	
7	E2000680-007	16WW27-200723	.01	6850/ClO4 DOD			Ground Water	10mL	
8	E2000680-008	16WW43-200723	.01	6850/ClO4 DOD			Ground Water	10mL	
9	E2000680-009	16WW34-200723	.01	6850/ClO4 DOD			Ground Water	10mL	
10	E2000680-010	16WW33-200723	.01	6850/ClO4 DOD			Ground Water	10mL	
11	E2000680-011	16WW33-200723-FD	.01	6850/ClO4 DOD			Ground Water	10mL	
12	EQ2000318-01	MB		6850/ClO4 DOD			Liquid	10mL	
13	EQ2000318-02	LCS		6850/ClO4 DOD			Liquid	10mL	
14	EQ2000318-03	DLCS		6850/ClO4 DOD			Liquid	10mL	
15	EQ2000318-04	45MI20023 MS	.07	6850/ClO4 DOD			Liquid	10mL	
16	EQ2000318-05	45MI20023 DMS	.07	6850/ClO4 DOD			Liquid	10mL	
17	R2006334-001	45MI20023	.07	6850/ClO4 DOD			Water	10mL	
18	R2006334-003	45MI20021	.07	6850/ClO4 DOD			Water	10mL	
19	R2006334-005	45MI20022	.07	6850/ClO4 DOD			Water	10mL	
20	R2006334-007	45MI20024	.07	6850/ClO4 DOD			Water	10mL	
21	R2006334-009	45MI20036	.07	6850/ClO4 DOD			Water	10mL	
22	R2006334-012	45MI00001	.05	6850/ClO4 DOD			Water	10mL	
23	R2006334-014	45MI20002	.05	6850/ClO4 DOD			Water	10mL	
24	R2006334-016	45MI20001	.05	6850/ClO4 DOD			Water	10mL	
25	R2006334-018	45MI20007	.05	6850/ClO4 DOD			Water	10mL	

Spiking Solutions

Name: Sodium Perchlorate 1 ug/mL (IS) (18-O) as CLO4 Inventory ID 202037 Logbook Ref: Sodium Perchlorate Expires On: 05/22/2021

E2000680-001	100.00µL	E2000680-003	100.00µL	E2000680-005	100.00µL	E2000680-006	100.00µL	E2000680-008	100.00µL	EQ2000318-01	100.00µL
EQ2000318-02	100.00µL	EQ2000318-03	100.00µL	EQ2000318-04	100.00µL	EQ2000318-05	100.00µL	R2006334-001	100.00µL	R2006334-003	100.00µL
R2006334-005	100.00µL	R2006334-007	100.00µL	R2006334-009	100.00µL	R2006334-012	100.00µL	R2006334-014	100.00µL	R2006334-016	100.00µL
R2006334-018	100.00µL										

Name: Perchlorate Intermediate Stock1 Inventory ID 209764 Logbook Ref: Perchlorate Int. Stock1 51820 Expires On: 11/18/2020

Preparation Information Benchsheet

Prep Run#: 362575 **Prep WorkFlow:** GenExt28Day **Status:** Prepped
Team: Semivoa GCMS/GRIVERA **Prep Method:** Method **Prep Date/Time:** 7/30/20 08:45

EQ2000318-02 1.00µL EQ2000318-03 1.00µL EQ2000318-04 1.00µL EQ2000318-05 1.00µL

Preparation Steps

Step: Preparation
Started: 7/30/20 08:45
Finished: 7/30/20 15:15
By: GRIVERA
Comments

Comments: _____

Reviewed By: GR Date: 8/5/20

Chain of Custody

Relinquished By: _____ Date: _____ Extracts Examined

Received By: _____ Date: _____ Yes No

Analytical Results

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ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000680
Project:	HS20071147	**Date Collected:**	7/23/20 0730
Sample Matrix:	Ground Water	**Date Received:**	7/27/20
Sample Name:	16WW37-200723	**Units:**	µg/L
Lab Code:	E2000680-001	**Basis:**	NA

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

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	ND	U	1.00	0.500	0.250	10	7/30/20	8/6/20 13:04	362575	689966	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000680
Project:	HS20071147	**Date Collected:**	7/23/20 0815
Sample Matrix:	Ground Water	**Date Received:**	7/27/20
Sample Name:	16WW38-200723	**Units:**	µg/L
Lab Code:	E2000680-002	**Basis:**	NA

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

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	ND	U	1.00	0.500	0.250	10	7/30/20	8/19/20 13:17	362575	691702	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000680
Project:	HS20071147	**Date Collected:**	7/23/20 0905
Sample Matrix:	Ground Water	**Date Received:**	7/27/20
Sample Name:	16WW13-200723	**Units:**	µg/L
Lab Code:	E2000680-003	**Basis:**	NA

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

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	**0.134**		0.100	0.0500	0.0250	1	7/30/20	7/30/20 22:06	362575	689966	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000680
Project:	HS20071147	**Date Collected:**	7/23/20 0905
Sample Matrix:	Ground Water	**Date Received:**	7/27/20
Sample Name:	16WW13-200723-FD	**Units:**	µg/L
Lab Code:	E2000680-004	**Basis:**	NA

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

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	ND	U	0.200	0.100	0.0500	2	7/30/20	8/19/20 13:25	362575	691702	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000680
Project:	HS20071147	**Date Collected:**	7/23/20 0950
Sample Matrix:	Ground Water	**Date Received:**	7/27/20
Sample Name:	16WW42-200723	**Units:**	µg/L
Lab Code:	E2000680-005	**Basis:**	NA

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

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	ND	U	0.100	0.0500	0.0250	1	7/30/20	7/30/20 22:29	362575	689966	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000680
Project:	HS20071147	**Date Collected:**	7/23/20 0950
Sample Matrix:	Ground Water	**Date Received:**	7/27/20
Sample Name:	16WW42-200723-FD	**Units:**	µg/L
Lab Code:	E2000680-006	**Basis:**	NA

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

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	ND	U	0.100	0.0500	0.0250	1	7/30/20	7/30/20 22:37	362575	689966	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000680
Project:	HS20071147	**Date Collected:**	7/23/20 1045
Sample Matrix:	Ground Water	**Date Received:**	7/27/20
Sample Name:	16WW27-200723	**Units:**	µg/L
Lab Code:	E2000680-007	**Basis:**	NA

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

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	ND	U	1.00	0.500	0.250	10	7/30/20	8/19/20 13:33	362575	691702	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000680
Project:	HS20071147	**Date Collected:**	7/23/20 1130
Sample Matrix:	Ground Water	**Date Received:**	7/27/20
Sample Name:	16WW43-200723	**Units:**	µg/L
Lab Code:	E2000680-008	**Basis:**	NA

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

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	**0.0428**	J	0.100	0.0500	0.0250	1	7/30/20	7/30/20 22:53	362575	689966	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000680
Project:	HS20071147	**Date Collected:**	7/23/20 1220
Sample Matrix:	Ground Water	**Date Received:**	7/27/20
Sample Name:	16WW34-200723	**Units:**	µg/L
Lab Code:	E2000680-009	**Basis:**	NA

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

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	ND	U	1.00	0.500	0.250	10	7/30/20	8/19/20 13:41	362575	691702	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000680
Project:	HS20071147	**Date Collected:**	7/23/20 1305
Sample Matrix:	Ground Water	**Date Received:**	7/27/20
Sample Name:	16WW33-200723	**Units:**	µg/L
Lab Code:	E2000680-010	**Basis:**	NA

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

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	ND	U	1.00	0.500	0.250	10	7/30/20	8/19/20 13:49	362575	691702	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000680
Project:	HS20071147	**Date Collected:**	7/23/20 1305
Sample Matrix:	Ground Water	**Date Received:**	7/27/20
Sample Name:	16WW33-200723-FD	**Units:**	µg/L
Lab Code:	E2000680-011	**Basis:**	NA

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

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	ND	U	1.00	0.500	0.250	10	7/30/20	8/19/20 13:57	362575	691702	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000680
Project:	HS20071147	**Date Collected:**	NA
Sample Matrix:	Ground Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	µg/L
Lab Code:	EQ2000318-01	**Basis:**	NA

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

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	ND	U	0.100	0.0500	0.0250	1	7/30/20	8/6/20 10:52	362575	689966	

Accuracy & Precision

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ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20071147
Sample Matrix: Ground Water

Service Request: E2000680
Date Analyzed: 8/ 6/20

Lab Control Sample Summary
Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
Prep Method: Method

Units: µg/L
Basis: NA

Extraction Lot: 362575

	Lab Control Sample EQ2000318-02			Duplicate Lab Control Sample EQ2000318-03					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Perchlorate	0.111	0.100	111	0.113	0.100	113	84 - 119	1	15

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

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000680
Project:	HS20071147	**Date Collected:**	NA
Sample Matrix:	Ground Water	**Date Received:**	NA
Sample Name:	Lab Control Sample	**Units:**	µg/L
Lab Code:	EQ2000318-02	**Basis:**	NA

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

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	**0.111**		0.100	0.0500	0.0250	1	7/30/20	8/6/20 11:09	362575	689966	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000680
Project:	HS20071147	**Date Collected:**	NA
Sample Matrix:	Ground Water	**Date Received:**	NA
Sample Name:	Duplicate Lab Control Sample	**Units:**	µg/L
Lab Code:	EQ2000318-03	**Basis:**	NA

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

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	**0.113**		0.100	0.0500	0.0250	1	7/30/20	8/6/20 11:17	362575	689966	

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000680
Project:	HS20071147	**Date Collected:**	NA
Sample Matrix:	Ground Water	**Date Received:**	NA
		Date Analyzed:	8/ 6/20

Matrix Spike Summary

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

Sample Name:	Batch QC	**Units:**	µg/L
Lab Code:	R2006334-001	**Basis:**	NA

Analytical Method: 6850
Prep Method: Method

		Batch QCMS				Batch QCDMS					
		Matrix Spike				**Duplicate Matrix Spike**					
		EQ2000318-04				EQ2000318-05					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Perchlorate	0.0413	0.148	0.100	107	0.151	0.100	110	84 - 119	2	15

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

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000680
Project:	HS20071147	**Date Collected:**	NA
Sample Matrix:	Ground Water	**Date Received:**	NA
Sample Name:	Batch QC	**Units:**	µg/L
Lab Code:	EQ2000318-04	**Basis:**	NA
Run Type:	Matrix Spike		

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

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	**0.148**		0.100	0.0500	0.0250	1	7/30/20	8/6/20 11:25	362575	689966	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000680
Project:	HS20071147	**Date Collected:**	NA
Sample Matrix:	Ground Water	**Date Received:**	NA
Sample Name:	Batch QC	**Units:**	µg/L
Lab Code:	EQ2000318-05	**Basis:**	NA
Run Type:	Duplicate Matrix Spike		

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

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	**0.151**		0.100	0.0500	0.0250	1	7/30/20	8/6/20 11:33	362575	689966	

Initial Calibration

ALS Environmental - Houston HRMS
10450 Stancliff Rd., Suite 210, Houston, TX 77099
Phone (713)266-1599 Fax (713)266-0130
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20200724

1st Review: Kneir
2nd Review: Hvan

ALS Environmental

Injection Log
LCMS01 -Shimadzu 8050

ICAL Date: 7/24/2020
Cal. Std. xp: 11/18/2020
ICAL ID: **EC2000016**

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

			File Name	Acquisition Method	Dilution	R	Comments
1	PERCHLORATE1		20200724_005	Perchlorate6850b.lcm	1x	☒	3100806-05
2	PERCHLORATE2		20200724_006	Perchlorate6850b.lcm	1x	☒	3100806-06
3	PERCHLORATE3		20200724_007	Perchlorate6850b.lcm	1x	☒	3100806-07
4	PERCHLORATE4		20200724_008	Perchlorate6850b.lcm	1x	☒	3100807-01
5	PERCHLORATE5		20200724_009	Perchlorate6850b.lcm	1x	☒	3100807-02
6	PERCHLORATE6		20200724_010	Perchlorate6850b.lcm	1x	☒	3100807-03
7	PERCHLORATE7		20200724_011	Perchlorate6850b.lcm	1x	☒	3100807-04
8	PERCHLORATE8		20200724_012	Perchlorate6850b.lcm	1x	☒	3100807-05
9	PERCHLORATE9		20200724_013	Perchlorate6850b.lcm	1x	☒	3100807-06
10	PERCHLORATE10		20200724_014	Perchlorate6850b.lcm	1x	☒	3100807-07
11	IB		20200724_015	Perchlorate6850b.lcm	1x	☒	
12	PERCHLORATEICV		20200724_016	Perchlorate6850b.lcm	1x	☒	3100807-08
13	IB		20200724_017	Perchlorate6850b.lcm	1x	☒	
14	LODV		20200724_018	Perchlorate6850b.lcm	1x	☒	
15	ICS		20200724_019	Perchlorate6850b.lcm	1x	☒	
16	PERCHLORATE7		20200724_020	Perchlorate6850b.lcm	1x	☒	3100807-04
17	EQ2000302-04X10		20200724_021	Perchlorate6850b.lcm	10x	☒	
18	EQ2000302-05X10DNU		20200724_022	Perchlorate6850b.lcm	10x	☒	
19	E2000626-001X2		20200724_023	Perchlorate6850b.lcm	2x	☒	
20	E2000627-001X10		20200724_024	Perchlorate6850b.lcm	10x	☒	
21	E2000627-005X100		20200724_025	Perchlorate6850b.lcm	100x	☒	
22	E2000627-006X100		20200724_026	Perchlorate6850b.lcm	100x	☒	
23	E2000627-009X1000		20200724_027	Perchlorate6850b.lcm	1000x	☒	
24	E2000640-001X200		20200724_028	Perchlorate6850b.lcm	200x	☒	
25	PERCHLORATE7		20200724_029	Perchlorate6850b.lcm	1x	☒	3100807-04
26	E2000660-001X10		20200724_030	Perchlorate6850b.lcm	10x	☒	
27	E2000627-004X10		20200724_031	Perchlorate6850b.lcm	10x	☒	
28	PERCHLORATE7		20200724_032	Perchlorate6850b.lcm	1x	☒	3100807-04
29	EQ2000302-05X10		20200724_033	Perchlorate6850b.lcm	10x	☒	
30	PERCHLORATE7		20200724_034	Perchlorate6850b.lcm	1x	☒	3100807-04
31	E2000660-003X10		20200724_035	Perchlorate6850b.lcm	10x	☒	
32	E2000660-004X10		20200724_036	Perchlorate6850b.lcm	10x	☒	
33	E2000660-005X2		20200724_037	Perchlorate6850b.lcm	2x	☒	
34	E2000660-006X10		20200724_038	Perchlorate6850b.lcm	10x	☒	
35	PERCHLORATE7		20200724_039	Perchlorate6850b.lcm	1x	☒	3100807-04
36	EQ2000303-01		20200724_040	Perchlorate6850b.lcm	1x	☒	
37	EQ2000303-02		20200724_041	Perchlorate6850b.lcm	1x	☒	
38	EQ2000303-03		20200724_042	Perchlorate6850b.lcm	1x	☒	
39	E2000641-001X20		20200724_043	Perchlorate6850b.lcm	20x	☒	
40	E2000641-002X20		20200724_044	Perchlorate6850b.lcm	20x	☒	
41	E2000641-003X10		20200724_045	Perchlorate6850b.lcm	10x	☒	
42	E2000641-004X20		20200724_046	Perchlorate6850b.lcm	20x	☒	
43	E2000641-005X10		20200724_047	Perchlorate6850b.lcm	10x	☒	
44	E2000641-006X10		20200724_048	Perchlorate6850b.lcm	10x	☒	
45	E2000641-007X10		20200724_049	Perchlorate6850b.lcm	10x	☒	
46	PERCHLORATE7		20200724_050	Perchlorate6850b.lcm	1x	☒	3100807-04
47	E2000641-008X10		20200724_051	Perchlorate6850b.lcm	10x	☒	
48	E2000641-009X10		20200724_052	Perchlorate6850b.lcm	10x	☒	
49	E2000648-001X10		20200724_053	Perchlorate6850b.lcm	10x	☒	
50	E2000648-002X10		20200724_054	Perchlorate6850b.lcm	10x	☒	
51	E2000648-003X20		20200724_055	Perchlorate6850b.lcm	20x	☒	
52	E2000648-005X10		20200724_056	Perchlorate6850b.lcm	10x	☒	

Initial Calibration - Detailed Report

Calibration ID: EC2000016 **Instrument ID:** E-LCMS-01
Column Name: 1

#	Lab Code	Sample Name	File Location	Aquisition Date
01	EC2000016-01	PERCHLORATE1	20200724_005	07/24/2020 11:48
02	EC2000016-02	PERCHLORATE2	20200724_006	07/24/2020 11:56
03	EC2000016-03	PERCHLORATE3	20200724_007	07/24/2020 12:04
04	EC2000016-04	PERCHLORATE4	20200724_008	07/24/2020 12:11
05	EC2000016-05	PERCHLORATE5	20200724_009	07/24/2020 12:19
06	EC2000016-06	PERCHLORATE6	20200724_010	07/24/2020 12:27
07	EC2000016-07	PERCHLORATE7	20200724_011	07/24/2020 12:35
08	EC2000016-08	PERCHLORATE8	20200724_012	07/24/2020 12:43
09	EC2000016-09	PERCHLORATE9	20200724_013	07/24/2020 12:51
10	EC2000016-10	PERCHLORATE10	20200724_014	07/24/2020 12:59

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

Perchlorate **Average RF** **RSD = 4.659** **Average RF = 0.121**

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.1000	0.1283	02	0.5000	0.13	03	0.7000	0.1207	04	1.0000	0.1251
05	2.0000	0.1211	06	5.0000	0.1202	07	10.0000	0.1211	08	20.0000	0.1168
09	30.0000	0.1121	10	50.0000	0.1148						

Analyte

Perchlorate

#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D
01	0.1000	0.106	6.0	02	0.5000	0.537	7.4	03	0.7000	0.698	-0.3
04	1.0000	1.03	3.4	05	2.0000	2.00	0.1	06	5.0000	4.97	-0.7
07	10.0000	10.0	0.1	08	20.0000	19.3	-3.5	09	30.0000	27.8	-7.3
10	50.0000	47.4	-5.1								

Initial Calibration Verification Summary Report

Calibration ID:	EC2000016	**Instrument ID:**	E-LCMS-01
Datafile ID:	20200724_016	**Column Name:**	1

Analyte	Lab Code	Type	Curve Fit	True Value	Calc Conc	Units	Result	Criteria
Perchlorate	EC2000016-11	T	Average RF	10	9.867	ng/mL	-1.3	<= 15

ALS Group Houston

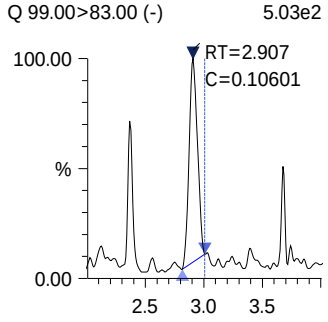
PERCHLORATE1

Date acquired: 7/24/2020 11:48:19 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200724\20200724_005.lcd
Vial: 5 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE1	7/24/2020 11:48:19 AM	2348	0.10601	20200724_005	2.907	25.0000	1.0000	5
Sodium Perchlorate-18O4_IS	PERCHLORATE1	7/24/2020 11:48:19 AM	183001	1.00000	20200724_005	2.903	25.0000	1.0000	5

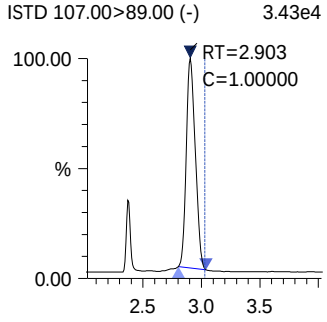
Perchlorate

Conc 0.10601
Area 2348



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 183001



ALS Group Houston

PERCHLORATE2

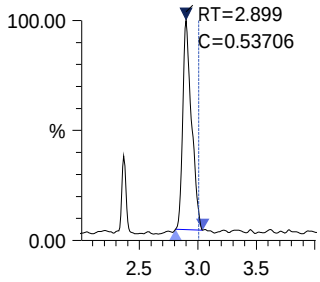
Date acquired: 7/24/2020 11:56:11 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200724\20200724_006.lcd
Vial: 6 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE2	7/24/2020 11:56:11 AM	11773	0.53706	20200724_006	2.899	25.0000	1.0000	6
Sodium Perchlorate-18O4_IS	PERCHLORATE2	7/24/2020 11:56:11 AM	181125	1.00000	20200724_006	2.898	25.0000	1.0000	6

Perchlorate

Conc 0.53706
Area 11773

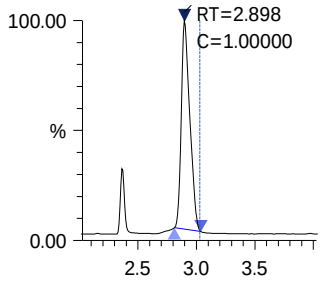
Q 99.00>83.00 (-) 2.32e3



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 181125

ISTD 107.00>89.00 (-) 3.62e4



ALS Group Houston

PERCHLORATE3

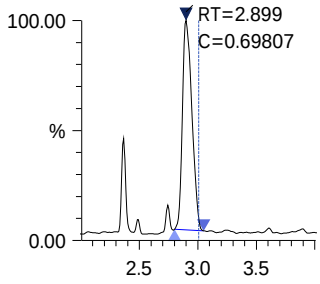
Date acquired: 7/24/2020 12:04:05 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200724\20200724_007.lcd
Vial: 7 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE3	7/24/2020 12:04:05 PM	15258	0.69807	20200724_007	2.899	25.0000	1.0000	7
Sodium Perchlorate-18O4_IS	PERCHLORATE3	7/24/2020 12:04:05 PM	180602	1.00000	20200724_007	2.896	25.0000	1.0000	7

Perchlorate

Conc 0.69807
Area 15258

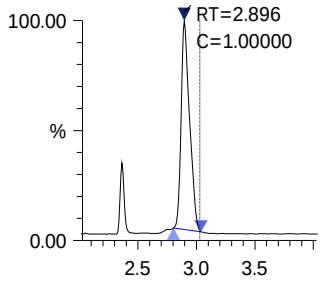
Q 99.00>83.00 (-) 2.79e3



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 180602

ISTD 107.00>89.00 (-) 3.65e4



ALS Group Houston

PERCHLORATE4

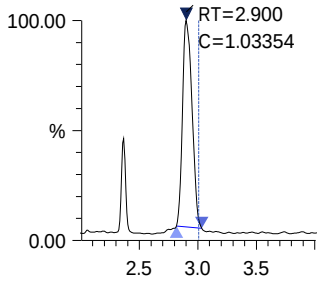
Date acquired: 7/24/2020 12:11:58 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200724\20200724_008.lcd
Vial: 8 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE4	7/24/2020 12:11:58 PM	20922	1.03354	20200724_008	2.900	25.0000	1.0000	8
Sodium Perchlorate-18O4_IS	PERCHLORATE4	7/24/2020 12:11:58 PM	167260	1.00000	20200724_008	2.902	25.0000	1.0000	8

Perchlorate

Conc 1.03354
Area 20922

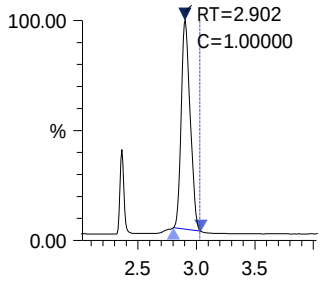
Q 99.00>83.00 (-) 3.87e3



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 167260

ISTD 107.00>89.00 (-) 3.17e4



ALS Group Houston

PERCHLORATE5

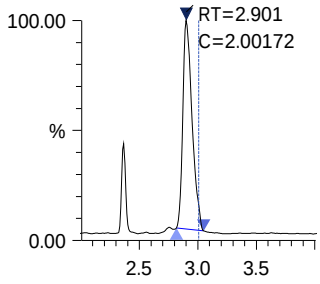
Date acquired: 7/24/2020 12:19:50 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200724\20200724_009.lcd
Vial: 9 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE5	7/24/2020 12:19:50 PM	39343	2.00172	20200724_009	2.901	25.0000	1.0000	9
Sodium Perchlorate-18O4_IS	PERCHLORATE5	7/24/2020 12:19:50 PM	162397	1.00000	20200724_009	2.899	25.0000	1.0000	9

Perchlorate

Conc 2.00172
Area 39343

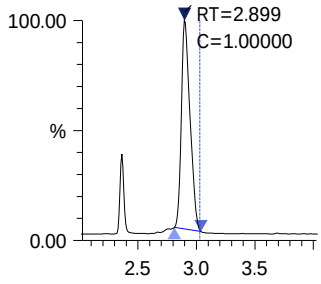
Q 99.00>83.00 (-) 7.39e3



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 162397

ISTD 107.00>89.00 (-) 3.19e4



ALS Group Houston

PERCHLORATE6

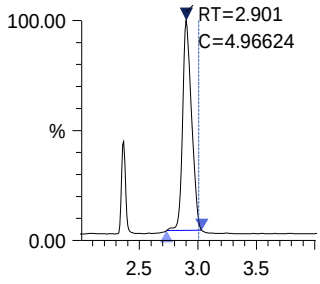
Date acquired: 7/24/2020 12:27:42 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200724\20200724_010.lcd
Vial: 10 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE6	7/24/2020 12:27:42 PM	102216	4.96624	20200724_010	2.901	25.0000	1.0000	10
Sodium Perchlorate-18O4_IS	PERCHLORATE6	7/24/2020 12:27:42 PM	170060	1.00000	20200724_010	2.900	25.0000	1.0000	10

Perchlorate

Conc 4.96624
Area 102216

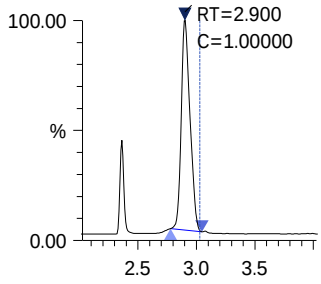
Q 99.00>83.00 (-) 1.97e4



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 170060

ISTD 107.00>89.00 (-) 3.28e4



ALS Group Houston

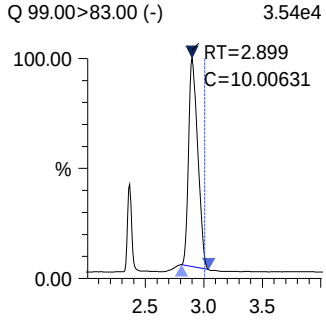
PERCHLORATE7

Date acquired: 7/24/2020 12:35:33 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200724\20200724_011.lcd
Vial: 4 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE7	7/24/2020 12:35:33 PM	187110	10.00631	20200724_011	2.899	25.0000	1.0000	4
Sodium Perchlorate-18O4_IS	PERCHLORATE7	7/24/2020 12:35:33 PM	154502	1.00000	20200724_011	2.897	25.0000	1.0000	4

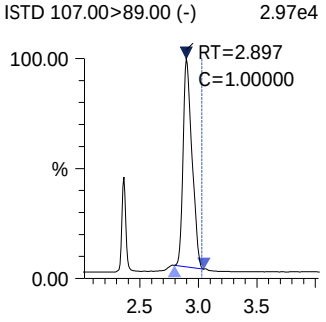
Perchlorate

Conc 10.00631
Area 187110



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 154502



ALS Group Houston

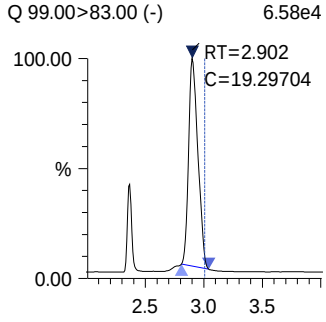
PERCHLORATE8

Date acquired: 7/24/2020 12:43:26 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200724\20200724_012.lcd
Vial: 11 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE8	7/24/2020 12:43:26 PM	349524	19.29704	20200724_012	2.902	25.0000	1.0000	11
Sodium Perchlorate-18O4_IS	PERCHLORATE8	7/24/2020 12:43:26 PM	149657	1.00000	20200724_012	2.900	25.0000	1.0000	11

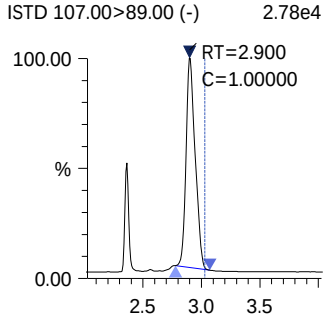
Perchlorate

Conc 19.29704
Area 349524



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 149657



ALS Group Houston

PERCHLORATE9

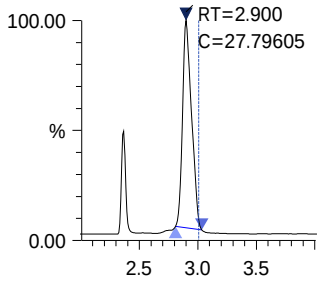
Date acquired: 7/24/2020 12:51:22 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200724\20200724_013.lcd
Vial: 12 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE9	7/24/2020 12:51:22 PM	465757	27.79605	20200724_013	2.900	25.0000	1.0000	12
Sodium Perchlorate-18O4_IS	PERCHLORATE9	7/24/2020 12:51:22 PM	138448	1.00000	20200724_013	2.898	25.0000	1.0000	12

Perchlorate

Conc 27.79605
Area 465757

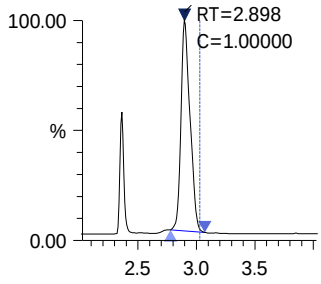
Q 99.00>83.00 (-) 9.05e4



Sodium Perchlorate-18O4 _IS

Conc 1.00000
Area 138448

ISTD 107.00>89.00 (-) 2.59e4



ALS Group Houston

PERCHLORATE10

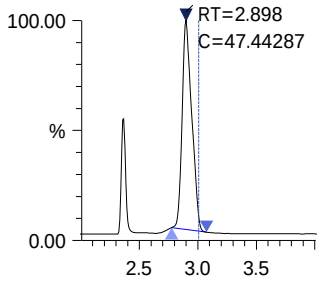
Date acquired: 7/24/2020 12:59:14 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200724\20200724_014.lcd
Vial: 13 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE10	7/24/2020 12:59:14 PM	708682	47.44287	20200724_014	2.898	25.0000	1.0000	13
Sodium Perchlorate-18O4_IS	PERCHLORATE10	7/24/2020 12:59:14 PM	123422	1.00000	20200724_014	2.896	25.0000	1.0000	13

Perchlorate

Conc 47.44287
Area 708682

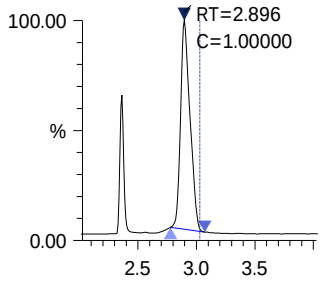
Q 99.00>83.00 (-) 1.28e5



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 123422

ISTD 107.00>89.00 (-) 2.23e4



ALS Group Houston

PERCHLORATEICV

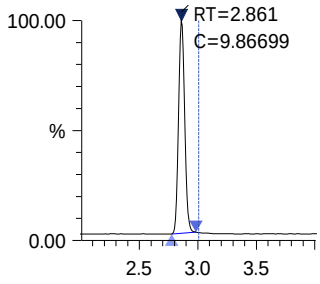
Date acquired: 7/24/2020 1:28:19 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200724\20200724_016.lcd
Vial: 14 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATEICV	7/24/2020 1:28:19 PM	231631	9.86699	20200724_016	2.861	25.0000	1.0000	14
Sodium Perchlorate-18O4_IS	PERCHLORATEICV	7/24/2020 1:28:19 PM	193964	1.00000	20200724_016	2.859	25.0000	1.0000	14

Perchlorate

Conc 9.86699
Area 231631

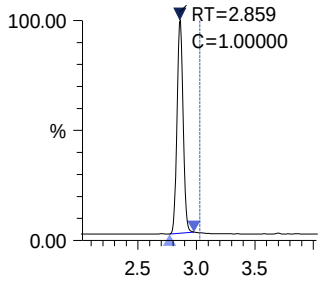
Q 99.00>83.00 (-) 6.30e4



Sodium Perchlorate-18O4 _IS

Conc 1.00000
Area 193964

ISTD 107.00>89.00 (-) 5.33e4



20200819

1st Review: Kneir
2nd Review: Hvan

Injection Log
LCMS01 -Shimadzu 8050

ICAL Date: 7/19/2020
Cal. Std. xp: 11/18/2020
ICAL ID: **EC2000022**

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

			File Name	Acquisition Method	Dilution	R	Comments	Date/Time
1	PERCHLORATE1		20200819_005	Perchlorate6850b.lcm	1x	☒	3100806-05	8/19/2020 10:42
2	PERCHLORATE2		20200819_006	Perchlorate6850b.lcm	1x	☒	3100806-06	8/19/2020 10:50
3	PERCHLORATE3		20200819_007	Perchlorate6850b.lcm	1x	☒	3100806-07	8/19/2020 10:58
4	PERCHLORATE4		20200819_008	Perchlorate6850b.lcm	1x	☒	3100807-01	8/19/2020 11:06
5	PERCHLORATE5		20200819_009	Perchlorate6850b.lcm	1x	☒	3100807-02	8/19/2020 11:14
6	PERCHLORATE6		20200819_010	Perchlorate6850b.lcm	1x	☒	3100807-03	8/19/2020 11:22
7	PERCHLORATE7		20200819_011	Perchlorate6850b.lcm	1x	☒	3100807-04	8/19/2020 11:30
8	PERCHLORATE8		20200819_012	Perchlorate6850b.lcm	1x	☒	3100807-05	8/19/2020 11:38
9	PERCHLORATE9		20200819_013	Perchlorate6850b.lcm	1x	☒	3100807-06	8/19/2020 11:45
10	PERCHLORATE10		20200819_014	Perchlorate6850b.lcm	1x	☒	3100807-07	8/19/2020 11:53
11	PERCHLORATEICV		20200819_016	Perchlorate6850b.lcm	1x	☒	3100807-08	8/19/2020 12:09
12	LODV		20200819_017	Perchlorate6850b.lcm	1x	☒		8/19/2020 12:17
13	EQ2000337-01		20200819_019	Perchlorate6850b.lcm	1x	☒		8/19/2020 12:38
14	EQ2000337-02		20200819_020	Perchlorate6850b.lcm	1x	☒		8/19/2020 12:46
15	EQ2000337-03		20200819_021	Perchlorate6850b.lcm	1x	☒		8/19/2020 12:53
16	E2000723-001		20200819_022	Perchlorate6850b.lcm	1x	☒		8/19/2020 13:01
17	PERCHLORATE7		20200819_023	Perchlorate6850b.lcm	1x	☒	3100807-04	8/19/2020 13:09
18	E2000680-002X10		20200819_024	Perchlorate6850b.lcm	10x	☒		8/19/2020 13:17
19	E2000680-004X2		20200819_025	Perchlorate6850b.lcm	2x	☒		8/19/2020 13:25
20	E2000680-007X10		20200819_026	Perchlorate6850b.lcm	10x	☒		8/19/2020 13:33
21	E2000680-009X10		20200819_027	Perchlorate6850b.lcm	10x	☒		8/19/2020 13:41
22	E2000680-010X10		20200819_028	Perchlorate6850b.lcm	10x	☒		8/19/2020 13:49
23	E2000680-011X10		20200819_029	Perchlorate6850b.lcm	10x	☒		8/19/2020 13:57
24	EQ2000327-01		20200819_030	Perchlorate6850b.lcm	1x	☒		8/19/2020 14:04
25	EQ2000327-02		20200819_031	Perchlorate6850b.lcm	1x	☒		8/19/2020 14:12
26	EQ2000327-03		20200819_033	Perchlorate6850b.lcm	1x	☒		8/19/2020 14:21
27	PERCHLORATE7		20200819_034	Perchlorate6850b.lcm	1x	☒	3100807-04	8/19/2020 14:29
28	E2000735-001		20200819_035	Perchlorate6850b.lcm	1x	☒		8/19/2020 14:37
29	E2000735-002		20200819_036	Perchlorate6850b.lcm	1x	☒		8/19/2020 14:45
30	E2000735-003		20200819_037	Perchlorate6850b.lcm	1x	☒		8/19/2020 14:53
31	E2000735-004		20200819_038	Perchlorate6850b.lcm	1x	☒		8/19/2020 15:01
32	E2000735-005		20200819_039	Perchlorate6850b.lcm	1x	☒		8/19/2020 15:09
33	E2000735-006		20200819_040	Perchlorate6850b.lcm	1x	☒		8/19/2020 15:16
34	E2000735-007		20200819_041	Perchlorate6850b.lcm	1x	☒		8/19/2020 15:24
35	E2000735-008		20200819_042	Perchlorate6850b.lcm	1x	☒		8/19/2020 15:32
36	E2000735-009		20200819_043	Perchlorate6850b.lcm	1x	☒		8/19/2020 15:44
37	PERCHLORATE7		20200819_044	Perchlorate6850b.lcm	1x	☒	3100807-04	8/19/2020 15:52
38	E2000735-010		20200819_045	Perchlorate6850b.lcm	1x	☒		8/19/2020 16:00
39	E2000735-011		20200819_046	Perchlorate6850b.lcm	1x	☒		8/19/2020 16:08
40	E2000735-013		20200819_047	Perchlorate6850b.lcm	1x	☒		8/19/2020 16:16
41	E2000735-014		20200819_048	Perchlorate6850b.lcm	1x	☒		8/19/2020 16:24
42	E2000735-015		20200819_049	Perchlorate6850b.lcm	1x	☒		8/19/2020 16:32
43	E2000735-016		20200819_050	Perchlorate6850b.lcm	1x	☒		8/19/2020 16:40
44	E2000735-017		20200819_051	Perchlorate6850b.lcm	1x	☒		8/19/2020 16:47
45	E2000735-018		20200819_052	Perchlorate6850b.lcm	1x	☒		8/19/2020 16:55
46	E2000735-019		20200819_053	Perchlorate6850b.lcm	1x	☒		8/19/2020 17:03
47	PERCHLORATE7		20200819_054	Perchlorate6850b.lcm	1x	☒	3100807-04	8/19/2020 17:11
48	EQ2000339-01		20200819_055	Perchlorate6850b.lcm	1x	☒		8/19/2020 17:19
49	EQ2000339-02		20200819_056	Perchlorate6850b.lcm	1x	☒		8/19/2020 17:27
50	EQ2000339-03		20200819_057	Perchlorate6850b.lcm	1x	☒		8/19/2020 17:35
51	E2000712-001		20200819_058	Perchlorate6850b.lcm	1x	☒		8/19/2020 17:43
52	E2000712-002		20200819_059	Perchlorate6850b.lcm	1x	☒		8/19/2020 17:51
53	E2000712-003		20200819_060	Perchlorate6850b.lcm	1x	☒		8/19/2020 17:59
54	IB		20200819_061	Perchlorate6850b.lcm	1x	☒		8/19/2020 18:08
55	IB		20200819_062	Perchlorate6850b.lcm	1x	☒		8/19/2020 18:16
56	IB		20200819_063	Perchlorate6850b.lcm	1x	☒		8/19/2020 18:24
57	IB		20200819_064	Perchlorate6850b.lcm	1x	☒		8/19/2020 18:32
58	PERCHLORATE7		20200819_065	Perchlorate6850b.lcm	1x	☒	3100807-04	8/19/2020 18:40
59	E2000712-004		20200819_066	Perchlorate6850b.lcm	1x	☒		8/19/2020 18:48
60	E2000712-005		20200819_067	Perchlorate6850b.lcm	1x	☒		8/19/2020 18:56
61	E2000712-006		20200819_068	Perchlorate6850b.lcm	1x	☒		8/19/2020 19:04

20200819

1st Review: Kneir
2nd Review: Hvan

Injection Log
LCMS01 -Shimadzu 8050

ICAL Date: 7/19/2020
Cal. Std. xp: 11/18/2020
ICAL ID: **EC2000022**

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

			File Name	Acquisition Method	Dilution	R	Comments	Date/Time
62	E2000712-007		20200819_069	Perchlorate6850b.lcm	1x	☒		8/19/2020 19:12
63	E2000694-012		20200819_070	Perchlorate6850b.lcm	1x	☒		8/19/2020 19:19
64	E2000694-012MS		20200819_071	Perchlorate6850b.lcm	1x	☒		8/19/2020 19:27
65	E2000694-012MSD		20200819_072	Perchlorate6850b.lcm	1x	☒		8/19/2020 19:35
66	E2000711-001		20200819_073	Perchlorate6850b.lcm	1x	☒		8/19/2020 19:43
67	E2000711-002		20200819_074	Perchlorate6850b.lcm	1x	☒		8/19/2020 19:51
68	E2000724-001		20200819_075	Perchlorate6850b.lcm	1x	☒		8/19/2020 19:59
69	PERCHLORATE7		20200819_076	Perchlorate6850b.lcm	1x	☒	3100807-04	8/19/2020 20:07
70	E2000724-002		20200819_077	Perchlorate6850b.lcm	1x	☒		8/19/2020 20:15
71	E2000724-003		20200819_078	Perchlorate6850b.lcm	1x	☒		8/19/2020 20:22
72	E2000724-004		20200819_079	Perchlorate6850b.lcm	1x	☒		8/19/2020 20:30
73	E2000728-001		20200819_080	Perchlorate6850b.lcm	1x	☒		8/19/2020 20:38
74	E2000728-002		20200819_081	Perchlorate6850b.lcm	1x	☒		8/19/2020 20:46
75	E2000729-001		20200819_082	Perchlorate6850b.lcm	1x	☒		8/19/2020 20:54
76	R2006493-001		20200819_083	Perchlorate6850b.lcm	1x	☒		8/19/2020 21:02
77	R2006493-003		20200819_084	Perchlorate6850b.lcm	1x	☒		8/19/2020 21:10
78	R2006493-005		20200819_085	Perchlorate6850b.lcm	1x	☒		8/19/2020 21:18
79	R2006493-007		20200819_086	Perchlorate6850b.lcm	1x	☒		8/19/2020 21:26
80	PERCHLORATE7		20200819_087	Perchlorate6850b.lcm	1x	☒	3100807-04	8/19/2020 21:33
81	R2006493-009		20200819_088	Perchlorate6850b.lcm	1x	☒		8/19/2020 21:41
82	R2006493-011		20200819_089	Perchlorate6850b.lcm	1x	☒		8/19/2020 21:49
83	R2006493-013		20200819_090	Perchlorate6850b.lcm	1x	☒		8/19/2020 21:57
84	R2006493-015		20200819_091	Perchlorate6850b.lcm	1x	☒		8/19/2020 22:05
85	PERCHLORATE7		20200819_092	Perchlorate6850b.lcm	1x	☒	3100807-04	8/19/2020 22:13
86	EQ2000338-01		20200819_093	Perchlorate6850b.lcm	1x	☒		8/19/2020 22:21
87	EQ2000338-02		20200819_094	Perchlorate6850b.lcm	1x	☒		8/19/2020 22:29
88	EQ2000338-03		20200819_095	Perchlorate6850b.lcm	1x	☒		8/19/2020 22:37
89	EQ2000338-04		20200819_096	Perchlorate6850b.lcm	1x	☒		8/19/2020 22:44
90	EQ2000338-05		20200819_097	Perchlorate6850b.lcm	1x	☒		8/19/2020 22:52
91	R2006532-001		20200819_098	Perchlorate6850b.lcm	1x	☒		8/19/2020 23:00
92	R2006532-003		20200819_099	Perchlorate6850b.lcm	1x	☒		8/19/2020 23:08
93	R2006532-005		20200819_100	Perchlorate6850b.lcm	1x	☒		8/19/2020 23:16
94	R2006532-007		20200819_101	Perchlorate6850b.lcm	1x	☒		8/19/2020 23:24
95	R2006532-009		20200819_102	Perchlorate6850b.lcm	1x	☒		8/19/2020 23:32
96	PERCHLORATE7		20200819_103	Perchlorate6850b.lcm	1x	☒	3100807-04	8/19/2020 23:40
97	R2006532-011		20200819_104	Perchlorate6850b.lcm	1x	☒		8/19/2020 23:47
98	R2006555-002		20200819_105	Perchlorate6850b.lcm	1x	☒		8/19/2020 23:55
99	R2006555-004		20200819_106	Perchlorate6850b.lcm	1x	☒		8/20/2020 0:03
100	R2006555-006		20200819_107	Perchlorate6850b.lcm	1x	☒		8/20/2020 0:11
101	R2006555-008		20200819_108	Perchlorate6850b.lcm	1x	☒		8/20/2020 0:19
102	R2006555-010		20200819_109	Perchlorate6850b.lcm	1x	☒		8/20/2020 0:27
103	R2006555-012		20200819_110	Perchlorate6850b.lcm	1x	☒		8/20/2020 0:35
104	R2006617-001		20200819_111	Perchlorate6850b.lcm	1x	☒		8/20/2020 0:43
105	R2006617-003		20200819_112	Perchlorate6850b.lcm	1x	☒		8/20/2020 0:50
106	R2006617-005		20200819_113	Perchlorate6850b.lcm	1x	☒		8/20/2020 0:58
107	PERCHLORATE7		20200819_114	Perchlorate6850b.lcm	1x	☒	3100807-04	8/20/2020 1:06
108	R2006617-007		20200819_115	Perchlorate6850b.lcm	1x	☒		8/20/2020 1:14
109	R2006617-009		20200819_116	Perchlorate6850b.lcm	1x	☒		8/20/2020 1:22
110	R2006617-010		20200819_117	Perchlorate6850b.lcm	1x	☒		8/20/2020 1:30
111	PERCHLORATE7		20200819_118	Perchlorate6850b.lcm	1x	☒	3100807-04	8/20/2020 1:38

Initial Calibration - Detailed Report

Calibration ID: EC2000022 **Instrument ID:** E-LCMS-01
Column Name: 1

#	Lab Code	Sample Name	File Location	Aquisition Date
01	EC2000022-01	PERCHLORATE1	20200819_005	08/19/2020 10:42
02	EC2000022-02	PERCHLORATE2	20200819_006	08/19/2020 10:50
03	EC2000022-03	PERCHLORATE3	20200819_007	08/19/2020 10:58
04	EC2000022-04	PERCHLORATE4	20200819_008	08/19/2020 11:06
05	EC2000022-05	PERCHLORATE5	20200819_009	08/19/2020 11:14
06	EC2000022-06	PERCHLORATE6	20200819_010	08/19/2020 11:22
07	EC2000022-07	PERCHLORATE7	20200819_011	08/19/2020 11:30
08	EC2000022-08	PERCHLORATE8	20200819_012	08/19/2020 11:38
09	EC2000022-09	PERCHLORATE9	20200819_013	08/19/2020 11:45
10	EC2000022-10	PERCHLORATE10	20200819_014	08/19/2020 11:53

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

Perchlorate **Average RF** **RSD = 5.952** **Average RF = 0.1131**

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.1000	0.1299	02	0.5000	0.113	03	0.7000	0.1123	04	1.0000	0.1147
05	2.0000	0.1134	06	5.0000	0.1082	07	10.0000	0.1069	08	20.0000	0.1158
09	30.0000	0.1094	10	50.0000	0.107						

Analyte

Perchlorate

#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D
01	0.1000	0.115	14.9	02	0.5000	0.500	-0.1	03	0.7000	0.695	-0.7
04	1.0000	1.01	1.5	05	2.0000	2.01	0.3	06	5.0000	4.78	-4.3
07	10.0000	9.46	-5.4	08	20.0000	20.5	2.4	09	30.0000	29.0	-3.2
10	50.0000	47.3	-5.4								

Initial Calibration Verification Summary Report

Calibration ID:	EC2000022	**Instrument ID:**	E-LCMS-01
Datafile ID:	20200819_016	**Column Name:**	1

Analyte	Lab Code	Type	Curve Fit	True Value	Calc Conc	Units	Result	Criteria
Perchlorate	EC2000022-11	T	Average RF	10	9.352	ng/mL	-6.5	<= 15

ALS Group Houston

PERCHLORATE1

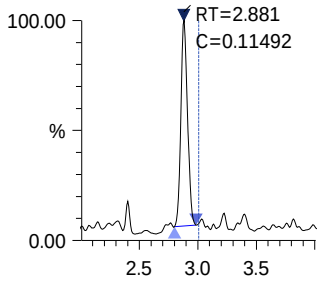
Date acquired: 8/19/2020 10:42:37 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200819\20200819_005.lcd
Vial: 5 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE1	8/19/2020 10:42:37 AM	3802	0.11492	20200819_005	2.881	25.0000	1.0000	5
Sodium Perchlorate-18O4_IS	PERCHLORATE1	8/19/2020 10:42:37 AM	292622	1.00000	20200819_005	2.877	25.0000	1.0000	5

Perchlorate

Conc 0.11492
Area 3802

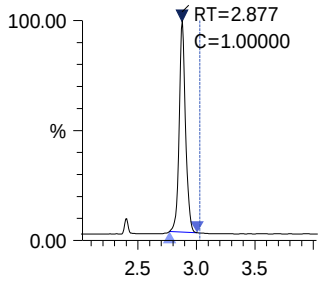
Q 99.00>83.00 (-) 1.00e3



Sodium Perchlorate-18O4 _IS

Conc 1.00000
Area 292622

ISTD 107.00>89.00 (-) 7.83e4



ALS Group Houston

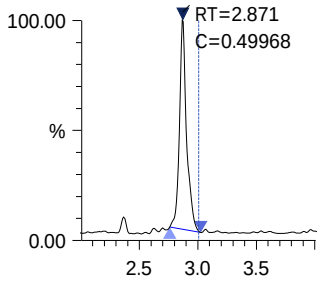
PERCHLORATE2

Date acquired: 8/19/2020 10:50:33 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200819\20200819_006.lcd
Vial: 6 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE2	8/19/2020 10:50:33 AM	18036	0.49968	20200819_006	2.871	25.0000	1.0000	6
Sodium Perchlorate-18O4_IS	PERCHLORATE2	8/19/2020 10:50:33 AM	319274	1.00000	20200819_006	2.870	25.0000	1.0000	6

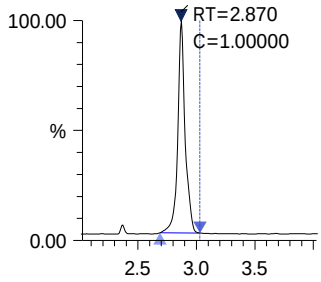
Perchlorate

Conc 0.49968
Area 18036
Q 99.00>83.00 (-) 4.32e3



Sodium Perchlorate-18O4 _IS

Conc 1.00000
Area 319274
ISTD 107.00>89.00 (-) 7.26e4



ALS Group Houston

PERCHLORATE3

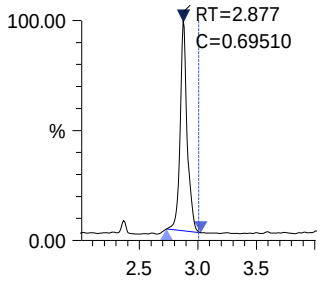
Date acquired: 8/19/2020 10:58:27 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200819\20200819_007.lcd
Vial: 7 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE3	8/19/2020 10:58:27 AM	24394	0.69510	20200819_007	2.877	25.0000	1.0000	7
Sodium Perchlorate-18O4_IS	PERCHLORATE3	8/19/2020 10:58:27 AM	310422	1.00000	20200819_007	2.874	25.0000	1.0000	7

Perchlorate

Conc 0.69510
Area 24394

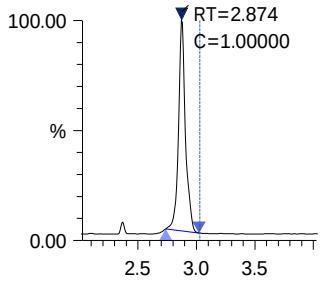
Q 99.00>83.00 (-) 5.99e3



Sodium Perchlorate-18O4 _IS

Conc 1.00000
Area 310422

ISTD 107.00>89.00 (-) 7.56e4



ALS Group Houston

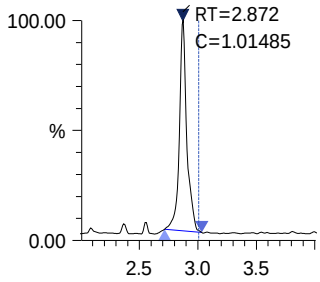
PERCHLORATE4

Date acquired: 8/19/2020 11:06:22 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200819\20200819_008.lcd
Vial: 8 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE4	8/19/2020 11:06:22 AM	33591	1.01485	20200819_008	2.872	25.0000	1.0000	8
Sodium Perchlorate-18O4_IS	PERCHLORATE4	8/19/2020 11:06:22 AM	292786	1.00000	20200819_008	2.872	25.0000	1.0000	8

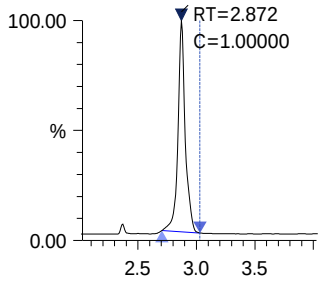
Perchlorate

Conc 1.01485
Area 33591
Q 99.00>83.00 (-) 7.70e3



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 292786
ISTD 107.00>89.00 (-) 6.80e4



ALS Group Houston

PERCHLORATE5

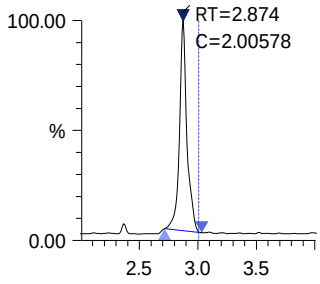
Date acquired: 8/19/2020 11:14:18 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200819\20200819_009.lcd
Vial: 9 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE5	8/19/2020 11:14:18 AM	65114	2.00578	20200819_009	2.874	25.0000	1.0000	9
Sodium Perchlorate-18O4_IS	PERCHLORATE5	8/19/2020 11:14:18 AM	287158	1.00000	20200819_009	2.873	25.0000	1.0000	9

Perchlorate

Conc 2.00578
Area 65114

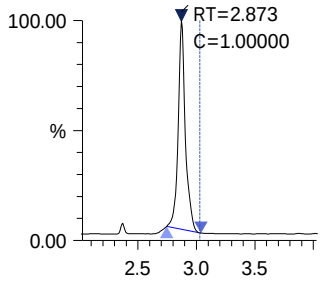
Q 99.00>83.00 (-) 1.49e4



Sodium Perchlorate-18O4 _IS

Conc 1.00000
Area 287158

ISTD 107.00>89.00 (-) 6.84e4



ALS Group Houston

PERCHLORATE6

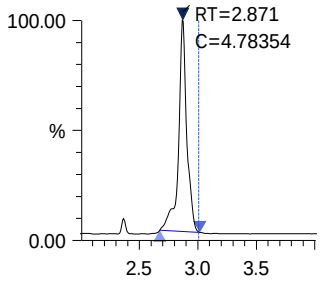
Date acquired: 8/19/2020 11:22:10 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200819\20200819_010.lcd
Vial: 10 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE6	8/19/2020 11:22:10 AM	167892	4.78354	20200819_010	2.871	25.0000	1.0000	10
Sodium Perchlorate-18O4_IS	PERCHLORATE6	8/19/2020 11:22:10 AM	310462	1.00000	20200819_010	2.870	25.0000	1.0000	10

Perchlorate

Conc 4.78354
Area 167892

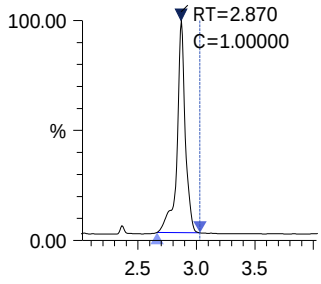
Q 99.00>83.00 (-) 3.45e4



Sodium Perchlorate-18O4 _IS

Conc 1.00000
Area 310462

ISTD 107.00>89.00 (-) 6.38e4



ALS Group Houston

PERCHLORATE7

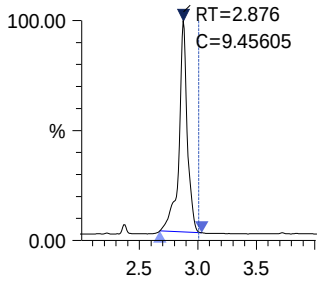
Date acquired: 8/19/2020 11:30:05 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200819\20200819_011.lcd
Vial: 4 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE7	8/19/2020 11:30:05 AM	309830	9.45605	20200819_011	2.876	25.0000	1.0000	4
Sodium Perchlorate-18O4_IS	PERCHLORATE7	8/19/2020 11:30:05 AM	289828	1.00000	20200819_011	2.875	25.0000	1.0000	4

Perchlorate

Conc 9.45605
Area 309830

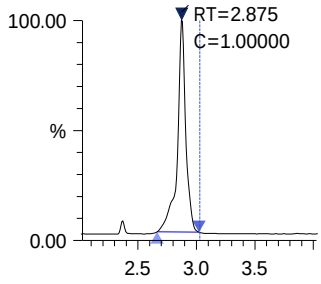
Q 99.00>83.00 (-) 6.35e4



Sodium Perchlorate-18O4 _IS

Conc 1.00000
Area 289828

ISTD 107.00>89.00 (-) 5.81e4



ALS Group Houston

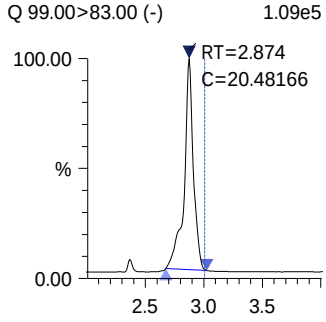
PERCHLORATE8

Date acquired: 8/19/2020 11:38:00 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200819\20200819_012.lcd
Vial: 11 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE8	8/19/2020 11:38:00 AM	587088	20.48166	20200819_012	2.874	25.0000	1.0000	11
Sodium Perchlorate-18O4_IS	PERCHLORATE8	8/19/2020 11:38:00 AM	253551	1.00000	20200819_012	2.873	25.0000	1.0000	11

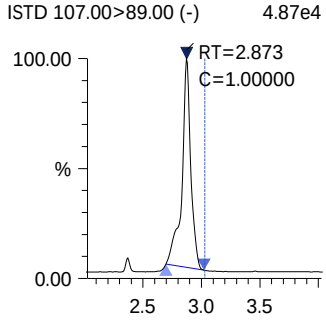
Perchlorate

Conc 20.48166
Area 587088



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 253551



ALS Group Houston

PERCHLORATE9

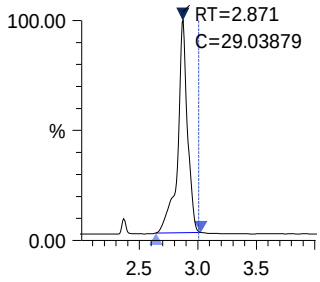
Date acquired: 8/19/2020 11:45:53 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200819\20200819_013.lcd
Vial: 12 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE9	8/19/2020 11:45:53 AM	849278	29.03879	20200819_013	2.871	25.0000	1.0000	12
Sodium Perchlorate-18O4_IS	PERCHLORATE9	8/19/2020 11:45:53 AM	258702	1.00000	20200819_013	2.870	25.0000	1.0000	12

Perchlorate

Conc 29.03879
Area 849278

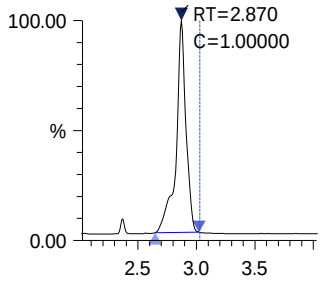
Q 99.00>83.00 (-) 1.48e5



Sodium Perchlorate-18O4 _IS

Conc 1.00000
Area 258702

ISTD 107.00>89.00 (-) 4.43e4



ALS Group Houston

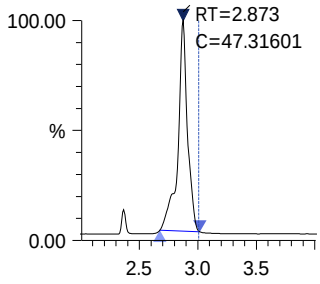
PERCHLORATE10

Date acquired: 8/19/2020 11:53:48 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200819\20200819_014.lcd
Vial: 13 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE10	8/19/2020 11:53:48 AM	1220253	47.31601	20200819_014	2.873	25.0000	1.0000	13
Sodium Perchlorate-18O4_IS	PERCHLORATE10	8/19/2020 11:53:48 AM	228123	1.00000	20200819_014	2.871	25.0000	1.0000	13

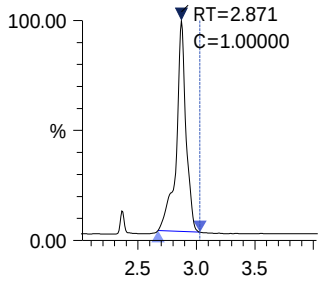
Perchlorate

Conc 47.31601
Area 1220253
Q 99.00>83.00 (-) 2.17e5



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 228123
ISTD 107.00>89.00 (-) 3.99e4



ALS Group Houston

PERCHLORATEICV

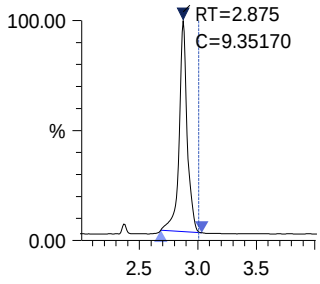
Date acquired: 8/19/2020 12:09:35 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200819\20200819_016.lcd
Vial: 14 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATEICV	8/19/2020 12:09:35 PM	294031	9.35170	20200819_016	2.875	25.0000	1.0000	14
Sodium Perchlorate-18O4_IS	PERCHLORATEICV	8/19/2020 12:09:35 PM	278118	1.00000	20200819_016	2.873	25.0000	1.0000	14

Perchlorate

Conc 9.35170
Area 294031

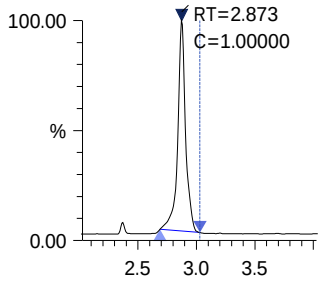
Q 99.00>83.00 (-) 6.27e4



Sodium Perchlorate-18O4 _IS

Conc 1.00000
Area 278118

ISTD 107.00>89.00 (-) 5.98e4



Chromatograms and Selected Ion Monitoring

ALS Environmental - Houston HRMS
10450 Stancliff Rd., Suite 320, Houston TX 77099
Phone (713)266-1599 Fax (713)266-0130
www.alsglobal.com

	20200730									**ICAL Date:**	7/24/2020
										Cal. Std. xp:	11/18/2020
1st Review:		Kneir			**Injection Log**					**ICAL ID:**	**EC2000016**
2nd Review:		Hvan			**LCMS01 -Shimadzu 8050**						
Mobile Phases			**A:** 0.75% Formic Acid/Water 3100807-09				**B:** MeOH 3100802-01				

		File Name	Acquisition Method	Dilution	R	Comments	Date/Time
1	null	20200730_001	Perchlorate6850b.lcm	1x	☒		7/30/2020 12:37
2	null	20200730_002	Perchlorate6850b.lcm	1x	☒		7/30/2020 12:41
3	IB	20200730_003	Perchlorate6850b.lcm	1x	☒		7/30/2020 12:47
4	IB	20200730_004	Perchlorate6850b.lcm	1x	☒		7/30/2020 12:55
5	LODV	20200730_005	Perchlorate6850b.lcm	1x	☒		7/30/2020 13:03
6	ICS	20200730_006	Perchlorate6850b.lcm	1x	☒		7/30/2020 13:10
7	PERCHLORATE7	20200730_007	Perchlorate6850b.lcm	1x	☒	3100807-04	7/30/2020 14:31
8	PERCHLORATE7	20200730_012	Perchlorate6850b.lcm	1x	☒	3100807-04	7/30/2020 15:40
9	EQ2000319-01	20200730_013	Perchlorate6850b.lcm	1x	☒		7/30/2020 15:47
10	EQ2000319-02	20200730_014	Perchlorate6850b.lcm	1x	☒		7/30/2020 15:55
11	EQ2000319-03	20200730_015	Perchlorate6850b.lcm	1x	☒		7/30/2020 16:03
12	E2000660-002	20200730_016	Perchlorate6850b.lcm	1x	☒		7/30/2020 16:11
13	E2000660-007	20200730_017	Perchlorate6850b.lcm	1x	☒		7/30/2020 16:19
14	E2000678-001	20200730_018	Perchlorate6850b.lcm	1x	☒		7/30/2020 16:27
15	E2000678-002	20200730_019	Perchlorate6850b.lcm	1x	☒		7/30/2020 16:35
16	PERCHLORATE7	20200730_021	Perchlorate6850b.lcm	1x	☒	3100807-04	7/30/2020 16:51
17	E2000678-001X2	20200730_022	Perchlorate6850b.lcm	2x	☒		7/30/2020 17:19
18	E2000539-004X50000	20200730_023	Perchlorate6850b.lcm	50000x	☒		7/30/2020 18:09
19	PERCHLORATE7	20200730_025	Perchlorate6850b.lcm	1x	☒	3100807-04	7/30/2020 18:16
20	EQ2000317-01	20200730_026	Perchlorate6850b.lcm	1x	☒		7/30/2020 18:24
21	EQ2000317-02	20200730_027	Perchlorate6850b.lcm	1x	☒		7/30/2020 18:32
22	EQ2000317-03	20200730_028	Perchlorate6850b.lcm	1x	☒		7/30/2020 18:40
23	E2000657-001	20200730_029	Perchlorate6850b.lcm	1x	☒		7/30/2020 18:48
24	E2000657-002	20200730_030	Perchlorate6850b.lcm	1x	☒		7/30/2020 18:56
25	E2000657-003	20200730_031	Perchlorate6850b.lcm	1x	☒		7/30/2020 19:04
26	E2000657-004	20200730_032	Perchlorate6850b.lcm	1x	☒		7/30/2020 19:12
27	E2000657-005	20200730_033	Perchlorate6850b.lcm	1x	☒		7/30/2020 19:20
28	PERCHLORATE7	20200730_034	Perchlorate6850b.lcm	1x	☒	3100807-04	7/30/2020 19:28
29	E2000657-006	20200730_035	Perchlorate6850b.lcm	1x	☒		7/30/2020 19:36
30	E2000669-001	20200730_036	Perchlorate6850b.lcm	1x	☒		7/30/2020 19:43
31	E2000671-001	20200730_037	Perchlorate6850b.lcm	1x	☒		7/30/2020 19:51
32	E2000671-002	20200730_038	Perchlorate6850b.lcm	1x	☒		7/30/2020 19:59
33	E2000671-003	20200730_039	Perchlorate6850b.lcm	1x	☒		7/30/2020 20:07
34	E2000671-004	20200730_040	Perchlorate6850b.lcm	1x	☒		7/30/2020 20:15
35	E2000671-005	20200730_041	Perchlorate6850b.lcm	1x	☒		7/30/2020 20:23
36	E2000671-006	20200730_042	Perchlorate6850b.lcm	1x	☒		7/30/2020 20:31
37	E2000671-007	20200730_043	Perchlorate6850b.lcm	1x	☒		7/30/2020 20:39
38	E2000672-001	20200730_044	Perchlorate6850b.lcm	1x	☒		7/30/2020 20:47
39	PERCHLORATE7	20200730_045	Perchlorate6850b.lcm	1x	☒	3100807-04	7/30/2020 20:55
40	E2000689-001	20200730_046	Perchlorate6850b.lcm	1x	☒		7/30/2020 21:02
41	EQ2000318-01	20200730_047	Perchlorate6850b.lcm	1x	☒		7/30/2020 21:10
42	EQ2000318-02	20200730_048	Perchlorate6850b.lcm	1x	☒		7/30/2020 21:18
43	EQ2000318-03	20200730_049	Perchlorate6850b.lcm	1x	☒		7/30/2020 21:26
44	EQ2000318-04	20200730_050	Perchlorate6850b.lcm	1x	☒		7/30/2020 21:34
45	EQ2000318-05	20200730_051	Perchlorate6850b.lcm	1x	☒		7/30/2020 21:42
46	E2000680-001	20200730_052	Perchlorate6850b.lcm	1x	☒		7/30/2020 21:50
47	E2000680-002	20200730_053	Perchlorate6850b.lcm	1x	☒		7/30/2020 21:58
48	E2000680-003	20200730_054	Perchlorate6850b.lcm	1x	☒		7/30/2020 22:06
49	E2000680-004	20200730_055	Perchlorate6850b.lcm	1x	☒		7/30/2020 22:14
50	PERCHLORATE7	20200730_056	Perchlorate6850b.lcm	1x	☒	3100807-04	7/30/2020 22:21
51	E2000680-005	20200730_057	Perchlorate6850b.lcm	1x	☒		7/30/2020 22:29
52	E2000680-006	20200730_058	Perchlorate6850b.lcm	1x	☒		7/30/2020 22:37

	20200730					**ICAL Date:**	7/24/2020
						Cal. Std. xp:	11/18/2020
1st Review:	Kneir		**Injection Log**			**ICAL ID:**	**EC2000016**
2nd Review:	Hvan		**LCMS01 -Shimadzu 8050**				
Mobile Phases		**A:** 0.75% Formic Acid/Water 3100807-09		**B:** MeOH 3100802-01			

			File Name	Acquisition Method	Dilution	R	Comments	Date/Time
53	E2000680-007		20200730_059	Perchlorate6850b.lcm	1x	☒		7/30/2020 22:45
54	E2000680-008		20200730_060	Perchlorate6850b.lcm	1x	☒		7/30/2020 22:53
55	E2000680-009		20200730_061	Perchlorate6850b.lcm	1x	☒		7/30/2020 23:01
56	E2000680-010		20200730_062	Perchlorate6850b.lcm	1x	☒		7/30/2020 23:09
57	E2000680-011		20200730_063	Perchlorate6850b.lcm	1x	☒		7/30/2020 23:17
58	R2006334-001		20200730_064	Perchlorate6850b.lcm	1x	☒		7/30/2020 23:25
59	R2006334-003		20200730_065	Perchlorate6850b.lcm	1x	☒		7/30/2020 23:33
60	R2006334-005		20200730_066	Perchlorate6850b.lcm	1x	☒		7/30/2020 23:41
61	PERCHLORATE7		20200730_067	Perchlorate6850b.lcm	1x	☒	3100807-04	7/30/2020 23:49
62	R2006334-007		20200730_068	Perchlorate6850b.lcm	1x	☒		7/30/2020 23:57
63	R2006334-009		20200730_069	Perchlorate6850b.lcm	1x	☒		7/31/2020 0:04
64	R2006334-012		20200730_070	Perchlorate6850b.lcm	1x	☒		7/31/2020 0:12
65	R2006334-014		20200730_071	Perchlorate6850b.lcm	1x	☒		7/31/2020 0:20
66	R2006334-016		20200730_072	Perchlorate6850b.lcm	1x	☒		7/31/2020 0:28
67	R2006334-018		20200730_073	Perchlorate6850b.lcm	1x	☒		7/31/2020 0:36
68	PERCHLORATE7		20200730_074	Perchlorate6850b.lcm	1x	☒	3100807-04	7/31/2020 0:44
69					1x	☒		

20200806

ALS Environmental

1st Review: Kneir
2nd Review: Hvan

Injection Log
LCMS01 -Shimadzu 8050

ICAL Date: 7/24/2020
Cal. Std. xp: 11/18/2020
ICAL ID: EC2000016

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

			File Name	Acquisition Method	Dilution	R	Comments
1	null		20200806_001	Perchlorate6850b.lcm	1x	☒	
2	null		20200806_002	Perchlorate6850b.lcm	1x	☒	
3	IB		20200806_003	Perchlorate6850b.lcm	1x	☒	
4	IB		20200806_004	Perchlorate6850b.lcm	1x	☒	
5	LODV		20200806_005	Perchlorate6850b.lcm	1x	☒	
6	ICS		20200806_006	Perchlorate6850b.lcm	1x	☒	
7	PERCHLORATE7		20200806_007	Perchlorate6850b.lcm	1x	☒	3100807-04
8	EQ2000328-06X10		20200806_008	Perchlorate6850b.lcm	10x	☒	
9	EQ2000328-07X10		20200806_009	Perchlorate6850b.lcm	10x	☒	
10	EQ2000318-01		20200806_010	Perchlorate6850b.lcm	1x	☒	
11	E2000674-005X10		20200806_011	Perchlorate6850b.lcm	10x	☒	
12	EQ2000318-02		20200806_012	Perchlorate6850b.lcm	1x	☒	
13	EQ2000318-03		20200806_013	Perchlorate6850b.lcm	1x	☒	
14	EQ2000318-04		20200806_014	Perchlorate6850b.lcm	1x	☒	
15	EQ2000318-05		20200806_015	Perchlorate6850b.lcm	1x	☒	
16	EQ2000328-06X10		20200806_016	Perchlorate6850b.lcm	10x	☒	
17	EQ2000328-07X10		20200806_017	Perchlorate6850b.lcm	10x	☒	
18	PERCHLORATE7		20200806_018	Perchlorate6850b.lcm	1x	☒	3100807-04
19	E2000674-005X10		20200806_019	Perchlorate6850b.lcm	10x	☒	
20	E2000680-001X10		20200806_020	Perchlorate6850b.lcm	10x	☒	
21	R2006334-009		20200806_021	Perchlorate6850b.lcm	1x	☒	
22	R2006334-014		20200806_022	Perchlorate6850b.lcm	1x	☒	
23	R2006334-016		20200806_023	Perchlorate6850b.lcm	1x	☒	
24	PERCHLORATE7		20200806_024	Perchlorate6850b.lcm	1x	☒	3100807-04
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20200819

1st Review: Kneir
2nd Review: Hvan

Injection Log
LCMS01 -Shimadzu 8050

ICAL Date: 7/19/2020
Cal. Std. xp: 11/18/2020
ICAL ID: **EC2000022**

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

			File Name	Acquisition Method	Dilution	R	Comments	Date/Time
1	PERCHLORATE1		20200819_005	Perchlorate6850b.lcm	1x	☒	3100806-05	8/19/2020 10:42
2	PERCHLORATE2		20200819_006	Perchlorate6850b.lcm	1x	☒	3100806-06	8/19/2020 10:50
3	PERCHLORATE3		20200819_007	Perchlorate6850b.lcm	1x	☒	3100806-07	8/19/2020 10:58
4	PERCHLORATE4		20200819_008	Perchlorate6850b.lcm	1x	☒	3100807-01	8/19/2020 11:06
5	PERCHLORATE5		20200819_009	Perchlorate6850b.lcm	1x	☒	3100807-02	8/19/2020 11:14
6	PERCHLORATE6		20200819_010	Perchlorate6850b.lcm	1x	☒	3100807-03	8/19/2020 11:22
7	PERCHLORATE7		20200819_011	Perchlorate6850b.lcm	1x	☒	3100807-04	8/19/2020 11:30
8	PERCHLORATE8		20200819_012	Perchlorate6850b.lcm	1x	☒	3100807-05	8/19/2020 11:38
9	PERCHLORATE9		20200819_013	Perchlorate6850b.lcm	1x	☒	3100807-06	8/19/2020 11:45
10	PERCHLORATE10		20200819_014	Perchlorate6850b.lcm	1x	☒	3100807-07	8/19/2020 11:53
11	PERCHLORATEICV		20200819_016	Perchlorate6850b.lcm	1x	☒	3100807-08	8/19/2020 12:09
12	LODV		20200819_017	Perchlorate6850b.lcm	1x	☒		8/19/2020 12:17
13	EQ2000337-01		20200819_019	Perchlorate6850b.lcm	1x	☒		8/19/2020 12:38
14	EQ2000337-02		20200819_020	Perchlorate6850b.lcm	1x	☒		8/19/2020 12:46
15	EQ2000337-03		20200819_021	Perchlorate6850b.lcm	1x	☒		8/19/2020 12:53
16	E2000723-001		20200819_022	Perchlorate6850b.lcm	1x	☒		8/19/2020 13:01
17	PERCHLORATE7		20200819_023	Perchlorate6850b.lcm	1x	☒	3100807-04	8/19/2020 13:09
18	E2000680-002X10		20200819_024	Perchlorate6850b.lcm	10x	☒		8/19/2020 13:17
19	E2000680-004X2		20200819_025	Perchlorate6850b.lcm	2x	☒		8/19/2020 13:25
20	E2000680-007X10		20200819_026	Perchlorate6850b.lcm	10x	☒		8/19/2020 13:33
21	E2000680-009X10		20200819_027	Perchlorate6850b.lcm	10x	☒		8/19/2020 13:41
22	E2000680-010X10		20200819_028	Perchlorate6850b.lcm	10x	☒		8/19/2020 13:49
23	E2000680-011X10		20200819_029	Perchlorate6850b.lcm	10x	☒		8/19/2020 13:57
24	EQ2000327-01		20200819_030	Perchlorate6850b.lcm	1x	☒		8/19/2020 14:04
25	EQ2000327-02		20200819_031	Perchlorate6850b.lcm	1x	☒		8/19/2020 14:12
26	EQ2000327-03		20200819_033	Perchlorate6850b.lcm	1x	☒		8/19/2020 14:21
27	PERCHLORATE7		20200819_034	Perchlorate6850b.lcm	1x	☒	3100807-04	8/19/2020 14:29
28	E2000735-001		20200819_035	Perchlorate6850b.lcm	1x	☒		8/19/2020 14:37
29	E2000735-002		20200819_036	Perchlorate6850b.lcm	1x	☒		8/19/2020 14:45
30	E2000735-003		20200819_037	Perchlorate6850b.lcm	1x	☒		8/19/2020 14:53
31	E2000735-004		20200819_038	Perchlorate6850b.lcm	1x	☒		8/19/2020 15:01
32	E2000735-005		20200819_039	Perchlorate6850b.lcm	1x	☒		8/19/2020 15:09
33	E2000735-006		20200819_040	Perchlorate6850b.lcm	1x	☒		8/19/2020 15:16
34	E2000735-007		20200819_041	Perchlorate6850b.lcm	1x	☒		8/19/2020 15:24
35	E2000735-008		20200819_042	Perchlorate6850b.lcm	1x	☒		8/19/2020 15:32
36	E2000735-009		20200819_043	Perchlorate6850b.lcm	1x	☒		8/19/2020 15:44
37	PERCHLORATE7		20200819_044	Perchlorate6850b.lcm	1x	☒	3100807-04	8/19/2020 15:52
38	E2000735-010		20200819_045	Perchlorate6850b.lcm	1x	☒		8/19/2020 16:00
39	E2000735-011		20200819_046	Perchlorate6850b.lcm	1x	☒		8/19/2020 16:08
40	E2000735-013		20200819_047	Perchlorate6850b.lcm	1x	☒		8/19/2020 16:16
41	E2000735-014		20200819_048	Perchlorate6850b.lcm	1x	☒		8/19/2020 16:24
42	E2000735-015		20200819_049	Perchlorate6850b.lcm	1x	☒		8/19/2020 16:32
43	E2000735-016		20200819_050	Perchlorate6850b.lcm	1x	☒		8/19/2020 16:40
44	E2000735-017		20200819_051	Perchlorate6850b.lcm	1x	☒		8/19/2020 16:47
45	E2000735-018		20200819_052	Perchlorate6850b.lcm	1x	☒		8/19/2020 16:55
46	E2000735-019		20200819_053	Perchlorate6850b.lcm	1x	☒		8/19/2020 17:03
47	PERCHLORATE7		20200819_054	Perchlorate6850b.lcm	1x	☒	3100807-04	8/19/2020 17:11
48	EQ2000339-01		20200819_055	Perchlorate6850b.lcm	1x	☒		8/19/2020 17:19
49	EQ2000339-02		20200819_056	Perchlorate6850b.lcm	1x	☒		8/19/2020 17:27
50	EQ2000339-03		20200819_057	Perchlorate6850b.lcm	1x	☒		8/19/2020 17:35
51	E2000712-001		20200819_058	Perchlorate6850b.lcm	1x	☒		8/19/2020 17:43
52	E2000712-002		20200819_059	Perchlorate6850b.lcm	1x	☒		8/19/2020 17:51
53	E2000712-003		20200819_060	Perchlorate6850b.lcm	1x	☒		8/19/2020 17:59
54	IB		20200819_061	Perchlorate6850b.lcm	1x	☒		8/19/2020 18:08
55	IB		20200819_062	Perchlorate6850b.lcm	1x	☒		8/19/2020 18:16
56	IB		20200819_063	Perchlorate6850b.lcm	1x	☒		8/19/2020 18:24
57	IB		20200819_064	Perchlorate6850b.lcm	1x	☒		8/19/2020 18:32
58	PERCHLORATE7		20200819_065	Perchlorate6850b.lcm	1x	☒	3100807-04	8/19/2020 18:40
59	E2000712-004		20200819_066	Perchlorate6850b.lcm	1x	☒		8/19/2020 18:48
60	E2000712-005		20200819_067	Perchlorate6850b.lcm	1x	☒		8/19/2020 18:56
61	E2000712-006		20200819_068	Perchlorate6850b.lcm	1x	☒		8/19/2020 19:04

20200819

1st Review: Kneir
2nd Review: Hvan

Injection Log
LCMS01 -Shimadzu 8050

ICAL Date: 7/19/2020
Cal. Std. xp: 11/18/2020
ICAL ID: **EC2000022**

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

			File Name	Acquisition Method	Dilution	R	Comments	Date/Time
62	E2000712-007		20200819_069	Perchlorate6850b.lcm	1x	☒		8/19/2020 19:12
63	E2000694-012		20200819_070	Perchlorate6850b.lcm	1x	☒		8/19/2020 19:19
64	E2000694-012MS		20200819_071	Perchlorate6850b.lcm	1x	☒		8/19/2020 19:27
65	E2000694-012MSD		20200819_072	Perchlorate6850b.lcm	1x	☒		8/19/2020 19:35
66	E2000711-001		20200819_073	Perchlorate6850b.lcm	1x	☒		8/19/2020 19:43
67	E2000711-002		20200819_074	Perchlorate6850b.lcm	1x	☒		8/19/2020 19:51
68	E2000724-001		20200819_075	Perchlorate6850b.lcm	1x	☒		8/19/2020 19:59
69	PERCHLORATE7		20200819_076	Perchlorate6850b.lcm	1x	☒	3100807-04	8/19/2020 20:07
70	E2000724-002		20200819_077	Perchlorate6850b.lcm	1x	☒		8/19/2020 20:15
71	E2000724-003		20200819_078	Perchlorate6850b.lcm	1x	☒		8/19/2020 20:22
72	E2000724-004		20200819_079	Perchlorate6850b.lcm	1x	☒		8/19/2020 20:30
73	E2000728-001		20200819_080	Perchlorate6850b.lcm	1x	☒		8/19/2020 20:38
74	E2000728-002		20200819_081	Perchlorate6850b.lcm	1x	☒		8/19/2020 20:46
75	E2000729-001		20200819_082	Perchlorate6850b.lcm	1x	☒		8/19/2020 20:54
76	R2006493-001		20200819_083	Perchlorate6850b.lcm	1x	☒		8/19/2020 21:02
77	R2006493-003		20200819_084	Perchlorate6850b.lcm	1x	☒		8/19/2020 21:10
78	R2006493-005		20200819_085	Perchlorate6850b.lcm	1x	☒		8/19/2020 21:18
79	R2006493-007		20200819_086	Perchlorate6850b.lcm	1x	☒		8/19/2020 21:26
80	PERCHLORATE7		20200819_087	Perchlorate6850b.lcm	1x	☒	3100807-04	8/19/2020 21:33
81	R2006493-009		20200819_088	Perchlorate6850b.lcm	1x	☒		8/19/2020 21:41
82	R2006493-011		20200819_089	Perchlorate6850b.lcm	1x	☒		8/19/2020 21:49
83	R2006493-013		20200819_090	Perchlorate6850b.lcm	1x	☒		8/19/2020 21:57
84	R2006493-015		20200819_091	Perchlorate6850b.lcm	1x	☒		8/19/2020 22:05
85	PERCHLORATE7		20200819_092	Perchlorate6850b.lcm	1x	☒	3100807-04	8/19/2020 22:13
86	EQ2000338-01		20200819_093	Perchlorate6850b.lcm	1x	☒		8/19/2020 22:21
87	EQ2000338-02		20200819_094	Perchlorate6850b.lcm	1x	☒		8/19/2020 22:29
88	EQ2000338-03		20200819_095	Perchlorate6850b.lcm	1x	☒		8/19/2020 22:37
89	EQ2000338-04		20200819_096	Perchlorate6850b.lcm	1x	☒		8/19/2020 22:44
90	EQ2000338-05		20200819_097	Perchlorate6850b.lcm	1x	☒		8/19/2020 22:52
91	R2006532-001		20200819_098	Perchlorate6850b.lcm	1x	☒		8/19/2020 23:00
92	R2006532-003		20200819_099	Perchlorate6850b.lcm	1x	☒		8/19/2020 23:08
93	R2006532-005		20200819_100	Perchlorate6850b.lcm	1x	☒		8/19/2020 23:16
94	R2006532-007		20200819_101	Perchlorate6850b.lcm	1x	☒		8/19/2020 23:24
95	R2006532-009		20200819_102	Perchlorate6850b.lcm	1x	☒		8/19/2020 23:32
96	PERCHLORATE7		20200819_103	Perchlorate6850b.lcm	1x	☒	3100807-04	8/19/2020 23:40
97	R2006532-011		20200819_104	Perchlorate6850b.lcm	1x	☒		8/19/2020 23:47
98	R2006555-002		20200819_105	Perchlorate6850b.lcm	1x	☒		8/19/2020 23:55
99	R2006555-004		20200819_106	Perchlorate6850b.lcm	1x	☒		8/20/2020 0:03
100	R2006555-006		20200819_107	Perchlorate6850b.lcm	1x	☒		8/20/2020 0:11
101	R2006555-008		20200819_108	Perchlorate6850b.lcm	1x	☒		8/20/2020 0:19
102	R2006555-010		20200819_109	Perchlorate6850b.lcm	1x	☒		8/20/2020 0:27
103	R2006555-012		20200819_110	Perchlorate6850b.lcm	1x	☒		8/20/2020 0:35
104	R2006617-001		20200819_111	Perchlorate6850b.lcm	1x	☒		8/20/2020 0:43
105	R2006617-003		20200819_112	Perchlorate6850b.lcm	1x	☒		8/20/2020 0:50
106	R2006617-005		20200819_113	Perchlorate6850b.lcm	1x	☒		8/20/2020 0:58
107	PERCHLORATE7		20200819_114	Perchlorate6850b.lcm	1x	☒	3100807-04	8/20/2020 1:06
108	R2006617-007		20200819_115	Perchlorate6850b.lcm	1x	☒		8/20/2020 1:14
109	R2006617-009		20200819_116	Perchlorate6850b.lcm	1x	☒		8/20/2020 1:22
110	R2006617-010		20200819_117	Perchlorate6850b.lcm	1x	☒		8/20/2020 1:30
111	PERCHLORATE7		20200819_118	Perchlorate6850b.lcm	1x	☒	3100807-04	8/20/2020 1:38

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000680
Project:	HS20071147	**Date Analyzed:**	7/30/20

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

Analytical Method:	6850	**Calibration Date:**	7/24/20
File ID:	I:\LCMS01\DATA\20200730\20200730_045	**Calibration ID:**	EC2000016
		Analysis Lot:	689966
		Units:	ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	8.96	0.1210	0.1084	-10.4	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20071147

Service Request: E2000680
Date Analyzed: 7/30/20

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

Analytical Method: 6850
File ID: I:\LCMS01\DATA\20200730\20200730_056

Calibration Date: 7/24/20
Calibration ID: EC2000016
Analysis Lot: 689966
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.02	0.1210	0.1092	-9.8	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20071147

Service Request: E2000680
Date Analyzed: 7/30/20

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

Analytical Method: 6850
File ID: I:\LCMS01\DATA\20200730\20200730_067

Calibration Date: 7/24/20
Calibration ID: EC2000016
Analysis Lot: 689966
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	8.79	0.1210	0.1064	-12.1	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20071147

Service Request: E2000680
Date Analyzed: 7/31/20

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

Analytical Method: 6850
File ID: I:\LCMS01\DATA\20200730\20200730_074

Calibration Date: 7/24/20
Calibration ID: EC2000016
Analysis Lot: 689966
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	8.91	0.1210	0.1079	-10.9	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20071147

Service Request: E2000680
Date Analyzed: 8/ 6/20

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

Analytical Method: 6850
File ID: I:\LCMS01\DATA\20200806\20200806_007

Calibration Date: 7/24/20
Calibration ID: EC2000016
Analysis Lot: 689966
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.05	0.1210	0.1095	-9.5	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000680
Project:	HS20071147	**Date Analyzed:**	8/ 6/20

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

Analytical Method:	6850	**Calibration Date:**	7/24/20
File ID:	I:\LCMS01\DATA\20200806\20200806_018	**Calibration ID:**	EC2000016
		Analysis Lot:	689966
		Units:	ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.28	0.1210	0.1123	-7.2	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20071147

Service Request: E2000680
Date Analyzed: 8/ 6/20

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

Analytical Method: 6850
File ID: I:\LCMS01\DATA\20200806\20200806_024

Calibration Date: 7/24/20
Calibration ID: EC2000016
Analysis Lot: 689966
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.11	0.1210	0.1103	-8.9	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20071147

Service Request: E2000680
Date Analyzed: 8/19/20

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

Analytical Method: 6850
File ID: I:\LCMS01\DATA\20200819\20200819_023

Calibration Date: 8/19/20
Calibration ID: EC2000022
Analysis Lot: 691702
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.74	0.1131	0.1101	-2.6	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20071147

Service Request: E2000680
Date Analyzed: 8/19/20

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

Analytical Method: 6850
File ID: I:\LCMS01\DATA\20200819\20200819_034

Calibration Date: 8/19/20
Calibration ID: EC2000022
Analysis Lot: 691702
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.56	0.1131	0.1081	-4.4	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20071147

Service Request: E2000680
Date Analyzed: 8/19/20

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

Analytical Method: 6850
File ID: I:\LCMS01\DATA\20200819\20200819_044

Calibration Date: 8/19/20
Calibration ID: EC2000022
Analysis Lot: 691702
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.41	0.1131	0.1064	-5.9	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000680
Project:	HS20071147	**Date Analyzed:**	8/19/20

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

Analytical Method:	6850	**Calibration Date:**	8/19/20
File ID:	I:\LCMS01\DATA\20200819\20200819_054	**Calibration ID:**	EC2000022
		Analysis Lot:	691702
		Units:	ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.68	0.1131	0.1094	-3.2	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000680
Project:	HS20071147	**Date Analyzed:**	8/19/20

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

Analytical Method:	6850	**Calibration Date:**	8/19/20
File ID:	I:\LCMS01\DATA\20200819\20200819_065	**Calibration ID:**	EC2000022
		Analysis Lot:	691702
		Units:	ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.60	0.1131	0.1085	-4.0	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20071147

Service Request: E2000680
Date Analyzed: 8/19/20

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

Analytical Method: 6850
File ID: I:\LCMS01\DATA\20200819\20200819_076

Calibration Date: 8/19/20
Calibration ID: EC2000022
Analysis Lot: 691702
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	10.9	0.1131	0.1227	8.5	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20071147

Service Request: E2000680
Date Analyzed: 8/19/20

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

Analytical Method: 6850
File ID: I:\LCMS01\DATA\20200819\20200819_087

Calibration Date: 8/19/20
Calibration ID: EC2000022
Analysis Lot: 691702
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.42	0.1131	0.1064	-5.8	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20071147

Service Request: E2000680
Date Analyzed: 8/19/20

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

Analytical Method: 6850
File ID: I:\LCMS01\DATA\20200819\20200819_092

Calibration Date: 8/19/20
Calibration ID: EC2000022
Analysis Lot: 691702
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.40	0.1131	0.1063	-6.0	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20071147

Service Request: E2000680
Date Analyzed: 8/19/20

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

Analytical Method: 6850
File ID: I:\LCMS01\DATA\20200819\20200819_103

Calibration Date: 8/19/20
Calibration ID: EC2000022
Analysis Lot: 691702
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.43	0.1131	0.1066	-5.7	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20071147

Service Request: E2000680
Date Analyzed: 8/20/20

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

Analytical Method: 6850
File ID: I:\LCMS01\DATA\20200819\20200819_114

Calibration Date: 8/19/20
Calibration ID: EC2000022
Analysis Lot: 691702
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.97	0.1131	0.1127	-0.3	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000680
Project:	HS20071147	**Date Analyzed:**	8/20/20

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

Analytical Method:	6850	**Calibration Date:**	8/19/20
File ID:	I:\LCMS01\DATA\20200819\20200819_118	**Calibration ID:**	EC2000022
		Analysis Lot:	691702
		Units:	ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.28	0.1131	0.1049	-7.2	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000680
Project:	HS20071147	**Date Analyzed:**	7/30/20 20:55

Internal Standard Area and RT Summary

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

File ID:	I:\LCMS01\DATA\20200730\20200730_045	**Lab Code:**	EQ2000332-01
Instrument ID:	E-LCMS-01	**Analysis Lot:**	689966
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	161,047	2.90
	Upper Limit ==>	241,571	4.90
	Lower Limit ==>	80,524	0.90
Associated Analyses			
Continuing Calibration Verification	EQ2000332-01	114,922	2.88
16WW13-200723	E2000680-003	81,510	2.88

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

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000680
Project:	HS20071147	**Date Analyzed:**	7/30/20 22:21

Internal Standard Area and RT Summary

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

File ID:	I:\LCMS01\DATA\20200730\20200730_056	**Lab Code:**	EQ2000332-02
Instrument ID:	E-LCMS-01	**Analysis Lot:**	689966
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	161,047	2.90
	Upper Limit ==>	241,571	4.90
	Lower Limit ==>	80,524	0.90
Associated Analyses			
Continuing Calibration Verification	EQ2000332-02	109,550	2.88
16WW42-200723	E2000680-005	96,636	2.88
16WW42-200723-FD	E2000680-006	91,084	2.88
16WW43-200723	E2000680-008	89,446	2.88
Batch QC	R2006334-001	81,520	2.87

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

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000680
Project:	HS20071147	**Date Analyzed:**	7/30/20 23:49

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

File ID:	I:\LCMS01\DATA\20200730\20200730_067	**Lab Code:**	EQ2000332-03
Instrument ID:	E-LCMS-01	**Analysis Lot:**	689966
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	161,047	2.90
	Upper Limit ==>	241,571	4.90
	Lower Limit ==>	80,524	0.90
Associated Analyses			
Continuing Calibration Verification	EQ2000332-03	110,850	2.87

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

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000680
Project:	HS20071147	**Date Analyzed:**	7/31/20 00:44

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

File ID:	I:\LCMS01\DATA\20200730\20200730_074	**Lab Code:**	EQ2000332-04
Instrument ID:	E-LCMS-01	**Analysis Lot:**	689966
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	161,047	2.90
	Upper Limit ==>	241,571	4.90
	Lower Limit ==>	80,524	0.90
Associated Analyses			
Continuing Calibration Verification	EQ2000332-04	103,106	2.87

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

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000680
Project:	HS20071147	**Date Analyzed:**	8/6/20 10:24

Internal Standard Area and RT Summary

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

File ID:	I:\LCMS01\DATA\20200806\20200806_007	**Lab Code:**	EQ2000332-05
Instrument ID:	E-LCMS-01	**Analysis Lot:**	689966
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	161,047	2.90
	Upper Limit ==>	241,571	4.90
	Lower Limit ==>	80,524	0.90
Associated Analyses			
Continuing Calibration Verification	EQ2000332-05	168,468	2.88
Method Blank	EQ2000318-01	164,689	2.88
Lab Control Sample	EQ2000318-02	180,674	2.88
Duplicate Lab Control Sample	EQ2000318-03	181,430	2.88
Batch QCMS	EQ2000318-04	234,938	2.84
Batch QCDMS	EQ2000318-05	148,582	2.88

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

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000680
Project:	HS20071147	**Date Analyzed:**	8/6/20 12:32

Internal Standard Area and RT Summary

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

File ID:	I:\LCMS01\DATA\20200806\20200806_018	**Lab Code:**	EQ2000332-06
Instrument ID:	E-LCMS-01	**Analysis Lot:**	689966
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	161,047	2.90
	Upper Limit ==>	241,571	4.90
	Lower Limit ==>	80,524	0.90
Associated Analyses			
Continuing Calibration Verification	EQ2000332-06	157,554	2.88
16WW37-200723	E2000680-001	155,828	2.82

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

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000680
Project:	HS20071147	**Date Analyzed:**	8/6/20 13:35

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

File ID:	I:\LCMS01\DATA\20200806\20200806_024	**Lab Code:**	EQ2000332-07
Instrument ID:	E-LCMS-01	**Analysis Lot:**	689966
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	161,047	2.90
	Upper Limit ==>	241,571	4.90
	Lower Limit ==>	80,524	0.90
Associated Analyses			
Continuing Calibration Verification	EQ2000332-07	159,534	2.88

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

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000680
Project:	HS20071147	**Date Analyzed:**	8/19/20 13:09

Internal Standard Area and RT Summary

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

File ID:	I:\LCMS01\DATA\20200819\20200819_023	**Lab Code:**	EQ2000350-01
Instrument ID:	E-LCMS-01	**Analysis Lot:**	691702
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	284,293	2.87
	Upper Limit ==>	426,440	4.87
	Lower Limit ==>	142,147	0.87
Associated Analyses			
Continuing Calibration Verification	EQ2000350-01	275,008	2.87
16WW38-200723	E2000680-002	326,976	2.87
16WW13-200723-FD	E2000680-004	342,205	2.86
16WW27-200723	E2000680-007	230,620	2.86
16WW34-200723	E2000680-009	286,436	2.87
16WW33-200723	E2000680-010	313,419	2.87
16WW33-200723-FD	E2000680-011	292,836	2.87

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

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000680
Project:	HS20071147	**Date Analyzed:**	8/19/20 14:29

Internal Standard Area and RT Summary

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

File ID:	I:\LCMS01\DATA\20200819\20200819_034	**Lab Code:**	EQ2000350-02
Instrument ID:	E-LCMS-01	**Analysis Lot:**	691702
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	284,293	2.87
	Upper Limit ==>	426,440	4.87
	Lower Limit ==>	142,147	0.87
Associated Analyses			
Continuing Calibration Verification	EQ2000350-02	259,146	2.80

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

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000680
Project:	HS20071147	**Date Analyzed:**	8/19/20 15:52

Internal Standard Area and RT Summary

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

File ID:	I:\LCMS01\DATA\20200819\20200819_044	**Lab Code:**	EQ2000350-03
Instrument ID:	E-LCMS-01	**Analysis Lot:**	691702
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	284,293	2.87
	Upper Limit ==>	426,440	4.87
	Lower Limit ==>	142,147	0.87
Associated Analyses			
Continuing Calibration Verification	EQ2000350-03	257,649	2.76

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

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000680
Project:	HS20071147	**Date Analyzed:**	8/19/20 17:11

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

File ID:	I:\LCMS01\DATA\20200819\20200819_054	**Lab Code:**	EQ2000350-04
Instrument ID:	E-LCMS-01	**Analysis Lot:**	691702
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	284,293	2.87
	Upper Limit ==>	426,440	4.87
	Lower Limit ==>	142,147	0.87
Associated Analyses			
Continuing Calibration Verification	EQ2000350-04	178,952	2.84

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

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000680
Project:	HS20071147	**Date Analyzed:**	8/19/20 18:40

Internal Standard Area and RT Summary

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

File ID:	I:\LCMS01\DATA\20200819\20200819_065	**Lab Code:**	EQ2000350-05
Instrument ID:	E-LCMS-01	**Analysis Lot:**	691702
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	284,293	2.87
	Upper Limit ==>	426,440	4.87
	Lower Limit ==>	142,147	0.87
Associated Analyses			
Continuing Calibration Verification	EQ2000350-05	224,737	2.87

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

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000680
Project:	HS20071147	**Date Analyzed:**	8/19/20 20:07

Internal Standard Area and RT Summary

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

File ID:	I:\LCMS01\DATA\20200819\20200819_076	**Lab Code:**	EQ2000350-06
Instrument ID:	E-LCMS-01	**Analysis Lot:**	691702
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	284,293	2.87
	Upper Limit ==>	426,440	4.87
	Lower Limit ==>	142,147	0.87
Associated Analyses			
Continuing Calibration Verification	EQ2000350-06	216,860	2.87

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

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000680
Project:	HS20071147	**Date Analyzed:**	8/19/20 21:33

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

File ID:	I:\LCMS01\DATA\20200819\20200819_087	**Lab Code:**	EQ2000350-07
Instrument ID:	E-LCMS-01	**Analysis Lot:**	691702
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	284,293	2.87
	Upper Limit ==>	426,440	4.87
	Lower Limit ==>	142,147	0.87
Associated Analyses			
Continuing Calibration Verification	EQ2000350-07	220,049	2.88

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

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000680
Project:	HS20071147	**Date Analyzed:**	8/19/20 22:13

Internal Standard Area and RT Summary

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

File ID:	I:\LCMS01\DATA\20200819\20200819_092	**Lab Code:**	EQ2000350-08
Instrument ID:	E-LCMS-01	**Analysis Lot:**	691702
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	284,293	2.87
	Upper Limit ==>	426,440	4.87
	Lower Limit ==>	142,147	0.87
Associated Analyses			
Continuing Calibration Verification	EQ2000350-08	234,006	2.87

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

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000680
Project:	HS20071147	**Date Analyzed:**	8/19/20 23:40

Internal Standard Area and RT Summary

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

File ID:	I:\LCMS01\DATA\20200819\20200819_103	**Lab Code:**	EQ2000350-09
Instrument ID:	E-LCMS-01	**Analysis Lot:**	691702
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	284,293	2.87
	Upper Limit ==>	426,440	4.87
	Lower Limit ==>	142,147	0.87
Associated Analyses			
Continuing Calibration Verification	EQ2000350-09	215,258	2.87

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

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000680
Project:	HS20071147	**Date Analyzed:**	8/20/20 01:06

Internal Standard Area and RT Summary

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

File ID:	I:\LCMS01\DATA\20200819\20200819_114	**Lab Code:**	EQ2000350-10
Instrument ID:	E-LCMS-01	**Analysis Lot:**	691702
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	284,293	2.87
	Upper Limit ==>	426,440	4.87
	Lower Limit ==>	142,147	0.87
Associated Analyses			
Continuing Calibration Verification	EQ2000350-10	215,703	2.87

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

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000680
Project:	HS20071147	**Date Analyzed:**	8/20/20 01:38

Internal Standard Area and RT Summary

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

File ID:	I:\LCMS01\DATA\20200819\20200819_118	**Lab Code:**	EQ2000350-11
Instrument ID:	E-LCMS-01	**Analysis Lot:**	691702
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	284,293	2.87
	Upper Limit ==>	426,440	4.87
	Lower Limit ==>	142,147	0.87
Associated Analyses			
Continuing Calibration Verification	EQ2000350-11	207,196	2.87

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

ALS Group Houston

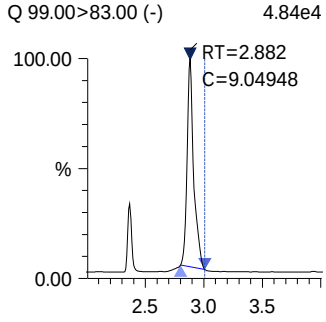
PERCHLORATE7

Date acquired: 8/6/2020 10:24:58 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200806\20200806_007.lcd
Vial: 4 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE7	8/6/2020 10:24:58 AM	184514	9.04948	20200806_007	2.882	25.0000	1.0000	4
Sodium Perchlorate-18O4_IS	PERCHLORATE7	8/6/2020 10:24:58 AM	168468	1.00000	20200806_007	2.881	25.0000	1.0000	4

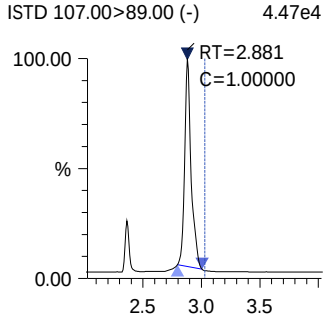
Perchlorate

Conc 9.04948
Area 184514



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 168468



ALS Group Houston

EQ2000318-01

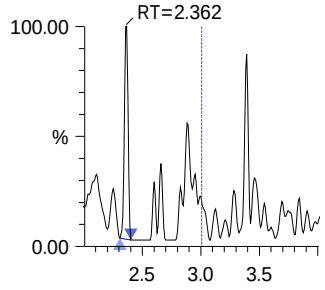
Date acquired: 8/6/2020 10:52:52 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200806\20200806_010.lcd
Vial: 1 | Inj. Volume: 25.0000uL | Tray: 2

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	EQ2000318-01	8/6/2020 10:52:52 AM	----	----	20200806_010	----	25.0000	1.0000	1
Sodium Perchlorate-18O4_IS	EQ2000318-01	8/6/2020 10:52:52 AM	164689	1.00000	20200806_010	2.879	25.0000	1.0000	1

Perchlorate

Conc ----
Area ----

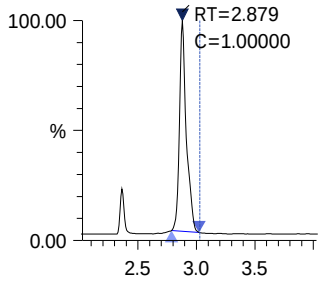
Q 99.00>83.00 (-) 1.17e2



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 164689

ISTD 107.00>89.00 (-) 4.05e4



ALS Group Houston

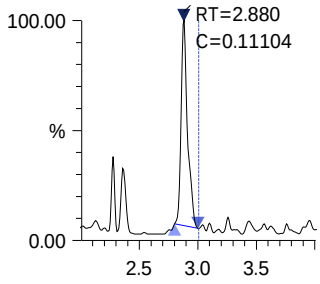
EQ2000318-02

Date acquired: 8/6/2020 11:09:17 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200806\20200806_012.lcd
Vial: 2 | Inj. Volume: 25.0000uL | Tray: 2

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	EQ2000318-02	8/6/2020 11:09:17 AM	2428	0.11104	20200806_012	2.880	25.0000	1.0000	2
Sodium Perchlorate-18O4_IS	EQ2000318-02	8/6/2020 11:09:17 AM	180674	1.00000	20200806_012	2.878	25.0000	1.0000	2

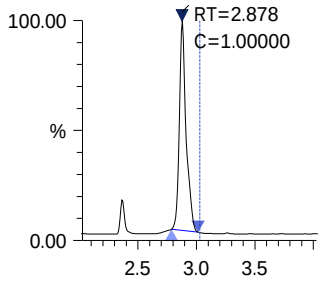
Perchlorate

Conc 0.11104
Area 2428
Q 99.00>83.00 (-) 6.63e2



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 180674
ISTD 107.00>89.00 (-) 4.53e4



ALS Group Houston

EQ2000318-03

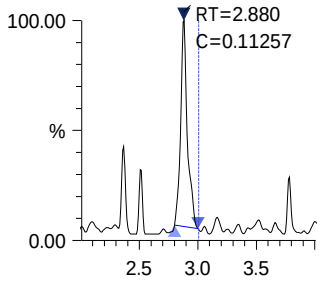
Date acquired: 8/6/2020 11:17:10 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200806\20200806_013.lcd
Vial: 3 | Inj. Volume: 25.0000uL | Tray: 2

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	EQ2000318-03	8/6/2020 11:17:10 AM	2472	0.11257	20200806_013	2.880	25.0000	1.0000	3
Sodium Perchlorate-18O4_IS	EQ2000318-03	8/6/2020 11:17:10 AM	181430	1.00000	20200806_013	2.880	25.0000	1.0000	3

Perchlorate

Conc 0.11257
Area 2472

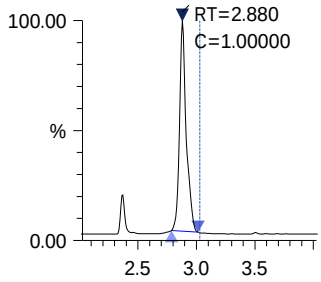
Q 99.00>83.00 (-) 6.38e2



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 181430

ISTD 107.00>89.00 (-) 4.56e4



ALS Group Houston

EQ2000318-04

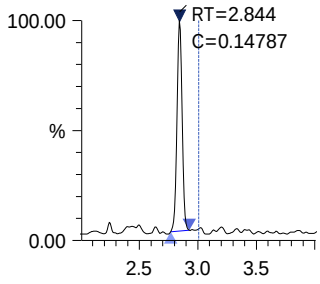
Date acquired: 8/6/2020 11:25:11 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200806\20200806_014.lcd
Vial: 4 | Inj. Volume: 25.0000uL | Tray: 2

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	EQ2000318-04	8/6/2020 11:25:11 AM	4204	0.14787	20200806_014	2.844	25.0000	1.0000	4
Sodium Perchlorate-18O4_IS	EQ2000318-04	8/6/2020 11:25:11 AM	234938	1.00000	20200806_014	2.842	25.0000	1.0000	4

Perchlorate

Conc 0.14787
Area 4204

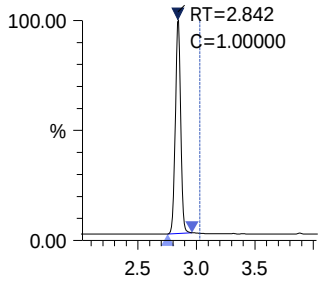
Q 99.00>83.00 (-) 1.37e3



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 234938

ISTD 107.00>89.00 (-) 7.50e4



ALS Group Houston

EQ2000318-05

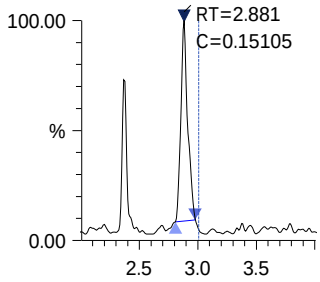
Date acquired: 8/6/2020 11:33:03 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200806\20200806_015.lcd
Vial: 5 | Inj. Volume: 25.0000uL | Tray: 2

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	EQ2000318-05	8/6/2020 11:33:03 AM	2716	0.15105	20200806_015	2.881	25.0000	1.0000	5
Sodium Perchlorate-18O4_IS	EQ2000318-05	8/6/2020 11:33:03 AM	148582	1.00000	20200806_015	2.881	25.0000	1.0000	5

Perchlorate

Conc 0.15105
Area 2716

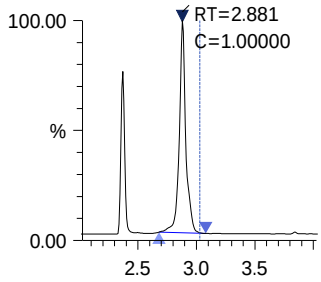
Q 99.00>83.00 (-) 7.20e2



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 148582

ISTD 107.00>89.00 (-) 3.82e4



ALS Group Houston

PERCHLORATE7

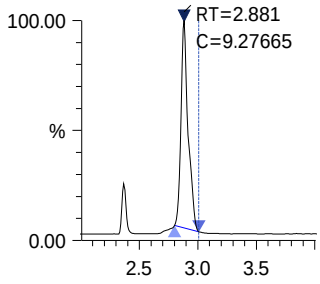
Date acquired: 8/6/2020 12:32:59 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200806\20200806_018.lcd
Vial: 4 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE7	8/6/2020 12:32:59 PM	176892	9.27665	20200806_018	2.881	25.0000	1.0000	4
Sodium Perchlorate-18O4_IS	PERCHLORATE7	8/6/2020 12:32:59 PM	157554	1.00000	20200806_018	2.880	25.0000	1.0000	4

Perchlorate

Conc 9.27665
Area 176892

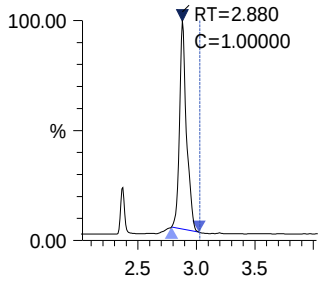
Q 99.00>83.00 (-) 4.32e4



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 157554

ISTD 107.00>89.00 (-) 3.87e4



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August 10, 2020

Analytical Report for Service Request No: K2006333

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

RE: ALS Houston DOD TOC

Dear RJ,

Enclosed are the results of the sample(s) submitted to our laboratory July 28, 2020
For your reference, these analyses have been assigned our service request number **K2006333.**

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current NELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. All results are intended to be considered in their entirety, and ALS Group USA Corp. dba ALS Environmental (ALS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please contact me if you have any questions. My extension is 3350. You may also contact me via email at Kelley.Lovejoy@alsglobal.com.

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

Kelley Lovejoy

Kelley Lovejoy
Project Manager

RIGHT SOLUTIONS | RIGHT PARTNER

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Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LOD	Limit of Detection
LOQ	Limit of Quantitation
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Inorganic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
E	The result is an estimate amount because the value exceeded the instrument calibration range.
J	The result is an estimated value.
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
i	The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
X	See case narrative.
Q	See case narrative. One or more quality control criteria was outside the limits.
H	The holding time for this test is immediately following sample collection. The samples were analyzed as soon as possible after receipt by the laboratory.

Metals Data Qualifiers

#	The control limit criteria is not applicable. See case narrative.
J	The result is an estimated value.
E	The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
M	The duplicate injection precision was not met.
N	The Matrix Spike sample recovery is not within control limits. See case narrative.
S	The reported value was determined by the Method of Standard Additions (MSA).
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
W	The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
i	The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
X	See case narrative.
+	The correlation coefficient for the MSA is less than 0.995.
Q	See case narrative. One or more quality control criteria was outside the limits.

Organic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
A	A tentatively identified compound, a suspected aldol-condensation product.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
C	The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
D	The reported result is from a dilution.
E	The result is an estimated value.
J	The result is an estimated value.
N	The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
P	The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results.
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
i	The MRL/MDL or LOQ/LOD is elevated due to a chromatographic interference.
X	See case narrative.
Q	See case narrative. One or more quality control criteria was outside the limits.

Additional Petroleum Hydrocarbon Specific Qualifiers

F	The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
L	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
H	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
O	The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
Y	The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
Z	The chromatographic fingerprint does not resemble a petroleum product.

ALS Group USA Corp. dba ALS Environmental (ALS) - Kelso
State Certifications, Accreditations, and Licenses

Agency	Web Site	Number
Alaska DEH	http://dec.alaska.gov/eh/lab/cs/csapproval.htm	UST-040
Arizona DHS	http://www.azdhs.gov/lab/license/env.htm	AZ0339
Arkansas - DEQ	http://www.adeq.state.ar.us/techsvs/labcert.htm	88-0637
California DHS (ELAP)	http://www.cdph.ca.gov/certlic/labs/Pages/ELAP.aspx	2795
DOD ELAP	http://www.denix.osd.mil/edqw/Accreditation/AccreditedLabs.cfm	L16-58-R4
Florida DOH	http://www.doh.state.fl.us/lab/EnvLabCert/WaterCert.htm	E87412
Hawaii DOH	http://health.hawaii.gov/	-
ISO 17025	http://www.pjlabs.com/	L16-57
Louisiana DEQ	http://www.deq.louisiana.gov/page/la-lab-accreditation	03016
Maine DHS	http://www.maine.gov/dhhs/	WA01276
Minnesota DOH	http://www.health.state.mn.us/accreditation	053-999-457
Nevada DEP	http://ndep.nv.gov/bsdw/labservice.htm	WA01276
New Jersey DEP	http://www.nj.gov/dep/enforcement/oqa.html	WA005
New York - DOH	https://www.wadsworth.org/regulatory/elap	12060
North Carolina DEQ	https://deq.nc.gov/about/divisions/water-resources/water-resources-data/water-sciences-home-page/laboratory-certification-branch/non-field-lab-certification	605
Oklahoma DEQ	http://www.deq.state.ok.us/CSDnew/labcert.htm	9801
Oregon – DEQ (NELAP)	http://public.health.oregon.gov/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	WA100010
South Carolina DHEC	http://www.scdhec.gov/environment/EnvironmentalLabCertification/	61002
Texas CEQ	http://www.tceq.texas.gov/field/qa/env_lab_accreditation.html	T104704427
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C544
Wyoming (EPA Region 8)	https://www.epa.gov/region8-waterops/epa-region-8-certified-drinking-water-	-
Kelso Laboratory Website	www.alsglobal.com	NA

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. A complete listing of specific NELAP-certified analytes, can be found in the certification section at www.ALSGlobal.com or at the accreditation bodies web site.
Please refer to the certification and/or accreditation body's web site if samples are submitted for compliance purposes. The states highlighted above, require the analysis be listed on the state certification if used for compliance purposes and if the method/anlayte is offered by that state.

Case Narrative

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1317 South 13th Ave, Kelso, WA 98626 | 1-360-577-7222 | www.alsglobal.com

Client: ALS Environmental - US
Project: ALS Houston DOD TOC
Sample Matrix: Ground Water

Service Request: K2006333
Date Received: 07/28/2020

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples for the Tier level IV requested by the client.

Sample Receipt:

Two ground water samples were received for analysis at ALS Environmental on 07/28/2020. Any discrepancies upon initial sample inspection are annotated on the sample receipt and preservation form included within this report. The samples were stored at minimum in accordance with the analytical method requirements.

General Chemistry:

No significant anomalies were noted with this analysis.

Approved by Kelley Lovejoy Date 08/10/2020

Chain of Custody

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K2001333

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

Subcontract Chain of Custody

SAMPLING STATE: **Dept of Defense** **COC ID:** **14374**

SUBCONTRACT TO:

ALS Environmental Kelso
1317 S. 13th Avenue
Kelso, WA 98626

Phone: +1 360 501 3312

CUSTOMER INFORMATION:

Company:	ALS Houston
Contact:	RJ Modashia
Address:	10450 Stancliff Rd, Ste 210
Phone:	+1 281 530 5656
Email:	RJ.Modashia@alsglobal.com
Alternate Contact:	Jumoke M. Lawal
Email:	jumoke.lawal@alsglobal.com

INVOICE INFORMATION:

Company:	ALS Houston
Contact:	Accounts Payable
Address:	10450 Stancliff Rd, Ste 210
Phone:	+1 281 530 5656
Reference:	HS20071147
TSR:	Sonia West

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	**HS20071147-05**	**16WW42-200723**	**Groundwater**	**23 Jul 2020 09:50**
	TOC Analysis with DOD Level IV/EQuIS APTIM EDD			06 Aug 2020
2.	**HS20071147-06**	**16WW42-200723-FD**	**Groundwater**	**23 Jul 2020 09:50**
	TOC Analysis with DOD Level IV/EQuIS APTIM EDD			06 Aug 2020

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

QC Level: DOD IV (DoD Data Package)

Relinquished By: _____ Date/Time: 7/27/2020 1800

Received By: _____ Date/Time: 7/28/20 0920

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

PC W

Cooler Receipt and Preservation Form

Client AIY - Horizon Service Request *K20* M1333

Received: 7/28/20 Opened: 7/28/20 By: BR Unloaded: 7/28/20 By: BR

1. Samples were received via? *USPS* (*Fed Ex*) *UPS* *DHL* *PDX* *Courier* *Hand Delivered*
2. Samples were received in: (circle) (*Cooler*) *Box* *Envelope* *Other* _____ *NA*
3. Were custody seals on coolers? NA (Y) N If yes, how many and where? 2 front
   If present, were custody seals intact? (Y) N If present, were they signed and dated? (Y) N

Temp Blank	Sample 1	Sample 2	Sample 3	Sample 4	IR GUN	Cooler / COC ID (NA)	Tracking Number NA	Filed
0.7	—	—	—	—	1201		1891 8878 7460	

4. Packing material: *Inserts* (*Baggies*) (*Bubble Wrap*) *Gel Packs* (*Wet Ice*) *Dry Ice* *Sleeves* _____
5. Were custody papers properly filled out (ink, signed, etc.)? NA (Y) N
6. Were samples received in good condition (temperature, unbroken)? *Indicate in the table below.* NA (Y) N
   If applicable, tissue samples were received: *Frozen* *Partially Thawed* *Thawed*
7. Were all sample labels complete (i.e analysis, preservation, etc.)? NA (Y) N
8. Did all sample labels and tags agree with custody papers? *Indicate major discrepancies in the table on page 2.* NA (Y) N
9. Were appropriate bottles/containers and volumes received for the tests indicated? NA (Y) N
10. Were the pH-preserved bottles (*see SMO GEN SOP*) received at the appropriate pH? *Indicate in the table below* NA (Y) N
11. Were VOA vials received without headspace? *Indicate in the table below.* (NA) Y N
12. Was C12/Res negative? (NA) Y N

Sample ID on Bottle	Sample ID on COC	Identified by:

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

Notes, Discrepancies, & Resolutions: _____

General Chemistry

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www.alsglobal.com

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	K2006333
Project:	ALS Houston DOD TOC	**Date Collected:**	07/23/20
Sample Matrix:	Ground Water	**Date Received:**	07/28/20
Analysis Method:	SM 5310 C	**Units:**	mg/L
Prep Method:	None	**Basis:**	NA

Carbon, Total Organic

Sample Name	Lab Code	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
16WW42-200723	K2006333-001	**4.16**	0.50	0.20	0.07	1	08/08/20 12:03	
16WW42-200723-FD	K2006333-002	**4.33**	0.50	0.20	0.07	1	08/08/20 12:03	
Method Blank	K2006333-MB	ND U	0.50	0.20	0.07	1	08/08/20 12:03	

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	K2006333
Project:	ALS Houston DOD TOC	**Date Analyzed:**	08/08/20
Sample Matrix:	Ground Water	**Date Extracted:**	NA

Lab Control Sample Summary
Carbon, Total Organic

Analysis Method:	SM 5310 C	**Units:**	mg/L
Prep Method:	None	**Basis:**	NA
		Analysis Lot:	690270

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K2006333-LCS	25.9	25.0	103	83-117

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US **Service Request:** K2006333
Project: ALS Houston DOD TOC

Continuing Calibration Verification (CCV) Summary

Carbon, Total Organic

Analysis Method: SM 5310 C **Units:** mg/L

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	690270	KQ2010960-03	08/08/20 12:03	25.0	25.5	102	90-110
CCV2	690270	KQ2010960-04	08/08/20 12:03	25.0	26.1	104	90-110
CCV3	690270	KQ2010960-05	08/08/20 12:03	25.0	25.0	100	90-110
CCV4	690270	KQ2010960-06	08/08/20 12:03	25.0	24.4	98	90-110
CCV5	690270	KQ2010960-07	08/08/20 12:03	25.0	24.9	99	90-110

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US **Service Request:**K2006333
Project: ALS Houston DOD TOC

Continuing Calibration Blank (CCB) Summary
Carbon, Total Organic

Analysis Method: SM 5310 C **Units:**mg/L

	Analysis Lot	Lab Code	Date Analyzed	LOQ	LOD	MDL	Result	Q
CCB1	690270	KQ2010960-08	08/08/20 12:03	0.50	0.20	0.07	ND	U
CCB2	690270	KQ2010960-09	08/08/20 12:03	0.50	0.20	0.07	ND	U
CCB3	690270	KQ2010960-10	08/08/20 12:03	0.50	0.20	0.07	ND	U
CCB4	690270	KQ2010960-11	08/08/20 12:03	0.50	0.20	0.07	ND	U
CCB5	690270	KQ2010960-12	08/08/20 12:03	0.50	0.20	0.07	ND	U

Raw Data

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360)577-7222 Fax (360)636-1068
www.alsglobal.com

General Chemistry

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
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Work Request # 6047 6158 6197 6297 6333 6206 6308

Tier: IV IV II II IV IV I

Date Analyzed: 8.8.20 6321 II 6497 II

Analyst: MK

Run # 690270/690271 690269

Analysis: TOC/DOC

DATA QUALITY REPORT
INORGANICS

Explain any "no" responses to questions below, and any corrective actions in the comments section below.

1.	Is the method name and number correct and appropriate?	yes/no/NA
2.	Holding times met for all analyses and for all samples?	yes/no/NA
3.	Are calculations correct?	yes/no/NA
4.	Is the reporting basis correct? (Dry Weight)	yes/no/NA
5.	All quality control criteria met?	yes/no
6.	Is the calibration curve correlation coefficient ≥ 0.995?	yes/no/NA
7.	MBs, CCVs, CCBs, LCSs, Dups, and Spikes, analyzed at proper frequency?	yes/no/NA
8.	Are ICVs, CCVs, and CCBs all within acceptance limits?	yes/no/NA
9.	Are results for methods blanks all ND?	yes/no/NA
10.	Are all QC samples within acceptance criteria? (LCS % rec, MS/DMS % rec, DUP or MS/DMS RPDs, etc.)	yes/no/NA MK
11.	Are all exceptions explained?	yes/no/NA
12.	Have all applicable service requests been reviewed?	yes/no/NA
13.	Are all samples labeled correctly?	yes/no/NA
14.	Have all instructions on the service request been followed? (e.g. Special MRLs, QC on a specific sample, Form V)	yes/no/NA
15.	Are detection limits and units reported correctly?	yes/no/NA
16.	Is the unused space on the benchsheet crossed out?	yes/no/NA
17.	Was analysis turned in by the due date? (n-2) (If not record SR#)	yes/no/NA

COMMENTS:

6206-1MS low Rec Matrix
6047-5 has matrix issues raised MRL
6497-4 needs DIL
5 needs rerun

Final Approved by: _____ Date: 8/10/20

DQREPORT

Analytical Results Summary

Instrument Name: K-TOC-01 **Analyst:** MKANALY **Analysis Lot:** 690270 **Method/Testcode:** SM 5310 C/TOC T

Lab Code	Target Analytes	QC	Parent Sample	Matrix	Raw Result	Sample Amt.	Final Result	Dil	MDL	PQL	% Rec	% RSD	Date Analyzed	QC?	Tier
K2006047-001	Carbon, Total Organic	N/A		Water	3.67 mg/L	10 mL	3.67 mg/L	1	0.07	0.50			8/8/20 12:03:00	N	IV
K2006047-002	Carbon, Total Organic	N/A		Water	13.40 mg/L	10 mL	67.0 mg/L	5	0.4	2.5			8/8/20 12:03:00	N	IV
K2006047-003	Carbon, Total Organic	N/A		Water	18.64 mg/L	10 mL	18.6 mg/L	1	0.07	0.50			8/8/20 12:03:00	N	IV
K2006047-004	Carbon, Total Organic	N/A		Water	5.58 mg/L	10 mL	5.58 mg/L	1	0.07	0.50			8/8/20 12:03:00	N	IV
K2006047-005.R02	Carbon, Total Organic	N/A		Water	0.00 mg/L	10 mL	5.0 mg/L U	10	0.7	5.0			8/8/20 12:03:00	N	IV
K2006047-006	Carbon, Total Organic	N/A		Water	2.56 mg/L	10 mL	2.56 mg/L	1	0.07	0.50			8/8/20 12:03:00	N	IV
K2006158-001	Carbon, Total Organic	N/A		Ground Water	13.70 mg/L	10 mL	13.7 mg/L	1	0.07	0.50			8/8/20 12:03:00	N	IV
K2006158-003	Carbon, Total Organic	N/A		Ground Water	8.37 mg/L	10 mL	8.37 mg/L	1	0.07	0.50			8/8/20 12:03:00	N	IV
K2006158-004	Carbon, Total Organic	N/A		Ground Water	8.30 mg/L	10 mL	8.30 mg/L	1	0.07	0.50			8/8/20 12:03:00	N	IV
K2006158-005	Carbon, Total Organic	N/A		Ground Water	46.07 mg/L	10 mL	1840 mg/L	40	3	20			8/8/20 12:03:00	N	IV
K2006158-006	Carbon, Total Organic	N/A		Ground Water	20.80 mg/L	10 mL	416 mg/L	20	2	10			8/8/20 12:03:00	N	IV
K2006197-002	Carbon, Total Organic	N/A		Water	16.68 mg/L	10 mL	16.7 mg/L	1	0.07	0.50			8/8/20 12:03:00	N	II
K2006297-001	Carbon, Total Organic	N/A		Wastewater	2.11 mg/L	10 mL	2.11 mg/L	1	0.07	0.50			8/8/20 12:03:00	N	II
K2006297-002	Carbon, Total Organic	N/A		Wastewater	0.95 mg/L	10 mL	0.95 mg/L	1	0.07	0.50			8/8/20 12:03:00	N	II
K2006297-003	Carbon, Total Organic	N/A		Wastewater	0.11 mg/L	10 mL	0.11 mg/L J	1	0.07	0.50			8/8/20 12:03:00	N	II
K2006297-004	Carbon, Total Organic	N/A		Wastewater	4.21 mg/L	10 mL	4.21 mg/L	1	0.07	0.50			8/8/20 12:03:00	N	II
K2006333-001	Carbon, Total Organic	N/A		Ground Water	4.16 mg/L	10 mL	4.16 mg/L	1	0.07	0.50			8/8/20 12:03:00	N	IV
K2006333-002	Carbon, Total Organic	N/A		Ground Water	4.33 mg/L	10 mL	4.33 mg/L	1	0.07	0.50			8/8/20 12:03:00	N	IV
KQ2010960-01	Carbon, Total Organic	MB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			8/8/20 12:03:00	N	IV
KQ2010960-02	Carbon, Total Organic	LCS		Water	25.85 mg/L	10 mL	25.9 mg/L	1	0.07	0.50	103		8/8/20 12:03:00	N	IV
KQ2010960-03	Carbon, Total Organic	CCV		Water	25.52 mg/L	10 mL	25.5 mg/L	1					8/8/20 12:03:00	N	IV
KQ2010960-04	Carbon, Total Organic	CCV		Water	26.08 mg/L	10 mL	26.1 mg/L	1					8/8/20 12:03:00	N	IV
KQ2010960-05	Carbon, Total Organic	CCV		Water	25.01 mg/L	10 mL	25.0 mg/L	1					8/8/20 12:03:00	N	IV
KQ2010960-06	Carbon, Total Organic	CCV		Water	24.38 mg/L	10 mL	24.4 mg/L	1					8/8/20 12:03:00	N	IV
KQ2010960-07	Carbon, Total Organic	CCV		Water	24.86 mg/L	10 mL	24.9 mg/L	1					8/8/20 12:03:00	N	IV
KQ2010960-08	Carbon, Total Organic	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			8/8/20 12:03:00	N	IV
KQ2010960-09	Carbon, Total Organic	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			8/8/20 12:03:00	N	IV
KQ2010960-10	Carbon, Total Organic	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			8/8/20 12:03:00	N	IV
KQ2010960-11	Carbon, Total Organic	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			8/8/20 12:03:00	N	IV
KQ2010960-12	Carbon, Total Organic	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			8/8/20 12:03:00	N	IV

# indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

Analytical Results Summary

Instrument Name: K-TOC-01 **Analyst:** MKANALY **Analysis Lot:** 690270 **Method/Testcode:** SM 5310 C/TOC T

Lab Code	Target Analytes	QC	Parent Sample	Matrix	Raw Result	Sample Amt.	Final Result	Dil	MDL	PQL	% Rec	% RSD	Date Analyzed	QC?	Tier
KQ2010960-13	Carbon, Total Organic	DUP	K2006158-001	Ground Water	13.63 mg/L	10 mL	13.6 mg/L	1	0.07	0.50		<1	8/8/20 12:03:00	N	IV
KQ2010960-14	Carbon, Total Organic	MS	K2006158-001	Ground Water	41.06 mg/L	10 mL	41.1 mg/L	1	0.07	0.50	109		8/8/20 12:03:00	N	IV
KQ2010960-15	Carbon, Total Organic	DUP	K2006297-004	Wastewater	4.18 mg/L	10 mL	4.18 mg/L	1	0.07	0.50		<1	8/8/20 12:03:00	N	II
KQ2010960-16	Carbon, Total Organic	MS	K2006297-004	Wastewater	32.03 mg/L	10 mL	32.0 mg/L	1	0.07	0.50	111		8/8/20 12:03:00	N	II

# indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

Analytical Results Summary

Instrument Name: K-TOC-01 **Analyst:** MKANALY **Analysis Lot:** 690271 **Method/Testcode:** SM 5310 C/TOC T

Lab Code	Target Analytes	QC	Parent Sample	Matrix	Raw Result	Sample Amt.	Final Result	Dil	MDL	PQL	% Rec	% RSD	Date Analyzed	QC?	Tier
K2006206-001	Carbon, Total Organic	N/A		Water	1.10 mg/L	10 mL	1.10 mg/L	1	0.07	0.50			8/8/20 12:03:00	N	IV
K2006206-002	Carbon, Total Organic	N/A		Water	1.16 mg/L	10 mL	1.16 mg/L	1	0.07	0.50			8/8/20 12:03:00	N	IV
K2006308-001	Carbon, Total Organic	N/A		Drinking Water	0.76 mg/L	10 mL	0.76 mg/L	1	0.07	0.50			8/8/20 12:03:00	N	I
K2006321-001	Carbon, Total Organic	N/A		Water	0.75 mg/L	10 mL	0.75 mg/L	1	0.07	0.50			8/8/20 12:03:00	N	II
K2006321-002	Carbon, Total Organic	N/A		Water	4.37 mg/L	10 mL	8.7 mg/L	2	0.2	1.0			8/8/20 12:03:00	N	II
K2006321-003	Carbon, Total Organic	N/A		Water	4.10 mg/L	10 mL	4.10 mg/L	1	0.07	0.50			8/8/20 12:03:00	N	II
K2006321-004	Carbon, Total Organic	N/A		Water	8.76 mg/L	10 mL	8.76 mg/L	1	0.07	0.50			8/8/20 12:03:00	N	II
K2006321-005	Carbon, Total Organic	N/A		Water	2.70 mg/L	10 mL	2.70 mg/L	1	0.07	0.50			8/8/20 12:03:00	N	II
K2006321-006	Carbon, Total Organic	N/A		Water	0.59 mg/L	10 mL	0.59 mg/L	1	0.07	0.50			8/8/20 12:03:00	N	II
K2006497-002	Carbon, Total Organic	N/A		Ground Water	4.55 mg/L	10 mL	4.55 mg/L	1	0.07	0.50			8/8/20 12:03:00	N	IV
K2006497-003	Carbon, Total Organic	N/A		Ground Water	4.57 mg/L	10 mL	4.57 mg/L	1	0.07	0.50			8/8/20 12:03:00	N	IV
K2006497-004.R01	Carbon, Total Organic	N/A		Ground Water	112.94 mg/L	10 mL	113 mg/L	1	0.07	0.50			8/8/20 12:03:00	N	IV
K2006497-005.R01	Carbon, Total Organic	N/A		Ground Water	6.54 mg/L	10 mL	6.54 mg/L	1	0.07	0.50			8/8/20 12:03:00	N	IV
KQ2010974-01	Carbon, Total Organic	MB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			8/8/20 12:03:00	N	IV
KQ2010974-05	Carbon, Total Organic	LCS		Water	24.91 mg/L	10 mL	24.9 mg/L	1	0.07	0.50	100		8/8/20 12:03:00	N	IV
KQ2010974-06	Carbon, Total Organic	DLCS		Water	25.04 mg/L	10 mL	25.0 mg/L	1	0.07	0.50	100	<1	8/8/20 12:03:00	N	IV
KQ2010974-07	Carbon, Total Organic	CCV		Water	25.01 mg/L	10 mL	25.0 mg/L	1					8/8/20 12:03:00	N	IV
KQ2010974-08	Carbon, Total Organic	CCV		Water	24.38 mg/L	10 mL	24.4 mg/L	1					8/8/20 12:03:00	N	IV
KQ2010974-09	Carbon, Total Organic	CCV		Water	24.86 mg/L	10 mL	24.9 mg/L	1					8/8/20 12:03:00	N	IV
KQ2010974-10	Carbon, Total Organic	CCV		Water	26.16 mg/L	10 mL	26.2 mg/L	1					8/8/20 12:03:00	N	IV
KQ2010974-12	Carbon, Total Organic	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			8/8/20 12:03:00	N	IV
KQ2010974-13	Carbon, Total Organic	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			8/8/20 12:03:00	N	IV
KQ2010974-14	Carbon, Total Organic	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			8/8/20 12:03:00	N	IV
KQ2010974-15	Carbon, Total Organic	DUP	K2006206-001	Water	1.13 mg/L	10 mL	1.13 mg/L	1	0.07	0.50		2	8/8/20 12:03:00	N	IV
KQ2010974-16	Carbon, Total Organic	MS	K2006206-001	Water	14.69 mg/L	10 mL	14.7 mg/L	1	0.07	0.50	54*		8/8/20 12:03:00	N	IV
KQ2010974-17	Carbon, Total Organic	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			8/8/20 12:03:00	N	IV

# indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

Analytical Results Summary

Instrument Name: K-TOC-01 **Analyst:** MKANALY **Analysis Lot:** 690269 **Method/Testcode:** SM 5310 C/TOC D

Lab Code	Target Analytes	QC	Parent Sample	Matrix	Raw Result	Sample Amt.	Final Result	Dil	MDL	PQL	% Rec	% RSD	Date Analyzed	QC?	Tier
K2006297-001	Carbon, Dissolved Organic (DOC)	N/A		Wastewater	2.11 mg/L	10 mL	2.11 mg/L	1	0.07	0.50			8/8/20 12:03:00	N	II
K2006297-002	Carbon, Dissolved Organic (DOC)	N/A		Wastewater	0.95 mg/L	10 mL	0.95 mg/L	1	0.07	0.50			8/8/20 12:03:00	N	II
K2006297-003	Carbon, Dissolved Organic (DOC)	N/A		Wastewater	0.11 mg/L	10 mL	0.11 mg/L J	1	0.07	0.50			8/8/20 12:03:00	N	II
K2006297-004	Carbon, Dissolved Organic (DOC)	N/A		Wastewater	4.21 mg/L	10 mL	4.21 mg/L	1	0.07	0.50			8/8/20 12:03:00	N	II
KQ2010959-01	Carbon, Dissolved Organic (DOC)	DUP	K2006297-004	Wastewater	4.18 mg/L	10 mL	4.18 mg/L	1	0.07	0.50		<1	8/8/20 12:03:00	N	II
KQ2010959-02	Carbon, Dissolved Organic (DOC)	MS	K2006297-004	Wastewater	32.03 mg/L	10 mL	32.0 mg/L	1	0.07	0.50	111		8/8/20 12:03:00	N	II
KQ2010959-03	Carbon, Dissolved Organic (DOC)	CCV		Wastewater	25.01 mg/L	10 mL	25.0 mg/L	1					8/8/20 12:03:00	N	II
KQ2010959-04	Carbon, Dissolved Organic (DOC)	CCV		Wastewater	24.38 mg/L	10 mL	24.4 mg/L	1					8/8/20 12:03:00	N	II
KQ2010959-05	Carbon, Dissolved Organic (DOC)	CCV		Wastewater	24.86 mg/L	10 mL	24.9 mg/L	1					8/8/20 12:03:00	N	II
KQ2010959-06	Carbon, Dissolved Organic (DOC)	CCB		Wastewater	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			8/8/20 12:03:00	N	II
KQ2010959-07	Carbon, Dissolved Organic (DOC)	CCB		Wastewater	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			8/8/20 12:03:00	N	II
KQ2010959-08	Carbon, Dissolved Organic (DOC)	CCB		Wastewater	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			8/8/20 12:03:00	N	II
KQ2010959-09	Carbon, Dissolved Organic (DOC)	MB		Wastewater	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			8/8/20 12:03:00	N	II
KQ2010959-10	Carbon, Dissolved Organic (DOC)	LCS		Wastewater	25.23 mg/L	10 mL	25.2 mg/L	1	0.07	0.50	101		8/8/20 12:03:00	N	II
KQ2010959-11	Carbon, Dissolved Organic (DOC)	DLCS		Wastewater	25.11 mg/L	10 mL	25.1 mg/L	1	0.07	0.50	100	<1	8/8/20 12:03:00	N	II

# indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

TOC : 690270
TOC : 690271
TOC : ~~690290~~ MK 8-10-20
DOC 690269

Schedule: 080820

Version: 13
Instrument: Fusion1
Last Saved by: Fusion1 (Fusion1)
Last Saved on: 2020/08/09 13:02 - Sunday

Position	Sample Type	Sample ID	Method ID (Calibration ID)	Reps	Use	State
(Clean)	Clean	Clean		1	True	Ready
(Clean)	Clean	Clean		1	True	Ready
(Clean)	Clean	Clean		1	True	Ready
(Blank)	Blank	Reagent/Acid Blank		1	True	Ready
D	Sample	RB	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
B	Check Standard	[TOC] CCV 25 ppm [25 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
D	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
1	Sample	MB1	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
C	Check Standard	[TOC] CCV 25 ppm [25 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
2	Sample	ICS	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
C	Check Standard	[TOC] LCS [25.0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
3	Sample	K2006047-001	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
4	Sample	K2006047-002 5X	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
5	Sample	K2006047-003	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
6	Sample	K2006047-004	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
7	Sample	K2006047-005 10X	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
8	Sample	K2006047-006	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
9	Sample	K2006158-001	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
B	Check Standard	[TOC] CCV 25 ppm [25 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
D	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
10	Sample	K2006158-001D	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
11	Sample	K2006158-001MS	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
12	Sample	K2006158-003	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
13	Sample	K2006158-004	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
14	Sample	K2006158-005 40X	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
15	Sample	K2006158-006 20X	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
16	Sample	RB	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
17	Sample	K2006333-001	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
18	Sample	K2006333-002	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
19	Sample	RB	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
B	Check Standard	[TOC] CCV 25 ppm [25 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
D	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
20	Sample	MB2	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
C	Check Standard	[TOC] LCS [25.0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
C	Check Standard	[TOC] LCS [25.0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
22	Sample	K2006297-001	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
23	Sample	K2006297-002	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
24	Sample	K2006297-003	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
25	Sample	K2006297-004	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
26	Sample	K2006297-004D	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
27	Sample	K2006297-004MS	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
28	Sample	K2006197-001	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
B	Check Standard	[TOC] CCV 25 ppm [25 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
D	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
29	Sample	K2006297-001*	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
30	Sample	K2006297-002*	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
31	Sample	K2006297-003*	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
32	Sample	K2006297-004*	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
33	Sample	K2006297-004D*	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
34	Sample	K2006297-004S*	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
35	Sample	K2006308-001	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
36	Sample	K2006321-001	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
37	Sample	K2006321-002 2X	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
38	Sample	K2006321-003	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready

Schedule: 080820

Position	Sample Type	Sample ID	Method ID (Calibration ID)	Reps	Use	State
B	Check Standard	[TOC] CCV 25 ppm [25 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
D	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
39	Sample	MB3	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
C	Check Standard	[TOC] LCS [25.0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
C	Check Standard	[TOC] LCS [25.0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
41	Sample	K2006321-004	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
42	Sample	K2006321-005	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
43	Sample	K2006321-006	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
44	Sample	K2006206-001	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
45	Sample	K2006206-001D	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
46	Sample	K2006206-1MS	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
47	Sample	K2006206-002	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
B	Check Standard	[TOC] CCV 25 ppm [25 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
D	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
48	Sample	~~K2006280-001~~	CAS_salt_010711 (CAS_salt_010711)	2	False	Ready
49	Sample	K2006280-001D	CAS_salt_010711 (CAS_salt_010711)	2	False	Ready
50	Sample	K2006280-001S NR	CAS_salt_010711 (CAS_salt_010711)	2	False	Ready
51	Sample	K2006280-002	CAS_salt_010711 (CAS_salt_010711)	2	False	Ready
52	Sample	~~K2006280-003~~	CAS_salt_010711 (CAS_salt_010711)	2	False	Ready
53	Sample	K2006497-001	CAS_salt_010711 (CAS_salt_010711)	2	False	Ready
54	Sample	K2006497-002	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
55	Sample	K2006497-003	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
56	Sample	K2006497-004	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
57	Sample	K2006497-005	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
B	Check Standard	[TOC] CCV 25 ppm [25 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
C	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
58	Sample	MB	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
C	Check Standard	[TOC] LCS [25.0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
59	Sample	K2006497-006	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
60	Sample	K2006330-001	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
62	Sample	K2006330-001D NR	CAS_salt_010711 (CAS_salt_010711)	2	False	Ready
63	Sample	K2006330-001MS	CAS_salt_010711 (CAS_salt_010711)	2	False	Ready
64	Sample	K2006330-002	CAS_salt_010711 (CAS_salt_010711)	2	False	Ready
65	Sample	K2006330-003	CAS_salt_010711 (CAS_salt_010711)	2	False	Ready
68	Sample	K2006257-001	CAS_salt_010711 (CAS_salt_010711)	2	False	Ready
B	Check Standard	[TOC] CCV 25ppm_salt [25ppm salt]	CAS_salt (CAS_salt_0811a)	1	True	Ready
D	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
					False	

Fusion Report - 080820
Saturday, August 08, 2020 12:03 PM

(View - Reps, Unused Reps, Meta-Data, Signature, History)
Printed on 2020/08/10 07:53 - Monday

Report Summary Information

Company Location:	Gen Chem Lab		
Schedule Name:	080820	Engine Version:	1.1.5.1
Instrument Name:	Fusion1	Firmware Version:	1.2.0696
Report Version:	1 of 1	Connection:	RS232 COM1
Report Creation by Operators (schedule version):	Fusion1 (Fusion1) (v3) Fusion1 (Fusion1) (v5) Fusion1 (Fusion1) (v7) Fusion1 (Fusion1) (v9) Fusion1 (Fusion1) (v13)		
Comment:			

Report Results

Sample Type: Clean — From Schedule Version 3

	Pos	Analysis Type	Sample ID	Start Time
◈	(clean)		Clean	2020/08/08 12:03

Rep #	Base Analysis Type	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	IC Clean	13.44	27.20	13.76	49.74	07:57
2	TC Clean	9.84	22.99	13.15	49.66	07:18
3	TC Clean	1.63	14.75	13.12	49.68	07:03
4	TC Clean	0.84	13.84	12.99	49.66	07:00

Sample Type: Clean — From Schedule Version 3

	Pos	Analysis Type	Sample ID	Start Time
◈	(clean)		Clean	2020/08/08 12:37

Rep #	Base Analysis Type	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	IC Clean	-0.08	12.88	12.96	49.75	08:00
2	TC Clean	4.72	17.45	12.72	49.65	07:16
3	TC Clean	1.01	14.02	13.01	49.67	07:02

4	TC Clean	0.80	13.73	12.93	49.67	07:00

Sample Type: Clean From Schedule Version 3

	Pos	Analysis Type	Sample ID	Start Time
◆	(clean)		Clean	2020/08/08 13:11

Rep #	Base Analysis Type	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	IC Clean	-0.26	12.71	12.97	49.75	07:58
2	TC Clean	4.82	17.53	12.71	49.59	07:16
3	TC Clean	1.11	14.03	12.92	49.64	07:00
4	TC Clean	1.03	13.85	12.82	49.65	07:01

Sample Type: Blank (Creating v1430) From Schedule Version 3

	Pos	Analysis Type	Sample ID	Start Time
◆	(blank)		Reagent/Acid Blank	2020/08/08 13:45

Rep #	Base Analysis Type	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	IC Clean	-0.39	12.48	12.87	49.76	07:59
2	TC Clean	5.34	17.95	12.61	49.61	07:19
3	TC Clean	1.82	14.75	12.92	49.59	07:02
4	TC Clean	1.25	14.03	12.79	49.61	07:01
5	Reagent Blank	5.96	18.76	12.79	49.60	08:10
6	Acid Blank	0.56	13.15	12.59	49.74	08:01

Sample Type: Sample From Schedule Version 3

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	D	TOC	RB	0.2354 ppm	0.0000 ppm	0.0000%	2020/08/08 14:36

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.2354	2.3545	10.95	23.83	12.88	49.78	10:31

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> CCV 25 ppm From Schedule Version 3

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	B	TOC	25.0000	1:2	[TOC] CCV 25 ppm [25 ppm]	0 / infinity (NA / NA)	25.5238 ppm (PASS)	0.0000 ppm	0%	2020/08/08 14:51

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	25.5238	255.2379	188.94	201.71	12.77	49.74	10:33

Completion State	Success Action	Method	Calibration	STD Conc - Pos B
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	50 ppmC

Sample Type: Check Standard --> CCB From Schedule Version 3

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	D	TOC	0.0000	1:1	[TOC] CCB [0 ppm]	0 / infinity (NA / NA)	0.0000 ppm (PASS)	0.0000 ppm	0%	2020/08/08 15:06

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.0000	0.0000	8.98	21.82	12.84	49.72	10:30

Completion State	Success Action	Method	Calibration	STD Conc - Pos D
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	0 ppmC

Sample Type: Sample From Schedule Version 5

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	1	TOC	MB1	0.0000 ppm	0.0000 ppm	0.0000%	2020/08/08 15:21

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0000	0.0000	8.70	21.47	12.77	49.71	10:32

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> CCV 25 ppm From Schedule Version 7

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	C	TOC	25.0000	1:2	[TOC] CCV 25 ppm [25 ppm]	0 / infinity (NA / NA)	12.4067 ppm (PASS)	0.0000 ppm	0%	2020/08/08 15:35

NR

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
C	TOC	25 ppm	1	12.4067	124.0671	96.92	109.68	12.76	49.68	10:33

Completion State	Success Action	Method	Calibration	STD Conc - Pos C
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	50 ppmC

Sample Type: Sample From Schedule Version 9

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	2	TOC	ICS	0.6496 ppm	0.0000 ppm	0.0000%	2020/08/08 15:50

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.6496	6.4957	13.86	26.57	12.71	49.62	10:33

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> LCS From Schedule Version 9

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	C	TOC	25.0000	1:1	[TOC] LCS [25.0 ppm]	0 / infinity (NA / NA)	25.8527 ppm (PASS)	0.0000 ppm	0%	2020/08/08 16:05

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
C	TOC	25.0 ppm	1	25.8527	258.5266	191.24	203.85	12.61	49.64	10:33

Completion State	Success Action	Method	Calibration	STD Conc - Pos C
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	25 ppmC

Sample Type: Sample From Schedule Version 9

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	3	TOC	K2006047-001	3.6735 ppm	0.1980 ppm	5.3900%	2020/08/08 16:20

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	3.8134	38.1344	36.05	48.77	12.72	49.62	10:29
2	TOC	3.5335	35.3346	34.09	46.79	12.70	49.62	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	4	TOC	K2006047-002 5X	13.4025 ppm	0.0162 ppm	0.1200%	2020/08/08 16:48

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	13.3910	133.9101	103.24	116.08	12.85	49.73	10:26
2	TOC	13.4140	134.1396	103.40	116.38	12.98	49.64	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	5	TOC	K2006047-003	18.6383 ppm	0.2445 ppm	1.3100%	2020/08/08 17:16

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	18.8112	188.1124	141.26	154.11	12.85	49.79	10:29
2	TOC	18.4654	184.6541	138.83	151.84	13.01	49.68	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	6	TOC	K2006047-004	5.5848 ppm	0.1138 ppm	2.0400%	2020/08/08 17:44

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	5.6652	56.6523	49.04	61.94	12.90	49.74	10:29
2	TOC	5.5043	55.0429	47.91	60.86	12.95	49.70	10:23

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	7	TOC	K2006047-005 10X	0.0000 ppm	0.0000 ppm	0.0000%	2020/08/08 18:12

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0000	0.0000	-771.14	-758.07	13.07	49.70	10:26
2	TOC	0.0000	0.0000	-527.65	-514.52	13.13	49.68	10:30

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	8	TOC	K2006047-006	2.5618 ppm	0.6570 ppm	25.6500%	2020/08/08 18:40

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	3.0264	30.2639	30.53	43.62	13.09	49.71	10:29

2	TOC	2.0972	20.9722	24.01	37.09	13.08	49.81	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	9	TOC	K2006158-001	13.7039 ppm	0.0665 ppm	0.4900%	2020/08/08 19:08

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	13.7510	137.5096	105.76	118.84	13.08	49.66	10:28
2	TOC	13.6569	136.5688	105.10	117.97	12.87	49.66	10:23

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> CCV 25 ppm From Schedule Version 9

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	B	TOC	25.0000	1:2	[TOC] CCV 25 ppm [25 ppm]	0 / infinity (NA / NA)	26.0793 ppm (PASS)	0.0000 ppm	0%	2020/08/08 19:36

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	26.0793	260.7933	192.83	205.61	12.78	49.77	10:31

Completion State	Success Action	Method	Calibration	STD Conc - Pos B
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	50 ppmC

Sample Type: Check Standard --> CCB From Schedule Version 9

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	D	TOC	0.0000	1:1	[TOC] CCB [0 ppm]	0 / infinity (NA / NA)	0.0449 ppm (PASS)	0.0000 ppm	0%	2020/08/08 19:51

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.0449	0.4490	10.21	23.03	12.82	49.62	10:31

Completion State	Success Action	Method	Calibration	STD Conc - Pos D
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	0 ppmC

Sample Type: Sample From Schedule Version 9

		Analysis			Std. Dev.		

	Pos	Type	Sample ID	Result (ppmC)	(ppmC)	RSD	Start Time
◈	10	TOC	K2006158-001D	13.6259 ppm	0.3394 ppm	2.4900%	2020/08/08 20:05

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	13.8659	138.6586	106.57	119.68	13.12	49.58	10:28
2	TOC	13.3859	133.8588	103.20	116.19	12.99	49.54	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	11	TOC	K2006158-001MS	41.0625 ppm	0.3763 ppm	0.9200%	2020/08/08 20:34

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	41.3286	413.2855	299.21	312.31	13.10	49.51	10:27
2	TOC	40.7964	407.9639	295.48	308.63	13.15	49.48	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	12	TOC	K2006158-003	8.3734 ppm	0.2055 ppm	2.4500%	2020/08/08 21:02

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	8.5188	85.1876	69.06	82.12	13.06	49.49	10:29
2	TOC	8.2281	82.2809	67.02	79.91	12.89	49.49	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	13	TOC	K2006158-004	8.2953 ppm	0.0755 ppm	0.9100%	2020/08/08 21:30

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	8.3487	83.4869	67.86	80.81	12.95	49.50	10:25
2	TOC	8.2419	82.4192	67.12	80.14	13.02	49.50	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	14	TOC	K2006158-005 40X	46.0666 ppm	0.3094 ppm	0.6700%	2020/08/08 21:58

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	45.8478	458.4784	330.92	343.86	12.94	49.51	10:30
2	TOC	46.2853	462.8534	333.98	347.14	13.16	49.54	10:25

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	15	TOC	K2006158-006 20X	20.8042 ppm	0.6440 ppm	3.1000%	2020/08/08 22:26

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	21.2596	212.5963	158.43	171.47	13.03	49.55	10:28
2	TOC	20.3488	203.4885	152.04	165.18	13.14	49.54	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	16	TOC	RB	0.8427 ppm	0.1281 ppm	15.2000%	2020/08/08 22:54

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.7521	7.5207	14.58	27.53	12.95	49.53	10:26
2	TOC	0.9333	9.3325	15.85	28.76	12.91	49.58	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	17	TOC	K2006333-001	4.1567 ppm	0.1343 ppm	3.2300%	2020/08/08 23:22

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	4.2517	42.5165	39.12	52.03	12.91	49.59	10:27
2	TOC	4.0618	40.6177	37.79	51.00	13.21	49.61	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	18	TOC	K2006333-002	4.3346 ppm	0.1227 ppm	2.8300%	2020/08/08 23:50

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	4.4213	44.2130	40.32	53.25	12.94	49.64	10:29
2	TOC	4.2478	42.4781	39.10	52.25	13.15	49.60	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	19	TOC	RB	0.1913 ppm	0.0489 ppm	25.5500%	2020/08/09 00:18

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.1568	1.5676	10.40	23.59	13.19	49.64	10:29
2	TOC	0.2259	2.2590	10.88	23.96	13.08	49.63	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> CCV 25 ppm From Schedule Version 9

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	B	TOC	25.0000	1:2	[TOC] CCV 25 ppm [25 ppm]	0 / infinity (NA / NA)	25.0089 ppm (PASS)	0.0000 ppm	0%	2020/08/09 00:46

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	25.0089	250.0888	185.32	198.36	13.04	49.58	10:33

Completion State	Success Action	Method	Calibration	STD Conc - Pos B
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	50 ppmC

Sample Type: Check Standard --> CCB From Schedule Version 9

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	D	TOC	0.0000	1:1	[TOC] CCB [0 ppm]	0 / infinity (NA / NA)	0.0000 ppm (PASS)	0.0000 ppm	0%	2020/08/09 01:01

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.0000	0.0000	9.80	22.72	12.92	49.54	10:30

Completion State	Success Action	Method	Calibration	STD Conc - Pos D
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	0 ppmC

Sample Type: Sample From Schedule Version 9

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	20	TOC	MB2	0.0000 ppm	0.0000 ppm	0.0000%	2020/08/09 01:16

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0000	0.0000	9.16	22.32	13.17	49.50	10:30

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC)	CAS_salt_010711	CAS_salt_010711

(v1430) (v4) (v38)

Sample Type: Check Standard --> LCS From Schedule Version 9

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	C	TOC	25.0000	1:1	[TOC] LCS [25.0 ppm]	0 / infinity (NA / NA)	25.2283 ppm (PASS)	0.0000 ppm	0%	2020/08/09 01:30

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
C	TOC	25.0 ppm	1	25.2283	252.2827	186.86	199.88	13.01	49.48	10:31

Completion State	Success Action	Method	Calibration	STD Conc - Pos C
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	25 ppmC

Sample Type: Check Standard --> LCS From Schedule Version 9

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	C	TOC	25.0000	1:1	[TOC] LCS [25.0 ppm]	0 / infinity (NA / NA)	25.1138 ppm (PASS)	0.0000 ppm	0%	2020/08/09 01:45

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
C	TOC	25.0 ppm	1	25.1138	251.1380	186.06	199.23	13.17	49.48	10:33

Completion State	Success Action	Method	Calibration	STD Conc - Pos C
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	25 ppmC

Sample Type: Sample From Schedule Version 9

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	22	TOC	K2006297-001	2.1105 ppm	0.0374 ppm	1.7700%	2020/08/09 01:59

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	2.1370	21.3699	24.29	37.63	13.34	49.47	10:28
2	TOC	2.0841	20.8410	23.92	37.17	13.25	49.48	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	23	TOC	K2006297-002	0.9452 ppm	0.0011 ppm	0.1200%	2020/08/09 02:27

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.9459	9.4594	15.94	29.10	13.17	49.52	10:26
2	TOC	0.9444	9.4437	15.92	28.99	13.07	49.54	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	24	TOC	K2006297-003	0.1083 ppm	0.0214 ppm	19.7300%	2020/08/09 02:55

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.1234	1.2340	10.17	23.36	13.19	49.56	10:26
2	TOC	0.0932	0.9318	9.95	23.02	13.07	49.58	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	25	TOC	K2006297-004	4.2067 ppm	0.0302 ppm	0.7200%	2020/08/09 03:23

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	4.2281	42.2813	38.96	52.02	13.06	49.65	10:26
2	TOC	4.1854	41.8537	38.66	51.79	13.13	49.71	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	26	TOC	K2006297-004D	4.1821 ppm	0.0028 ppm	0.0700%	2020/08/09 03:51

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	4.1801	41.8009	38.62	51.85	13.22	49.69	10:27
2	TOC	4.1841	41.8408	38.65	51.88	13.23	49.81	10:28

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	27	TOC	K2006297-004MS	32.0297 ppm	0.4198 ppm	1.3100%	2020/08/09 04:19

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	31.7329	317.3288	231.90	245.22	13.32	49.79	10:26
2	TOC	32.3266	323.2662	236.07	249.38	13.31	49.79	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC)	CAS_salt_010711	CAS_salt_010711

(v1430) (v4) (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	28	TOC	K2006197-001	16.6761 ppm	0.0755 ppm	0.4500%	2020/08/09 04:47

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	16.6227	166.2274	125.91	139.14	13.23	49.84	10:30
2	TOC	16.7295	167.2951	126.66	140.11	13.46	49.87	10:29

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> CCV 25 ppm From Schedule Version 9

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	B	TOC	25.0000	1:2	[TOC] CCV 25 ppm [25 ppm]	0 / infinity (NA / NA)	24.3841 ppm (PASS)	0.0000 ppm	0%	2020/08/09 05:15

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	24.3841	243.8406	180.94	194.23	13.29	49.90	10:29

Completion State	Success Action	Method	Calibration	STD Conc - Pos B
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	50 ppmC

Sample Type: Check Standard --> CCB From Schedule Version 9

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	D	TOC	0.0000	1:1	[TOC] CCB [0 ppm]	0 / infinity (NA / NA)	0.0000 ppm (PASS)	0.0000 ppm	0%	2020/08/09 05:30

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.0000	0.0000	8.46	21.79	13.33	49.93	10:33

Completion State	Success Action	Method	Calibration	STD Conc - Pos D
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	0 ppmC

Sample Type: Sample From Schedule Version 9

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	29	TOC	K2006297-001*	1.8964 ppm	0.0291 ppm	1.5400%	2020/08/09 05:45

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.9170	19.1703	22.75	36.13	13.38	49.93	10:27
2	TOC	1.8758	18.7583	22.46	35.91	13.46	49.97	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	30	TOC	K2006297-002*	1.4987 ppm	0.0616 ppm	4.1100%	2020/08/09 06:13

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.4551	14.5515	19.51	32.81	13.30	49.99	10:27
2	TOC	1.5423	15.4225	20.12	33.48	13.36	49.97	10:30

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	31	TOC	K2006297-003*	0.1828 ppm	0.1654 ppm	90.5000%	2020/08/09 06:41

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0658	0.6581	9.76	23.16	13.40	49.97	10:28
2	TOC	0.2997	2.9974	11.40	24.83	13.43	49.96	10:24

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	32	TOC	K2006297-004*	4.0275 ppm	0.0781 ppm	1.9400%	2020/08/09 07:09

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	3.9722	39.7225	37.16	50.64	13.48	49.95	10:27
2	TOC	4.0827	40.8273	37.94	51.35	13.41	49.96	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	33	TOC	K2006297-004D*	4.0559 ppm	0.0077 ppm	0.1900%	2020/08/09 07:37

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	4.0505	40.5051	37.71	51.12	13.41	49.92	10:25
2	TOC	4.0613	40.6134	37.79	51.33	13.54	49.89	10:23

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC)	CAS_salt_010711	CAS_salt_010711

(v1430) (v4) (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	34	TOC	K2006297-004S*	30.5388 ppm	0.0734 ppm	0.2400%	2020/08/09 08:05

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	30.4869	304.8694	223.16	236.50	13.34	49.92	10:24
2	TOC	30.5907	305.9072	223.89	237.09	13.20	49.89	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	35	TOC	K2006308-001	0.7625 ppm	0.0787 ppm	10.3200%	2020/08/09 08:33

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.8182	8.1821	15.04	28.47	13.43	49.90	10:28
2	TOC	0.7069	7.0688	14.26	27.66	13.40	49.99	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	36	TOC	K2006321-001	0.7486 ppm	0.0339 ppm	4.5200%	2020/08/09 09:01

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.7726	7.7259	14.72	28.07	13.35	49.97	10:29
2	TOC	0.7247	7.2470	14.38	27.66	13.28	49.99	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	37	TOC	K2006321-002 2X	4.3676 ppm	0.0081 ppm	0.1800%	2020/08/09 09:29

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	4.3618	43.6185	39.90	53.10	13.20	50.01	10:31
2	TOC	4.3733	43.7325	39.98	53.00	13.02	50.01	10:29

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	38	TOC	K2006321-003	4.0969 ppm	0.1642 ppm	4.0100%	2020/08/09 09:57

Rep	Base	ppm	µg	Adjusted	NDIR (Abs)	Baseline	Pressure	Run

#	Analysis Type			(Abs)		(Abs)	(psig)	Time
1	TOC	4.2130	42.1302	38.85	52.04	13.19	50.01	10:28
2	TOC	3.9808	39.8080	37.22	50.43	13.21	50.02	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> CCV 25 ppm From Schedule Version 9

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	B	TOC	25.0000	1:2	[TOC] CCV 25 ppm [25 ppm]	0 / infinity (NA / NA)	24.8551 ppm (PASS)	0.0000 ppm	0%	2020/08/09 10:25

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	24.8551	248.5506	184.25	197.11	12.86	50.01	10:32

Completion State	Success Action	Method	Calibration	STD Conc - Pos B
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	50 ppmC

Sample Type: Check Standard --> CCB From Schedule Version 9

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	D	TOC	0.0000	1:1	[TOC] CCB [0 ppm]	0 / infinity (NA / NA)	0.0000 ppm (PASS)	0.0000 ppm	0%	2020/08/09 10:40

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.0000	0.0000	8.76	21.69	12.93	50.00	10:29

Completion State	Success Action	Method	Calibration	STD Conc - Pos D
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	0 ppmC

Sample Type: Sample From Schedule Version 9

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	39	TOC	MB3	0.0000 ppm	0.0000 ppm	0.0000%	2020/08/09 10:55

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0000	0.0000	7.94	21.07	13.13	49.99	10:32

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> LCS From Schedule Version 9

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	C	TOC	25.0000	1:1	[TOC] LCS [25.0 ppm]	0 / infinity (NA / NA)	24.9081 ppm (PASS)	0.0000 ppm	0%	2020/08/09 11:09

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
C	TOC	25.0 ppm	1	24.9081	249.0809	184.62	197.61	12.99	49.99	10:31

Completion State	Success Action	Method	Calibration	STD Conc - Pos C
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	25 ppmC

Sample Type: Check Standard --> LCS From Schedule Version 9

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	C	TOC	25.0000	1:1	[TOC] LCS [25.0 ppm]	0 / infinity (NA / NA)	25.0424 ppm (PASS)	0.0000 ppm	0%	2020/08/09 11:24

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
C	TOC	25.0 ppm	1	25.0424	250.4238	185.56	198.49	12.93	49.94	10:30

Completion State	Success Action	Method	Calibration	STD Conc - Pos C
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	25 ppmC

Sample Type: Sample From Schedule Version 9

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	41	TOC	K2006321-004	8.7645 ppm	0.1527 ppm	1.7400%	2020/08/09 11:38

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	8.8724	88.7244	71.54	84.63	13.09	49.92	10:26
2	TOC	8.6565	86.5647	70.02	82.90	12.88	49.97	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	42	TOC	K2006321-005	2.7017 ppm	0.0034 ppm	0.1300%	2020/08/09 12:07

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	2.7041	27.0408	28.27	41.07	12.80	49.90	10:25

2	TOC	2.6992	26.9923	28.24	41.15	12.92	49.88	10:31

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	43	TOC	K2006321-006	0.5873 ppm	0.0357 ppm	6.0800%	2020/08/09 12:35

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.5620	5.6204	13.24	26.35	13.10	49.89	10:26
2	TOC	0.6125	6.1251	13.60	26.50	12.90	49.86	10:24

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Sample From Schedule Version 13

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	44	TOC	K2006206-001	1.0991 ppm	0.0640 ppm	5.8200%	2020/08/09 13:03

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.1444	11.4438	17.33	30.11	12.79	49.83	10:28
2	TOC	1.0539	10.5386	16.69	29.74	13.05	49.84	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	45	TOC	K2006206-001D	1.1268 ppm	0.0070 ppm	0.6200%	2020/08/09 13:31

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.1219	11.2185	17.17	30.13	12.96	49.83	10:28
2	TOC	1.1317	11.3169	17.24	30.21	12.97	49.76	10:24

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	46	TOC	K2006206-1MS	14.6942 ppm	0.0219 ppm	0.1500%	2020/08/09 13:59

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	14.6787	146.7871	112.27	125.21	12.94	49.77	10:29
2	TOC	14.7096	147.0965	112.49	125.36	12.87	49.66	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC)	CAS_salt_010711	CAS_salt_010711

(v1430) (v4) (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	47	TOC	K2006206-002	1.1638 ppm	0.0607 ppm	5.2100%	2020/08/09 14:27

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.2067	12.0668	17.76	30.75	12.98	49.75	10:28
2	TOC	1.1209	11.2086	17.16	30.26	13.10	49.76	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> CCV 25 ppm From Schedule Version 13

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	B	TOC	25.0000	1:2	[TOC] CCV 25 ppm [25 ppm]	0 / infinity (NA / NA)	24.9271 ppm (PASS)	0.0000 ppm	0%	2020/08/09 14:55

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	24.9271	249.2705	184.75	197.76	13.01	49.70	10:30

Completion State	Success Action	Method	Calibration	STD Conc - Pos B
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	50 ppmC

Sample Type: Check Standard --> CCB From Schedule Version 13

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	D	TOC	0.0000	1:1	[TOC] CCB [0 ppm]	0 / infinity (NA / NA)	0.0000 ppm (PASS)	0.0000 ppm	0%	2020/08/09 15:10

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.0000	0.0000	8.49	21.43	12.93	49.80	10:31

Completion State	Success Action	Method	Calibration	STD Conc - Pos D
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	0 ppmC

Sample Type: Sample From Schedule Version 13

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	54	TOC	K2006497-002	4.5500 ppm	0.1081 ppm	2.3700%	2020/08/09 15:25

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	4.6264	46.2643	41.75	54.68	12.93	49.65	10:26
2	TOC	4.4736	44.7361	40.68	53.75	13.07	49.71	10:29

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	55	TOC	K2006497-003	4.5664 ppm	0.0456 ppm	1.0000%	2020/08/09 15:53

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	4.5986	45.9863	41.56	54.51	12.95	49.81	10:27
2	TOC	4.5342	45.3420	41.11	54.18	13.08	49.66	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	56	TOC	K2006497-004	112.9375 ppm	9.2415 ppm	8.1800%	2020/08/09 16:21

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	119.4722	1194.7218	847.38	860.33	12.96	49.73	10:25
2	TOC	106.4027	1064.0272	755.70	769.59	13.89	49.60	10:28

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	57	TOC	K2006497-005	6.5386 ppm	2.1962 ppm	33.5900%	2020/08/09 16:49

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	8.0915	80.9152	66.06	79.76	13.70	49.66	10:31
2	TOC	4.9857	49.8567	44.27	57.47	13.20	49.76	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> CCV 25 ppm From Schedule Version 13

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	B	TOC	25.0000	1:2	[TOC] CCV 25 ppm [25 ppm]	0 / infinity (NA / NA)	26.1637 ppm (PASS)	0.0000 ppm	0%	2020/08/09 17:17

Pos	Base Analysis	ID	Rep	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run

	Type		#							Time
B	TOC	25 ppm	1	26.1637	261.6372	193.43	206.42	13.00	49.63	10:30

Completion State	Success Action	Method	Calibration	STD Conc - Pos B
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	50 ppmC

Sample Type: Check Standard --> CCB From Schedule Version 13

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	C	TOC	0.0000	1:1	[TOC] CCB [0 ppm]	0 / infinity (NA / NA)	25.7284 ppm (PASS)	0.0000 ppm	0%	2020/08/09 17:32

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
C	TOC	0 ppm	1	25.7284	257.2836	190.37	203.33	12.96	49.69	10:35

Completion State	Success Action	Method	Calibration	STD Conc - Pos C
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	0 ppmC

Sample Type: Sample From Schedule Version 13

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	58	TOC	MB	0.5261 ppm	0.0000 ppm	0.0000%	2020/08/09 17:47

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.5261	5.2612	12.99	25.90	12.91	49.67	10:34

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> LCS From Schedule Version 13

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	C	TOC	25.0000	1:1	[TOC] LCS [25.0 ppm]	0 / infinity (NA / NA)	25.2861 ppm (PASS)	0.0000 ppm	0%	2020/08/09 18:01

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
C	TOC	25.0 ppm	1	25.2861	252.8615	187.27	200.30	13.03	49.64	10:34

Completion State	Success Action	Method	Calibration	STD Conc - Pos C
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	25 ppmC

Sample Type: Sample From Schedule Version 13

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	59	TOC	K2006497-006	49.0737 ppm	0.2470 ppm	0.5000%	2020/08/09 18:16

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	49.2483	492.4835	354.77	367.74	12.97	49.75	10:27
2	TOC	48.8991	488.9909	352.32	365.28	12.96	49.61	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	60	TOC	K2006330-001	2.2567 ppm	0.1489 ppm	6.6000%	2020/08/09 18:44

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	2.3619	23.6194	25.87	38.89	13.02	49.67	10:26
2	TOC	2.1514	21.5139	24.39	37.12	12.73	49.82	10:28

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> CCV 25ppm_salt From Schedule Version 13

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◈	B	TOC	25.0000	1:2	[TOC] CCV 25ppm_salt [25ppm salt]	22.5000 / 27.5000 (90% / 110%)	23.5306 ppm (PASS)	0.0000 ppm	0%	2020/08/09 19:12

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25ppm salt	1	23.5306	235.3063	187.46	200.62	13.15	49.68	10:33

Completion State	Success Action	Method	Calibration	STD Conc - Pos B
Success - Criteria met.	Do Nothing	CAS_salt (v5)	CAS_salt_0811a (v2)	50 ppmC

Sample Type: Check Standard --> CCB From Schedule Version 13

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◈	D	TOC	0.0000	1:1	[TOC] CCB [0 ppm]	0 / infinity (NA / NA)	0.1418 ppm (PASS)	0.0000 ppm	0%	2020/08/09 19:27

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.1418	1.4183	10.89	23.95	13.06	49.75	10:29

Completion State	Success Action	Method	Calibration	STD Conc - Pos D
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	0 ppmC

Meta Data Used in this Report

Blanks

Version	Reagent (Abs)	Acid (Abs)	DI IC (Abs)	DI TC (Abs)	DI TOC (Abs)	Save Time	Operator
v1429	1.3370	0.3660	0.0000	0.0000	0.0000	2020/08/05 18:45	Fusion1 (Fusion1)
v1430	1.9877	0.5570	0.0000	0.0000	0.0000	2020/08/08 14:36	Fusion1 (Fusion1)

Calibrations

Name: CAS_salt_010711 (TOC)

Version: v38
Calibration curve formula: TOC: y = 7.015x + 9.892
Ver Creation: 2020/06/13 16:40
r^2 value: TOC: r^2 = 0.99974
Comment:
Operator: Fusion1 (Fusion1)
Basic Analysis Type: TOC

Basic Analysis Type: TOC

Sample ID	Y Raw Value	X Expected	Message	End Time
DI Water	9.5750	0.0000		2020/06/13 15:13
0.500 ppm	12.9010	0.5000		2020/06/13 15:28
1.0 ppm	15.6320	1.0000		2020/06/13 15:42
5.0 ppm	43.2510	5.0000		2020/06/13 15:56
10 ppm	82.4040	10.0000		2020/06/13 16:11
25 ppm	188.6880	25.0000		2020/06/13 16:25
50 ppm	358.6500	50.0000		2020/06/13 16:39

Name: CAS_salt_0811a (TOC)

Version: v2
Calibration curve formula: TOC: y = 7.576x + 9.202
Ver Creation: 2010/08/11 19:18
r^2 value: TOC: r^2 = 0.99983
Comment:
Operator: Gen Chem Lab (Fusion1)
Basic Analysis Type: TOC

Basic Analysis Type: TOC

Sample ID	Y Raw Value	X Expected	Message	End Time
0	10.4200	0.0000		2010/08/11 17:57
0.500 ppm	15.3130	0.5000		2010/08/11 18:11
1.000 ppm	17.5920	1.0000		2010/08/11 18:24
5.000 ppm	44.4730	5.0000		2010/08/11 18:37
10.000 ppm	83.3970	10.0000		2010/08/11 18:51
25.000 ppm	197.1510	25.0000		2010/08/11 19:04
50.000 ppm	389.2430	50.0000		2010/08/11 19:17

Methods

Name: CAS_salt_010711 (TOC)

Version: v4 Operator: Fusion1 (Fusion1)
Ver Creation: 2019/02/21 17:57
Comment:

Parameter	Value
SampleVolume	10.0 mL
Dilution	1:10
AcidVolume	0.5 ml
ReagentVolume	2.0 ml
UVReactorPrerinse	Off
UVReactorPrerinseVolume	5.0
NumberOfUVReactorPrerinses	1
ICSpargeTime	1.00 mins
DetectorSweepFlow	500 ml/min
PreSpargeTime	2.00 mins
SystemFlow	500 ml/min

Advanced Parameter	Value
NeedleRinseVolume	5.0 ml
VialPrimeVolume	2.0 ml
ICSamplePrimeVolume	2.0 ml
ICSpargeRinseVolume	12.0 ml
BaselineStabilizeTime	0.70 min
DetectorPressureFlow	150 ml/min
SyringeSpeedWaste	10
SyringeSpeedAcid	7
SyringeSpeedReagent	7
SyringeSpeedDIWater	7
NDIRPressurization	60 psig
SyringeSpeedSampleDispense	5
SyringeSpeedSampleAspirate	4
SyringeSpeedUVDispense	5
SyringeSpeedUVAspirate	5
SyringeSpeedICDispense	5
SyringeSpeedICAspirate	5
NDIRPressureStabilize	1.75 min
SampleMixing	Off
SampleMixingCycles	1
SampleMixingVolume	10.0
LowLevelFilterNDIR	Off

Name: CAS_salt (TOC)

Version: v5 Operator: Gen Chem Lab (Fusion1)
Ver Creation: 2013/02/04 11:50
Comment: This method is designed to use the Non-Purgeable Organic Carbon (NPOC) method for TOC analysis on

waste water type samples.

Parameter	Value
SampleVolume	10.0 mL
Dilution	1:10
AcidVolume	0.5 ml
ReagentVolume	2.0 ml
UVReactorPrerinse	Off
UVReactorPrerinseVolume	5.0
NumberOfUVReactorPrerinses	1
ICSpargeTime	1.00 mins
DetectorSweepFlow	500 ml/min
PreSpargeTime	2.00 mins
SystemFlow	500 ml/min

Advanced Parameter	Value
NeedleRinseVolume	5.0 ml
VialPrimeVolume	2.0 ml
ICSamplePrimeVolume	2.0 ml
ICSpargeRinseVolume	12.0 ml
BaselineStabilizeTime	0.70 min
DetectorPressureFlow	150 ml/min
SyringeSpeedWaste	10
SyringeSpeedAcid	7
SyringeSpeedReagent	7
SyringeSpeedDIWater	7
NDIRPressurization	60 psig
SyringeSpeedSampleDispense	5
SyringeSpeedSampleAspirate	4
SyringeSpeedUVDispense	7
SyringeSpeedUVAspirate	5
SyringeSpeedICDispense	7
SyringeSpeedICAspirate	5
NDIRPressureStabilize	1.75 min
SampleMixing	Off
SampleMixingCycles	1
SampleMixingVolume	10.0
LowLevelFilterNDIR	Off

Acceptance / Approval

Electronic Signatures

Report Version	User Name	Acceptance	Reason	Date

Report History

Report History

Report Version	User Name	System Reason	User Reason	Date
1	Fusion1 (Fusion1)	Schedule completed	Schedule completed	2020/08/09 19:42

ALS Environmental

StarLIMS Run: 690270/690271/690269

Analysis: DOC/TOC

Method: SM 5310 C, 9060A, 415.1, 9060

CCV: 19-GEN-8-15-C 50 ppm LCS: 19-GEN-8-31I 25.0 ppm

ICAL Date: 6/16/2020

ICAL ID: 19-GEN-8-22-G

ICS ID: 19-GEN-8-4-G

ICS TV: 25.0 ppm ICS % R < 1

Spike ID: 19-GEN-8-15-B 0.05 ml of 5000 ppm stock ---> 10.0 ml = 25.0 ppm x dilution factor

Sodium Persulfate: 19-GEN-08-32J

21 % H3PO4: 19-GEN-08-32I

Equipment ID: K-TOC-03

PIPETTE ID: 124276B, 129001F, N11314F, Marge

FILTER ID: 16967789

Analyzed By: MV	Date Analyzed: 8-8-20
Reviewed By: JL	Date Reviewed: 8/10/20

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WorkOrder: HS20071147

Longhorn Army Ammunition Plant 16 July 2020

Aptim Environmental & Infrastucture, Inc.

Susan Huang
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25-Aug-2020

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HS20071147 8260 Raw Data
HS20071147 Wet Chem Raw Data (9056_W)

HS20071147 Longhorn Army Ammunition Plant
16 July 2020 Final

ALS WO# HS20071147

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August 20, 2020

Susan Huang
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Work Order: **HS20071147**

Laboratory Results for: **Longhorn Army Ammunition Plant 16 July 2020**

Dear Susan Huang,

ALS Environmental received 12 sample(s) on Jul 24, 2020 for the analysis presented in the following report.

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

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

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

Sincerely,

Generated By: JUMOKE.LAWAL
RJ Modashia
Project Manager

ALS Houston, US Date: 20-Aug-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 July 2020
Work Order: HS20071147

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS20071147-01	16WW37-200723	Groundwater		23-Jul-2020 07:30	24-Jul-2020 09:20	☐
HS20071147-02	16WW38-200723	Groundwater		23-Jul-2020 08:15	24-Jul-2020 09:20	☐
HS20071147-03	16WW13-200723	Groundwater		23-Jul-2020 09:05	24-Jul-2020 09:20	☐
HS20071147-04	16WW13-200723-FD	Groundwater		23-Jul-2020 09:05	24-Jul-2020 09:20	☐
HS20071147-05	16WW42-200723	Groundwater		23-Jul-2020 09:50	24-Jul-2020 09:20	☐
HS20071147-06	16WW42-200723-FD	Groundwater		23-Jul-2020 09:50	24-Jul-2020 09:20	☐
HS20071147-07	16WW27-200723	Groundwater		23-Jul-2020 10:45	24-Jul-2020 09:20	☐
HS20071147-08	16WW43-200723	Groundwater		23-Jul-2020 11:30	24-Jul-2020 09:20	☐
HS20071147-09	16WW34-200723	Groundwater		23-Jul-2020 12:20	24-Jul-2020 09:20	☐
HS20071147-10	16WW33-200723	Groundwater		23-Jul-2020 13:05	24-Jul-2020 09:20	☐
HS20071147-11	16WW33-200723-FD	Groundwater		23-Jul-2020 13:05	24-Jul-2020 09:20	☐
HS20071147-12	Trip Blank-200723	Water	CG 060320 -160	23-Jul-2020 00:00	24-Jul-2020 09:20	☐

ALS Houston, US Date: 20-Aug-20

Client: Aptim Environmental & Infrastucture, Inc. **CASE NARRATIVE**
Project: Longhorn Army Ammunition Plant 16 July 2020
Work Order: HS20071147

Work Order Comments

• Analysis of Perchlorate was performed by ALS Houston TX, High Resolution. Laboratory. Final report attached.

The analysis for TOC was subcontracted to ALS Environmental in Kelso WA. Final report attached.

GCMS Volatiles by Method SW8260

Batch ID: R365877

Sample ID: 16WW13-200723-FD (HS20071147-04)

• Surrogate Toluene-d8 failed QC limits. Compound reported is not associated with the failed surrogate.

Sample ID: 16WW42-200723 (HS20071147-05MSD)

• MSD failed QC limits for some compounds.

Sample ID: Trip Blank-200723 (HS20071147-12)

• Surrogate Dibromofluoromethane exceeded QC limits. Sample is ND.

Sample ID: VLCSW-200729

• Methylene Chloride exceeded QC limits for LCS. CCV is OK. Samples are ND for this compound.

Batch ID: R365975

Sample ID: HS20071328-01MS

• MS and MSD are for an unrelated sample

Sample ID: VLCSW-200730

• Methylene Chloride exceeded QC limits for LCS. Samples are ND for this compound.

WetChemistry by Method SW9056

Batch ID: R365767

Sample ID: HS20071033-03 MS

• MS and MSD are for an unrelated sample

ALS Houston, US Date: 20-Aug-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 July 2020
Sample ID: 16WW37-200723
Collection Date: 23-Jul-2020 07:30

ANALYTICAL REPORT
WorkOrder:HS20071147
Lab ID:HS20071147-01
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	29-Jul-2020 22:15
1,1-Dichloroethene	**0.76**	J	**0.20**	**0.50**	**1.0**	**UG/L**	1	29-Jul-2020 22:15
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	29-Jul-2020 22:15
cis-1,2-Dichloroethene	**5.7**		**0.20**	**0.50**	**1.0**	**UG/L**	1	29-Jul-2020 22:15
Methylene chloride	1.0	U	0.40	1.0	2.0	UG/L	1	29-Jul-2020 22:15
Trichloroethene	**87**		**0.20**	**0.50**	**1.0**	**UG/L**	1	29-Jul-2020 22:15
Vinyl chloride	**0.41**	J	**0.20**	**0.50**	**1.0**	**UG/L**	1	29-Jul-2020 22:15
Surr: 1,2-Dichloroethane-d4	*107*			**0**	*81-118*	*%REC*	*1*	*29-Jul-2020 22:15*
Surr: 4-Bromofluorobenzene	*98.8*			**0**	*85-114*	*%REC*	*1*	*29-Jul-2020 22:15*
Surr: Dibromofluoromethane	*100*			**0**	*80-119*	*%REC*	*1*	*29-Jul-2020 22:15*
Surr: Toluene-d8	*105*			**0**	*89-112*	*%REC*	*1*	*29-Jul-2020 22:15*
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: GR
Subcontract Analysis	See Attached		0	0		NA	1	20-Aug-2020 14:41

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

ALS Houston, US Date: 20-Aug-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 July 2020
Sample ID: 16WW38-200723
Collection Date: 23-Jul-2020 08:15

ANALYTICAL REPORT
WorkOrder:HS20071147
Lab ID:HS20071147-02
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	5.0	U	1.5	5.0	5.0	UG/L	5	29-Jul-2020 17:26
1,1-Dichloroethene	**17**		**1.0**	**2.5**	**5.0**	**UG/L**	5	29-Jul-2020 17:26
1,2-Dichloroethane	2.5	U	1.0	2.5	5.0	UG/L	5	29-Jul-2020 17:26
cis-1,2-Dichloroethene	**940**		**1.0**	**2.5**	**5.0**	**UG/L**	5	29-Jul-2020 17:26
Methylene chloride	5.0	U	2.0	5.0	10	UG/L	5	29-Jul-2020 17:26
Trichloroethene	**2,400**		**5.0**	**12**	**25**	**UG/L**	25	29-Jul-2020 18:39
Vinyl chloride	**57**		**1.0**	**2.5**	**5.0**	**UG/L**	5	29-Jul-2020 17:26
Surr: 1,2-Dichloroethane-d4	*107*			**0**	*81-118*	*%REC*	*25*	*29-Jul-2020 18:39*
Surr: 1,2-Dichloroethane-d4	*109*			**0**	*81-118*	*%REC*	*5*	*29-Jul-2020 17:26*
Surr: 4-Bromofluorobenzene	*106*			**0**	*85-114*	*%REC*	*5*	*29-Jul-2020 17:26*
Surr: 4-Bromofluorobenzene	*99.4*			**0**	*85-114*	*%REC*	*25*	*29-Jul-2020 18:39*
Surr: Dibromofluoromethane	*99.8*			**0**	*80-119*	*%REC*	*5*	*29-Jul-2020 17:26*
Surr: Dibromofluoromethane	*97.9*			**0**	*80-119*	*%REC*	*25*	*29-Jul-2020 18:39*
Surr: Toluene-d8	*106*			**0**	*89-112*	*%REC*	*25*	*29-Jul-2020 18:39*
Surr: Toluene-d8	*99.8*			**0**	*89-112*	*%REC*	*5*	*29-Jul-2020 17:26*
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: GR
Subcontract Analysis	See Attached		0	0		NA	1	20-Aug-2020 14:41

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

ALS Houston, US Date: 20-Aug-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 July 2020
Sample ID: 16WW13-200723
Collection Date: 23-Jul-2020 09:05

ANALYTICAL REPORT
WorkOrder:HS20071147
Lab ID:HS20071147-03
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	UG/L	1	29-Jul-2020 16:38
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	29-Jul-2020 16:38
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	29-Jul-2020 16:38
cis-1,2-Dichloroethene	**180**		**0.20**	**0.50**	**1.0**	**UG/L**	1	29-Jul-2020 16:38
Methylene chloride	1.0	U	0.40	1.0	2.0	UG/L	1	29-Jul-2020 16:38
Trichloroethene	**190**		**1.0**	**2.5**	**5.0**	**UG/L**	5	29-Jul-2020 19:03
Vinyl chloride	**4.0**		**0.20**	**0.50**	**1.0**	**UG/L**	1	29-Jul-2020 16:38
Surr: 1,2-Dichloroethane-d4	*94.5*			**0**	*81-118*	*%REC*	*1*	*29-Jul-2020 16:38*
Surr: 1,2-Dichloroethane-d4	*84.4*			**0**	*81-118*	*%REC*	*5*	*29-Jul-2020 19:03*
Surr: 4-Bromofluorobenzene	*101*			**0**	*85-114*	*%REC*	*1*	*29-Jul-2020 16:38*
Surr: 4-Bromofluorobenzene	*97.8*			**0**	*85-114*	*%REC*	*5*	*29-Jul-2020 19:03*
Surr: Dibromofluoromethane	*103*			**0**	*80-119*	*%REC*	*1*	*29-Jul-2020 16:38*
Surr: Dibromofluoromethane	*98.3*			**0**	*80-119*	*%REC*	*5*	*29-Jul-2020 19:03*
Surr: Toluene-d8	*96.6*			**0**	*89-112*	*%REC*	*1*	*29-Jul-2020 16:38*
Surr: Toluene-d8	*97.9*			**0**	*89-112*	*%REC*	*5*	*29-Jul-2020 19:03*
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: GR
Subcontract Analysis	See Attached		0	0		NA	1	20-Aug-2020 14:41

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

ALS Houston, US Date: 20-Aug-20

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: Longhorn Army Ammunition Plant 16 July 2020 WorkOrder:HS20071147
Sample ID: 16WW13-200723-FD Lab ID:HS20071147-04
Collection Date: 23-Jul-2020 09:05 Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	UG/L	1	29-Jul-2020 17:02
1,1-Dichloroethene	**0.61**	J	**0.20**	**0.50**	**1.0**	**UG/L**	1	29-Jul-2020 17:02
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	29-Jul-2020 17:02
cis-1,2-Dichloroethene	**200**		**0.20**	**0.50**	**1.0**	**UG/L**	1	29-Jul-2020 17:02
Methylene chloride	1.0	U	0.40	1.0	2.0	UG/L	1	29-Jul-2020 17:02
Trichloroethene	**190**		**1.0**	**2.5**	**5.0**	**UG/L**	5	29-Jul-2020 19:27
Vinyl chloride	**3.9**		**0.20**	**0.50**	**1.0**	**UG/L**	1	29-Jul-2020 17:02
Surr: 1,2-Dichloroethane-d4	*95.0*			**0**	*81-118*	*%REC*	*5*	*29-Jul-2020 19:27*
Surr: 1,2-Dichloroethane-d4	*112*			**0**	*81-118*	*%REC*	*1*	*29-Jul-2020 17:02*
Surr: 4-Bromofluorobenzene	*103*			**0**	*85-114*	*%REC*	*1*	*29-Jul-2020 17:02*
Surr: 4-Bromofluorobenzene	*94.5*			**0**	*85-114*	*%REC*	*5*	*29-Jul-2020 19:27*
Surr: Dibromofluoromethane	*94.8*			**0**	*80-119*	*%REC*	*5*	*29-Jul-2020 19:27*
Surr: Dibromofluoromethane	*100*			**0**	*80-119*	*%REC*	*1*	*29-Jul-2020 17:02*
Surr: Toluene-d8	*105*			**0**	*89-112*	*%REC*	*1*	*29-Jul-2020 17:02*
Surr: Toluene-d8	*77.5*	*S*		**0**	*89-112*	*%REC*	*5*	*29-Jul-2020 19:27*
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: GR
Subcontract Analysis	See Attached		0	0		NA	1	20-Aug-2020 14:41

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

ALS Houston, US Date: 20-Aug-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 July 2020
Sample ID: 16WW42-200723
Collection Date: 23-Jul-2020 09:50

ANALYTICAL REPORT
WorkOrder:HS20071147
Lab ID:HS20071147-05
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	UG/L	1	29-Jul-2020 15:50
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	29-Jul-2020 15:50
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	29-Jul-2020 15:50
cis-1,2-Dichloroethene	**24**		**0.20**	**0.50**	**1.0**	**UG/L**	1	29-Jul-2020 15:50
Methylene chloride	1.0	U	0.40	1.0	2.0	UG/L	1	29-Jul-2020 15:50
Trichloroethene	**1.3**		**0.20**	**0.50**	**1.0**	**UG/L**	1	29-Jul-2020 15:50
Vinyl chloride	0.50	U	0.20	0.50	1.0	UG/L	1	29-Jul-2020 15:50
Surr: 1,2-Dichloroethane-d4	*87.7*			**0**	*81-118*	*%REC*	*1*	*29-Jul-2020 15:50*
Surr: 4-Bromofluorobenzene	*103*			**0**	*85-114*	*%REC*	*1*	*29-Jul-2020 15:50*
Surr: Dibromofluoromethane	*99.7*			**0**	*80-119*	*%REC*	*1*	*29-Jul-2020 15:50*
Surr: Toluene-d8	*104*			**0**	*89-112*	*%REC*	*1*	*29-Jul-2020 15:50*
ANIONS BY SW9056A		**Method:SW9056**						Analyst: YP
Bromide	**2.45**		**0.0300**	**0.100**	**0.100**	**mg/L**	1	28-Jul-2020 02:22
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: GR
Subcontract Analysis	See Attached		0	0		NA	1	20-Aug-2020 14:41
SUBCONTRACT ANALYSIS - TOC ANALYSIS		**Method:NA**						Analyst: SUBK
Subcontract Analysis	See Attached		0	0		NA	1	11-Aug-2020 09:29

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

ALS Houston, US Date: 20-Aug-20

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: Longhorn Army Ammunition Plant 16 July 2020 WorkOrder:HS20071147
Sample ID: 16WW42-200723-FD Lab ID:HS20071147-06
Collection Date: 23-Jul-2020 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	29-Jul-2020 19:51
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	29-Jul-2020 19:51
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	29-Jul-2020 19:51
cis-1,2-Dichloroethene	**20**		**0.20**	**0.50**	**1.0**	**UG/L**	1	29-Jul-2020 19:51
Methylene chloride	1.0	U	0.40	1.0	2.0	UG/L	1	29-Jul-2020 19:51
Trichloroethene	**1.2**		**0.20**	**0.50**	**1.0**	**UG/L**	1	29-Jul-2020 19:51
Vinyl chloride	0.50	U	0.20	0.50	1.0	UG/L	1	29-Jul-2020 19:51
Surr: 1,2-Dichloroethane-d4	*99.7*			**0**	*81-118*	*%REC*	*1*	*29-Jul-2020 19:51*
Surr: 4-Bromofluorobenzene	*104*			**0**	*85-114*	*%REC*	*1*	*29-Jul-2020 19:51*
Surr: Dibromofluoromethane	*96.4*			**0**	*80-119*	*%REC*	*1*	*29-Jul-2020 19:51*
Surr: Toluene-d8	*104*			**0**	*89-112*	*%REC*	*1*	*29-Jul-2020 19:51*
ANIONS BY SW9056A		**Method:SW9056**						Analyst: YP
Bromide	**2.43**		**0.0300**	**0.100**	**0.100**	**mg/L**	1	28-Jul-2020 03:16
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: GR
Subcontract Analysis	See Attached		0	0		NA	1	20-Aug-2020 14:41
SUBCONTRACT ANALYSIS - TOC ANALYSIS		**Method:NA**						Analyst: SUBK
Subcontract Analysis	See Attached		0	0		NA	1	11-Aug-2020 09:29

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

ALS Houston, US Date: 20-Aug-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 July 2020
Sample ID: 16WW27-200723
Collection Date: 23-Jul-2020 10:45

ANALYTICAL REPORT
WorkOrder:HS20071147
Lab ID:HS20071147-07
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	1.0	U	0.30	1.0	1.0	UG/L	1	29-Jul-2020 20:15
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	29-Jul-2020 20:15
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	29-Jul-2020 20:15
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	29-Jul-2020 20:15
Methylene chloride	1.0	U	0.40	1.0	2.0	UG/L	1	29-Jul-2020 20:15
Trichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	29-Jul-2020 20:15
Vinyl chloride	0.50	U	0.20	0.50	1.0	UG/L	1	29-Jul-2020 20:15
Surr: 1,2-Dichloroethane-d4	*110*			**0**	*81-118*	*%REC*	*1*	*29-Jul-2020 20:15*
Surr: 4-Bromofluorobenzene	*101*			**0**	*85-114*	*%REC*	*1*	*29-Jul-2020 20:15*
Surr: Dibromofluoromethane	*100*			**0**	*80-119*	*%REC*	*1*	*29-Jul-2020 20:15*
Surr: Toluene-d8	*103*			**0**	*89-112*	*%REC*	*1*	*29-Jul-2020 20:15*
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: GR
Subcontract Analysis	See Attached		0	0		NA	1	20-Aug-2020 14:41

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

ALS Houston, US Date: 20-Aug-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 July 2020
Sample ID: 16WW43-200723
Collection Date: 23-Jul-2020 11:30

ANALYTICAL REPORT
WorkOrder:HS20071147
Lab ID:HS20071147-08
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	1.0	U	0.30	1.0	1.0	UG/L	1	29-Jul-2020 20:39
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	29-Jul-2020 20:39
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	29-Jul-2020 20:39
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	29-Jul-2020 20:39
Methylene chloride	1.0	U	0.40	1.0	2.0	UG/L	1	29-Jul-2020 20:39
Trichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	29-Jul-2020 20:39
Vinyl chloride	0.50	U	0.20	0.50	1.0	UG/L	1	29-Jul-2020 20:39
Surr: 1,2-Dichloroethane-d4	*105*			**0**	*81-118*	*%REC*	*1*	*29-Jul-2020 20:39*
Surr: 4-Bromofluorobenzene	*102*			**0**	*85-114*	*%REC*	*1*	*29-Jul-2020 20:39*
Surr: Dibromofluoromethane	*104*			**0**	*80-119*	*%REC*	*1*	*29-Jul-2020 20:39*
Surr: Toluene-d8	*97.8*			**0**	*89-112*	*%REC*	*1*	*29-Jul-2020 20:39*
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: GR
Subcontract Analysis	See Attached		0	0		NA	1	20-Aug-2020 14:41

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

ALS Houston, US Date: 20-Aug-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 July 2020
Sample ID: 16WW34-200723
Collection Date: 23-Jul-2020 12:20

ANALYTICAL REPORT
WorkOrder:HS20071147
Lab ID:HS20071147-09
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	29-Jul-2020 21:03
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	29-Jul-2020 21:03
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	29-Jul-2020 21:03
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	29-Jul-2020 21:03
Methylene chloride	1.0	U	0.40	1.0	2.0	UG/L	1	29-Jul-2020 21:03
Trichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	29-Jul-2020 21:03
Vinyl chloride	0.50	U	0.20	0.50	1.0	UG/L	1	29-Jul-2020 21:03
Surr: 1,2-Dichloroethane-d4	*107*			**0**	*81-118*	*%REC*	*1*	*29-Jul-2020 21:03*
Surr: 4-Bromofluorobenzene	*106*			**0**	*85-114*	*%REC*	*1*	*29-Jul-2020 21:03*
Surr: Dibromofluoromethane	*82.7*			**0**	*80-119*	*%REC*	*1*	*29-Jul-2020 21:03*
Surr: Toluene-d8	*104*			**0**	*89-112*	*%REC*	*1*	*29-Jul-2020 21:03*
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: GR
Subcontract Analysis	See Attached		0	0		NA	1	20-Aug-2020 14:41

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

ALS Houston, US Date: 20-Aug-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 July 2020
Sample ID: 16WW33-200723
Collection Date: 23-Jul-2020 13:05

ANALYTICAL REPORT
WorkOrder:HS20071147
Lab ID:HS20071147-10
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	1.0	U	0.30	1.0	1.0	UG/L	1	30-Jul-2020 14:25
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	30-Jul-2020 14:25
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	30-Jul-2020 14:25
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	30-Jul-2020 14:25
Methylene chloride	1.0	U	0.40	1.0	2.0	UG/L	1	30-Jul-2020 14:25
Trichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	30-Jul-2020 14:25
Vinyl chloride	0.50	U	0.20	0.50	1.0	UG/L	1	30-Jul-2020 14:25
Surr: 1,2-Dichloroethane-d4	*107*			**0**	*81-118*	*%REC*	*1*	*30-Jul-2020 14:25*
Surr: 4-Bromofluorobenzene	*98.8*			**0**	*85-114*	*%REC*	*1*	*30-Jul-2020 14:25*
Surr: Dibromofluoromethane	*102*			**0**	*80-119*	*%REC*	*1*	*30-Jul-2020 14:25*
Surr: Toluene-d8	*106*			**0**	*89-112*	*%REC*	*1*	*30-Jul-2020 14:25*
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: GR
Subcontract Analysis	See Attached		0	0		NA	1	20-Aug-2020 14:41

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

ALS Houston, US Date: 20-Aug-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 July 2020
Sample ID: 16WW33-200723-FD
Collection Date: 23-Jul-2020 13:05

ANALYTICAL REPORT
WorkOrder:HS20071147
Lab ID:HS20071147-11
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	1.0	U	0.30	1.0	1.0	UG/L	1	30-Jul-2020 14:49
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	30-Jul-2020 14:49
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	30-Jul-2020 14:49
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	30-Jul-2020 14:49
Methylene chloride	1.0	U	0.40	1.0	2.0	UG/L	1	30-Jul-2020 14:49
Trichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	30-Jul-2020 14:49
Vinyl chloride	0.50	U	0.20	0.50	1.0	UG/L	1	30-Jul-2020 14:49
Surr: 1,2-Dichloroethane-d4	*105*			**0**	*81-118*	*%REC*	*1*	*30-Jul-2020 14:49*
Surr: 4-Bromofluorobenzene	*92.2*			**0**	*85-114*	*%REC*	*1*	*30-Jul-2020 14:49*
Surr: Dibromofluoromethane	*95.2*			**0**	*80-119*	*%REC*	*1*	*30-Jul-2020 14:49*
Surr: Toluene-d8	*96.6*			**0**	*89-112*	*%REC*	*1*	*30-Jul-2020 14:49*
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: GR
Subcontract Analysis	See Attached		0	0		NA	1	20-Aug-2020 14:41

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

ALS Houston, US Date: 20-Aug-20

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: Longhorn Army Ammunition Plant 16 July 2020 WorkOrder:HS20071147
Sample ID: Trip Blank-200723 Lab ID:HS20071147-12
Collection Date: 23-Jul-2020 00:00 Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	UG/L	1	29-Jul-2020 15:26
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	29-Jul-2020 15:26
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	29-Jul-2020 15:26
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	29-Jul-2020 15:26
Methylene chloride	1.0	U	0.40	1.0	2.0	UG/L	1	29-Jul-2020 15:26
Trichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	29-Jul-2020 15:26
Vinyl chloride	0.50	U	0.20	0.50	1.0	UG/L	1	29-Jul-2020 15:26
Surr: 1,2-Dichloroethane-d4	*114*			**0**	*81-118*	*%REC*	*1*	*29-Jul-2020 15:26*
Surr: 4-Bromofluorobenzene	*104*			**0**	*85-114*	*%REC*	*1*	*29-Jul-2020 15:26*
Surr: Dibromofluoromethane	*120*	*S*		**0**	*80-119*	*%REC*	*1*	*29-Jul-2020 15:26*
Surr: Toluene-d8	*107*			**0**	*89-112*	*%REC*	*1*	*29-Jul-2020 15:26*

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

ALS Houston, US Date: 20-Aug-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 July 2020
WorkOrder: HS20071147

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: R365767 (0)	**Test Name :** ANIONS BY SW9056A				**Matrix:** Groundwater	
HS20071147-05	16WW42-200723	23 Jul 2020 09:50			28 Jul 2020 02:22	1
HS20071147-06	16WW42-200723-FD	23 Jul 2020 09:50			28 Jul 2020 03:16	1
Batch ID: R365877 (0)	**Test Name :** VOLATILES ORGANICS BY METHOD 8260C				**Matrix:** Water	
HS20071147-12	Trip Blank-200723	23 Jul 2020 00:00			29 Jul 2020 15:26	1
Batch ID: R365877 (0)	**Test Name :** VOLATILES ORGANICS BY METHOD 8260C				**Matrix:** Groundwater	
HS20071147-01	16WW37-200723	23 Jul 2020 07:30			29 Jul 2020 22:15	1
HS20071147-02	16WW38-200723	23 Jul 2020 08:15			29 Jul 2020 18:39	25
HS20071147-02	16WW38-200723	23 Jul 2020 08:15			29 Jul 2020 17:26	5
HS20071147-03	16WW13-200723	23 Jul 2020 09:05			29 Jul 2020 19:03	5
HS20071147-03	16WW13-200723	23 Jul 2020 09:05			29 Jul 2020 16:38	1
HS20071147-04	16WW13-200723-FD	23 Jul 2020 09:05			29 Jul 2020 19:27	5
HS20071147-04	16WW13-200723-FD	23 Jul 2020 09:05			29 Jul 2020 17:02	1
HS20071147-05	16WW42-200723	23 Jul 2020 09:50			29 Jul 2020 15:50	1
HS20071147-06	16WW42-200723-FD	23 Jul 2020 09:50			29 Jul 2020 19:51	1
HS20071147-07	16WW27-200723	23 Jul 2020 10:45			29 Jul 2020 20:15	1
HS20071147-08	16WW43-200723	23 Jul 2020 11:30			29 Jul 2020 20:39	1
HS20071147-09	16WW34-200723	23 Jul 2020 12:20			29 Jul 2020 21:03	1
Batch ID: R365975 (0)	**Test Name :** VOLATILES ORGANICS BY METHOD 8260C				**Matrix:** Groundwater	
HS20071147-10	16WW33-200723	23 Jul 2020 13:05			30 Jul 2020 14:25	1
HS20071147-11	16WW33-200723-FD	23 Jul 2020 13:05			30 Jul 2020 14:49	1
Batch ID: R366513 (0)	**Test Name :** SUBCONTRACT ANALYSIS - TOC ANALYSIS				**Matrix:** Groundwater	
HS20071147-05	16WW42-200723	23 Jul 2020 09:50			11 Aug 2020 09:29	1
HS20071147-06	16WW42-200723-FD	23 Jul 2020 09:50			11 Aug 2020 09:29	1
Batch ID: R367128 (0)	**Test Name :** SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)				**Matrix:** Groundwater	
HS20071147-01	16WW37-200723	23 Jul 2020 07:30			20 Aug 2020 14:41	1
HS20071147-02	16WW38-200723	23 Jul 2020 08:15			20 Aug 2020 14:41	1
HS20071147-03	16WW13-200723	23 Jul 2020 09:05			20 Aug 2020 14:41	1
HS20071147-04	16WW13-200723-FD	23 Jul 2020 09:05			20 Aug 2020 14:41	1
HS20071147-05	16WW42-200723	23 Jul 2020 09:50			20 Aug 2020 14:41	1
HS20071147-06	16WW42-200723-FD	23 Jul 2020 09:50			20 Aug 2020 14:41	1
HS20071147-07	16WW27-200723	23 Jul 2020 10:45			20 Aug 2020 14:41	1
HS20071147-08	16WW43-200723	23 Jul 2020 11:30			20 Aug 2020 14:41	1
HS20071147-09	16WW34-200723	23 Jul 2020 12:20			20 Aug 2020 14:41	1
HS20071147-10	16WW33-200723	23 Jul 2020 13:05			20 Aug 2020 14:41	1
HS20071147-11	16WW33-200723-FD	23 Jul 2020 13:05			20 Aug 2020 14:41	1

ALS Houston, US Date: 20-Aug-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 July 2020
WorkOrder: HS20071147

QC BATCH REPORT

Batch ID: R365877 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MBLK Sample ID: **VBLKW-200729** Units: **UG/L** Analysis Date: **29-Jul-2020 15:02**
Client ID: Run ID: **VOA6_365877** SeqNo: **5678976** 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	*56.36*	*1.0*	*50*	*0*	*113*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*51.13*	*1.0*	*50*	*0*	*102*	*85 - 114*				
Surr: Dibromofluoromethane	*51.34*	*1.0*	*50*	*0*	*103*	*80 - 119*				
Surr: Toluene-d8	*53*	*1.0*	*50*	*0*	*106*	*89 - 112*				

LCS Sample ID: **VLCSW-200729** Units: **UG/L** Analysis Date: **29-Jul-2020 14:14**
Client ID: Run ID: **VOA6_365877** SeqNo: **5678975** 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	19.74	1.0	20	0	98.7	80 - 119				
1,1-Dichloroethene	22.3	1.0	20	0	112	71 - 131				
1,2-Dichloroethane	24.09	1.0	20	0	120	73 - 128				
cis-1,2-Dichloroethene	21.69	1.0	20	0	108	78 - 123				
Methylene chloride	27.61	2.0	20	0	138	74 - 124				S
Trichloroethene	17.01	1.0	20	0	85.1	79 - 123				
Vinyl chloride	18.99	1.0	20	0	94.9	58 - 137				
Surr: 1,2-Dichloroethane-d4	*57.23*	*1.0*	*50*	*0*	*114*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*42.96*	*1.0*	*50*	*0*	*85.9*	*85 - 114*				
Surr: Dibromofluoromethane	*54.13*	*1.0*	*50*	*0*	*108*	*80 - 119*				
Surr: Toluene-d8	*46.35*	*1.0*	*50*	*0*	*92.7*	*89 - 112*				

ALS Houston, US Date: 20-Aug-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 July 2020
WorkOrder: HS20071147

QC BATCH REPORT

Batch ID: R365877 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MS Sample ID: **HS20071147-05MS** Units: **UG/L** Analysis Date: **29-Jul-2020 17:51**
Client ID: **16WW42-200723** Run ID: **VOA6_365877** SeqNo: **5679412** 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	18.99	1.0	20	0	94.9	80 - 119				
1,1-Dichloroethene	24.63	1.0	20	0	123	71 - 131				
1,2-Dichloroethane	22.78	1.0	20	0	114	73 - 128				
cis-1,2-Dichloroethene	46.21	1.0	20	24.05	111	78 - 123				
Methylene chloride	24.73	2.0	20	0	124	74 - 124				
Trichloroethene	21.43	1.0	20	1.279	101	79 - 123				
Vinyl chloride	21.68	1.0	20	0	108	58 - 137				
Surr: 1,2-Dichloroethane-d4	*50.33*	*1.0*	*50*	*0*	*101*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*46*	*1.0*	*50*	*0*	*92.0*	*85 - 114*				
Surr: Dibromofluoromethane	*49.35*	*1.0*	*50*	*0*	*98.7*	*80 - 119*				
Surr: Toluene-d8	*48.35*	*1.0*	*50*	*0*	*96.7*	*89 - 112*				

MSD Sample ID: **HS20071147-05MSD** Units: **UG/L** Analysis Date: **29-Jul-2020 18:15**
Client ID: **16WW42-200723** Run ID: **VOA6_365877** SeqNo: **5679413** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,2-Trichloroethane	22.53	1.0	20	0	113	80 - 119	18.99	17.1	20	
1,1-Dichloroethene	27.6	1.0	20	0	138	71 - 131	24.63	11.4	20	S
1,2-Dichloroethane	24.26	1.0	20	0	121	73 - 128	22.78	6.26	20	
cis-1,2-Dichloroethene	52.85	1.0	20	24.05	144	78 - 123	46.21	13.4	20	S
Methylene chloride	28.74	2.0	20	0	144	74 - 124	24.73	15	20	S
Trichloroethene	23.49	1.0	20	1.279	111	79 - 123	21.43	9.16	20	
Vinyl chloride	25.54	1.0	20	0	128	58 - 137	21.68	16.3	20	
Surr: 1,2-Dichloroethane-d4	*58.89*	*1.0*	*50*	*0*	*118*	*81 - 118*	*50.33*	*15.7*	*20*	
Surr: 4-Bromofluorobenzene	*47.94*	*1.0*	*50*	*0*	*95.9*	*85 - 114*	*46*	*4.14*	*20*	
Surr: Dibromofluoromethane	*48.99*	*1.0*	*50*	*0*	*98.0*	*80 - 119*	*49.35*	*0.729*	*20*	
Surr: Toluene-d8	*52.44*	*1.0*	*50*	*0*	*105*	*89 - 112*	*48.35*	*8.12*	*20*	

The following samples were analyzed in this batch:

HS20071147-01	HS20071147-02	HS20071147-03	HS20071147-04
HS20071147-05	HS20071147-06	HS20071147-07	HS20071147-08
HS20071147-09	HS20071147-12		

ALS Houston, US Date: 20-Aug-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 July 2020
WorkOrder: HS20071147

QC BATCH REPORT

Batch ID: R365975 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MBLK Sample ID: **VBLKW-200730** Units: **UG/L** Analysis Date: **30-Jul-2020 13:13**
Client ID: Run ID: **VOA6_365975** SeqNo: **5681126** 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	*53.79*	*1.0*	*50*	*0*	*108*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*50.09*	*1.0*	*50*	*0*	*100*	*85 - 114*				
Surr: Dibromofluoromethane	*50.32*	*1.0*	*50*	*0*	*101*	*80 - 119*				
Surr: Toluene-d8	*53.45*	*1.0*	*50*	*0*	*107*	*89 - 112*				

LCS Sample ID: **VLCSW-200730** Units: **UG/L** Analysis Date: **30-Jul-2020 12:25**
Client ID: Run ID: **VOA6_365975** SeqNo: **5681125** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,2-Trichloroethane	20.54	1.0	20	0	103	80 - 119				
1,1-Dichloroethene	21.44	1.0	20	0	107	71 - 131				
1,2-Dichloroethane	22.82	1.0	20	0	114	73 - 128				
cis-1,2-Dichloroethene	20.76	1.0	20	0	104	78 - 123				
Methylene chloride	26.7	2.0	20	0	133	74 - 124				S
Trichloroethene	18.17	1.0	20	0	90.8	79 - 123				
Vinyl chloride	19.3	1.0	20	0	96.5	58 - 137				
Surr: 1,2-Dichloroethane-d4	*57.81*	*1.0*	*50*	*0*	*116*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*46.76*	*1.0*	*50*	*0*	*93.5*	*85 - 114*				
Surr: Dibromofluoromethane	*50.16*	*1.0*	*50*	*0*	*100*	*80 - 119*				
Surr: Toluene-d8	*44.93*	*1.0*	*50*	*0*	*89.9*	*89 - 112*				

ALS Houston, US Date: 20-Aug-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 July 2020
WorkOrder: HS20071147

QC BATCH REPORT

Batch ID: R365975 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MS Sample ID: **HS20071328-01MS** Units: **UG/L** Analysis Date: **30-Jul-2020 16:49**
Client ID: Run ID: **VOA6_365975** SeqNo: **5681132** 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	19.22	1.0	20	0	96.1	80 - 119				
1,1-Dichloroethene	26.96	1.0	20	0	135	71 - 131				S
1,2-Dichloroethane	24.42	1.0	20	0	122	73 - 128				
cis-1,2-Dichloroethene	27.61	1.0	20	0	138	78 - 123				S
Methylene chloride	26.23	2.0	20	0	131	74 - 124				S
Trichloroethene	17.88	1.0	20	0	89.4	79 - 123				
Vinyl chloride	25.05	1.0	20	0	125	58 - 137				
Surr: 1,2-Dichloroethane-d4	*62.13*	*1.0*	*50*	*0*	*124*	*81 - 118*				S
Surr: 4-Bromofluorobenzene	*43.8*	*1.0*	*50*	*0*	*87.6*	*85 - 114*				
Surr: Dibromofluoromethane	*62.87*	*1.0*	*50*	*0*	*126*	*80 - 119*				S
Surr: Toluene-d8	*40.36*	*1.0*	*50*	*0*	*80.7*	*89 - 112*				S

MSD Sample ID: **HS20071328-01MSD** Units: **UG/L** Analysis Date: **30-Jul-2020 17:13**
Client ID: Run ID: **VOA6_365975** SeqNo: **5681133** 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	24.25	1.0	20	0	121	80 - 119	19.22	23.2	20	SR
1,1-Dichloroethene	25.29	1.0	20	0	126	71 - 131	26.96	6.41	20	
1,2-Dichloroethane	26.27	1.0	20	0	131	73 - 128	24.42	7.28	20	S
cis-1,2-Dichloroethene	23.48	1.0	20	0	117	78 - 123	27.61	16.1	20	
Methylene chloride	24.39	2.0	20	0	122	74 - 124	26.23	7.27	20	
Trichloroethene	21.54	1.0	20	0	108	79 - 123	17.88	18.6	20	
Vinyl chloride	23.9	1.0	20	0	120	58 - 137	25.05	4.68	20	
Surr: 1,2-Dichloroethane-d4	*56.79*	*1.0*	*50*	*0*	*114*	*81 - 118*	*62.13*	*8.98*	*20*	
Surr: 4-Bromofluorobenzene	*51.82*	*1.0*	*50*	*0*	*104*	*85 - 114*	*43.8*	*16.8*	*20*	
Surr: Dibromofluoromethane	*50.4*	*1.0*	*50*	*0*	*101*	*80 - 119*	*62.87*	*22*	*20*	R
Surr: Toluene-d8	*50.88*	*1.0*	*50*	*0*	*102*	*89 - 112*	*40.36*	*23*	*20*	R

The following samples were analyzed in this batch: HS20071147-10 HS20071147-11

ALS Houston, US Date: 20-Aug-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 July 2020
WorkOrder: HS20071147

QC BATCH REPORT

Batch ID: R365767 (0) **Instrument:** ICS-Integrion **Method:** ANIONS BY SW9056A

MBLK Sample ID: **MBLK-072720** Units: **mg/L** Analysis Date: **27-Jul-2020 17:01**
Client ID: Run ID: **ICS-Integrion_365767** SeqNo: **5676598** 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

LCS Sample ID: **LCS-072720** Units: **mg/L** Analysis Date: **27-Jul-2020 17:19**
Client ID: Run ID: **ICS-Integrion_365767** SeqNo: **5676599** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromide	4.398	0.100	4	0	110	80 - 120				

MS Sample ID: **HS20071147-05MS** Units: **mg/L** Analysis Date: **28-Jul-2020 02:40**
Client ID: **16WW42-200723** Run ID: **ICS-Integrion_365767** SeqNo: **5676619** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromide	4.562	0.100	2	2.445	106	80 - 120				

MS Sample ID: **HS20071033-03MS** Units: **mg/L** Analysis Date: **27-Jul-2020 23:57**
Client ID: Run ID: **ICS-Integrion_365767** SeqNo: **5676610** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromide	2015	0.100	2	2051	-1820	80 - 120				SEO

MSD Sample ID: **HS20071147-05MSD** Units: **mg/L** Analysis Date: **28-Jul-2020 02:58**
Client ID: **16WW42-200723** Run ID: **ICS-Integrion_365767** SeqNo: **5676620** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromide	4.571	0.100	2	2.445	106	80 - 120	4.562	0.197	20	

MSD Sample ID: **HS20071033-03MSD** Units: **mg/L** Analysis Date: **28-Jul-2020 00:15**
Client ID: Run ID: **ICS-Integrion_365767** SeqNo: **5676611** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromide	2022	0.100	2	2051	-1470	80 - 120	2015	0.343	20	SEO

The following samples were analyzed in this batch: HS20071147-05 HS20071147-06

ALS Houston, US Date: 20-Aug-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 July 2020
WorkOrder: **HS20071147**

QUALIFIERS, ACRONYMS, UNITS

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

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

CERTIFICATIONS,ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
Arkansas	20-030-0	26-Mar-2021
California	2919, 2020-2021	30-Apr-2021
Dept of Defense	ANAB L2231 V010	22-Dec-2021
Florida	E87611-30-07/01/2020	30-Jun-2021
Illinois	2000322020-4	09-May-2021
Kentucky	123043, 2020-2021	30-Apr-2021
Louisiana	03087, 2020-2021	30-Jun-2021
Maryland	343, 2019-2020	30-Sep-2020
North Carolina	624-2020	31-Dec-2020
North Dakota	R-193 2020-2021	30-Apr-2021
Oklahoma	2019-141	31-Aug-2020
Texas	T104704231-20-26	30-Apr-2021

ALS Houston, US Date: 20-Aug-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 July 2020
Work Order: HS20071147

SAMPLE TRACKING

Lab Samp ID	Client Sample ID	Action	Date	Person	New Location
HS20071147-01	16WW37-200723	Login	7/24/2020 2:55:43 PM	JRM	Sub
HS20071147-01	16WW37-200723	Login	7/24/2020 2:55:43 PM	JRM	VOA241
HS20071147-02	16WW38-200723	Login	7/24/2020 2:55:43 PM	JRM	Sub
HS20071147-02	16WW38-200723	Login	7/24/2020 2:55:43 PM	JRM	VOA241
HS20071147-03	16WW13-200723	Login	7/24/2020 2:55:43 PM	JRM	Sub
HS20071147-03	16WW13-200723	Login	7/24/2020 2:55:43 PM	JRM	WET218
HS20071147-03	16WW13-200723	Login	7/24/2020 2:55:43 PM	JRM	VOA241
HS20071147-03	16WW13-200723	Login	7/24/2020 2:55:43 PM	JRM	Sub
HS20071147-04	16WW13-200723-FD	Login	7/24/2020 2:55:43 PM	JRM	Sub
HS20071147-04	16WW13-200723-FD	Login	7/24/2020 2:55:43 PM	JRM	VOA241
HS20071147-05	16WW42-200723	Login	7/24/2020 2:55:43 PM	JRM	Sub
HS20071147-05	16WW42-200723	Login	7/24/2020 2:55:43 PM	JRM	WET218
HS20071147-05	16WW42-200723	Login	7/24/2020 2:55:43 PM	JRM	VOA241
HS20071147-05	16WW42-200723	Login	7/24/2020 2:55:43 PM	JRM	Sub
HS20071147-06	16WW42-200723-FD	Login	7/24/2020 2:55:43 PM	JRM	Sub
HS20071147-06	16WW42-200723-FD	Login	7/24/2020 2:55:43 PM	JRM	WET218
HS20071147-06	16WW42-200723-FD	Login	7/24/2020 2:55:43 PM	JRM	VOA241
HS20071147-06	16WW42-200723-FD	Login	7/24/2020 2:55:43 PM	JRM	Sub
HS20071147-07	16WW27-200723	Login	7/24/2020 2:55:43 PM	JRM	Sub
HS20071147-07	16WW27-200723	Login	7/24/2020 2:55:43 PM	JRM	VOA241
HS20071147-08	16WW43-200723	Login	7/24/2020 2:55:43 PM	JRM	Sub
HS20071147-08	16WW43-200723	Login	7/24/2020 2:55:43 PM	JRM	VOA241
HS20071147-12	Trip Blank-200723	Login	7/24/2020 2:55:43 PM	JRM	VOA241

ALS Houston, US Date: 20-Aug-20

Sample Receipt Checklist

Work Order ID: HS20071147 **Date/Time Received:** **24-Jul-2020 09:20**

Client Name: CBI-Houston **Received by:** **Paresh M. Giga**

Completed By:	/S/ Jared R. Makan	24-Jul-2020 15:00	**Reviewed by:**	/S/ RJ Modashia	25-Jul-2020 15:37
	eSignature	Date/Time		eSignature	Date/Time

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

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
VOA/TX1005/TX1006 Solids in hermetically sealed vials?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	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):	1.2°C/1.2°C UC/C	IR31
Cooler(s)/Kit(s):	45815	
Date/Time sample(s) sent to storage:	7/24/2020 15:06	

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

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

Corrective Action:

CHAIN OF CUSTODY

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

Page 1 of 1

Project: APTIM LONGHORN ARMY AMMN. PLANT (LHAAP) GROUNDWATER TREATMENT PLANT (GWTP) KARNACK, TEXAS	Project No. 501032
Job: **LHAAP 16 JULY 2020_ALS**	
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.-#
16WW37-200723	WG	7/23/20/0730		4	X					X						
16WW38-200723	WG	7/23/20/0815		4	X					X						
16WW13-200723	WG	7/23/20/0905		4	X					X						
16WW13-200723-FD	WG	7/23/20/0905		4	X					X						
16WW42-200723	WG	7/23/20/0930		7	X	X			X	X						
16WW42-200723-FD	WG	7/23/20/0950		7	X	X			X	X						
16WW27-200723	WG	7/23/20/1045		4	X					X						
16WW43-200723	WG	7/23/20/1130		4	X					X						

Additional Remarks: Standard TAT on all parameters. Please email results to Susan.Huang@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	7/23/20	1430		7/24/2020	0920.						

For Lab Use Only

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

Remarks:

VOC.

45815 1.2°.

431

Cities.

HS20071147

Aptim Environmental & Infrastucture, Inc.
Longhorn Army Ammunition Plant 16 July 2020

(Word) S:\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: R.J Modasbia

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

Project No. 501032

Job: **LHAAP 16 JULY 2020_ALS**

Prepared By: Scott Beesinger

P.O. Number

Field Sample I.D. / Time	Sample Matrix	Date /	MS / MSD	No. OF CONTAINERS	VOC by SW 8260B	TOC by SM5310C	MEE by RSK 175	Anions (bromide, sulfate, nitrate) by SW9056 and Alkalinity by SM2320	Bromide by SW9056	Perchlorate by SW6850	Metals (arsenic, chromium, manganese, nickel, thallium) by SW6020				Remarks (Preservatives, etc.)	Lab I.D.#
					Analyses											
16WW34-200723	WG	7/23/20/1220		4	X					X						
16WW33-200723	WG	7/23/20/1305		4	X					X						
16WW33-200723-FD	WG	7/23/20/1305		4	X					X						
TRIPBLANK-200723	W	7/23/20		2	X											

Additional Remarks: Standard TAT on all parameters. Please email results to Susan.Huang@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	7/23/20	1430		7/24/2020		COC: 2 of 2					

For Lab Use Only

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

Remarks:

HS20071147

Aptim Environmental & Infrastucture, Inc.
Longhorn Army Ammunition Plant 16 July 2020

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

TRK# 0221 1891 8877 8314

RETURNS MON–SAT
PRIORITY OVERNIGHT

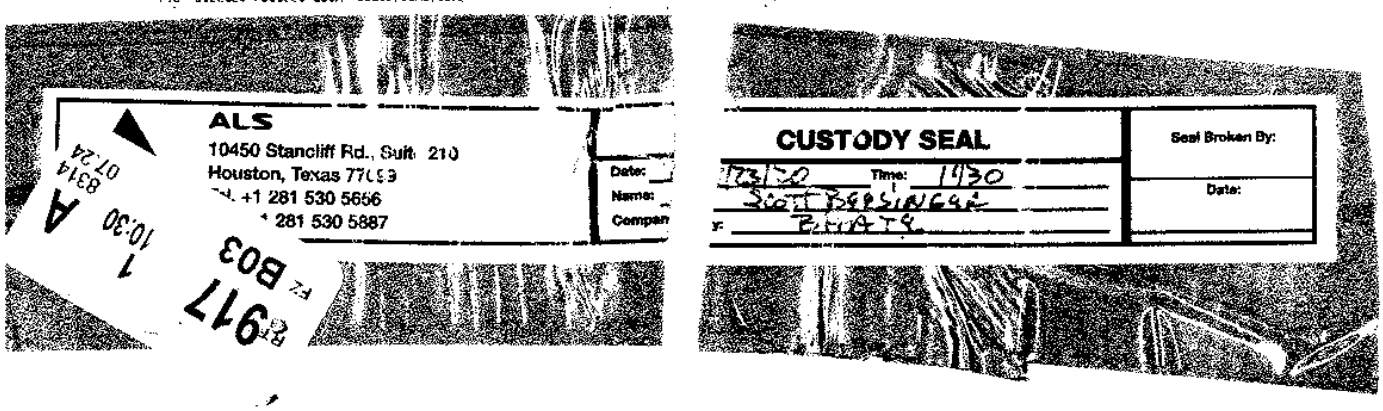
FedEx
TRK# 0221 1891 8877 8314

FRI - 24 JUL 10:30A
PRIORITY OVERNIGHT

AB SGRA

77099
TX-US
IAH

FTD 3922825 23JUL20 GGGA 56BC3/C6A6/05A2



August 20, 2020 Service Request No:E2000680

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

Laboratory Results for: HS20071147

Dear RJ,

Enclosed are the results of the sample(s) submitted to our laboratory July 27, 2020
For your reference, these analyses have been assigned our service request number **E2000680.**

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current TNI standards, where applicable, and except as noted in the laboratory case narrative provided. All results are intended to be considered in their entirety and ALS Environmental is not responsible for use of less than the complete final report. Results apply only to the items submitted to the laboratory, as received for analysis. In accordance with the current TNI Standard, a statement on the estimated uncertainty of measurement of any quantitative analysis will be supplied upon request.

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

Corey Grandits
Project Manager

ADDRESS 10450 Stancliff Rd., Suite 210, Houston, TX 77099
PHONE +1 281 530 5656 | FAX +1 281 530 5887
ALS Group USA, Corp.
dba ALS Environmental

Certificate of Analysis

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

ALS Environmental

Client:	ALS Houston	**Service Request No.:**	E2000680
Project:	HS20071147	**Date Received:**	07/27/20
Sample Matrix:	GW		

CASE NARRATIVE

All analyses were performed in adherence to the quality assurance program of ALS Environmental. This report contains analytical results for samples designated for Tier IV. When appropriate to the method, method blank results have been reported with each analytical test.

Sample Receipt

Eleven samples were received for analysis at ALS Environmental in Houston on 07/27/20.

The samples were received in good condition and are consistent with the accompanying chain of custody form. The samples were stored in a refrigerator at 4°C upon receipt at the laboratory.

Data Validation Notes and Discussion

Precision and Accuracy:

EQ2000318: Laboratory Control Spike/Duplicate Laboratory Control Spike (LCS/DLCS) samples were analyzed and reported in addition to a MS/MSD for this extraction batch. MS/MSD was performed on an unrelated sample. LCS and LCSD recoveries are within QC limits.

DoD Certification is held for the method/matrix/analytes provided in this report.

The results of analyses are given in the attached laboratory report. All results are intended to be considered in their entirety, and ALS Environmental (ALS) is not responsible for utilization of less than the complete report.

Use of ALS group USA Corp dba ALS Environmental (ALS)'s Name. Client shall not use ALS's name or trademark in any marketing or reporting materials, press releases or in any other manner ("Materials") whatsoever and shall not attribute to ALS any test result, tolerance or specification derived from ALS's data ("Attribution") without ALS's prior written consent, which may be withheld by ALS for any reason in its sole discretion. To request ALS's consent, Client shall provide copies of the proposed Materials or Attribution and describe in writing Client's proposed use of such Materials or Attribution. If ALS has not provided written approval of the Materials or Attribution within ten (10) days of receipt from Client, Client's request to use ALS's name or trademark in any Materials or Attribution shall be deemed denied. ALS may, in its discretion, reasonably charge Client for its time in reviewing Materials or Attribution requests. Client acknowledges and agrees that the unauthorized use of ALS's name or trademark may cause ALS to incur irreparable harm for which the recovery of money damages will be inadequate. Accordingly, Client acknowledges and agrees that a violation shall justify preliminary injunctive relief. For questions contact the laboratory.

Client: ALS Environmental - US **Service Request:**E2000680
Project: HS20071147

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
E2000680-001	16WW37-200723	7/23/2020	0730
E2000680-002	16WW38-200723	7/23/2020	0815
E2000680-003	16WW13-200723	7/23/2020	0905
E2000680-004	16WW13-200723-FD	7/23/2020	0905
E2000680-005	16WW42-200723	7/23/2020	0950
E2000680-006	16WW42-200723-FD	7/23/2020	0950
E2000680-007	16WW27-200723	7/23/2020	1045
E2000680-008	16WW43-200723	7/23/2020	1130
E2000680-009	16WW34-200723	7/23/2020	1220
E2000680-010	16WW33-200723	7/23/2020	1305
E2000680-011	16WW33-200723-FD	7/23/2020	1305

Service Request Summary

Folder #: **E2000680**
Client Name: ALS Environmental - US
Project Name: HS20071147
Project Number:

Report To: RJ Modashia
ALS Laboratory Group
10450 Stancliff Road
Houston, TX 77099-4338
USA
Phone Number: 281-530-5656
Cell Number:
Fax Number: 281-530-5887
E-mail: rj.modashia@alsglobal.com

Project Chemist: Corey Grandits
Originating Lab: HOUSTON
Logged By: CGRANDITS
Date Received: 07/27/20
Internal Due Date: 8/7/2020
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: Y
Report to MDL?: Y
P.O. Number: HS20071147
EDD: No EDD Specified

11 250 mL-Plastic Bottle HDPE WM CLEAR Unpreserved
Location: EHRMS-WIC 4C
Pressure Gas:

Lab Samp No.	Client Samp No	Matrix	Collected	HOUSTON ClO4 DOD/6850
E2000680-001	16WW37-200723	Ground Water	07/23/20 0730	**IV**
E2000680-002	16WW38-200723	Ground Water	07/23/20 0815	**IV**
E2000680-003	16WW13-200723	Ground Water	07/23/20 0905	**IV**
E2000680-004	16WW13-200723-FD	Ground Water	07/23/20 0905	**IV**
E2000680-005	16WW42-200723	Ground Water	07/23/20 0950	**IV**
E2000680-006	16WW42-200723-FD	Ground Water	07/23/20 0950	**IV**
E2000680-007	16WW27-200723	Ground Water	07/23/20 1045	**IV**
E2000680-008	16WW43-200723	Ground Water	07/23/20 1130	**IV**
E2000680-009	16WW34-200723	Ground Water	07/23/20 1220	**IV**
E2000680-010	16WW33-200723	Ground Water	07/23/20 1305	**IV**
E2000680-011	16WW33-200723-FD	Ground Water	07/23/20 1305	**IV**

Service Request Summary

Folder #: **E2000680**
Client Name: ALS Environmental - US
Project Name: HS20071147
Project Number:

Report To: RJ Modashia
ALS Laboratory Group
10450 Stancliff Road
Houston, TX 77099-4338
USA
Phone Number: 281-530-5656
Cell Number:
Fax Number: 281-530-5887
E-mail: rj.modashia@alsglobal.com

Project Chemist: Corey Grandits
Originating Lab: HOUSTON
Logged By: CGRANDITS
Date Received: 07/27/20
Internal Due Date: 8/7/2020
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: Y
Report to MDL?: Y
P.O. Number: HS20071147
EDD: No EDD Specified

11 250 mL-Plastic Bottle HDPE WM CLEAR Unpreserved
Location: EHRMS-WIC 4C
Pressure Gas:

Test Comments:

Group	Test/Method	Samples	Comments
Semivoa GCMS	ClO4 DOD/6850	11	Level II due 8/7,level IV 8/14

Data Qualifiers

Lab Standard

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

Data Qualifiers

Lab Standard

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

ALS Laboratory Group

Acronyms

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

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ALS Environmental

State Certifications, Accreditations, and Licenses

Agency	Number	Expire Date
American Association for Laboratory Accreditation	2897.01 2020	11/30/2021
Arkansas Department of Environmental Quality	20-030-0	3/26/2021
Department of Defense	A2LA 2897.01	11/30/2021
Hawaii Department of Health	2020	4/30/2021
Illinois Environmental Protection Agency	2000322020-4	5/9/2021
Louisiana Department of Health and Hospitals	LA028-2020	12/31/2020
Maine Department of Health and Human Services	2020016	6/5/2022
Minnesota Department of Health	1785988	12/31/2020
Nebraska Department of Health and Human Services	NE-OS-25-13 (2020)	4/30/2021
Nevada Department of Concervation and Natural Resources	TX026932021-1	7/31/2021
New Hampshire Environmental Laboratory Accreditation Program	209420	4/24/2021
New York Department of Health	11707	3/31/2021
Oklahoma Department of Environmental Quality	2019-067	8/31/2020
Tennessee Department of Environment and Concervation	04016-2020	4/30/2021
Texas Commision on Environmental Quality	T104704231-20-26	4/30/2021
United States Department of Agriculture	P330-19-00299	10/10/2022
Washington Department of Health	C819	11/14/2020

ALS

Chain of Custody

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E2000680 5
ALS Laboratory Group
HS20071147

Subcontract Chain of Custody

SAMPLING STATE: **Dept of Defense** **COC ID: 14375**

SUBCONTRACT TO:

ALS Environmental
10450 Stancliff RoadSuite 210
Houston, TX 77084

Phone: +1 281 530 5656

CUSTOMER INFORMATION:

Company:	ALS Houston
Contact:	RJ Modashia
Address:	10450 Stancliff Rd, Ste 210
Phone:	+1 281 530 5656
Email:	RJ.Modashia@alsglobal.com
Alternate Contact:	Jumoke M. Lawal
Email:	jumoke.lawal@alsglobal.com

INVOICE INFORMATION:

Company:	ALS Houston
Contact:	Accounts Payable
Address:	10450 Stancliff Rd, Ste 210
Phone:	+1 281 530 5656
Reference:	HS20071147
TSR:	Sonia West

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	**HS20071147-01**	**16WW37-200723**	**Groundwater**	**23 Jul 2020 07:30**
	SUB_Perch-6850			06 Aug 2020
2.	**HS20071147-02**	**16WW38-200723**	**Groundwater**	**23 Jul 2020 08:15**
	SUB_Perch-6850			06 Aug 2020
3.	**HS20071147-03**	**16WW13-200723**	**Groundwater**	**23 Jul 2020 09:05**
	SUB_Perch-6850			06 Aug 2020
4.	**HS20071147-04**	**16WW13-200723-FD**	**Groundwater**	**23 Jul 2020 09:05**
	SUB_Perch-6850			06 Aug 2020
5.	**HS20071147-05**	**16WW42-200723**	**Groundwater**	**23 Jul 2020 09:50**
	SUB_Perch-6850			06 Aug 2020
6.	**HS20071147-06**	**16WW42-200723-FD**	**Groundwater**	**23 Jul 2020 09:50**
	SUB_Perch-6850			06 Aug 2020
7.	**HS20071147-07**	**16WW27-200723**	**Groundwater**	**23 Jul 2020 10:45**
	SUB_Perch-6850			06 Aug 2020
8.	**HS20071147-08**	**16WW43-200723**	**Groundwater**	**23 Jul 2020 11:30**
	SUB_Perch-6850			06 Aug 2020
9.	**HS20071147-09**	**16WW34-200723**	**Groundwater**	**23 Jul 2020 12:20**

Subcontract Chain of Custody

SAMPLING STATE: **Dept of Defense** **COC ID: 14375**

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
		SUB_Perch-6850		06 Aug 2020
10.	**HS20071147-10**	**16WW33-200723**	**Groundwater**	**23 Jul 2020 13:05**
		SUB_Perch-6850		06 Aug 2020
11.	**HS20071147-11**	**16WW33-200723-FD**	**Groundwater**	**23 Jul 2020 13:05**
		SUB_Perch-6850		06 Aug 2020

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

QC Level: DOD IV (DoD Data Package)

Relinquished By: _____ Date/Time: _____

Received By: _____ Date/Time: 7/27/20 0900

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

ALS Environmental

Cooler Receipt Form

Project Chemist CG

Client/Project ALS-H

Thermometer ID SM041R231

Date/Time Received: 7/27/20 Initials: CG Date/Time Logged in: 7/27/20 Initials CG

1. Method of delivery: ○ US Mail ○ Fed Ex ○ UPS ○ DHL ✓ ALS Courier ○ Client
2. Samples received in: ✓ Cooler ○ Box ○ Envelope ○ Other
3. Were custody seals on coolers? ○ Yes ✓ No
   Were they intact? ○ Yes ○ No ✓ N/A
   Were they signed and dated? ○ Yes ○ No ✓ N/A
   If yes, how many and where?
4. Packing Material: ○ Inserts ✓ Baggies ○ Bubble Wrap ○ Gel Packs ✓ Wet Ice ○ Sleeves ○ Other
5. Foreign or Regulated Soil? ○ Yes ○ No Location of Sampling:

Cooler Tracking Number	COC ID	Date Opened	Time Opened	Opened By	Temp. °C	Temp Blank?
-		7/27/20	0900	CG	1.7	✓
						☐
						☐
						☐

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

Notes, Discrepancies, & Resolutions:

Service request Label: E2000680 5
ALS Laboratory Group
HS20071147

HS-HRMSCoolerReceipt R1.0

ALS Environmental - Houston HRMS

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SAMPLE ACCEPTANCE POLICY

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

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

- ✓ Intact on outside of cooler, signed and dated

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

The following is required on each COC:

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

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

Sample Integrity (mandatory):

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

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

Temperature Requirement (varies by sample matrix):

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

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

Preparation Information Benchsheets

ALS Environmental - Houston HRMS
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Phone (713)266-1599 Fax (713)266-0130
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Preparation Information Benchsheet

Prep Run#: 362575 **Prep WorkFlow:** GenExt28Day **Status:** Prepped
Team: Semivoa GCMS/GRIVERA **Prep Method:** Method **Prep Date/Time:** 7/30/20 08:45

#	Lab Code	Client ID	B#	Method /Test	pH	Cl	Matrix	Amt. Ext.	Sample Description
1	E2000680-001	16WW37-200723	.01	6850/ClO4 DOD			Ground Water	10mL	
2	E2000680-002	16WW38-200723	.01	6850/ClO4 DOD			Ground Water	10mL	
3	E2000680-003	16WW13-200723	.01	6850/ClO4 DOD			Ground Water	10mL	
4	E2000680-004	16WW13-200723-FD	.01	6850/ClO4 DOD			Ground Water	10mL	
5	E2000680-005	16WW42-200723	.01	6850/ClO4 DOD			Ground Water	10mL	
6	E2000680-006	16WW42-200723-FD	.01	6850/ClO4 DOD			Ground Water	10mL	
7	E2000680-007	16WW27-200723	.01	6850/ClO4 DOD			Ground Water	10mL	
8	E2000680-008	16WW43-200723	.01	6850/ClO4 DOD			Ground Water	10mL	
9	E2000680-009	16WW34-200723	.01	6850/ClO4 DOD			Ground Water	10mL	
10	E2000680-010	16WW33-200723	.01	6850/ClO4 DOD			Ground Water	10mL	
11	E2000680-011	16WW33-200723-FD	.01	6850/ClO4 DOD			Ground Water	10mL	
12	EQ2000318-01	MB		6850/ClO4 DOD			Liquid	10mL	
13	EQ2000318-02	LCS		6850/ClO4 DOD			Liquid	10mL	
14	EQ2000318-03	DLCS		6850/ClO4 DOD			Liquid	10mL	
15	EQ2000318-04	45MI20023 MS	.07	6850/ClO4 DOD			Liquid	10mL	
16	EQ2000318-05	45MI20023 DMS	.07	6850/ClO4 DOD			Liquid	10mL	
17	R2006334-001	45MI20023	.07	6850/ClO4 DOD			Water	10mL	
18	R2006334-003	45MI20021	.07	6850/ClO4 DOD			Water	10mL	
19	R2006334-005	45MI20022	.07	6850/ClO4 DOD			Water	10mL	
20	R2006334-007	45MI20024	.07	6850/ClO4 DOD			Water	10mL	
21	R2006334-009	45MI20036	.07	6850/ClO4 DOD			Water	10mL	
22	R2006334-012	45MI00001	.05	6850/ClO4 DOD			Water	10mL	
23	R2006334-014	45MI20002	.05	6850/ClO4 DOD			Water	10mL	
24	R2006334-016	45MI20001	.05	6850/ClO4 DOD			Water	10mL	
25	R2006334-018	45MI20007	.05	6850/ClO4 DOD			Water	10mL	

Spiking Solutions

Name: Sodium Perchlorate 1 ug/mL (IS) (18-O) as CLO4 Inventory ID 202037 Logbook Ref: Sodium Perchlorate Expires On: 05/22/2021

E2000680-001	100.00µL	E2000680-003	100.00µL	E2000680-005	100.00µL	E2000680-006	100.00µL	E2000680-008	100.00µL	EQ2000318-01	100.00µL
EQ2000318-02	100.00µL	EQ2000318-03	100.00µL	EQ2000318-04	100.00µL	EQ2000318-05	100.00µL	R2006334-001	100.00µL	R2006334-003	100.00µL
R2006334-005	100.00µL	R2006334-007	100.00µL	R2006334-009	100.00µL	R2006334-012	100.00µL	R2006334-014	100.00µL	R2006334-016	100.00µL
R2006334-018	100.00µL										

Name: Perchlorate Intermediate Stock1 Inventory ID 209764 Logbook Ref: Perchlorate Int. Stock1 51820 Expires On: 11/18/2020

Preparation Information Benchsheet

Prep Run#: 362575 **Prep WorkFlow:** GenExt28Day **Status:** Prepped
Team: Semivoa GCMS/GRIVERA **Prep Method:** Method **Prep Date/Time:** 7/30/20 08:45

EQ2000318-02 1.00µL EQ2000318-03 1.00µL EQ2000318-04 1.00µL EQ2000318-05 1.00µL

Preparation Steps

Step: Preparation
Started: 7/30/20 08:45
Finished: 7/30/20 15:15
By: GRIVERA
Comments

Comments: _____

Reviewed By: GR Date: 8/5/20

Chain of Custody

Relinquished By: _____ Date: _____ Extracts Examined

Received By: _____ Date: _____ Yes No

Analytical Results

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ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000680
Project:	HS20071147	**Date Collected:**	7/23/20 0730
Sample Matrix:	Ground Water	**Date Received:**	7/27/20
Sample Name:	16WW37-200723	**Units:**	µg/L
Lab Code:	E2000680-001	**Basis:**	NA

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

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	ND	U	1.00	0.500	0.250	10	7/30/20	8/6/20 13:04	362575	689966	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000680
Project:	HS20071147	**Date Collected:**	7/23/20 0815
Sample Matrix:	Ground Water	**Date Received:**	7/27/20
Sample Name:	16WW38-200723	**Units:**	µg/L
Lab Code:	E2000680-002	**Basis:**	NA

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

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	ND	U	1.00	0.500	0.250	10	7/30/20	8/19/20 13:17	362575	691702	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000680
Project:	HS20071147	**Date Collected:**	7/23/20 0905
Sample Matrix:	Ground Water	**Date Received:**	7/27/20
Sample Name:	16WW13-200723	**Units:**	µg/L
Lab Code:	E2000680-003	**Basis:**	NA

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

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	**0.134**		0.100	0.0500	0.0250	1	7/30/20	7/30/20 22:06	362575	689966	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000680
Project:	HS20071147	**Date Collected:**	7/23/20 0905
Sample Matrix:	Ground Water	**Date Received:**	7/27/20
Sample Name:	16WW13-200723-FD	**Units:**	µg/L
Lab Code:	E2000680-004	**Basis:**	NA

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

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	ND	U	0.200	0.100	0.0500	2	7/30/20	8/19/20 13:25	362575	691702	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000680
Project:	HS20071147	**Date Collected:**	7/23/20 0950
Sample Matrix:	Ground Water	**Date Received:**	7/27/20
Sample Name:	16WW42-200723	**Units:**	µg/L
Lab Code:	E2000680-005	**Basis:**	NA

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

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	ND	U	0.100	0.0500	0.0250	1	7/30/20	7/30/20 22:29	362575	689966	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000680
Project:	HS20071147	**Date Collected:**	7/23/20 0950
Sample Matrix:	Ground Water	**Date Received:**	7/27/20
Sample Name:	16WW42-200723-FD	**Units:**	µg/L
Lab Code:	E2000680-006	**Basis:**	NA

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

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	ND	U	0.100	0.0500	0.0250	1	7/30/20	7/30/20 22:37	362575	689966	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000680
Project:	HS20071147	**Date Collected:**	7/23/20 1045
Sample Matrix:	Ground Water	**Date Received:**	7/27/20
Sample Name:	16WW27-200723	**Units:**	µg/L
Lab Code:	E2000680-007	**Basis:**	NA

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

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	ND	U	1.00	0.500	0.250	10	7/30/20	8/19/20 13:33	362575	691702	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000680
Project:	HS20071147	**Date Collected:**	7/23/20 1130
Sample Matrix:	Ground Water	**Date Received:**	7/27/20
Sample Name:	16WW43-200723	**Units:**	µg/L
Lab Code:	E2000680-008	**Basis:**	NA

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

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	**0.0428**	J	0.100	0.0500	0.0250	1	7/30/20	7/30/20 22:53	362575	689966	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000680
Project:	HS20071147	**Date Collected:**	7/23/20 1220
Sample Matrix:	Ground Water	**Date Received:**	7/27/20
Sample Name:	16WW34-200723	**Units:**	µg/L
Lab Code:	E2000680-009	**Basis:**	NA

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

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	ND	U	1.00	0.500	0.250	10	7/30/20	8/19/20 13:41	362575	691702	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000680
Project:	HS20071147	**Date Collected:**	7/23/20 1305
Sample Matrix:	Ground Water	**Date Received:**	7/27/20
Sample Name:	16WW33-200723	**Units:**	µg/L
Lab Code:	E2000680-010	**Basis:**	NA

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

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	ND	U	1.00	0.500	0.250	10	7/30/20	8/19/20 13:49	362575	691702	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000680
Project:	HS20071147	**Date Collected:**	7/23/20 1305
Sample Matrix:	Ground Water	**Date Received:**	7/27/20
Sample Name:	16WW33-200723-FD	**Units:**	µg/L
Lab Code:	E2000680-011	**Basis:**	NA

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

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	ND	U	1.00	0.500	0.250	10	7/30/20	8/19/20 13:57	362575	691702	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000680
Project:	HS20071147	**Date Collected:**	NA
Sample Matrix:	Ground Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	µg/L
Lab Code:	EQ2000318-01	**Basis:**	NA

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

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	ND	U	0.100	0.0500	0.0250	1	7/30/20	8/6/20 10:52	362575	689966	

Accuracy & Precision

ALS Environmental - Houston HRMS
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www.alsglobal.com

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20071147
Sample Matrix: Ground Water

Service Request: E2000680
Date Analyzed: 8/ 6/20

Lab Control Sample Summary
Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
Prep Method: Method

Units: µg/L
Basis: NA

Extraction Lot: 362575

	Lab Control Sample EQ2000318-02			Duplicate Lab Control Sample EQ2000318-03					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Perchlorate	0.111	0.100	111	0.113	0.100	113	84 - 119	1	15

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

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000680
Project:	HS20071147	**Date Collected:**	NA
Sample Matrix:	Ground Water	**Date Received:**	NA
Sample Name:	Lab Control Sample	**Units:**	µg/L
Lab Code:	EQ2000318-02	**Basis:**	NA

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

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	**0.111**		0.100	0.0500	0.0250	1	7/30/20	8/6/20 11:09	362575	689966	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000680
Project:	HS20071147	**Date Collected:**	NA
Sample Matrix:	Ground Water	**Date Received:**	NA
Sample Name:	Duplicate Lab Control Sample	**Units:**	µg/L
Lab Code:	EQ2000318-03	**Basis:**	NA

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

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	**0.113**		0.100	0.0500	0.0250	1	7/30/20	8/6/20 11:17	362575	689966	

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000680
Project:	HS20071147	**Date Collected:**	NA
Sample Matrix:	Ground Water	**Date Received:**	NA
		Date Analyzed:	8/ 6/20

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

Sample Name:	Batch QC	**Units:**	µg/L
Lab Code:	R2006334-001	**Basis:**	NA

Analytical Method: 6850
Prep Method: Method

		Batch QCMS Matrix Spike EQ2000318-04				Batch QCDMS Duplicate Matrix Spike EQ2000318-05					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Perchlorate	0.0413	0.148	0.100	107	0.151	0.100	110	84 - 119	2	15

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

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000680
Project:	HS20071147	**Date Collected:**	NA
Sample Matrix:	Ground Water	**Date Received:**	NA
Sample Name:	Batch QC	**Units:**	µg/L
Lab Code:	EQ2000318-04	**Basis:**	NA
Run Type:	Matrix Spike		

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

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	**0.148**		0.100	0.0500	0.0250	1	7/30/20	8/6/20 11:25	362575	689966	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000680
Project:	HS20071147	**Date Collected:**	NA
Sample Matrix:	Ground Water	**Date Received:**	NA
Sample Name:	Batch QC	**Units:**	µg/L
Lab Code:	EQ2000318-05	**Basis:**	NA
Run Type:	Duplicate Matrix Spike		

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

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	**0.151**		0.100	0.0500	0.0250	1	7/30/20	8/6/20 11:33	362575	689966	

Initial Calibration

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

20200724

ALS Environmental

1st Review: Kneir
2nd Review: Hvan

Injection Log
LCMS01 -Shimadzu 8050

ICAL Date: 7/24/2020
Cal. Std. xp: 11/18/2020
ICAL ID: EC2000016

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

			File Name	Acquisition Method	Dilution	R	Comments
1	PERCHLORATE1		20200724_005	Perchlorate6850b.lcm	1x	☒	3100806-05
2	PERCHLORATE2		20200724_006	Perchlorate6850b.lcm	1x	☒	3100806-06
3	PERCHLORATE3		20200724_007	Perchlorate6850b.lcm	1x	☒	3100806-07
4	PERCHLORATE4		20200724_008	Perchlorate6850b.lcm	1x	☒	3100807-01
5	PERCHLORATE5		20200724_009	Perchlorate6850b.lcm	1x	☒	3100807-02
6	PERCHLORATE6		20200724_010	Perchlorate6850b.lcm	1x	☒	3100807-03
7	PERCHLORATE7		20200724_011	Perchlorate6850b.lcm	1x	☒	3100807-04
8	PERCHLORATE8		20200724_012	Perchlorate6850b.lcm	1x	☒	3100807-05
9	PERCHLORATE9		20200724_013	Perchlorate6850b.lcm	1x	☒	3100807-06
10	PERCHLORATE10		20200724_014	Perchlorate6850b.lcm	1x	☒	3100807-07
11	IB		20200724_015	Perchlorate6850b.lcm	1x	☒	
12	PERCHLORATEICV		20200724_016	Perchlorate6850b.lcm	1x	☒	3100807-08
13	IB		20200724_017	Perchlorate6850b.lcm	1x	☒	
14	LODV		20200724_018	Perchlorate6850b.lcm	1x	☒	
15	ICS		20200724_019	Perchlorate6850b.lcm	1x	☒	
16	PERCHLORATE7		20200724_020	Perchlorate6850b.lcm	1x	☒	3100807-04
17	EQ2000302-04X10		20200724_021	Perchlorate6850b.lcm	10x	☒	
18	EQ2000302-05X10DNU		20200724_022	Perchlorate6850b.lcm	10x	☒	
19	E2000626-001X2		20200724_023	Perchlorate6850b.lcm	2x	☒	
20	E2000627-001X10		20200724_024	Perchlorate6850b.lcm	10x	☒	
21	E2000627-005X100		20200724_025	Perchlorate6850b.lcm	100x	☒	
22	E2000627-006X100		20200724_026	Perchlorate6850b.lcm	100x	☒	
23	E2000627-009X1000		20200724_027	Perchlorate6850b.lcm	1000x	☒	
24	E2000640-001X200		20200724_028	Perchlorate6850b.lcm	200x	☒	
25	PERCHLORATE7		20200724_029	Perchlorate6850b.lcm	1x	☒	3100807-04
26	E2000660-001X10		20200724_030	Perchlorate6850b.lcm	10x	☒	
27	E2000627-004X10		20200724_031	Perchlorate6850b.lcm	10x	☒	
28	PERCHLORATE7		20200724_032	Perchlorate6850b.lcm	1x	☒	3100807-04
29	EQ2000302-05X10		20200724_033	Perchlorate6850b.lcm	10x	☒	
30	PERCHLORATE7		20200724_034	Perchlorate6850b.lcm	1x	☒	3100807-04
31	E2000660-003X10		20200724_035	Perchlorate6850b.lcm	10x	☒	
32	E2000660-004X10		20200724_036	Perchlorate6850b.lcm	10x	☒	
33	E2000660-005X2		20200724_037	Perchlorate6850b.lcm	2x	☒	
34	E2000660-006X10		20200724_038	Perchlorate6850b.lcm	10x	☒	
35	PERCHLORATE7		20200724_039	Perchlorate6850b.lcm	1x	☒	3100807-04
36	EQ2000303-01		20200724_040	Perchlorate6850b.lcm	1x	☒	
37	EQ2000303-02		20200724_041	Perchlorate6850b.lcm	1x	☒	
38	EQ2000303-03		20200724_042	Perchlorate6850b.lcm	1x	☒	
39	E2000641-001X20		20200724_043	Perchlorate6850b.lcm	20x	☒	
40	E2000641-002X20		20200724_044	Perchlorate6850b.lcm	20x	☒	
41	E2000641-003X10		20200724_045	Perchlorate6850b.lcm	10x	☒	
42	E2000641-004X20		20200724_046	Perchlorate6850b.lcm	20x	☒	
43	E2000641-005X10		20200724_047	Perchlorate6850b.lcm	10x	☒	
44	E2000641-006X10		20200724_048	Perchlorate6850b.lcm	10x	☒	
45	E2000641-007X10		20200724_049	Perchlorate6850b.lcm	10x	☒	
46	PERCHLORATE7		20200724_050	Perchlorate6850b.lcm	1x	☒	3100807-04
47	E2000641-008X10		20200724_051	Perchlorate6850b.lcm	10x	☒	
48	E2000641-009X10		20200724_052	Perchlorate6850b.lcm	10x	☒	
49	E2000648-001X10		20200724_053	Perchlorate6850b.lcm	10x	☒	
50	E2000648-002X10		20200724_054	Perchlorate6850b.lcm	10x	☒	
51	E2000648-003X20		20200724_055	Perchlorate6850b.lcm	20x	☒	
52	E2000648-005X10		20200724_056	Perchlorate6850b.lcm	10x	☒	

Initial Calibration - Detailed Report

Calibration ID: EC2000016 **Instrument ID:** E-LCMS-01
Column Name: 1

#	Lab Code	Sample Name	File Location	Aquisition Date
01	EC2000016-01	PERCHLORATE1	20200724_005	07/24/2020 11:48
02	EC2000016-02	PERCHLORATE2	20200724_006	07/24/2020 11:56
03	EC2000016-03	PERCHLORATE3	20200724_007	07/24/2020 12:04
04	EC2000016-04	PERCHLORATE4	20200724_008	07/24/2020 12:11
05	EC2000016-05	PERCHLORATE5	20200724_009	07/24/2020 12:19
06	EC2000016-06	PERCHLORATE6	20200724_010	07/24/2020 12:27
07	EC2000016-07	PERCHLORATE7	20200724_011	07/24/2020 12:35
08	EC2000016-08	PERCHLORATE8	20200724_012	07/24/2020 12:43
09	EC2000016-09	PERCHLORATE9	20200724_013	07/24/2020 12:51
10	EC2000016-10	PERCHLORATE10	20200724_014	07/24/2020 12:59

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

Perchlorate **Average RF** **RSD = 4.659** **Average RF = 0.121**

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.1000	0.1283	02	0.5000	0.13	03	0.7000	0.1207	04	1.0000	0.1251
05	2.0000	0.1211	06	5.0000	0.1202	07	10.0000	0.1211	08	20.0000	0.1168
09	30.0000	0.1121	10	50.0000	0.1148						

Analyte

Perchlorate

#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D
01	0.1000	0.106	6.0	02	0.5000	0.537	7.4	03	0.7000	0.698	-0.3
04	1.0000	1.03	3.4	05	2.0000	2.00	0.1	06	5.0000	4.97	-0.7
07	10.0000	10.0	0.1	08	20.0000	19.3	-3.5	09	30.0000	27.8	-7.3
10	50.0000	47.4	-5.1								

Initial Calibration Verification Summary Report

Calibration ID:	EC2000016	**Instrument ID:**	E-LCMS-01
Datafile ID:	20200724_016	**Column Name:**	1

Analyte	Lab Code	Type	Curve Fit	True Value	Calc Conc	Units	Result	Criteria
Perchlorate	EC2000016-11	T	Average RF	10	9.867	ng/mL	-1.3	<= 15

ALS Group Houston

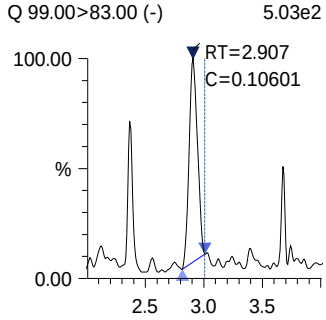
PERCHLORATE1

Date acquired: 7/24/2020 11:48:19 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200724\20200724_005.lcd
Vial: 5 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE1	7/24/2020 11:48:19 AM	2348	0.10601	20200724_005	2.907	25.0000	1.0000	5
Sodium Perchlorate-18O4_IS	PERCHLORATE1	7/24/2020 11:48:19 AM	183001	1.00000	20200724_005	2.903	25.0000	1.0000	5

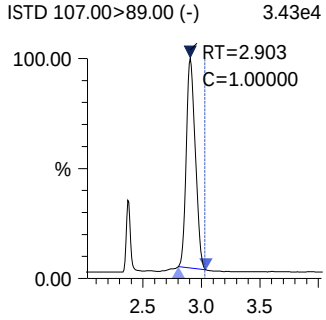
Perchlorate

Conc 0.10601
Area 2348



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 183001



ALS Group Houston

PERCHLORATE2

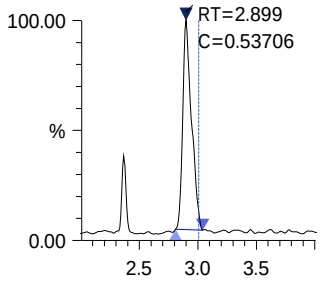
Date acquired: 7/24/2020 11:56:11 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200724\20200724_006.lcd
Vial: 6 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE2	7/24/2020 11:56:11 AM	11773	0.53706	20200724_006	2.899	25.0000	1.0000	6
Sodium Perchlorate-18O4_IS	PERCHLORATE2	7/24/2020 11:56:11 AM	181125	1.00000	20200724_006	2.898	25.0000	1.0000	6

Perchlorate

Conc 0.53706
Area 11773

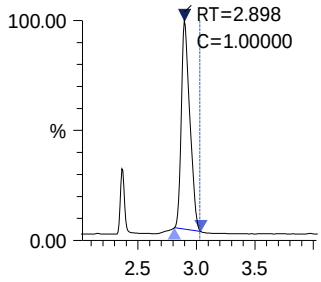
Q 99.00>83.00 (-) 2.32e3



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 181125

ISTD 107.00>89.00 (-) 3.62e4



ALS Group Houston

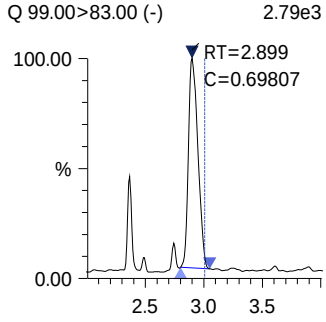
PERCHLORATE3

Date acquired: 7/24/2020 12:04:05 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200724\20200724_007.lcd
Vial: 7 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE3	7/24/2020 12:04:05 PM	15258	0.69807	20200724_007	2.899	25.0000	1.0000	7
Sodium Perchlorate-18O4_IS	PERCHLORATE3	7/24/2020 12:04:05 PM	180602	1.00000	20200724_007	2.896	25.0000	1.0000	7

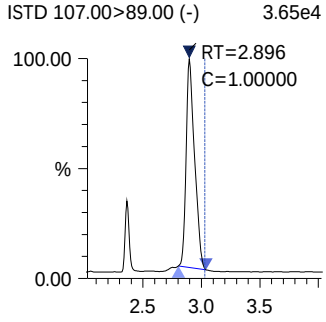
Perchlorate

Conc 0.69807
Area 15258



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 180602



ALS Group Houston

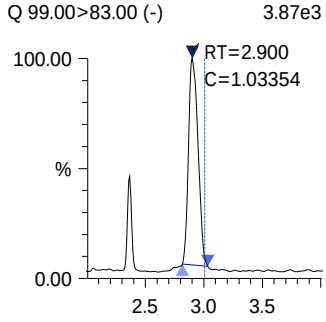
PERCHLORATE4

Date acquired: 7/24/2020 12:11:58 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200724\20200724_008.lcd
Vial: 8 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE4	7/24/2020 12:11:58 PM	20922	1.03354	20200724_008	2.900	25.0000	1.0000	8
Sodium Perchlorate-18O4_IS	PERCHLORATE4	7/24/2020 12:11:58 PM	167260	1.00000	20200724_008	2.902	25.0000	1.0000	8

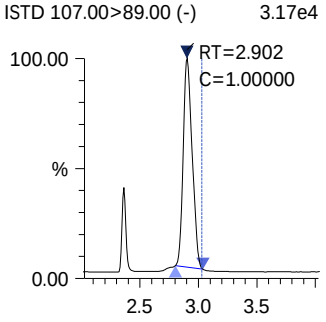
Perchlorate

Conc 1.03354
Area 20922



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 167260



ALS Group Houston

PERCHLORATE5

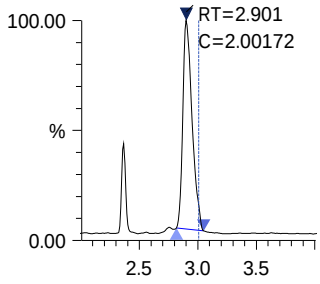
Date acquired: 7/24/2020 12:19:50 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200724\20200724_009.lcd
Vial: 9 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE5	7/24/2020 12:19:50 PM	39343	2.00172	20200724_009	2.901	25.0000	1.0000	9
Sodium Perchlorate-18O4_IS	PERCHLORATE5	7/24/2020 12:19:50 PM	162397	1.00000	20200724_009	2.899	25.0000	1.0000	9

Perchlorate

Conc 2.00172
Area 39343

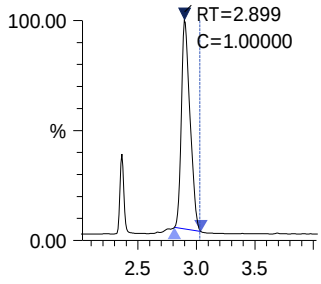
Q 99.00>83.00 (-) 7.39e3



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 162397

ISTD 107.00>89.00 (-) 3.19e4



ALS Group Houston

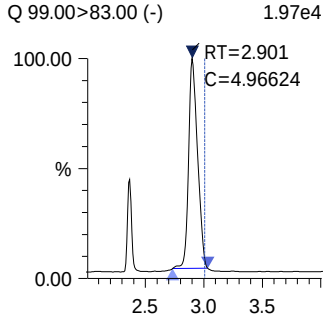
PERCHLORATE6

Date acquired: 7/24/2020 12:27:42 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200724\20200724_010.lcd
Vial: 10 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE6	7/24/2020 12:27:42 PM	102216	4.96624	20200724_010	2.901	25.0000	1.0000	10
Sodium Perchlorate-18O4_IS	PERCHLORATE6	7/24/2020 12:27:42 PM	170060	1.00000	20200724_010	2.900	25.0000	1.0000	10

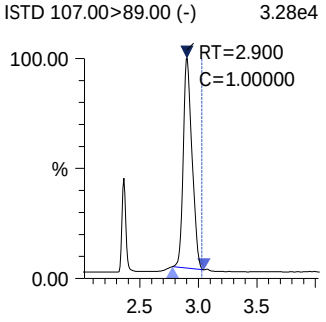
Perchlorate

Conc 4.96624
Area 102216



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 170060



ALS Group Houston

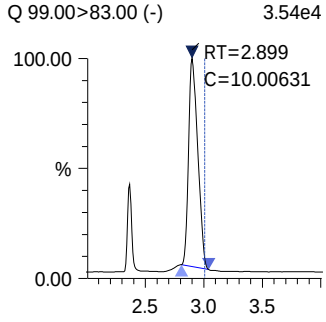
PERCHLORATE7

Date acquired: 7/24/2020 12:35:33 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200724\20200724_011.lcd
Vial: 4 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE7	7/24/2020 12:35:33 PM	187110	10.00631	20200724_011	2.899	25.0000	1.0000	4
Sodium Perchlorate-18O4_IS	PERCHLORATE7	7/24/2020 12:35:33 PM	154502	1.00000	20200724_011	2.897	25.0000	1.0000	4

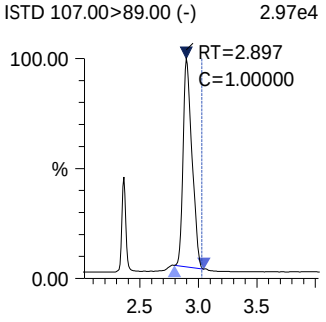
Perchlorate

Conc 10.00631
Area 187110



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 154502



ALS Group Houston

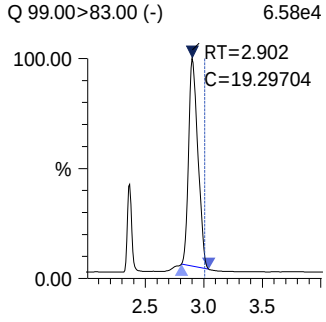
PERCHLORATE8

Date acquired: 7/24/2020 12:43:26 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200724\20200724_012.lcd
Vial: 11 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE8	7/24/2020 12:43:26 PM	349524	19.29704	20200724_012	2.902	25.0000	1.0000	11
Sodium Perchlorate-18O4_IS	PERCHLORATE8	7/24/2020 12:43:26 PM	149657	1.00000	20200724_012	2.900	25.0000	1.0000	11

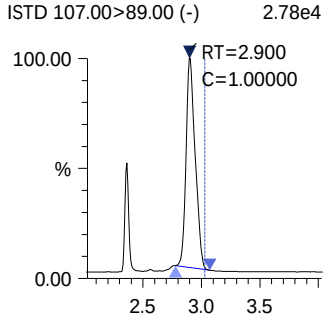
Perchlorate

Conc 19.29704
Area 349524



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 149657



ALS Group Houston

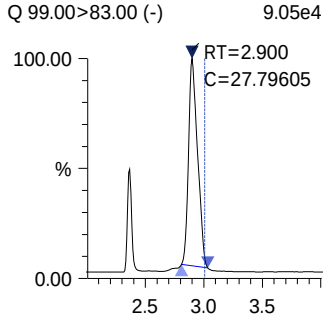
PERCHLORATE9

Date acquired: 7/24/2020 12:51:22 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200724\20200724_013.lcd
Vial: 12 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE9	7/24/2020 12:51:22 PM	465757	27.79605	20200724_013	2.900	25.0000	1.0000	12
Sodium Perchlorate-18O4_IS	PERCHLORATE9	7/24/2020 12:51:22 PM	138448	1.00000	20200724_013	2.898	25.0000	1.0000	12

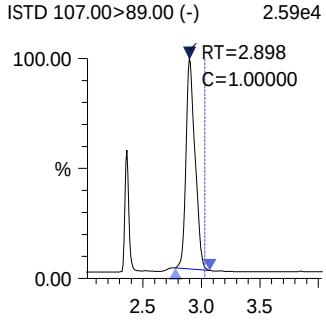
Perchlorate

Conc 27.79605
Area 465757



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 138448



ALS Group Houston

PERCHLORATE10

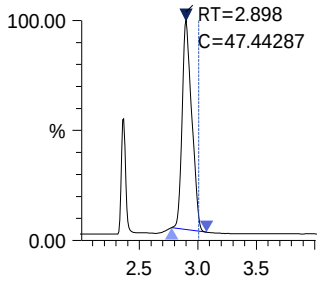
Date acquired: 7/24/2020 12:59:14 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200724\20200724_014.lcd
Vial: 13 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE10	7/24/2020 12:59:14 PM	708682	47.44287	20200724_014	2.898	25.0000	1.0000	13
Sodium Perchlorate-18O4_IS	PERCHLORATE10	7/24/2020 12:59:14 PM	123422	1.00000	20200724_014	2.896	25.0000	1.0000	13

Perchlorate

Conc 47.44287
Area 708682

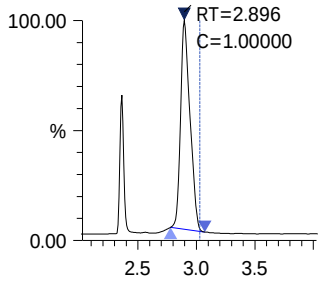
Q 99.00>83.00 (-) 1.28e5



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 123422

ISTD 107.00>89.00 (-) 2.23e4



ALS Group Houston

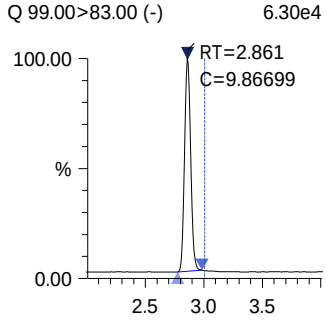
PERCHLORATEICV

Date acquired: 7/24/2020 1:28:19 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200724\20200724_016.lcd
Vial: 14 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATEICV	7/24/2020 1:28:19 PM	231631	9.86699	20200724_016	2.861	25.0000	1.0000	14
Sodium Perchlorate-18O4_IS	PERCHLORATEICV	7/24/2020 1:28:19 PM	193964	1.00000	20200724_016	2.859	25.0000	1.0000	14

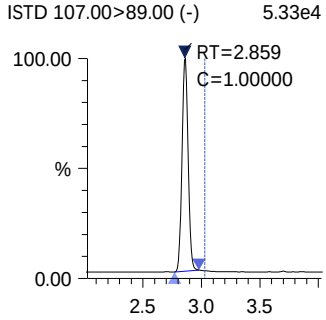
Perchlorate

Conc 9.86699
Area 231631



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 193964



20200819

ALS Environmental

ICAL Date: 7/19/2020
Cal. Std. xp: 11/18/2020
ICAL ID: EC2000022

1st Review: Kneir
2nd Review: Hvan

Injection Log
LCMS01 -Shimadzu 8050

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

			File Name	Acquisition Method	Dilution	R	Comments	Date/Time
1	PERCHLORATE1		20200819_005	Perchlorate6850b.lcm	1x	☒	3100806-05	8/19/2020 10:42
2	PERCHLORATE2		20200819_006	Perchlorate6850b.lcm	1x	☒	3100806-06	8/19/2020 10:50
3	PERCHLORATE3		20200819_007	Perchlorate6850b.lcm	1x	☒	3100806-07	8/19/2020 10:58
4	PERCHLORATE4		20200819_008	Perchlorate6850b.lcm	1x	☒	3100807-01	8/19/2020 11:06
5	PERCHLORATE5		20200819_009	Perchlorate6850b.lcm	1x	☒	3100807-02	8/19/2020 11:14
6	PERCHLORATE6		20200819_010	Perchlorate6850b.lcm	1x	☒	3100807-03	8/19/2020 11:22
7	PERCHLORATE7		20200819_011	Perchlorate6850b.lcm	1x	☒	3100807-04	8/19/2020 11:30
8	PERCHLORATE8		20200819_012	Perchlorate6850b.lcm	1x	☒	3100807-05	8/19/2020 11:38
9	PERCHLORATE9		20200819_013	Perchlorate6850b.lcm	1x	☒	3100807-06	8/19/2020 11:45
10	PERCHLORATE10		20200819_014	Perchlorate6850b.lcm	1x	☒	3100807-07	8/19/2020 11:53
11	PERCHLORATEICV		20200819_016	Perchlorate6850b.lcm	1x	☒	3100807-08	8/19/2020 12:09
12	LODV		20200819_017	Perchlorate6850b.lcm	1x	☒		8/19/2020 12:17
13	EQ2000337-01		20200819_019	Perchlorate6850b.lcm	1x	☒		8/19/2020 12:38
14	EQ2000337-02		20200819_020	Perchlorate6850b.lcm	1x	☒		8/19/2020 12:46
15	EQ2000337-03		20200819_021	Perchlorate6850b.lcm	1x	☒		8/19/2020 12:53
16	E2000723-001		20200819_022	Perchlorate6850b.lcm	1x	☒		8/19/2020 13:01
17	PERCHLORATE7		20200819_023	Perchlorate6850b.lcm	1x	☒	3100807-04	8/19/2020 13:09
18	E2000680-002X10		20200819_024	Perchlorate6850b.lcm	10x	☒		8/19/2020 13:17
19	E2000680-004X2		20200819_025	Perchlorate6850b.lcm	2x	☒		8/19/2020 13:25
20	E2000680-007X10		20200819_026	Perchlorate6850b.lcm	10x	☒		8/19/2020 13:33
21	E2000680-009X10		20200819_027	Perchlorate6850b.lcm	10x	☒		8/19/2020 13:41
22	E2000680-010X10		20200819_028	Perchlorate6850b.lcm	10x	☒		8/19/2020 13:49
23	E2000680-011X10		20200819_029	Perchlorate6850b.lcm	10x	☒		8/19/2020 13:57
24	EQ2000327-01		20200819_030	Perchlorate6850b.lcm	1x	☒		8/19/2020 14:04
25	EQ2000327-02		20200819_031	Perchlorate6850b.lcm	1x	☒		8/19/2020 14:12
26	EQ2000327-03		20200819_033	Perchlorate6850b.lcm	1x	☒		8/19/2020 14:21
27	PERCHLORATE7		20200819_034	Perchlorate6850b.lcm	1x	☒	3100807-04	8/19/2020 14:29
28	E2000735-001		20200819_035	Perchlorate6850b.lcm	1x	☒		8/19/2020 14:37
29	E2000735-002		20200819_036	Perchlorate6850b.lcm	1x	☒		8/19/2020 14:45
30	E2000735-003		20200819_037	Perchlorate6850b.lcm	1x	☒		8/19/2020 14:53
31	E2000735-004		20200819_038	Perchlorate6850b.lcm	1x	☒		8/19/2020 15:01
32	E2000735-005		20200819_039	Perchlorate6850b.lcm	1x	☒		8/19/2020 15:09
33	E2000735-006		20200819_040	Perchlorate6850b.lcm	1x	☒		8/19/2020 15:16
34	E2000735-007		20200819_041	Perchlorate6850b.lcm	1x	☒		8/19/2020 15:24
35	E2000735-008		20200819_042	Perchlorate6850b.lcm	1x	☒		8/19/2020 15:32
36	E2000735-009		20200819_043	Perchlorate6850b.lcm	1x	☒		8/19/2020 15:44
37	PERCHLORATE7		20200819_044	Perchlorate6850b.lcm	1x	☒	3100807-04	8/19/2020 15:52
38	E2000735-010		20200819_045	Perchlorate6850b.lcm	1x	☒		8/19/2020 16:00
39	E2000735-011		20200819_046	Perchlorate6850b.lcm	1x	☒		8/19/2020 16:08
40	E2000735-013		20200819_047	Perchlorate6850b.lcm	1x	☒		8/19/2020 16:16
41	E2000735-014		20200819_048	Perchlorate6850b.lcm	1x	☒		8/19/2020 16:24
42	E2000735-015		20200819_049	Perchlorate6850b.lcm	1x	☒		8/19/2020 16:32
43	E2000735-016		20200819_050	Perchlorate6850b.lcm	1x	☒		8/19/2020 16:40
44	E2000735-017		20200819_051	Perchlorate6850b.lcm	1x	☒		8/19/2020 16:47
45	E2000735-018		20200819_052	Perchlorate6850b.lcm	1x	☒		8/19/2020 16:55
46	E2000735-019		20200819_053	Perchlorate6850b.lcm	1x	☒		8/19/2020 17:03
47	PERCHLORATE7		20200819_054	Perchlorate6850b.lcm	1x	☒	3100807-04	8/19/2020 17:11
48	EQ2000339-01		20200819_055	Perchlorate6850b.lcm	1x	☒		8/19/2020 17:19
49	EQ2000339-02		20200819_056	Perchlorate6850b.lcm	1x	☒		8/19/2020 17:27
50	EQ2000339-03		20200819_057	Perchlorate6850b.lcm	1x	☒		8/19/2020 17:35
51	E2000712-001		20200819_058	Perchlorate6850b.lcm	1x	☒		8/19/2020 17:43
52	E2000712-002		20200819_059	Perchlorate6850b.lcm	1x	☒		8/19/2020 17:51
53	E2000712-003		20200819_060	Perchlorate6850b.lcm	1x	☒		8/19/2020 17:59
54	IB		20200819_061	Perchlorate6850b.lcm	1x	☒		8/19/2020 18:08
55	IB		20200819_062	Perchlorate6850b.lcm	1x	☒		8/19/2020 18:16
56	IB		20200819_063	Perchlorate6850b.lcm	1x	☒		8/19/2020 18:24
57	IB		20200819_064	Perchlorate6850b.lcm	1x	☒		8/19/2020 18:32
58	PERCHLORATE7		20200819_065	Perchlorate6850b.lcm	1x	☒	3100807-04	8/19/2020 18:40
59	E2000712-004		20200819_066	Perchlorate6850b.lcm	1x	☒		8/19/2020 18:48
60	E2000712-005		20200819_067	Perchlorate6850b.lcm	1x	☒		8/19/2020 18:56
61	E2000712-006		20200819_068	Perchlorate6850b.lcm	1x	☒		8/19/2020 19:04

20200819

ALS Environmental

ICAL Date: 7/19/2020
Cal. Std. xp: 11/18/2020
ICAL ID: EC2000022

1st Review: Kneir
2nd Review: Hvan

Injection Log
LCMS01 -Shimadzu 8050

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

			File Name	Acquisition Method	Dilution	R	Comments	Date/Time
62	E2000712-007		20200819_069	Perchlorate6850b.lcm	1x	☒		8/19/2020 19:12
63	E2000694-012		20200819_070	Perchlorate6850b.lcm	1x	☒		8/19/2020 19:19
64	E2000694-012MS		20200819_071	Perchlorate6850b.lcm	1x	☒		8/19/2020 19:27
65	E2000694-012MSD		20200819_072	Perchlorate6850b.lcm	1x	☒		8/19/2020 19:35
66	E2000711-001		20200819_073	Perchlorate6850b.lcm	1x	☒		8/19/2020 19:43
67	E2000711-002		20200819_074	Perchlorate6850b.lcm	1x	☒		8/19/2020 19:51
68	E2000724-001		20200819_075	Perchlorate6850b.lcm	1x	☒		8/19/2020 19:59
69	PERCHLORATE7		20200819_076	Perchlorate6850b.lcm	1x	☒	3100807-04	8/19/2020 20:07
70	E2000724-002		20200819_077	Perchlorate6850b.lcm	1x	☒		8/19/2020 20:15
71	E2000724-003		20200819_078	Perchlorate6850b.lcm	1x	☒		8/19/2020 20:22
72	E2000724-004		20200819_079	Perchlorate6850b.lcm	1x	☒		8/19/2020 20:30
73	E2000728-001		20200819_080	Perchlorate6850b.lcm	1x	☒		8/19/2020 20:38
74	E2000728-002		20200819_081	Perchlorate6850b.lcm	1x	☒		8/19/2020 20:46
75	E2000729-001		20200819_082	Perchlorate6850b.lcm	1x	☒		8/19/2020 20:54
76	R2006493-001		20200819_083	Perchlorate6850b.lcm	1x	☒		8/19/2020 21:02
77	R2006493-003		20200819_084	Perchlorate6850b.lcm	1x	☒		8/19/2020 21:10
78	R2006493-005		20200819_085	Perchlorate6850b.lcm	1x	☒		8/19/2020 21:18
79	R2006493-007		20200819_086	Perchlorate6850b.lcm	1x	☒		8/19/2020 21:26
80	PERCHLORATE7		20200819_087	Perchlorate6850b.lcm	1x	☒	3100807-04	8/19/2020 21:33
81	R2006493-009		20200819_088	Perchlorate6850b.lcm	1x	☒		8/19/2020 21:41
82	R2006493-011		20200819_089	Perchlorate6850b.lcm	1x	☒		8/19/2020 21:49
83	R2006493-013		20200819_090	Perchlorate6850b.lcm	1x	☒		8/19/2020 21:57
84	R2006493-015		20200819_091	Perchlorate6850b.lcm	1x	☒		8/19/2020 22:05
85	PERCHLORATE7		20200819_092	Perchlorate6850b.lcm	1x	☒	3100807-04	8/19/2020 22:13
86	EQ2000338-01		20200819_093	Perchlorate6850b.lcm	1x	☒		8/19/2020 22:21
87	EQ2000338-02		20200819_094	Perchlorate6850b.lcm	1x	☒		8/19/2020 22:29
88	EQ2000338-03		20200819_095	Perchlorate6850b.lcm	1x	☒		8/19/2020 22:37
89	EQ2000338-04		20200819_096	Perchlorate6850b.lcm	1x	☒		8/19/2020 22:44
90	EQ2000338-05		20200819_097	Perchlorate6850b.lcm	1x	☒		8/19/2020 22:52
91	R2006532-001		20200819_098	Perchlorate6850b.lcm	1x	☒		8/19/2020 23:00
92	R2006532-003		20200819_099	Perchlorate6850b.lcm	1x	☒		8/19/2020 23:08
93	R2006532-005		20200819_100	Perchlorate6850b.lcm	1x	☒		8/19/2020 23:16
94	R2006532-007		20200819_101	Perchlorate6850b.lcm	1x	☒		8/19/2020 23:24
95	R2006532-009		20200819_102	Perchlorate6850b.lcm	1x	☒		8/19/2020 23:32
96	PERCHLORATE7		20200819_103	Perchlorate6850b.lcm	1x	☒	3100807-04	8/19/2020 23:40
97	R2006532-011		20200819_104	Perchlorate6850b.lcm	1x	☒		8/19/2020 23:47
98	R2006555-002		20200819_105	Perchlorate6850b.lcm	1x	☒		8/19/2020 23:55
99	R2006555-004		20200819_106	Perchlorate6850b.lcm	1x	☒		8/20/2020 0:03
100	R2006555-006		20200819_107	Perchlorate6850b.lcm	1x	☒		8/20/2020 0:11
101	R2006555-008		20200819_108	Perchlorate6850b.lcm	1x	☒		8/20/2020 0:19
102	R2006555-010		20200819_109	Perchlorate6850b.lcm	1x	☒		8/20/2020 0:27
103	R2006555-012		20200819_110	Perchlorate6850b.lcm	1x	☒		8/20/2020 0:35
104	R2006617-001		20200819_111	Perchlorate6850b.lcm	1x	☒		8/20/2020 0:43
105	R2006617-003		20200819_112	Perchlorate6850b.lcm	1x	☒		8/20/2020 0:50
106	R2006617-005		20200819_113	Perchlorate6850b.lcm	1x	☒		8/20/2020 0:58
107	PERCHLORATE7		20200819_114	Perchlorate6850b.lcm	1x	☒	3100807-04	8/20/2020 1:06
108	R2006617-007		20200819_115	Perchlorate6850b.lcm	1x	☒		8/20/2020 1:14
109	R2006617-009		20200819_116	Perchlorate6850b.lcm	1x	☒		8/20/2020 1:22
110	R2006617-010		20200819_117	Perchlorate6850b.lcm	1x	☒		8/20/2020 1:30
111	PERCHLORATE7		20200819_118	Perchlorate6850b.lcm	1x	☒	3100807-04	8/20/2020 1:38

Initial Calibration - Detailed Report

Calibration ID: EC2000022 **Instrument ID:** E-LCMS-01
Column Name: 1

#	Lab Code	Sample Name	File Location	Aquisition Date
01	EC2000022-01	PERCHLORATE1	20200819_005	08/19/2020 10:42
02	EC2000022-02	PERCHLORATE2	20200819_006	08/19/2020 10:50
03	EC2000022-03	PERCHLORATE3	20200819_007	08/19/2020 10:58
04	EC2000022-04	PERCHLORATE4	20200819_008	08/19/2020 11:06
05	EC2000022-05	PERCHLORATE5	20200819_009	08/19/2020 11:14
06	EC2000022-06	PERCHLORATE6	20200819_010	08/19/2020 11:22
07	EC2000022-07	PERCHLORATE7	20200819_011	08/19/2020 11:30
08	EC2000022-08	PERCHLORATE8	20200819_012	08/19/2020 11:38
09	EC2000022-09	PERCHLORATE9	20200819_013	08/19/2020 11:45
10	EC2000022-10	PERCHLORATE10	20200819_014	08/19/2020 11:53

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

Perchlorate **Average RF** **RSD = 5.952** **Average RF = 0.1131**

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.1000	0.1299	02	0.5000	0.113	03	0.7000	0.1123	04	1.0000	0.1147
05	2.0000	0.1134	06	5.0000	0.1082	07	10.0000	0.1069	08	20.0000	0.1158
09	30.0000	0.1094	10	50.0000	0.107						

Analyte

Perchlorate

#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D
01	0.1000	0.115	14.9	02	0.5000	0.500	-0.1	03	0.7000	0.695	-0.7
04	1.0000	1.01	1.5	05	2.0000	2.01	0.3	06	5.0000	4.78	-4.3
07	10.0000	9.46	-5.4	08	20.0000	20.5	2.4	09	30.0000	29.0	-3.2
10	50.0000	47.3	-5.4								

Initial Calibration Verification Summary Report

Calibration ID:	EC2000022	**Instrument ID:**	E-LCMS-01
Datafile ID:	20200819_016	**Column Name:**	1

Analyte	Lab Code	Type	Curve Fit	True Value	Calc Conc	Units	Result	Criteria
Perchlorate	EC2000022-11	T	Average RF	10	9.352	ng/mL	-6.5	<= 15

ALS Group Houston

PERCHLORATE1

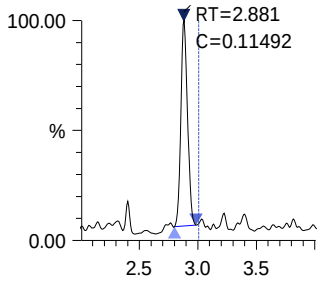
Date acquired: 8/19/2020 10:42:37 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200819\20200819_005.lcd
Vial: 5 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE1	8/19/2020 10:42:37 AM	3802	0.11492	20200819_005	2.881	25.0000	1.0000	5
Sodium Perchlorate-18O4_IS	PERCHLORATE1	8/19/2020 10:42:37 AM	292622	1.00000	20200819_005	2.877	25.0000	1.0000	5

Perchlorate

Conc 0.11492
Area 3802

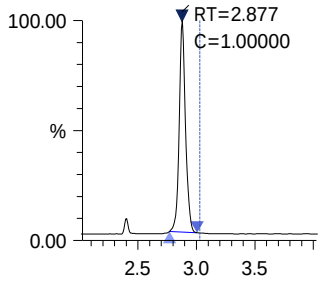
Q 99.00>83.00 (-) 1.00e3



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 292622

ISTD 107.00>89.00 (-) 7.83e4



ALS Group Houston

PERCHLORATE2

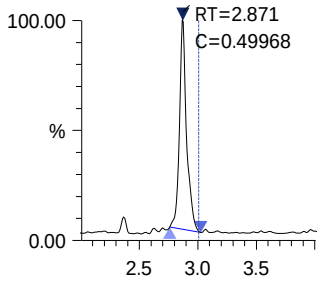
Date acquired: 8/19/2020 10:50:33 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200819\20200819_006.lcd
Vial: 6 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE2	8/19/2020 10:50:33 AM	18036	0.49968	20200819_006	2.871	25.0000	1.0000	6
Sodium Perchlorate-18O4_IS	PERCHLORATE2	8/19/2020 10:50:33 AM	319274	1.00000	20200819_006	2.870	25.0000	1.0000	6

Perchlorate

Conc 0.49968
Area 18036

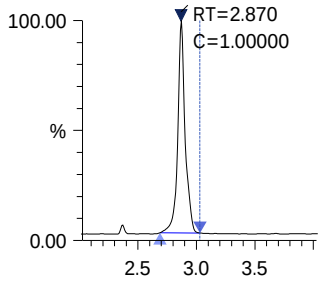
Q 99.00>83.00 (-) 4.32e3



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 319274

ISTD 107.00>89.00 (-) 7.26e4



ALS Group Houston

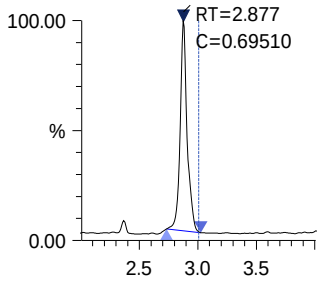
PERCHLORATE3

Date acquired: 8/19/2020 10:58:27 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200819\20200819_007.lcd
Vial: 7 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE3	8/19/2020 10:58:27 AM	24394	0.69510	20200819_007	2.877	25.0000	1.0000	7
Sodium Perchlorate-18O4_IS	PERCHLORATE3	8/19/2020 10:58:27 AM	310422	1.00000	20200819_007	2.874	25.0000	1.0000	7

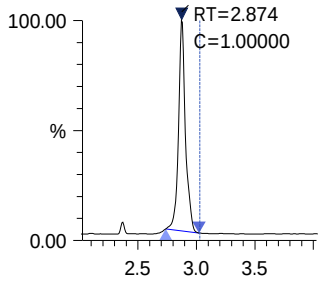
Perchlorate

Conc 0.69510
Area 24394
Q 99.00>83.00 (-) 5.99e3



Sodium Perchlorate-18O4 _IS

Conc 1.00000
Area 310422
ISTD 107.00>89.00 (-) 7.56e4



ALS Group Houston

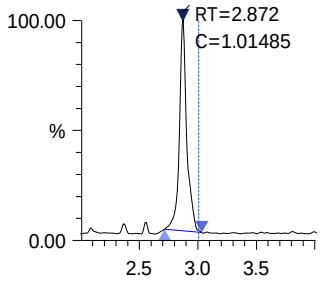
PERCHLORATE4

Date acquired: 8/19/2020 11:06:22 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200819\20200819_008.lcd
Vial: 8 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE4	8/19/2020 11:06:22 AM	33591	1.01485	20200819_008	2.872	25.0000	1.0000	8
Sodium Perchlorate-18O4_IS	PERCHLORATE4	8/19/2020 11:06:22 AM	292786	1.00000	20200819_008	2.872	25.0000	1.0000	8

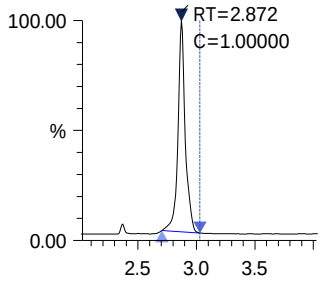
Perchlorate

Conc 1.01485
Area 33591
Q 99.00>83.00 (-) 7.70e3



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 292786
ISTD 107.00>89.00 (-) 6.80e4



ALS Group Houston

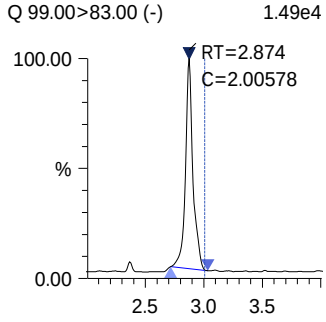
PERCHLORATE5

Date acquired: 8/19/2020 11:14:18 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200819\20200819_009.lcd
Vial: 9 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE5	8/19/2020 11:14:18 AM	65114	2.00578	20200819_009	2.874	25.0000	1.0000	9
Sodium Perchlorate-18O4_IS	PERCHLORATE5	8/19/2020 11:14:18 AM	287158	1.00000	20200819_009	2.873	25.0000	1.0000	9

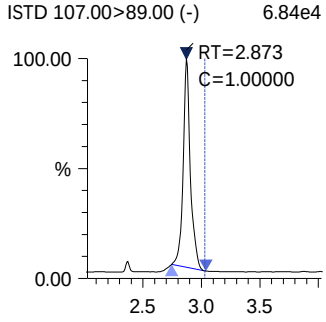
Perchlorate

Conc 2.00578
Area 65114



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 287158



ALS Group Houston

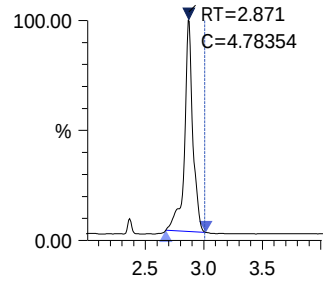
PERCHLORATE6

Date acquired: 8/19/2020 11:22:10 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200819\20200819_010.lcd
Vial: 10 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE6	8/19/2020 11:22:10 AM	167892	4.78354	20200819_010	2.871	25.0000	1.0000	10
Sodium Perchlorate-18O4_IS	PERCHLORATE6	8/19/2020 11:22:10 AM	310462	1.00000	20200819_010	2.870	25.0000	1.0000	10

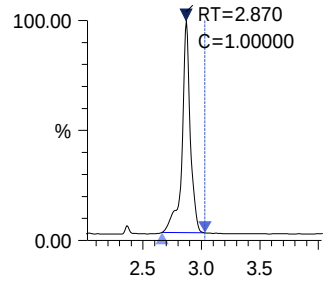
Perchlorate

Conc 4.78354
Area 167892



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 310462



ALS Group Houston

PERCHLORATE7

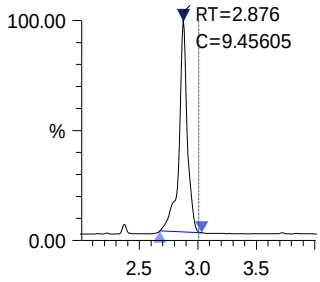
Date acquired: 8/19/2020 11:30:05 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200819\20200819_011.lcd
Vial: 4 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE7	8/19/2020 11:30:05 AM	309830	9.45605	20200819_011	2.876	25.0000	1.0000	4
Sodium Perchlorate-18O4_IS	PERCHLORATE7	8/19/2020 11:30:05 AM	289828	1.00000	20200819_011	2.875	25.0000	1.0000	4

Perchlorate

Conc 9.45605
Area 309830

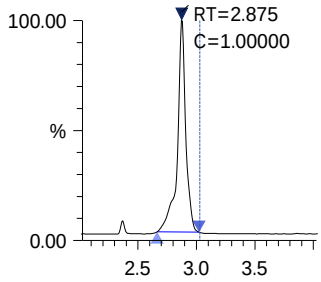
Q 99.00>83.00 (-) 6.35e4



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 289828

ISTD 107.00>89.00 (-) 5.81e4



ALS Group Houston

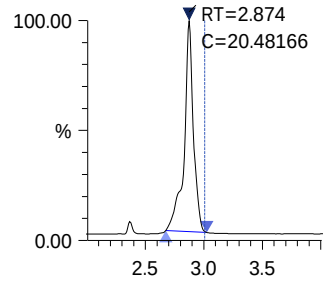
PERCHLORATE8

Date acquired: 8/19/2020 11:38:00 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200819\20200819_012.lcd
Vial: 11 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE8	8/19/2020 11:38:00 AM	587088	20.48166	20200819_012	2.874	25.0000	1.0000	11
Sodium Perchlorate-18O4_IS	PERCHLORATE8	8/19/2020 11:38:00 AM	253551	1.00000	20200819_012	2.873	25.0000	1.0000	11

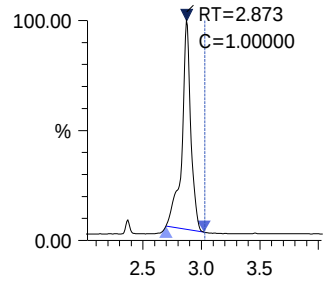
Perchlorate

Conc 20.48166
Area 587088



Sodium Perchlorate-18O4 _IS

Conc 1.00000
Area 253551



ALS Group Houston

PERCHLORATE9

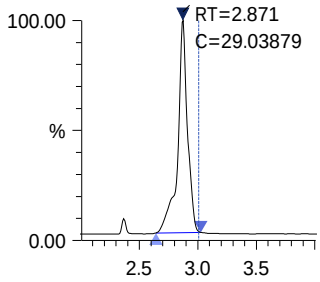
Date acquired: 8/19/2020 11:45:53 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200819\20200819_013.lcd
Vial: 12 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE9	8/19/2020 11:45:53 AM	849278	29.03879	20200819_013	2.871	25.0000	1.0000	12
Sodium Perchlorate-18O4_IS	PERCHLORATE9	8/19/2020 11:45:53 AM	258702	1.00000	20200819_013	2.870	25.0000	1.0000	12

Perchlorate

Conc 29.03879
Area 849278

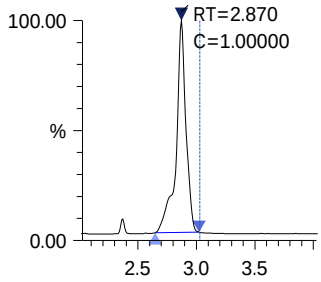
Q 99.00>83.00 (-) 1.48e5



Sodium Perchlorate-18O4 _IS

Conc 1.00000
Area 258702

ISTD 107.00>89.00 (-) 4.43e4



ALS Group Houston

PERCHLORATE10

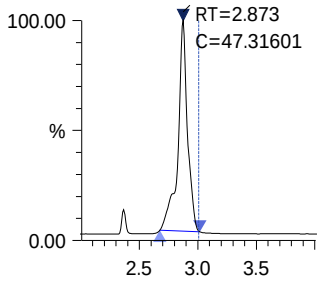
Date acquired: 8/19/2020 11:53:48 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200819\20200819_014.lcd
Vial: 13 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE10	8/19/2020 11:53:48 AM	1220253	47.31601	20200819_014	2.873	25.0000	1.0000	13
Sodium Perchlorate-18O4_IS	PERCHLORATE10	8/19/2020 11:53:48 AM	228123	1.00000	20200819_014	2.871	25.0000	1.0000	13

Perchlorate

Conc 47.31601
Area 1220253

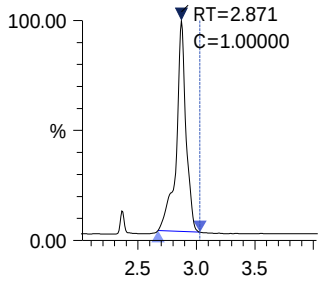
Q 99.00>83.00 (-) 2.17e5



Sodium Perchlorate-18O4 _IS

Conc 1.00000
Area 228123

ISTD 107.00>89.00 (-) 3.99e4



ALS Group Houston

PERCHLORATEICV

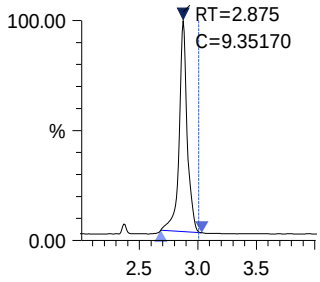
Date acquired: 8/19/2020 12:09:35 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200819\20200819_016.lcd
Vial: 14 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATEICV	8/19/2020 12:09:35 PM	294031	9.35170	20200819_016	2.875	25.0000	1.0000	14
Sodium Perchlorate-18O4_IS	PERCHLORATEICV	8/19/2020 12:09:35 PM	278118	1.00000	20200819_016	2.873	25.0000	1.0000	14

Perchlorate

Conc 9.35170
Area 294031

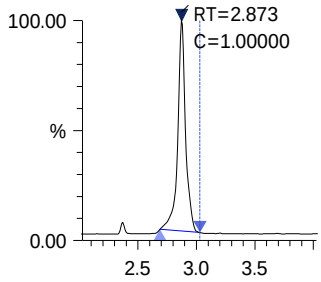
Q 99.00>83.00 (-) 6.27e4



Sodium Perchlorate-18O4 _IS

Conc 1.00000
Area 278118

ISTD 107.00>89.00 (-) 5.98e4



Chromatograms and Selected Ion Monitoring

ALS Environmental - Houston HRMS
10450 Stancliff Rd., Suite 320, Houston TX 77099
Phone (713)266-1599 Fax (713)266-0130
www.alsglobal.com

	20200730								**ICAL Date:**	7/24/2020
				ALS Environmental					**Cal. Std. xp:**	11/18/2020
1st Review:		Kneir		**Injection Log**					**ICAL ID:**	**EC2000016**
2nd Review:		Hvan		**LCMS01 -Shimadzu 8050**						
Mobile Phases			**A:** 0.75% Formic Acid/Water 3100807-09			**B:** MeOH 3100802-01				

		File Name	Acquisition Method	Dilution	R	Comments	Date/Time
1	null	20200730_001	Perchlorate6850b.lcm	1x	☒		7/30/2020 12:37
2	null	20200730_002	Perchlorate6850b.lcm	1x	☒		7/30/2020 12:41
3	IB	20200730_003	Perchlorate6850b.lcm	1x	☒		7/30/2020 12:47
4	IB	20200730_004	Perchlorate6850b.lcm	1x	☒		7/30/2020 12:55
5	LODV	20200730_005	Perchlorate6850b.lcm	1x	☒		7/30/2020 13:03
6	ICS	20200730_006	Perchlorate6850b.lcm	1x	☒		7/30/2020 13:10
7	PERCHLORATE7	20200730_007	Perchlorate6850b.lcm	1x	☒	3100807-04	7/30/2020 14:31
8	PERCHLORATE7	20200730_012	Perchlorate6850b.lcm	1x	☒	3100807-04	7/30/2020 15:40
9	EQ2000319-01	20200730_013	Perchlorate6850b.lcm	1x	☒		7/30/2020 15:47
10	EQ2000319-02	20200730_014	Perchlorate6850b.lcm	1x	☒		7/30/2020 15:55
11	EQ2000319-03	20200730_015	Perchlorate6850b.lcm	1x	☒		7/30/2020 16:03
12	E2000660-002	20200730_016	Perchlorate6850b.lcm	1x	☒		7/30/2020 16:11
13	E2000660-007	20200730_017	Perchlorate6850b.lcm	1x	☒		7/30/2020 16:19
14	E2000678-001	20200730_018	Perchlorate6850b.lcm	1x	☒		7/30/2020 16:27
15	E2000678-002	20200730_019	Perchlorate6850b.lcm	1x	☒		7/30/2020 16:35
16	PERCHLORATE7	20200730_021	Perchlorate6850b.lcm	1x	☒	3100807-04	7/30/2020 16:51
17	E2000678-001X2	20200730_022	Perchlorate6850b.lcm	2x	☒		7/30/2020 17:19
18	E2000539-004X50000	20200730_023	Perchlorate6850b.lcm	50000x	☒		7/30/2020 18:09
19	PERCHLORATE7	20200730_025	Perchlorate6850b.lcm	1x	☒	3100807-04	7/30/2020 18:16
20	EQ2000317-01	20200730_026	Perchlorate6850b.lcm	1x	☒		7/30/2020 18:24
21	EQ2000317-02	20200730_027	Perchlorate6850b.lcm	1x	☒		7/30/2020 18:32
22	EQ2000317-03	20200730_028	Perchlorate6850b.lcm	1x	☒		7/30/2020 18:40
23	E2000657-001	20200730_029	Perchlorate6850b.lcm	1x	☒		7/30/2020 18:48
24	E2000657-002	20200730_030	Perchlorate6850b.lcm	1x	☒		7/30/2020 18:56
25	E2000657-003	20200730_031	Perchlorate6850b.lcm	1x	☒		7/30/2020 19:04
26	E2000657-004	20200730_032	Perchlorate6850b.lcm	1x	☒		7/30/2020 19:12
27	E2000657-005	20200730_033	Perchlorate6850b.lcm	1x	☒		7/30/2020 19:20
28	PERCHLORATE7	20200730_034	Perchlorate6850b.lcm	1x	☒	3100807-04	7/30/2020 19:28
29	E2000657-006	20200730_035	Perchlorate6850b.lcm	1x	☒		7/30/2020 19:36
30	E2000669-001	20200730_036	Perchlorate6850b.lcm	1x	☒		7/30/2020 19:43
31	E2000671-001	20200730_037	Perchlorate6850b.lcm	1x	☒		7/30/2020 19:51
32	E2000671-002	20200730_038	Perchlorate6850b.lcm	1x	☒		7/30/2020 19:59
33	E2000671-003	20200730_039	Perchlorate6850b.lcm	1x	☒		7/30/2020 20:07
34	E2000671-004	20200730_040	Perchlorate6850b.lcm	1x	☒		7/30/2020 20:15
35	E2000671-005	20200730_041	Perchlorate6850b.lcm	1x	☒		7/30/2020 20:23
36	E2000671-006	20200730_042	Perchlorate6850b.lcm	1x	☒		7/30/2020 20:31
37	E2000671-007	20200730_043	Perchlorate6850b.lcm	1x	☒		7/30/2020 20:39
38	E2000672-001	20200730_044	Perchlorate6850b.lcm	1x	☒		7/30/2020 20:47
39	PERCHLORATE7	20200730_045	Perchlorate6850b.lcm	1x	☒	3100807-04	7/30/2020 20:55
40	E2000689-001	20200730_046	Perchlorate6850b.lcm	1x	☒		7/30/2020 21:02
41	EQ2000318-01	20200730_047	Perchlorate6850b.lcm	1x	☒		7/30/2020 21:10
42	EQ2000318-02	20200730_048	Perchlorate6850b.lcm	1x	☒		7/30/2020 21:18
43	EQ2000318-03	20200730_049	Perchlorate6850b.lcm	1x	☒		7/30/2020 21:26
44	EQ2000318-04	20200730_050	Perchlorate6850b.lcm	1x	☒		7/30/2020 21:34
45	EQ2000318-05	20200730_051	Perchlorate6850b.lcm	1x	☒		7/30/2020 21:42
46	E2000680-001	20200730_052	Perchlorate6850b.lcm	1x	☒		7/30/2020 21:50
47	E2000680-002	20200730_053	Perchlorate6850b.lcm	1x	☒		7/30/2020 21:58
48	E2000680-003	20200730_054	Perchlorate6850b.lcm	1x	☒		7/30/2020 22:06
49	E2000680-004	20200730_055	Perchlorate6850b.lcm	1x	☒		7/30/2020 22:14
50	PERCHLORATE7	20200730_056	Perchlorate6850b.lcm	1x	☒	3100807-04	7/30/2020 22:21
51	E2000680-005	20200730_057	Perchlorate6850b.lcm	1x	☒		7/30/2020 22:29
52	E2000680-006	20200730_058	Perchlorate6850b.lcm	1x	☒		7/30/2020 22:37

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20200806

1st Review: Kneir
2nd Review: Hvan

ALS Environmental

Injection Log
LCMS01 -Shimadzu 8050

ICAL Date: 7/24/2020
Cal. Std. xp: 11/18/2020
ICAL ID: EC2000016

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

			File Name	Acquisition Method	Dilution	R	Comments
1	null		20200806_001	Perchlorate6850b.lcm	1x	☒	
2	null		20200806_002	Perchlorate6850b.lcm	1x	☒	
3	IB		20200806_003	Perchlorate6850b.lcm	1x	☒	
4	IB		20200806_004	Perchlorate6850b.lcm	1x	☒	
5	LODV		20200806_005	Perchlorate6850b.lcm	1x	☒	
6	ICS		20200806_006	Perchlorate6850b.lcm	1x	☒	
7	PERCHLORATE7		20200806_007	Perchlorate6850b.lcm	1x	☒	3100807-04
8	EQ2000328-06X10		20200806_008	Perchlorate6850b.lcm	10x	☒	
9	EQ2000328-07X10		20200806_009	Perchlorate6850b.lcm	10x	☒	
10	EQ2000318-01		20200806_010	Perchlorate6850b.lcm	1x	☒	
11	E2000674-005X10		20200806_011	Perchlorate6850b.lcm	10x	☒	
12	EQ2000318-02		20200806_012	Perchlorate6850b.lcm	1x	☒	
13	EQ2000318-03		20200806_013	Perchlorate6850b.lcm	1x	☒	
14	EQ2000318-04		20200806_014	Perchlorate6850b.lcm	1x	☒	
15	EQ2000318-05		20200806_015	Perchlorate6850b.lcm	1x	☒	
16	EQ2000328-06X10		20200806_016	Perchlorate6850b.lcm	10x	☒	
17	EQ2000328-07X10		20200806_017	Perchlorate6850b.lcm	10x	☒	
18	PERCHLORATE7		20200806_018	Perchlorate6850b.lcm	1x	☒	3100807-04
19	E2000674-005X10		20200806_019	Perchlorate6850b.lcm	10x	☒	
20	E2000680-001X10		20200806_020	Perchlorate6850b.lcm	10x	☒	
21	R2006334-009		20200806_021	Perchlorate6850b.lcm	1x	☒	
22	R2006334-014		20200806_022	Perchlorate6850b.lcm	1x	☒	
23	R2006334-016		20200806_023	Perchlorate6850b.lcm	1x	☒	
24	PERCHLORATE7		20200806_024	Perchlorate6850b.lcm	1x	☒	3100807-04
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20200819

ALS Environmental

ICAL Date: 7/19/2020
Cal. Std. xp: 11/18/2020
ICAL ID: EC2000022

1st Review: Kneir
2nd Review: Hvan

Injection Log
LCMS01 -Shimadzu 8050

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

			File Name	Acquisition Method	Dilution	R	Comments	Date/Time
1	PERCHLORATE1		20200819_005	Perchlorate6850b.lcm	1x	☒	3100806-05	8/19/2020 10:42
2	PERCHLORATE2		20200819_006	Perchlorate6850b.lcm	1x	☒	3100806-06	8/19/2020 10:50
3	PERCHLORATE3		20200819_007	Perchlorate6850b.lcm	1x	☒	3100806-07	8/19/2020 10:58
4	PERCHLORATE4		20200819_008	Perchlorate6850b.lcm	1x	☒	3100807-01	8/19/2020 11:06
5	PERCHLORATE5		20200819_009	Perchlorate6850b.lcm	1x	☒	3100807-02	8/19/2020 11:14
6	PERCHLORATE6		20200819_010	Perchlorate6850b.lcm	1x	☒	3100807-03	8/19/2020 11:22
7	PERCHLORATE7		20200819_011	Perchlorate6850b.lcm	1x	☒	3100807-04	8/19/2020 11:30
8	PERCHLORATE8		20200819_012	Perchlorate6850b.lcm	1x	☒	3100807-05	8/19/2020 11:38
9	PERCHLORATE9		20200819_013	Perchlorate6850b.lcm	1x	☒	3100807-06	8/19/2020 11:45
10	PERCHLORATE10		20200819_014	Perchlorate6850b.lcm	1x	☒	3100807-07	8/19/2020 11:53
11	PERCHLORATEICV		20200819_016	Perchlorate6850b.lcm	1x	☒	3100807-08	8/19/2020 12:09
12	LODV		20200819_017	Perchlorate6850b.lcm	1x	☒		8/19/2020 12:17
13	EQ2000337-01		20200819_019	Perchlorate6850b.lcm	1x	☒		8/19/2020 12:38
14	EQ2000337-02		20200819_020	Perchlorate6850b.lcm	1x	☒		8/19/2020 12:46
15	EQ2000337-03		20200819_021	Perchlorate6850b.lcm	1x	☒		8/19/2020 12:53
16	E2000723-001		20200819_022	Perchlorate6850b.lcm	1x	☒		8/19/2020 13:01
17	PERCHLORATE7		20200819_023	Perchlorate6850b.lcm	1x	☒	3100807-04	8/19/2020 13:09
18	E2000680-002X10		20200819_024	Perchlorate6850b.lcm	10x	☒		8/19/2020 13:17
19	E2000680-004X2		20200819_025	Perchlorate6850b.lcm	2x	☒		8/19/2020 13:25
20	E2000680-007X10		20200819_026	Perchlorate6850b.lcm	10x	☒		8/19/2020 13:33
21	E2000680-009X10		20200819_027	Perchlorate6850b.lcm	10x	☒		8/19/2020 13:41
22	E2000680-010X10		20200819_028	Perchlorate6850b.lcm	10x	☒		8/19/2020 13:49
23	E2000680-011X10		20200819_029	Perchlorate6850b.lcm	10x	☒		8/19/2020 13:57
24	EQ2000327-01		20200819_030	Perchlorate6850b.lcm	1x	☒		8/19/2020 14:04
25	EQ2000327-02		20200819_031	Perchlorate6850b.lcm	1x	☒		8/19/2020 14:12
26	EQ2000327-03		20200819_033	Perchlorate6850b.lcm	1x	☒		8/19/2020 14:21
27	PERCHLORATE7		20200819_034	Perchlorate6850b.lcm	1x	☒	3100807-04	8/19/2020 14:29
28	E2000735-001		20200819_035	Perchlorate6850b.lcm	1x	☒		8/19/2020 14:37
29	E2000735-002		20200819_036	Perchlorate6850b.lcm	1x	☒		8/19/2020 14:45
30	E2000735-003		20200819_037	Perchlorate6850b.lcm	1x	☒		8/19/2020 14:53
31	E2000735-004		20200819_038	Perchlorate6850b.lcm	1x	☒		8/19/2020 15:01
32	E2000735-005		20200819_039	Perchlorate6850b.lcm	1x	☒		8/19/2020 15:09
33	E2000735-006		20200819_040	Perchlorate6850b.lcm	1x	☒		8/19/2020 15:16
34	E2000735-007		20200819_041	Perchlorate6850b.lcm	1x	☒		8/19/2020 15:24
35	E2000735-008		20200819_042	Perchlorate6850b.lcm	1x	☒		8/19/2020 15:32
36	E2000735-009		20200819_043	Perchlorate6850b.lcm	1x	☒		8/19/2020 15:44
37	PERCHLORATE7		20200819_044	Perchlorate6850b.lcm	1x	☒	3100807-04	8/19/2020 15:52
38	E2000735-010		20200819_045	Perchlorate6850b.lcm	1x	☒		8/19/2020 16:00
39	E2000735-011		20200819_046	Perchlorate6850b.lcm	1x	☒		8/19/2020 16:08
40	E2000735-013		20200819_047	Perchlorate6850b.lcm	1x	☒		8/19/2020 16:16
41	E2000735-014		20200819_048	Perchlorate6850b.lcm	1x	☒		8/19/2020 16:24
42	E2000735-015		20200819_049	Perchlorate6850b.lcm	1x	☒		8/19/2020 16:32
43	E2000735-016		20200819_050	Perchlorate6850b.lcm	1x	☒		8/19/2020 16:40
44	E2000735-017		20200819_051	Perchlorate6850b.lcm	1x	☒		8/19/2020 16:47
45	E2000735-018		20200819_052	Perchlorate6850b.lcm	1x	☒		8/19/2020 16:55
46	E2000735-019		20200819_053	Perchlorate6850b.lcm	1x	☒		8/19/2020 17:03
47	PERCHLORATE7		20200819_054	Perchlorate6850b.lcm	1x	☒	3100807-04	8/19/2020 17:11
48	EQ2000339-01		20200819_055	Perchlorate6850b.lcm	1x	☒		8/19/2020 17:19
49	EQ2000339-02		20200819_056	Perchlorate6850b.lcm	1x	☒		8/19/2020 17:27
50	EQ2000339-03		20200819_057	Perchlorate6850b.lcm	1x	☒		8/19/2020 17:35
51	E2000712-001		20200819_058	Perchlorate6850b.lcm	1x	☒		8/19/2020 17:43
52	E2000712-002		20200819_059	Perchlorate6850b.lcm	1x	☒		8/19/2020 17:51
53	E2000712-003		20200819_060	Perchlorate6850b.lcm	1x	☒		8/19/2020 17:59
54	IB		20200819_061	Perchlorate6850b.lcm	1x	☒		8/19/2020 18:08
55	IB		20200819_062	Perchlorate6850b.lcm	1x	☒		8/19/2020 18:16
56	IB		20200819_063	Perchlorate6850b.lcm	1x	☒		8/19/2020 18:24
57	IB		20200819_064	Perchlorate6850b.lcm	1x	☒		8/19/2020 18:32
58	PERCHLORATE7		20200819_065	Perchlorate6850b.lcm	1x	☒	3100807-04	8/19/2020 18:40
59	E2000712-004		20200819_066	Perchlorate6850b.lcm	1x	☒		8/19/2020 18:48
60	E2000712-005		20200819_067	Perchlorate6850b.lcm	1x	☒		8/19/2020 18:56
61	E2000712-006		20200819_068	Perchlorate6850b.lcm	1x	☒		8/19/2020 19:04

20200819

ALS Environmental

ICAL Date: 7/19/2020
Cal. Std. xp: 11/18/2020
ICAL ID: EC2000022

1st Review: Kneir
2nd Review: Hvan

Injection Log
LCMS01 -Shimadzu 8050

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

			File Name	Acquisition Method	Dilution	R	Comments	Date/Time
62	E2000712-007		20200819_069	Perchlorate6850b.lcm	1x	☒		8/19/2020 19:12
63	E2000694-012		20200819_070	Perchlorate6850b.lcm	1x	☒		8/19/2020 19:19
64	E2000694-012MS		20200819_071	Perchlorate6850b.lcm	1x	☒		8/19/2020 19:27
65	E2000694-012MSD		20200819_072	Perchlorate6850b.lcm	1x	☒		8/19/2020 19:35
66	E2000711-001		20200819_073	Perchlorate6850b.lcm	1x	☒		8/19/2020 19:43
67	E2000711-002		20200819_074	Perchlorate6850b.lcm	1x	☒		8/19/2020 19:51
68	E2000724-001		20200819_075	Perchlorate6850b.lcm	1x	☒		8/19/2020 19:59
69	PERCHLORATE7		20200819_076	Perchlorate6850b.lcm	1x	☒	3100807-04	8/19/2020 20:07
70	E2000724-002		20200819_077	Perchlorate6850b.lcm	1x	☒		8/19/2020 20:15
71	E2000724-003		20200819_078	Perchlorate6850b.lcm	1x	☒		8/19/2020 20:22
72	E2000724-004		20200819_079	Perchlorate6850b.lcm	1x	☒		8/19/2020 20:30
73	E2000728-001		20200819_080	Perchlorate6850b.lcm	1x	☒		8/19/2020 20:38
74	E2000728-002		20200819_081	Perchlorate6850b.lcm	1x	☒		8/19/2020 20:46
75	E2000729-001		20200819_082	Perchlorate6850b.lcm	1x	☒		8/19/2020 20:54
76	R2006493-001		20200819_083	Perchlorate6850b.lcm	1x	☒		8/19/2020 21:02
77	R2006493-003		20200819_084	Perchlorate6850b.lcm	1x	☒		8/19/2020 21:10
78	R2006493-005		20200819_085	Perchlorate6850b.lcm	1x	☒		8/19/2020 21:18
79	R2006493-007		20200819_086	Perchlorate6850b.lcm	1x	☒		8/19/2020 21:26
80	PERCHLORATE7		20200819_087	Perchlorate6850b.lcm	1x	☒	3100807-04	8/19/2020 21:33
81	R2006493-009		20200819_088	Perchlorate6850b.lcm	1x	☒		8/19/2020 21:41
82	R2006493-011		20200819_089	Perchlorate6850b.lcm	1x	☒		8/19/2020 21:49
83	R2006493-013		20200819_090	Perchlorate6850b.lcm	1x	☒		8/19/2020 21:57
84	R2006493-015		20200819_091	Perchlorate6850b.lcm	1x	☒		8/19/2020 22:05
85	PERCHLORATE7		20200819_092	Perchlorate6850b.lcm	1x	☒	3100807-04	8/19/2020 22:13
86	EQ2000338-01		20200819_093	Perchlorate6850b.lcm	1x	☒		8/19/2020 22:21
87	EQ2000338-02		20200819_094	Perchlorate6850b.lcm	1x	☒		8/19/2020 22:29
88	EQ2000338-03		20200819_095	Perchlorate6850b.lcm	1x	☒		8/19/2020 22:37
89	EQ2000338-04		20200819_096	Perchlorate6850b.lcm	1x	☒		8/19/2020 22:44
90	EQ2000338-05		20200819_097	Perchlorate6850b.lcm	1x	☒		8/19/2020 22:52
91	R2006532-001		20200819_098	Perchlorate6850b.lcm	1x	☒		8/19/2020 23:00
92	R2006532-003		20200819_099	Perchlorate6850b.lcm	1x	☒		8/19/2020 23:08
93	R2006532-005		20200819_100	Perchlorate6850b.lcm	1x	☒		8/19/2020 23:16
94	R2006532-007		20200819_101	Perchlorate6850b.lcm	1x	☒		8/19/2020 23:24
95	R2006532-009		20200819_102	Perchlorate6850b.lcm	1x	☒		8/19/2020 23:32
96	PERCHLORATE7		20200819_103	Perchlorate6850b.lcm	1x	☒	3100807-04	8/19/2020 23:40
97	R2006532-011		20200819_104	Perchlorate6850b.lcm	1x	☒		8/19/2020 23:47
98	R2006555-002		20200819_105	Perchlorate6850b.lcm	1x	☒		8/19/2020 23:55
99	R2006555-004		20200819_106	Perchlorate6850b.lcm	1x	☒		8/20/2020 0:03
100	R2006555-006		20200819_107	Perchlorate6850b.lcm	1x	☒		8/20/2020 0:11
101	R2006555-008		20200819_108	Perchlorate6850b.lcm	1x	☒		8/20/2020 0:19
102	R2006555-010		20200819_109	Perchlorate6850b.lcm	1x	☒		8/20/2020 0:27
103	R2006555-012		20200819_110	Perchlorate6850b.lcm	1x	☒		8/20/2020 0:35
104	R2006617-001		20200819_111	Perchlorate6850b.lcm	1x	☒		8/20/2020 0:43
105	R2006617-003		20200819_112	Perchlorate6850b.lcm	1x	☒		8/20/2020 0:50
106	R2006617-005		20200819_113	Perchlorate6850b.lcm	1x	☒		8/20/2020 0:58
107	PERCHLORATE7		20200819_114	Perchlorate6850b.lcm	1x	☒	3100807-04	8/20/2020 1:06
108	R2006617-007		20200819_115	Perchlorate6850b.lcm	1x	☒		8/20/2020 1:14
109	R2006617-009		20200819_116	Perchlorate6850b.lcm	1x	☒		8/20/2020 1:22
110	R2006617-010		20200819_117	Perchlorate6850b.lcm	1x	☒		8/20/2020 1:30
111	PERCHLORATE7		20200819_118	Perchlorate6850b.lcm	1x	☒	3100807-04	8/20/2020 1:38

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20071147

Service Request: E2000680
Date Analyzed: 7/30/20

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

Analytical Method: 6850
File ID: I:\LCMS01\DATA\20200730\20200730_045

Calibration Date: 7/24/20
Calibration ID: EC2000016
Analysis Lot: 689966
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	8.96	0.1210	0.1084	-10.4	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20071147

Service Request: E2000680
Date Analyzed: 7/30/20

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

Analytical Method: 6850
File ID: I:\LCMS01\DATA\20200730\20200730_056

Calibration Date: 7/24/20
Calibration ID: EC2000016
Analysis Lot: 689966
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.02	0.1210	0.1092	-9.8	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20071147

Service Request: E2000680
Date Analyzed: 7/30/20

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

Analytical Method: 6850
File ID: I:\LCMS01\DATA\20200730\20200730_067

Calibration Date: 7/24/20
Calibration ID: EC2000016
Analysis Lot: 689966
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	8.79	0.1210	0.1064	-12.1	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20071147

Service Request: E2000680
Date Analyzed: 7/31/20

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

Analytical Method: 6850
File ID: I:\LCMS01\DATA\20200730\20200730_074

Calibration Date: 7/24/20
Calibration ID: EC2000016
Analysis Lot: 689966
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	8.91	0.1210	0.1079	-10.9	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20071147

Service Request: E2000680
Date Analyzed: 8/ 6/20

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

Analytical Method: 6850
File ID: I:\LCMS01\DATA\20200806\20200806_007

Calibration Date: 7/24/20
Calibration ID: EC2000016
Analysis Lot: 689966
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.05	0.1210	0.1095	-9.5	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20071147

Service Request: E2000680
Date Analyzed: 8/ 6/20

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

Analytical Method: 6850
File ID: I:\LCMS01\DATA\20200806\20200806_018

Calibration Date: 7/24/20
Calibration ID: EC2000016
Analysis Lot: 689966
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.28	0.1210	0.1123	-7.2	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20071147

Service Request: E2000680
Date Analyzed: 8/ 6/20

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

Analytical Method: 6850
File ID: I:\LCMS01\DATA\20200806\20200806_024

Calibration Date: 7/24/20
Calibration ID: EC2000016
Analysis Lot: 689966
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.11	0.1210	0.1103	-8.9	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20071147

Service Request: E2000680
Date Analyzed: 8/19/20

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

Analytical Method: 6850
File ID: I:\LCMS01\DATA\20200819\20200819_023

Calibration Date: 8/19/20
Calibration ID: EC2000022
Analysis Lot: 691702
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.74	0.1131	0.1101	-2.6	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20071147

Service Request: E2000680
Date Analyzed: 8/19/20

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

Analytical Method: 6850
File ID: I:\LCMS01\DATA\20200819\20200819_034

Calibration Date: 8/19/20
Calibration ID: EC2000022
Analysis Lot: 691702
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.56	0.1131	0.1081	-4.4	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20071147

Service Request: E2000680
Date Analyzed: 8/19/20

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

Analytical Method: 6850
File ID: I:\LCMS01\DATA\20200819\20200819_044

Calibration Date: 8/19/20
Calibration ID: EC2000022
Analysis Lot: 691702
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.41	0.1131	0.1064	-5.9	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20071147

Service Request: E2000680
Date Analyzed: 8/19/20

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

Analytical Method: 6850
File ID: I:\LCMS01\DATA\20200819\20200819_054

Calibration Date: 8/19/20
Calibration ID: EC2000022
Analysis Lot: 691702
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.68	0.1131	0.1094	-3.2	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20071147

Service Request: E2000680
Date Analyzed: 8/19/20

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

Analytical Method: 6850
File ID: I:\LCMS01\DATA\20200819\20200819_065

Calibration Date: 8/19/20
Calibration ID: EC2000022
Analysis Lot: 691702
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.60	0.1131	0.1085	-4.0	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20071147

Service Request: E2000680
Date Analyzed: 8/19/20

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

Analytical Method: 6850
File ID: I:\LCMS01\DATA\20200819\20200819_076

Calibration Date: 8/19/20
Calibration ID: EC2000022
Analysis Lot: 691702
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	10.9	0.1131	0.1227	8.5	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20071147

Service Request: E2000680
Date Analyzed: 8/19/20

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

Analytical Method: 6850
File ID: I:\LCMS01\DATA\20200819\20200819_087

Calibration Date: 8/19/20
Calibration ID: EC2000022
Analysis Lot: 691702
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.42	0.1131	0.1064	-5.8	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20071147

Service Request: E2000680
Date Analyzed: 8/19/20

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

Analytical Method: 6850
File ID: I:\LCMS01\DATA\20200819\20200819_092

Calibration Date: 8/19/20
Calibration ID: EC2000022
Analysis Lot: 691702
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.40	0.1131	0.1063	-6.0	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20071147

Service Request: E2000680
Date Analyzed: 8/19/20

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

Analytical Method: 6850
File ID: I:\LCMS01\DATA\20200819\20200819_103

Calibration Date: 8/19/20
Calibration ID: EC2000022
Analysis Lot: 691702
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.43	0.1131	0.1066	-5.7	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20071147

Service Request: E2000680
Date Analyzed: 8/20/20

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

Analytical Method: 6850
File ID: I:\LCMS01\DATA\20200819\20200819_114

Calibration Date: 8/19/20
Calibration ID: EC2000022
Analysis Lot: 691702
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.97	0.1131	0.1127	-0.3	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20071147

Service Request: E2000680
Date Analyzed: 8/20/20

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

Analytical Method: 6850
File ID: I:\LCMS01\DATA\20200819\20200819_118

Calibration Date: 8/19/20
Calibration ID: EC2000022
Analysis Lot: 691702
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.28	0.1131	0.1049	-7.2	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000680
Project:	HS20071147	**Date Analyzed:**	7/30/20 20:55

Internal Standard Area and RT Summary

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

File ID:	I:\LCMS01\DATA\20200730\20200730_045	**Lab Code:**	EQ2000332-01
Instrument ID:	E-LCMS-01	**Analysis Lot:**	689966
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	161,047	2.90
	Upper Limit ==>	241,571	4.90
	Lower Limit ==>	80,524	0.90
Associated Analyses			
Continuing Calibration Verification	EQ2000332-01	114,922	2.88
16WW13-200723	E2000680-003	81,510	2.88

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

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000680
Project:	HS20071147	**Date Analyzed:**	7/30/20 22:21

Internal Standard Area and RT Summary

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

File ID:	I:\LCMS01\DATA\20200730\20200730_056	**Lab Code:**	EQ2000332-02
Instrument ID:	E-LCMS-01	**Analysis Lot:**	689966
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	161,047	2.90
	Upper Limit ==>	241,571	4.90
	Lower Limit ==>	80,524	0.90
Associated Analyses			
Continuing Calibration Verification	EQ2000332-02	109,550	2.88
16WW42-200723	E2000680-005	96,636	2.88
16WW42-200723-FD	E2000680-006	91,084	2.88
16WW43-200723	E2000680-008	89,446	2.88
Batch QC	R2006334-001	81,520	2.87

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

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000680
Project:	HS20071147	**Date Analyzed:**	7/30/20 23:49

Internal Standard Area and RT Summary

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

File ID:	I:\LCMS01\DATA\20200730\20200730_067	**Lab Code:**	EQ2000332-03
Instrument ID:	E-LCMS-01	**Analysis Lot:**	689966
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	161,047	2.90
	Upper Limit ==>	241,571	4.90
	Lower Limit ==>	80,524	0.90
Associated Analyses			
Continuing Calibration Verification	EQ2000332-03	110,850	2.87

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

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000680
Project:	HS20071147	**Date Analyzed:**	7/31/20 00:44

Internal Standard Area and RT Summary

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

File ID:	I:\LCMS01\DATA\20200730\20200730_074	**Lab Code:**	EQ2000332-04
Instrument ID:	E-LCMS-01	**Analysis Lot:**	689966
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	161,047	2.90
	Upper Limit ==>	241,571	4.90
	Lower Limit ==>	80,524	0.90
Associated Analyses			
Continuing Calibration Verification	EQ2000332-04	103,106	2.87

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

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20071147

Service Request: E2000680
Date Analyzed: 8/6/20 10:24

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

File ID: I:\LCMS01\DATA\20200806\20200806_007
Instrument ID: E-LCMS-01
Analytical Method: 6850

Lab Code: EQ2000332-05
Analysis Lot: 689966
Signal ID: 1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	161,047	2.90
	Upper Limit ==>	241,571	4.90
	Lower Limit ==>	80,524	0.90
Associated Analyses			
Continuing Calibration Verification	EQ2000332-05	168,468	2.88
Method Blank	EQ2000318-01	164,689	2.88
Lab Control Sample	EQ2000318-02	180,674	2.88
Duplicate Lab Control Sample	EQ2000318-03	181,430	2.88
Batch QCMS	EQ2000318-04	234,938	2.84
Batch QCDMS	EQ2000318-05	148,582	2.88

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

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20071147

Service Request: E2000680
Date Analyzed: 8/6/20 12:32

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

File ID: I:\LCMS01\DATA\20200806\20200806_018
Instrument ID: E-LCMS-01
Analytical Method: 6850

Lab Code: EQ2000332-06
Analysis Lot: 689966
Signal ID: 1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	161,047	2.90
	Upper Limit ==>	241,571	4.90
	Lower Limit ==>	80,524	0.90
Associated Analyses			
Continuing Calibration Verification	EQ2000332-06	157,554	2.88
16WW37-200723	E2000680-001	155,828	2.82

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

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000680
Project:	HS20071147	**Date Analyzed:**	8/6/20 13:35

Internal Standard Area and RT Summary

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

File ID:	I:\LCMS01\DATA\20200806\20200806_024	**Lab Code:**	EQ2000332-07
Instrument ID:	E-LCMS-01	**Analysis Lot:**	689966
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	161,047	2.90
	Upper Limit ==>	241,571	4.90
	Lower Limit ==>	80,524	0.90
Associated Analyses			
Continuing Calibration Verification	EQ2000332-07	159,534	2.88

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

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20071147

Service Request: E2000680
Date Analyzed: 8/19/20 13:09

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

File ID: I:\LCMS01\DATA\20200819\20200819_023
Instrument ID: E-LCMS-01
Analytical Method: 6850

Lab Code: EQ2000350-01
Analysis Lot: 691702
Signal ID: 1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	284,293	2.87
	Upper Limit ==>	426,440	4.87
	Lower Limit ==>	142,147	0.87
Associated Analyses			
Continuing Calibration Verification	EQ2000350-01	275,008	2.87
16WW38-200723	E2000680-002	326,976	2.87
16WW13-200723-FD	E2000680-004	342,205	2.86
16WW27-200723	E2000680-007	230,620	2.86
16WW34-200723	E2000680-009	286,436	2.87
16WW33-200723	E2000680-010	313,419	2.87
16WW33-200723-FD	E2000680-011	292,836	2.87

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

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20071147

Service Request: E2000680
Date Analyzed: 8/19/20 14:29

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

File ID: I:\LCMS01\DATA\20200819\20200819_034
Instrument ID: E-LCMS-01
Analytical Method: 6850

Lab Code: EQ2000350-02
Analysis Lot: 691702
Signal ID: 1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	284,293	2.87
	Upper Limit ==>	426,440	4.87
	Lower Limit ==>	142,147	0.87
Associated Analyses			
Continuing Calibration Verification	EQ2000350-02	259,146	2.80

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

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000680
Project:	HS20071147	**Date Analyzed:**	8/19/20 15:52

Internal Standard Area and RT Summary

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

File ID:	I:\LCMS01\DATA\20200819\20200819_044	**Lab Code:**	EQ2000350-03
Instrument ID:	E-LCMS-01	**Analysis Lot:**	691702
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	284,293	2.87
	Upper Limit ==>	426,440	4.87
	Lower Limit ==>	142,147	0.87
Associated Analyses			
Continuing Calibration Verification	EQ2000350-03	257,649	2.76

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

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20071147

Service Request: E2000680
Date Analyzed: 8/19/20 17:11

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

File ID: I:\LCMS01\DATA\20200819\20200819_054
Instrument ID: E-LCMS-01
Analytical Method: 6850

Lab Code: EQ2000350-04
Analysis Lot: 691702
Signal ID: 1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	284,293	2.87
	Upper Limit ==>	426,440	4.87
	Lower Limit ==>	142,147	0.87
Associated Analyses			
Continuing Calibration Verification	EQ2000350-04	178,952	2.84

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

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000680
Project:	HS20071147	**Date Analyzed:**	8/19/20 18:40

Internal Standard Area and RT Summary

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

File ID:	I:\LCMS01\DATA\20200819\20200819_065	**Lab Code:**	EQ2000350-05
Instrument ID:	E-LCMS-01	**Analysis Lot:**	691702
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	284,293	2.87
	Upper Limit ==>	426,440	4.87
	Lower Limit ==>	142,147	0.87
Associated Analyses			
Continuing Calibration Verification	EQ2000350-05	224,737	2.87

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

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000680
Project:	HS20071147	**Date Analyzed:**	8/19/20 20:07

Internal Standard Area and RT Summary

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

File ID:	I:\LCMS01\DATA\20200819\20200819_076	**Lab Code:**	EQ2000350-06
Instrument ID:	E-LCMS-01	**Analysis Lot:**	691702
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	284,293	2.87
	Upper Limit ==>	426,440	4.87
	Lower Limit ==>	142,147	0.87
Associated Analyses			
Continuing Calibration Verification	EQ2000350-06	216,860	2.87

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

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20071147

Service Request: E2000680
Date Analyzed: 8/19/20 21:33

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

File ID: I:\LCMS01\DATA\20200819\20200819_087
Instrument ID: E-LCMS-01
Analytical Method: 6850

Lab Code: EQ2000350-07
Analysis Lot: 691702
Signal ID: 1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	284,293	2.87
	Upper Limit ==>	426,440	4.87
	Lower Limit ==>	142,147	0.87
Associated Analyses			
Continuing Calibration Verification	EQ2000350-07	220,049	2.88

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

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000680
Project:	HS20071147	**Date Analyzed:**	8/19/20 22:13

Internal Standard Area and RT Summary

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

File ID:	I:\LCMS01\DATA\20200819\20200819_092	**Lab Code:**	EQ2000350-08
Instrument ID:	E-LCMS-01	**Analysis Lot:**	691702
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	284,293	2.87
	Upper Limit ==>	426,440	4.87
	Lower Limit ==>	142,147	0.87
Associated Analyses			
Continuing Calibration Verification	EQ2000350-08	234,006	2.87

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

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20071147

Service Request: E2000680
Date Analyzed: 8/19/20 23:40

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

File ID: I:\LCMS01\DATA\20200819\20200819_103
Instrument ID: E-LCMS-01
Analytical Method: 6850

Lab Code: EQ2000350-09
Analysis Lot: 691702
Signal ID: 1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	284,293	2.87
	Upper Limit ==>	426,440	4.87
	Lower Limit ==>	142,147	0.87
Associated Analyses			
Continuing Calibration Verification	EQ2000350-09	215,258	2.87

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

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000680
Project:	HS20071147	**Date Analyzed:**	8/20/20 01:06

Internal Standard Area and RT Summary

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

File ID:	I:\LCMS01\DATA\20200819\20200819_114	**Lab Code:**	EQ2000350-10
Instrument ID:	E-LCMS-01	**Analysis Lot:**	691702
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	284,293	2.87
	Upper Limit ==>	426,440	4.87
	Lower Limit ==>	142,147	0.87
Associated Analyses			
Continuing Calibration Verification	EQ2000350-10	215,703	2.87

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

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000680
Project:	HS20071147	**Date Analyzed:**	8/20/20 01:38

Internal Standard Area and RT Summary

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

File ID:	I:\LCMS01\DATA\20200819\20200819_118	**Lab Code:**	EQ2000350-11
Instrument ID:	E-LCMS-01	**Analysis Lot:**	691702
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	284,293	2.87
	Upper Limit ==>	426,440	4.87
	Lower Limit ==>	142,147	0.87
Associated Analyses			
Continuing Calibration Verification	EQ2000350-11	207,196	2.87

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

ALS Group Houston

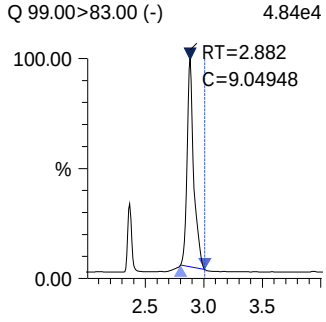
PERCHLORATE7

Date acquired: 8/6/2020 10:24:58 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200806\20200806_007.lcd
Vial: 4 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE7	8/6/2020 10:24:58 AM	184514	9.04948	20200806_007	2.882	25.0000	1.0000	4
Sodium Perchlorate-18O4_IS	PERCHLORATE7	8/6/2020 10:24:58 AM	168468	1.00000	20200806_007	2.881	25.0000	1.0000	4

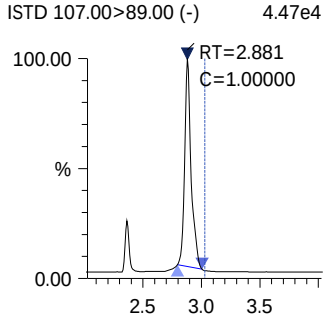
Perchlorate

Conc 9.04948
Area 184514



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 168468



ALS Group Houston

EQ2000318-01

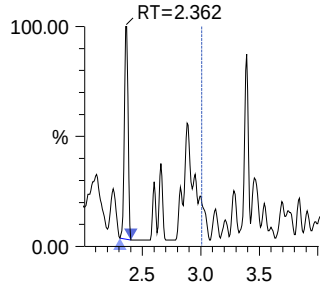
Date acquired: 8/6/2020 10:52:52 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200806\20200806_010.lcd
Vial: 1 | Inj. Volume: 25.0000uL | Tray: 2

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	EQ2000318-01	8/6/2020 10:52:52 AM	----	----	20200806_010	----	25.0000	1.0000	1
Sodium Perchlorate-18O4_IS	EQ2000318-01	8/6/2020 10:52:52 AM	164689	1.00000	20200806_010	2.879	25.0000	1.0000	1

Perchlorate

Conc ----
Area ----

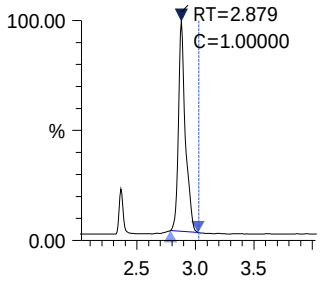
Q 99.00>83.00 (-) 1.17e2



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 164689

ISTD 107.00>89.00 (-) 4.05e4



ALS Group Houston

EQ2000318-02

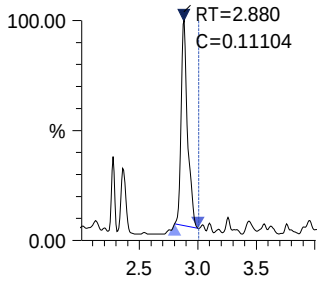
Date acquired: 8/6/2020 11:09:17 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200806\20200806_012.lcd
Vial: 2 | Inj. Volume: 25.0000uL | Tray: 2

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	EQ2000318-02	8/6/2020 11:09:17 AM	2428	0.11104	20200806_012	2.880	25.0000	1.0000	2
Sodium Perchlorate-18O4_IS	EQ2000318-02	8/6/2020 11:09:17 AM	180674	1.00000	20200806_012	2.878	25.0000	1.0000	2

Perchlorate

Conc 0.11104
Area 2428

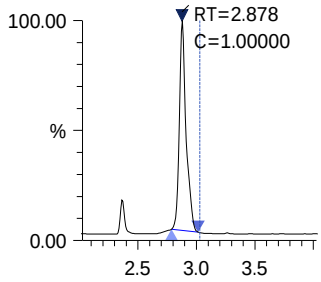
Q 99.00>83.00 (-) 6.63e2



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 180674

ISTD 107.00>89.00 (-) 4.53e4



ALS Group Houston

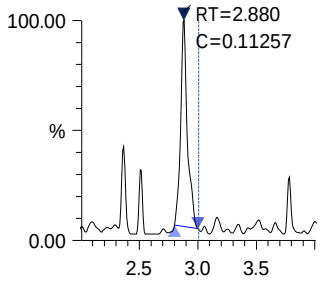
EQ2000318-03

Date acquired: 8/6/2020 11:17:10 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200806\20200806_013.lcd
Vial: 3 | Inj. Volume: 25.0000uL | Tray: 2

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	EQ2000318-03	8/6/2020 11:17:10 AM	2472	0.11257	20200806_013	2.880	25.0000	1.0000	3
Sodium Perchlorate-18O4_IS	EQ2000318-03	8/6/2020 11:17:10 AM	181430	1.00000	20200806_013	2.880	25.0000	1.0000	3

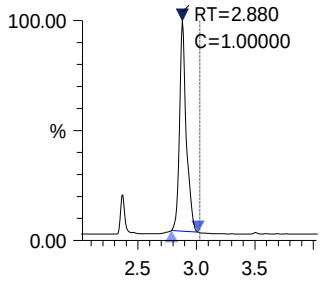
Perchlorate

Conc 0.11257
Area 2472
Q 99.00>83.00 (-) 6.38e2



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 181430
ISTD 107.00>89.00 (-) 4.56e4



ALS Group Houston

EQ2000318-04

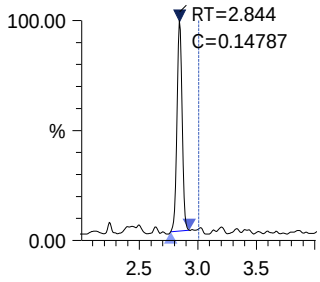
Date acquired: 8/6/2020 11:25:11 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200806\20200806_014.lcd
Vial: 4 | Inj. Volume: 25.0000uL | Tray: 2

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	EQ2000318-04	8/6/2020 11:25:11 AM	4204	0.14787	20200806_014	2.844	25.0000	1.0000	4
Sodium Perchlorate-18O4_IS	EQ2000318-04	8/6/2020 11:25:11 AM	234938	1.00000	20200806_014	2.842	25.0000	1.0000	4

Perchlorate

Conc 0.14787
Area 4204

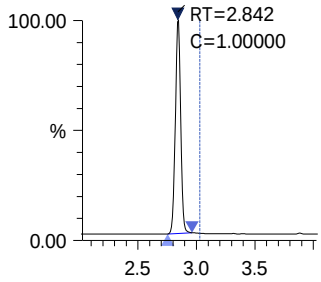
Q 99.00>83.00 (-) 1.37e3



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 234938

ISTD 107.00>89.00 (-) 7.50e4



ALS Group Houston

EQ2000318-05

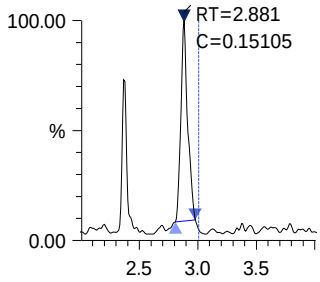
Date acquired: 8/6/2020 11:33:03 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200806\20200806_015.lcd
Vial: 5 | Inj. Volume: 25.0000uL | Tray: 2

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	EQ2000318-05	8/6/2020 11:33:03 AM	2716	0.15105	20200806_015	2.881	25.0000	1.0000	5
Sodium Perchlorate-18O4_IS	EQ2000318-05	8/6/2020 11:33:03 AM	148582	1.00000	20200806_015	2.881	25.0000	1.0000	5

Perchlorate

Conc 0.15105
Area 2716

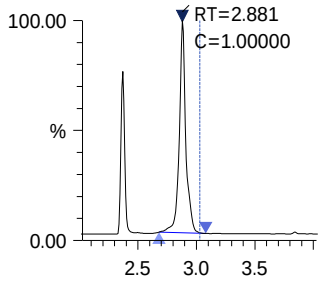
Q 99.00>83.00 (-) 7.20e2



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 148582

ISTD 107.00>89.00 (-) 3.82e4



ALS Group Houston

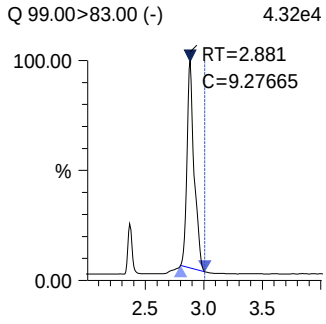
PERCHLORATE7

Date acquired: 8/6/2020 12:32:59 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200806\20200806_018.lcd
Vial: 4 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE7	8/6/2020 12:32:59 PM	176892	9.27665	20200806_018	2.881	25.0000	1.0000	4
Sodium Perchlorate-18O4_IS	PERCHLORATE7	8/6/2020 12:32:59 PM	157554	1.00000	20200806_018	2.880	25.0000	1.0000	4

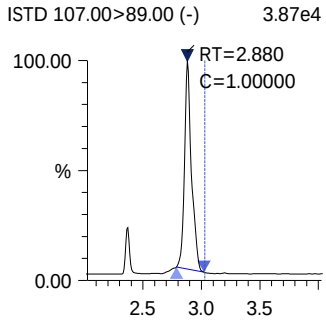
Perchlorate

Conc 9.27665
Area 176892



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 157554



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August 10, 2020

Analytical Report for Service Request No: K2006333

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

RE: ALS Houston DOD TOC

Dear RJ,

Enclosed are the results of the sample(s) submitted to our laboratory July 28, 2020
For your reference, these analyses have been assigned our service request number **K2006333.**

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current NELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. All results are intended to be considered in their entirety, and ALS Group USA Corp. dba ALS Environmental (ALS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please contact me if you have any questions. My extension is 3350. You may also contact me via email at Kelley.Lovejoy@alsglobal.com.

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

Kelley Lovejoy

Kelley Lovejoy
Project Manager

RIGHT SOLUTIONS | RIGHT PARTNER

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Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LOD	Limit of Detection
LOQ	Limit of Quantitation
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Inorganic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
E	The result is an estimate amount because the value exceeded the instrument calibration range.
J	The result is an estimated value.
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
i	The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
X	See case narrative.
Q	See case narrative. One or more quality control criteria was outside the limits.
H	The holding time for this test is immediately following sample collection. The samples were analyzed as soon as possible after receipt by the laboratory.

Metals Data Qualifiers

#	The control limit criteria is not applicable. See case narrative.
J	The result is an estimated value.
E	The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
M	The duplicate injection precision was not met.
N	The Matrix Spike sample recovery is not within control limits. See case narrative.
S	The reported value was determined by the Method of Standard Additions (MSA).
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
W	The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
i	The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
X	See case narrative.
+	The correlation coefficient for the MSA is less than 0.995.
Q	See case narrative. One or more quality control criteria was outside the limits.

Organic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
A	A tentatively identified compound, a suspected aldol-condensation product.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
C	The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
D	The reported result is from a dilution.
E	The result is an estimated value.
J	The result is an estimated value.
N	The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
P	The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results.
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
i	The MRL/MDL or LOQ/LOD is elevated due to a chromatographic interference.
X	See case narrative.
Q	See case narrative. One or more quality control criteria was outside the limits.

Additional Petroleum Hydrocarbon Specific Qualifiers

F	The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
L	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
H	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
O	The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
Y	The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
Z	The chromatographic fingerprint does not resemble a petroleum product.

ALS Group USA Corp. dba ALS Environmental (ALS) - Kelso
State Certifications, Accreditations, and Licenses

Agency	Web Site	Number
Alaska DEH	http://dec.alaska.gov/eh/lab/cs/csapproval.htm	UST-040
Arizona DHS	http://www.azdhs.gov/lab/license/env.htm	AZ0339
Arkansas - DEQ	http://www.adeq.state.ar.us/techsvs/labcert.htm	88-0637
California DHS (ELAP)	http://www.cdph.ca.gov/certlic/labs/Pages/ELAP.aspx	2795
DOD ELAP	http://www.denix.osd.mil/edqw/Accreditation/AccreditedLabs.cfm	L16-58-R4
Florida DOH	http://www.doh.state.fl.us/lab/EnvLabCert/WaterCert.htm	E87412
Hawaii DOH	http://health.hawaii.gov/	-
ISO 17025	http://www.pjlabs.com/	L16-57
Louisiana DEQ	http://www.deq.louisiana.gov/page/la-lab-accreditation	03016
Maine DHS	http://www.maine.gov/dhhs/	WA01276
Minnesota DOH	http://www.health.state.mn.us/accreditation	053-999-457
Nevada DEP	http://ndep.nv.gov/bsdw/labservice.htm	WA01276
New Jersey DEP	http://www.nj.gov/dep/enforcement/oqa.html	WA005
New York - DOH	https://www.wadsworth.org/regulatory/elap	12060
North Carolina DEQ	https://deq.nc.gov/about/divisions/water-resources/water-resources-data/water-sciences-home-page/laboratory-certification-branch/non-field-lab-certification	605
Oklahoma DEQ	http://www.deq.state.ok.us/CSDnew/labcert.htm	9801
Oregon – DEQ (NELAP)	http://public.health.oregon.gov/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	WA100010
South Carolina DHEC	http://www.scdhec.gov/environment/EnvironmentalLabCertification/	61002
Texas CEQ	http://www.tceq.texas.gov/field/qa/env_lab_accreditation.html	T104704427
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C544
Wyoming (EPA Region 8)	https://www.epa.gov/region8-waterops/epa-region-8-certified-drinking-water-	-
Kelso Laboratory Website	www.alsglobal.com	NA

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. A complete listing of specific NELAP-certified analytes, can be found in the certification section at www.ALSGlobal.com or at the accreditation bodies web site.
Please refer to the certification and/or accreditation body's web site if samples are submitted for compliance purposes. The states highlighted above, require the analysis be listed on the state certification if used for compliance purposes and if the method/anlayte is offered by that state.

Case Narrative

ALS Environmental—Kelso Laboratory
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Client: ALS Environmental - US
Project: ALS Houston DOD TOC
Sample Matrix: Ground Water

Service Request: K2006333
Date Received: 07/28/2020

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples for the Tier level IV requested by the client.

Sample Receipt:

Two ground water samples were received for analysis at ALS Environmental on 07/28/2020. Any discrepancies upon initial sample inspection are annotated on the sample receipt and preservation form included within this report. The samples were stored at minimum in accordance with the analytical method requirements.

General Chemistry:

No significant anomalies were noted with this analysis.

Approved by Kelley Lovejoy Date 08/10/2020

Chain of Custody

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360)577-7222 Fax (360)636-1068
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K2004333

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

Subcontract Chain of Custody

SAMPLING STATE: **Dept of Defense** **COC ID:** **14374**

SUBCONTRACT TO:

ALS Environmental Kelso
1317 S. 13th Avenue
Kelso, WA 98626

Phone: +1 360 501 3312

CUSTOMER INFORMATION:

Company:	ALS Houston
Contact:	RJ Modashia
Address:	10450 Stancliff Rd, Ste 210
Phone:	+1 281 530 5656
Email:	RJ.Modashia@alsglobal.com
Alternate Contact:	Jumoke M. Lawal
Email:	jumoke.lawal@alsglobal.com

INVOICE INFORMATION:

Company:	ALS Houston
Contact:	Accounts Payable
Address:	10450 Stancliff Rd, Ste 210
Phone:	+1 281 530 5656
Reference:	HS20071147
TSR:	Sonia West

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	**HS20071147-05**	**16WW42-200723**	**Groundwater**	**23 Jul 2020 09:50**
	TOC Analysis with DOD Level IV/EQuIS APTIM EDD			06 Aug 2020
2.	**HS20071147-06**	**16WW42-200723-FD**	**Groundwater**	**23 Jul 2020 09:50**
	TOC Analysis with DOD Level IV/EQuIS APTIM EDD			06 Aug 2020

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

QC Level: DOD IV (DoD Data Package)

Relinquished By: _____ Date/Time: 7/27/2020 1800

Received By: _____ Date/Time: 7/28/20 0920

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

PC

Cooler Receipt and Preservation Form

Client AIY - Horizon Service Request K20 ME333

Received: 7/28/20 Opened: 7/28/20 By: BR Unloaded: 7/28/20 By: BR

1. Samples were received via? *USPS* (*Fed Ex*) *UPS* *DHL* *PDX* *Courier* *Hand Delivered*
2. Samples were received in: (circle) (*Cooler*) *Box* *Envelope* *Other* _____ *NA*
3. Were custody seals on coolers? NA (Y) N If yes, how many and where? 2 front
   If present, were custody seals intact? (Y) N If present, were they signed and dated? (Y) N

Temp Blank	Sample 1	Sample 2	Sample 3	Sample 4	IR GUN	Cooler / COC ID (NA)	Tracking Number NA	Filed
0.7	—	—	—	—	1201		189188746	

4. Packing material: *Inserts* (*Baggies*) (*Bubble Wrap*) *Gel Packs* (*Wet Ice*) *Dry Ice* *Sleeves* _____
5. Were custody papers properly filled out (ink, signed, etc.)? NA (Y) N
6. Were samples received in good condition (temperature, unbroken)? *Indicate in the table below.* NA (Y) N
   If applicable, tissue samples were received: *Frozen* *Partially Thawed* *Thawed*
7. Were all sample labels complete (i.e analysis, preservation, etc.)? NA (Y) N
8. Did all sample labels and tags agree with custody papers? *Indicate major discrepancies in the table on page 2.* NA (Y) N
9. Were appropriate bottles/containers and volumes received for the tests indicated? NA (Y) N
10. Were the pH-preserved bottles (*see SMO GEN SOP*) received at the appropriate pH? *Indicate in the table below* NA (Y) N
11. Were VOA vials received without headspace? *Indicate in the table below.* (NA) Y N
12. Was C12/Res negative? (NA) Y N

Sample ID on Bottle	Sample ID on COC	Identified by:

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

Notes, Discrepancies, & Resolutions: _____

General Chemistry

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360)577-7222 Fax (360)636-1068
www.alsglobal.com

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	K2006333
Project:	ALS Houston DOD TOC	**Date Collected:**	07/23/20
Sample Matrix:	Ground Water	**Date Received:**	07/28/20
Analysis Method:	SM 5310 C	**Units:**	mg/L
Prep Method:	None	**Basis:**	NA

Carbon, Total Organic

Sample Name	Lab Code	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
16WW42-200723	K2006333-001	**4.16**	0.50	0.20	0.07	1	08/08/20 12:03	
16WW42-200723-FD	K2006333-002	**4.33**	0.50	0.20	0.07	1	08/08/20 12:03	
Method Blank	K2006333-MB	ND U	0.50	0.20	0.07	1	08/08/20 12:03	

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	K2006333
Project:	ALS Houston DOD TOC	**Date Analyzed:**	08/08/20
Sample Matrix:	Ground Water	**Date Extracted:**	NA

Lab Control Sample Summary
Carbon, Total Organic

Analysis Method:	SM 5310 C	**Units:**	mg/L
Prep Method:	None	**Basis:**	NA
		Analysis Lot:	690270

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K2006333-LCS	25.9	25.0	103	83-117

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US **Service Request:** K2006333
Project: ALS Houston DOD TOC

Continuing Calibration Verification (CCV) Summary

Carbon, Total Organic

Analysis Method: SM 5310 C **Units:** mg/L

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	690270	KQ2010960-03	08/08/20 12:03	25.0	25.5	102	90-110
CCV2	690270	KQ2010960-04	08/08/20 12:03	25.0	26.1	104	90-110
CCV3	690270	KQ2010960-05	08/08/20 12:03	25.0	25.0	100	90-110
CCV4	690270	KQ2010960-06	08/08/20 12:03	25.0	24.4	98	90-110
CCV5	690270	KQ2010960-07	08/08/20 12:03	25.0	24.9	99	90-110

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US **Service Request:**K2006333
Project: ALS Houston DOD TOC

Continuing Calibration Blank (CCB) Summary
Carbon, Total Organic

Analysis Method: SM 5310 C **Units:**mg/L

	Analysis Lot	Lab Code	Date Analyzed	LOQ	LOD	MDL	Result	Q
CCB1	690270	KQ2010960-08	08/08/20 12:03	0.50	0.20	0.07	ND	U
CCB2	690270	KQ2010960-09	08/08/20 12:03	0.50	0.20	0.07	ND	U
CCB3	690270	KQ2010960-10	08/08/20 12:03	0.50	0.20	0.07	ND	U
CCB4	690270	KQ2010960-11	08/08/20 12:03	0.50	0.20	0.07	ND	U
CCB5	690270	KQ2010960-12	08/08/20 12:03	0.50	0.20	0.07	ND	U

Raw Data

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360)577-7222 Fax (360)636-1068
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General Chemistry

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Work Request # 6047 6158 6197 6297 6333 6206 6308

Tier: IV IV II II IV IV I

Date Analyzed: 8.8.20 6321 II 6497 II

Analyst: MK

Analysis: TOC/DOC

Run # 690270/690271 690269

DATA QUALITY REPORT
INORGANICS

Explain any "no" responses to questions below, and any corrective actions in the comments section below.

1.	Is the method name and number correct and appropriate?	yes/no/NA
2.	Holding times met for all analyses and for all samples?	yes/no/NA
3.	Are calculations correct?	yes/no/NA
4.	Is the reporting basis correct? (Dry Weight)	yes/no/NA
5.	All quality control criteria met?	yes/no
6.	Is the calibration curve correlation coefficient ≥ 0.995?	yes/no/NA
7.	MBs, CCVs, CCBs, LCSs, Dups, and Spikes, analyzed at proper frequency?	yes/no/NA
8.	Are ICVs, CCVs, and CCBs all within acceptance limits?	yes/no/NA
9.	Are results for methods blanks all ND?	yes/no/NA
10.	Are all QC samples within acceptance criteria? (LCS % rec, MS/DMS % rec, DUP or MS/DMS RPDs, etc.)	yes/no/NA MK
11.	Are all exceptions explained?	yes/no/NA
12.	Have all applicable service requests been reviewed?	yes/no/NA
13.	Are all samples labeled correctly?	yes/no/NA
14.	Have all instructions on the service request been followed? (e.g. Special MRLs, QC on a specific sample, Form V)	yes/no/NA
15.	Are detection limits and units reported correctly?	yes/no/NA
16.	Is the unused space on the benchsheet crossed out?	yes/no/NA
17.	Was analysis turned in by the due date? (n-2) (If not record SR#)	yes/no/NA

COMMENTS:

6206-1MS low Rec Matrix
6047-5 has matrix issues raised MRL
6497-4 needs DIL
5 needs rerun

Final Approved by: _____ Date: 8/10/20

DQREPORT

Analytical Results Summary

Instrument Name: K-TOC-01 **Analyst:** MKANALY **Analysis Lot:** 690270 **Method/Testcode:** SM 5310 C/TOC T

Lab Code	Target Analytes	QC	Parent Sample	Matrix	Raw Result	Sample Amt.	Final Result	Dil	MDL	PQL	% Rec	% RSD	Date Analyzed	QC?	Tier
K2006047-001	Carbon, Total Organic	N/A		Water	3.67 mg/L	10 mL	3.67 mg/L	1	0.07	0.50			8/8/20 12:03:00	N	IV
K2006047-002	Carbon, Total Organic	N/A		Water	13.40 mg/L	10 mL	67.0 mg/L	5	0.4	2.5			8/8/20 12:03:00	N	IV
K2006047-003	Carbon, Total Organic	N/A		Water	18.64 mg/L	10 mL	18.6 mg/L	1	0.07	0.50			8/8/20 12:03:00	N	IV
K2006047-004	Carbon, Total Organic	N/A		Water	5.58 mg/L	10 mL	5.58 mg/L	1	0.07	0.50			8/8/20 12:03:00	N	IV
K2006047-005.R02	Carbon, Total Organic	N/A		Water	0.00 mg/L	10 mL	5.0 mg/L U	10	0.7	5.0			8/8/20 12:03:00	N	IV
K2006047-006	Carbon, Total Organic	N/A		Water	2.56 mg/L	10 mL	2.56 mg/L	1	0.07	0.50			8/8/20 12:03:00	N	IV
K2006158-001	Carbon, Total Organic	N/A		Ground Water	13.70 mg/L	10 mL	13.7 mg/L	1	0.07	0.50			8/8/20 12:03:00	N	IV
K2006158-003	Carbon, Total Organic	N/A		Ground Water	8.37 mg/L	10 mL	8.37 mg/L	1	0.07	0.50			8/8/20 12:03:00	N	IV
K2006158-004	Carbon, Total Organic	N/A		Ground Water	8.30 mg/L	10 mL	8.30 mg/L	1	0.07	0.50			8/8/20 12:03:00	N	IV
K2006158-005	Carbon, Total Organic	N/A		Ground Water	46.07 mg/L	10 mL	1840 mg/L	40	3	20			8/8/20 12:03:00	N	IV
K2006158-006	Carbon, Total Organic	N/A		Ground Water	20.80 mg/L	10 mL	416 mg/L	20	2	10			8/8/20 12:03:00	N	IV
K2006197-002	Carbon, Total Organic	N/A		Water	16.68 mg/L	10 mL	16.7 mg/L	1	0.07	0.50			8/8/20 12:03:00	N	II
K2006297-001	Carbon, Total Organic	N/A		Wastewater	2.11 mg/L	10 mL	2.11 mg/L	1	0.07	0.50			8/8/20 12:03:00	N	II
K2006297-002	Carbon, Total Organic	N/A		Wastewater	0.95 mg/L	10 mL	0.95 mg/L	1	0.07	0.50			8/8/20 12:03:00	N	II
K2006297-003	Carbon, Total Organic	N/A		Wastewater	0.11 mg/L	10 mL	0.11 mg/L J	1	0.07	0.50			8/8/20 12:03:00	N	II
K2006297-004	Carbon, Total Organic	N/A		Wastewater	4.21 mg/L	10 mL	4.21 mg/L	1	0.07	0.50			8/8/20 12:03:00	N	II
K2006333-001	Carbon, Total Organic	N/A		Ground Water	4.16 mg/L	10 mL	4.16 mg/L	1	0.07	0.50			8/8/20 12:03:00	N	IV
K2006333-002	Carbon, Total Organic	N/A		Ground Water	4.33 mg/L	10 mL	4.33 mg/L	1	0.07	0.50			8/8/20 12:03:00	N	IV
KQ2010960-01	Carbon, Total Organic	MB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			8/8/20 12:03:00	N	IV
KQ2010960-02	Carbon, Total Organic	LCS		Water	25.85 mg/L	10 mL	25.9 mg/L	1	0.07	0.50	103		8/8/20 12:03:00	N	IV
KQ2010960-03	Carbon, Total Organic	CCV		Water	25.52 mg/L	10 mL	25.5 mg/L	1					8/8/20 12:03:00	N	IV
KQ2010960-04	Carbon, Total Organic	CCV		Water	26.08 mg/L	10 mL	26.1 mg/L	1					8/8/20 12:03:00	N	IV
KQ2010960-05	Carbon, Total Organic	CCV		Water	25.01 mg/L	10 mL	25.0 mg/L	1					8/8/20 12:03:00	N	IV
KQ2010960-06	Carbon, Total Organic	CCV		Water	24.38 mg/L	10 mL	24.4 mg/L	1					8/8/20 12:03:00	N	IV
KQ2010960-07	Carbon, Total Organic	CCV		Water	24.86 mg/L	10 mL	24.9 mg/L	1					8/8/20 12:03:00	N	IV
KQ2010960-08	Carbon, Total Organic	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			8/8/20 12:03:00	N	IV
KQ2010960-09	Carbon, Total Organic	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			8/8/20 12:03:00	N	IV
KQ2010960-10	Carbon, Total Organic	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			8/8/20 12:03:00	N	IV
KQ2010960-11	Carbon, Total Organic	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			8/8/20 12:03:00	N	IV
KQ2010960-12	Carbon, Total Organic	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			8/8/20 12:03:00	N	IV

# indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

Analytical Results Summary

Instrument Name: K-TOC-01 **Analyst:** MKANALY **Analysis Lot:** 690270 **Method/Testcode:** SM 5310 C/TOC T

Lab Code	Target Analytes	QC	Parent Sample	Matrix	Raw Result	Sample Amt.	Final Result	Dil	MDL	PQL	% Rec	% RSD	Date Analyzed	QC?	Tier
KQ2010960-13	Carbon, Total Organic	DUP	K2006158-001	Ground Water	13.63 mg/L	10 mL	13.6 mg/L	1	0.07	0.50		<1	8/8/20 12:03:00	N	IV
KQ2010960-14	Carbon, Total Organic	MS	K2006158-001	Ground Water	41.06 mg/L	10 mL	41.1 mg/L	1	0.07	0.50	109		8/8/20 12:03:00	N	IV
KQ2010960-15	Carbon, Total Organic	DUP	K2006297-004	Wastewater	4.18 mg/L	10 mL	4.18 mg/L	1	0.07	0.50		<1	8/8/20 12:03:00	N	II
KQ2010960-16	Carbon, Total Organic	MS	K2006297-004	Wastewater	32.03 mg/L	10 mL	32.0 mg/L	1	0.07	0.50	111		8/8/20 12:03:00	N	II

# indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

Analytical Results Summary

Instrument Name: K-TOC-01 **Analyst:** MKANALY **Analysis Lot:** 690271 **Method/Testcode:** SM 5310 C/TOC T

Lab Code	Target Analytes	QC	Parent Sample	Matrix	Raw Result	Sample Amt.	Final Result	Dil	MDL	PQL	% Rec	% RSD	Date Analyzed	QC?	Tier
K2006206-001	Carbon, Total Organic	N/A		Water	1.10 mg/L	10 mL	1.10 mg/L	1	0.07	0.50			8/8/20 12:03:00	N	IV
K2006206-002	Carbon, Total Organic	N/A		Water	1.16 mg/L	10 mL	1.16 mg/L	1	0.07	0.50			8/8/20 12:03:00	N	IV
K2006308-001	Carbon, Total Organic	N/A		Drinking Water	0.76 mg/L	10 mL	0.76 mg/L	1	0.07	0.50			8/8/20 12:03:00	N	I
K2006321-001	Carbon, Total Organic	N/A		Water	0.75 mg/L	10 mL	0.75 mg/L	1	0.07	0.50			8/8/20 12:03:00	N	II
K2006321-002	Carbon, Total Organic	N/A		Water	4.37 mg/L	10 mL	8.7 mg/L	2	0.2	1.0			8/8/20 12:03:00	N	II
K2006321-003	Carbon, Total Organic	N/A		Water	4.10 mg/L	10 mL	4.10 mg/L	1	0.07	0.50			8/8/20 12:03:00	N	II
K2006321-004	Carbon, Total Organic	N/A		Water	8.76 mg/L	10 mL	8.76 mg/L	1	0.07	0.50			8/8/20 12:03:00	N	II
K2006321-005	Carbon, Total Organic	N/A		Water	2.70 mg/L	10 mL	2.70 mg/L	1	0.07	0.50			8/8/20 12:03:00	N	II
K2006321-006	Carbon, Total Organic	N/A		Water	0.59 mg/L	10 mL	0.59 mg/L	1	0.07	0.50			8/8/20 12:03:00	N	II
K2006497-002	Carbon, Total Organic	N/A		Ground Water	4.55 mg/L	10 mL	4.55 mg/L	1	0.07	0.50			8/8/20 12:03:00	N	IV
K2006497-003	Carbon, Total Organic	N/A		Ground Water	4.57 mg/L	10 mL	4.57 mg/L	1	0.07	0.50			8/8/20 12:03:00	N	IV
K2006497-004.R01	Carbon, Total Organic	N/A		Ground Water	112.94 mg/L	10 mL	113 mg/L	1	0.07	0.50			8/8/20 12:03:00	N	IV
K2006497-005.R01	Carbon, Total Organic	N/A		Ground Water	6.54 mg/L	10 mL	6.54 mg/L	1	0.07	0.50			8/8/20 12:03:00	N	IV
KQ2010974-01	Carbon, Total Organic	MB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			8/8/20 12:03:00	N	IV
KQ2010974-05	Carbon, Total Organic	LCS		Water	24.91 mg/L	10 mL	24.9 mg/L	1	0.07	0.50	100		8/8/20 12:03:00	N	IV
KQ2010974-06	Carbon, Total Organic	DLCS		Water	25.04 mg/L	10 mL	25.0 mg/L	1	0.07	0.50	100	<1	8/8/20 12:03:00	N	IV
KQ2010974-07	Carbon, Total Organic	CCV		Water	25.01 mg/L	10 mL	25.0 mg/L	1					8/8/20 12:03:00	N	IV
KQ2010974-08	Carbon, Total Organic	CCV		Water	24.38 mg/L	10 mL	24.4 mg/L	1					8/8/20 12:03:00	N	IV
KQ2010974-09	Carbon, Total Organic	CCV		Water	24.86 mg/L	10 mL	24.9 mg/L	1					8/8/20 12:03:00	N	IV
KQ2010974-10	Carbon, Total Organic	CCV		Water	26.16 mg/L	10 mL	26.2 mg/L	1					8/8/20 12:03:00	N	IV
KQ2010974-12	Carbon, Total Organic	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			8/8/20 12:03:00	N	IV
KQ2010974-13	Carbon, Total Organic	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			8/8/20 12:03:00	N	IV
KQ2010974-14	Carbon, Total Organic	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			8/8/20 12:03:00	N	IV
KQ2010974-15	Carbon, Total Organic	DUP	K2006206-001	Water	1.13 mg/L	10 mL	1.13 mg/L	1	0.07	0.50		2	8/8/20 12:03:00	N	IV
KQ2010974-16	Carbon, Total Organic	MS	K2006206-001	Water	14.69 mg/L	10 mL	14.7 mg/L	1	0.07	0.50	54*		8/8/20 12:03:00	N	IV
KQ2010974-17	Carbon, Total Organic	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			8/8/20 12:03:00	N	IV

# indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

Analytical Results Summary

Instrument Name: K-TOC-01 **Analyst:** MKANALY **Analysis Lot:** 690269 **Method/Testcode:** SM 5310 C/TOC D

Lab Code	Target Analytes	QC	Parent Sample	Matrix	Raw Result	Sample Amt.	Final Result	Dil	MDL	PQL	% Rec	% RSD	Date Analyzed	QC?	Tier
K2006297-001	Carbon, Dissolved Organic (DOC)	N/A		Wastewater	2.11 mg/L	10 mL	2.11 mg/L	1	0.07	0.50			8/8/20 12:03:00	N	II
K2006297-002	Carbon, Dissolved Organic (DOC)	N/A		Wastewater	0.95 mg/L	10 mL	0.95 mg/L	1	0.07	0.50			8/8/20 12:03:00	N	II
K2006297-003	Carbon, Dissolved Organic (DOC)	N/A		Wastewater	0.11 mg/L	10 mL	0.11 mg/L J	1	0.07	0.50			8/8/20 12:03:00	N	II
K2006297-004	Carbon, Dissolved Organic (DOC)	N/A		Wastewater	4.21 mg/L	10 mL	4.21 mg/L	1	0.07	0.50			8/8/20 12:03:00	N	II
KQ2010959-01	Carbon, Dissolved Organic (DOC)	DUP	K2006297-004	Wastewater	4.18 mg/L	10 mL	4.18 mg/L	1	0.07	0.50		<1	8/8/20 12:03:00	N	II
KQ2010959-02	Carbon, Dissolved Organic (DOC)	MS	K2006297-004	Wastewater	32.03 mg/L	10 mL	32.0 mg/L	1	0.07	0.50	111		8/8/20 12:03:00	N	II
KQ2010959-03	Carbon, Dissolved Organic (DOC)	CCV		Wastewater	25.01 mg/L	10 mL	25.0 mg/L	1					8/8/20 12:03:00	N	II
KQ2010959-04	Carbon, Dissolved Organic (DOC)	CCV		Wastewater	24.38 mg/L	10 mL	24.4 mg/L	1					8/8/20 12:03:00	N	II
KQ2010959-05	Carbon, Dissolved Organic (DOC)	CCV		Wastewater	24.86 mg/L	10 mL	24.9 mg/L	1					8/8/20 12:03:00	N	II
KQ2010959-06	Carbon, Dissolved Organic (DOC)	CCB		Wastewater	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			8/8/20 12:03:00	N	II
KQ2010959-07	Carbon, Dissolved Organic (DOC)	CCB		Wastewater	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			8/8/20 12:03:00	N	II
KQ2010959-08	Carbon, Dissolved Organic (DOC)	CCB		Wastewater	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			8/8/20 12:03:00	N	II
KQ2010959-09	Carbon, Dissolved Organic (DOC)	MB		Wastewater	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			8/8/20 12:03:00	N	II
KQ2010959-10	Carbon, Dissolved Organic (DOC)	LCS		Wastewater	25.23 mg/L	10 mL	25.2 mg/L	1	0.07	0.50	101		8/8/20 12:03:00	N	II
KQ2010959-11	Carbon, Dissolved Organic (DOC)	DLCS		Wastewater	25.11 mg/L	10 mL	25.1 mg/L	1	0.07	0.50	100	<1	8/8/20 12:03:00	N	II

# indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

TOC : 690270
TOC : 690271
TOC : ~~690290~~ MK 8-10-20
DOC 690269

Schedule: 080820

Version: 13
Instrument: Fusion1
Last Saved by: Fusion1 (Fusion1)
Last Saved on: 2020/08/09 13:02 - Sunday

Position	Sample Type	Sample ID	Method ID (Calibration ID)	Reps	Use	State
(Clean)	Clean	Clean		1	True	Ready
(Clean)	Clean	Clean		1	True	Ready
(Clean)	Clean	Clean		1	True	Ready
(Blank)	Blank	Reagent/Acid Blank		1	True	Ready
D	Sample	RB	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
B	Check Standard	[TOC] CCV 25 ppm [25 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
D	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
1	Sample	MB1	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
C	Check Standard	[TOC] CCV 25 ppm [25 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
2	Sample	ICS	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
C	Check Standard	[TOC] LCS [25.0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
3	Sample	K2006047-001	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
4	Sample	K2006047-002 5X	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
5	Sample	K2006047-003	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
6	Sample	K2006047-004	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
7	Sample	K2006047-005 10X	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
8	Sample	K2006047-006	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
9	Sample	K2006158-001	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
B	Check Standard	[TOC] CCV 25 ppm [25 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
D	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
10	Sample	K2006158-001D	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
11	Sample	K2006158-001MS	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
12	Sample	K2006158-003	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
13	Sample	K2006158-004	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
14	Sample	K2006158-005 40X	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
15	Sample	K2006158-006 20X	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
16	Sample	RB	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
17	Sample	K2006333-001	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
18	Sample	K2006333-002	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
19	Sample	RB	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
B	Check Standard	[TOC] CCV 25 ppm [25 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
D	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
20	Sample	MB2	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
C	Check Standard	[TOC] LCS [25.0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
C	Check Standard	[TOC] LCS [25.0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
22	Sample	K2006297-001	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
23	Sample	K2006297-002	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
24	Sample	K2006297-003	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
25	Sample	K2006297-004	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
26	Sample	K2006297-004D	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
27	Sample	K2006297-004MS	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
28	Sample	K2006197-001	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
B	Check Standard	[TOC] CCV 25 ppm [25 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
D	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
29	Sample	K2006297-001*	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
30	Sample	K2006297-002*	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
31	Sample	K2006297-003*	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
32	Sample	K2006297-004*	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
33	Sample	K2006297-004D*	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
34	Sample	K2006297-004S*	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
35	Sample	K2006308-001	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
36	Sample	K2006321-001	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
37	Sample	K2006321-002 2X	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
38	Sample	K2006321-003	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready

Schedule: 080820

Position	Sample Type	Sample ID	Method ID (Calibration ID)	Reps	Use	State
B	Check Standard	[TOC] CCV 25 ppm [25 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
D	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
39	Sample	MB3	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
C	Check Standard	[TOC] LCS [25.0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
C	Check Standard	[TOC] LCS [25.0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
41	Sample	K2006321-004	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
42	Sample	K2006321-005	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
43	Sample	K2006321-006	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
44	Sample	K2006206-001	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
45	Sample	K2006206-001D	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
46	Sample	K2006206-1MS	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
47	Sample	K2006206-002	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
B	Check Standard	[TOC] CCV 25 ppm [25 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
D	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
48	Sample	~~K2006280-001~~	CAS_salt_010711 (CAS_salt_010711)	2	False	Ready
49	Sample	K2006280-001D	CAS_salt_010711 (CAS_salt_010711)	2	False	Ready
50	Sample	K2006280-001S NR	CAS_salt_010711 (CAS_salt_010711)	2	False	Ready
51	Sample	K2006280-002	CAS_salt_010711 (CAS_salt_010711)	2	False	Ready
52	Sample	~~K2006280-003~~	CAS_salt_010711 (CAS_salt_010711)	2	False	Ready
53	Sample	K2006497-001	CAS_salt_010711 (CAS_salt_010711)	2	False	Ready
54	Sample	K2006497-002	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
55	Sample	K2006497-003	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
56	Sample	K2006497-004	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
57	Sample	K2006497-005	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
B	Check Standard	[TOC] CCV 25 ppm [25 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
C	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
58	Sample	MB	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
C	Check Standard	[TOC] LCS [25.0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
59	Sample	K2006497-006	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
60	Sample	K2006330-001	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
62	Sample	K2006330-001D NR	CAS_salt_010711 (CAS_salt_010711)	2	False	Ready
63	Sample	K2006330-001MS	CAS_salt_010711 (CAS_salt_010711)	2	False	Ready
64	Sample	K2006330-002	CAS_salt_010711 (CAS_salt_010711)	2	False	Ready
65	Sample	K2006330-003	CAS_salt_010711 (CAS_salt_010711)	2	False	Ready
68	Sample	K2006257-001	CAS_salt_010711 (CAS_salt_010711)	2	False	Ready
B	Check Standard	[TOC] CCV 25ppm_salt [25ppm salt]	CAS_salt (CAS_salt_0811a)	1	True	Ready
D	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
					False	

Fusion Report - 080820
Saturday, August 08, 2020 12:03 PM

(View - Reps, Unused Reps, Meta-Data, Signature, History)
Printed on 2020/08/10 07:53 - Monday

Report Summary Information

Company Location:	Gen Chem Lab		
Schedule Name:	080820	Engine Version:	1.1.5.1
Instrument Name:	Fusion1	Firmware Version:	1.2.0696
Report Version:	1 of 1	Connection:	RS232 COM1
Report Creation by Operators (schedule version):	Fusion1 (Fusion1) (v3) Fusion1 (Fusion1) (v5) Fusion1 (Fusion1) (v7) Fusion1 (Fusion1) (v9) Fusion1 (Fusion1) (v13)		
Comment:			

Report Results

Sample Type: Clean — From Schedule Version 3

	Pos	Analysis Type	Sample ID	Start Time
◈	(clean)		Clean	2020/08/08 12:03

Rep #	Base Analysis Type	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	IC Clean	13.44	27.20	13.76	49.74	07:57
2	TC Clean	9.84	22.99	13.15	49.66	07:18
3	TC Clean	1.63	14.75	13.12	49.68	07:03
4	TC Clean	0.84	13.84	12.99	49.66	07:00

Sample Type: Clean — From Schedule Version 3

	Pos	Analysis Type	Sample ID	Start Time
◈	(clean)		Clean	2020/08/08 12:37

Rep #	Base Analysis Type	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	IC Clean	-0.08	12.88	12.96	49.75	08:00
2	TC Clean	4.72	17.45	12.72	49.65	07:16
3	TC Clean	1.01	14.02	13.01	49.67	07:02

4	TC Clean	0.80	13.73	12.93	49.67	07:00

Sample Type: Clean From Schedule Version 3

	Pos	Analysis Type	Sample ID	Start Time
◆	(clean)		Clean	2020/08/08 13:11

Rep #	Base Analysis Type	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	IC Clean	-0.26	12.71	12.97	49.75	07:58
2	TC Clean	4.82	17.53	12.71	49.59	07:16
3	TC Clean	1.11	14.03	12.92	49.64	07:00
4	TC Clean	1.03	13.85	12.82	49.65	07:01

Sample Type: Blank (Creating v1430) From Schedule Version 3

	Pos	Analysis Type	Sample ID	Start Time
◆	(blank)		Reagent/Acid Blank	2020/08/08 13:45

Rep #	Base Analysis Type	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	IC Clean	-0.39	12.48	12.87	49.76	07:59
2	TC Clean	5.34	17.95	12.61	49.61	07:19
3	TC Clean	1.82	14.75	12.92	49.59	07:02
4	TC Clean	1.25	14.03	12.79	49.61	07:01
5	Reagent Blank	5.96	18.76	12.79	49.60	08:10
6	Acid Blank	0.56	13.15	12.59	49.74	08:01

Sample Type: Sample From Schedule Version 3

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	D	TOC	RB	0.2354 ppm	0.0000 ppm	0.0000%	2020/08/08 14:36

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.2354	2.3545	10.95	23.83	12.88	49.78	10:31

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> CCV 25 ppm From Schedule Version 3

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	B	TOC	25.0000	1:2	[TOC] CCV 25 ppm [25 ppm]	0 / infinity (NA / NA)	25.5238 ppm (PASS)	0.0000 ppm	0%	2020/08/08 14:51

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	25.5238	255.2379	188.94	201.71	12.77	49.74	10:33

Completion State	Success Action	Method	Calibration	STD Conc - Pos B
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	50 ppmC

Sample Type: Check Standard --> CCB From Schedule Version 3

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	D	TOC	0.0000	1:1	[TOC] CCB [0 ppm]	0 / infinity (NA / NA)	0.0000 ppm (PASS)	0.0000 ppm	0%	2020/08/08 15:06

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.0000	0.0000	8.98	21.82	12.84	49.72	10:30

Completion State	Success Action	Method	Calibration	STD Conc - Pos D
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	0 ppmC

Sample Type: Sample From Schedule Version 5

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	1	TOC	MB1	0.0000 ppm	0.0000 ppm	0.0000%	2020/08/08 15:21

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0000	0.0000	8.70	21.47	12.77	49.71	10:32

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> CCV 25 ppm From Schedule Version 7

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	C	TOC	25.0000	1:2	[TOC] CCV 25 ppm [25 ppm]	0 / infinity (NA / NA)	12.4067 ppm (PASS)	0.0000 ppm	0%	2020/08/08 15:35

NR

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
C	TOC	25 ppm	1	12.4067	124.0671	96.92	109.68	12.76	49.68	10:33

Completion State	Success Action	Method	Calibration	STD Conc - Pos C
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	50 ppmC

Sample Type: Sample From Schedule Version 9

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	2	TOC	ICS	0.6496 ppm	0.0000 ppm	0.0000%	2020/08/08 15:50

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.6496	6.4957	13.86	26.57	12.71	49.62	10:33

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> LCS From Schedule Version 9

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	C	TOC	25.0000	1:1	[TOC] LCS [25.0 ppm]	0 / infinity (NA / NA)	25.8527 ppm (PASS)	0.0000 ppm	0%	2020/08/08 16:05

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
C	TOC	25.0 ppm	1	25.8527	258.5266	191.24	203.85	12.61	49.64	10:33

Completion State	Success Action	Method	Calibration	STD Conc - Pos C
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	25 ppmC

Sample Type: Sample From Schedule Version 9

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	3	TOC	K2006047-001	3.6735 ppm	0.1980 ppm	5.3900%	2020/08/08 16:20

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	3.8134	38.1344	36.05	48.77	12.72	49.62	10:29
2	TOC	3.5335	35.3346	34.09	46.79	12.70	49.62	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	4	TOC	K2006047-002 5X	13.4025 ppm	0.0162 ppm	0.1200%	2020/08/08 16:48

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	13.3910	133.9101	103.24	116.08	12.85	49.73	10:26
2	TOC	13.4140	134.1396	103.40	116.38	12.98	49.64	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	5	TOC	K2006047-003	18.6383 ppm	0.2445 ppm	1.3100%	2020/08/08 17:16

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	18.8112	188.1124	141.26	154.11	12.85	49.79	10:29
2	TOC	18.4654	184.6541	138.83	151.84	13.01	49.68	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	6	TOC	K2006047-004	5.5848 ppm	0.1138 ppm	2.0400%	2020/08/08 17:44

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	5.6652	56.6523	49.04	61.94	12.90	49.74	10:29
2	TOC	5.5043	55.0429	47.91	60.86	12.95	49.70	10:23

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	7	TOC	K2006047-005 10X	0.0000 ppm	0.0000 ppm	0.0000%	2020/08/08 18:12

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0000	0.0000	-771.14	-758.07	13.07	49.70	10:26
2	TOC	0.0000	0.0000	-527.65	-514.52	13.13	49.68	10:30

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	8	TOC	K2006047-006	2.5618 ppm	0.6570 ppm	25.6500%	2020/08/08 18:40

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	3.0264	30.2639	30.53	43.62	13.09	49.71	10:29

2	TOC	2.0972	20.9722	24.01	37.09	13.08	49.81	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	9	TOC	K2006158-001	13.7039 ppm	0.0665 ppm	0.4900%	2020/08/08 19:08

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	13.7510	137.5096	105.76	118.84	13.08	49.66	10:28
2	TOC	13.6569	136.5688	105.10	117.97	12.87	49.66	10:23

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> CCV 25 ppm From Schedule Version 9

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	B	TOC	25.0000	1:2	[TOC] CCV 25 ppm [25 ppm]	0 / infinity (NA / NA)	26.0793 ppm (PASS)	0.0000 ppm	0%	2020/08/08 19:36

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	26.0793	260.7933	192.83	205.61	12.78	49.77	10:31

Completion State	Success Action	Method	Calibration	STD Conc - Pos B
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	50 ppmC

Sample Type: Check Standard --> CCB From Schedule Version 9

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	D	TOC	0.0000	1:1	[TOC] CCB [0 ppm]	0 / infinity (NA / NA)	0.0449 ppm (PASS)	0.0000 ppm	0%	2020/08/08 19:51

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.0449	0.4490	10.21	23.03	12.82	49.62	10:31

Completion State	Success Action	Method	Calibration	STD Conc - Pos D
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	0 ppmC

Sample Type: Sample From Schedule Version 9

		Analysis			Std. Dev.		

	Pos	Type	Sample ID	Result (ppmC)	(ppmC)	RSD	Start Time
◈	10	TOC	K2006158-001D	13.6259 ppm	0.3394 ppm	2.4900%	2020/08/08 20:05

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	13.8659	138.6586	106.57	119.68	13.12	49.58	10:28
2	TOC	13.3859	133.8588	103.20	116.19	12.99	49.54	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	11	TOC	K2006158-001MS	41.0625 ppm	0.3763 ppm	0.9200%	2020/08/08 20:34

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	41.3286	413.2855	299.21	312.31	13.10	49.51	10:27
2	TOC	40.7964	407.9639	295.48	308.63	13.15	49.48	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	12	TOC	K2006158-003	8.3734 ppm	0.2055 ppm	2.4500%	2020/08/08 21:02

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	8.5188	85.1876	69.06	82.12	13.06	49.49	10:29
2	TOC	8.2281	82.2809	67.02	79.91	12.89	49.49	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	13	TOC	K2006158-004	8.2953 ppm	0.0755 ppm	0.9100%	2020/08/08 21:30

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	8.3487	83.4869	67.86	80.81	12.95	49.50	10:25
2	TOC	8.2419	82.4192	67.12	80.14	13.02	49.50	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	14	TOC	K2006158-005 40X	46.0666 ppm	0.3094 ppm	0.6700%	2020/08/08 21:58

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	45.8478	458.4784	330.92	343.86	12.94	49.51	10:30
2	TOC	46.2853	462.8534	333.98	347.14	13.16	49.54	10:25

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	15	TOC	K2006158-006 20X	20.8042 ppm	0.6440 ppm	3.1000%	2020/08/08 22:26

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	21.2596	212.5963	158.43	171.47	13.03	49.55	10:28
2	TOC	20.3488	203.4885	152.04	165.18	13.14	49.54	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	16	TOC	RB	0.8427 ppm	0.1281 ppm	15.2000%	2020/08/08 22:54

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.7521	7.5207	14.58	27.53	12.95	49.53	10:26
2	TOC	0.9333	9.3325	15.85	28.76	12.91	49.58	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	17	TOC	K2006333-001	4.1567 ppm	0.1343 ppm	3.2300%	2020/08/08 23:22

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	4.2517	42.5165	39.12	52.03	12.91	49.59	10:27
2	TOC	4.0618	40.6177	37.79	51.00	13.21	49.61	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	18	TOC	K2006333-002	4.3346 ppm	0.1227 ppm	2.8300%	2020/08/08 23:50

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	4.4213	44.2130	40.32	53.25	12.94	49.64	10:29
2	TOC	4.2478	42.4781	39.10	52.25	13.15	49.60	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	19	TOC	RB	0.1913 ppm	0.0489 ppm	25.5500%	2020/08/09 00:18

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.1568	1.5676	10.40	23.59	13.19	49.64	10:29
2	TOC	0.2259	2.2590	10.88	23.96	13.08	49.63	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> CCV 25 ppm From Schedule Version 9

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	B	TOC	25.0000	1:2	[TOC] CCV 25 ppm [25 ppm]	0 / infinity (NA / NA)	25.0089 ppm (PASS)	0.0000 ppm	0%	2020/08/09 00:46

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	25.0089	250.0888	185.32	198.36	13.04	49.58	10:33

Completion State	Success Action	Method	Calibration	STD Conc - Pos B
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	50 ppmC

Sample Type: Check Standard --> CCB From Schedule Version 9

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	D	TOC	0.0000	1:1	[TOC] CCB [0 ppm]	0 / infinity (NA / NA)	0.0000 ppm (PASS)	0.0000 ppm	0%	2020/08/09 01:01

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.0000	0.0000	9.80	22.72	12.92	49.54	10:30

Completion State	Success Action	Method	Calibration	STD Conc - Pos D
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	0 ppmC

Sample Type: Sample From Schedule Version 9

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	20	TOC	MB2	0.0000 ppm	0.0000 ppm	0.0000%	2020/08/09 01:16

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0000	0.0000	9.16	22.32	13.17	49.50	10:30

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC)	CAS_salt_010711	CAS_salt_010711

(v1430) (v4) (v38)

Sample Type: Check Standard --> LCS From Schedule Version 9

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	C	TOC	25.0000	1:1	[TOC] LCS [25.0 ppm]	0 / infinity (NA / NA)	25.2283 ppm (PASS)	0.0000 ppm	0%	2020/08/09 01:30

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
C	TOC	25.0 ppm	1	25.2283	252.2827	186.86	199.88	13.01	49.48	10:31

Completion State	Success Action	Method	Calibration	STD Conc - Pos C
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	25 ppmC

Sample Type: Check Standard --> LCS From Schedule Version 9

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	C	TOC	25.0000	1:1	[TOC] LCS [25.0 ppm]	0 / infinity (NA / NA)	25.1138 ppm (PASS)	0.0000 ppm	0%	2020/08/09 01:45

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
C	TOC	25.0 ppm	1	25.1138	251.1380	186.06	199.23	13.17	49.48	10:33

Completion State	Success Action	Method	Calibration	STD Conc - Pos C
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	25 ppmC

Sample Type: Sample From Schedule Version 9

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	22	TOC	K2006297-001	2.1105 ppm	0.0374 ppm	1.7700%	2020/08/09 01:59

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	2.1370	21.3699	24.29	37.63	13.34	49.47	10:28
2	TOC	2.0841	20.8410	23.92	37.17	13.25	49.48	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	23	TOC	K2006297-002	0.9452 ppm	0.0011 ppm	0.1200%	2020/08/09 02:27

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.9459	9.4594	15.94	29.10	13.17	49.52	10:26
2	TOC	0.9444	9.4437	15.92	28.99	13.07	49.54	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	24	TOC	K2006297-003	0.1083 ppm	0.0214 ppm	19.7300%	2020/08/09 02:55

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.1234	1.2340	10.17	23.36	13.19	49.56	10:26
2	TOC	0.0932	0.9318	9.95	23.02	13.07	49.58	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	25	TOC	K2006297-004	4.2067 ppm	0.0302 ppm	0.7200%	2020/08/09 03:23

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	4.2281	42.2813	38.96	52.02	13.06	49.65	10:26
2	TOC	4.1854	41.8537	38.66	51.79	13.13	49.71	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	26	TOC	K2006297-004D	4.1821 ppm	0.0028 ppm	0.0700%	2020/08/09 03:51

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	4.1801	41.8009	38.62	51.85	13.22	49.69	10:27
2	TOC	4.1841	41.8408	38.65	51.88	13.23	49.81	10:28

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	27	TOC	K2006297-004MS	32.0297 ppm	0.4198 ppm	1.3100%	2020/08/09 04:19

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	31.7329	317.3288	231.90	245.22	13.32	49.79	10:26
2	TOC	32.3266	323.2662	236.07	249.38	13.31	49.79	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC)	CAS_salt_010711	CAS_salt_010711

(v1430) (v4) (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	28	TOC	K2006197-002 MC 8/10/20	16.6761 ppm	0.0755 ppm	0.4500%	2020/08/09 04:47

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	16.6227	166.2274	125.91	139.14	13.23	49.84	10:30
2	TOC	16.7295	167.2951	126.66	140.11	13.46	49.87	10:29

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> CCV 25 ppm From Schedule Version 9

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	B	TOC	25.0000	1:2	[TOC] CCV 25 ppm [25 ppm]	0 / infinity (NA / NA)	24.3841 ppm (PASS)	0.0000 ppm	0%	2020/08/09 05:15

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	24.3841	243.8406	180.94	194.23	13.29	49.90	10:29

Completion State	Success Action	Method	Calibration	STD Conc - Pos B
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	50 ppmC

Sample Type: Check Standard --> CCB From Schedule Version 9

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	D	TOC	0.0000	1:1	[TOC] CCB [0 ppm]	0 / infinity (NA / NA)	0.0000 ppm (PASS)	0.0000 ppm	0%	2020/08/09 05:30

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.0000	0.0000	8.46	21.79	13.33	49.93	10:33

Completion State	Success Action	Method	Calibration	STD Conc - Pos D
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	0 ppmC

Sample Type: Sample From Schedule Version 9

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	29	TOC	K2006297-001*	1.8964 ppm	0.0291 ppm	1.5400%	2020/08/09 05:45

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.9170	19.1703	22.75	36.13	13.38	49.93	10:27
2	TOC	1.8758	18.7583	22.46	35.91	13.46	49.97	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	30	TOC	K2006297-002*	1.4987 ppm	0.0616 ppm	4.1100%	2020/08/09 06:13

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.4551	14.5515	19.51	32.81	13.30	49.99	10:27
2	TOC	1.5423	15.4225	20.12	33.48	13.36	49.97	10:30

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	31	TOC	K2006297-003*	0.1828 ppm	0.1654 ppm	90.5000%	2020/08/09 06:41

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0658	0.6581	9.76	23.16	13.40	49.97	10:28
2	TOC	0.2997	2.9974	11.40	24.83	13.43	49.96	10:24

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	32	TOC	K2006297-004*	4.0275 ppm	0.0781 ppm	1.9400%	2020/08/09 07:09

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	3.9722	39.7225	37.16	50.64	13.48	49.95	10:27
2	TOC	4.0827	40.8273	37.94	51.35	13.41	49.96	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	33	TOC	K2006297-004D*	4.0559 ppm	0.0077 ppm	0.1900%	2020/08/09 07:37

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	4.0505	40.5051	37.71	51.12	13.41	49.92	10:25
2	TOC	4.0613	40.6134	37.79	51.33	13.54	49.89	10:23

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC)	CAS_salt_010711	CAS_salt_010711

(v1430) (v4) (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	34	TOC	K2006297-004S*	30.5388 ppm	0.0734 ppm	0.2400%	2020/08/09 08:05

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	30.4869	304.8694	223.16	236.50	13.34	49.92	10:24
2	TOC	30.5907	305.9072	223.89	237.09	13.20	49.89	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	35	TOC	K2006308-001	0.7625 ppm	0.0787 ppm	10.3200%	2020/08/09 08:33

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.8182	8.1821	15.04	28.47	13.43	49.90	10:28
2	TOC	0.7069	7.0688	14.26	27.66	13.40	49.99	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	36	TOC	K2006321-001	0.7486 ppm	0.0339 ppm	4.5200%	2020/08/09 09:01

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.7726	7.7259	14.72	28.07	13.35	49.97	10:29
2	TOC	0.7247	7.2470	14.38	27.66	13.28	49.99	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	37	TOC	K2006321-002 2X	4.3676 ppm	0.0081 ppm	0.1800%	2020/08/09 09:29

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	4.3618	43.6185	39.90	53.10	13.20	50.01	10:31
2	TOC	4.3733	43.7325	39.98	53.00	13.02	50.01	10:29

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	38	TOC	K2006321-003	4.0969 ppm	0.1642 ppm	4.0100%	2020/08/09 09:57

Rep	Base	ppm	µg	Adjusted	NDIR (Abs)	Baseline	Pressure	Run

#	Analysis Type			(Abs)		(Abs)	(psig)	Time
1	TOC	4.2130	42.1302	38.85	52.04	13.19	50.01	10:28
2	TOC	3.9808	39.8080	37.22	50.43	13.21	50.02	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> CCV 25 ppm From Schedule Version 9

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	B	TOC	25.0000	1:2	[TOC] CCV 25 ppm [25 ppm]	0 / infinity (NA / NA)	24.8551 ppm (PASS)	0.0000 ppm	0%	2020/08/09 10:25

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	24.8551	248.5506	184.25	197.11	12.86	50.01	10:32

Completion State	Success Action	Method	Calibration	STD Conc - Pos B
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	50 ppmC

Sample Type: Check Standard --> CCB From Schedule Version 9

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	D	TOC	0.0000	1:1	[TOC] CCB [0 ppm]	0 / infinity (NA / NA)	0.0000 ppm (PASS)	0.0000 ppm	0%	2020/08/09 10:40

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.0000	0.0000	8.76	21.69	12.93	50.00	10:29

Completion State	Success Action	Method	Calibration	STD Conc - Pos D
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	0 ppmC

Sample Type: Sample From Schedule Version 9

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	39	TOC	MB3	0.0000 ppm	0.0000 ppm	0.0000%	2020/08/09 10:55

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0000	0.0000	7.94	21.07	13.13	49.99	10:32

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> LCS From Schedule Version 9

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	C	TOC	25.0000	1:1	[TOC] LCS [25.0 ppm]	0 / infinity (NA / NA)	24.9081 ppm (PASS)	0.0000 ppm	0%	2020/08/09 11:09

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
C	TOC	25.0 ppm	1	24.9081	249.0809	184.62	197.61	12.99	49.99	10:31

Completion State	Success Action	Method	Calibration	STD Conc - Pos C
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	25 ppmC

Sample Type: Check Standard --> LCS From Schedule Version 9

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	C	TOC	25.0000	1:1	[TOC] LCS [25.0 ppm]	0 / infinity (NA / NA)	25.0424 ppm (PASS)	0.0000 ppm	0%	2020/08/09 11:24

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
C	TOC	25.0 ppm	1	25.0424	250.4238	185.56	198.49	12.93	49.94	10:30

Completion State	Success Action	Method	Calibration	STD Conc - Pos C
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	25 ppmC

Sample Type: Sample From Schedule Version 9

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	41	TOC	K2006321-004	8.7645 ppm	0.1527 ppm	1.7400%	2020/08/09 11:38

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	8.8724	88.7244	71.54	84.63	13.09	49.92	10:26
2	TOC	8.6565	86.5647	70.02	82.90	12.88	49.97	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	42	TOC	K2006321-005	2.7017 ppm	0.0034 ppm	0.1300%	2020/08/09 12:07

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	2.7041	27.0408	28.27	41.07	12.80	49.90	10:25

2	TOC	2.6992	26.9923	28.24	41.15	12.92	49.88	10:31

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	43	TOC	K2006321-006	0.5873 ppm	0.0357 ppm	6.0800%	2020/08/09 12:35

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.5620	5.6204	13.24	26.35	13.10	49.89	10:26
2	TOC	0.6125	6.1251	13.60	26.50	12.90	49.86	10:24

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Sample From Schedule Version 13

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	44	TOC	K2006206-001	1.0991 ppm	0.0640 ppm	5.8200%	2020/08/09 13:03

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.1444	11.4438	17.33	30.11	12.79	49.83	10:28
2	TOC	1.0539	10.5386	16.69	29.74	13.05	49.84	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	45	TOC	K2006206-001D	1.1268 ppm	0.0070 ppm	0.6200%	2020/08/09 13:31

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.1219	11.2185	17.17	30.13	12.96	49.83	10:28
2	TOC	1.1317	11.3169	17.24	30.21	12.97	49.76	10:24

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	46	TOC	K2006206-1MS	14.6942 ppm	0.0219 ppm	0.1500%	2020/08/09 13:59

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	14.6787	146.7871	112.27	125.21	12.94	49.77	10:29
2	TOC	14.7096	147.0965	112.49	125.36	12.87	49.66	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC)	CAS_salt_010711	CAS_salt_010711

(v1430) (v4) (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	47	TOC	K2006206-002	1.1638 ppm	0.0607 ppm	5.2100%	2020/08/09 14:27

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.2067	12.0668	17.76	30.75	12.98	49.75	10:28
2	TOC	1.1209	11.2086	17.16	30.26	13.10	49.76	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> CCV 25 ppm From Schedule Version 13

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	B	TOC	25.0000	1:2	[TOC] CCV 25 ppm [25 ppm]	0 / infinity (NA / NA)	24.9271 ppm (PASS)	0.0000 ppm	0%	2020/08/09 14:55

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	24.9271	249.2705	184.75	197.76	13.01	49.70	10:30

Completion State	Success Action	Method	Calibration	STD Conc - Pos B
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	50 ppmC

Sample Type: Check Standard --> CCB From Schedule Version 13

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	D	TOC	0.0000	1:1	[TOC] CCB [0 ppm]	0 / infinity (NA / NA)	0.0000 ppm (PASS)	0.0000 ppm	0%	2020/08/09 15:10

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.0000	0.0000	8.49	21.43	12.93	49.80	10:31

Completion State	Success Action	Method	Calibration	STD Conc - Pos D
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	0 ppmC

Sample Type: Sample From Schedule Version 13

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	54	TOC	K2006497-002	4.5500 ppm	0.1081 ppm	2.3700%	2020/08/09 15:25

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	4.6264	46.2643	41.75	54.68	12.93	49.65	10:26
2	TOC	4.4736	44.7361	40.68	53.75	13.07	49.71	10:29

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	55	TOC	K2006497-003	4.5664 ppm	0.0456 ppm	1.0000%	2020/08/09 15:53

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	4.5986	45.9863	41.56	54.51	12.95	49.81	10:27
2	TOC	4.5342	45.3420	41.11	54.18	13.08	49.66	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	56	TOC	K2006497-004	112.9375 ppm	9.2415 ppm	8.1800%	2020/08/09 16:21

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	119.4722	1194.7218	847.38	860.33	12.96	49.73	10:25
2	TOC	106.4027	1064.0272	755.70	769.59	13.89	49.60	10:28

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	57	TOC	K2006497-005	6.5386 ppm	2.1962 ppm	33.5900%	2020/08/09 16:49

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	8.0915	80.9152	66.06	79.76	13.70	49.66	10:31
2	TOC	4.9857	49.8567	44.27	57.47	13.20	49.76	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> CCV 25 ppm From Schedule Version 13

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	B	TOC	25.0000	1:2	[TOC] CCV 25 ppm [25 ppm]	0 / infinity (NA / NA)	26.1637 ppm (PASS)	0.0000 ppm	0%	2020/08/09 17:17

Pos	Base Analysis	ID	Rep	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run

	Type		#							Time
B	TOC	25 ppm	1	26.1637	261.6372	193.43	206.42	13.00	49.63	10:30

Completion State	Success Action	Method	Calibration	STD Conc - Pos B
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	50 ppmC

Sample Type: Check Standard --> CCB From Schedule Version 13

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	C	TOC	0.0000	1:1	[TOC] CCB [0 ppm]	0 / infinity (NA / NA)	25.7284 ppm (PASS)	0.0000 ppm	0%	2020/08/09 17:32

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
C	TOC	0 ppm	1	25.7284	257.2836	190.37	203.33	12.96	49.69	10:35

Completion State	Success Action	Method	Calibration	STD Conc - Pos C
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	0 ppmC

Sample Type: Sample From Schedule Version 13

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	58	TOC	MB	0.5261 ppm	0.0000 ppm	0.0000%	2020/08/09 17:47

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.5261	5.2612	12.99	25.90	12.91	49.67	10:34

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> LCS From Schedule Version 13

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	C	TOC	25.0000	1:1	[TOC] LCS [25.0 ppm]	0 / infinity (NA / NA)	25.2861 ppm (PASS)	0.0000 ppm	0%	2020/08/09 18:01

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
C	TOC	25.0 ppm	1	25.2861	252.8615	187.27	200.30	13.03	49.64	10:34

Completion State	Success Action	Method	Calibration	STD Conc - Pos C
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	25 ppmC

Sample Type: Sample From Schedule Version 13

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	59	TOC	K2006497-006	49.0737 ppm	0.2470 ppm	0.5000%	2020/08/09 18:16

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	49.2483	492.4835	354.77	367.74	12.97	49.75	10:27
2	TOC	48.8991	488.9909	352.32	365.28	12.96	49.61	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	60	TOC	K2006330-001	2.2567 ppm	0.1489 ppm	6.6000%	2020/08/09 18:44

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	2.3619	23.6194	25.87	38.89	13.02	49.67	10:26
2	TOC	2.1514	21.5139	24.39	37.12	12.73	49.82	10:28

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> CCV 25ppm_salt From Schedule Version 13

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	B	TOC	25.0000	1:2	[TOC] CCV 25ppm_salt [25ppm salt]	22.5000 / 27.5000 (90% / 110%)	23.5306 ppm (PASS)	0.0000 ppm	0%	2020/08/09 19:12

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25ppm salt	1	23.5306	235.3063	187.46	200.62	13.15	49.68	10:33

Completion State	Success Action	Method	Calibration	STD Conc - Pos B
Success - Criteria met.	Do Nothing	CAS_salt (v5)	CAS_salt_0811a (v2)	50 ppmC

Sample Type: Check Standard --> CCB From Schedule Version 13

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	D	TOC	0.0000	1:1	[TOC] CCB [0 ppm]	0 / infinity (NA / NA)	0.1418 ppm (PASS)	0.0000 ppm	0%	2020/08/09 19:27

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.1418	1.4183	10.89	23.95	13.06	49.75	10:29

Completion State	Success Action	Method	Calibration	STD Conc - Pos D
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	0 ppmC

Meta Data Used in this Report

Blanks

Version	Reagent (Abs)	Acid (Abs)	DI IC (Abs)	DI TC (Abs)	DI TOC (Abs)	Save Time	Operator
v1429	1.3370	0.3660	0.0000	0.0000	0.0000	2020/08/05 18:45	Fusion1 (Fusion1)
v1430	1.9877	0.5570	0.0000	0.0000	0.0000	2020/08/08 14:36	Fusion1 (Fusion1)

Calibrations

Name: CAS_salt_010711 (TOC)

Version:	v38	Calibration curve formula:	TOC: y = 7.015x + 9.892
Ver Creation:	2020/06/13 16:40	r^2 value:	TOC: r^2 = 0.99974
Comment:			
Operator:	Fusion1 (Fusion1)		
Basic Analysis Type	TOC		

Basic Analysis Type: TOC

Sample ID	Y Raw Value	X Expected	Message	End Time
DI Water	9.5750	0.0000		2020/06/13 15:13
0.500 ppm	12.9010	0.5000		2020/06/13 15:28
1.0 ppm	15.6320	1.0000		2020/06/13 15:42
5.0 ppm	43.2510	5.0000		2020/06/13 15:56
10 ppm	82.4040	10.0000		2020/06/13 16:11
25 ppm	188.6880	25.0000		2020/06/13 16:25
50 ppm	358.6500	50.0000		2020/06/13 16:39

Name: CAS_salt_0811a (TOC)

Version:	v2	Calibration curve formula:	TOC: y = 7.576x + 9.202
Ver Creation:	2010/08/11 19:18	r^2 value:	TOC: r^2 = 0.99983
Comment:			
Operator:	Gen Chem Lab (Fusion1)		
Basic Analysis Type	TOC		

Basic Analysis Type: TOC

Sample ID	Y Raw Value	X Expected	Message	End Time
0	10.4200	0.0000		2010/08/11 17:57
0.500 ppm	15.3130	0.5000		2010/08/11 18:11
1.000 ppm	17.5920	1.0000		2010/08/11 18:24
5.000 ppm	44.4730	5.0000		2010/08/11 18:37
10.000 ppm	83.3970	10.0000		2010/08/11 18:51
25.000 ppm	197.1510	25.0000		2010/08/11 19:04
50.000 ppm	389.2430	50.0000		2010/08/11 19:17

Methods

Name: CAS_salt_010711 (TOC)

Version: v4 Operator: Fusion1 (Fusion1)
Ver Creation: 2019/02/21 17:57
Comment:

Parameter	Value
SampleVolume	10.0 mL
Dilution	1:10
AcidVolume	0.5 ml
ReagentVolume	2.0 ml
UVReactorPrerinse	Off
UVReactorPrerinseVolume	5.0
NumberOfUVReactorPrerinses	1
ICSpargeTime	1.00 mins
DetectorSweepFlow	500 ml/min
PreSpargeTime	2.00 mins
SystemFlow	500 ml/min

Advanced Parameter	Value
NeedleRinseVolume	5.0 ml
VialPrimeVolume	2.0 ml
ICSamplePrimeVolume	2.0 ml
ICSpargeRinseVolume	12.0 ml
BaselineStabilizeTime	0.70 min
DetectorPressureFlow	150 ml/min
SyringeSpeedWaste	10
SyringeSpeedAcid	7
SyringeSpeedReagent	7
SyringeSpeedDIWater	7
NDIRPressurization	60 psig
SyringeSpeedSampleDispense	5
SyringeSpeedSampleAspirate	4
SyringeSpeedUVDispense	5
SyringeSpeedUVAspirate	5
SyringeSpeedICDispense	5
SyringeSpeedICAspirate	5
NDIRPressureStabilize	1.75 min
SampleMixing	Off
SampleMixingCycles	1
SampleMixingVolume	10.0
LowLevelFilterNDIR	Off

Name: CAS_salt (TOC)

Version: v5 Operator: Gen Chem Lab (Fusion1)
Ver Creation: 2013/02/04 11:50
Comment: This method is designed to use the Non-Purgeable Organic Carbon (NPOC) method for TOC analysis on

waste water type samples.

Parameter	Value
SampleVolume	10.0 mL
Dilution	1:10
AcidVolume	0.5 ml
ReagentVolume	2.0 ml
UVReactorPrerinse	Off
UVReactorPrerinseVolume	5.0
NumberOfUVReactorPrerinses	1
ICSpargeTime	1.00 mins
DetectorSweepFlow	500 ml/min
PreSpargeTime	2.00 mins
SystemFlow	500 ml/min

Advanced Parameter	Value
NeedleRinseVolume	5.0 ml
VialPrimeVolume	2.0 ml
ICSamplePrimeVolume	2.0 ml
ICSpargeRinseVolume	12.0 ml
BaselineStabilizeTime	0.70 min
DetectorPressureFlow	150 ml/min
SyringeSpeedWaste	10
SyringeSpeedAcid	7
SyringeSpeedReagent	7
SyringeSpeedDIWater	7
NDIRPressurization	60 psig
SyringeSpeedSampleDispense	5
SyringeSpeedSampleAspirate	4
SyringeSpeedUVDispense	7
SyringeSpeedUVAspirate	5
SyringeSpeedICDispense	7
SyringeSpeedICAspirate	5
NDIRPressureStabilize	1.75 min
SampleMixing	Off
SampleMixingCycles	1
SampleMixingVolume	10.0
LowLevelFilterNDIR	Off

Acceptance / Approval

Electronic Signatures

Report Version	User Name	Acceptance	Reason	Date

Report History

Report History

Report Version	User Name	System Reason	User Reason	Date
1	Fusion1 (Fusion1)	Schedule completed	Schedule completed	2020/08/09 19:42

ALS Environmental

StarLIMS Run: 690270/690271/690269

Analysis: DOC/TOC

Method: SM 5310 C, 9060A, 415.1, 9060

CCV: 19-GEN-8-15-C 50 ppm LCS: 19-GEN-8-31I 25.0 ppm

ICAL Date: 6/16/2020

ICAL ID: 19-GEN-8-22-G

ICS ID: 19-GEN-8-4-G

ICS TV: 25.0 ppm ICS % R < 1

Spike ID: 19-GEN-8-15-B 0.05 ml of 5000 ppm stock ---> 10.0 ml = 25.0 ppm x dilution factor

Sodium Persulfate: 19-GEN-08-32J

21 % H3PO4: 19-GEN-08-32I

Equipment ID: K-TOC-03

PIPETTE ID: 124276B, 129001F, N11314F, Marge

FILTER ID: 16967789

Analyzed By: MV	Date Analyzed: 8-8-20
Reviewed By: JL	Date Reviewed: 8/10/20

HS20071147 8260 Raw Data

ALS WO# HS20071147

MSVOA06 -Logbook

Batch: 41087 **Analyst:** Presenta Cabascango

Date: 07-13-2020 **Reviewer:**

Method: 8260 **Laboratory:** Houston

Comments:

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	pH
1	BFB	TUNE	07-13-2020 10:03 am	1.00	50 mL	50 mL	X071301.D	Liquid	Y	NA
	Auto find/ purged									
2	VSTD000.25	ICAL1	07-13-2020 10:27 am	1.00	50 mL	50 mL	X071302.D	Liquid	Y	NA
	0.10 uL cal std/100 mL DI									
3	VSTD000.5	ICAL2	07-13-2020 10:55 am	1.00	50 mL	50 mL	X071303.D	Liquid	Y	NA
	0.10 uL cal std/50 mL DI									
4	VSTD001	ICAL3	07-13-2020 11:42 am	1.00	50 mL	50 mL	X071304.D	Liquid	Y	NA
	0.20 uL cal std/50 mL DI									
5	VSTD002	ICAL4	07-13-2020 12:06 pm	1.00	50 mL	50 mL	X071305.D	Liquid	Y	NA
	0.40 uL cal std/50 mL DI									
6	VSTD005	ICAL5	07-13-2020 12:30 pm	1.00	50 mL	50 mL	X071306.D	Liquid	Y	NA
	1.0 uL cal std/50 mL DI									
7	VSTD020	ICAL6	07-13-2020 12:54 pm	1.00	50 mL	50 mL	X071307.D	Liquid	Y	NA
	4.0 uL cal std/50 mL DI									
8	VSTD050	ICAL7	07-13-2020 01:18 pm	1.00	50 mL	50 mL	X071308.D	Liquid	Y	NA
	10 uL cal std/50 mL DI									
9	VSTD100	ICAL8	07-13-2020 01:42 pm	1.00	50 mL	50 mL	X071309.D	Liquid	Y	NA
	20 uL cal std/50 mL DI									
10	VSTD150	ICAL9	07-13-2020 02:06 pm	1.00	50 mL	50 mL	X071310.D	Liquid	Y	NA
	30 uL cal std/50 mL DI									
11	VSTD200	ICAL	07-13-2020 02:30 pm	1.00	50 mL	50 mL	X071311.D	Liquid	Y	NA
	40 uL cal std/50 mL DI									
12	BLANK	SAMP	07-13-2020 02:54 pm	1.00	50 mL	50 mL	X071312.D	Liquid	Y	NA
13	CCV	ICV	07-13-2020 03:42 pm	1.00	50 mL	50 mL	X071313.D	Liquid	Y	NA
	10 uL ical std/50 mL DI									
14	BFB	TUNE	07-13-2020 04:06 pm	1.00	50 mL	50 mL	Y071301.D	Liquid	Y	NA
	Auto find/ purged									
15	CCV	CCV	07-13-2020 04:30 pm	1.00	50 mL	50 mL	Y071302.D	Liquid	Y	NA
	10 uL cal std/50 mL DI									
16	BLANK	SAMP	07-13-2020 04:53 pm	1.00	50 mL	50 mL	Y071303.D	Liquid	Y	NA
17	CCB	SAMP	07-13-2020 05:17 pm	1.00	50 mL	50 mL	Y071304.D	Liquid	Y	NA
18	VLCSW-200713	LCS	07-13-2020 05:41 pm	1.00	50 mL	50 mL	Y071305.D	Liquid	Y	NA
	4.0 uL cal std/50 mL DI									
19	BLANK	SAMP	07-13-2020 06:05 pm	1.00	50 mL	50 mL	Y071306.D	Liquid	Y	NA
20	VBLKW-200713	MBLK	07-13-2020 06:29 pm	1.00	50 mL	50 mL	Y071307.D	Liquid	Y	NA
21	HS20070399-02	SAMP	07-13-2020 06:53 pm	1.00	50 mL	50 mL	Y071308.D	Liquid	Y	<2
22	HS20070399-01	SAMP	07-13-2020 07:17 pm	1.00	50 mL	50 mL	Y071309.D	Liquid	Y	<2
23	HS20070043-19	SAMP	07-13-2020 07:41 pm	200.0(	250 µL	50 mL	Y071310.D	Liquid	Y	<2
24	HS20070043-19	SAMP	07-13-2020 08:05 pm	20.00	2.5 mL	50 mL	Y071311.D	Liquid	Y	<2
25	HS20070043-19MS	MS	07-13-2020 08:29 pm	200.0(	250 µL	50 mL	Y071312.D	Liquid	Y	<2
	3.5 uL cal std/40 mL samp									
26	HS20070043-19MSD	MSD	07-13-2020 08:54 pm	200.0(	250 µL	50 mL	Y071313.D	Liquid	Y	<2
	3.5 uL cal std/40 mL samp									
27	HS20070096-06	SAMP	07-13-2020 09:18 pm	100.0(	500 µL	50 mL	Y071314.D	Liquid	Y	<2
28	HS20070043-05	SAMP	07-13-2020 09:42 pm	50.00	1 mL	50 mL	Y071315.D	Liquid	Y	<2
29	HS20070043-05	SAMP	07-13-2020 10:06 pm	500.0(	100 µL	50 mL	Y071316.D	Liquid	Y	<2
30	HS20070043-06	SAMP	07-13-2020 10:30 pm	50.00	1 mL	50 mL	Y071317.D	Liquid	Y	<2
31	HS20070043-06	SAMP	07-13-2020 10:54 pm	500.0(	100 µL	50 mL	Y071318.D	Liquid	Y	<2
32	HS20070043-11	SAMP	07-13-2020 11:18 pm	50.00	1 mL	50 mL	Y071319.D	Liquid	Y	<2

MSVOA06 -Logbook

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	pH
33	HS20070043-11	SAMP	07-13-2020 11:42 pm	500.0(	100 µL	50 mL	Y071320.D	Liquid	Y	<2
34	CCV-END	CCV	07-14-2020 12:06 am	1.00	50 mL	50 mL	Y071321.D	Liquid	Y	NA
	10 uL cal std/50 mL DI									
35	HS20070493-01	SAMP	07-14-2020 12:30 am	1.00	50 mL	50 mL	Y071322.D	Liquid	Y	<2
36	HS20070096-29	SAMP	07-14-2020 12:54 am	10.00	5 mL	50 mL	Y071323.D	Liquid	Y	<2
37	HS20070096-29	SAMP	07-14-2020 01:18 am	100.0(	500 µL	50 mL	Y071324.D	Liquid	Y	<2
38	HS20070096-24	SAMP	07-14-2020 01:42 am	10.00	5 mL	50 mL	Y071325.D	Liquid	Y	<2
39	HS20070096-24	SAMP	07-14-2020 02:06 am	100.0(	500 µL	50 mL	Y071326.D	Liquid	Y	<2
40	HS20070096-30	SAMP	07-14-2020 02:30 am	25.00	2 mL	50 mL	Y071327.D	Liquid	Y	<2
41	HS20070096-30	SAMP	07-14-2020 02:54 am	250.0(	200 µL	50 mL	Y071328.D	Liquid	Y	<2
42	HS20070096-34	SAMP	07-14-2020 03:18 am	25.00	2 mL	50 mL	Y071329.D	Liquid	Y	<2
43	HS20070096-34	SAMP	07-14-2020 03:42 am	500.0(	100 µL	50 mL	Y071330.D	Liquid	Y	<2
44	BLANK	SAMP	07-14-2020 04:07 am	1.00	50 mL	50 mL	Y071340.D	Liquid	Y	NA

Chemical	Value
SURR SPK ID	31106-38-06-
IS ID	31106-38-06
CAL STD ID	31106-38-01/02
BFB ID	31106-38-06

FORM 3
WATER VOLATILE METHOD SPIKE RECOVERY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20071147

Matrix Spike - Sample No.: ICV

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE AMOUNT ()	% REC #	QC. LIMITS REC.
Vinyl Chloride	50.00	41.64	83	80-120
Methylene Chloride	50.00	43.61	87	80-120
1,1-Dichloroethene	50.00	44.05	88	80-120
1,2-Dichloroethane	50.00	51.43	103	80-120
cis-1,2-Dichloroethene	50.00	49.13	98	80-120
1,1,2-Trichloroethane	50.00	50.25	100	80-120
Trichloroethene	50.00	48.39	97	80-120

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

* Values outside of QC limits

COMMENTS: _____

_____

FORM 5
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20071147

Lab File ID: X071301 BFB Injection Date: 07/13/20

Instrument ID: VOA6 BFB Injection Time: 1003

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	32.0
75	30.0 - 60.0% of mass 95	53.2
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	7.2
173	Less than 2.0% of mass 174	0.5 (0.8)1
174	Greater than 50.0% of mass 95	56.5
175	5.0 - 9.0% of mass 174	4.8 (8.5)1
176	95.0 - 101.0% of mass 174	54.9 (97.2)1
177	5.0 - 9.0% of mass 176	4.7 (8.6)2

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

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD000.25	VSTD000.25	X071302	07/13/20	1027
02	VSTD000.5	VSTD000.5	X071303	07/13/20	1055
03	VSTD001	VSTD001	X071304	07/13/20	1142
04	VSTD002	VSTD002	X071305	07/13/20	1206
05	VSTD005	VSTD005	X071306	07/13/20	1230
06	VSTD020	VSTD020	X071307	07/13/20	1254
07	VSTD050	VSTD050	X071308	07/13/20	1318
08	VSTD100	VSTD100	X071309	07/13/20	1342
09	VSTD150	VSTD150	X071310	07/13/20	1406
10	VSTD200	VSTD200	X071311	07/13/20	1430
11	ICV	ICV	X071313	07/13/20	1542
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.: HS20071147

Instrument ID: VOA6 Calibration Date(s): 07/13/20 07/13/20

Column: DB624 ID: 0.18 (mm) Calibration Time(s): 1027 1430

LAB FILE ID: RF0.25: X071302 RF0.5: X071303 RF1: X071304
RF2: X071305 RF5: X071306 RF20: X071307

COMPOUND	RF0.25	RF0.5	RF1	RF2	RF5	RF20
Vinyl Chloride		0.884	0.854	0.860	0.769	0.732
Methylene Chloride		4271	5799	8593	18680	58274
1,1-Dichloroethene		0.507	0.437	0.472	0.433	0.404
1,2-Dichloroethane		0.620	0.589	0.616	0.503	0.603
cis-1,2-Dichloroethene		0.671	0.633	0.710	0.601	0.608
1,1,2-Trichloroethane		0.319	0.237	0.296	0.390	0.314
Trichloroethene		0.390	0.356	0.356	0.342	0.350
Dibromofluoromethane		2011	3129	5716	15802	57060
1,2-Dichloroethane-d4		2548	4323	6078	19086	78060
Toluene-d8		1.494	1.286	1.208	1.624	1.277
4-Bromofluorobenzene		3265	4513	7984	21438	75648

FORM VI VOA

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS2007114

Instrument ID: VOA6 Calibration Date(s): 07/13/20 07/13/20

Column: DB624 ID: 0.18 (mm) Calibration Time(s): 1027 1430

LAB FILE ID: RF50: X071308 RF100: X071309 RF150: X071310
RF200: X071311

COMPOUND	RF50	RF100	RF150	RF200
Vinyl Chloride	0.805	0.795	0.856	0.845
Methylene Chloride	153830	277730	426028	499769
1,1-Dichloroethene	0.446	0.413	0.423	0.401
1,2-Dichloroethane	0.601	0.616	0.602	0.603
cis-1,2-Dichloroethene	0.633	0.635	0.649	0.632
1,1,2-Trichloroethane	0.308	0.302	0.302	0.288
Trichloroethene	0.359	0.360	0.366	0.359
Dibromofluoromethane	137160	266517	392708	499552
1,2-Dichloroethane-d4	186102	358725	528876	688409
Toluene-d8	1.249	1.216	1.221	1.211
4-Bromofluorobenzene	186024	353354		

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS2007114

Instrument ID: VOA6 Calibration Date(s): 07/13/20 07/13/20

Column: DB624 ID: 0.18 (mm) Calibration Time(s): 1027 1430

COMPOUND	CURVE	COEFFICENTS A0	COEFFICENTS A1	%RSD OR R^2	MAX %RSD OR R^2
Vinyl Chloride	AVRG		0.82218964	6.078	15.000
Methylene Chloride	LINR	-2.77e-002	1.74738834	0.9957026	0.9900000
1,1-Dichloroethene	AVRG		0.43742258	7.870	15.000
1,2-Dichloroethane	AVRG		0.59495642	5.987	15.000
cis-1,2-Dichloroethene	AVRG		0.64139859	5.112	15.000
1,1,2-Trichloroethane	AVRG		0.30614855	12.846	15.000
Trichloroethene	AVRG		0.35986567	3.677	15.000
Dibromofluoromethane	LINR	-1.65e-003	1.79776555	0.9996449	0.9900000
1,2-Dichloroethane-d4	LINR	6.783e-003	1.31478695	0.9998415	0.9900000
Toluene-d8	AVRG		1.30969442	11.293	15.000
4-Bromofluorobenzene	LINR	-1.07e-002	2.08902614	0.9998105	0.9900000

FORM VI VOA

Data File: \\nahstws005\Target\chem\voa6.i\X200713.b\X071301.D

Date : 13-JUL-2020 10:03

Client ID: BFB

Instrument: voa6.i

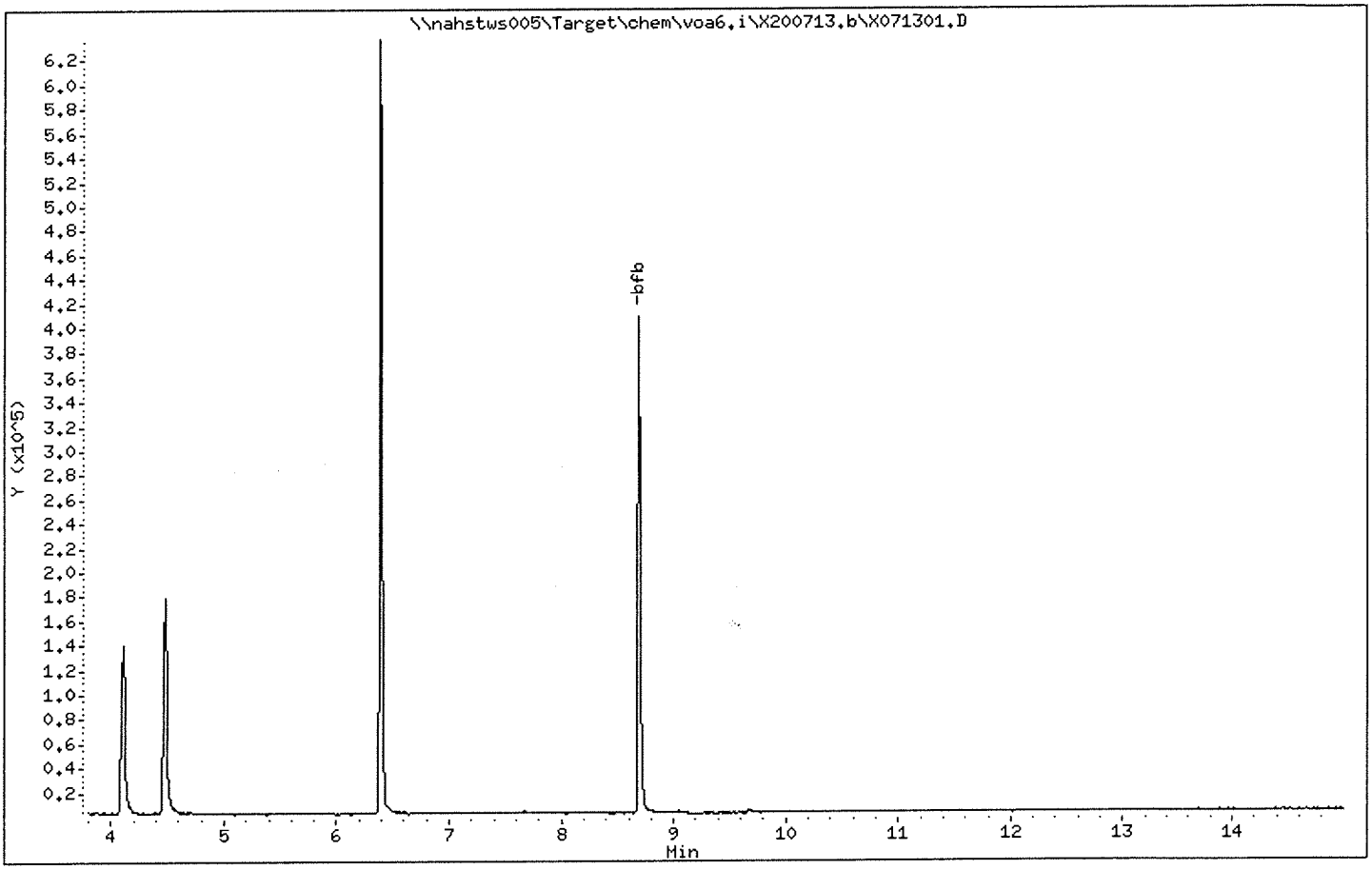
Sample Info: BFB;BFB;3;;BFB

Volume Injected (uL): 2.0

Operator: PC

Column phase: DB624

Column diameter: 0.25



Data File: \\nahstws005\Target\chem\voa6.i\X200713.b\X071301.D

Date : 13-JUL-2020 10:03

Client ID: BFB

Instrument: voa6.i

Sample Info: BFB;BFB;3;;BFB

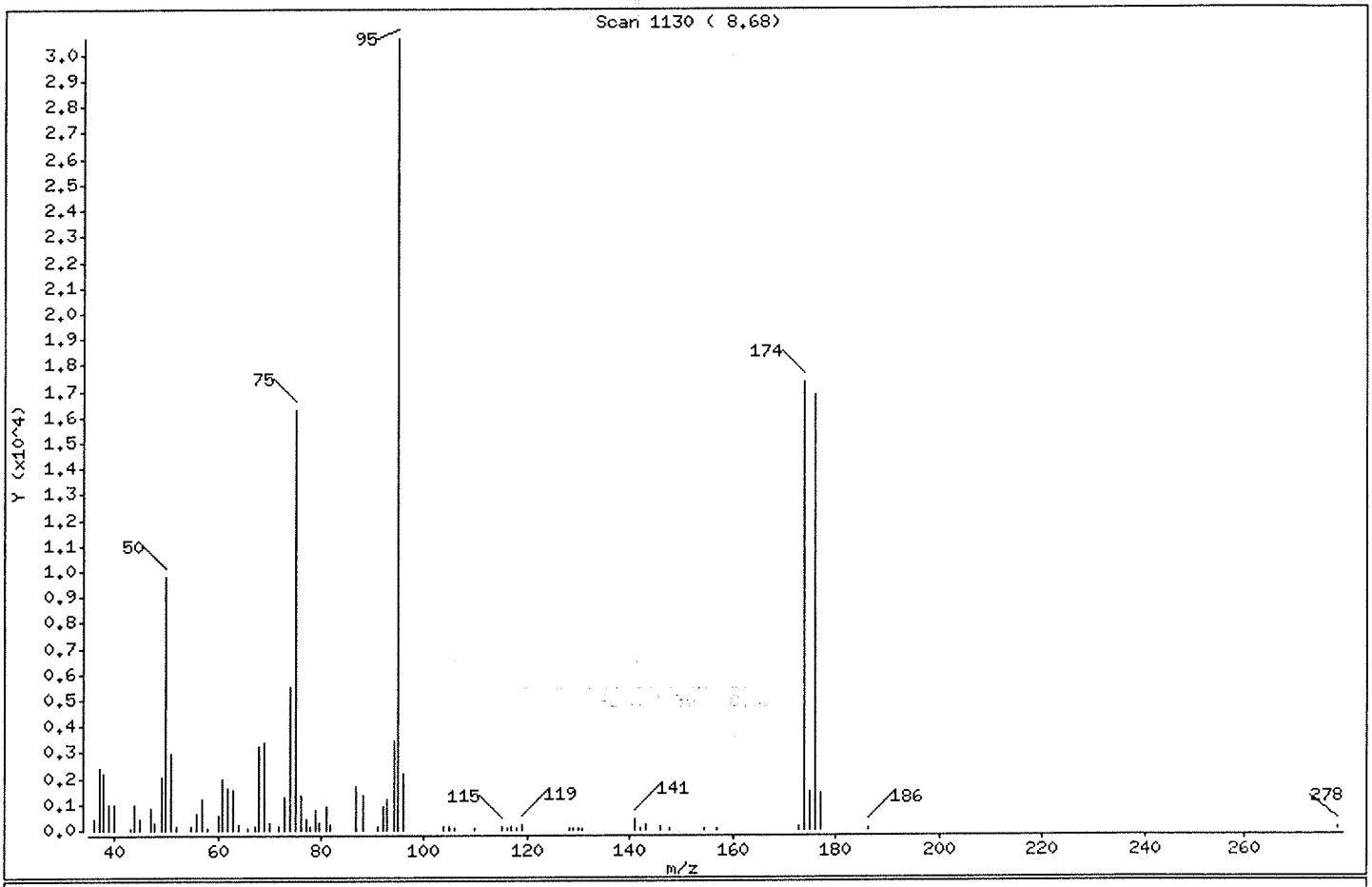
Volume Injected (uL): 2.0

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	32.02
75	30.00 - 60.00% of mass 95	53.18
96	5.00 - 9.00% of mass 95	7.17
173	Less than 2.00% of mass 174	0.46 (0.82)
174	Greater than 50.00% of mass 95	56.48
175	5.00 - 9.00% of mass 174	4.82 (8.53)
176	95.00 - 101.00% of mass 174	54.89 (97.18)
177	5.00 - 9.00% of mass 176	4.71 (8.58)

Data File: \\nahstws005\Target\chem\voa6.i\X200713.b\X071301.D

Date : 13-JUL-2020 10:03

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: X071301.D
Spectrum: Scan 1130 (8.68)
Location of Maximum: 95.00
Number of points: 74

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	444	61.00	1942	81.90	205	128.90	99
37.00	2396	62.00	1633	86.90	1699	129.80	104
38.00	2186	62.90	1549	88.00	1344	130.80	64
39.00	986	64.10	217	90.80	174	140.80	443
39.90	954	65.80	50	92.00	885	141.90	67
43.10	89	67.10	114	92.90	1223	142.90	214
44.00	1013	68.00	3245	94.00	3447	145.90	124
45.00	398	68.90	3410	95.00	30624	147.70	70
46.90	833	70.10	279	96.10	2195	154.50	62
47.90	275	72.00	165	103.90	114	156.80	77
49.00	2032	73.00	1257	104.90	127	172.80	142
50.00	9806	74.00	5481	106.00	69	173.90	17296
51.00	2987	75.00	16285	109.90	62	174.90	1476
52.10	147	76.00	1357	115.00	175	175.90	16808
54.90	158	77.10	416	116.10	95	176.90	1442
55.90	654	78.00	140	116.80	127	186.20	58
57.00	1205	78.90	796	118.00	91	278.10	84
58.00	51	79.80	299	118.90	184		
60.00	554	80.90	893	128.10	76		

Data File: \\nahstws005\Target\chem\voa6.i\X200713.b\X071302.D Page 1
Report Date: 21-Aug-2020 15:22

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X200713.b\X071302.D
Lab Smp Id: VSTD000.25 Client Smp ID: VSTD000.25
Inj Date : 13-JUL-2020 10:27
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\X200713.b\8260W.m
Meth Date : 21-Aug-2020 15:22 voa6.i Quant Type: ISTD
Cal Date : 13-JUL-2020 14:30 Cal File: X071311.D
Als bottle: 2 Calibration Sample, Level: 1
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI-Hou11.sub
Target Version: 4.14
Processing Host: NAHSTW7056

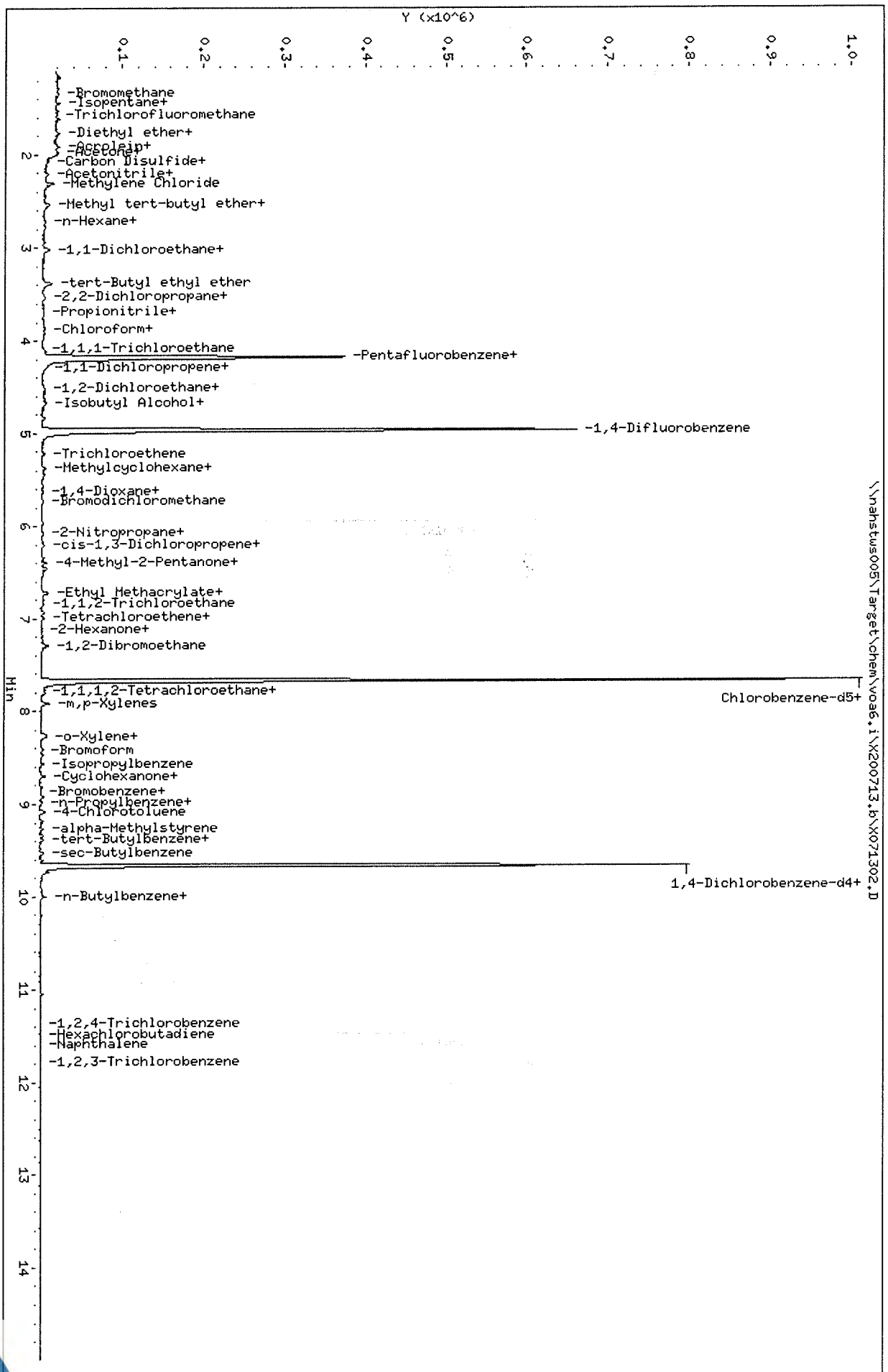
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

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

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
*	1 Pentafluorobenzene	168	4.189	4.189	(1.000)	296835	50.0000	
*	36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	485993	50.0000	
*	47 Chlorobenzene-d5	117	7.670	7.670	(1.000)	428377	50.0000	
*	70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	186637	50.0000	
$	30 Dibromofluoromethane	113	4.110	4.110	(0.981)	1222	0.25000	0.28
$	35 1,2-Dichloroethane-d4	65	4.490	4.490	(1.072)	1683	0.25000	0.71(TM)
$	48 Toluene-d8	98	6.395	6.395	(0.834)	4004	0.25000	0.35(T)
$	69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	1769	0.25000	(M)
	53 1,1,2-Trichloroethane	83	6.847	6.847	(0.893)	640	0.25000	0.24(a)
	11 1,1-Dichloroethene	96	1.919	1.919	(0.458)	706	0.25000	0.27(a)
	33 1,2-Dichloroethane	62	4.576	4.576	(0.921)	1688	0.25000	0.29(a)
	27 cis-1,2-Dichloroethene	96	3.537	3.537	(0.844)	887	0.25000	0.23(M)
	17 Methylene Chloride	84	2.305	2.305	(0.550)	2897	0.25000	(aM)
	38 Trichloroethene	130	5.221	5.221	(1.050)	1101	0.25000	0.31
	5 Vinyl Chloride	62	1.145	1.145	(0.273)	1137	0.25000	0.23

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\X200713.b\X071302.D
Date : 13-JUL-2020 10:27
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\X200713.b\X071303.D Page 1
Report Date: 21-Aug-2020 15:22

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Data file : \\nahstws005\Target\chem\voa6.i\X200713.b\X071303.D
Lab Smp Id: VSTD000.5 Client Smp ID: VSTD000.5
Inj Date : 13-JUL-2020 10:55
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\X200713.b\8260W.m
Meth Date : 21-Aug-2020 15:22 voa6.i Quant Type: ISTD
Cal Date : 13-JUL-2020 10:27 Cal File: X071302.D
Als bottle: 3 Calibration Sample, Level: 2
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI-Hou11.sub
Target Version: 4.14
Processing Host: NAHSTW7056

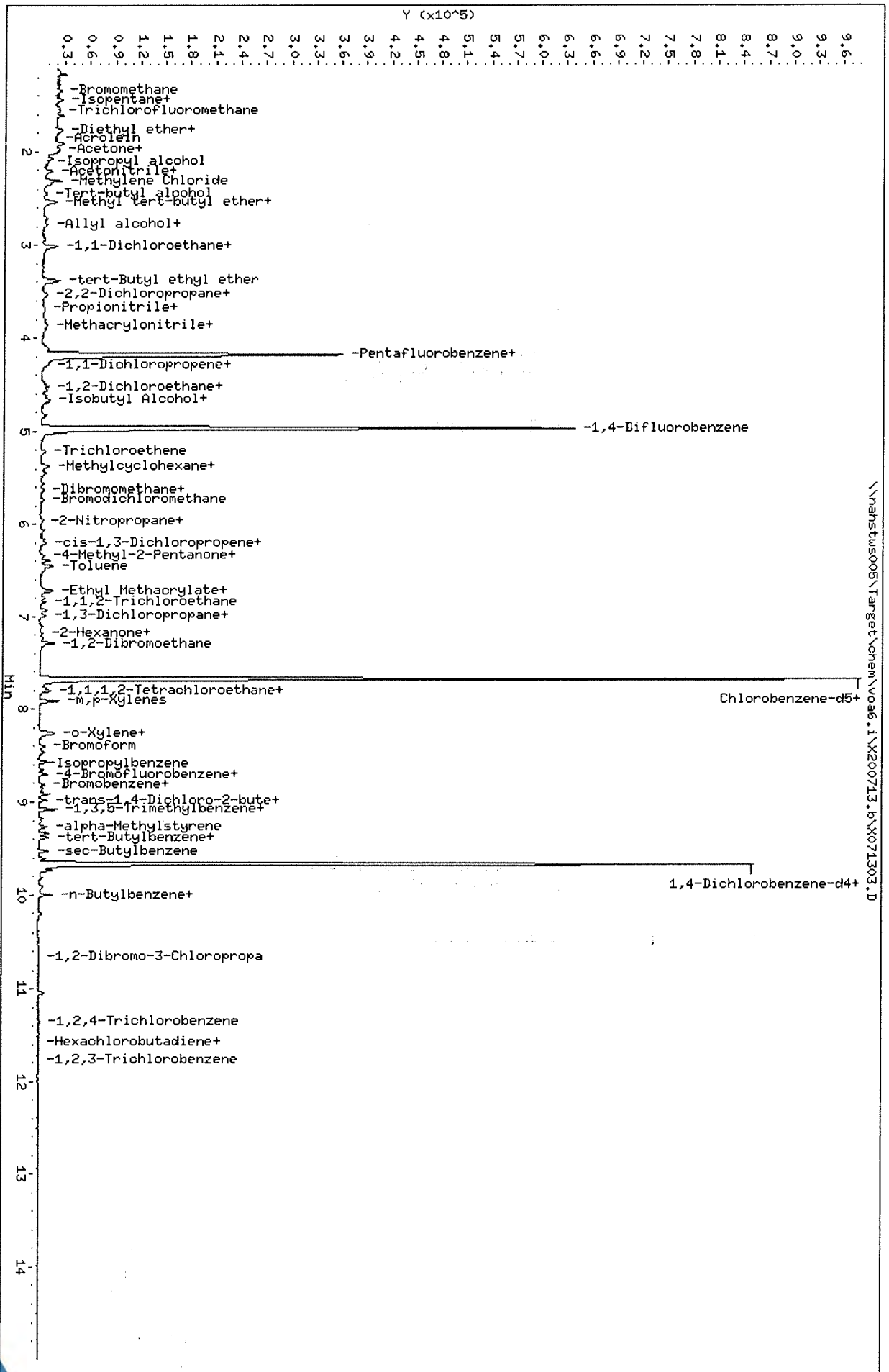
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

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

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	286110	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	463555	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	412015	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	194722	50.0000	
$ 30 Dibromofluoromethane	113	4.111	4.111	(0.981)	2011	0.50000	0.54
$ 35 1,2-Dichloroethane-d4	65	4.483	4.483	(1.070)	2548	0.50000	0.92(T)
$ 48 Toluene-d8	98	6.396	6.396	(0.834)	6156	0.50000	0.57
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	3265	0.50000	0.29
53 1,1,2-Trichloroethane	83	6.847	6.847	(0.893)	1313	0.50000	0.52(a)
11 1,1-Dichloroethene	96	1.919	1.919	(0.458)	1452	0.50000	0.58(aM)
33 1,2-Dichloroethane	62	4.576	4.576	(0.921)	2874	0.50000	0.52(a)
27 cis-1,2-Dichloroethene	96	3.545	3.545	(0.846)	1921	0.50000	0.52
17 Methylene Chloride	84	2.305	2.305	(0.550)	4271	0.50000	(a)
38 Trichloroethene	130	5.214	5.214	(1.049)	1810	0.50000	0.54
5 Vinyl Chloride	62	1.145	1.145	(0.273)	2528	0.50000	0.53

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.

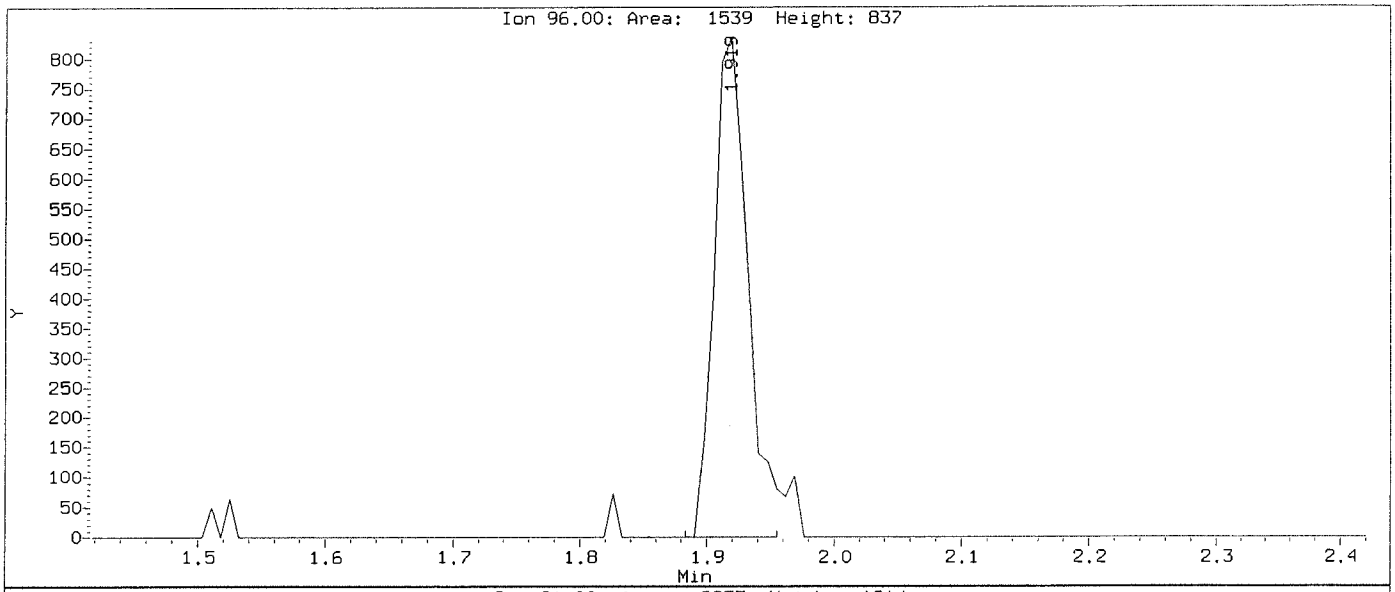


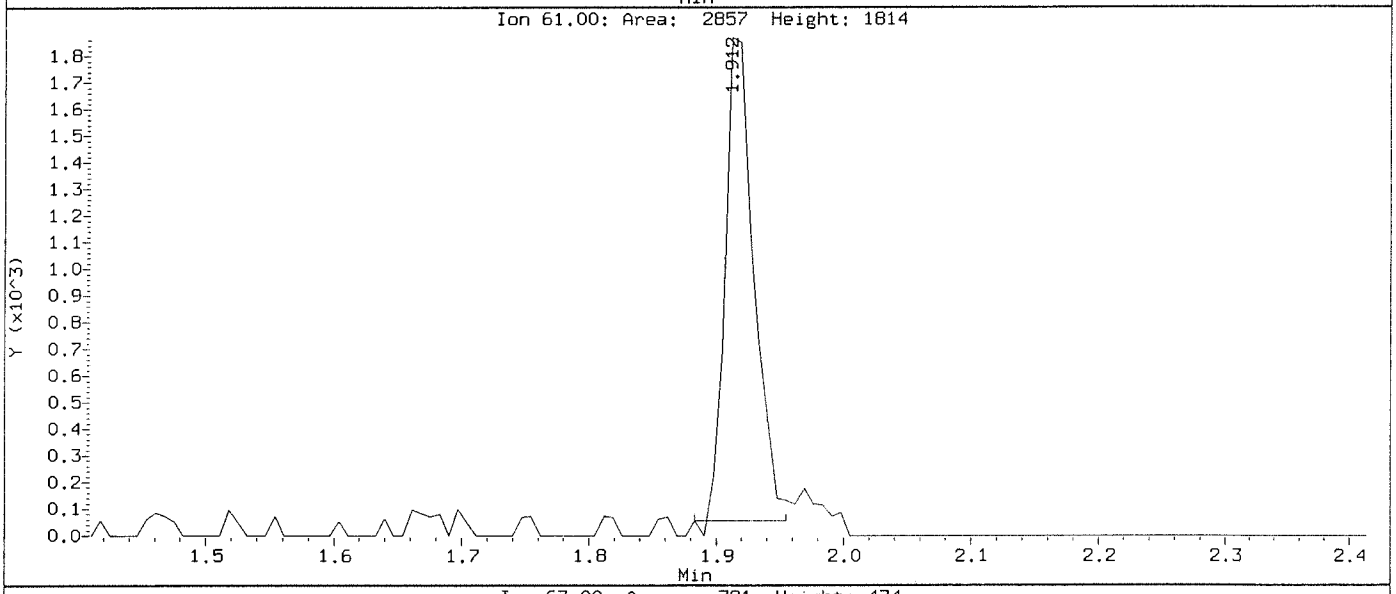
Data File: \\nahstws005\Target\chem\voa6.i\X200713.b\X071303.D
Date : 13-JUL-2020 10:55
Client ID: VSTD000.5
Sample Info: VSTD000.5;VSTD000.5;1;2;
Purge Volume: 5.0
Column phase: DB624

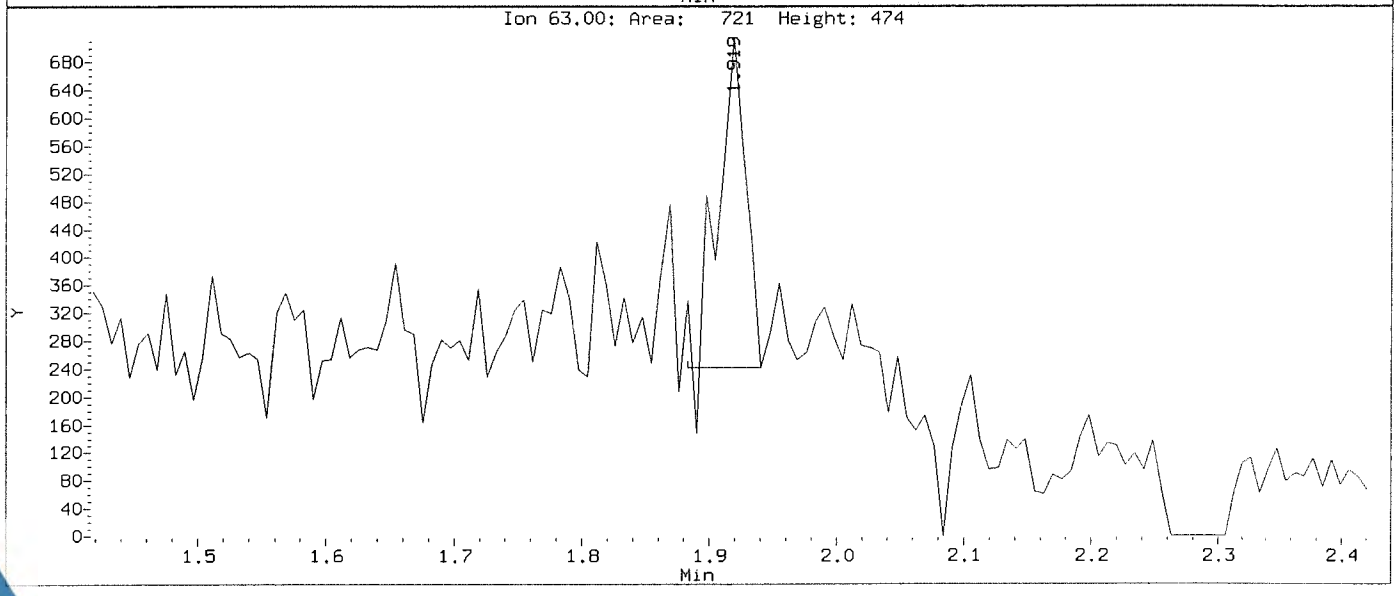
Instrument: voa6.i
Operator: PC
Column diameter: 0.18

Data File: \\nahstws005\Target\chem\voa6.i\X200713.b\Before2\X071303.D
Injection Date: 13-JUL-2020 10:55
Instrument: voa6.i
Client Sample ID: VSTD000.5

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

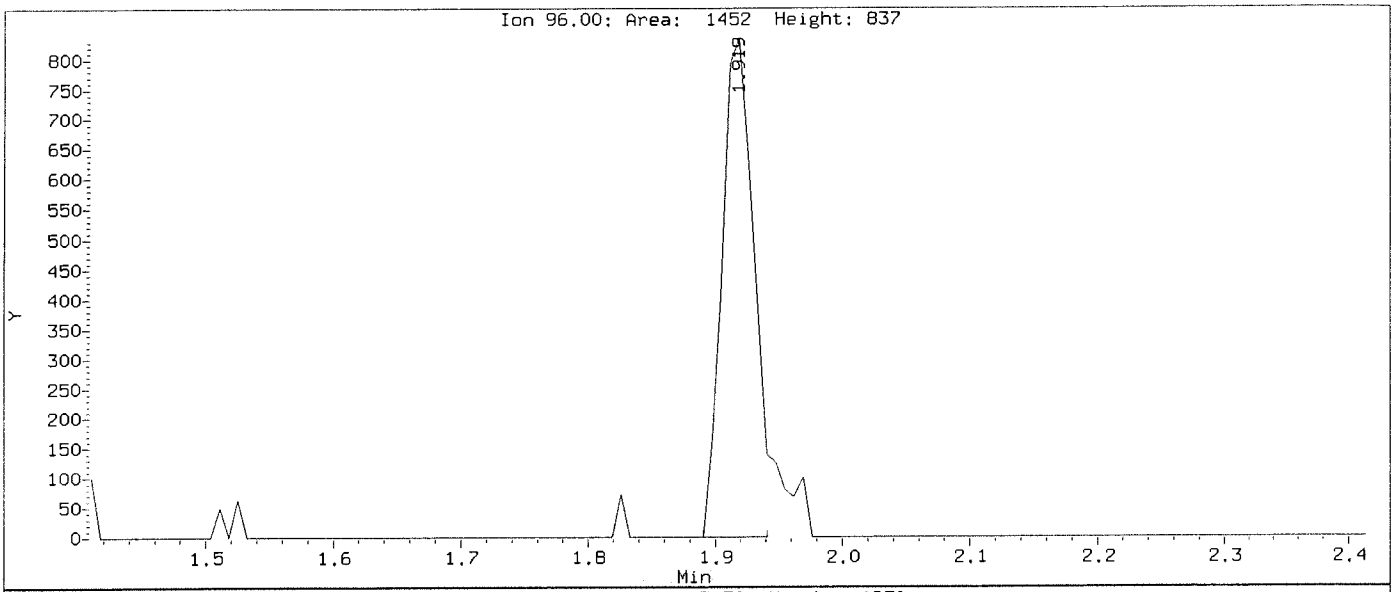


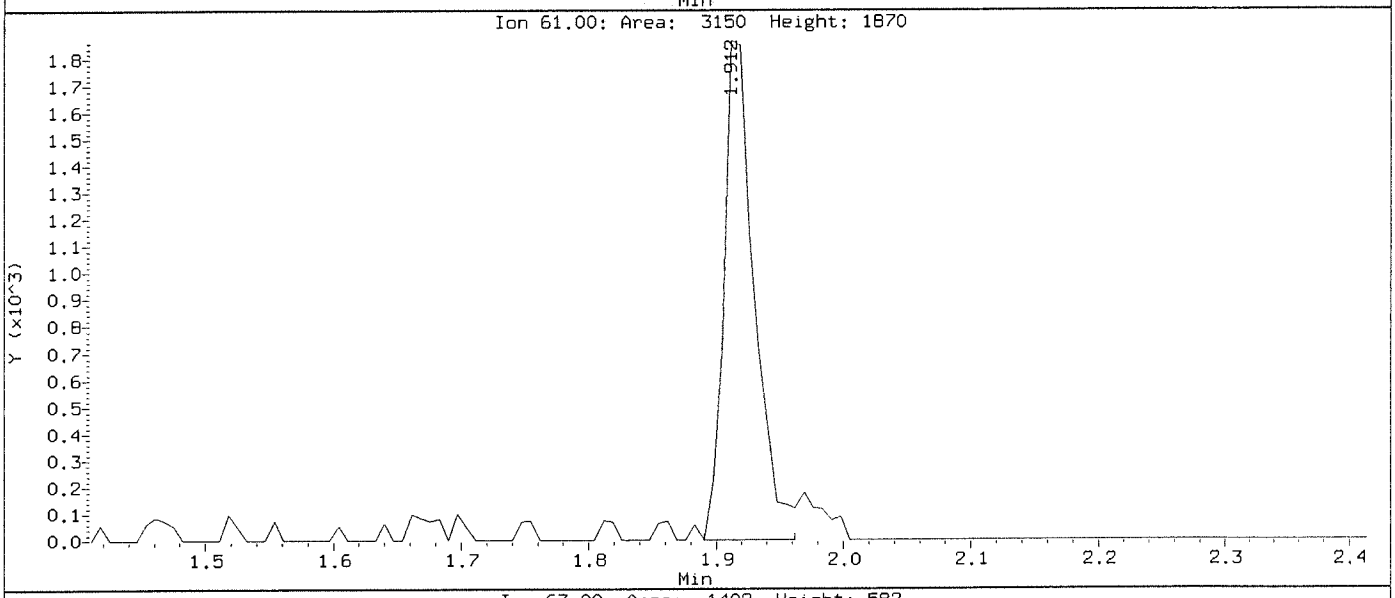


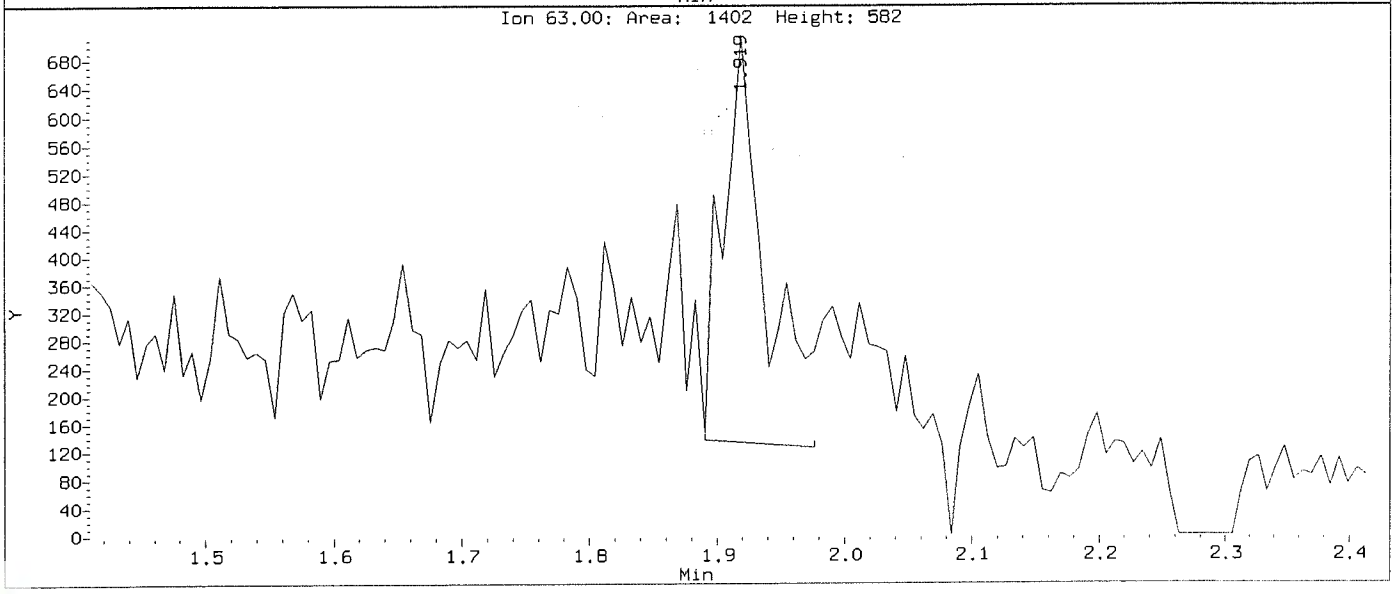


Data File: \\nahstws005\Target\chem\voa6.i\X200713.b\X071303.D
Injection Date: 13-JUL-2020 10:55
Instrument: voa6.i
Client Sample ID: VSTD000.5

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







ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X200713.b\X071304.D
Lab Smp Id: VSTD001 Client Smp ID: VSTD001
Inj Date : 13-JUL-2020 11:42
Operator : PC Inst ID: voa6.i
Smp Info : VSTD001;VSTD001;1;3;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200713.b\8260W.m
Meth Date : 21-Aug-2020 15:22 voa6.i Quant Type: ISTD
Cal Date : 13-JUL-2020 10:55 Cal File: X071303.D
Als bottle: 5 Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI-Hou11.sub
Target Version: 4.14
Processing Host: NAHSTW7056

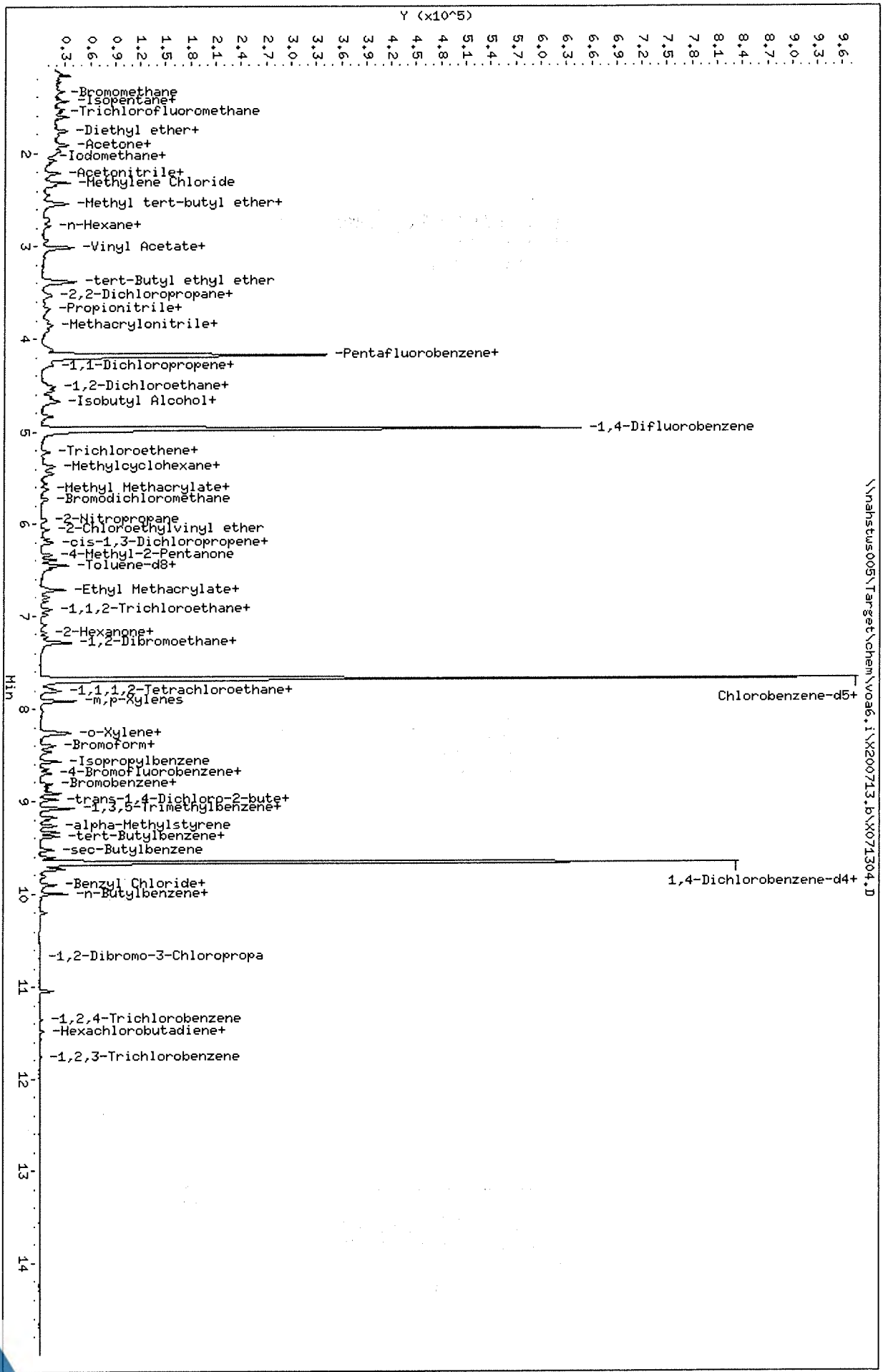
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

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

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
*	1 Pentafluorobenzene	168	4.189	4.189	(1.000)	272342	50.0000	
*	36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	461217	50.0000	
*	47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	414030	50.0000	
*	70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	193083	50.0000	
$	30 Dibromofluoromethane	113	4.111	4.111	(0.981)	3129	1.00000	0.95
$	35 1,2-Dichloroethane-d4	65	4.490	4.490	(1.072)	4323	1.00000	1.38
$	48 Toluene-d8	98	6.396	6.396	(0.834)	10651	1.00000	0.98
$	69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	4513	1.00000	0.60
	53 1,1,2-Trichloroethane	83	6.847	6.847	(0.893)	1966	1.00000	0.77(a)
	11 1,1-Dichloroethene	96	1.919	1.919	(0.458)	2381	1.00000	0.99(a)
	33 1,2-Dichloroethane	62	4.569	4.569	(0.919)	5434	1.00000	0.99(a)
	27 cis-1,2-Dichloroethene	96	3.537	3.537	(0.844)	3447	1.00000	0.98
	17 Methylene Chloride	84	2.313	2.313	(0.552)	5799	1.00000	0.47(a)
	38 Trichloroethene	130	5.214	5.214	(1.049)	3283	1.00000	0.98
	5 Vinyl Chloride	62	1.138	1.138	(0.272)	4654	1.00000	1.03

QC Flag Legend

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



Data File: \\nahstws005\Target\chem\voa6.i\X200713.b\X071304.D
Date : 13-JUL-2020 11:42
Client ID: VSTD001
Sample Info: VSTD001;VSTD001;1;3;
Purge Volume: 5.0
Column phase: DB624

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

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X200713.b\X071305.D
Lab Smp Id: VSTD002 Client Smp ID: VSTD002
Inj Date : 13-JUL-2020 12:06
Operator : PC Inst ID: voa6.i
Smp Info : VSTD002;VSTD002;1;4;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200713.b\8260W.m
Meth Date : 21-Aug-2020 15:22 voa6.i Quant Type: ISTD
Cal Date : 13-JUL-2020 11:42 Cal File: X071304.D
Als bottle: 6 Calibration Sample, Level: 4
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI-Hou11.sub
Target Version: 4.14
Processing Host: NAHSTW7056

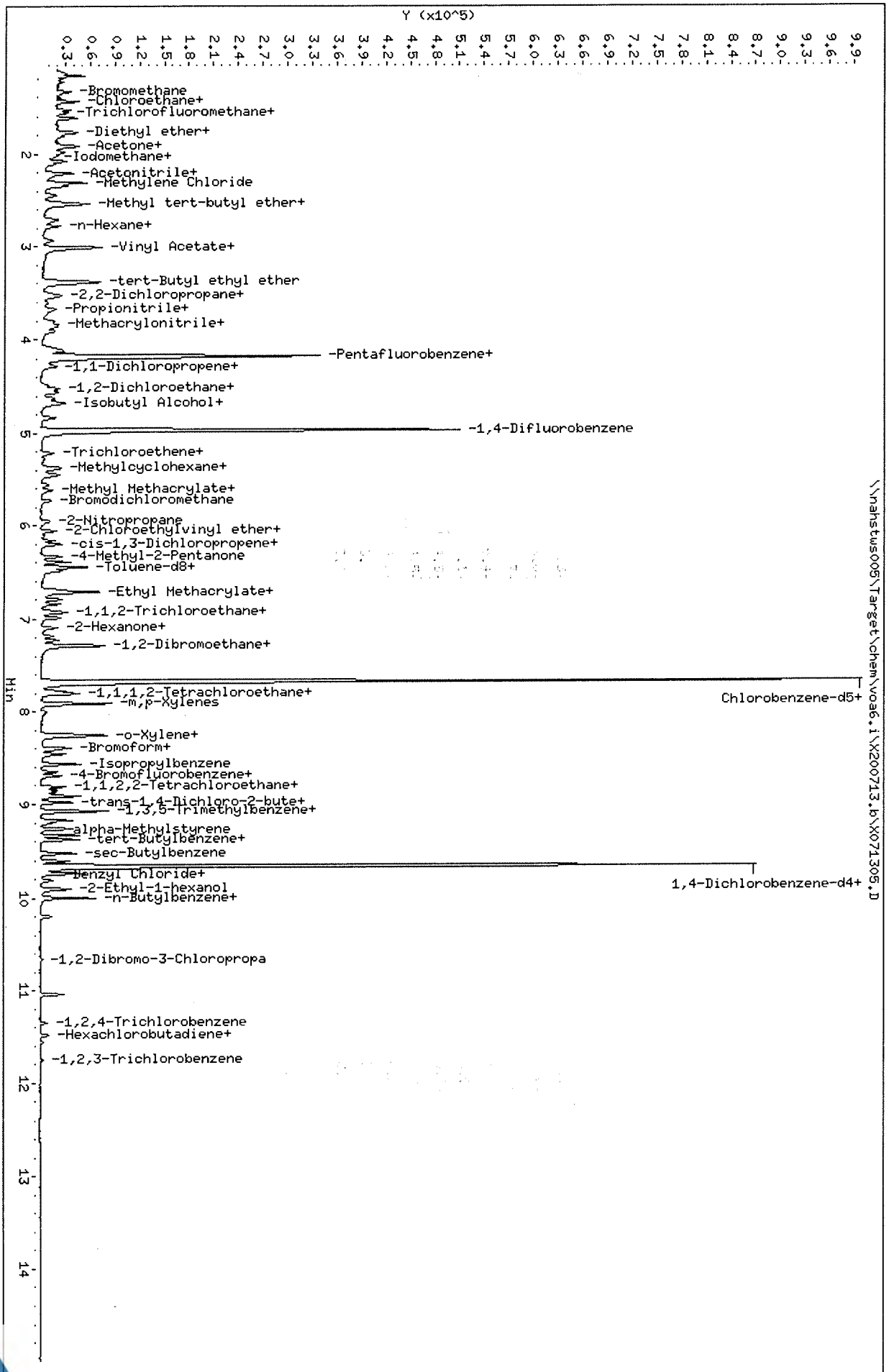
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

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

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
*	1 Pentafluorobenzene	168	4.182	4.182	(1.000)	241171	50.0000	
*	36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	361641	50.0000	
*	47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	414402	50.0000	
*	70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	191002	50.0000	
$	30 Dibromofluoromethane	113	4.103	4.103	(0.981)	5716	2.00000	2.04
$	35 1,2-Dichloroethane-d4	65	4.483	4.483	(1.072)	6078	2.00000	1.99
$	48 Toluene-d8	98	6.396	6.396	(0.834)	20027	2.00000	1.84
$	69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	7984	2.00000	1.47
	53 1,1,2-Trichloroethane	83	6.847	6.847	(0.893)	4901	2.00000	1.93(a)
	11 1,1-Dichloroethene	96	1.919	1.919	(0.459)	4557	2.00000	2.15(a)
	33 1,2-Dichloroethane	62	4.569	4.569	(0.919)	8907	2.00000	2.06(a)
	27 cis-1,2-Dichloroethene	96	3.538	3.538	(0.846)	6846	2.00000	2.21
	17 Methylene Chloride	84	2.306	2.306	(0.551)	8593	2.00000	1.73(a)
	38 Trichloroethene	130	5.214	5.214	(1.049)	5153	2.00000	1.97
	5 Vinyl Chloride	62	1.145	1.145	(0.274)	8298	2.00000	2.09

QC Flag Legend

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



Data File: \\nahstws005\Target\chem\voa6.i\X200713.b\X071305.D
Date : 13-JUL-2020 12:06
Client ID: VSTD002
Sample Info: VSTD002;VSTD002;1;4;
Purge Volume: 5.0
Column phase: DB624

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

Data File: \\nahstws005\Target\chem\voa6.i\X200713.b\X071306.D Page 1
Report Date: 21-Aug-2020 15:22

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X200713.b\X071306.D
Lab Smp Id: VSTD005 Client Smp ID: VSTD005
Inj Date : 13-JUL-2020 12:30
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\X200713.b\8260W.m
Meth Date : 21-Aug-2020 15:22 voa6.i Quant Type: ISTD
Cal Date : 13-JUL-2020 12:06 Cal File: X071305.D
Als bottle: 7 Calibration Sample, Level: 5
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI-Hou11.sub
Target Version: 4.14
Processing Host: NAHSTW7056

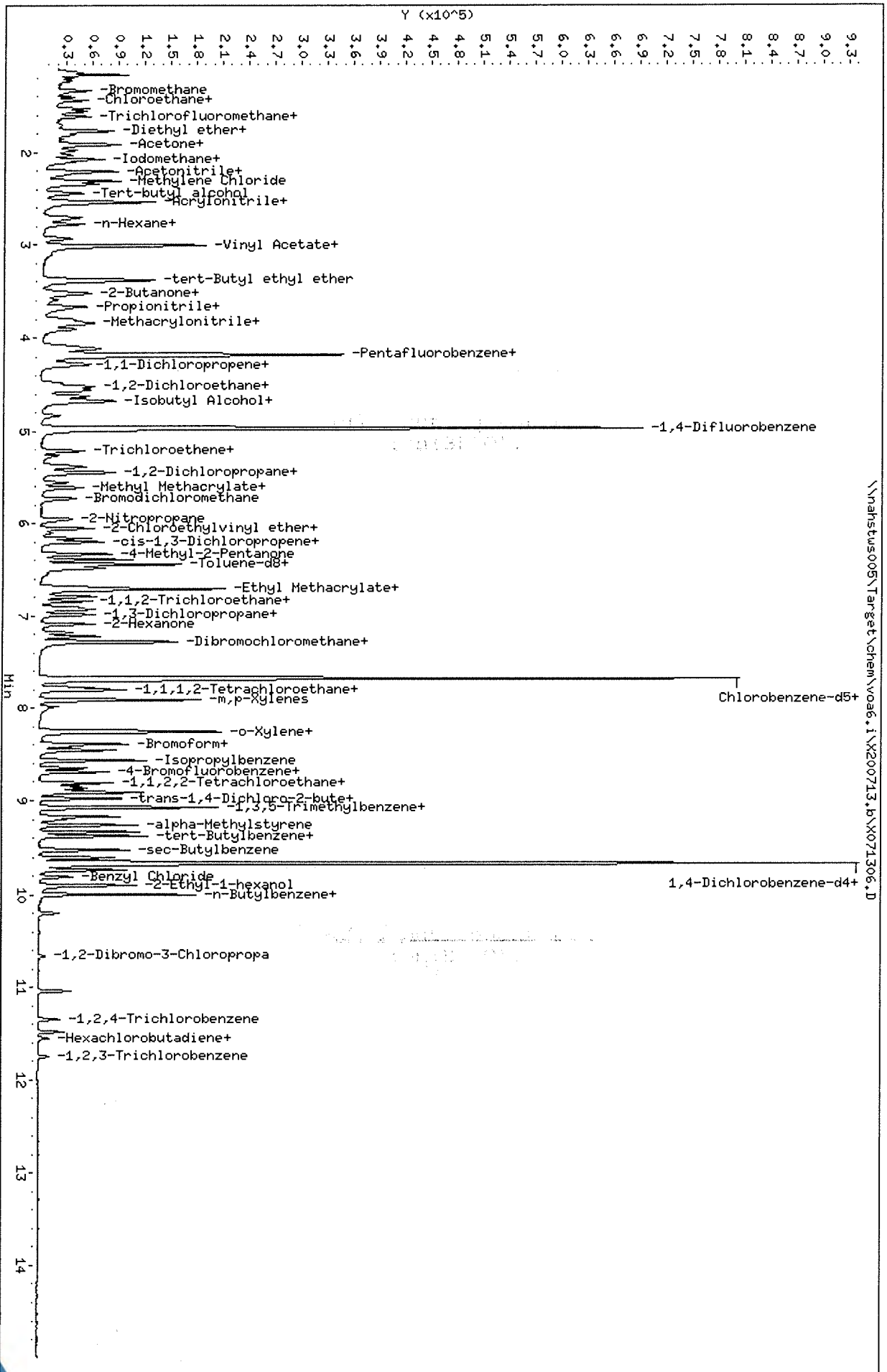
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

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

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
*	1 Pentafluorobenzene	168	4.189	4.189	(1.000)	273643	50.0000	
*	36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	442506	50.0000	
*	47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	340884	50.0000	
*	70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	193290	50.0000	
$	30 Dibromofluoromethane	113	4.111	4.111	(0.981)	15802	5.00000	5.10
$	35 1,2-Dichloroethane-d4	65	4.483	4.483	(1.070)	19086	5.00000	4.92
$	48 Toluene-d8	98	6.388	6.388	(0.833)	55374	5.00000	6.20
$	69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	21438	5.00000	6.03
	53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	13282	5.00000	6.36
	11 1,1-Dichloroethene	96	1.919	1.919	(0.458)	11848	5.00000	4.94(a)
	33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	22279	5.00000	4.23(a)
	27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.843)	16456	5.00000	4.68
	17 Methylene Chloride	84	2.305	2.305	(0.550)	18680	5.00000	4.58(a)
	38 Trichloroethene	130	5.214	5.214	(1.049)	15147	5.00000	4.75
	5 Vinyl Chloride	62	1.138	1.138	(0.272)	21041	5.00000	4.67

QC Flag Legend

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



Data File: \\nahstws005\Target\chem\voa6,i\X200713,b\X071306,D
Date : 13-JUL-2020 12:30
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

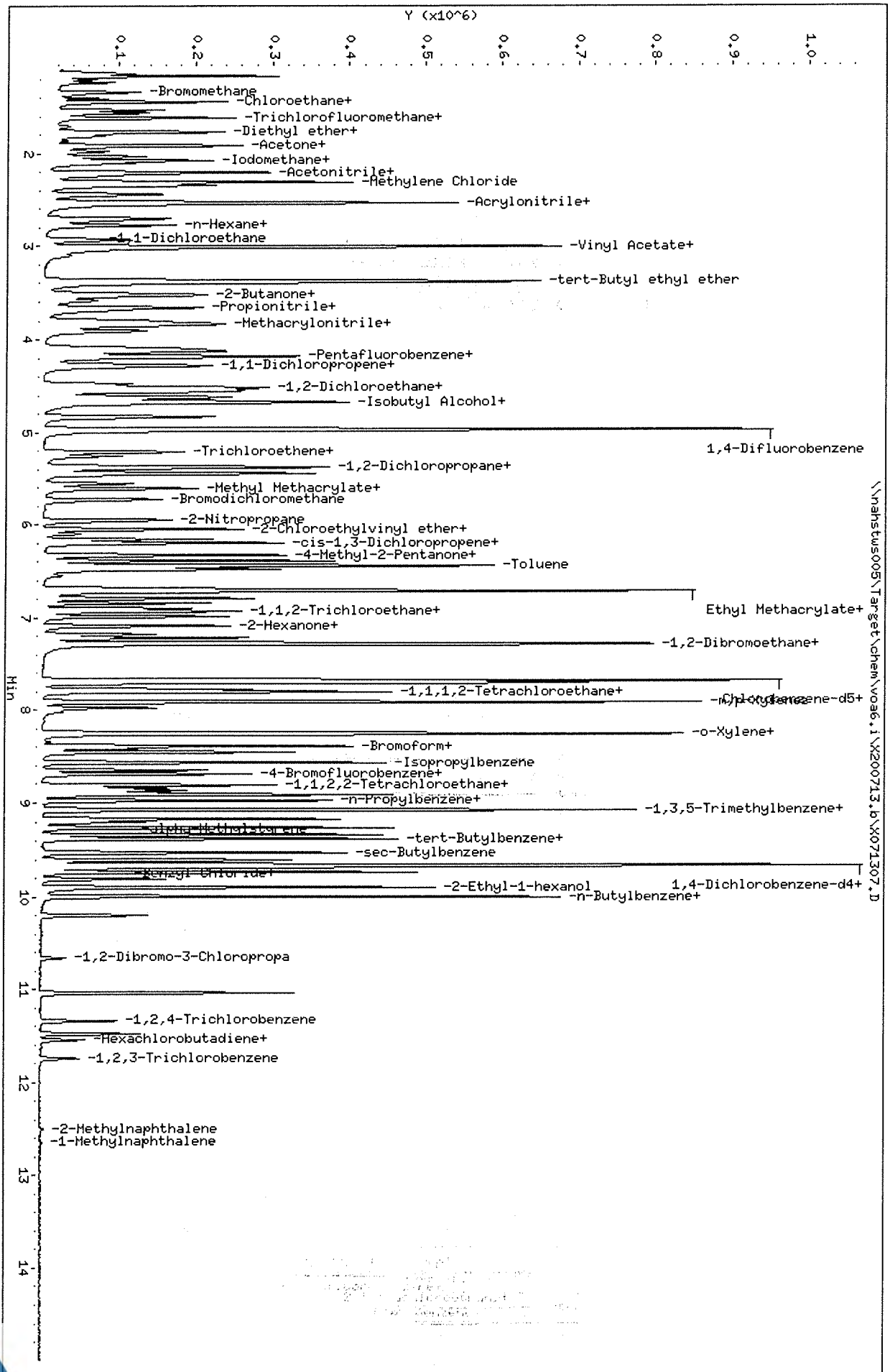
ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X200713.b\X071307.D
Lab Smp Id: VSTD020 Client Smp ID: VSTD020
Inj Date : 13-JUL-2020 12:54
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\X200713.b\8260W.m
Meth Date : 21-Aug-2020 15:22 voa6.i Quant Type: ISTD
Cal Date : 13-JUL-2020 12:30 Cal File: X071306.D
Als bottle: 8 Calibration Sample, Level: 6
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI-Hou11.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

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

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
* 1	Pentafluorobenzene	168	4.189	4.189	(1.000)	253573	50.0000	
* 36	1,4-Difluorobenzene	114	4.970	4.970	(1.000)	421442	50.0000	
* 47	Chlorobenzene-d5	117	7.671	7.671	(1.000)	382758	50.0000	
* 70	1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	186382	50.0000	
$ 30	Dibromofluoromethane	113	4.103	4.103	(0.979)	57060	20.0000	20.14
$ 35	1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	78060	20.0000	20.57
$ 48	Toluene-d8	98	6.388	6.388	(0.833)	195468	20.0000	19.49
$ 69	4-Bromofluorobenzene	95	8.695	8.695	(1.134)	75648	20.0000	20.10
53	1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	48065	20.0000	20.50
11	1,1-Dichloroethene	96	1.919	1.919	(0.458)	40964	20.0000	18.46
33	1,2-Dichloroethane	62	4.562	4.562	(0.918)	101682	20.0000	20.27
27	cis-1,2-Dichloroethene	96	3.530	3.530	(0.843)	61658	20.0000	18.95
17	Methylene Chloride	84	2.306	2.306	(0.550)	58274	20.0000	18.69
38	Trichloroethene	130	5.214	5.214	(1.049)	59096	20.0000	19.48
5	Vinyl Chloride	62	1.145	1.145	(0.273)	74208	20.0000	17.79



Data File: \\nahstws005\Target\chem\voa6.i\X200713.b\X071307.D
Date : 13-JUL-2020 12:54
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

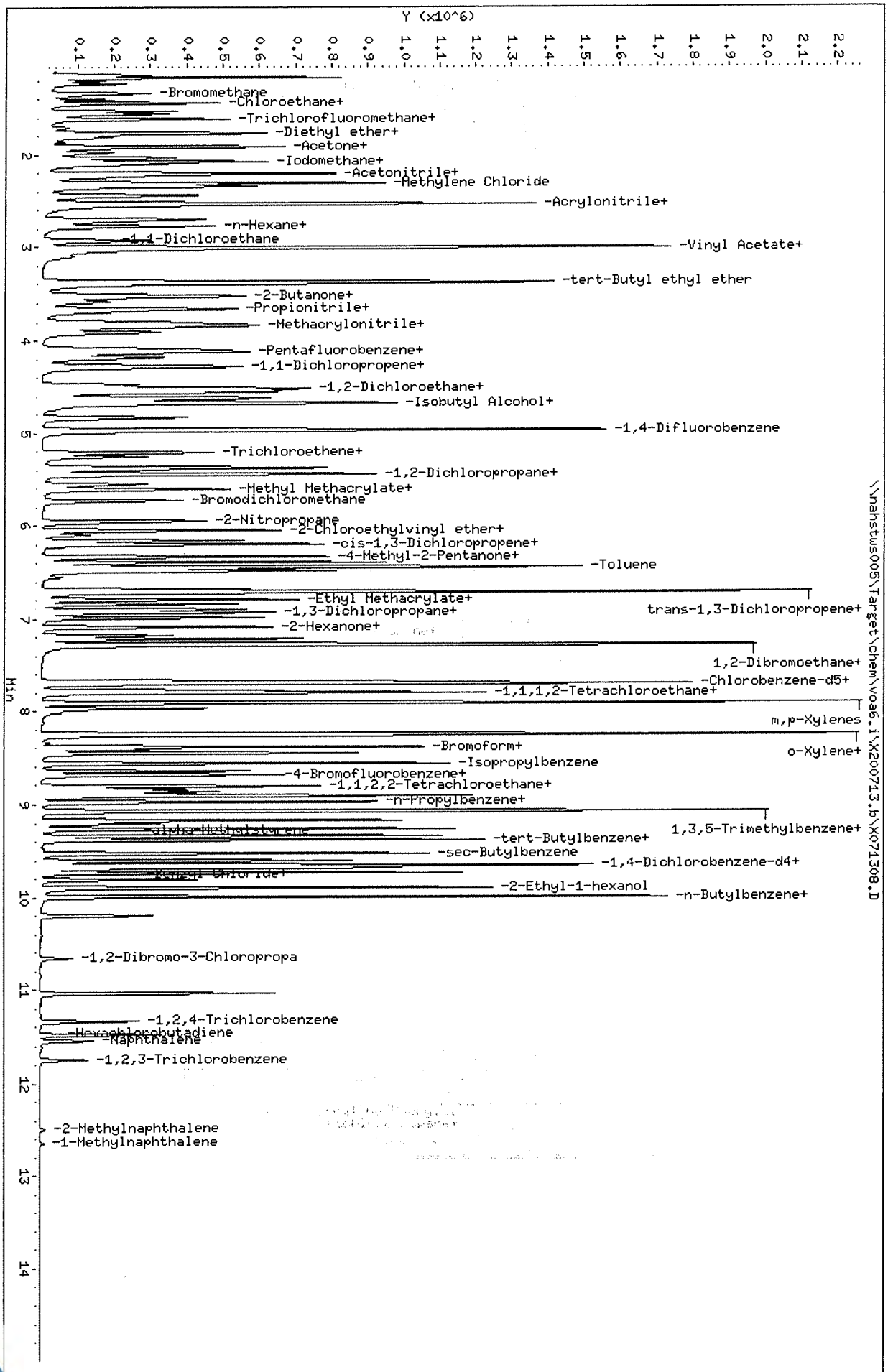
ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X200713.b\X071308.D
Lab Smp Id: VSTD050 Client Smp ID: VSTD050
Inj Date : 13-JUL-2020 13:18
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\X200713.b\8260W.m
Meth Date : 21-Aug-2020 15:22 voa6.i Quant Type: ISTD
Cal Date : 13-JUL-2020 12:54 Cal File: X071307.D
Als bottle: 9 Calibration Sample, Level: 7
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI-Hou11.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

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

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
*	1 Pentafluorobenzene	168	4.189	4.189	(1.000)	250164	50.0000	
*	36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	416710	50.0000	
*	47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	383548	50.0000	
*	70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	184191	50.0000	
$	30 Dibromofluoromethane	113	4.103	4.103	(0.979)	137160	50.0000	49.20
$	35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	186102	50.0000	49.24
$	48 Toluene-d8	98	6.388	6.388	(0.833)	479221	50.0000	47.69
$	69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	186024	50.0000	50.12
	53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	118016	50.0000	50.25
	11 1,1-Dichloroethene	96	1.919	1.919	(0.458)	111538	50.0000	50.96
	33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	250459	50.0000	50.51
	27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.843)	158287	50.0000	49.32
	17 Methylene Chloride	84	2.306	2.306	(0.550)	153830	50.0000	52.34
	38 Trichloroethene	130	5.214	5.214	(1.049)	149525	50.0000	49.85
	5 Vinyl Chloride	62	1.145	1.145	(0.273)	201301	50.0000	48.93



Data File: \\nahstws005\Target\chem\voa6.i\X200713.b\X071308.D
Date : 13-JUL-2020 13:18
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

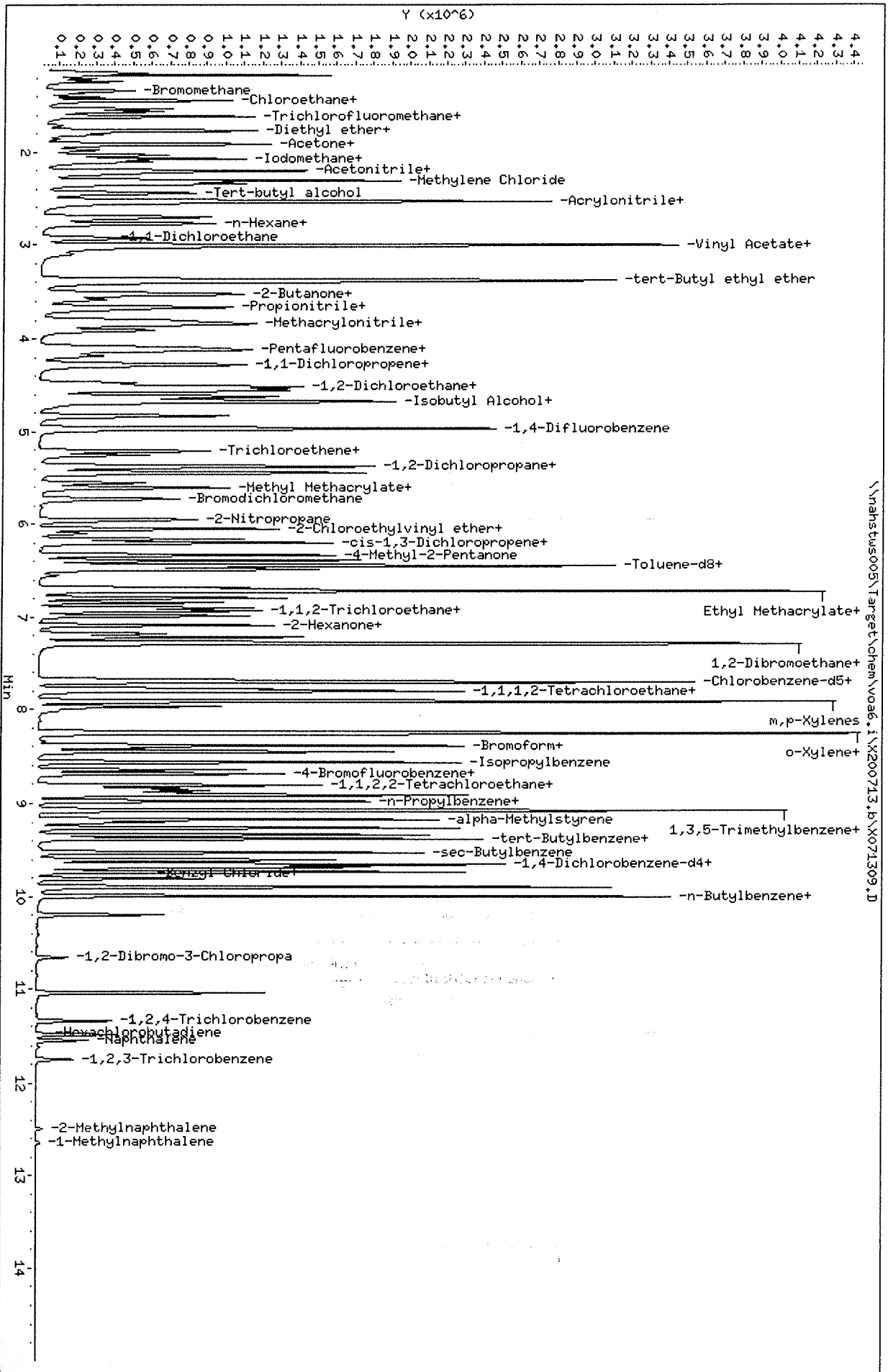
ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X200713.b\X071309.D
Lab Smp Id: VSTD100 Client Smp ID: VSTD100
Inj Date : 13-JUL-2020 13:42
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\X200713.b\8260W.m
Meth Date : 21-Aug-2020 15:22 voa6.i Quant Type: ISTD
Cal Date : 13-JUL-2020 13:18 Cal File: X071308.D
Als bottle: 10 Calibration Sample, Level: 8
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI-Hou11.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

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

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
*	1 Pentafluorobenzene	168	4.189	4.189	(1.000)	241410	50.0000	
*	36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	394471	50.0000	
*	47 Chlorobenzene-d5	117	7.670	7.670	(1.000)	367611	50.0000	
*	70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	175701	50.0000	
$	30 Dibromofluoromethane	113	4.103	4.103	(0.979)	266517	100.000	99.15
$	35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	358725	100.000	98.02
$	48 Toluene-d8	98	6.388	6.388	(0.833)	894200	100.000	92.86
$	69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	353354	100.000	99.86
	53 1,1,2-Trichloroethane	83	6.847	6.847	(0.893)	221967	100.000	98.61
	11 1,1-Dichloroethene	96	1.919	1.919	(0.458)	199334	100.000	94.38
	33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	486248	100.000	103.59
	27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.843)	306783	100.000	99.06
	17 Methylene Chloride	84	2.305	2.305	(0.550)	277730	100.000	99.13
	38 Trichloroethene	130	5.214	5.214	(1.049)	283882	100.000	99.98
	5 Vinyl Chloride	62	1.145	1.145	(0.273)	383986	100.000	96.72



Data File: \\nahstws005\Target\chem\voa6.i\X200713.b\X071309.D
Date : 13-JUL-2020 13:42
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\X200713.b\X071310.D Page 1
Report Date: 21-Aug-2020 15:22

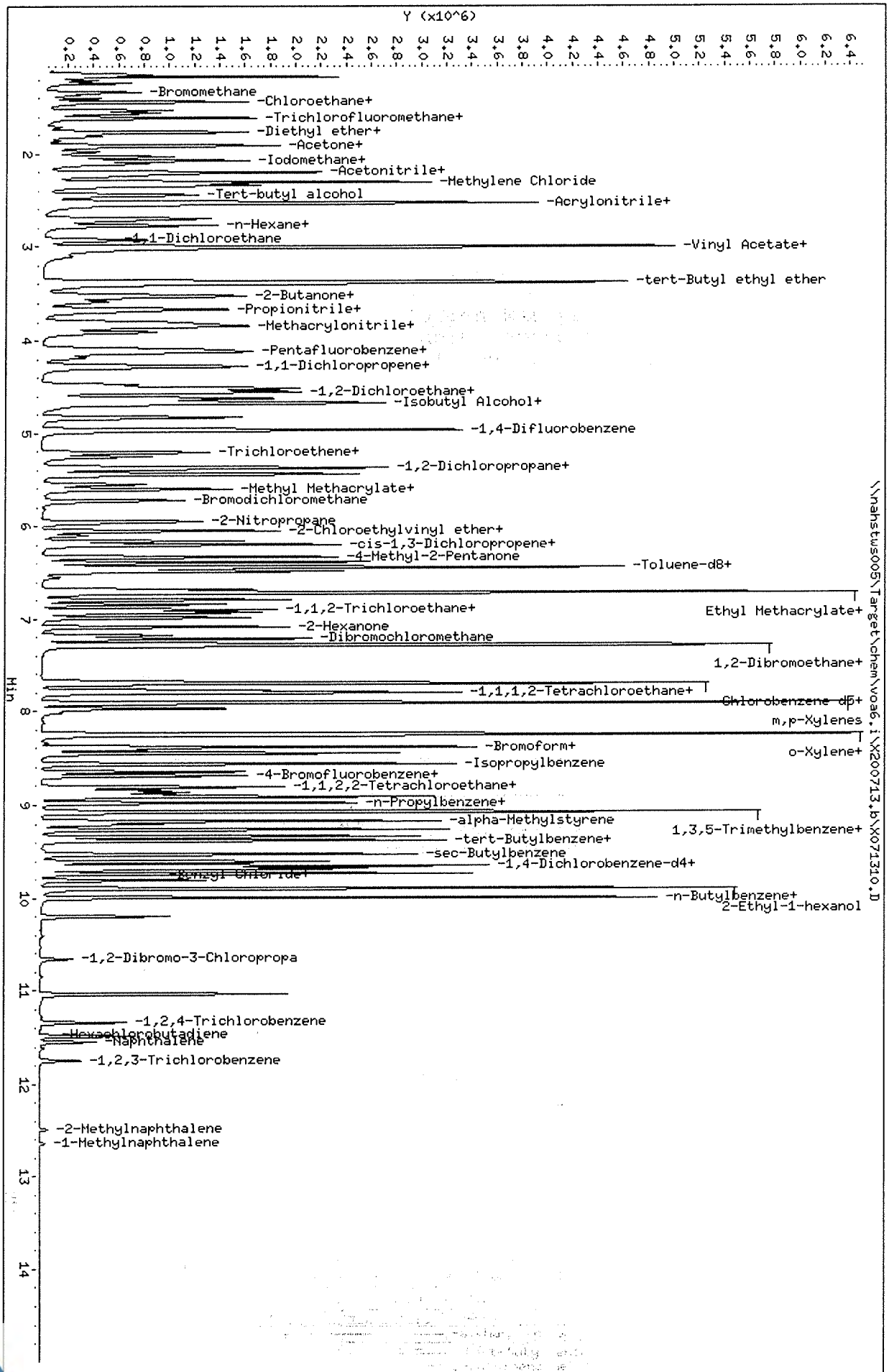
ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X200713.b\X071310.D
Lab Smp Id: VSTD150 Client Smp ID: VSTD150
Inj Date : 13-JUL-2020 14:06
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\X200713.b\8260W.m
Meth Date : 21-Aug-2020 15:22 voa6.i Quant Type: ISTD
Cal Date : 13-JUL-2020 13:42 Cal File: X071309.D
Als bottle: 11 Calibration Sample, Level: 9
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI-Hou11.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

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

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
*	1 Pentafluorobenzene	168	4.189	4.189	(1.000)	230193	50.0000	
*	36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	377089	50.0000	
*	47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	359232	50.0000	
*	70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	167954	50.0000	
$	30 Dibromofluoromethane	113	4.103	4.103	(0.979)	392708	150.000	153.26
$	35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	528876	150.000	151.37
$	48 Toluene-d8	98	6.388	6.388	(0.833)	1315908	150.000	139.84
$	69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	442637	150.000	128.16
	53 1,1,2-Trichloroethane	83	6.847	6.847	(0.893)	325485	150.000	147.97
	11 1,1-Dichloroethene	96	1.912	1.912	(0.456)	292253	150.000	145.12
	33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	681533	150.000	151.88
	27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.843)	447986	150.000	151.71
	17 Methylene Chloride	84	2.305	2.305	(0.550)	426028	150.000	160.31
	38 Trichloroethene	130	5.207	5.207	(1.048)	414098	150.000	152.57
	5 Vinyl Chloride	62	1.145	1.145	(0.273)	590934	150.000	156.11



Data File: \\nahstws005\Target\chem\voa6.i\X200713.b\X071310.D
Date : 13-JUL-2020 14:06
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

\\nahstws005\Target\chem\voa6.i\X200713.b\X071310.D

Data File: \\nahstws005\Target\chem\voa6.i\X200713.b\X071311.D Page 1
Report Date: 21-Aug-2020 15:22

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X200713.b\X071311.D
Lab Smp Id: VSTD200 Client Smp ID: VSTD200
Inj Date : 13-JUL-2020 14:30
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\X200713.b\8260W.m
Meth Date : 21-Aug-2020 15:22 voa6.i Quant Type: ISTD
Cal Date : 13-JUL-2020 14:06 Cal File: X071310.D
Als bottle: 12 Calibration Sample, Level: 10
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI-Hou11.sub
Target Version: 4.14
Processing Host: NAHSTW7056

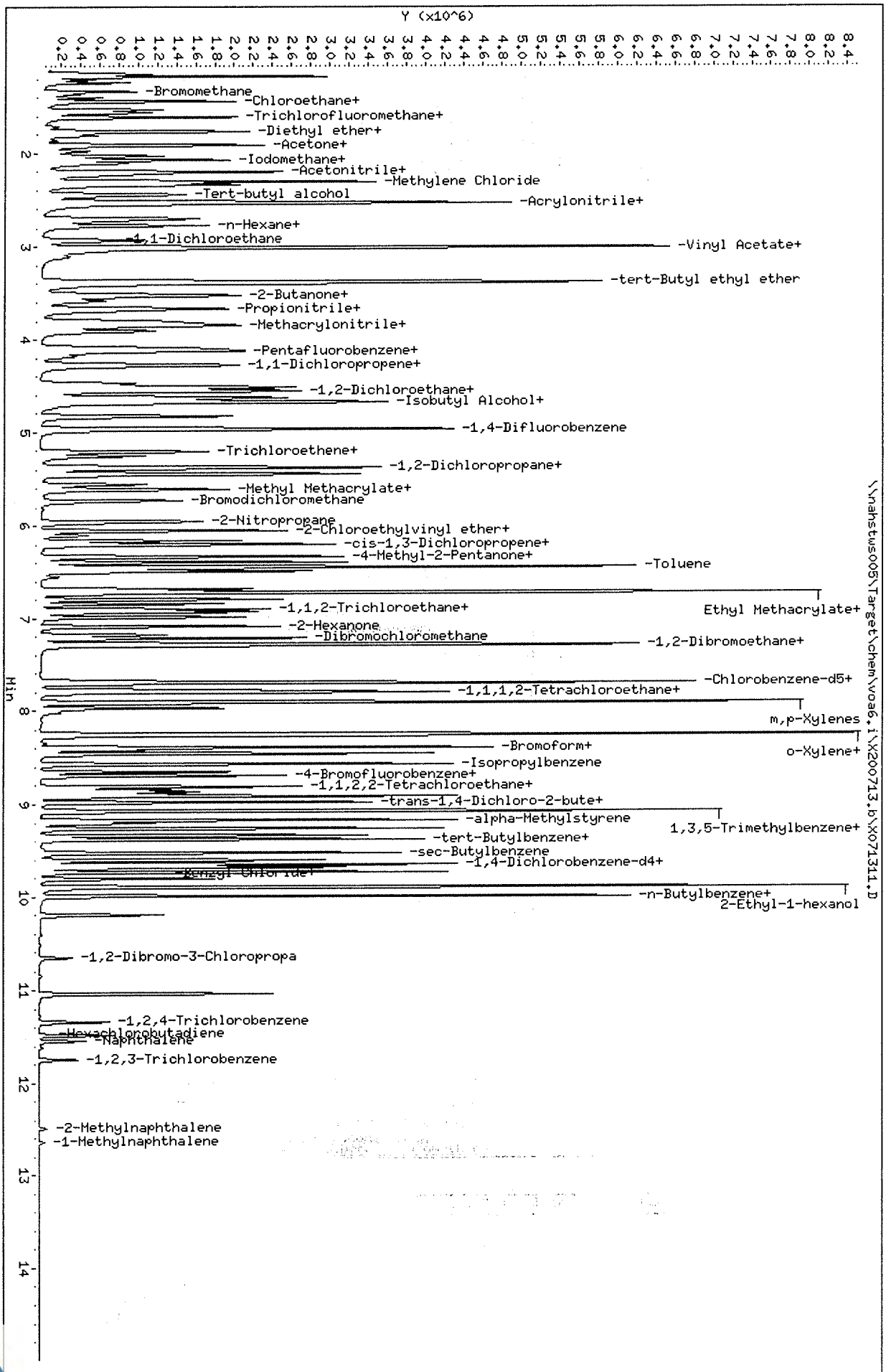
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

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

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
*	1 Pentafluorobenzene	168	4.189	4.189	(1.000)	226606	50.0000	
*	36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	377615	50.0000	
*	47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	350855	50.0000	
*	70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	165433	50.0000	
$	30 Dibromofluoromethane	113	4.103	4.103	(0.979)	499552	200.000	198.07
$	35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	688409	200.000	200.04(A)
$	48 Toluene-d8	98	6.388	6.388	(0.833)	1699318	200.000	184.90
$	69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	662646	200.000	196.73
	53 1,1,2-Trichloroethane	83	6.847	6.847	(0.893)	404715	200.000	188.39
	11 1,1-Dichloroethene	96	1.912	1.912	(0.456)	363508	200.000	183.36
	33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	911285	200.000	202.81(A)
	27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.843)	573367	200.000	197.24
	17 Methylene Chloride	84	2.306	2.306	(0.550)	499769	200.000	191.30
	38 Trichloroethene	130	5.207	5.207	(1.048)	541719	200.000	199.32
	5 Vinyl Chloride	62	1.138	1.138	(0.272)	766186	200.000	205.61(A)

QC Flag Legend

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



Data File: \\nahstws005\Target\chem\voa6.i\X200713.b\X071311.D
Date : 13-JUL-2020 14:30
Client ID: WSTD200
Sample Info: WSTD200;WSTD200;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\X200713.b\X071313.D Page 1
Report Date: 21-Aug-2020 15:22

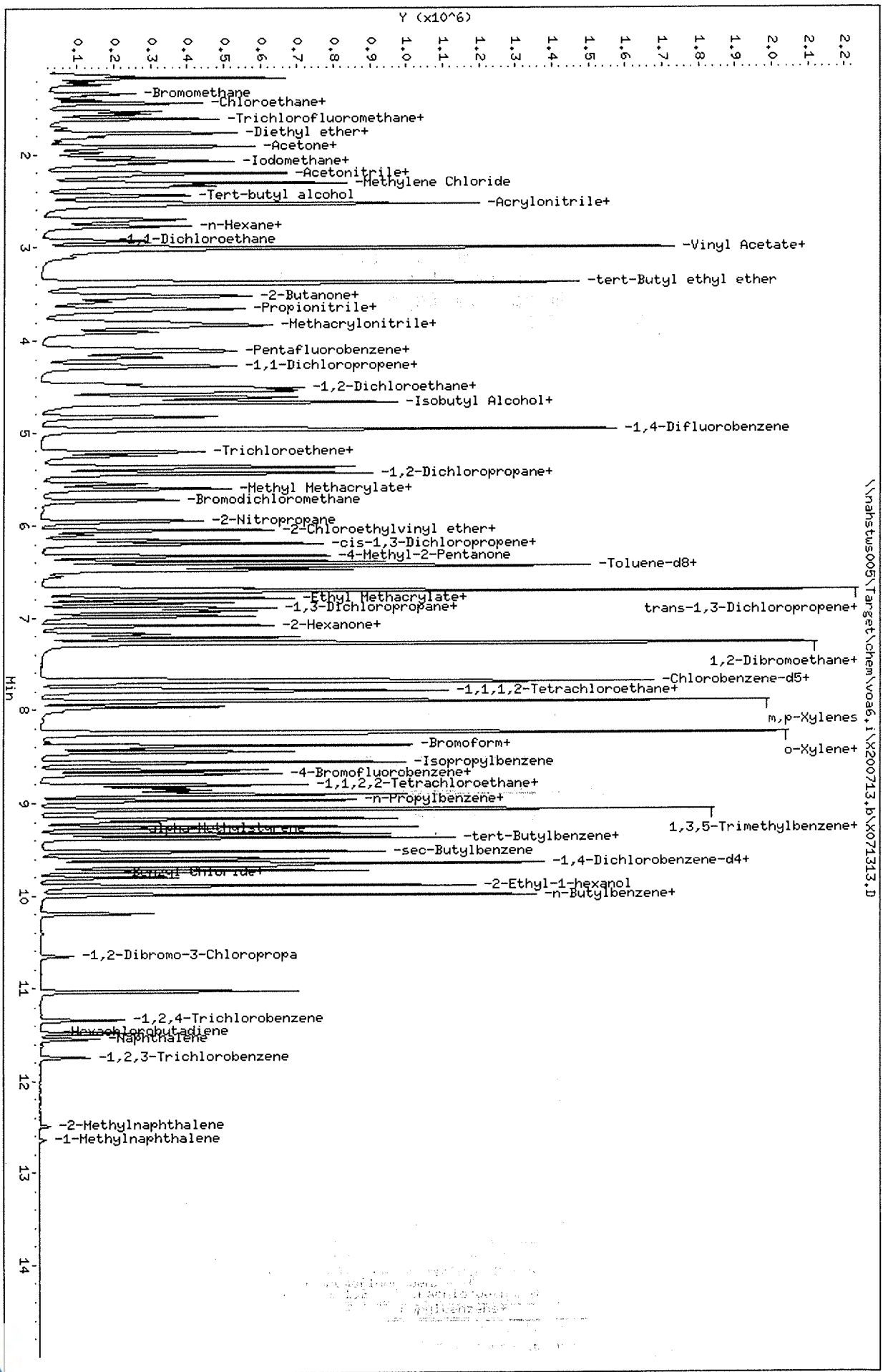
ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X200713.b\X071313.D
Lab Smp Id: ICV Client Smp ID: ICV
Inj Date : 13-JUL-2020 15:42
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\X200713.b\8260W.m
Meth Date : 21-Aug-2020 15:22 voa6.i Quant Type: ISTD
Cal Date : 13-JUL-2020 14:30 Cal File: X071311.D
Als bottle: 15 QC Sample: METHSPIKE
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI-Hou11.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

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

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	247155	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	407373	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	373467	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.669	(1.000)	159419	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.979)	141230	51.2819	51.28
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	190337	50.9658	50.96
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	473220	48.3739	48.37
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	178443	49.3711	49.37
53 1,1,2-Trichloroethane	83	6.840	6.847	(0.892)	114924	50.2570	50.25
11 1,1-Dichloroethene	96	1.919	1.912	(0.458)	95261	44.0570	44.05
33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	249342	51.4385	51.43
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.843)	155775	49.1327	49.13
17 Methylene Chloride	84	2.305	2.306	(0.550)	127302	43.6183	43.61
38 Trichloroethene	130	5.214	5.207	(1.049)	141901	48.3975	48.39
5 Vinyl Chloride	62	1.145	1.138	(0.273)	169254	41.6454	41.64



Data File: \\nahstws005\Target\chem\voa6,i\X200713,b\X071313.D
Date : 13-JUL-2020 15:42
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: 41267 **Analyst:** Presenta Cabascango

Date: 07-29-2020 **Reviewer:**

Method: 8260 **Laboratory:** Houston

Comments:

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	pH
1	BFB	TUNE	07-29-2020 12:38 pm	1.00	50 mL	50 mL	X072901.D	Liquid	Y	NA
	Auto find/ purged									
2	CCV	CCV	07-29-2020 01:02 pm	1.00	50 mL	50 mL	X072902a.D	Liquid	Y	NA
	10 uL cal std/50 mL DI									
3	CCV	CCV	07-29-2020 01:26 pm	1.00	50 mL	50 mL	X072903.D	Liquid	Y	NA
	10 uL cal std/50 mL DI									
4	CCB	SAMP	07-29-2020 01:50 pm	1.00	50 mL	50 mL	X072904.D	Liquid	Y	NA
5	VLCSW-200729	LCS	07-29-2020 02:14 pm	1.00	50 mL	50 mL	X072905.D	Liquid	Y	NA
	4.0 uL cal std/50 mL DI									
6	BLANK	SAMP	07-29-2020 02:38 pm	1.00	50 mL	50 mL	X072906.D	Liquid	Y	NA
7	VBLKW-200729	MBLK	07-29-2020 03:02 pm	1.00	50 mL	50 mL	X072907.D	Liquid	Y	NA
8	HS20071147-12	SAMP	07-29-2020 03:26 pm	1.00	50 mL	50 mL	X072908.D	Liquid	Y	<2
9	HS20071147-05	SAMP	07-29-2020 03:50 pm	1.00	50 mL	50 mL	X072909.D	Liquid	Y	<2
10	HS20071038-01	SAMP	07-29-2020 04:14 pm	10.00	5 mL	50 mL	X072910.D	Liquid	Y	NA
	neat sample									
11	HS20071147-03	SAMP	07-29-2020 04:38 pm	1.00	50 mL	50 mL	X072911.D	Liquid	Y	<2
12	HS20071147-04	SAMP	07-29-2020 05:02 pm	1.00	50 mL	50 mL	X072912.D	Liquid	Y	<2
13	HS20071147-02	SAMP	07-29-2020 05:26 pm	5.00	10 mL	50 mL	X072913.D	Liquid	Y	<2
14	HS20071147-05MS	MS	07-29-2020 05:51 pm	1.00	50 mL	50 mL	X072914.D	Liquid	Y	<2
	3.5 uL cal std/40 mL samp									
15	HS20071147-05MSD	MSD	07-29-2020 06:15 pm	1.00	50 mL	50 mL	X072915.D	Liquid	Y	<2
	3.5 uL cal std/40 mL samp									
16	HS20071147-02	SAMP	07-29-2020 06:39 pm	25.00	2 mL	50 mL	X072916.D	Liquid	Y	<2
17	HS20071147-03	SAMP	07-29-2020 07:03 pm	5.00	10 mL	50 mL	X072917.D	Liquid	Y	<2
18	HS20071147-04	SAMP	07-29-2020 07:27 pm	5.00	10 mL	50 mL	X072918.D	Liquid	Y	<2
19	HS20071147-06	SAMP	07-29-2020 07:51 pm	1.00	50 mL	50 mL	X072919.D	Liquid	Y	<2
20	HS20071147-07	SAMP	07-29-2020 08:15 pm	1.00	50 mL	50 mL	X072920.D	Liquid	Y	<2
21	HS20071147-08	SAMP	07-29-2020 08:39 pm	1.00	50 mL	50 mL	X072921.D	Liquid	Y	<2
22	HS20071147-09	SAMP	07-29-2020 09:03 pm	1.00	50 mL	50 mL	X072922.D	Liquid	Y	<2
23	HS20071147-10n/r	SAMP	07-29-2020 09:27 pm	1.00	50 mL	50 mL	X072923.D	Liquid	Y	<2
24	HS20071147-11	SAMP	07-29-2020 09:51 pm	1.00	50 mL	50 mL	X072924.D	Liquid	Y	<2
25	HS20071147-01	SAMP	07-29-2020 10:15 pm	1.00	50 mL	50 mL	X072925.D	Liquid	Y	<2
26	CCV-END	CCV	07-29-2020 10:39 pm	1.00	50 mL	50 mL	X072926.D	Liquid	Y	na
	10 uL cal std/50 mL DI									
27	HS20071320-01	SAMP	07-29-2020 11:03 pm	1.00	50 mL	50 mL	X072927.D	Liquid	Y	<2
28	HS20071320-02	SAMP	07-29-2020 11:27 pm	1.00	50 mL	50 mL	X072928.D	Liquid	Y	<2
29	HS20071320-03	SAMP	07-29-2020 11:51 pm	1.00	50 mL	50 mL	X072929.D	Liquid	Y	<2
30	BLANK	SAMP	07-30-2020 12:15 am	1.00	50 mL	50 mL	X072930.D	Liquid	Y	<2

MSVOA06 -Logbook

Chemical	Value
SURR SPK ID	31106-38-06
IS ID	31106-38-06
CAL STD ID	31106-40-01/02
BFB ID	31106-38-06
pH Paper	634-64-11

FORM 2
WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20071147

	CLIENT SAMPLE NO.	SMC1 #	SMC2 (DCE)#	SMC3 (TOL)#	OTHER #	TOT OUT
01	VLCSW-200729	108	114	93	86	0
02	VBLKW-200729	103	113	106	102	0
03	HS20071147-12	120	114	107	104	0
04	HS20071147-05	100	88	104	103	0
05	HS20071147-03	103	94	96	101	0
06	HS20071147-04	100	112	105	103	0
07	HS20071147-02	100	109	100	106	0
08	HS20071147-02	98	107	106	99	0
09	HS20071147-03	98	84	98	98	0
10	HS20071147-04	95	95	78	94	0
11	HS20071147-06	96	100	104	104	0
12	HS20071147-07	100	110	103	101	0
13	HS20071147-08	104	105	98	102	0
14	HS20071147-09	83	107	104	106	0
15	HS20071147-01	100	107	105	99	0
16						
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28						

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

Column to be used to flag recovery values

* Values outside of contract required QC limits

D System Monitoring Compound diluted out

FORM 4
VOLATILE METHOD BLANK SUMMARY

VBLKW-200729

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20071147

Lab File ID: X072907 Lab Sample ID: VBLKW-200729

Date Analyzed: 07/29/20 Time Analyzed: 1502

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-200729	VLCSW-200729	X072905	1414
02	HS20071147-1	HS20071147-12	X072908	1526
03	HS20071147-0	HS20071147-05	X072909	1550
04	HS20071147-0	HS20071147-03	X072911	1638
05	HS20071147-0	HS20071147-04	X072912	1702
06	HS20071147-0	HS20071147-02	X072913	1726
07	HS20071147-0	HS20071147-05M	X072914	1751
08	HS20071147-0	HS20071147-05M	X072915	1815
09	HS20071147-0	HS20071147-02	X072916	1839
10	HS20071147-0	HS20071147-03	X072917	1903
11	HS20071147-0	HS20071147-04	X072918	1927
12	HS20071147-0	HS20071147-06	X072919	1951
13	HS20071147-0	HS20071147-07	X072920	2015
14	HS20071147-0	HS20071147-08	X072921	2039
15	HS20071147-0	HS20071147-09	X072922	2103
16	HS20071147-0	HS20071147-01	X072925	2215
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COMMENTS:

1 of 1

FORM IV VOA

FORM 5
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20071147

Lab File ID: X072901 BFB Injection Date: 07/29/20

Instrument ID: VOA6 BFB Injection Time: 1238

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	25.9
75	30.0 - 60.0% of mass 95	47.8
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.0
173	Less than 2.0% of mass 174	0.6 (0.7)1
174	Greater than 50.0% of mass 95	88.1
175	5.0 - 9.0% of mass 174	5.8 (6.6)1
176	95.0 - 101.0% of mass 174	86.3 (98.0)1
177	5.0 - 9.0% of mass 176	5.1 (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	X072903	07/29/20	1326
02	VLCSW-200729	VLCSW-200729	X072905	07/29/20	1414
03	VBLKW-200729	VBLKW-200729	X072907	07/29/20	1502
04	HS20071147-1	HS20071147-12	X072908	07/29/20	1526
05	HS20071147-0	HS20071147-05	X072909	07/29/20	1550
06	HS20071147-0	HS20071147-03	X072911	07/29/20	1638
07	HS20071147-0	HS20071147-04	X072912	07/29/20	1702
08	HS20071147-0	HS20071147-02	X072913	07/29/20	1726
09	HS20071147-0	HS20071147-05M	X072914	07/29/20	1751
10	HS20071147-0	HS20071147-05M	X072915	07/29/20	1815
11	HS20071147-0	HS20071147-02	X072916	07/29/20	1839
12	HS20071147-0	HS20071147-03	X072917	07/29/20	1903
13	HS20071147-0	HS20071147-04	X072918	07/29/20	1927
14	HS20071147-0	HS20071147-06	X072919	07/29/20	1951
15	HS20071147-0	HS20071147-07	X072920	07/29/20	2015
16	HS20071147-0	HS20071147-08	X072921	07/29/20	2039
17	HS20071147-0	HS20071147-09	X072922	07/29/20	2103
18	HS20071147-0	HS20071147-01	X072925	07/29/20	2215
19	CCV-END	CCV-END	X072926	07/29/20	2239
20					
21					
22					

e 1 of 1

FORM V VOA

FORM 7B
VOLATILE CALIBRATION VERIFICATION SUMMARY

) Name: Contract:

ab Code: Case No.: SAS No.: SDG No.: HS20071147

Instrument ID: VOA6 Calibration Date: 07/29/20 Time: 1326

Lab File ID: X072903 Init. Calib. Date(s): 07/13/20 07/13/20

Init. Calib. Times: 1027 1430

GC Column: DB624 ID: 0.18 (mm)

COMPOUND	RRF or AMOUNT	RRF50.000 or AMOUNT	CCAL RRF50.000	MIN RRF	%D or %DRIFT	MAX %D or %DRIFT	CURV TYPE
Vinyl Chloride	0.8220000	0.6978802	0.6978802	0.1	15.10	20.00	AVRG
Methylene Chloride	58.087489	50.000000	0.6806783	0.1	-16.17	20.00	LINR
1,1-Dichloroethene	0.4370000	0.4248258	0.4248258	0.1	2.78	20.00	AVRG
1,2-Dichloroethane	0.5950000	0.6490297	0.6490297	0.1	-9.08	20.00	AVRG
cis-1,2-Dichloroethene	0.6410000	0.5554113	0.5554113	0.1	13.35	20.00	AVRG
1,1,2-Trichloroethane	0.3060000	0.3210017	0.3210017	0.1	-4.90	20.00	AVRG
Trichloroethene	0.3600000	0.3242018	0.3242018	0.2	9.94	20.00	AVRG
Dibromofluoromethane	47.201921	50.000000	0.5260333	0.1	5.60	20.00	LINR
1,2-Dichloroethane-d4	51.976441	50.000000	0.7854850	0.1	-3.95	20.00	LINR
Toluene-d8	1.3100000	1.2477994	1.2477994	0.1	4.75	20.00	AVRG
4-Bromofluorobenzene	46.281087	50.000000	0.4482184	0.1	7.44	20.00	LINR

FORM VII VOA

FORM 7B
VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20071147

Instrument ID: VOA6 Calibration Date: 07/29/20 Time: 2239

Lab File ID: X072926 Init. Calib. Date(s): 07/13/20 07/13/20

Init. Calib. Times: 1027 1430

GC Column: DB624 ID: 0.18 (mm)

COMPOUND	RRF or AMOUNT	RRF50.000 or AMOUNT	CCAL RRF50.000	MIN RRF	%D or %DRIFT	MAX %D or %DRIFT	CURV TYPE
Vinyl Chloride	0.8220000	0.8571446	0.8571446	0.1	-4.28	50.00	AVRG
Methylene Chloride	60.776712	50.000000	0.7114582	0.1	-21.55	50.00	LINR
1,1-Dichloroethene	0.4370000	0.5013389	0.5013389	0.1	-14.72	50.00	AVRG
1,2-Dichloroethane	0.5950000	0.6631942	0.6631942	0.1	-11.46	50.00	AVRG
cis-1,2-Dichloroethene	0.6410000	0.6846495	0.6846495	0.1	-6.81	50.00	AVRG
1,1,2-Trichloroethane	0.3060000	0.3058557	0.3058557	0.1	0.05	50.00	AVRG
Trichloroethene	0.3600000	0.3195829	0.3195829	0.2	11.23	50.00	AVRG
Dibromofluoromethane	53.725733	50.000000	0.5986102	0.1	-7.45	50.00	LINR
1,2-Dichloroethane-d4	57.077642	50.000000	0.8630824	0.1	-14.16	50.00	LINR
Toluene-d8	1.3100000	1.2072355	1.2072355	0.1	7.84	50.00	AVRG
4-Bromofluorobenzene	49.441826	50.000000	0.4784788	0.1	1.12	50.00	LINR

FORM VII VOA

FORM 8
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20071147

Lab File ID (Standard): X072903 Date Analyzed: 07/29/20

Instrument ID: VOA6 Time Analyzed: 1326

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	249507	4.19	418477	4.97	380917	7.67
	UPPER LIMIT	499014	4.69	836954	5.47	761834	8.17
	LOWER LIMIT	124754	3.69	209239	4.47	190459	7.17
	CLIENT SAMPLE NO.						
01	VLCSW-200729	239670	4.18	390680	4.96	410099	7.67
02	VBLKW-200729	207167	4.19	346757	4.97	298010	7.67
03	HS20071147-12	220050	4.19	463283	4.97	387508	7.67
04	HS20071147-05	267652	4.19	358209	4.97	313783	7.67
05	HS20071147-03	254089	4.18	373174	4.97	386869	7.67
06	HS20071147-04	196596	4.19	333820	4.97	290459	7.67
07	HS20071147-02	264444	4.19	449526	4.97	397392	7.67
08	HS20071147-05	259358	4.19	392816	4.97	380272	7.67
09	HS20071147-05	218525	4.19	415088	4.97	378525	7.67
10	HS20071147-02	248106	4.19	440953	4.97	391066	7.67
11	HS20071147-03	265169	4.19	343840	4.97	414446	7.67
12	HS20071147-04	296025	4.19	487174	4.97	425312	7.67
13	HS20071147-06	282375	4.19	475922	4.97	292446	7.67
14	HS20071147-07	208184	4.19	347133	4.97	306857	7.67
15	HS20071147-08	266141	4.19	449307	4.97	414512	7.67
16	HS20071147-09	256115	4.19	445685	4.97	280993	7.67
17	HS20071147-01	175963	4.19	300170	4.97	259088	7.67
18							
19							
20							

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

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

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

FORM VIII VOA

FORM 8
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20071147

Lab File ID (Standard): X072903 Date Analyzed: 07/29/20

Instrument ID: VOA6 Time Analyzed: 1326

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

		IS4 (DCB) AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	144903	9.67				
	UPPER LIMIT	289806	10.17				
	LOWER LIMIT	72452	9.17				
	CLIENT SAMPLE NO.						
01	VLCSW-200729	175646	9.67				
02	VBLKW-200729	121571	9.67				
03	HS20071147-12	170901	9.67				
04	HS20071147-05	129432	9.67				
05	HS20071147-03	170940	9.67				
06	HS20071147-04	117552	9.67				
07	HS20071147-02	176634	9.66				
08	HS20071147-05	162802	9.67				
09	HS20071147-05	142247	9.67				
10	HS20071147-02	155734	9.67				
11	HS20071147-03	127033	9.67				
12	HS20071147-04	167248	9.67				
13	HS20071147-06	148329	9.67				
14	HS20071147-07	124492	9.67				
15	HS20071147-08	156546	9.66				
16	HS20071147-09	155099	9.66				
17	HS20071147-01	102112	9.67				
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.

. File: \\nahstws005\Target\chem\voa6.i\X200729.b\X072901.D Page 1

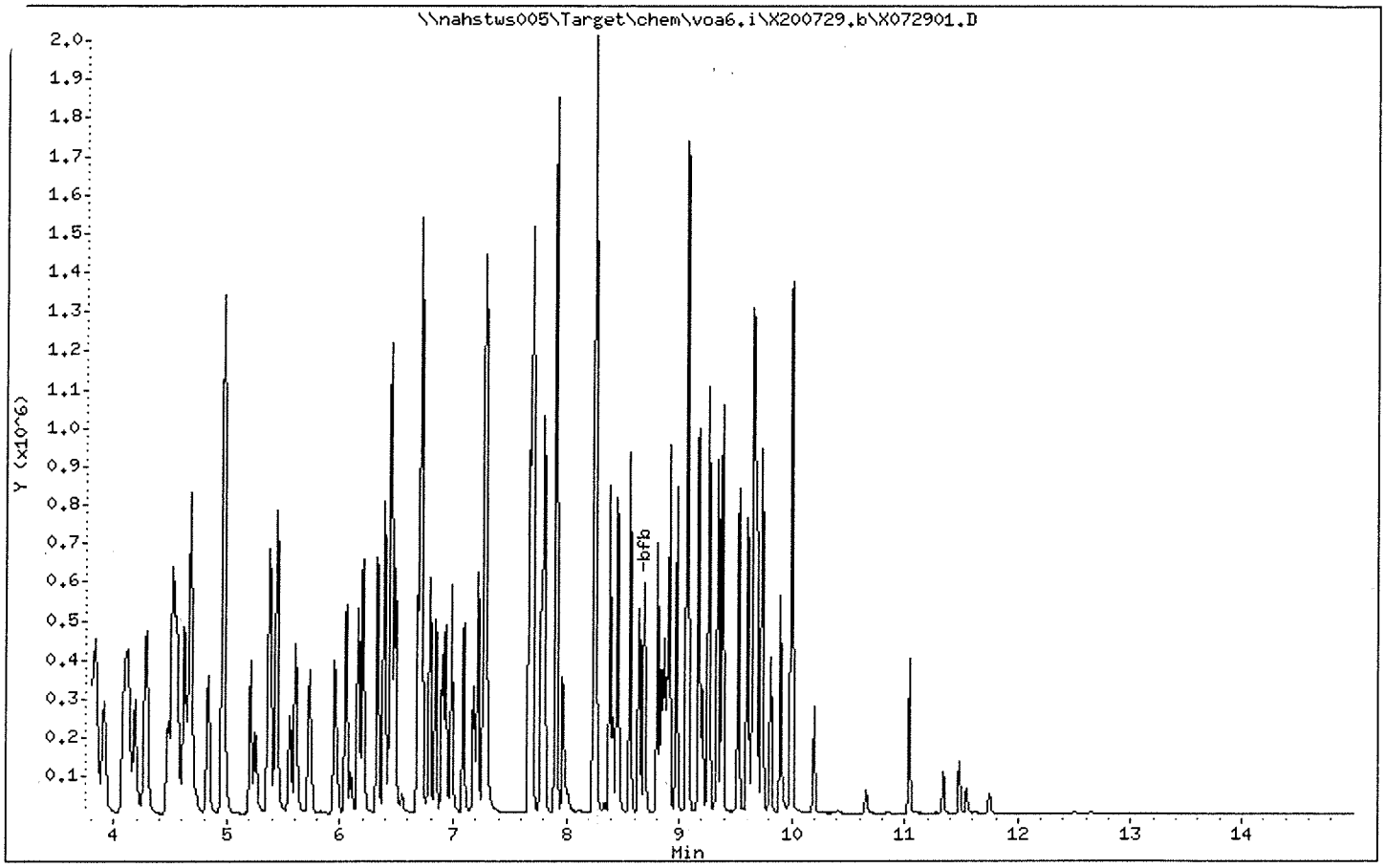
.e : 29-JUL-2020 12:38

.ient 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\X200729.b\X072901.D

Date : 29-JUL-2020 12:38

Client ID: BFB

Instrument: voa6.i

Sample Info: BFB;BFB;3;;BFB

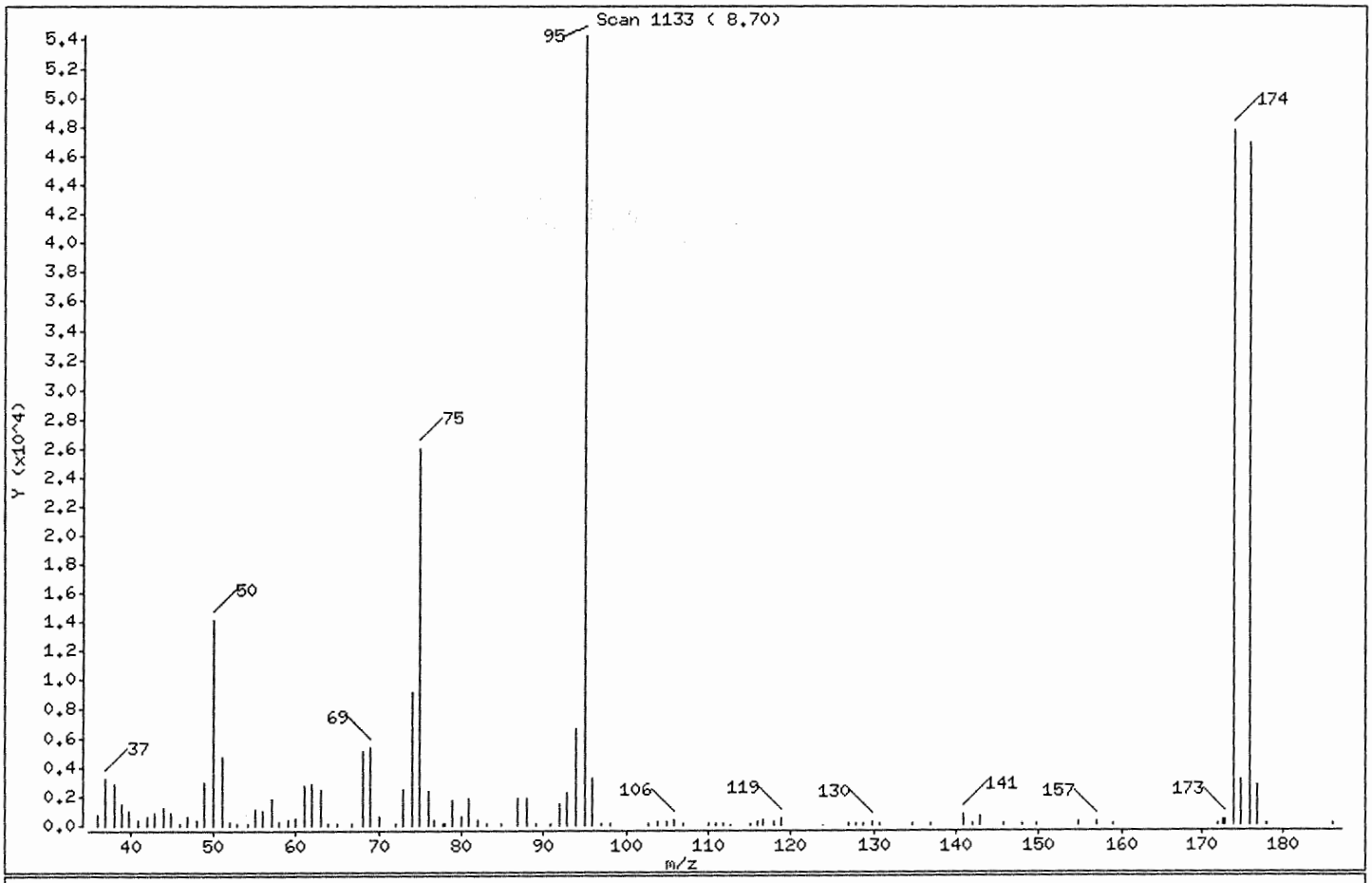
Volume Injected (uL): 2.0

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	25.92
75	30.00 - 60.00% of mass 95	47.80
96	5.00 - 9.00% of mass 95	5.97
173	Less than 2.00% of mass 174	0.61 (0.69)
174	Greater than 50.00% of mass 95	88.12
175	5.00 - 9.00% of mass 174	5.79 (6.57)
176	95.00 - 101.00% of mass 174	86.32 (97.96)
177	5.00 - 9.00% of mass 176	5.14 (5.95)

Data File: \\nahstws005\Target\chem\voa6.i\X200729.b\X072901.D

Date : 29-JUL-2020 12:38

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: X072901.D
Spectrum: Scan 1133 (8.70)
Location of Maximum: 95.00
Number of points: 99

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	712	61.00	2705	89.10	67	127.80	131
37.00	3237	62.00	2854	90.90	178	128.80	144
38.00	2908	63.00	2486	91.90	1554	129.90	191
39.00	1521	63.90	184	92.90	2278	130.80	184
39.90	996	64.90	83	94.00	6587	134.80	153
41.00	428	66.80	150	95.00	54280	137.00	126
42.00	637	68.00	5165	95.90	3238	140.90	725
43.00	826	69.00	5402	96.90	98	141.90	93
44.00	1198	70.00	590	98.00	161	142.80	659
45.00	872	72.00	184	102.80	120	145.70	80
46.10	95	73.00	2510	103.90	281	147.90	161
47.00	586	74.00	9059	104.90	217	149.80	79
48.00	378	75.00	25944	105.80	314	154.90	196
49.00	3023	76.00	2330	106.90	100	156.90	213
50.00	14070	76.80	372	110.00	99	158.90	89
51.00	4698	77.80	110	110.80	104	171.90	132
51.90	217	78.10	121	111.80	68	172.70	331
52.90	147	78.80	1691	112.70	52	172.90	332
54.10	89	79.90	618	115.00	100	173.90	47832
55.00	1081	80.90	1834	115.90	217	174.90	3144
55.90	945	81.90	425	116.70	370	175.90	46856
57.00	1856	83.10	84	117.90	245	176.90	2790
57.90	210	84.80	92	118.80	458	178.00	97
59.00	339	86.90	1812	123.90	62	186.00	116
60.00	465	88.00	1857	126.90	90		

Data File: \\nahstws005\Target\chem\voa6.i\X200729.b\X072903.D Page 1
Report Date: 21-Aug-2020 17:05

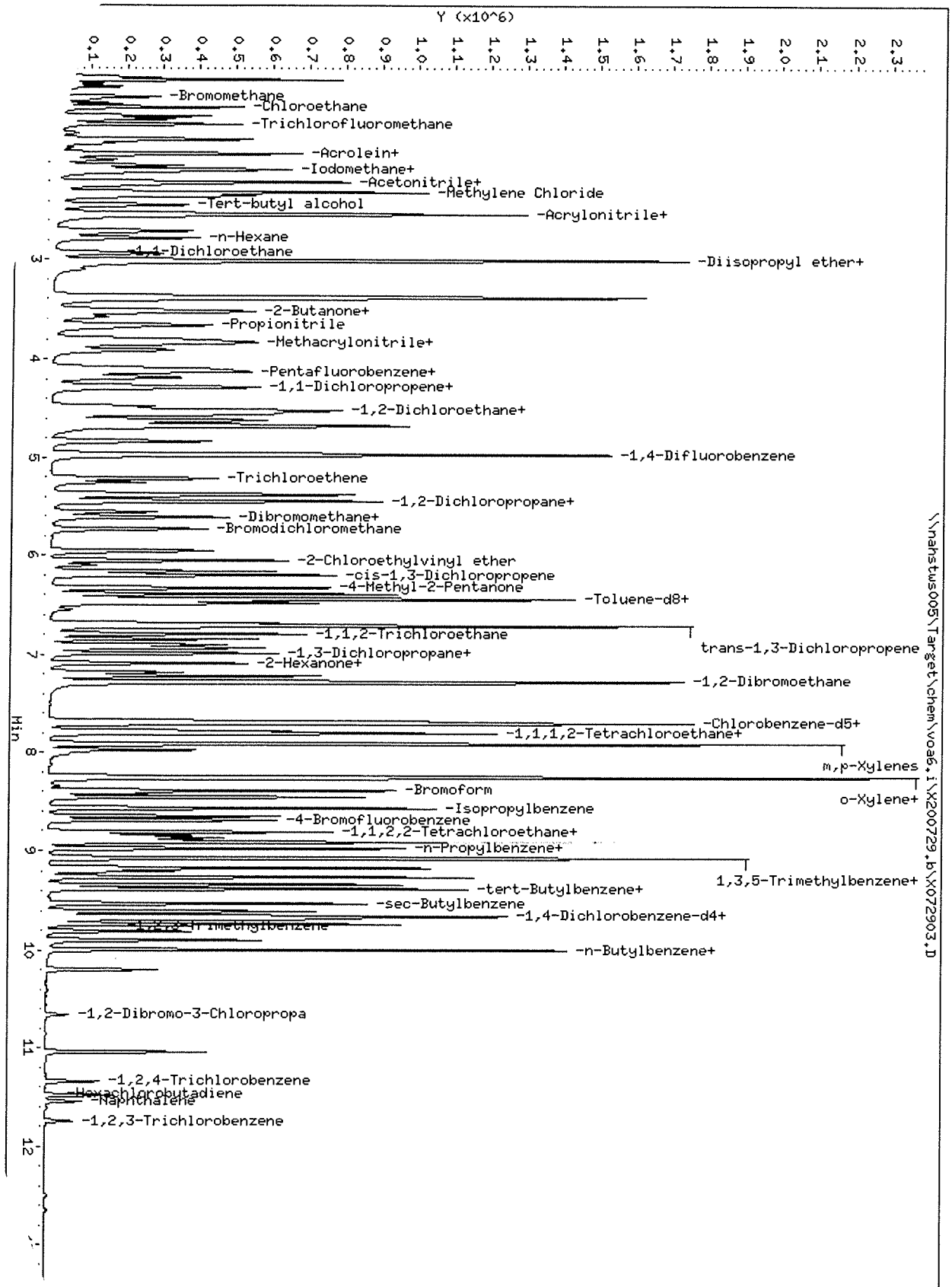
ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X200729.b\X072903.D
Lab Smp Id: CCV Client Smp ID: CCV
Inj Date : 29-JUL-2020 13:26
Operator : PC Inst ID: voa6.i
Smp Info : CCV;CCV;2;;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200729.b\8260W.m
Meth Date : 21-Aug-2020 17:05 voa6.i Quant Type: ISTD
Cal Date : 13-JUL-2020 13:18 Cal File: X071308.D
Als bottle: 3 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI-Hou11.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

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

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
*	1 Pentafluorobenzene	168	4.189	4.189	(1.000)	249507	50.0000	
*	36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	418477	50.0000	
*	47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	380917	50.0000	
*	70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	144903	50.0000	
$	30 Dibromofluoromethane	113	4.103	4.103	(0.979)	131249	50.0000	47.20
$	35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	195984	50.0000	51.97
$	48 Toluene-d8	98	6.388	6.388	(0.833)	475308	50.0000	47.63
$	69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	170734	50.0000	46.28
	53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	122275	50.0000	52.42
	11 1,1-Dichloroethene	96	1.919	1.919	(0.458)	105997	50.0000	48.56
	33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	271604	50.0000	54.54
	27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.843)	138579	50.0000	43.29
	17 Methylene Chloride	84	2.306	2.306	(0.550)	169834	50.0000	58.08
	38 Trichloroethene	130	5.214	5.214	(1.049)	135671	50.0000	45.04
	5 Vinyl Chloride	62	1.145	1.145	(0.273)	174126	50.0000	42.44



Data File: \\nahstus005\Target\chem\voa6.i\X200729.b\X072903.D
Date : 29-JUL-2020 13:26
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\X200729.b\X072905.D
Lab Smp Id: VLCSW-200729 Client Smp ID: VLCSW-200729
Inj Date : 29-JUL-2020 14:14
Operator : PC Inst ID: voa6.i
Smp Info : VLCSW-200729;VLCSW-200729;3;;LCS
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200729.b\8260W.m
Meth Date : 21-Aug-2020 17:05 voa6.i Quant Type: ISTD
Cal Date : 13-JUL-2020 13:18 Cal File: X071308.D
Als bottle: 5 QC Sample: LCS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI-Hou11.sub
Target Version: 4.14
Processing Host: NAHSTW7056

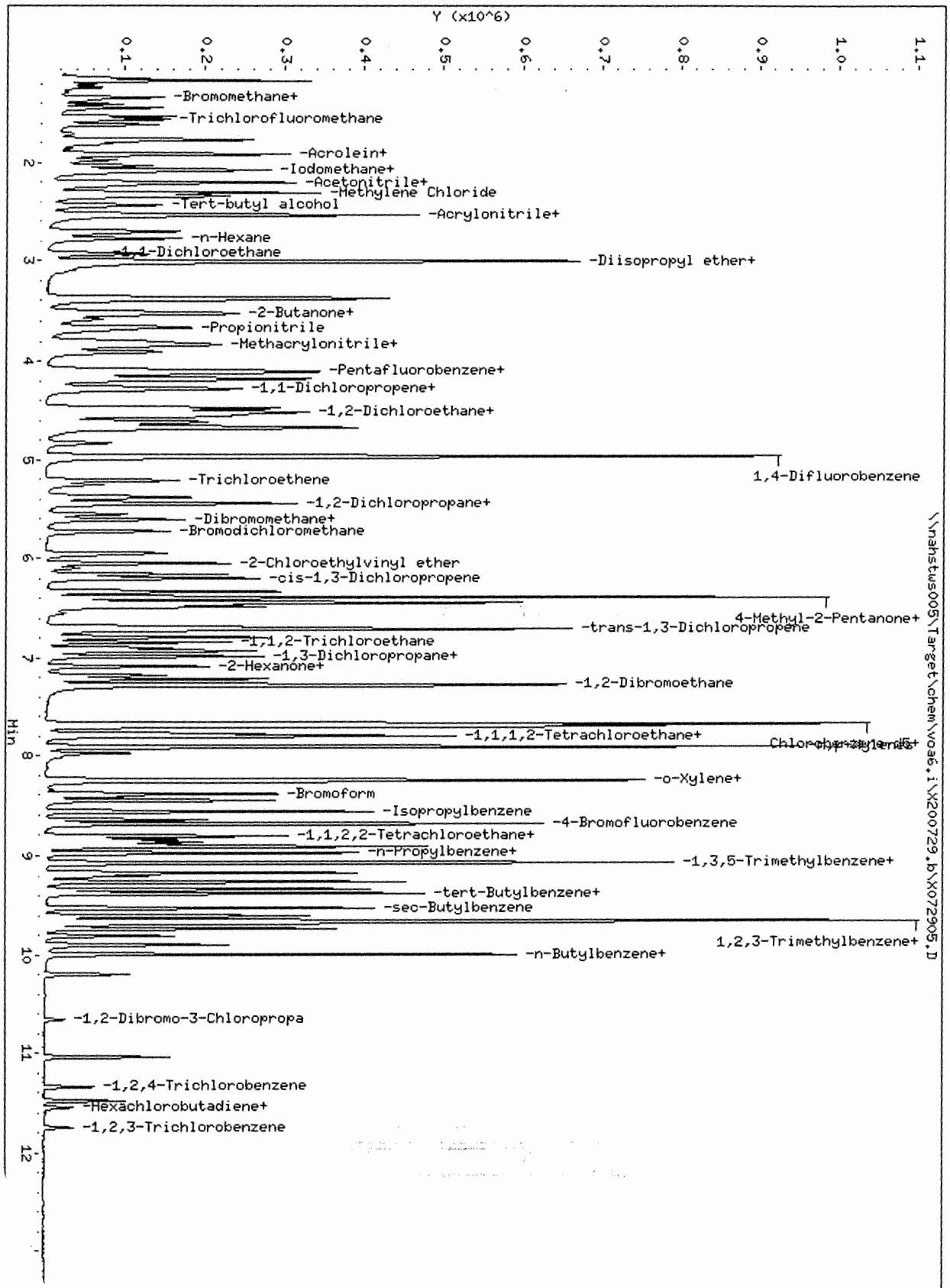
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

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

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.189	(1.000)	239670	50.0000	
* 36 1,4-Difluorobenzene	114	4.963	4.970	(1.000)	390680	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	410099	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	175646	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	144548	54.1304	54.13
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	207421	57.2329	57.23(M)
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	497892	46.3497	46.34
$ 69 4-Bromofluorobenzene	95	8.688	8.695	(1.133)	170781	42.9616	42.96
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	49569	19.7405	19.74
11 1,1-Dichloroethene	96	1.919	1.919	(0.459)	46762	22.3022	22.30
33 1,2-Dichloroethane	62	4.562	4.562	(0.919)	111975	24.0871	24.08
27 cis-1,2-Dichloroethene	96	3.538	3.530	(0.846)	66689	21.6911	21.69
17 Methylene Chloride	84	2.306	2.306	(0.551)	79545	27.6144	27.61
38 Trichloroethene	130	5.214	5.214	(1.051)	47830	17.0102	17.01
5 Vinyl Chloride	62	1.145	1.145	(0.274)	74840	18.9897	18.98

QC Flag Legend

M - Compound response manually integrated.



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Date : 29-JUL-2020 14:14
Client ID: VLCSW-200729
Sample Info: VLCSW-200729;VLCSW-200729;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\X200729.b\X072907.D Page 1
Report Date: 21-Aug-2020 17:05

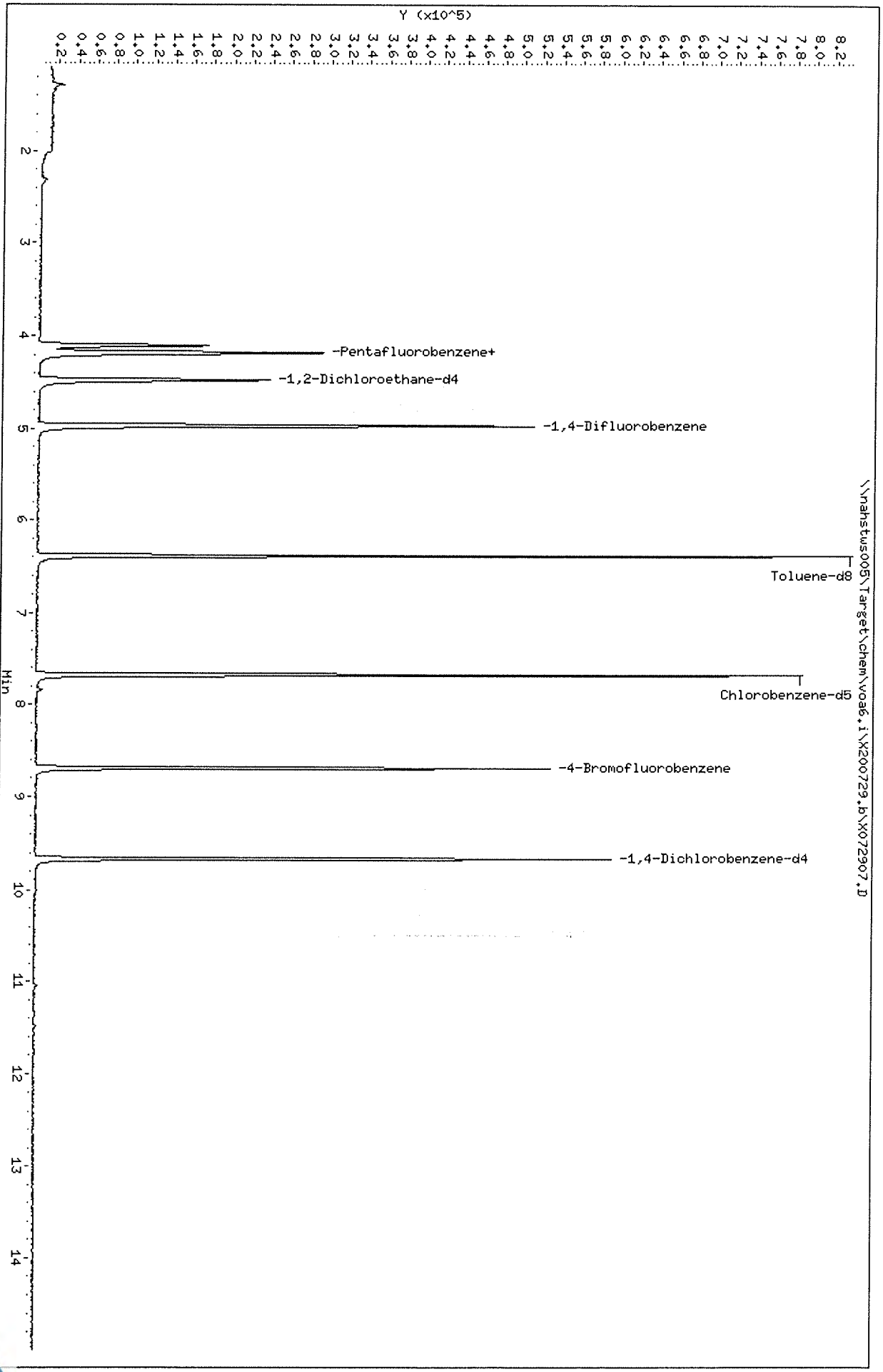
ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X200729.b\X072907.D
Lab Smp Id: VBLKW-200729 Client Smp ID: VBLKW-200729
Inj Date : 29-JUL-2020 15:02
Operator : PC Inst ID: voa6.i
Smp Info : VBLKW-200729;VBLKW-200729;3;;BLANK
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200729.b\8260W.m
Meth Date : 21-Aug-2020 17:05 voa6.i Quant Type: ISTD
Cal Date : 13-JUL-2020 13:18 Cal File: X071308.D
Als bottle: 7 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI-Hou11.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

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

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	207167	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	346757	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	298010	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	121571	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.979)	118506	51.3366	51.33
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	176551	56.3633	56.36
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	413709	52.9986	52.99
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	147421	51.1346	51.13



Data File: \\nahstws005\Target\chem\voa6.i\X200729.b\X072907.D
Date : 29-JUL-2020 15:02
Client ID: VBLKW-200729
Sample Info: VBLKW-200729;VBLKW-200729;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\X200729.b\X072908.D Page 1
Report Date: 21-Aug-2020 17:02

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X200729.b\X072908.D
Lab Smp Id: HS20071147-12 Client Smp ID: HS20071147-12
Inj Date : 29-JUL-2020 15:26
Operator : PC Inst ID: voa6.i
Smp Info : HS20071147-12;HS20071147-12;;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200729.b\8260W.m
Meth Date : 21-Aug-2020 17:00 dev.giga Quant Type: ISTD
Cal Date : 13-JUL-2020 13:18 Cal File: X071308.D
Als bottle: 8
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI-Hou11.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

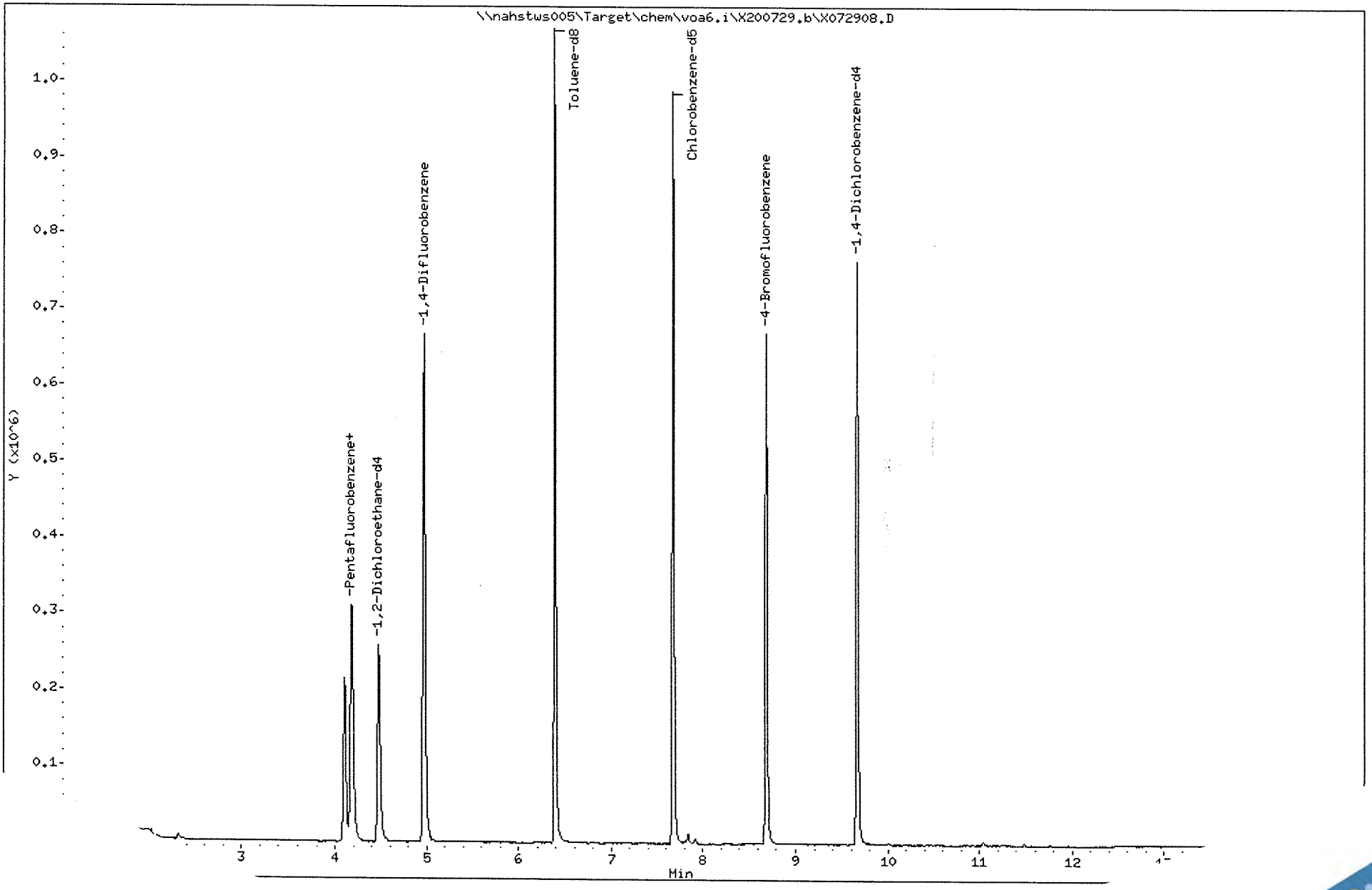
Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	220050	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	463283	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	387508	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	170901	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.979)	147397	60.1279	60.12
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	190456	57.2374	57.23
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	541180	53.3164	53.31
$ 69 4-Bromofluorobenzene	95	8.688	8.695	(1.133)	195814	52.2450	52.24

Data File: \\nahstws005\Target\chem\voa6.i\X200729.b\X072908.D
Date : 29-JUL-2020 15:26
Client ID: HS20071147-12
Sample Info: HS20071147-12;HS20071147-12;;;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i

Operator: PC
Column diameter: 0.18



Data File: \\nahstws005\Target\chem\voa6.i\X200729.b\X072909.D Page 1
Report Date: 21-Aug-2020 17:02

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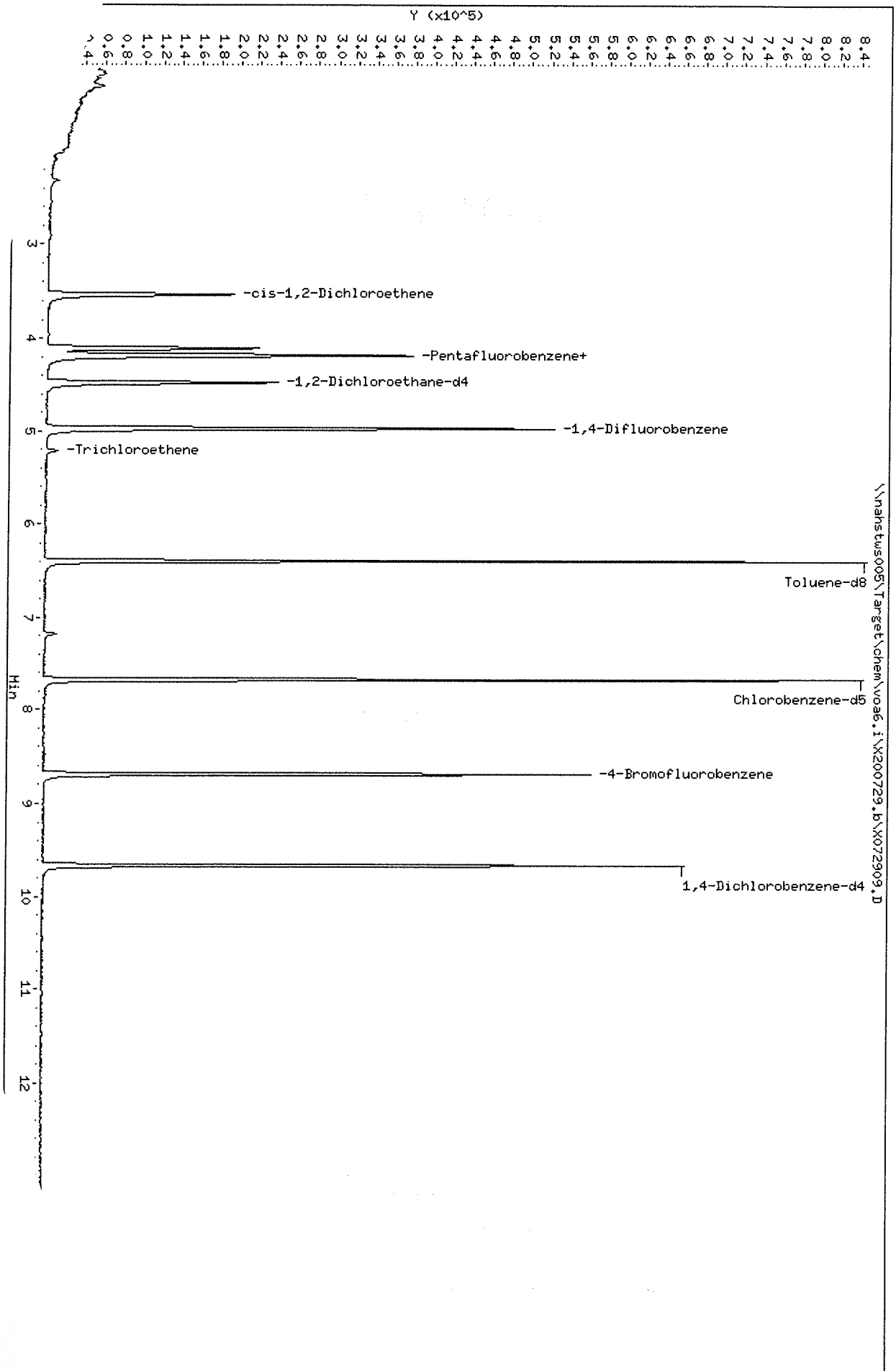
Data file : \\nahstws005\Target\chem\voa6.i\X200729.b\X072909.D
Lab Smp Id: HS20071147-05 Client Smp ID: HS20071147-05
Inj Date : 29-JUL-2020 15:50
Operator : PC Inst ID: voa6.i
Smp Info : HS20071147-05;HS20071147-05;;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200729.b\8260W.m
Meth Date : 21-Aug-2020 17:00 dev.giga Quant Type: ISTD
Cal Date : 13-JUL-2020 13:18 Cal File: X071308.D
Als bottle: 9
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI-Hou11.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

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

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	267652	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	358209	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	313783	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	129432	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.979)	148670	49.8470	49.84
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	177149	43.8496	43.84
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	425743	51.7986	51.79
$ 69 4-Bromofluorobenzene	95	8.688	8.695	(1.133)	156682	51.6200	51.62
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.843)	82581	24.0520	24.05
38 Trichloroethene	130	5.214	5.214	(1.049)	3297	1.27883	1.27



Data File: \\nahstws005\Target\chem\voa6.i\X200729.b\X072909.D
Date : 29-JUL-2020 15:50
Client ID: HS200711147-05
Sample Info: HS200711147-05;HS200711147-05;;;
Purge Volume: 5.0
Column phase: DB624

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

Data File: \\nahstws005\Target\chem\voa6.i\X200729.b\X072909.D

Date : 29-JUL-2020 15:50

Client ID: HS20071147-05

Instrument: voa6.i

Sample Info: HS20071147-05;HS20071147-05;;;

Purge Volume: 5.0

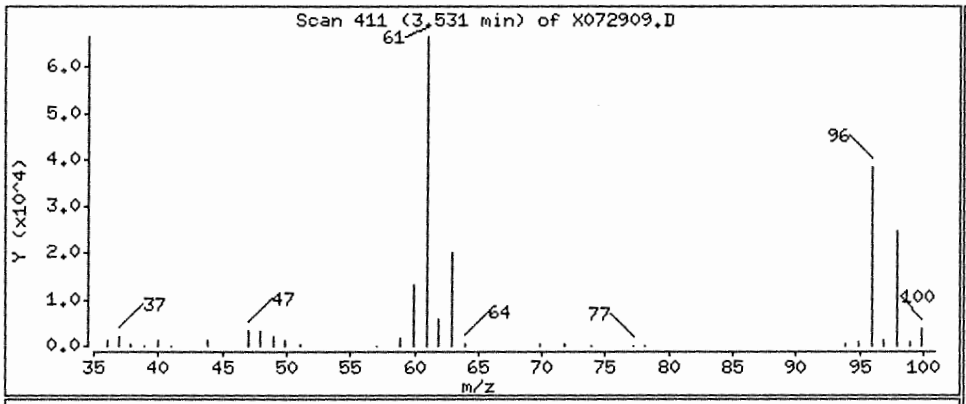
Operator: PC

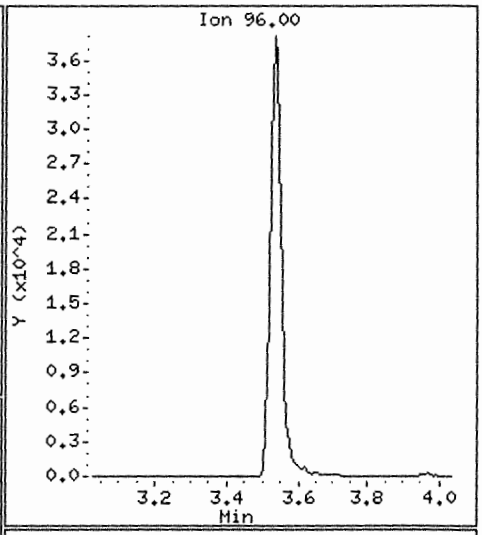
Column phase: DB624

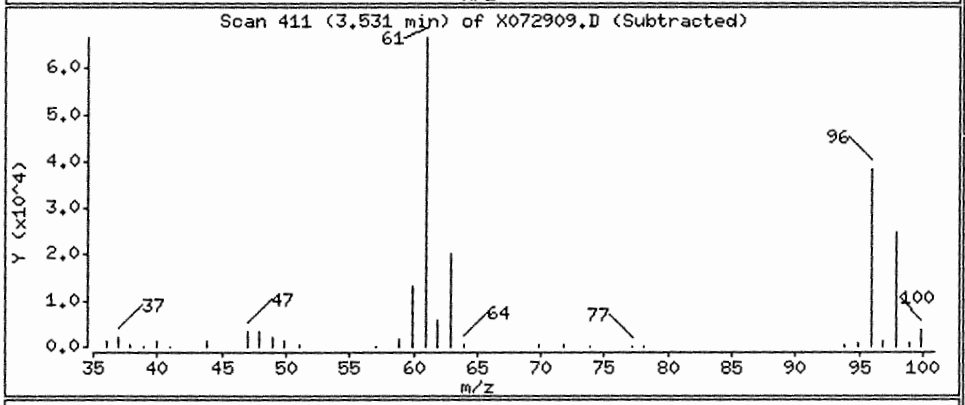
Column diameter: 0.18

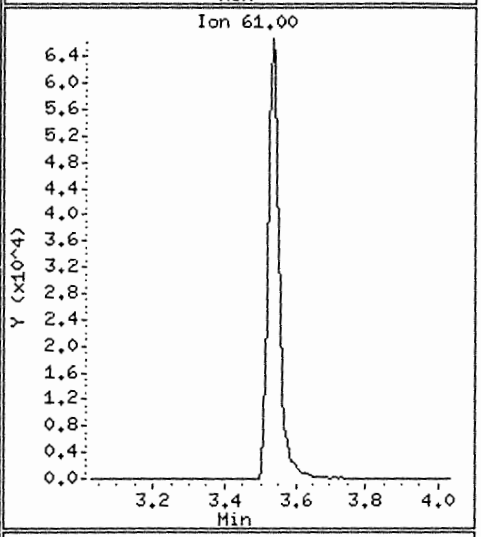
27 cis-1,2-Dichloroethene

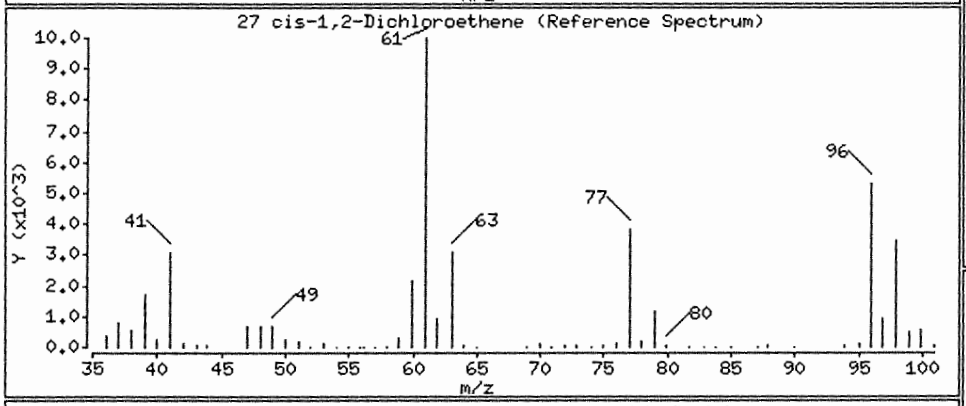
Concentration: 24.05 ug/l

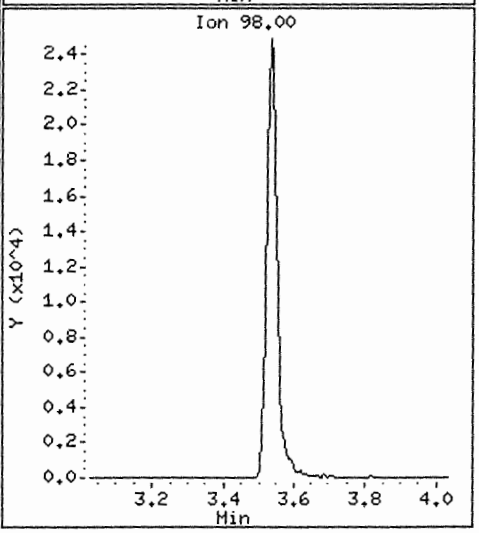


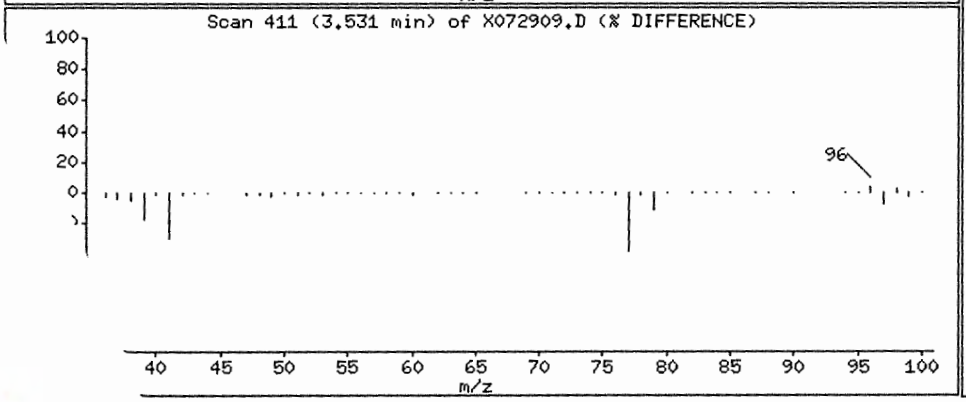












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: 29-JUL-2020 15:50

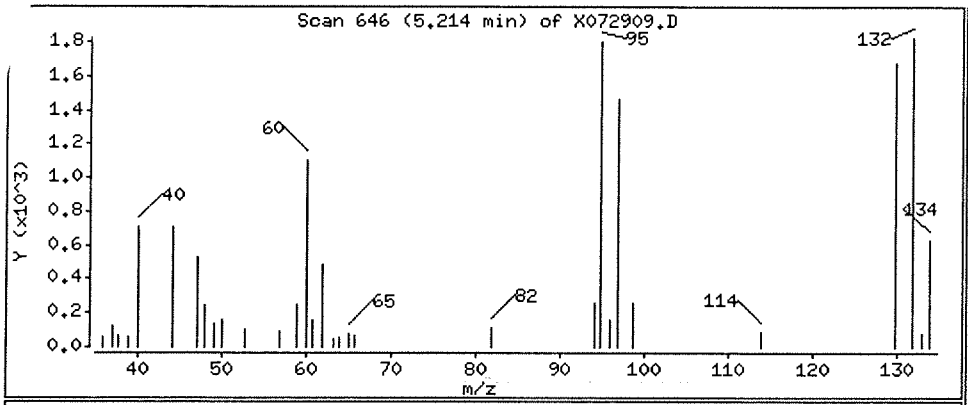
ent ID: HS20071147-05 Instrument: voa6.i

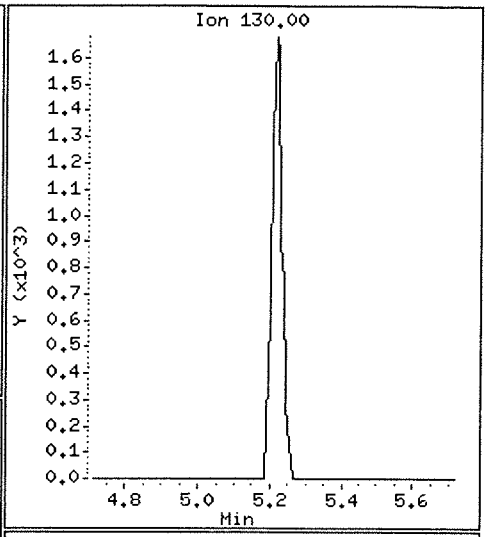
mple Info: HS20071147-05;HS20071147-05;;;

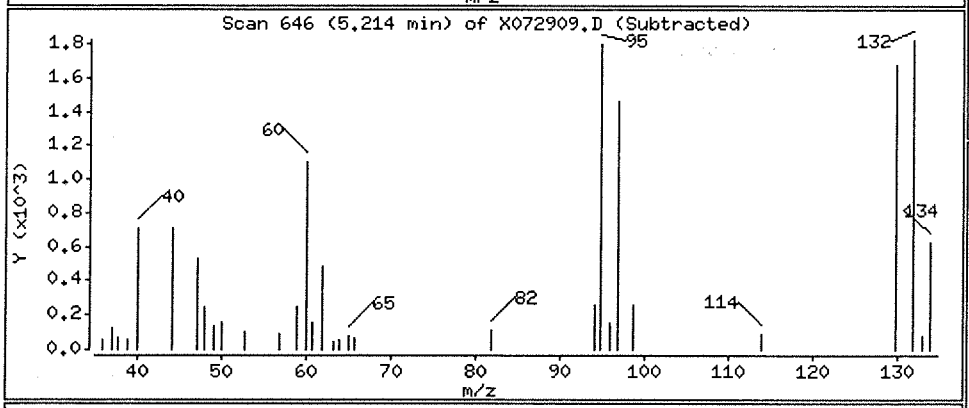
urge Volume: 5.0 Operator: PC

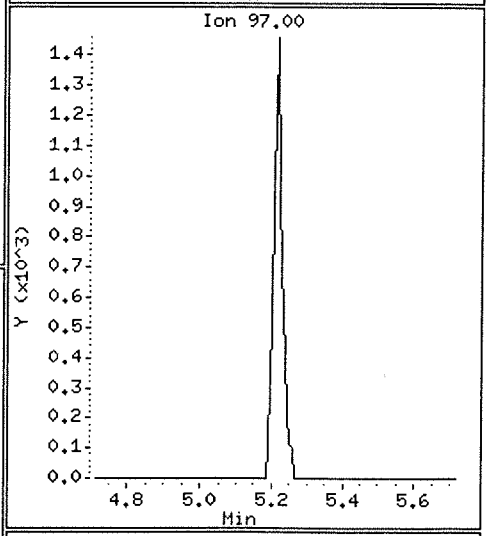
Column phase: DB624 Column diameter: 0.18

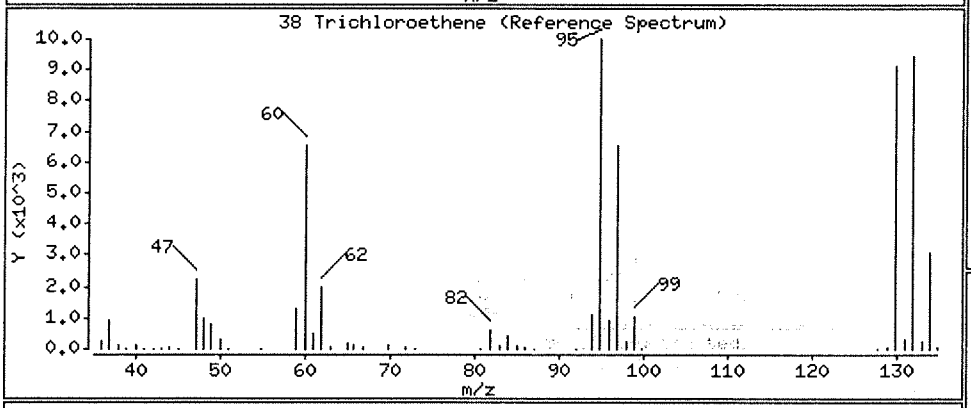
38 Trichloroethene Concentration: 1.27 ug/l

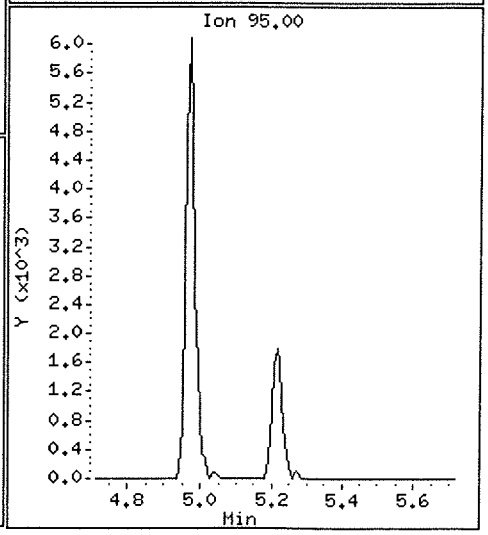


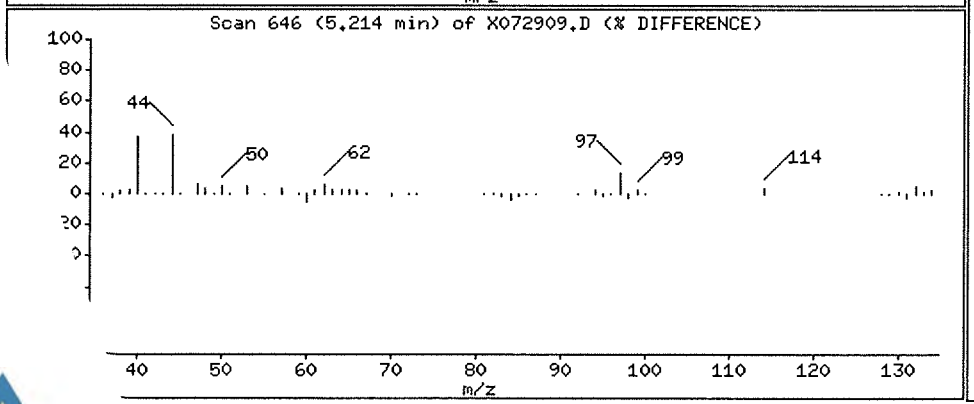












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ata file : \\nahstws005\Target\chem\voa6.i\X200729.b\X072911.D
ab Smp Id: HS20071147-03 Client Smp ID: HS20071147-03
nj Date : 29-JUL-2020 16:38
Operator : PC Inst ID: voa6.i
Smp Info : HS20071147-03;HS20071147-03;;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200729.b\8260W.m
Meth Date : 21-Aug-2020 17:00 dev.giga Quant Type: ISTD
Cal Date : 13-JUL-2020 13:18 Cal File: X071308.D
Als bottle: 11
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI-Hou11.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

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

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.189	(1.000)	254089	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	373174	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	386869	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	170940	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	146125	51.6119	51.61
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	181335	47.2552	47.25
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	489217	48.2767	48.27
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	189528	50.6350	50.63
27 cis-1,2-Dichloroethene	96	3.523	3.530	(0.842)	593683	182.142	182.14
38 Trichloroethene	130	5.214	5.214	(1.049)	744151	277.063	277.06(A)
5 Vinyl Chloride	62	1.145	1.145	(0.274)	16645	3.98379	3.98

QC Flag Legend

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

Data File: \\nahstws005\Target\chem\voa6.i\X200729.b\X072911.D

Page 2

Date : 29-JUL-2020 16:38

Client ID: HS20071147-03

Instrument: voa6.i

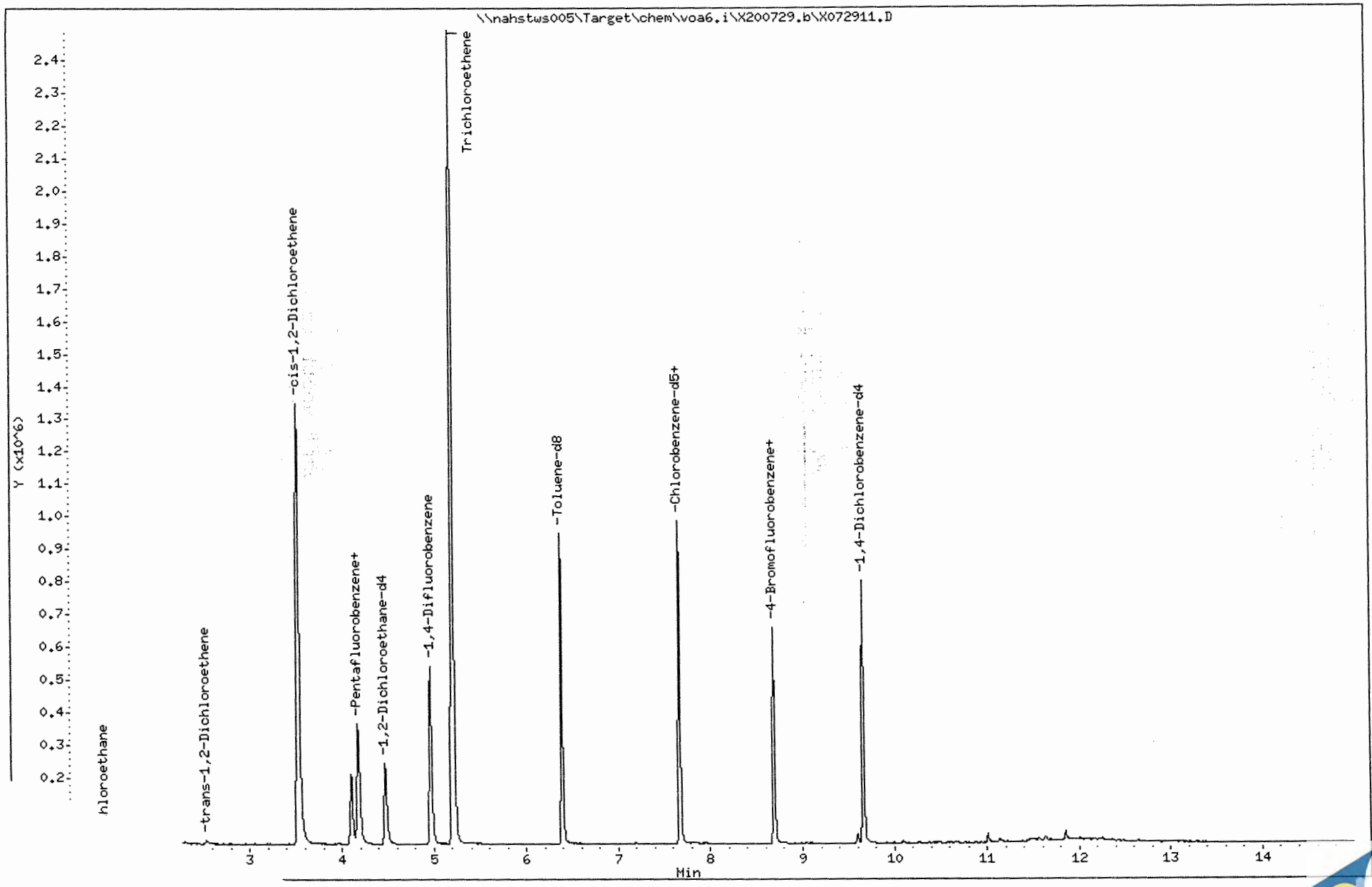
Sample Info: HS20071147-03;HS20071147-03;;;

Purge Volume: 5.0

Operator: PC

Column phase: DB624

Column diameter: 0.18



ile: \\nahstws005\Target\chem\voa6.i\X200729.b\X072911.D Page 3

: 29-JUL-2020 16:38

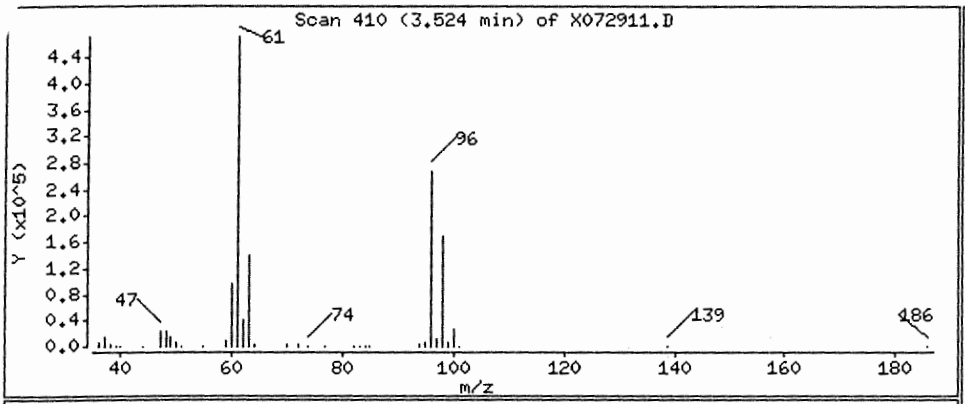
ent ID: HS20071147-03 Instrument: voa6.i

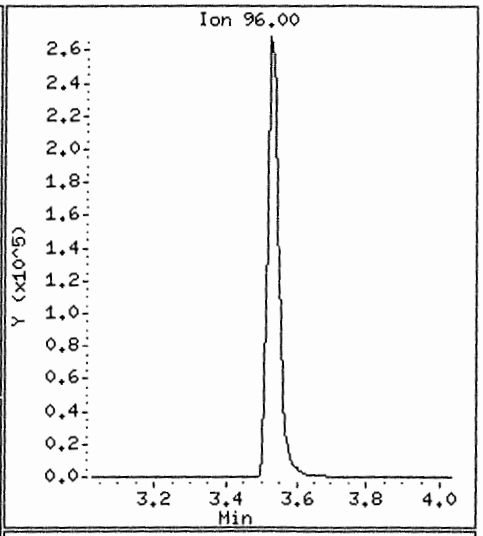
mple Info: HS20071147-03;HS20071147-03;;;

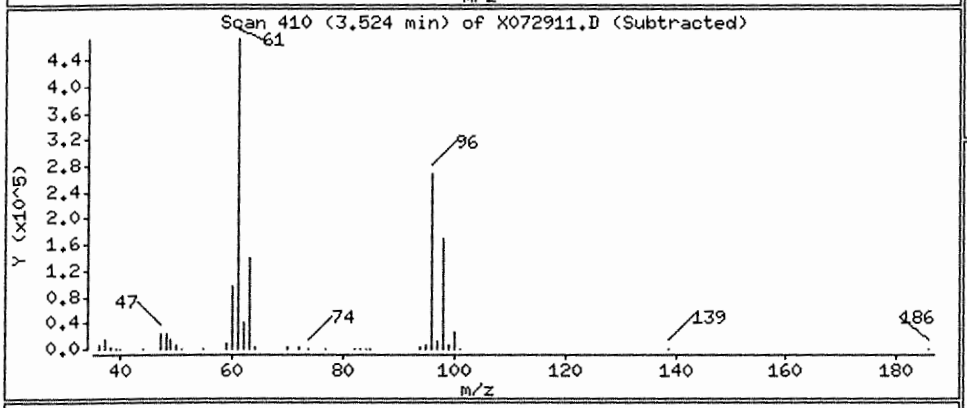
urge Volume: 5.0 Operator: PC

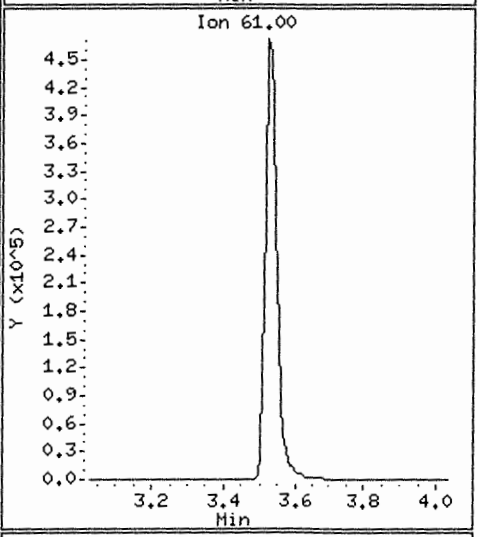
Column phase: DB624 Column diameter: 0.18

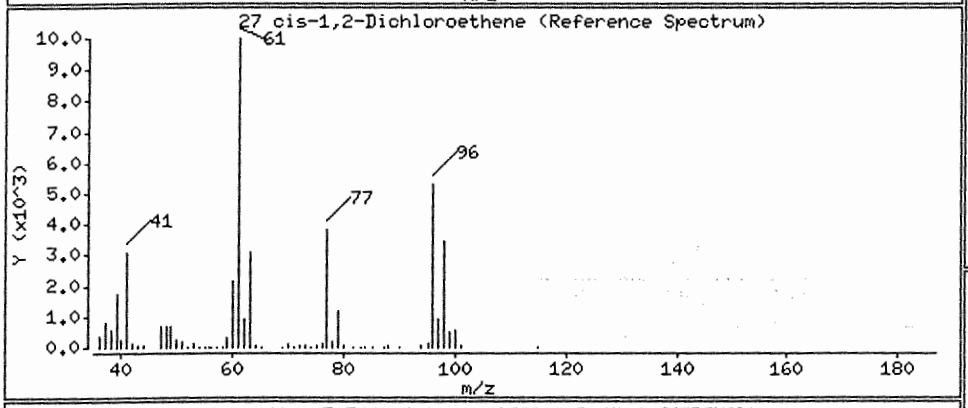
27 cis-1,2-Dichloroethene Concentration: 182.14 ug/l

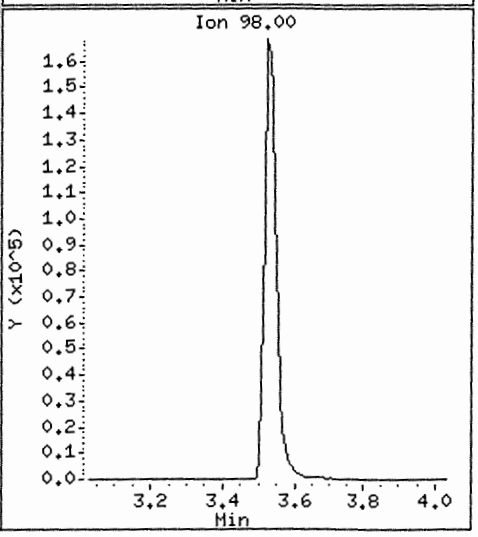


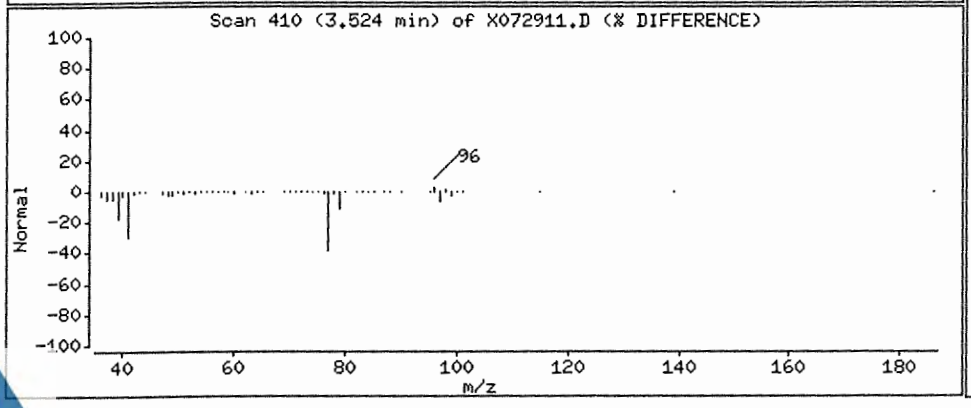












File: \\nahstws005\Target\chem\voa6.i\X200729.b\X072911.D

: 29-JUL-2020 16:38

ent ID: HS20071147-03

Instrument: voa6.i

ample Info: HS20071147-03;HS20071147-03;;;

Purge Volume: 5.0

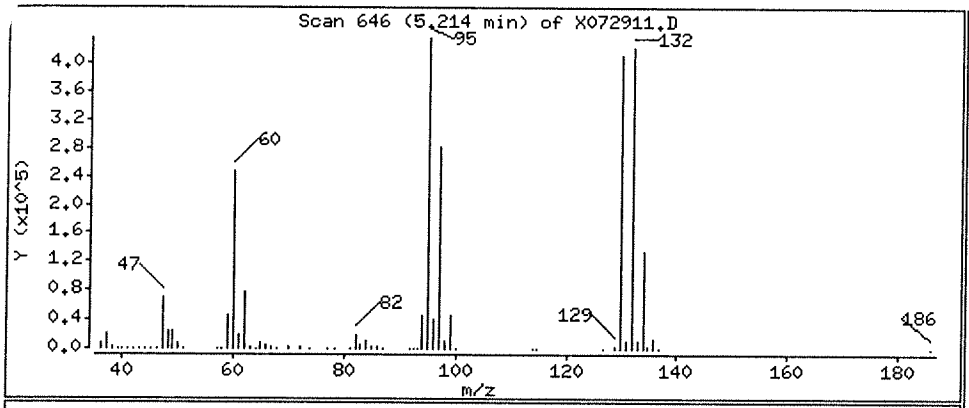
Operator: PC

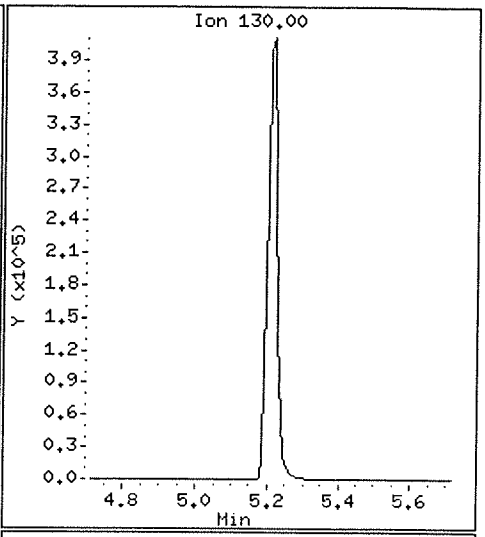
Column phase: DB624

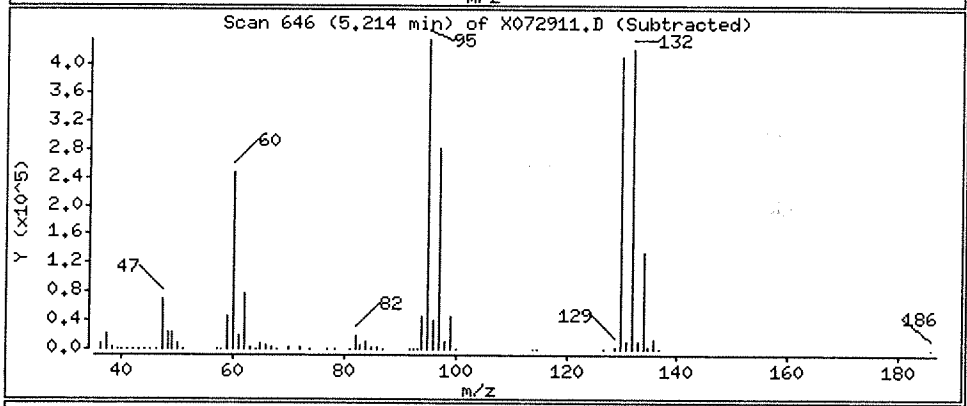
Column diameter: 0.18

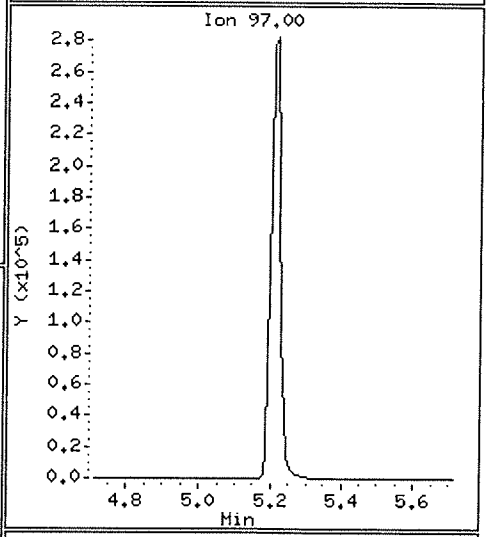
38 Trichloroethene

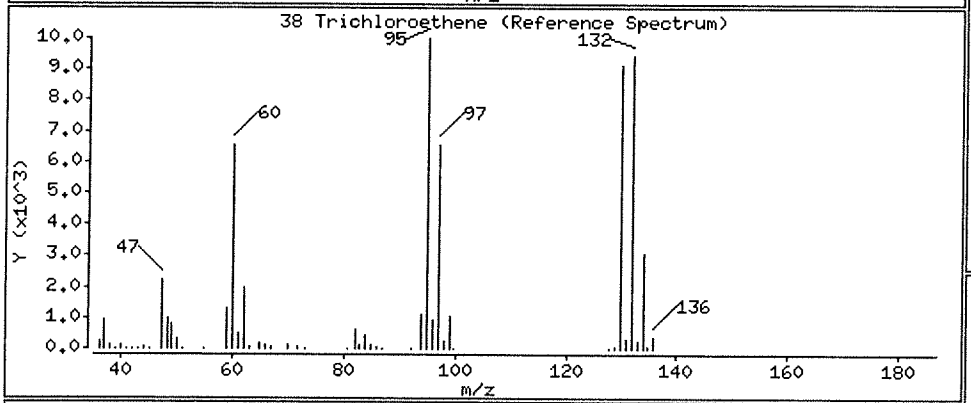
Concentration: 277.06 ug/l

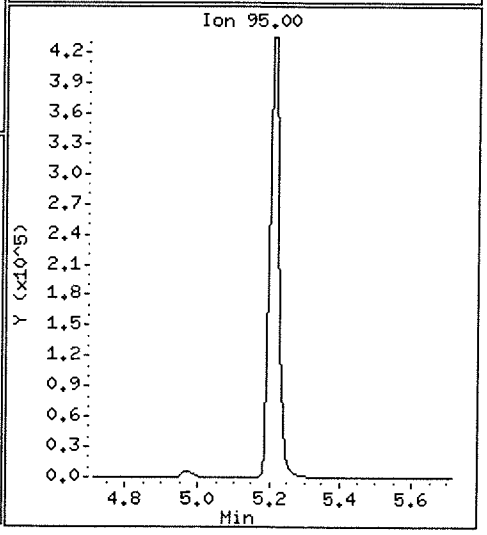


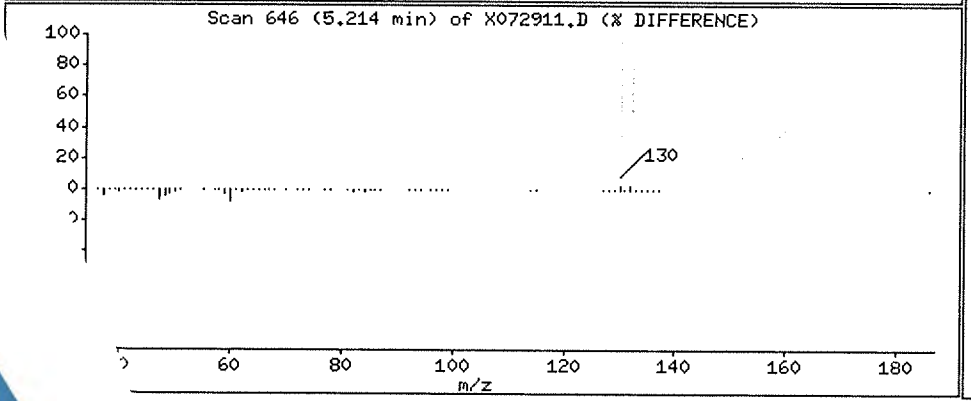












File: \\nahstws005\Target\chem\voa6.i\X200729.b\X072911.D

: 29-JUL-2020 16:38

ent ID: HS20071147-03

Instrument: voa6.i

ample Info: HS20071147-03;HS20071147-03;;;

Purge Volume: 5.0

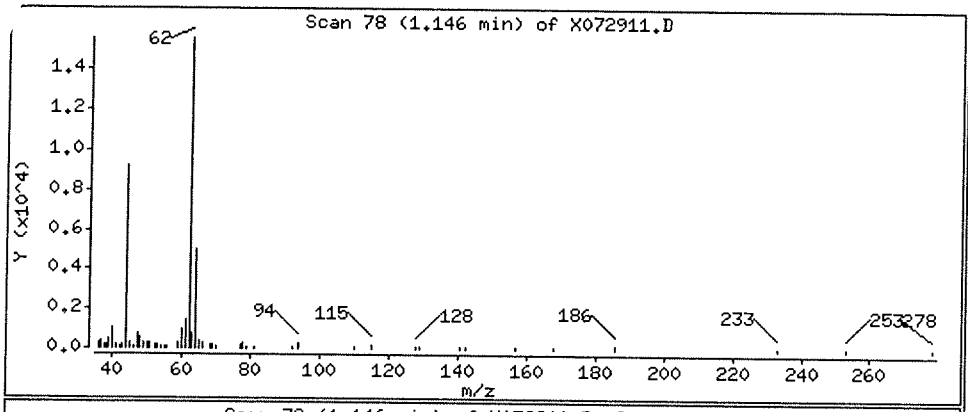
Operator: PC

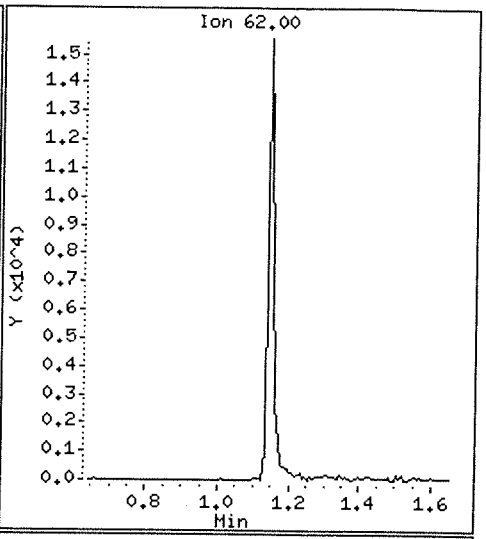
Column phase: DB624

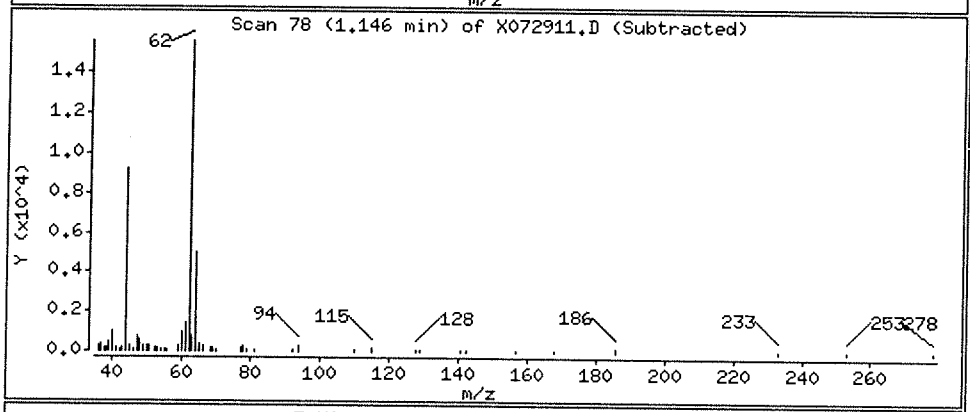
Column diameter: 0.18

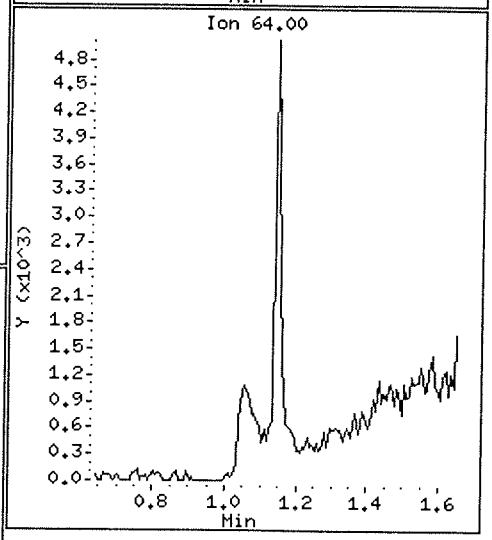
5 Vinyl Chloride

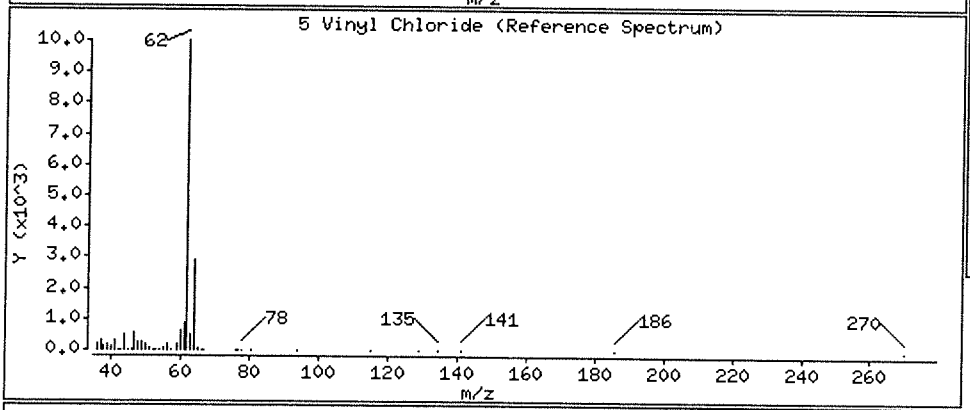
Concentration: 3.98 ug/l

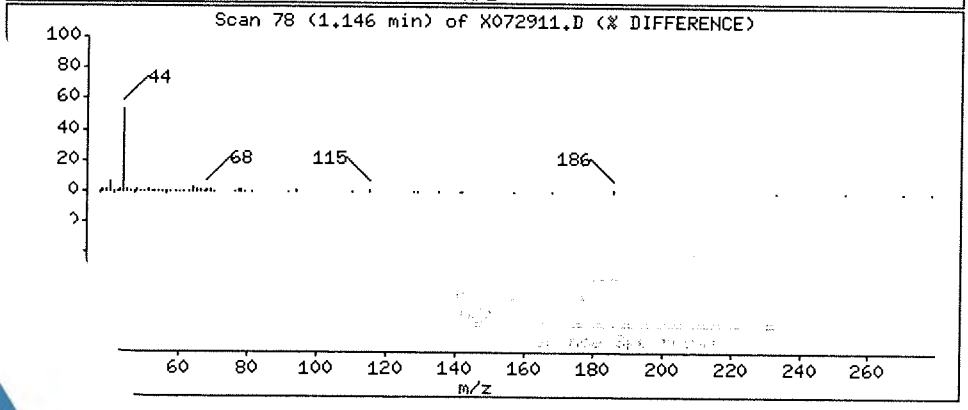












ALS Laboratory Group

ta file : \\nahstws005\Target\chem\voa6.i\X200729.b\X072912.D
ıb Smp Id: HS20071147-04 Client Smp ID: HS20071147-04
nj Date : 29-JUL-2020 17:02
)perator : PC Inst ID: voa6.i
Smp Info : HS20071147-04;HS20071147-04;;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200729.b\8260W.m
Meth Date : 21-Aug-2020 17:00 dev.giga Quant Type: ISTD
Cal Date : 13-JUL-2020 13:18 Cal File: X071308.D
Als bottle: 12
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI-Houll.sub
Target Version: 4.14
Processing Host: NAHSTW7056

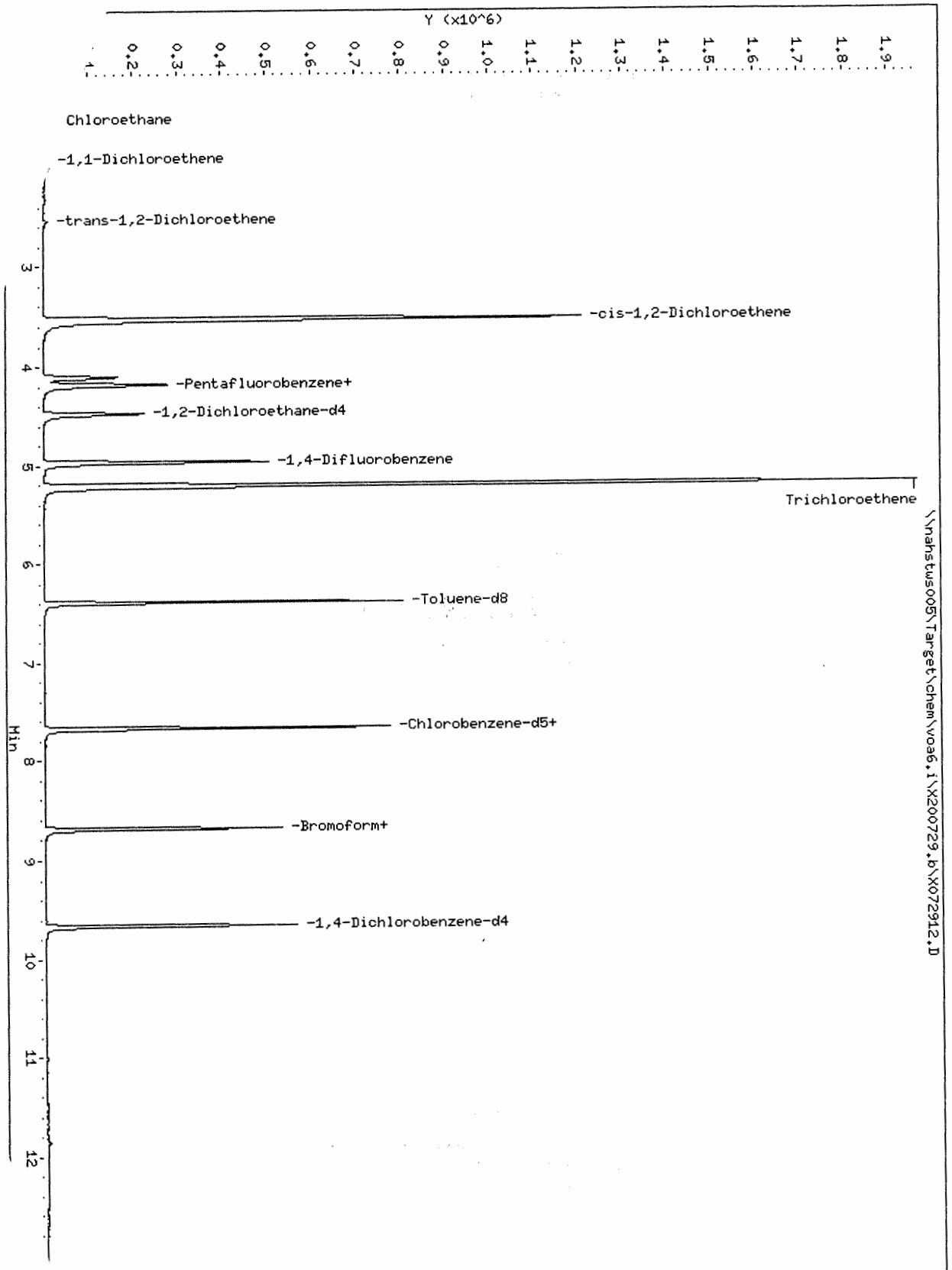
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

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

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
*	1 Pentafluorobenzene	168	4.189	4.189	(1.000)	196596	50.0000	
*	36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	333820	50.0000	
*	47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	290459	50.0000	
*	70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	117552	50.0000	
$	30 Dibromofluoromethane	113	4.103	4.103	(0.979)	110057	50.2383	50.23
$	35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	166440	55.9947	55.99
$	48 Toluene-d8	98	6.388	6.388	(0.833)	399130	52.4602	52.46
$	69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	144718	51.5058	51.50
	11 1,1-Dichloroethene	96	1.919	1.919	(0.458)	1052	0.61166	0.61(a)
	27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.843)	492734	195.380	195.37
	38 Trichloroethene	130	5.214	5.214	(1.049)	542312	225.718	225.71(A)
	5 Vinyl Chloride	62	1.145	1.145	(0.273)	12651	3.91335	3.91

Flag Legend

Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
Target compound detected but, quantitated amount
xceeded maximum amount.



Data File: \\nahstus005\Target\chem\voa6.i\X200729.b\X072912.D
Date : 29-JUL-2020 17:02
Client ID: HS20071147-04
Sample Info: HS20071147-04;HS20071147-04;;;
Purge Volume: 5.0
Column phase: DB624

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

\\nahstus005\Target\chem\voa6.i\X200729.b\X072912.D

ıle: \\nahstws005\Target\chem\voa6.i\X200729.b\X072912.D

: 29-JUL-2020 17:02

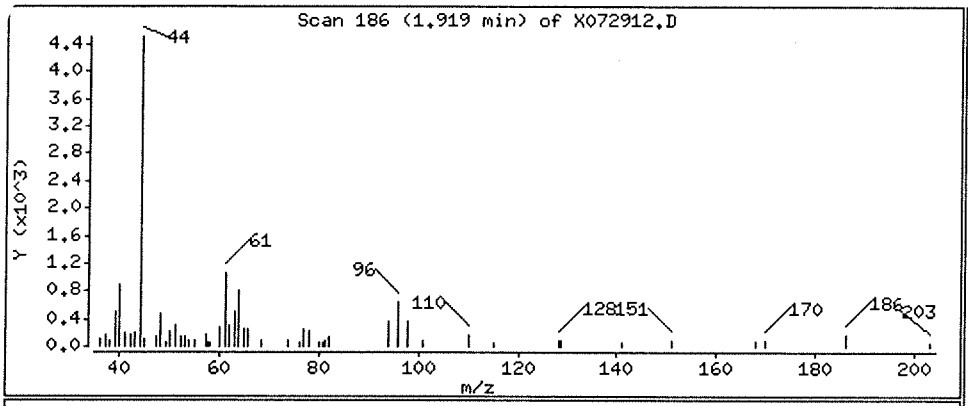
ent ID: HS20071147-04 Instrument: voa6.i

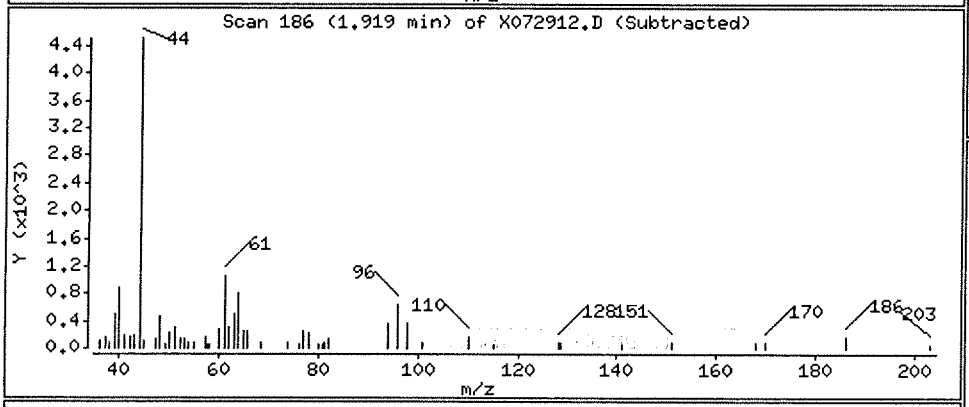
mple Info: HS20071147-04;HS20071147-04;;;

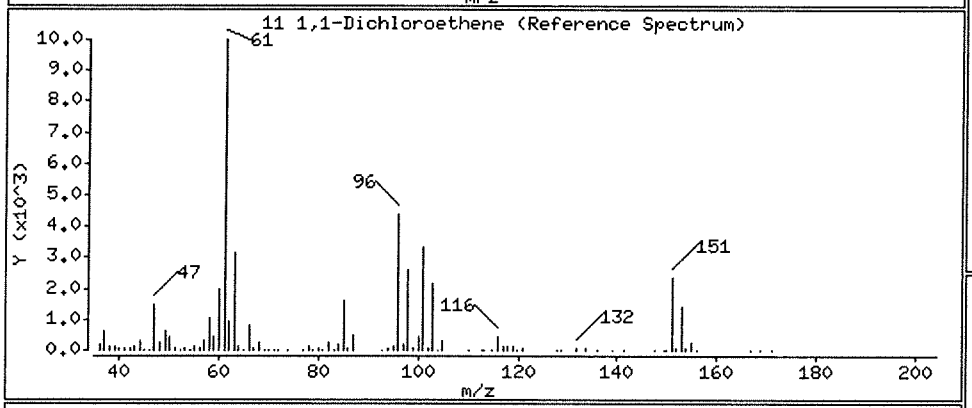
urge Volume: 5.0 Operator: PC

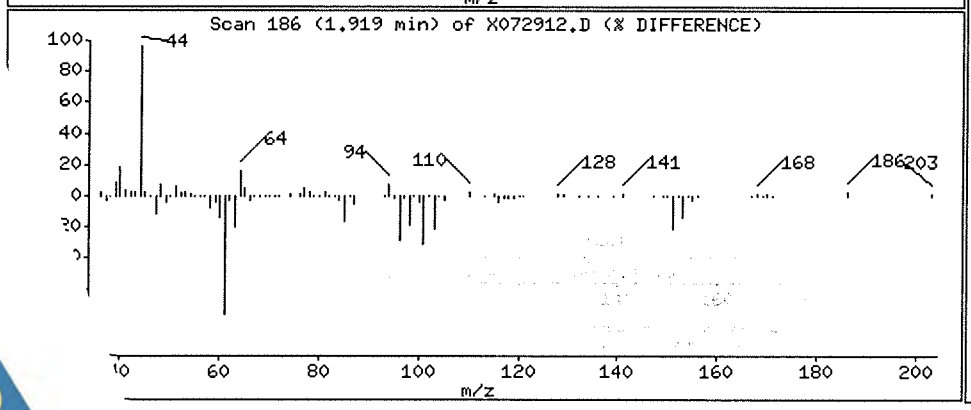
Column phase: DB624 Column diameter: 0.18

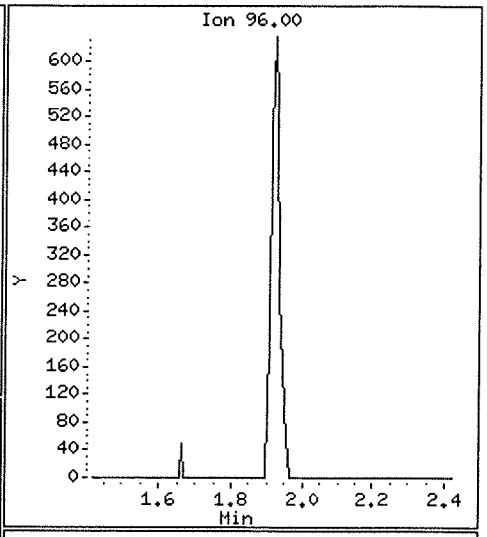
11 1,1-Dichloroethene Concentration: 0.61 ug/l

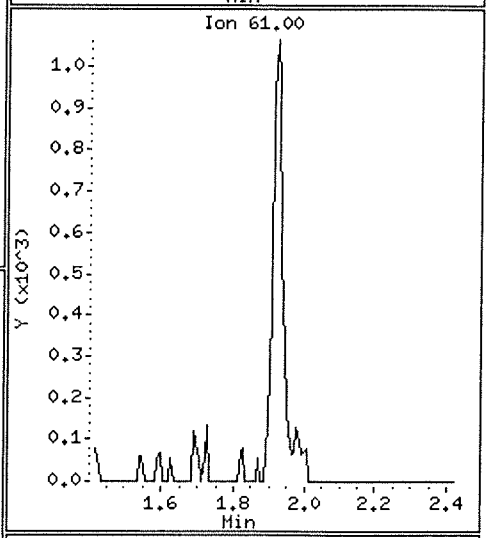


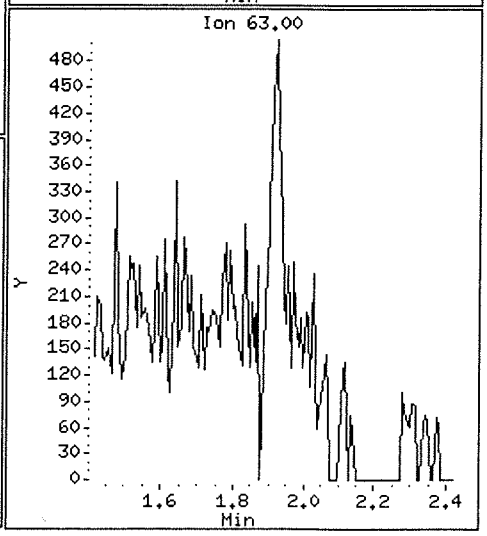












.le: \\nahstws005\Target\chem\voa6.i\X200729.b\X072912.D

: 29-JUL-2020 17:02

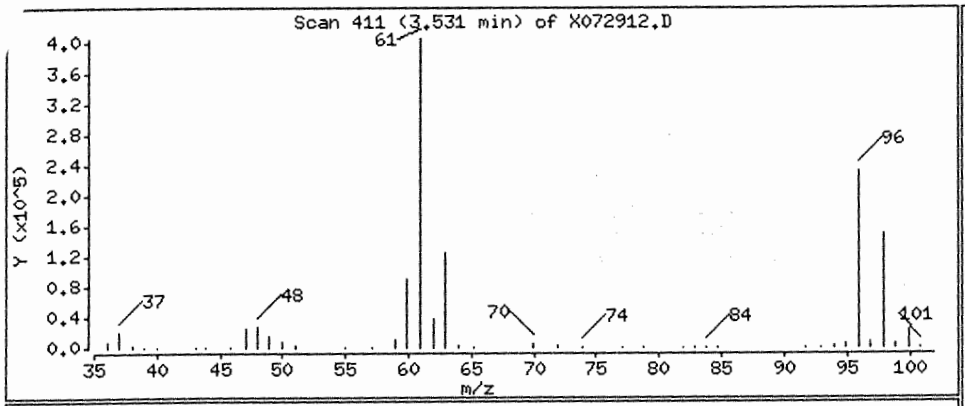
nt ID: HS20071147-04 Instrument: voa6.i

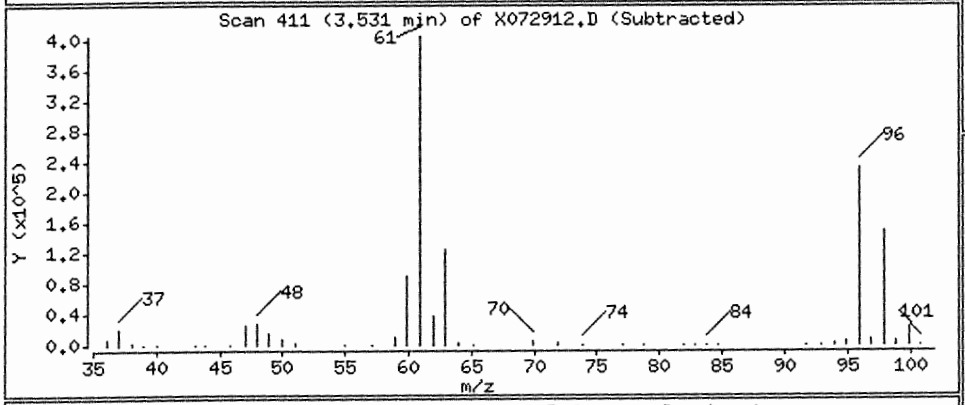
ple Info: HS20071147-04;HS20071147-04;;;

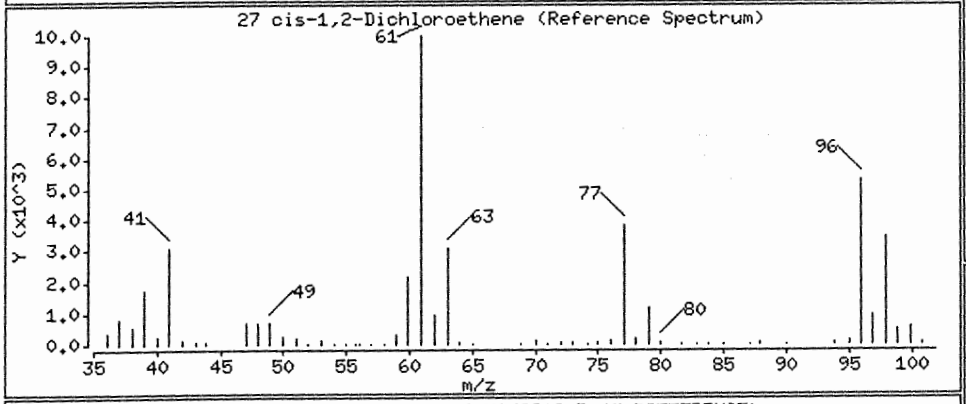
urge Volume: 5.0 Operator: PC

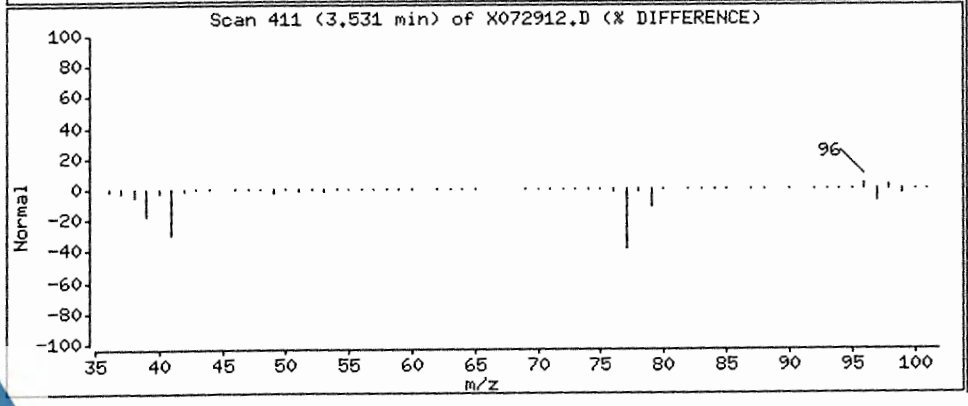
Column phase: DB624 Column diameter: 0.18

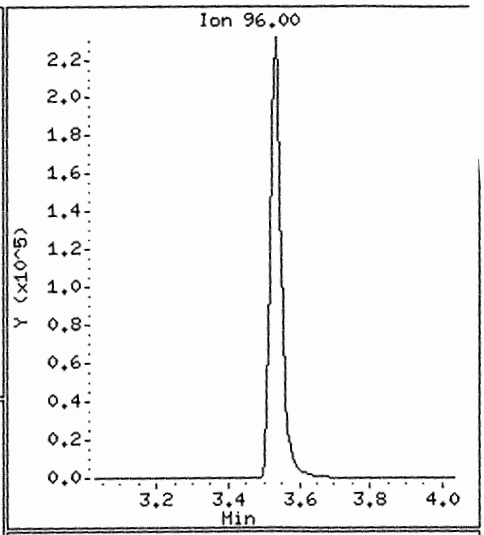
27 cis-1,2-Dichloroethene Concentration: 195.37 ug/l

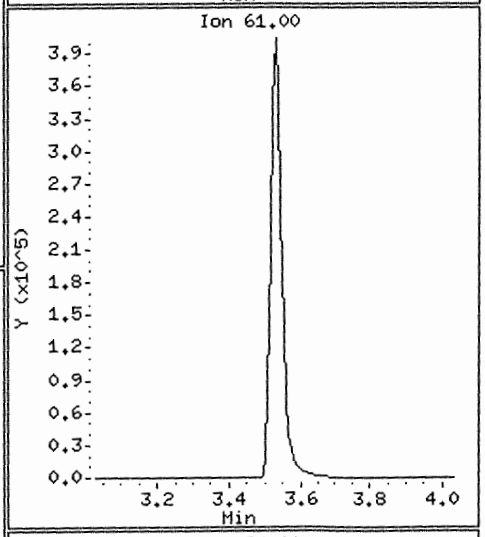


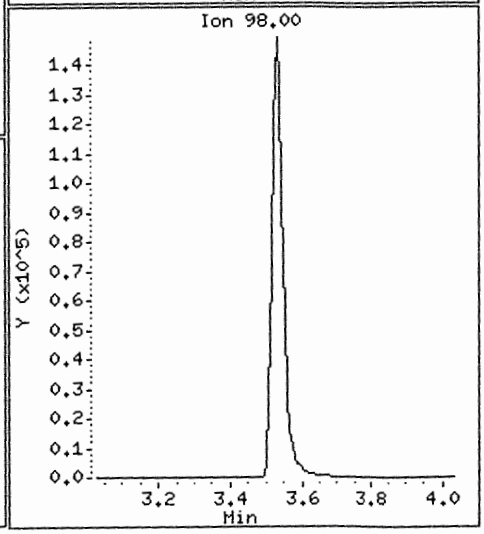












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: 29-JUL-2020 17:02

ent ID: HS20071147-04

Instrument: voa6.i

mple Info: HS20071147-04;HS20071147-04;;;

Purge Volume: 5.0

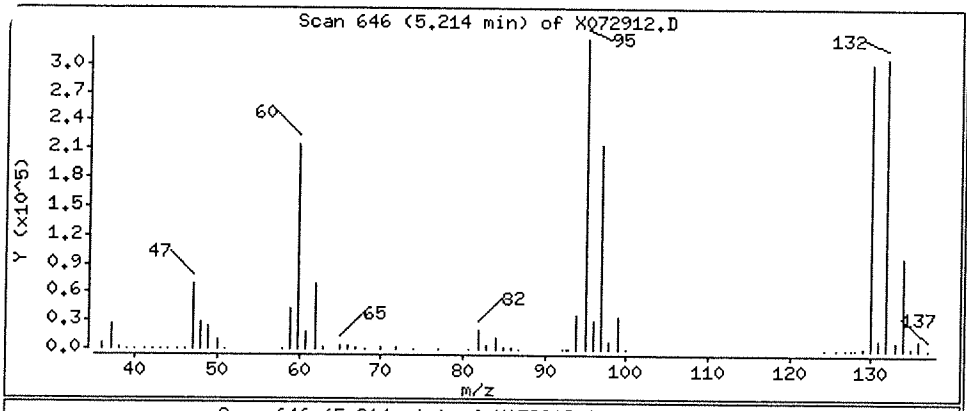
Operator: PC

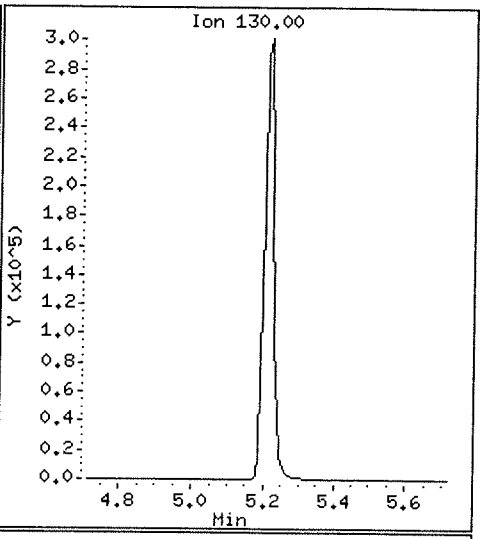
Column phase: DB624

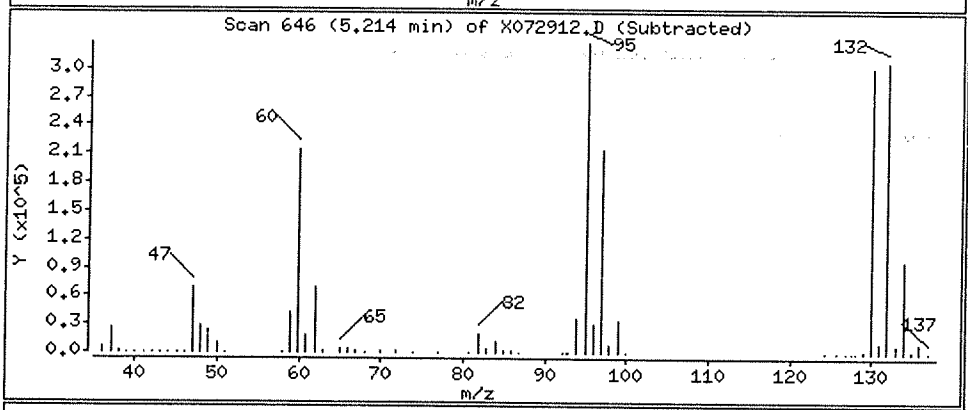
Column diameter: 0.18

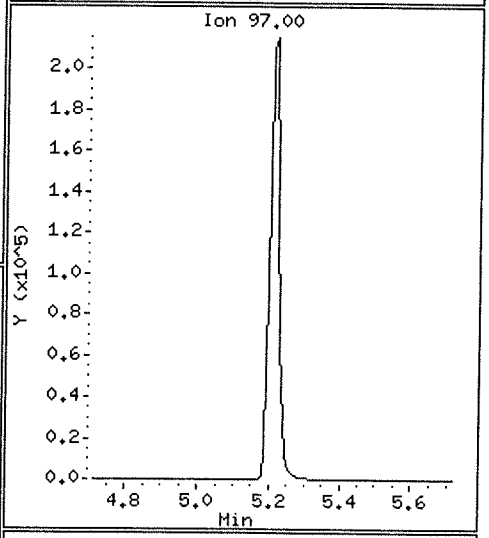
38 Trichloroethene

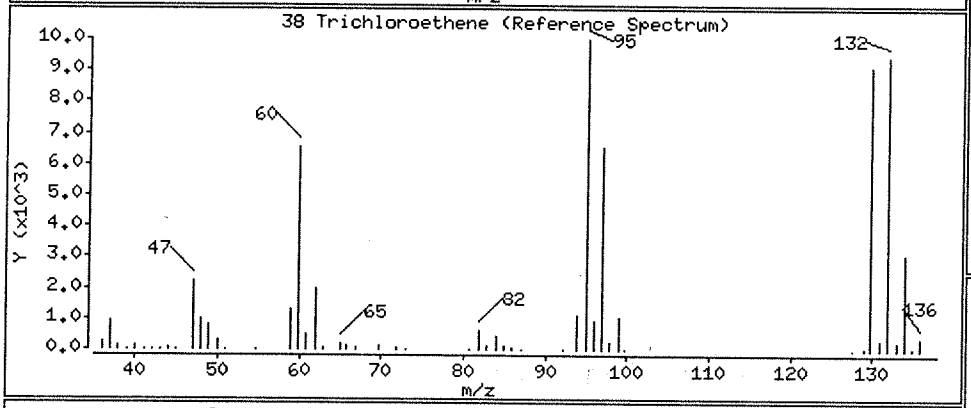
Concentration: 225.71 ug/l

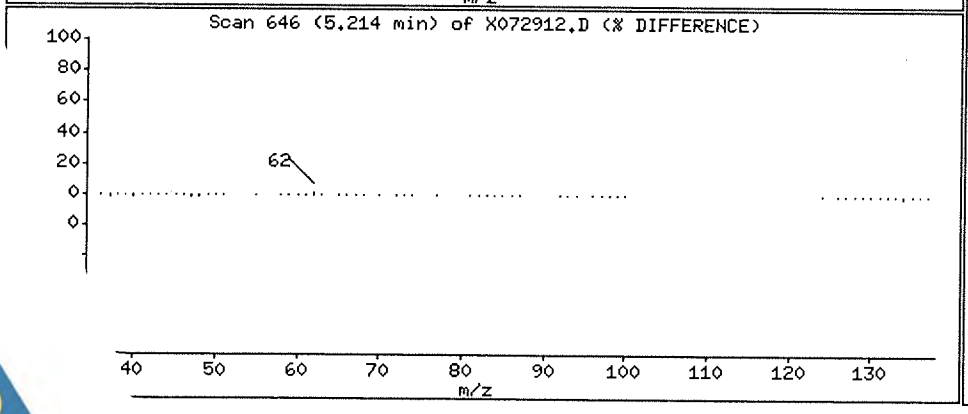


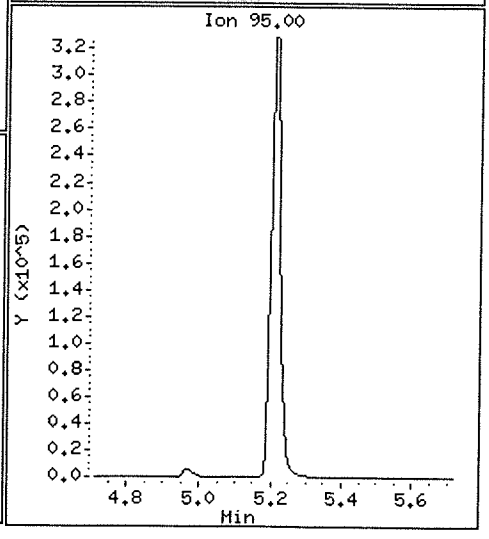












File: \\nahstws005\Target\chem\voa6.i\X200729.b\X072912.D

: 29-JUL-2020 17:02

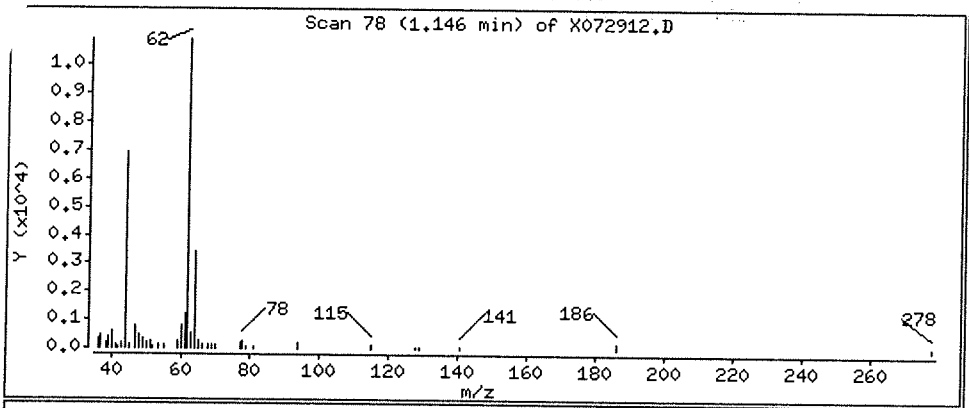
ent ID: HS20071147-04 Instrument: voa6.i

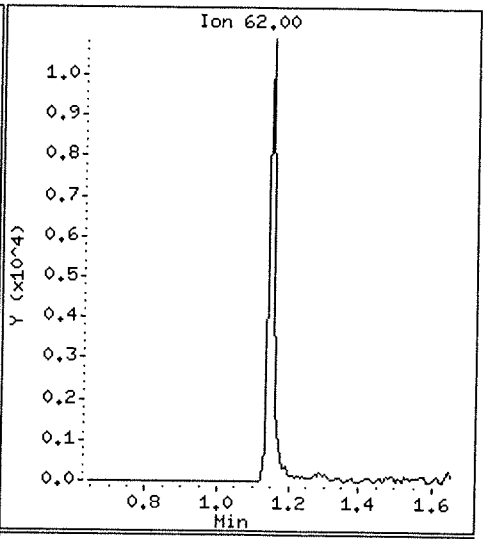
mple Info: HS20071147-04;HS20071147-04;;;

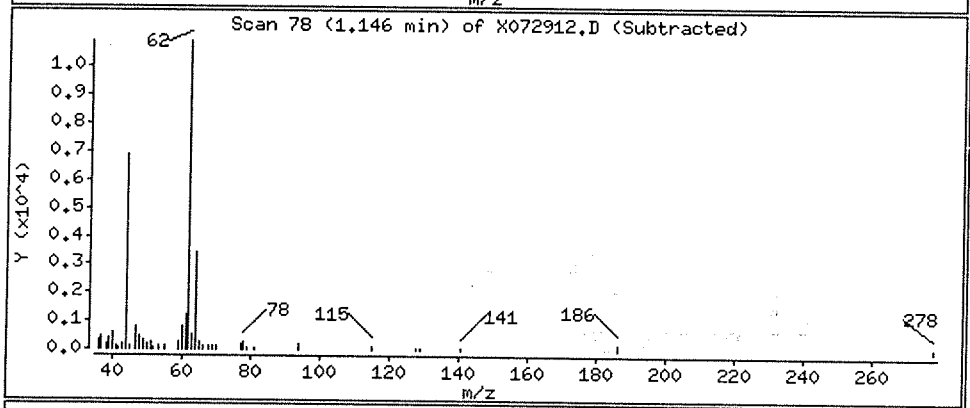
urge Volume: 5.0 Operator: PC

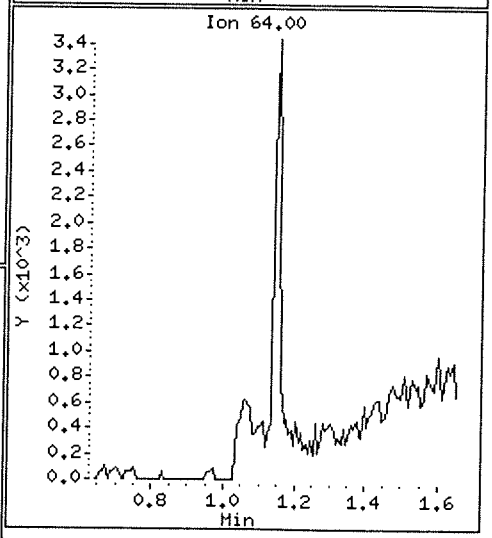
Column phase: DB624 Column diameter: 0.18

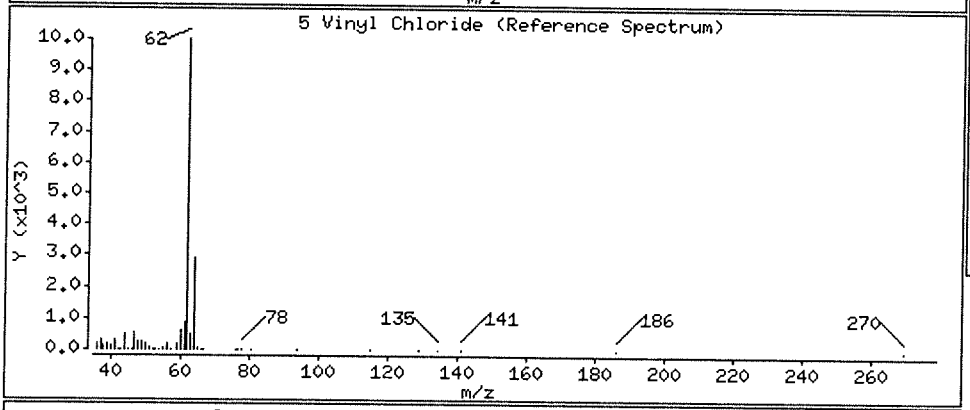
5 Vinyl Chloride Concentration: 3.91 ug/l

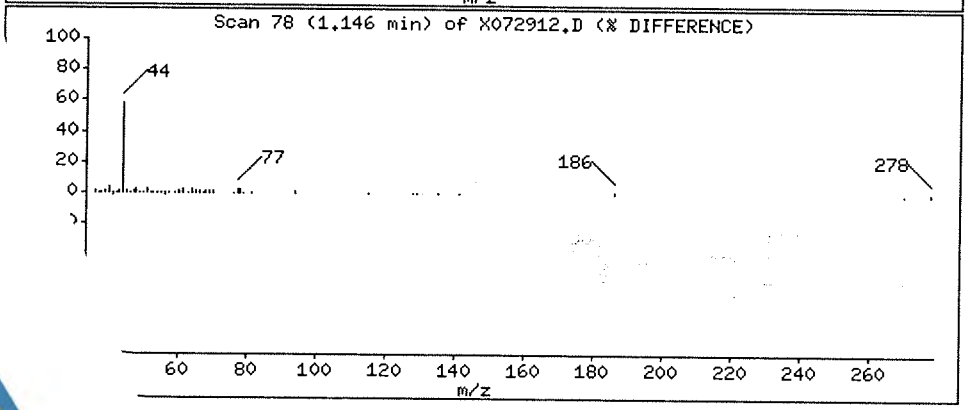












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ca file : \\nahstws005\Target\chem\voa6.i\X200729.b\X072913.D
.b Smp Id: HS20071147-02 Client Smp ID: HS20071147-02
nj Date : 29-JUL-2020 17:26
)perator : PC Inst ID: voa6.i
Smp Info : HS20071147-02;HS20071147-02;;;
Misc Info : HS18090001;WATER;0;5;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200729.b\8260W.m
Meth Date : 21-Aug-2020 17:00 dev.giga Quant Type: ISTD
Cal Date : 13-JUL-2020 13:18 Cal File: X071308.D
Als bottle: 13
Dil Factor: 5.00000
Integrator: HP RTE Compound Sublist: CBI-Hou11.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

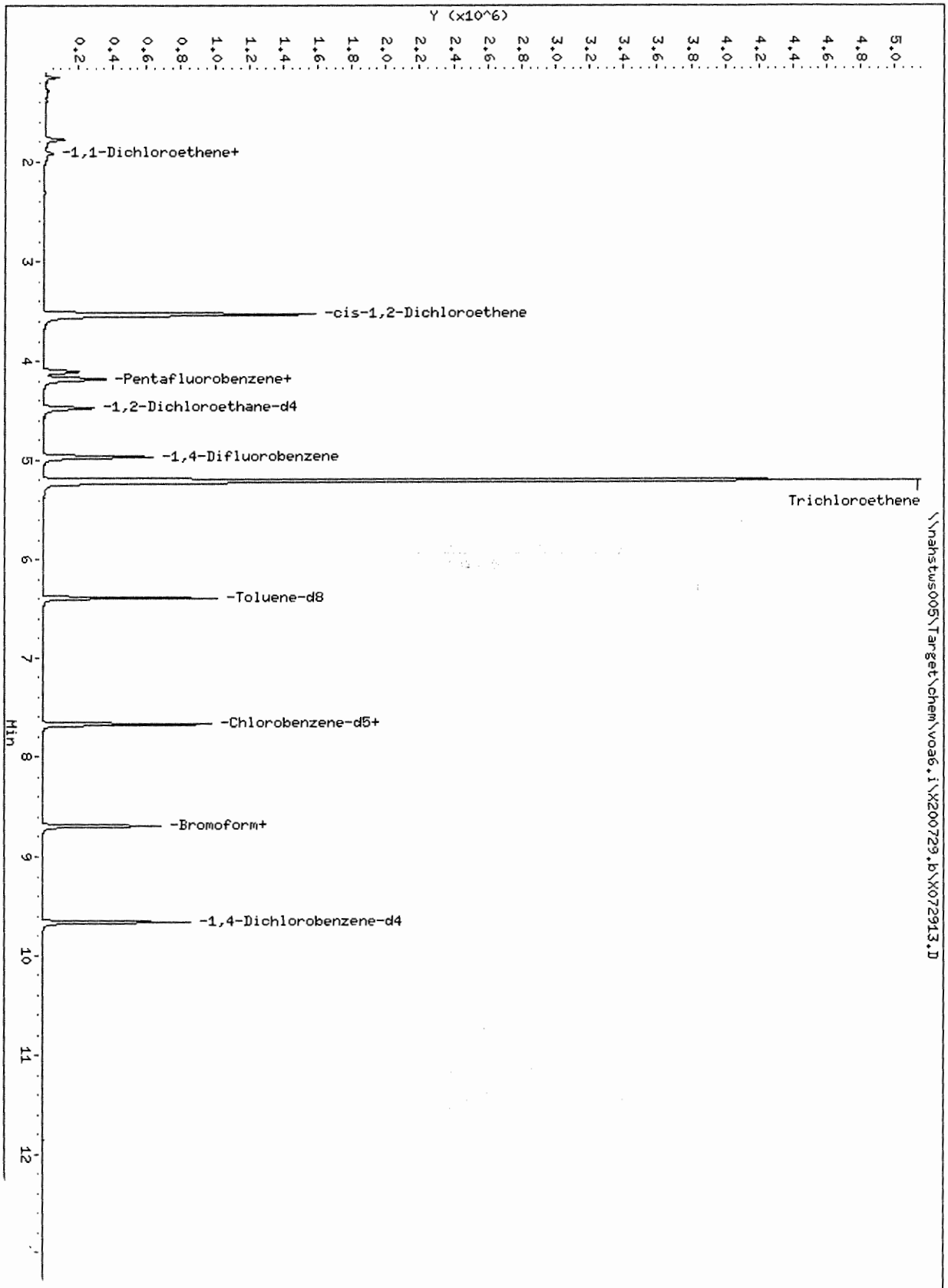
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	264444	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	449526	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	397392	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.669	(1.000)	176634	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.979)	146984	49.8796	49.87
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	217953	54.5211	54.52
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	519271	49.8856	49.88
$ 69 4-Bromofluorobenzene	95	8.688	8.695	(1.133)	203835	53.0405	53.04
11 1,1-Dichloroethene	96	1.919	1.919	(0.458)	7833	3.38581	16.92(a)
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.843)	635879	187.449	937.24
38 Trichloroethene	130	5.207	5.214	(1.048)	1477401	456.639	2283.19(A)
5 Vinyl Chloride	62	1.145	1.145	(0.273)	49899	11.4751	57.37

' Flag Legend

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

Data File: \\nahstws005\Target\chem\voa6.i\X200729.b\X072913.D
Date : 29-JUL-2020 17:26
Client ID: HS20071147-02
Sample Info: HS20071147-02;HS20071147-02;;;
Purge Volume: 5.0
Column phase: DB624

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



ıle: \\nahstws005\Target\chem\voa6.i\X200729.b\X072913.D

: 29-JUL-2020 17:26

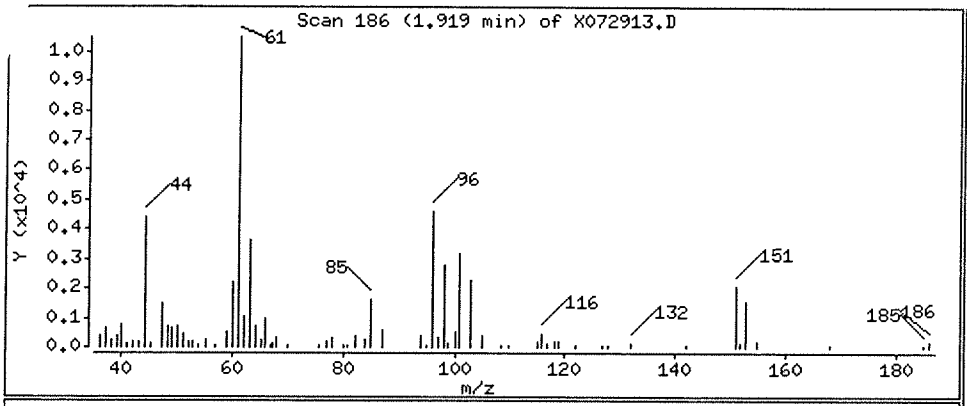
nt ID: HS20071147-02 Instrument: voa6.i

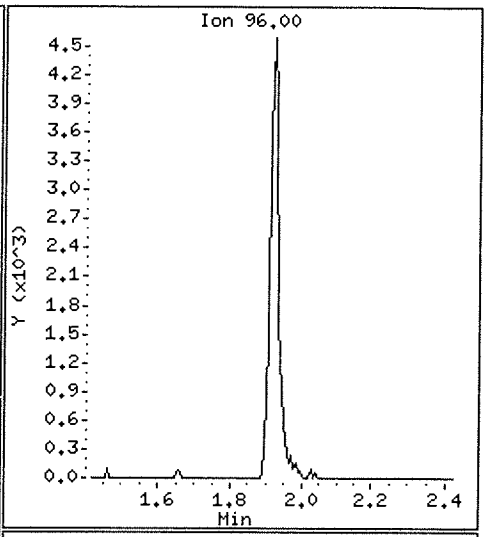
ple Info: HS20071147-02;HS20071147-02;;;

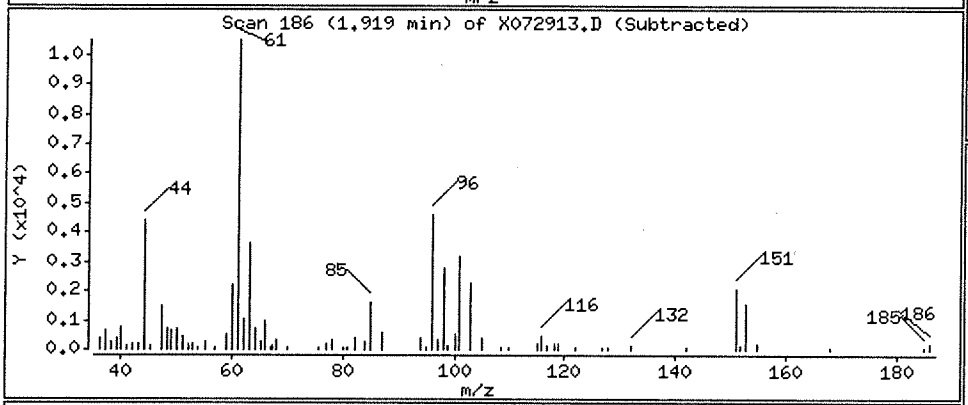
urge Volume: 5.0 Operator: PC

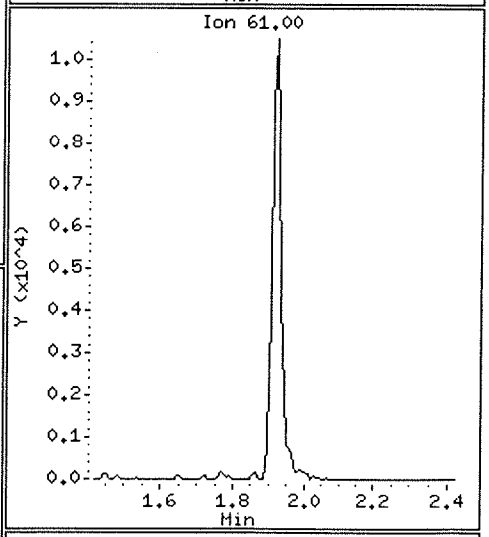
Column phase: DB624 Column diameter: 0.18

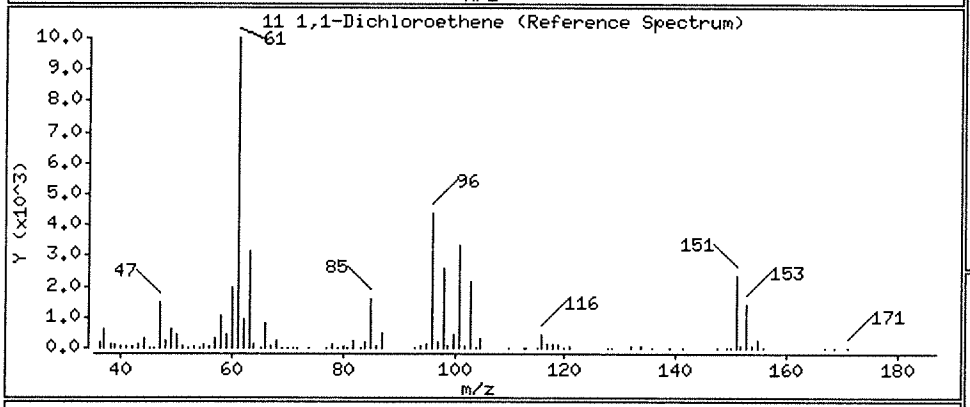
11 1,1-Dichloroethene Concentration: 16.92 ug/l

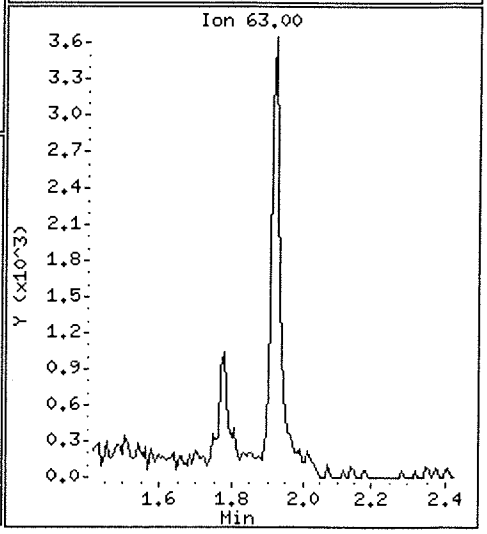


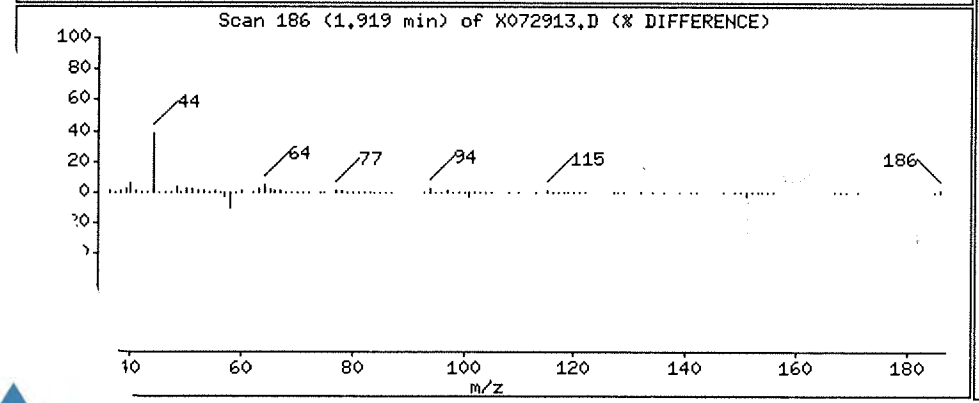












ile: \\nahstws005\Target\chem\voa6.i\X200729.b\X072913.D

: 29-JUL-2020 17:26

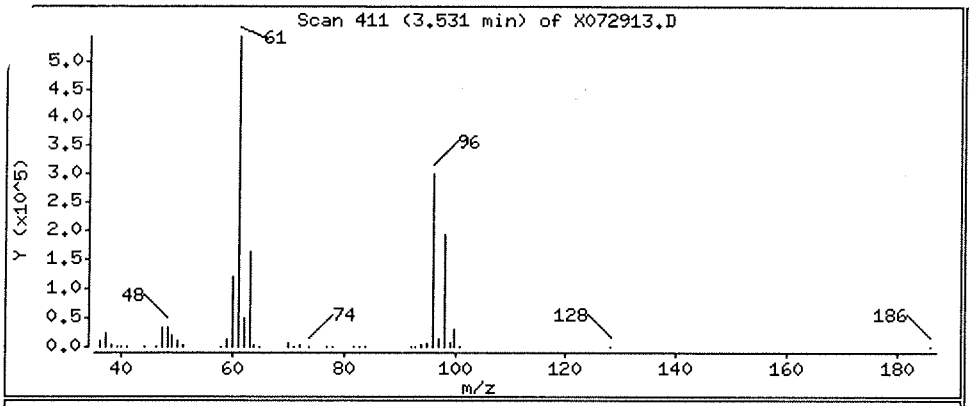
nt ID: HS20071147-02 Instrument: voa6.i

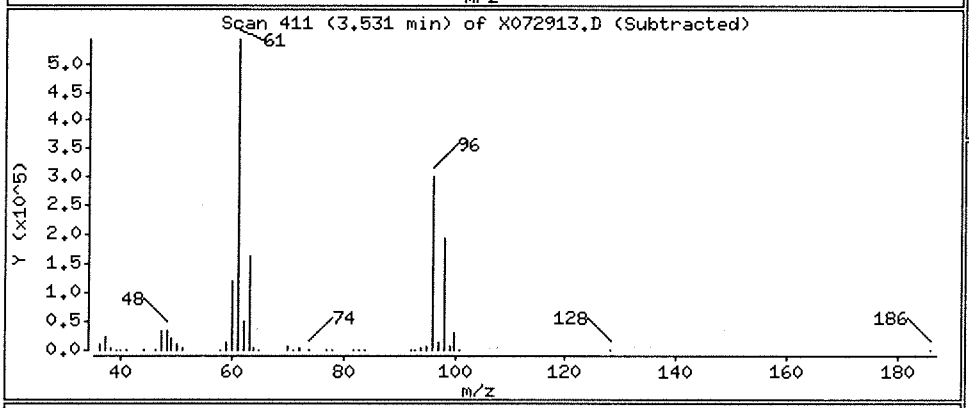
ple Info: HS20071147-02;HS20071147-02;;;

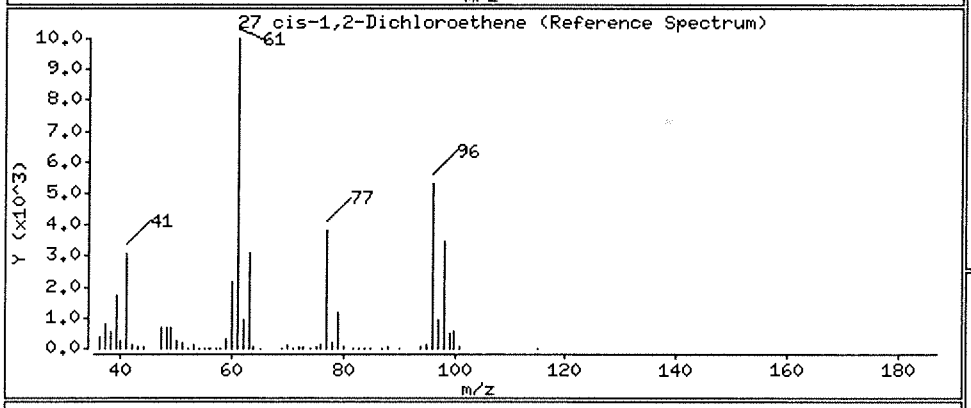
rge Volume: 5.0 Operator: PC

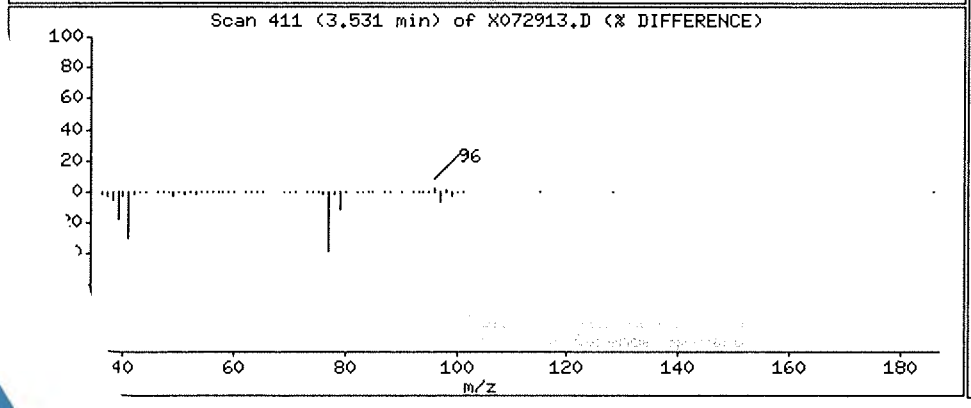
Column phase: DB624 Column diameter: 0.18

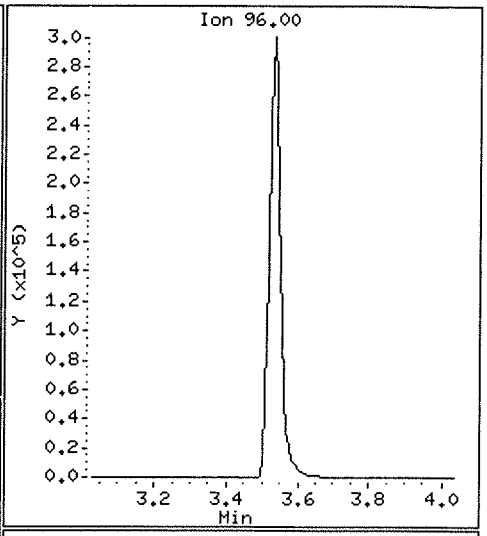
27 cis-1,2-Dichloroethene Concentration: 937.24 ug/l

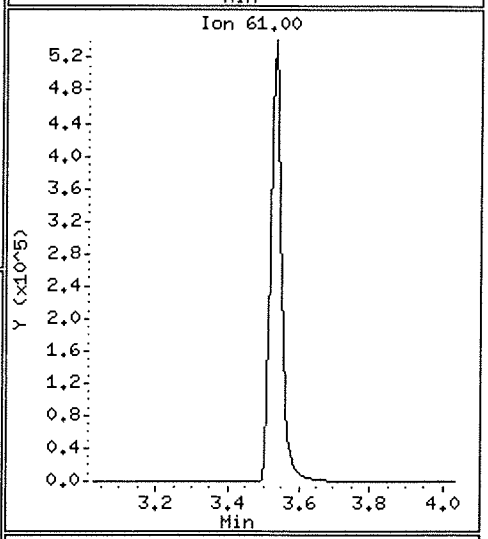


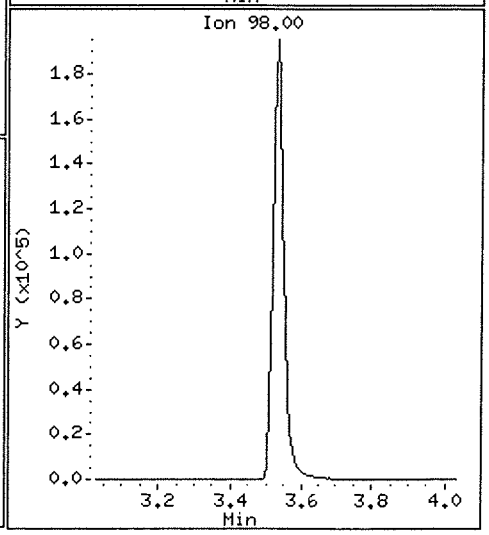












File: \\nahstws005\Target\chem\voa6.i\X200729.b\X072913.D

e : 29-JUL-2020 17:26

ient ID: HS20071147-02

Instrument: voa6.i

ample Info: HS20071147-02;HS20071147-02;;;

Purge Volume: 5.0

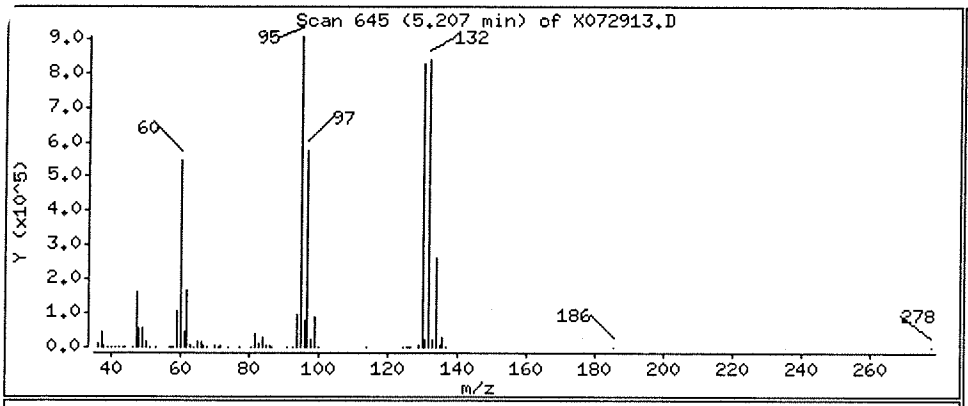
Operator: PC

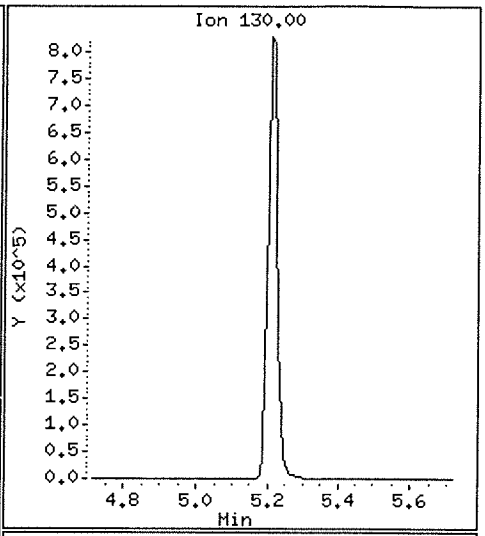
Column phase: DB624

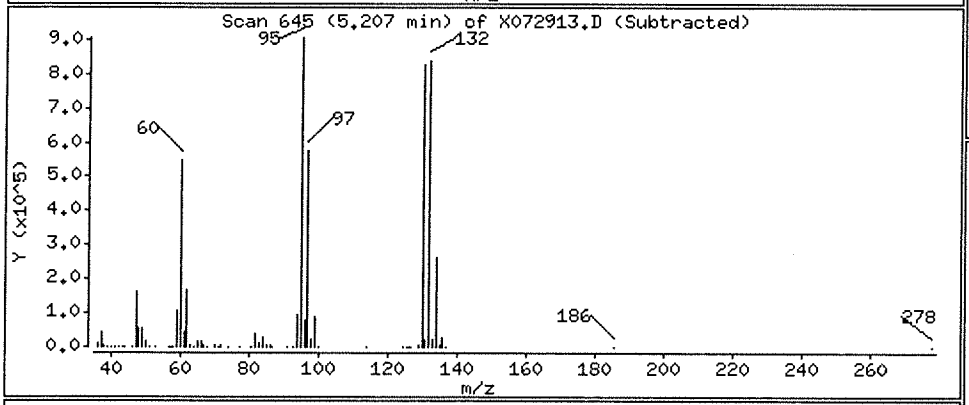
Column diameter: 0.18

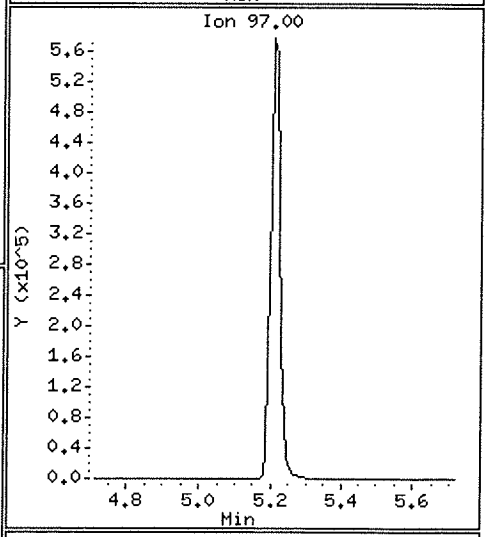
38 Trichloroethene

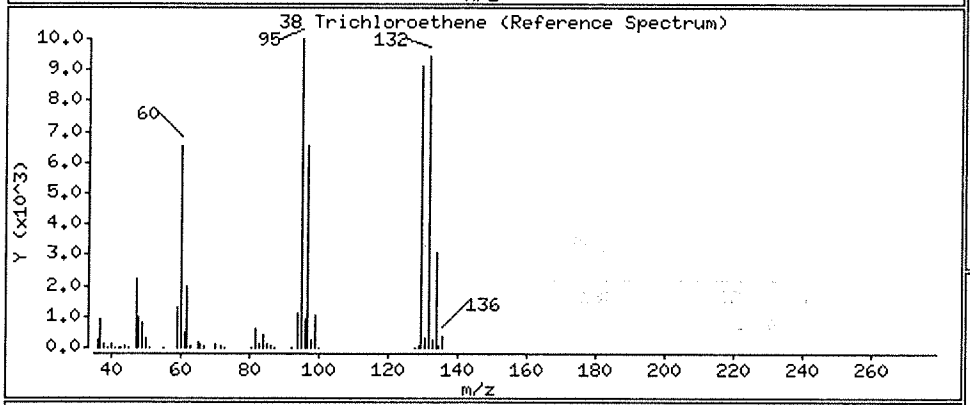
Concentration: 2283.19 ug/l

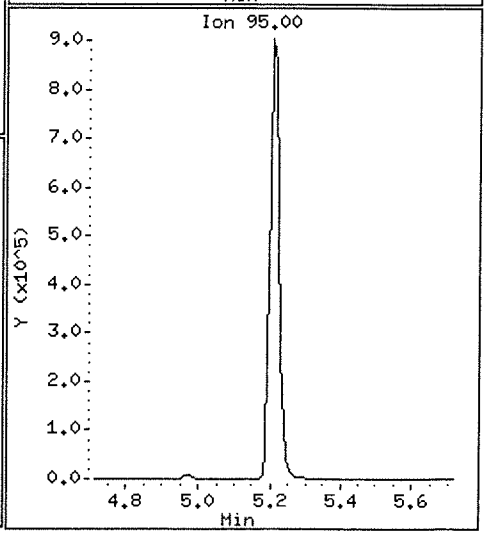


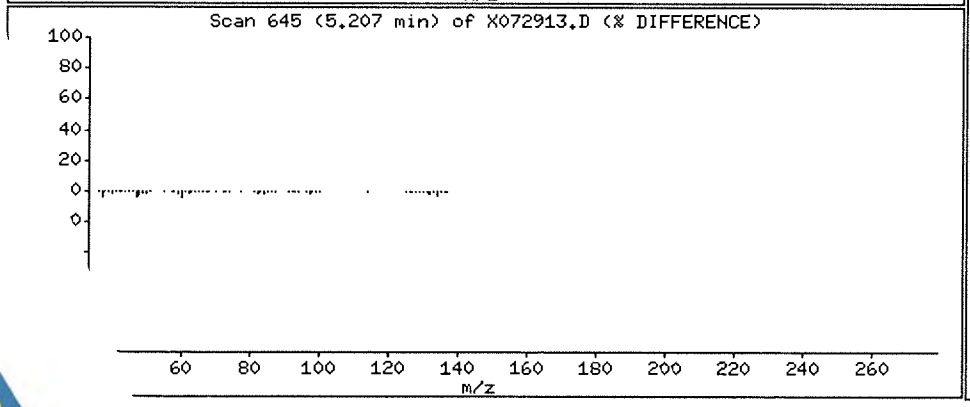












Data File: \\nahstws005\Target\chem\voa6.i\X200729.b\X072913.D

Date : 29-JUL-2020 17:26

Client ID: HS20071147-02

Instrument: voa6.i

Sample Info: HS20071147-02;HS20071147-02;;;

Purge Volume: 5.0

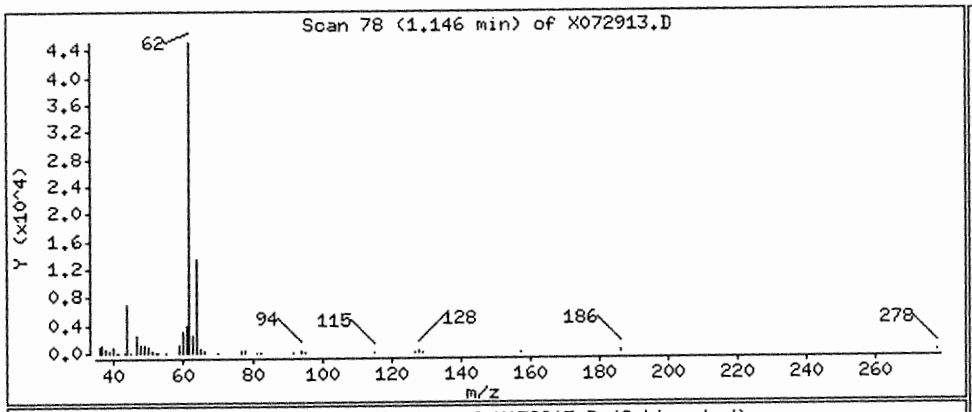
Operator: PC

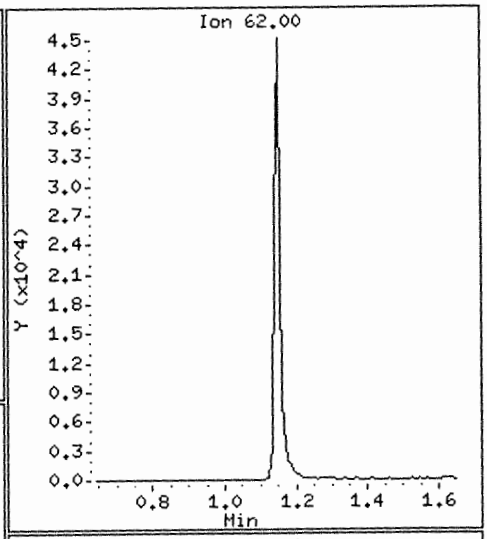
Column phase: DB624

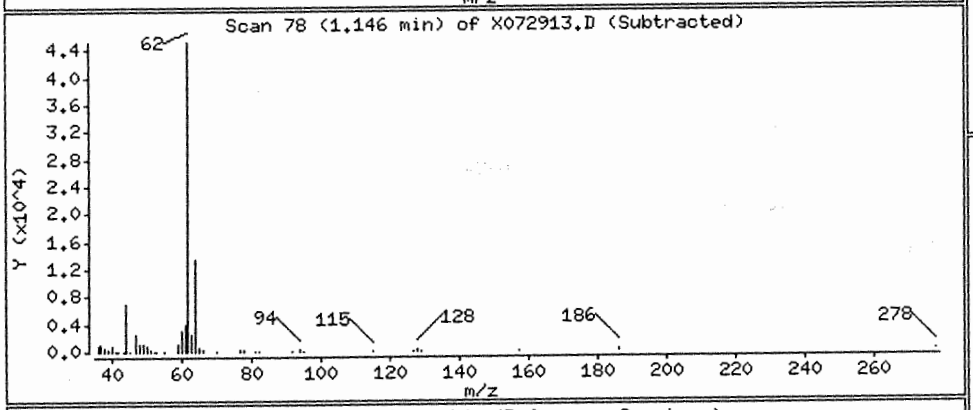
Column diameter: 0.18

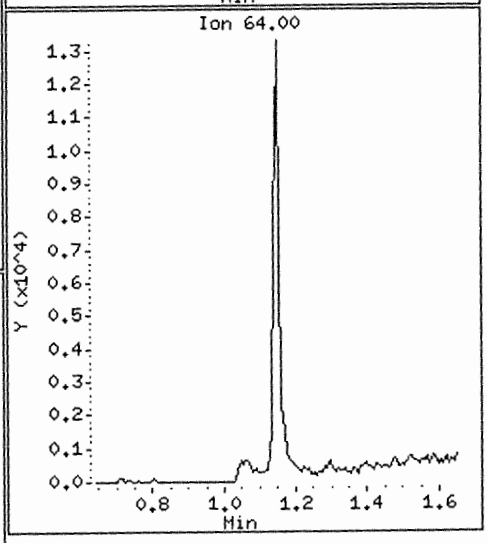
5 Vinyl Chloride

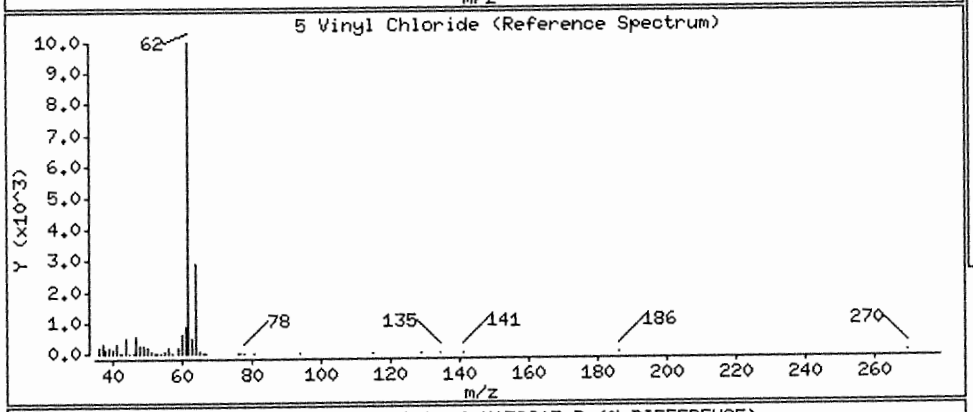
Concentration: 57.37 ug/l

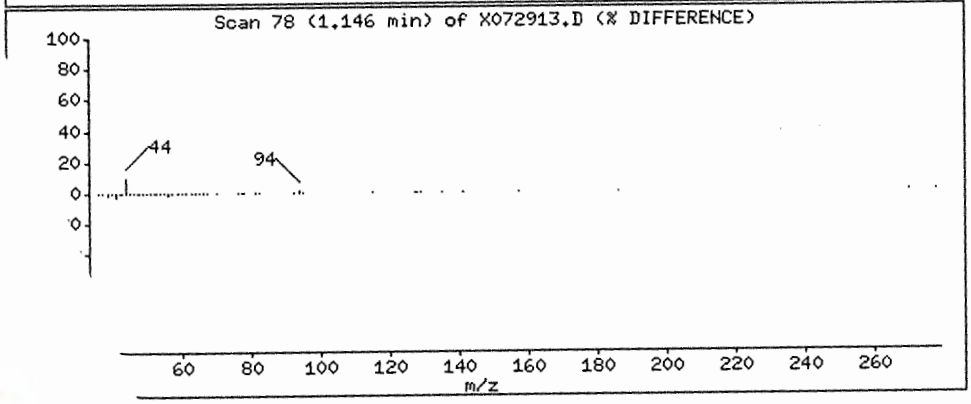












Data File: \\nahstws005\Target\chem\voa6.i\X200729.b\X072914.D Page 1
Report Date: 21-Aug-2020 17:05

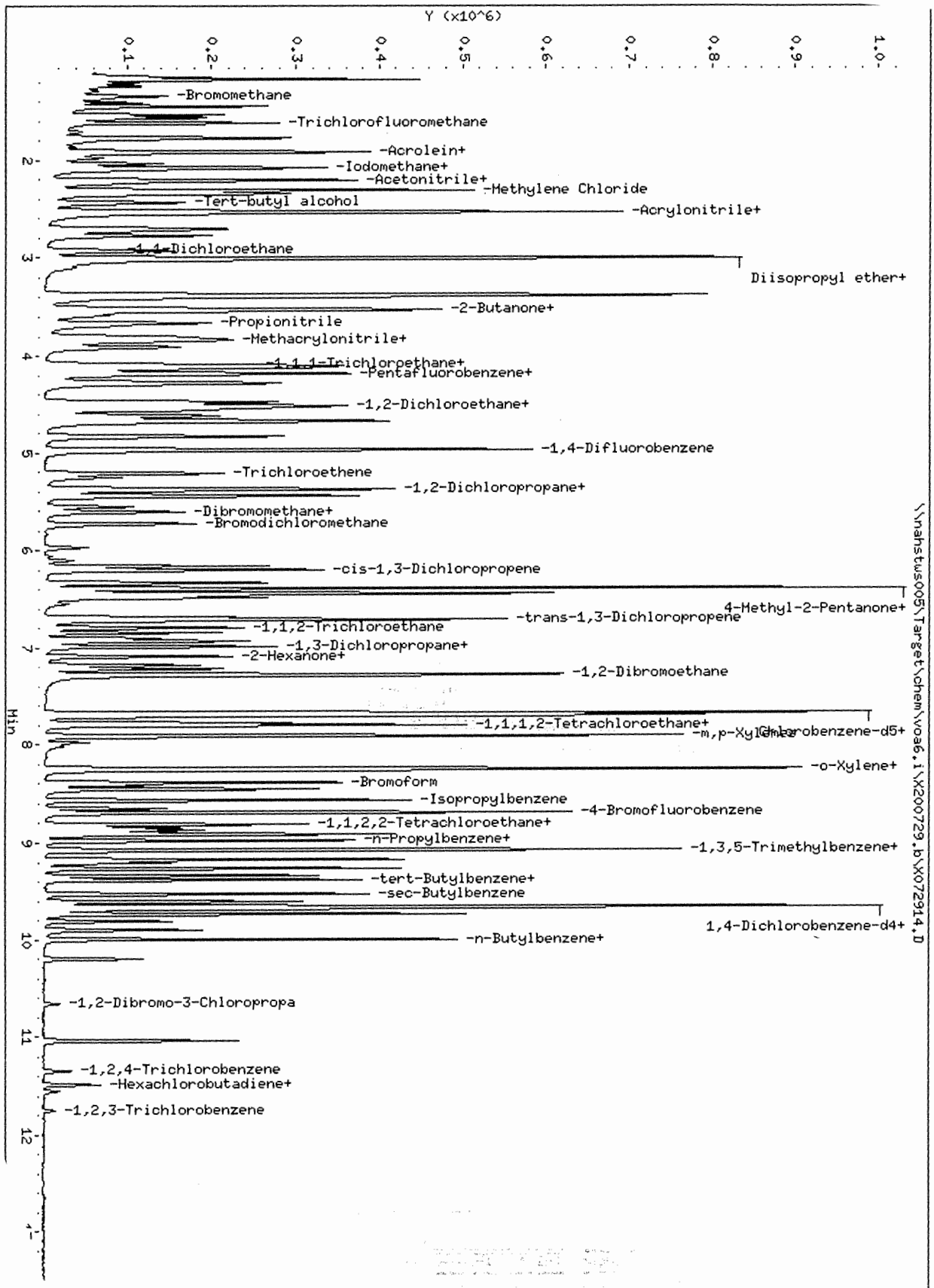
ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X200729.b\X072914.D
Lab Smp Id: HS20071147-05MS Client Smp ID: HS20071147-05MS
Inj Date : 29-JUL-2020 17:51
Operator : PC Inst ID: voa6.i
Smp Info : HS20071147-05MS;HS20071147-05MS;3;;MS
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200729.b\8260W.m
Meth Date : 21-Aug-2020 17:05 voa6.i Quant Type: ISTD
Cal Date : 13-JUL-2020 13:18 Cal File: X071308.D
Als bottle: 14 QC Sample: MS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI-Hou11.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

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

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	259358	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	392816	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	380272	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	162802	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.979)	142630	49.3504	49.35
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	197238	50.3330	50.33
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	481599	48.3494	48.34
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	169405	45.9955	45.99
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	44209	18.9869	18.98
11 1,1-Dichloroethene	96	1.919	1.919	(0.458)	55890	24.6322	24.63
33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	106497	22.7842	22.78
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.843)	153739	46.2090	46.20
17 Methylene Chloride	84	2.306	2.306	(0.550)	77531	24.7347	24.73
38 Trichloroethene	130	5.214	5.214	(1.049)	60599	21.4341	21.43
5 Vinyl Chloride	62	1.145	1.145	(0.273)	92464	21.6806	21.68



Data File: \\nahstws005\Target\chem\voa6.i\X200729.b\X072914.D
Date : 29-JUL-2020 17:51
Client ID: HS200711147-05MS
Sample Info: HS200711147-05MS;HS200711147-05MS;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\X200729.b\X072915.D Page 1
Report Date: 21-Aug-2020 17:05

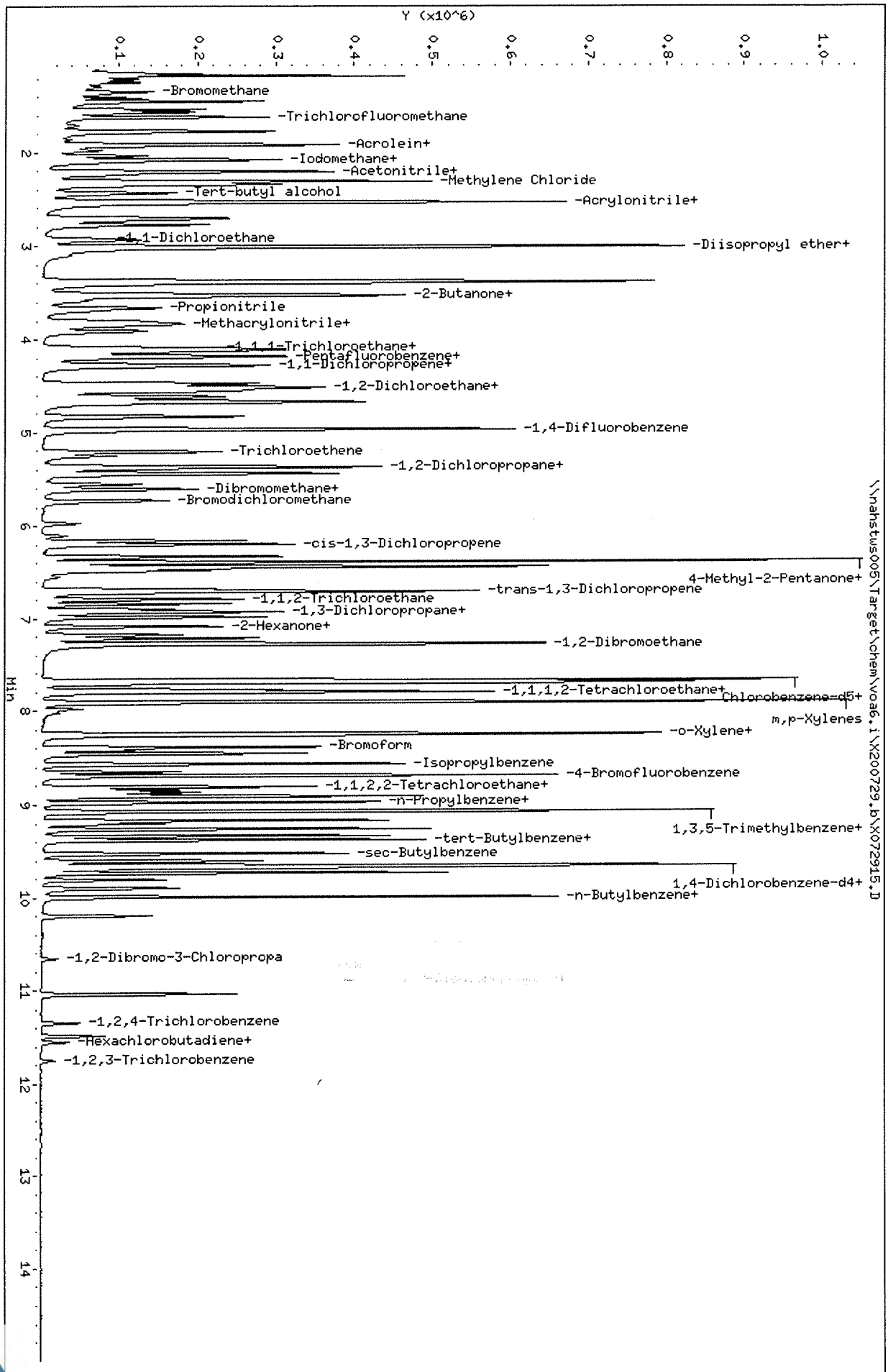
ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X200729.b\X072915.D
Lab Smp Id: HS20071147-05MSD Client Smp ID: HS20071147-05MSD
Inj Date : 29-JUL-2020 18:15
Operator : PC Inst ID: voa6.i
Smp Info : HS20071147-05MSD;HS20071147-05MSD;3;;MSD
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200729.b\8260W.m
Meth Date : 21-Aug-2020 17:05 voa6.i Quant Type: ISTD
Cal Date : 13-JUL-2020 13:18 Cal File: X071308.D
Als bottle: 14 QC Sample: MSD
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI-Hou11.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

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

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	218525	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	415088	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	378525	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	142247	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.979)	119303	48.9919	48.99
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	194623	58.8880	58.88
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	519973	52.4428	52.44
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	175682	47.9423	47.94
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	52220	22.5310	22.53
11 1,1-Dichloroethene	96	1.919	1.919	(0.458)	52771	27.6034	27.60
33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	119809	24.2568	24.25
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.843)	148164	52.8547	52.85
17 Methylene Chloride	84	2.305	2.306	(0.550)	75336	28.7374	28.73
38 Trichloroethene	130	5.214	5.214	(1.049)	70184	23.4924	23.49
5 Vinyl Chloride	62	1.145	1.145	(0.273)	91768	25.5381	25.53



Data File: \\nahstws005\Target\chem\voa6.i\X200729.b\X072915.D
Date : 29-JUL-2020 18:15
Client ID: HS20071147-05MSD
Sample Info: HS20071147-05MSD;HS20071147-05MSD;3;;MSD
Purge Volume: 5.0
Column phase: DB624

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

ALS Laboratory Group

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 b Smp Id: HS20071147-02                Client Smp ID: HS20071147-02
1j Date  : 29-JUL-2020 18:39
perator  : PC                           Inst ID: voa6.i
3mp Info  : HS20071147-02;HS20071147-02;;;
Misc Info : HS18090001;WATER;0;25;
Comment   :
Method    : \\nahstws005\Target\chem\voa6.i\X200729.b\8260W.m
Meth Date : 21-Aug-2020 17:00 dev.giga  Quant Type: ISTD
Cal Date  : 13-JUL-2020 13:18           Cal File: X071308.D
Als bottle: 15
Dil Factor: 25.00000
Integrator: HP RTE                      Compound Sublist: CBI-Houl1.sub
Target Version:  4.14
Processing Host: NAHSTW7056
```

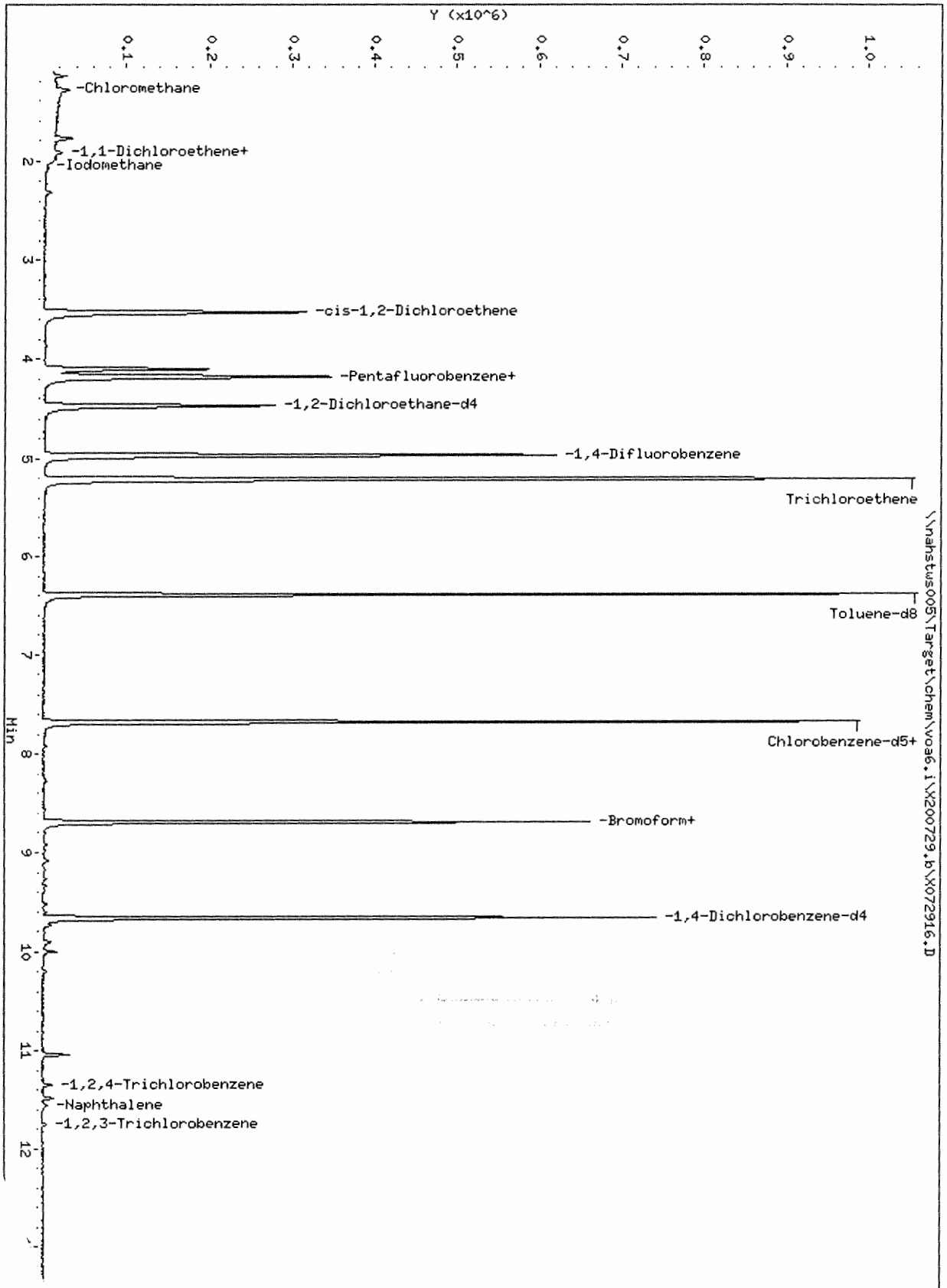
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

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	4.189	4.189	(1.000)	248106	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	440953	50.0000	
* 47 Chlorobenzene-d5	117	7.670	7.671	(1.000)	391066	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	155734	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.979)	135294	48.9344	48.93
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	200231	53.3933	53.39
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	540601	52.7748	52.77
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	188016	49.6820	49.68
11 1,1-Dichloroethene	96	1.919	1.919	(0.458)	1723	0.79381	19.84(a)
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.843)	131289	41.2509	1031.27
38 Trichloroethene	130	5.214	5.214	(1.049)	305100	96.1345	2403.36
5 Vinyl Chloride	62	1.145	1.145	(0.273)	10475	2.56753	64.18

' Flag Legend

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



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Date : 29-JUL-2020 18:39
Client ID: HS200711147-02
Sample Info: HS200711147-02;HS200711147-02;;;
Purge Volume: 5.0
Column phase: DB624

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

.le: \\nahstws005\Target\chem\voa6.i\X200729.b\X072916.D

: 29-JUL-2020 18:39

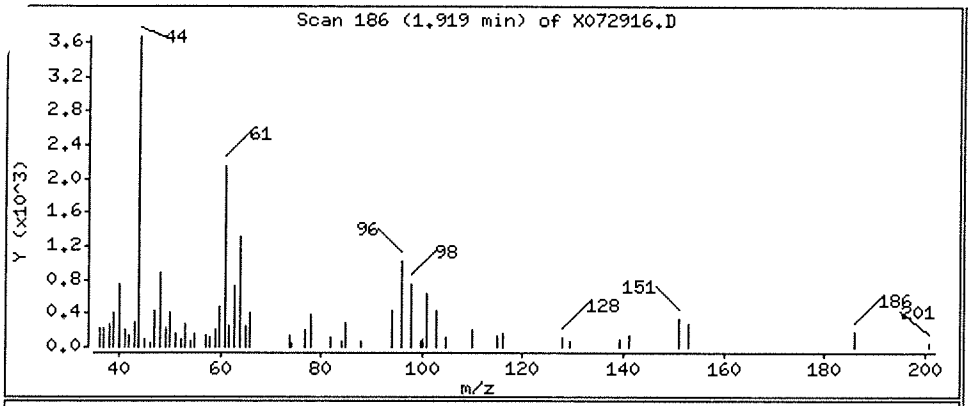
nt ID: HS20071147-02 Instrument: voa6.i

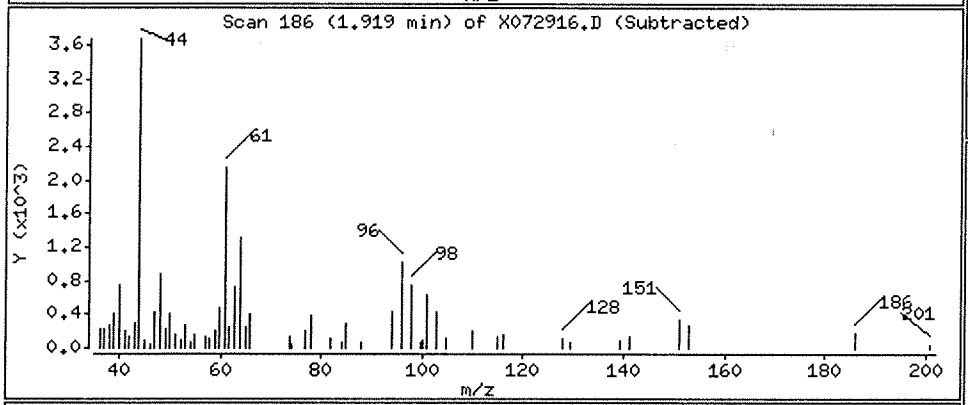
ple Info: HS20071147-02;HS20071147-02;;;

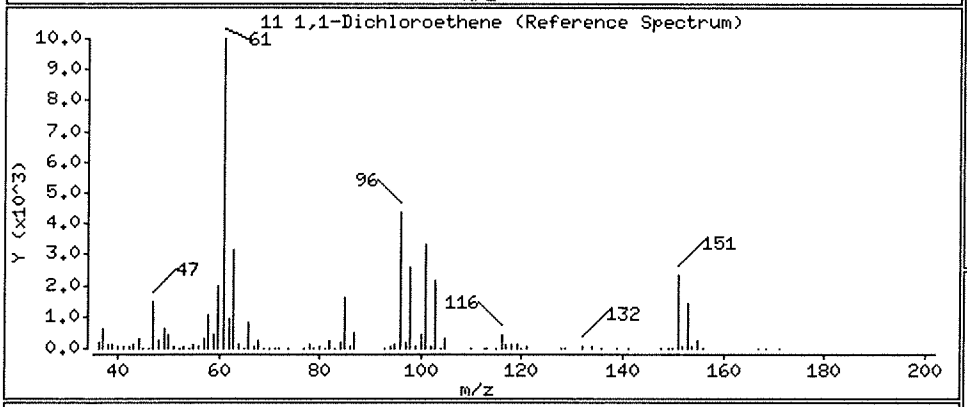
rge Volume: 5.0 Operator: PC

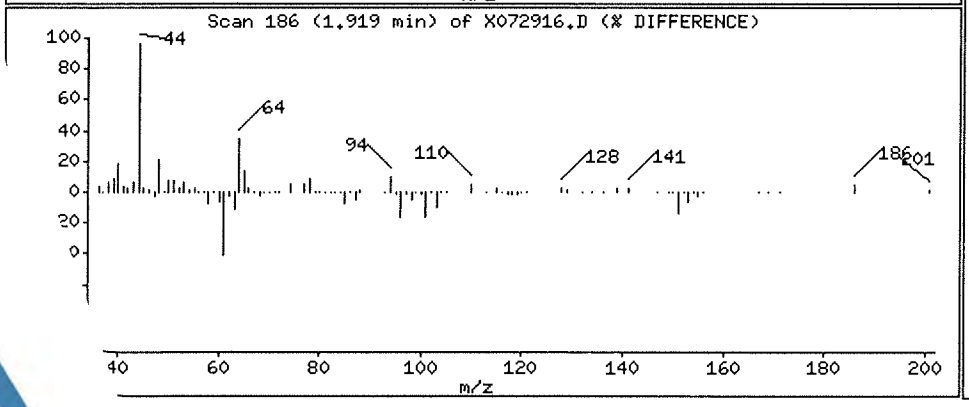
Column phase: DB624 Column diameter: 0.18

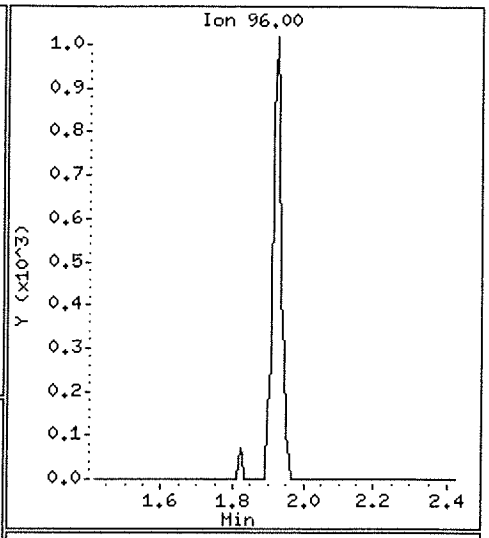
11 1,1-Dichloroethene Concentration: 19.84 ug/l

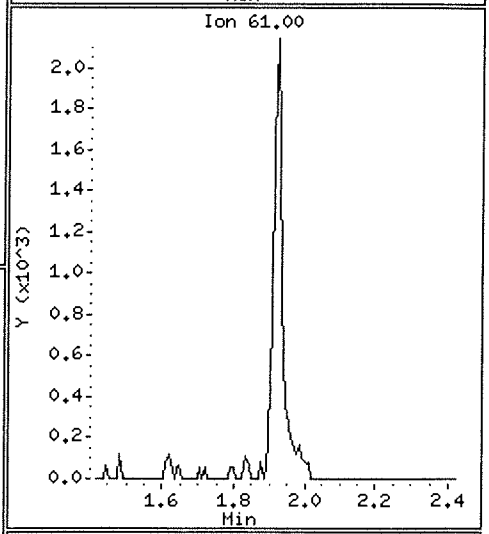


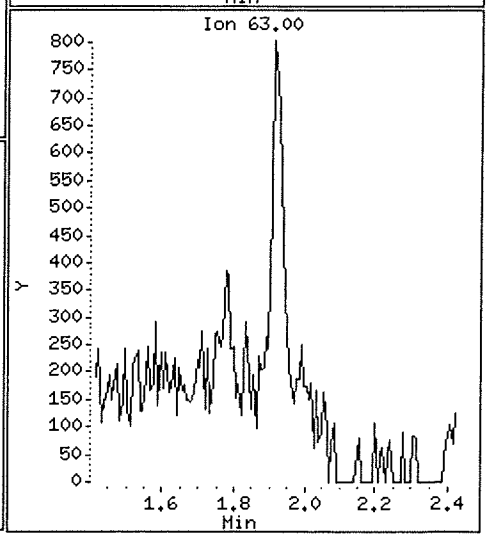












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, 29-JUL-2020 18:39

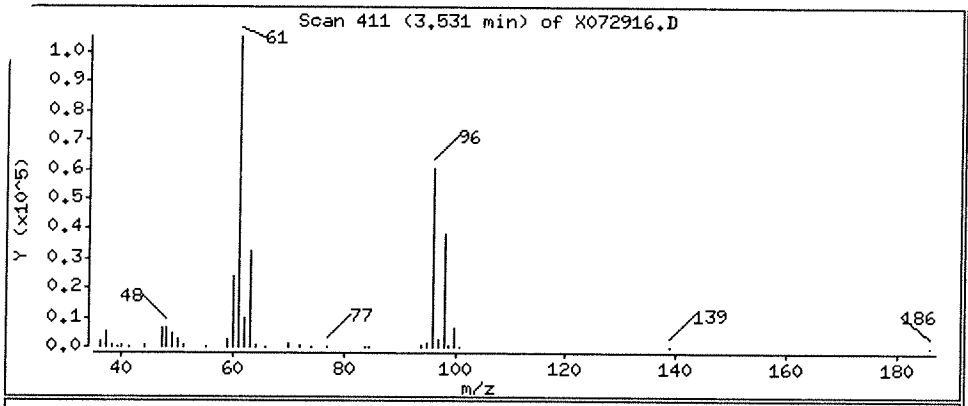
nt ID: HS20071147-02 Instrument: voa6.i

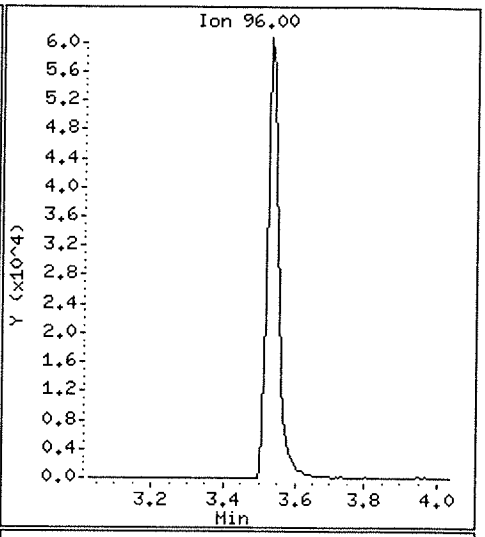
ple Info: HS20071147-02;HS20071147-02;;;

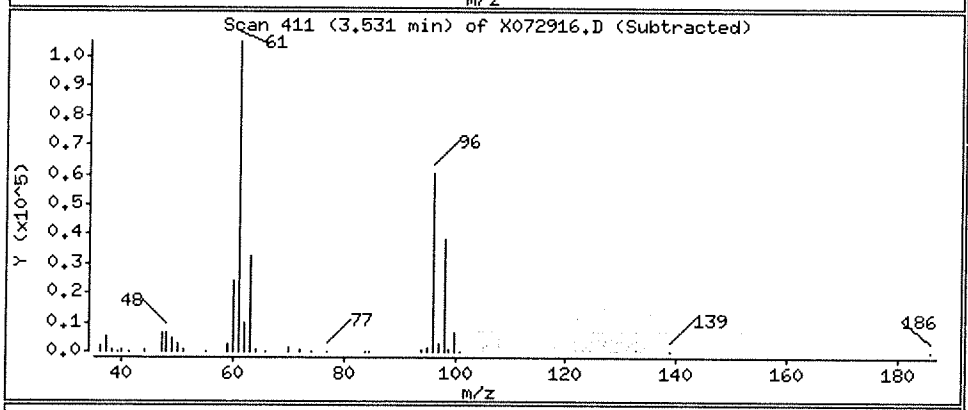
rge Volume: 5.0 Operator: PC

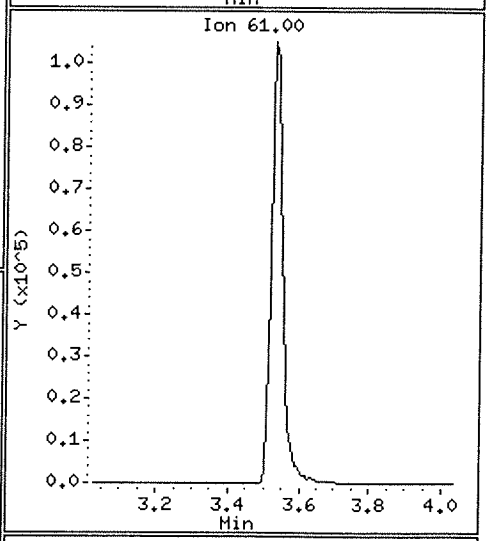
Column phase: DB624 Column diameter: 0.18

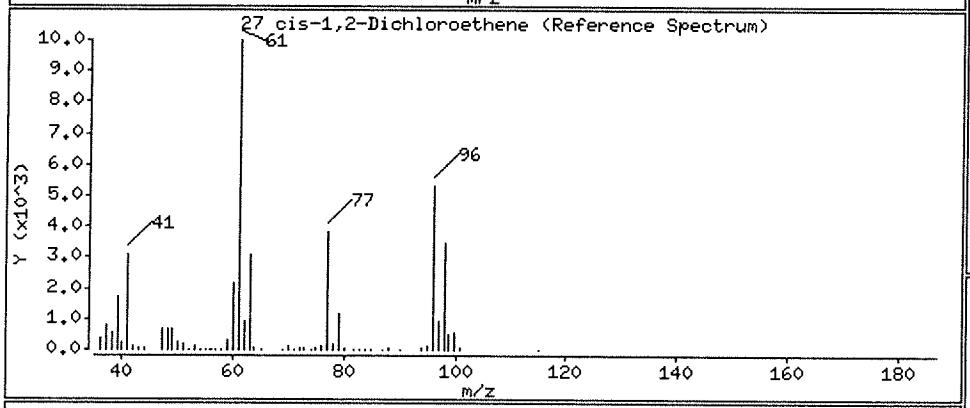
27 cis-1,2-Dichloroethene Concentration: 1031.27 ug/l

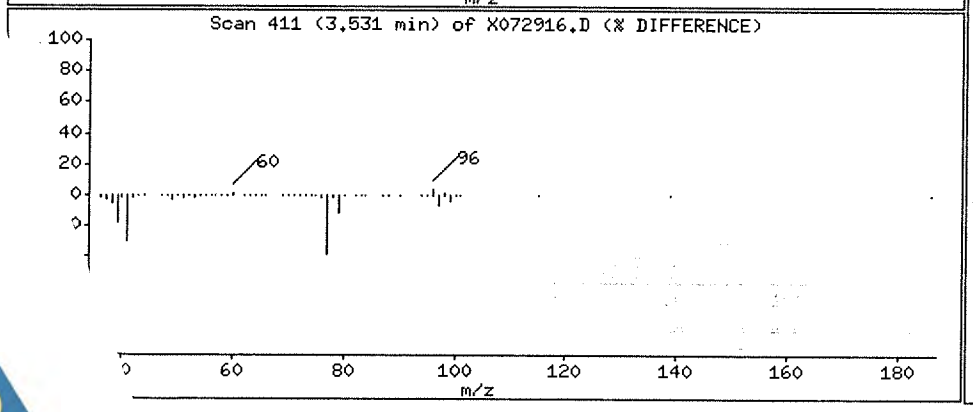


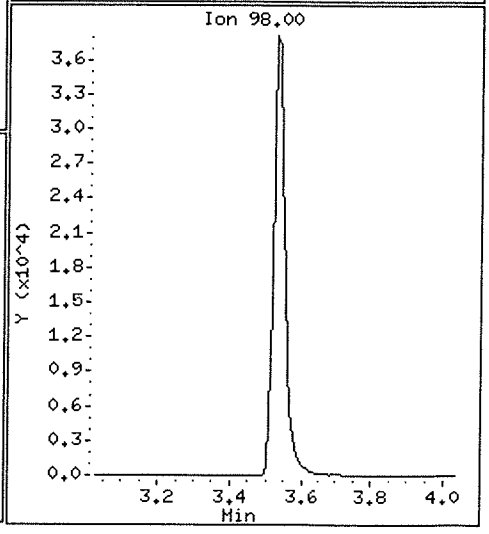












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: 29-JUL-2020 18:39

nt ID: HS20071147-02

Instrument: voa6.i

ple Info: HS20071147-02;HS20071147-02;;;

rge Volume: 5.0

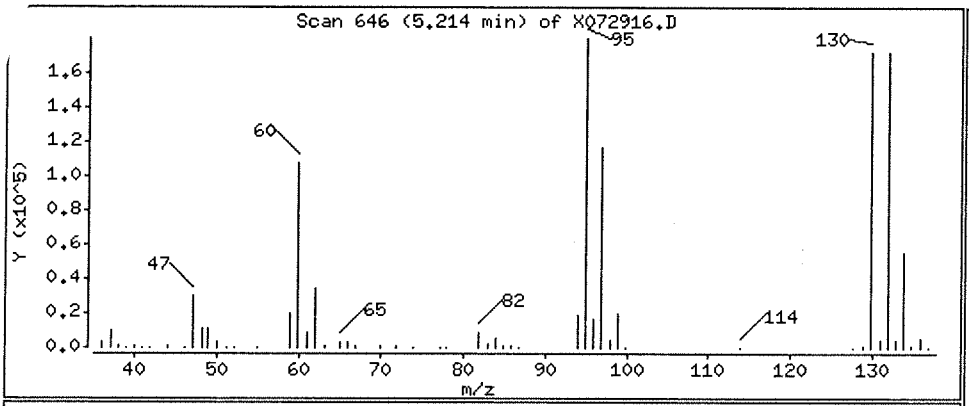
Operator: PC

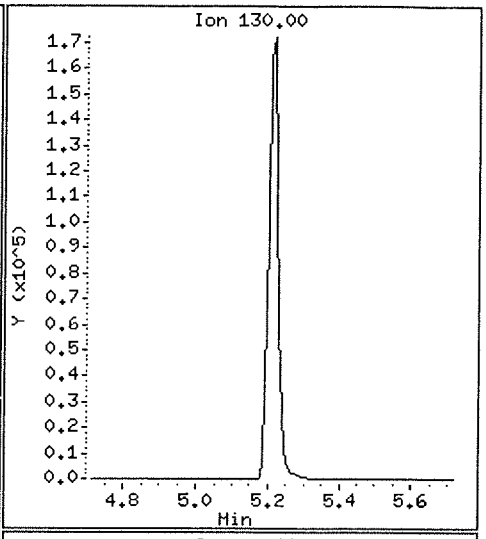
Column phase: DB624

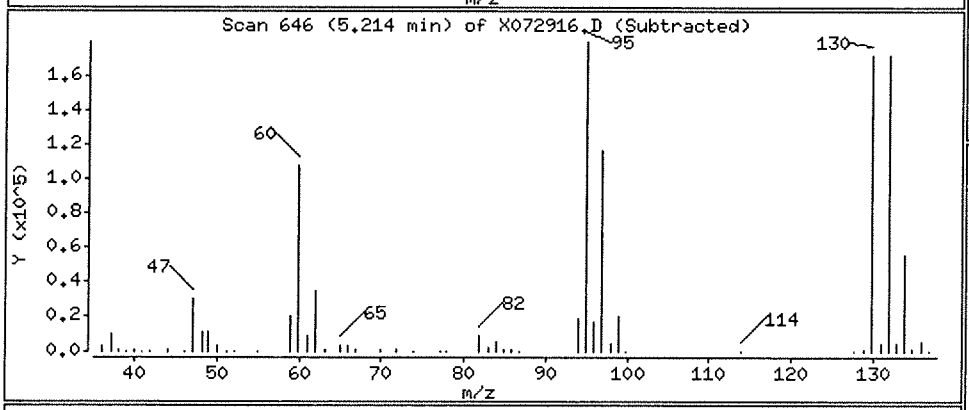
Column diameter: 0.18

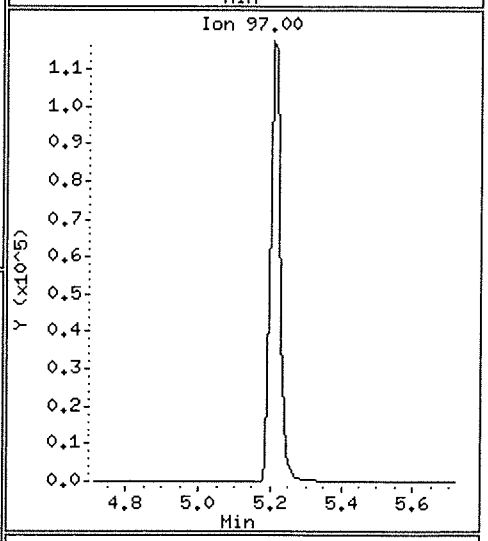
38 Trichloroethene

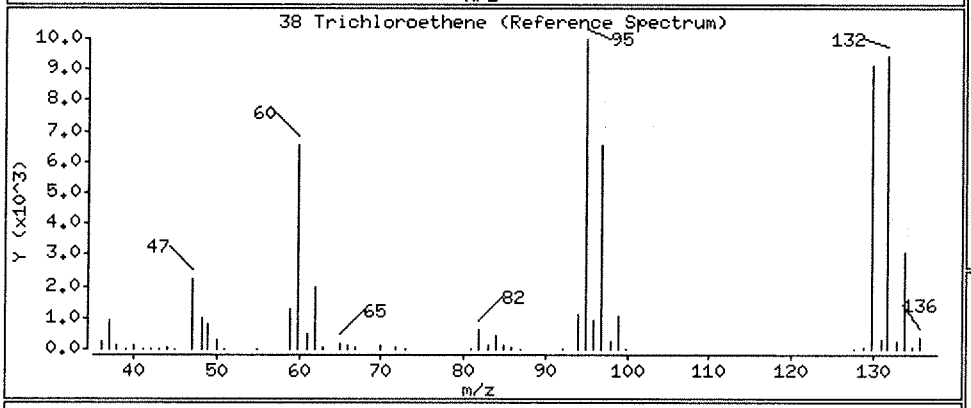
Concentration: 2403.36 ug/l

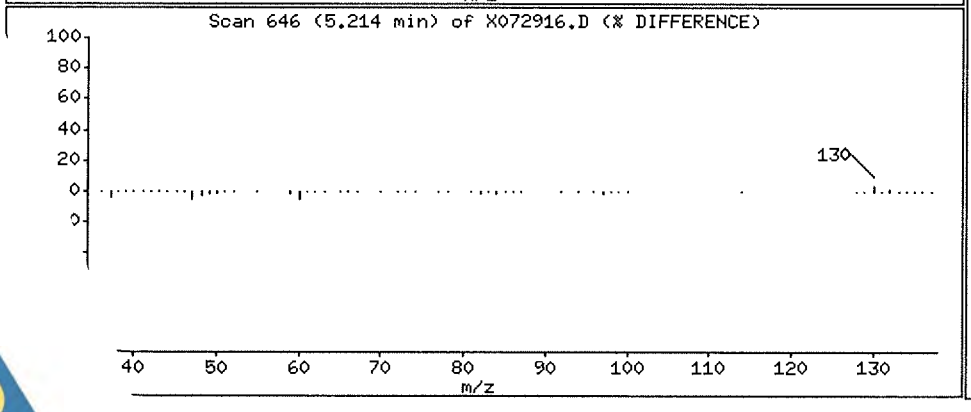


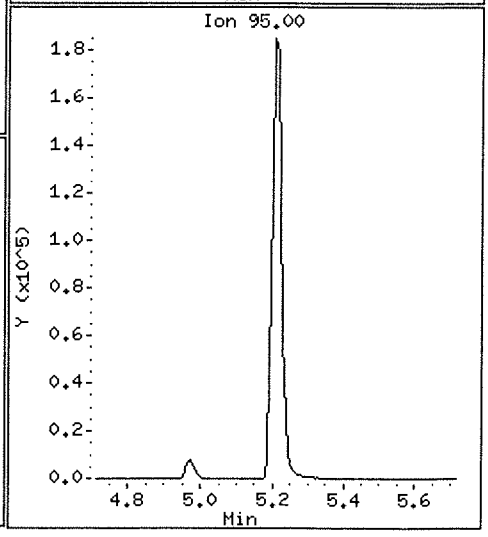












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: 29-JUL-2020 18:39

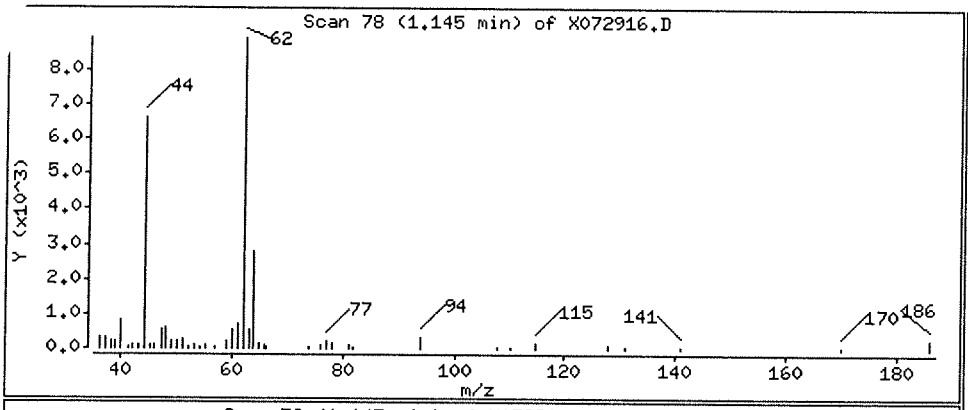
ent ID: HS20071147-02 Instrument: voa6.i

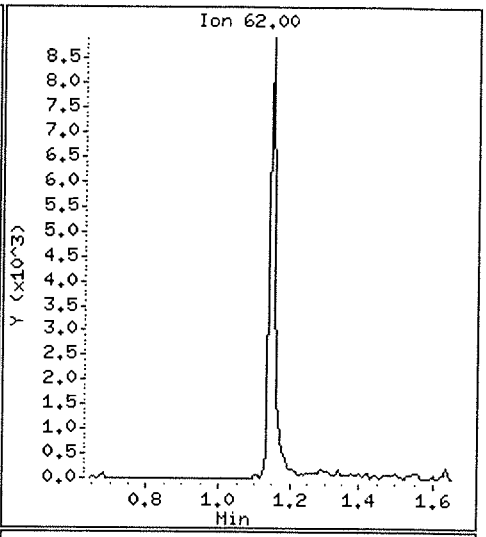
mple Info: HS20071147-02;HS20071147-02;;;

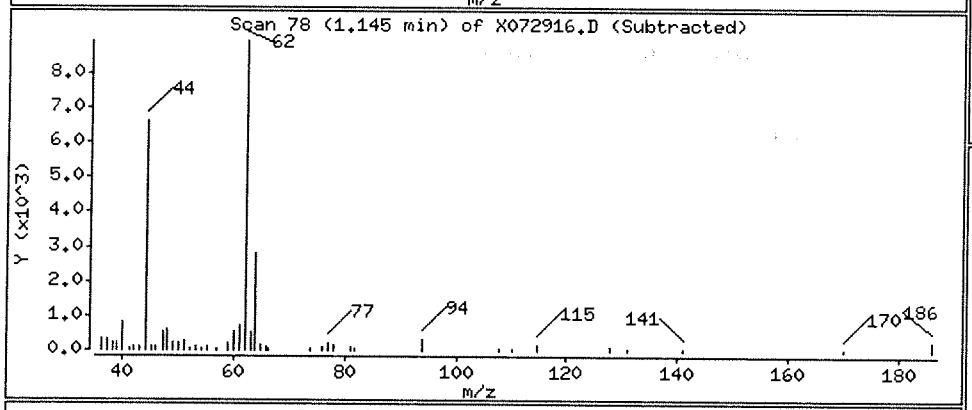
urge Volume: 5.0 Operator: PC

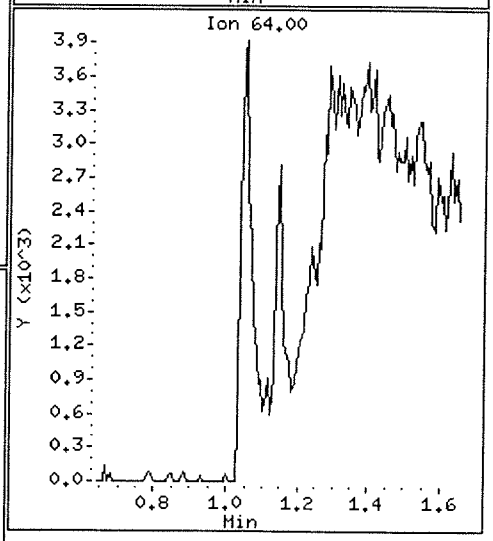
Column phase: DB624 Column diameter: 0.18

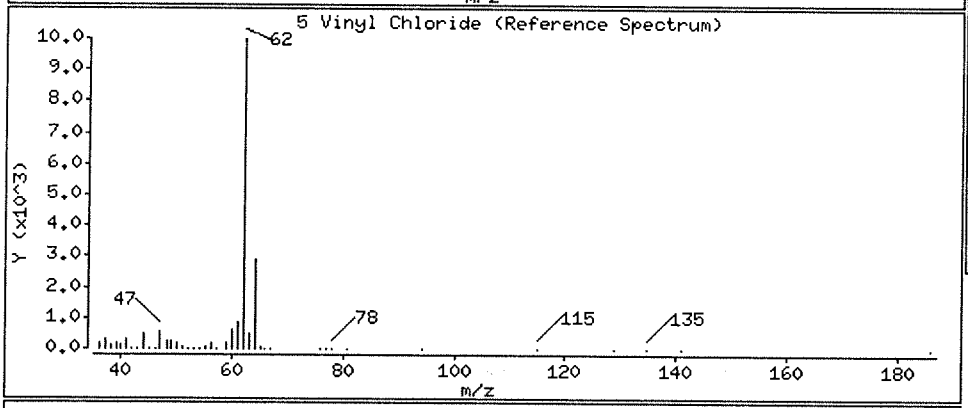
5 Vinyl Chloride Concentration: 64.18 ug/l

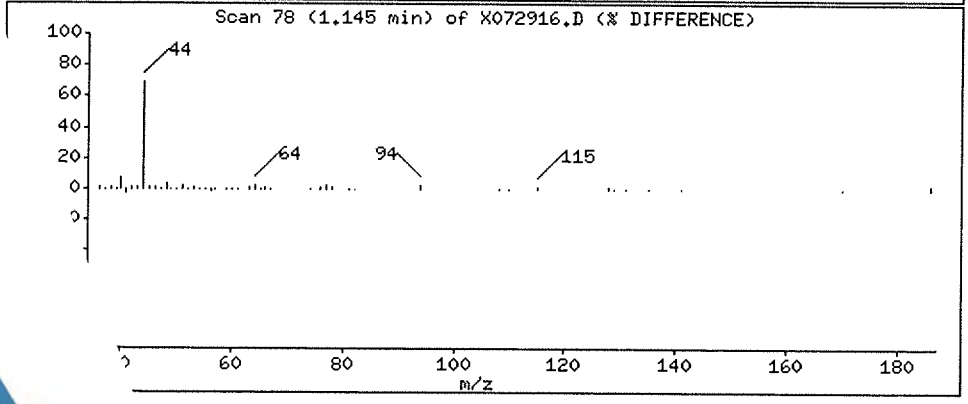












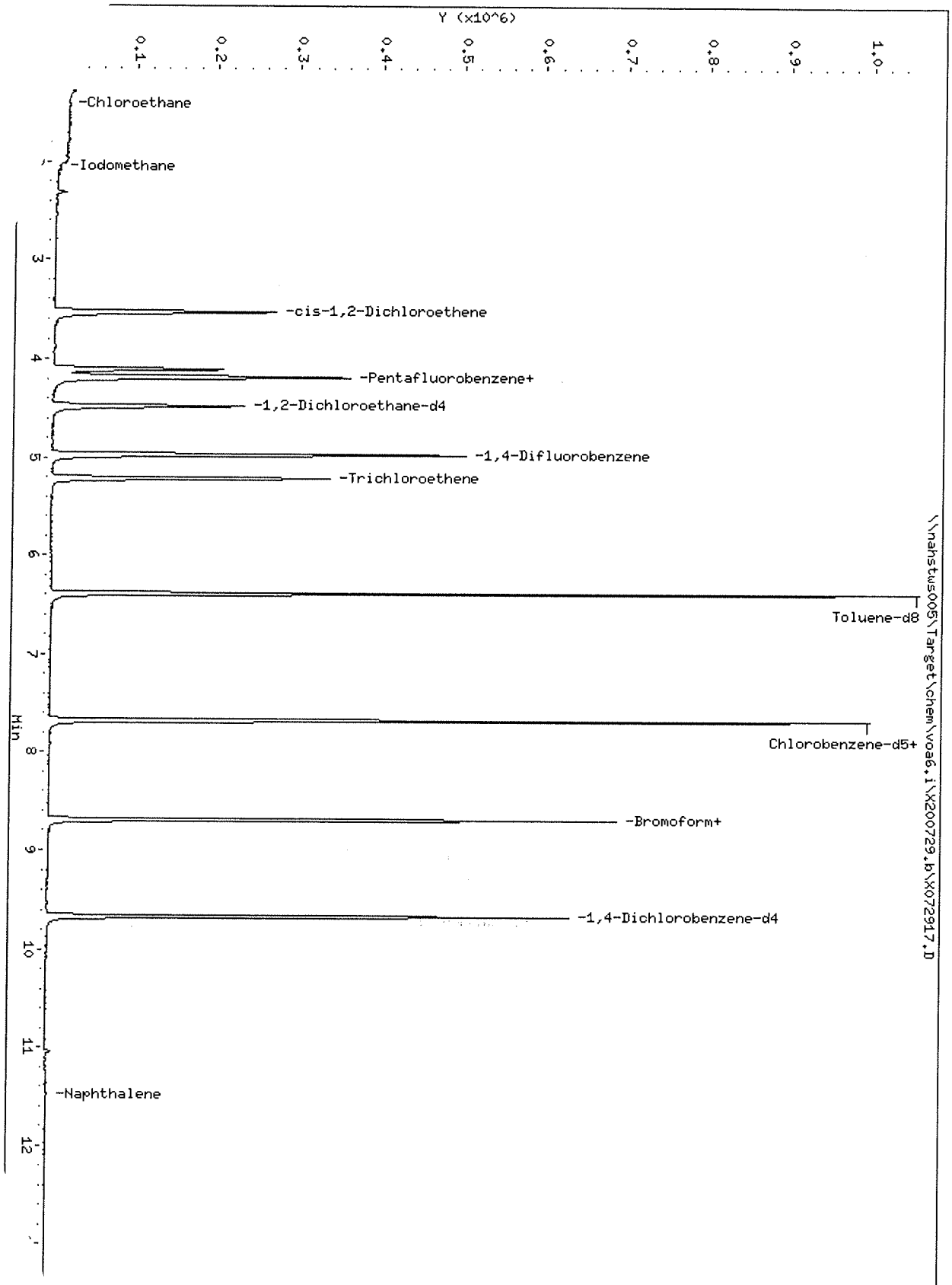
ALS Laboratory Group

:a file : \\nahstws005\Target\chem\voa6.i\X200729.b\X072917.D
b Smp Id: HS20071147-03 Client Smp ID: HS20071147-03
.j Date : 29-JUL-2020 19:03
perator : PC Inst ID: voa6.i
Smp Info : HS20071147-03;HS20071147-03;;;
Misc Info : HS18090001;WATER;0;5;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200729.b\8260W.m
Meth Date : 21-Aug-2020 17:00 dev.giga Quant Type: ISTD
Cal Date : 13-JUL-2020 13:18 Cal File: X071308.D
Als bottle: 16
Dil Factor: 5.00000
Integrator: HP RTE Compound Sublist: CBI-Hou11.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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	4.189	4.189	(1.000)	265169	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	343840	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	414446	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	127033	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.979)	145224	49.1464	49.14
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	168752	42.1753	42.17
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	531536	48.9626	48.96
$ 69 4-Bromofluorobenzene	95	8.688	8.695	(1.133)	196106	48.8880	48.88
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.843)	111628	32.8165	164.08
38 Trichloroethene	130	5.214	5.214	(1.049)	94778	38.2984	191.49
5 Vinyl Chloride	62	1.145	1.145	(0.273)	2468	0.56601	2.83



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Date : 29-JUL-2020 19:03
Client ID: HS20071147-03
Sample Info: HS20071147-03;HS20071147-03;;;
Purge Volume: 5.0
Column phase: DB624

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

ile: \\nahstws005\Target\chem\voa6.i\X200729.b\X072917.D

: 29-JUL-2020 19:03

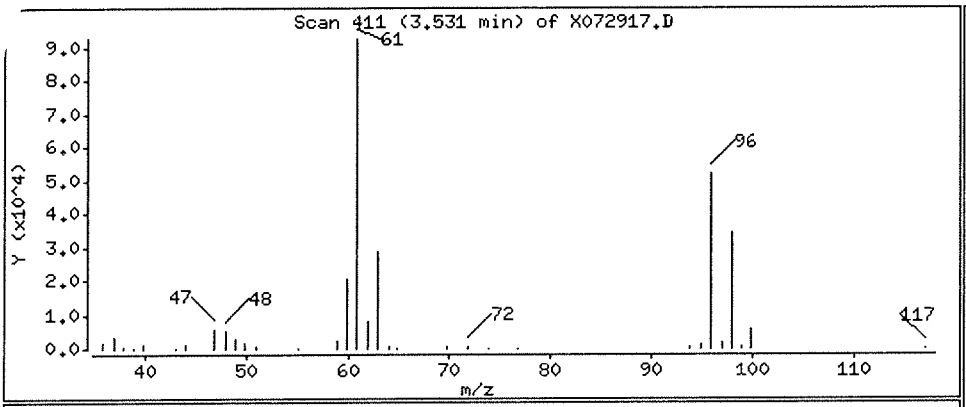
nt ID: HS20071147-03 Instrument: voa6.i

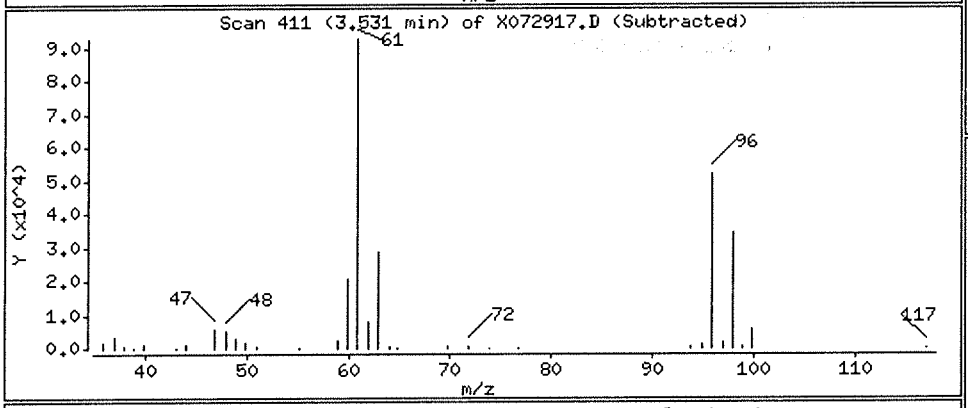
mple Info: HS20071147-03;HS20071147-03;;;

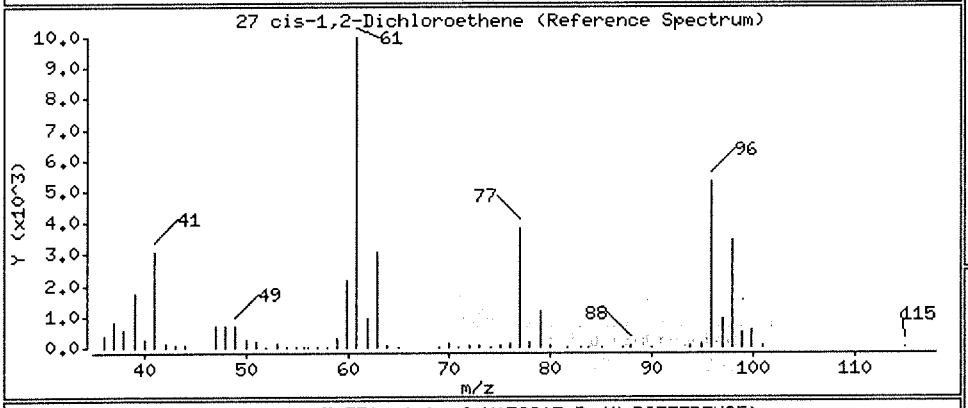
urge Volume: 5.0 Operator: PC

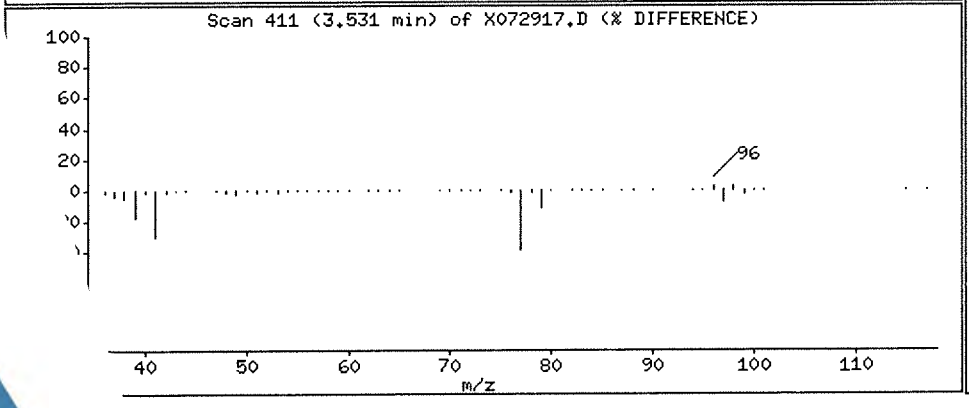
Column phase: DB624 Column diameter: 0.18

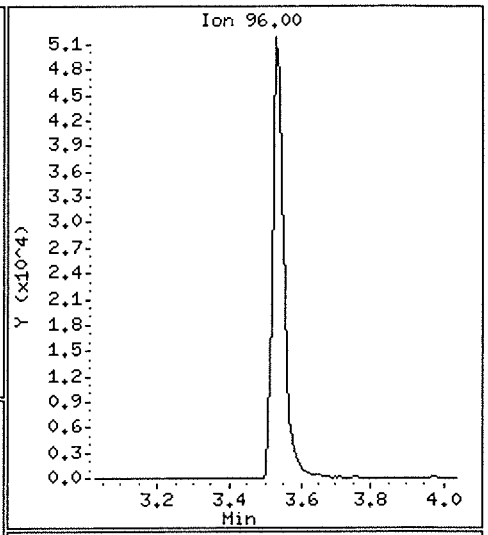
27 cis-1,2-Dichloroethene Concentration: 164.08 ug/l

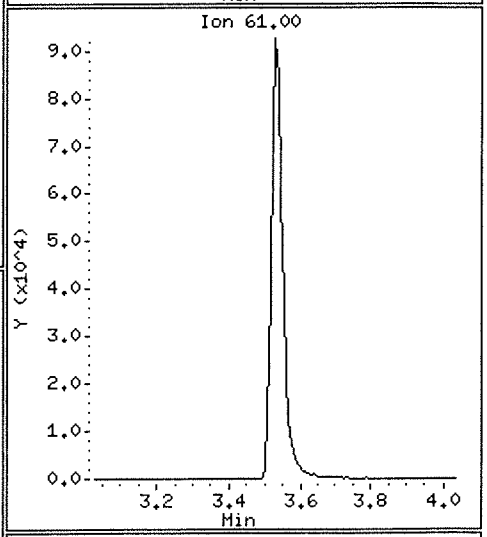


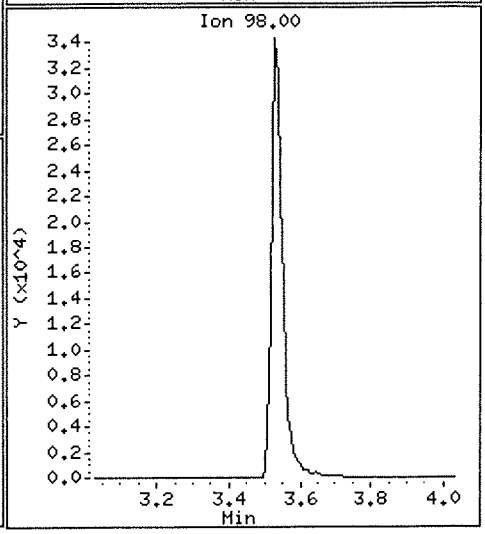












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; 29-JUL-2020 19:03

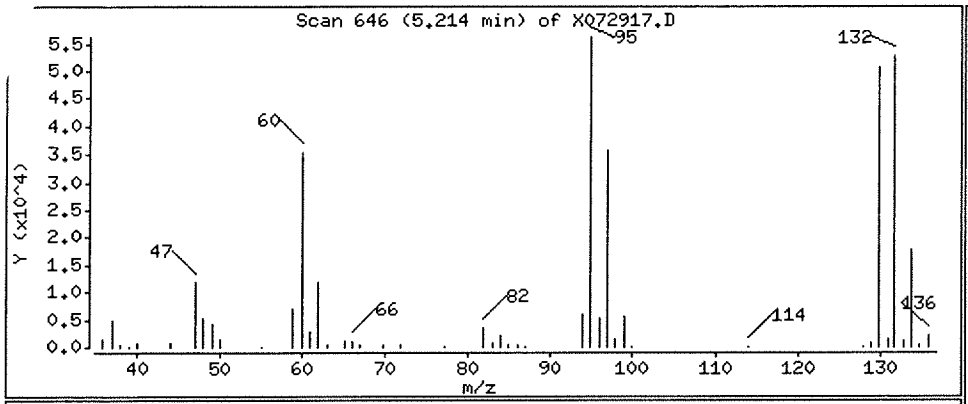
nt ID: HS20071147-03 Instrument: voa6.i

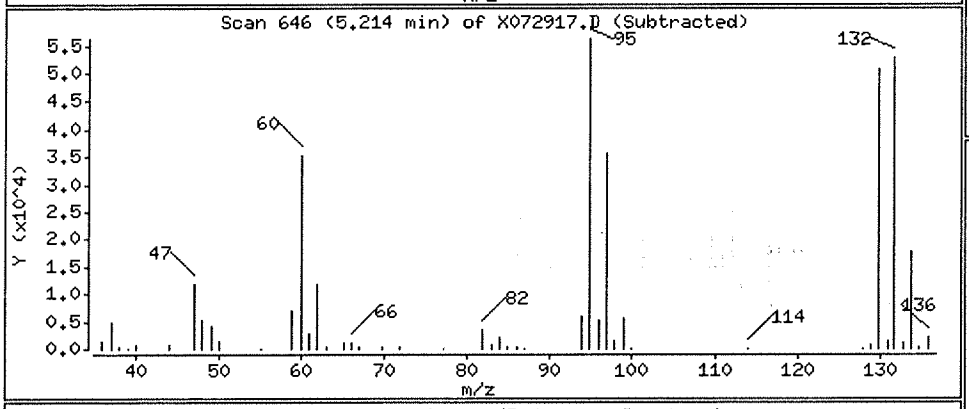
ple Info: HS20071147-03;HS20071147-03;;;

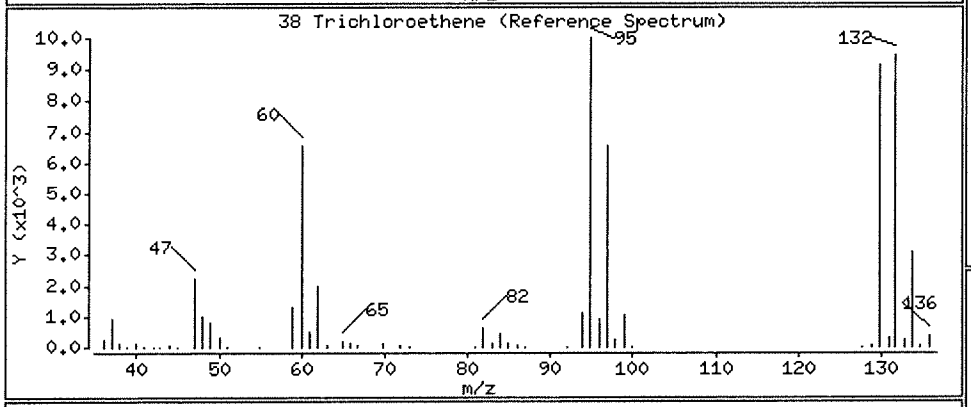
rge Volume: 5.0 Operator: PC

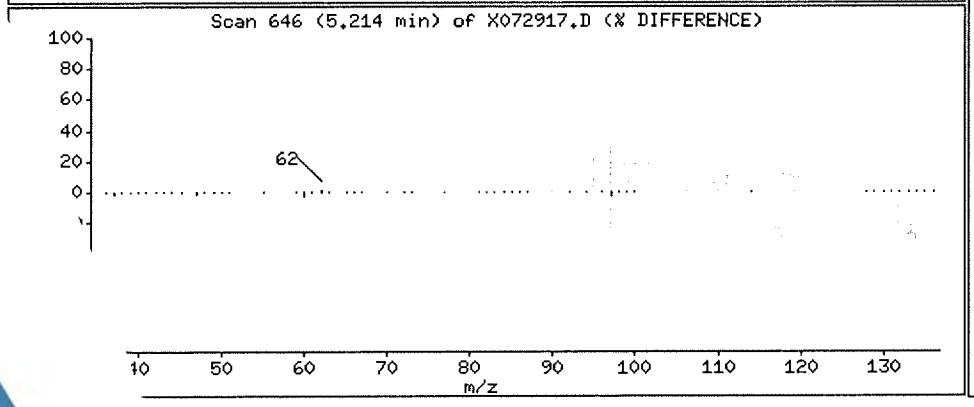
Column phase: DB624 Column diameter: 0.18

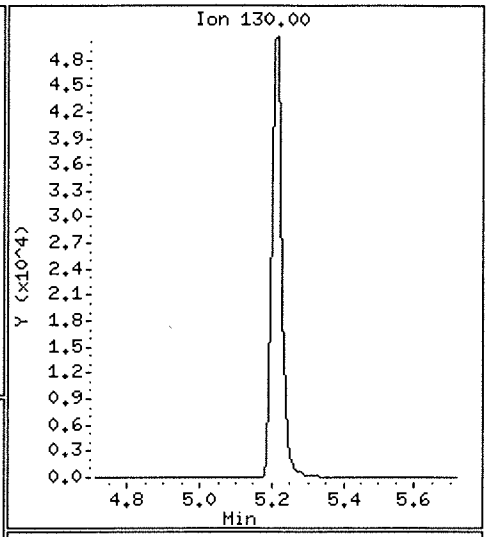
38 Trichloroethene Concentration: 191.49 ug/l

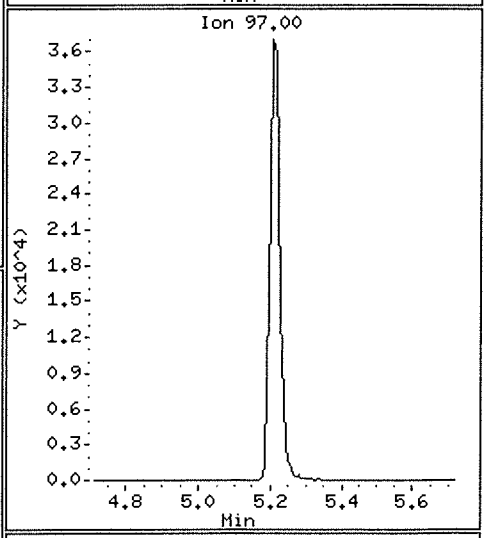


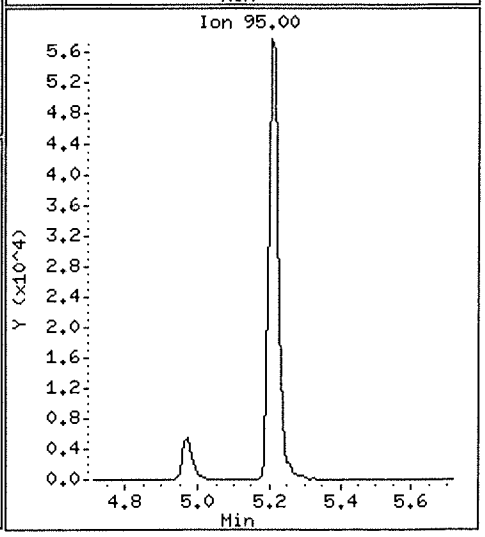












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Date : 29-JUL-2020 19:03

Client ID: HS20071147-03

Instrument: voa6.i

Sample Info: HS20071147-03;HS20071147-03;;;

Purge Volume: 5.0

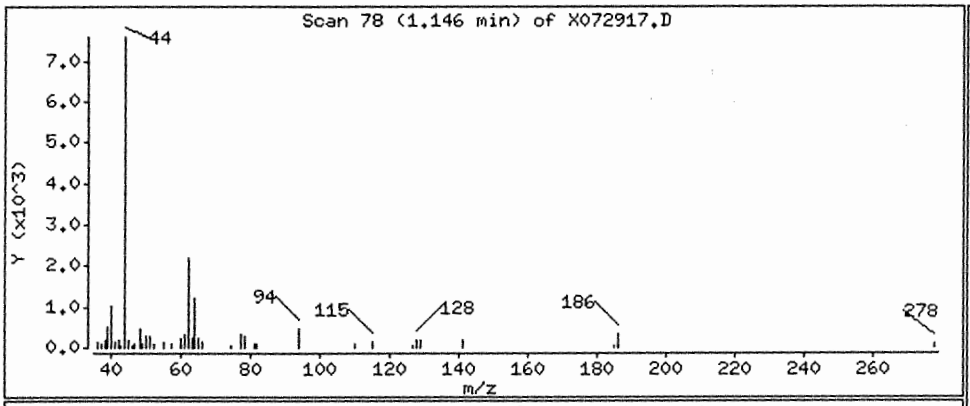
Operator: PC

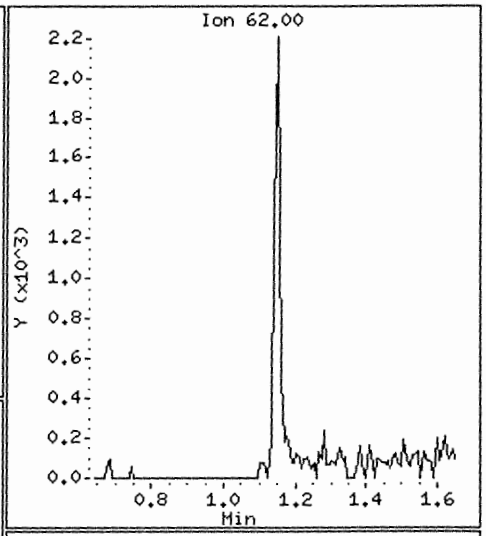
Column phase: DB624

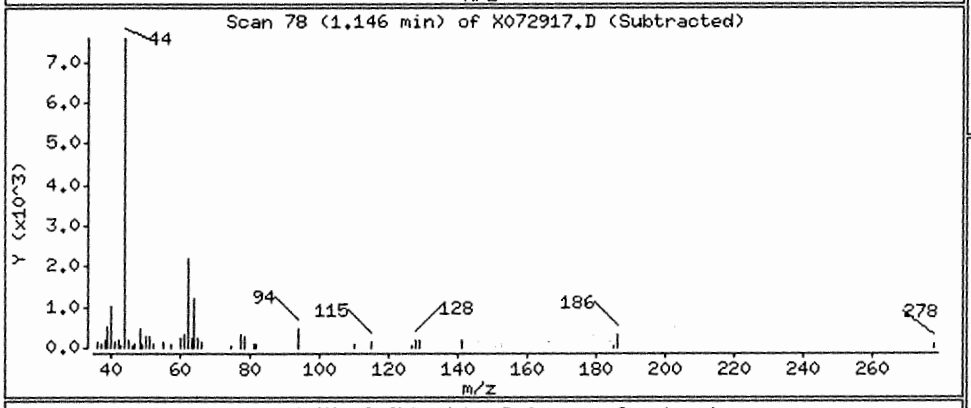
Column diameter: 0.18

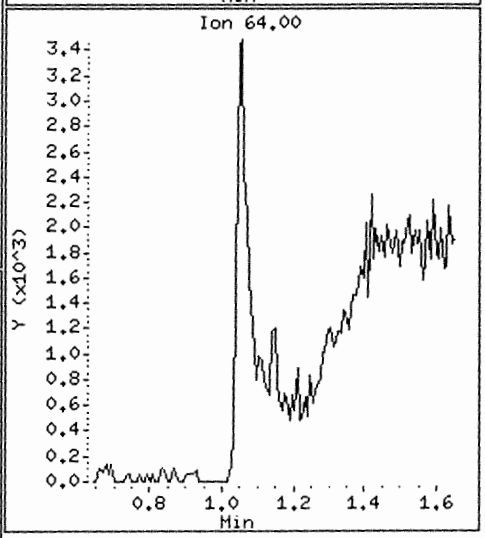
5 Vinyl Chloride

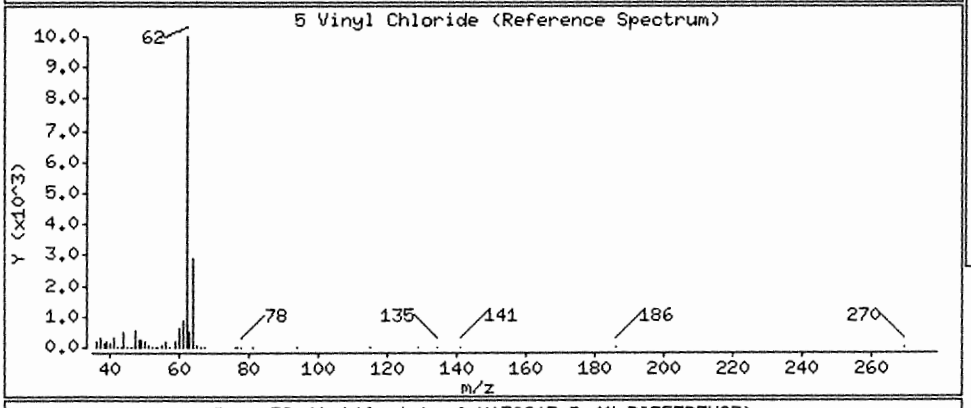
Concentration: 2.83 ug/l

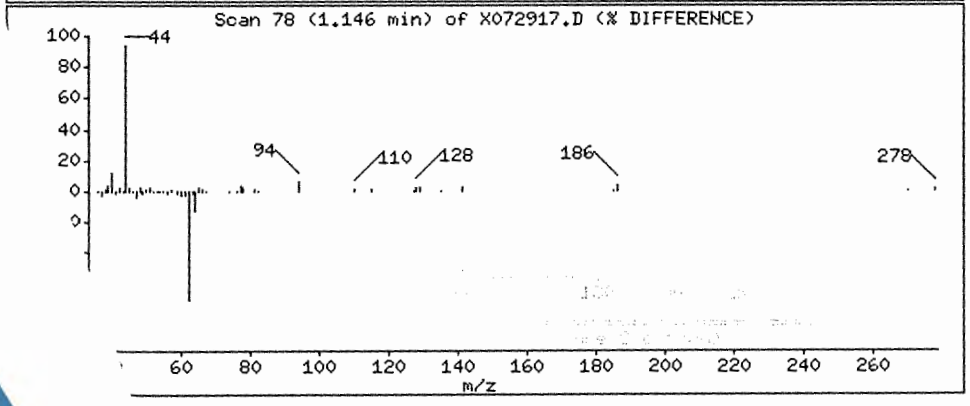












Data File: \\nahstws005\Target\chem\voa6.i\X200729.b\X072918.D Page 1
Report Date: 21-Aug-2020 17:02

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X200729.b\X072918.D
Lab Smp Id: HS20071147-04 Client Smp ID: HS20071147-04
Inj Date : 29-JUL-2020 19:27
Operator : PC Inst ID: voa6.i
Smp Info : HS20071147-04;HS20071147-04;;;
Misc Info : HS18090001;WATER;0;5;
Comment   :
Method   : \\nahstws005\Target\chem\voa6.i\X200729.b\8260W.m
Meth Date : 21-Aug-2020 17:00 dev.giga Quant Type: ISTD
Cal Date : 13-JUL-2020 13:18 Cal File: X071308.D
Als bottle: 17
Dil Factor: 5.00000
Integrator: HP RTE Compound Sublist: CBI-Hou11.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

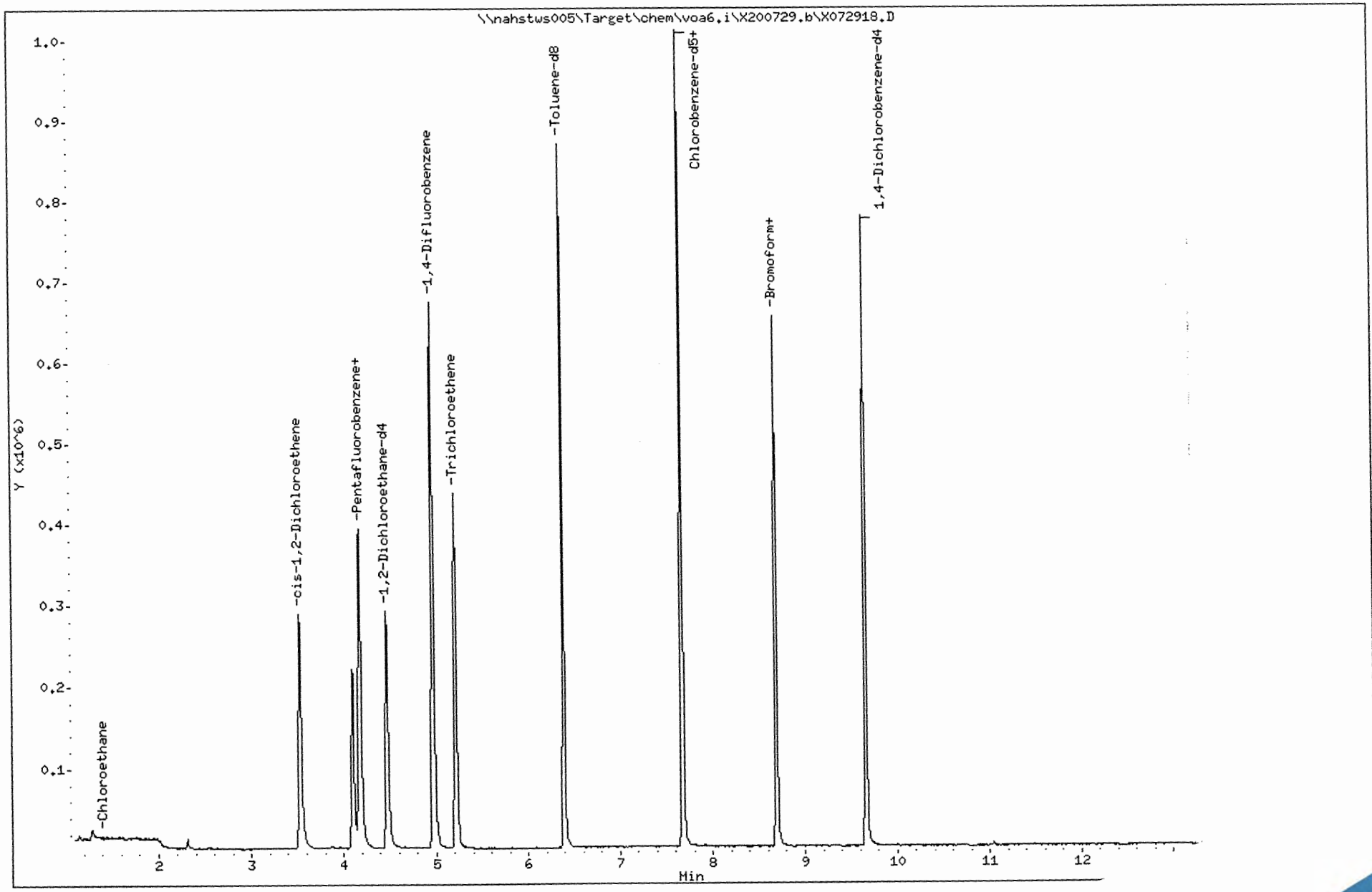
Name	Value	Description
DF	5.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	296025	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	487174	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	425312	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	167248	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.979)	156414	47.4130	47.41
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	212372	47.5014	47.50
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	431761	38.7557	38.75
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	194656	47.2692	47.26
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.843)	125403	33.0234	165.11
38 Trichloroethene	130	5.206	5.214	(1.048)	133378	38.0391	190.19
5 Vinyl Chloride	62	1.145	1.145	(0.273)	2824	0.58014	2.90

Data File: \\nahstws005\Target\chem\voa6.i\X200729.b\X072918.D
Date : 29-JUL-2020 19:27
Client ID: HS20071147-04
Sample Info: HS20071147-04;HS20071147-04;;;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i

Operator: PC
Column diameter: 0.18



File: \\nahstws005\Target\chem\voa6.i\X200729.b\X072918.D

: 29-JUL-2020 19:27

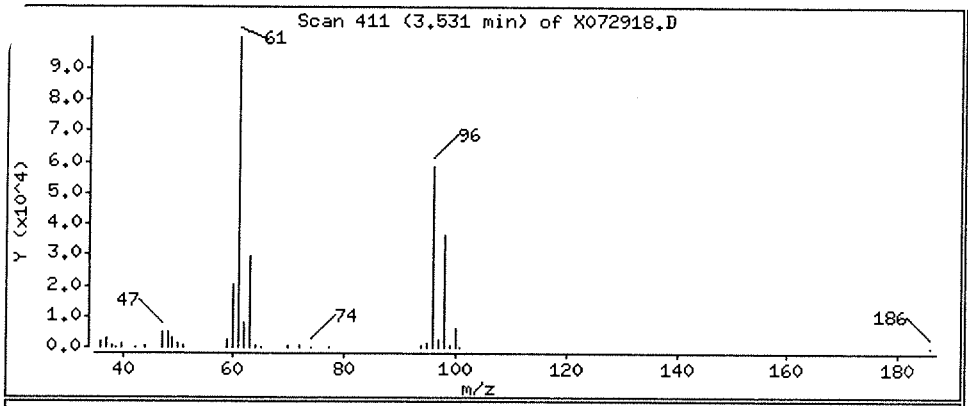
ent ID: HS20071147-04 Instrument: voa6.i

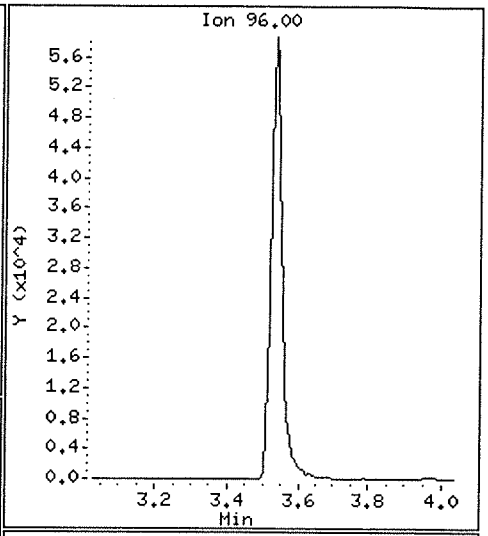
mple Info: HS20071147-04;HS20071147-04;;;

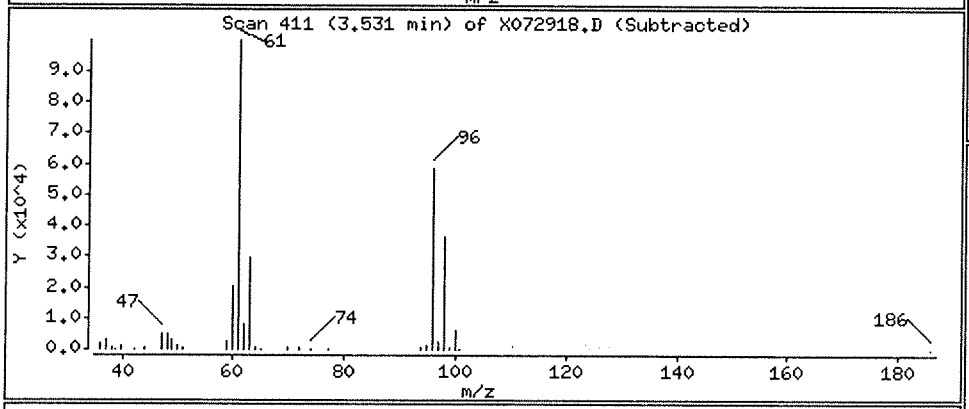
urge Volume: 5.0 Operator: PC

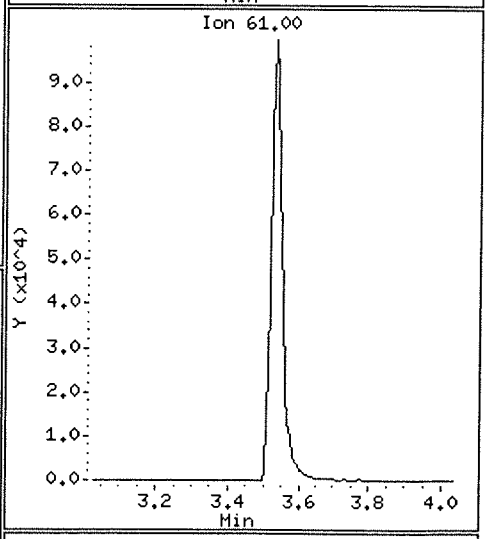
Column phase: DB624 Column diameter: 0.18

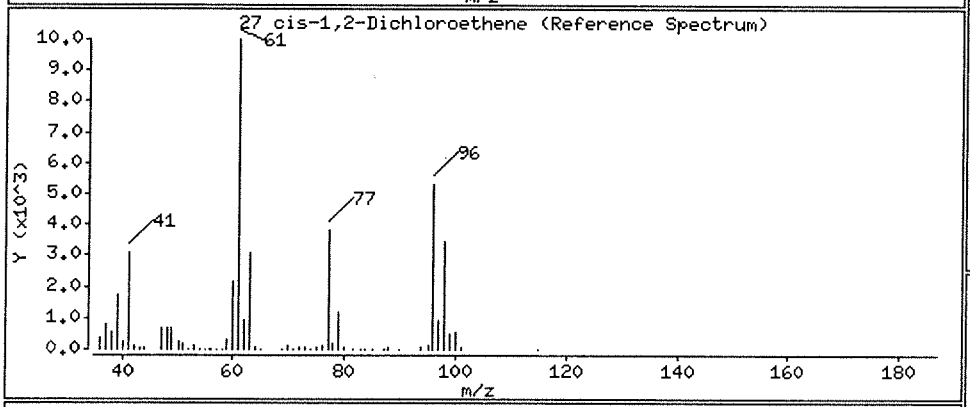
27 cis-1,2-Dichloroethene Concentration: 165.11 ug/l

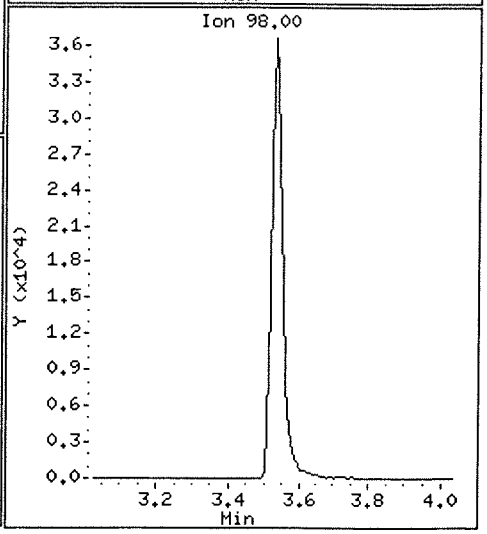


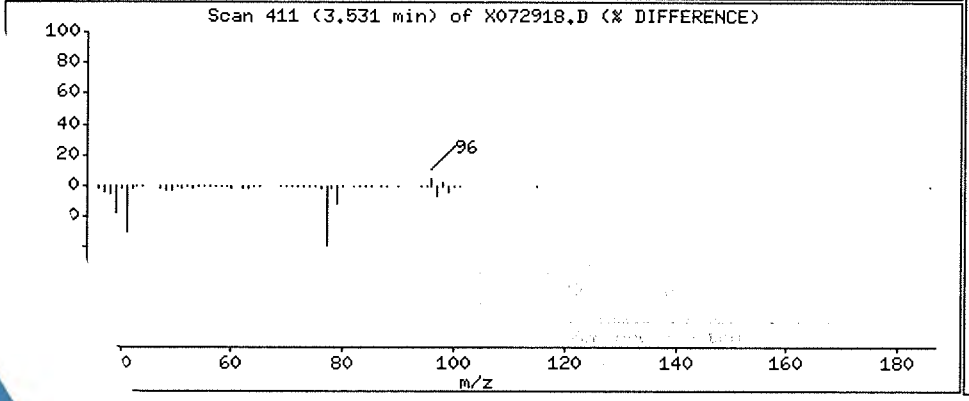












Data File: \\nahstws005\Target\chem\voa6.i\X200729.b\X072918.D

Date : 29-JUL-2020 19:27

Client ID: HS20071147-04

Instrument: voa6.i

Sample Info: HS20071147-04;HS20071147-04;;;

Purge Volume: 5.0

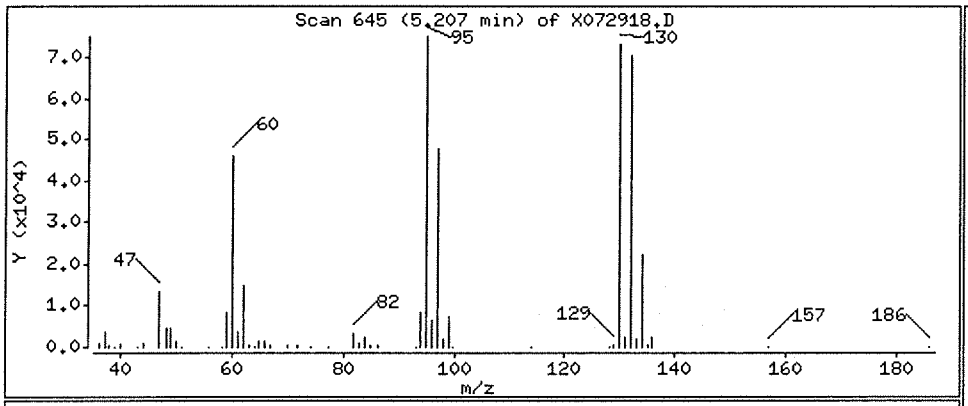
Operator: PC

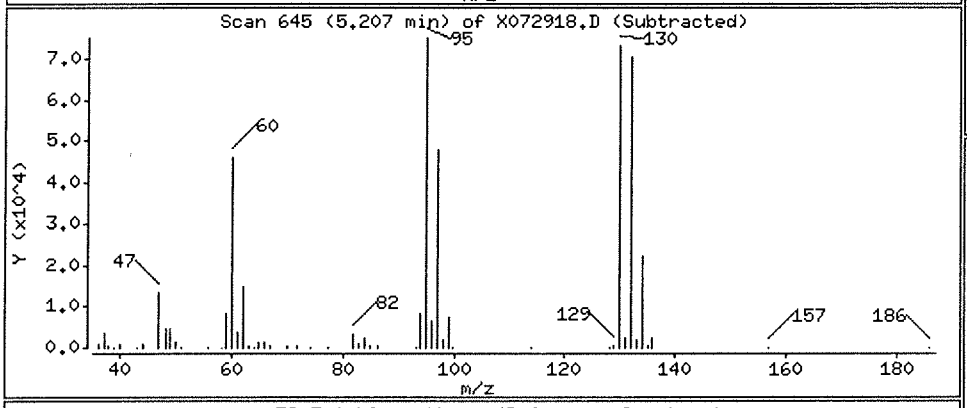
Column phase: DB624

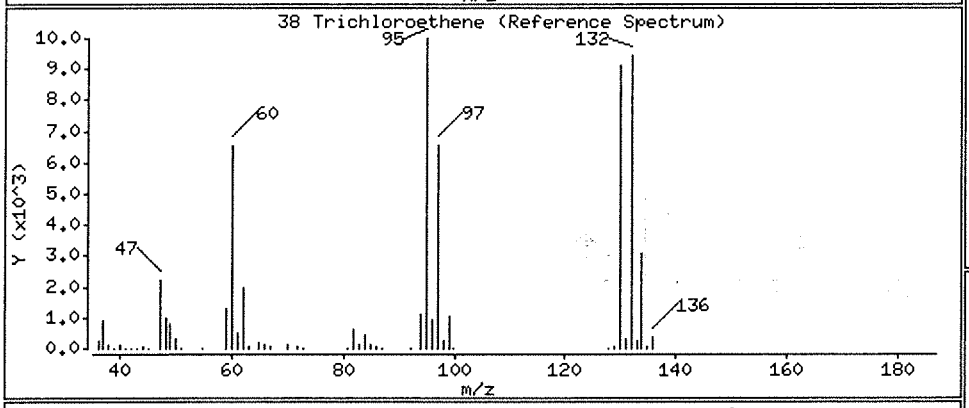
Column diameter: 0.18

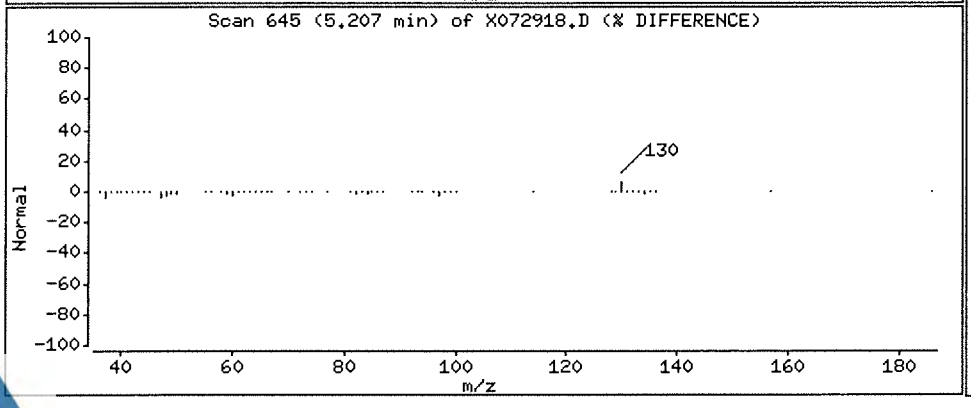
38 Trichloroethene

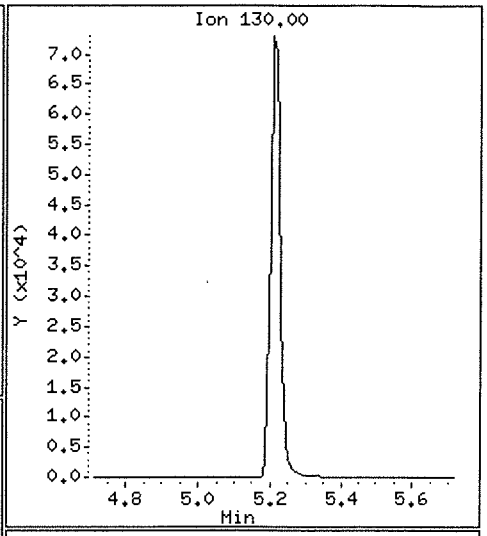
Concentration: 190.19 ug/l

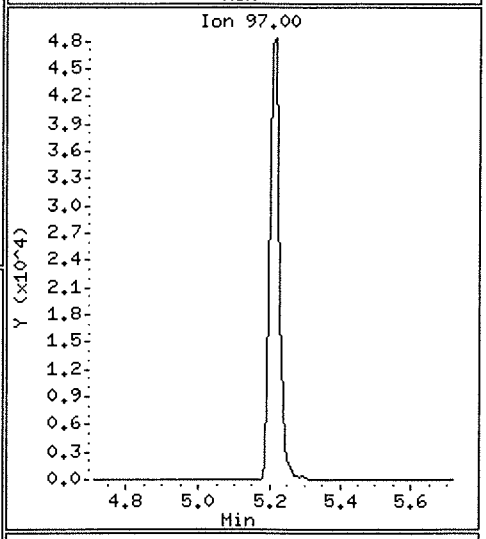


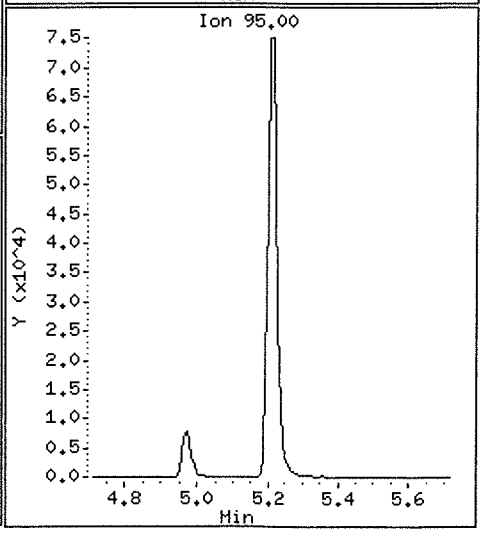












Data File: \\nahstws005\Target\chem\voa6.i\X200729.b\X072918.D

Date : 29-JUL-2020 19:27

Client ID: HS20071147-04

Instrument: voa6.i

Sample Info: HS20071147-04;HS20071147-04;;;

Purge Volume: 5.0

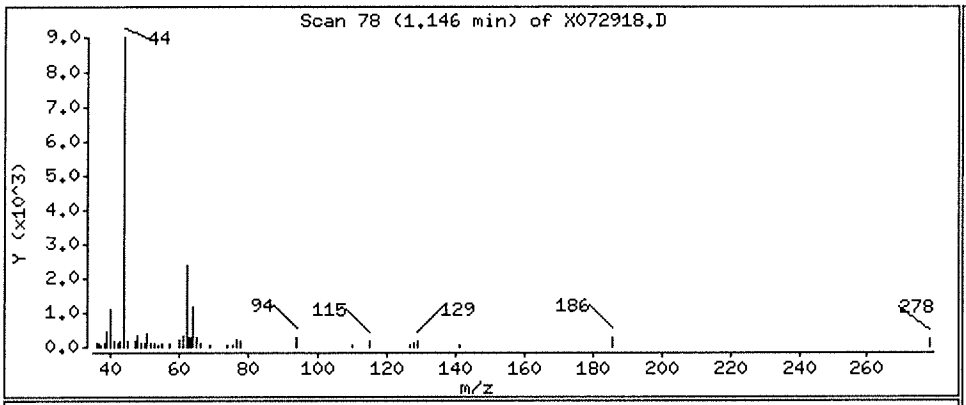
Operator: PC

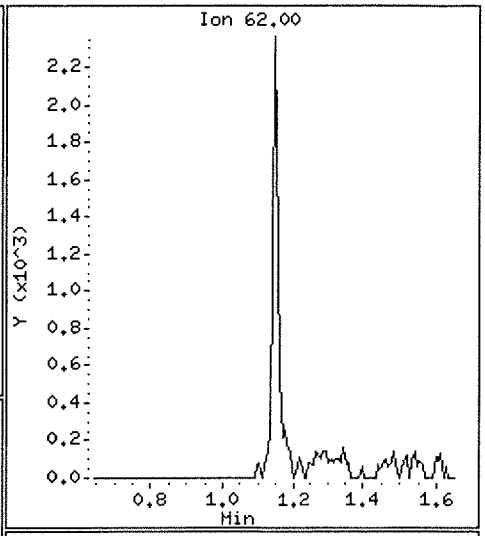
Column phase: DB624

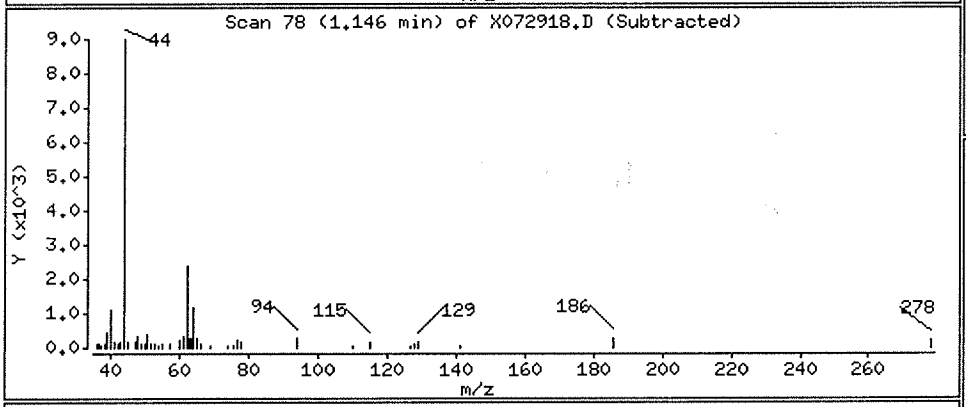
Column diameter: 0.18

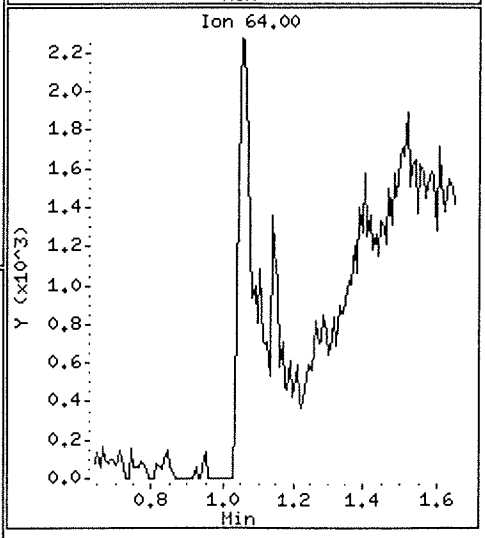
5 Vinyl Chloride

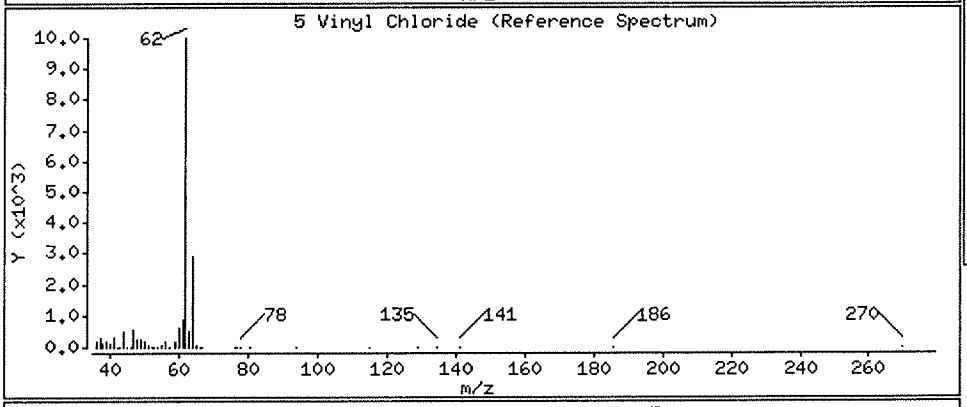
Concentration: 2.90 ug/l

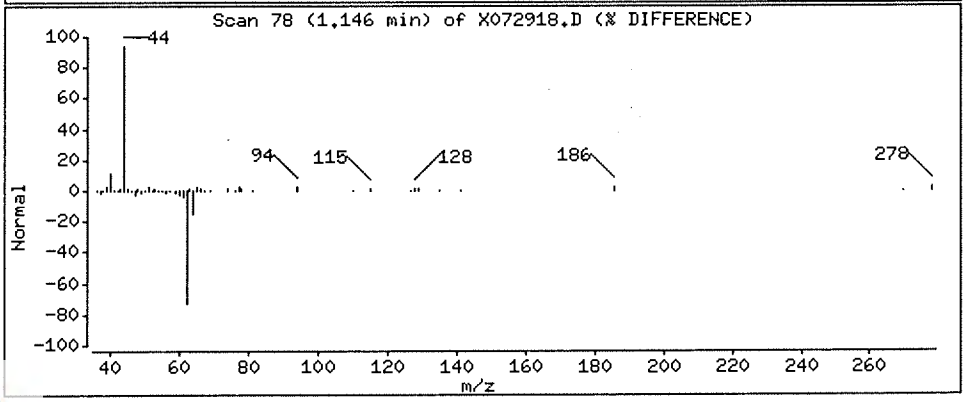












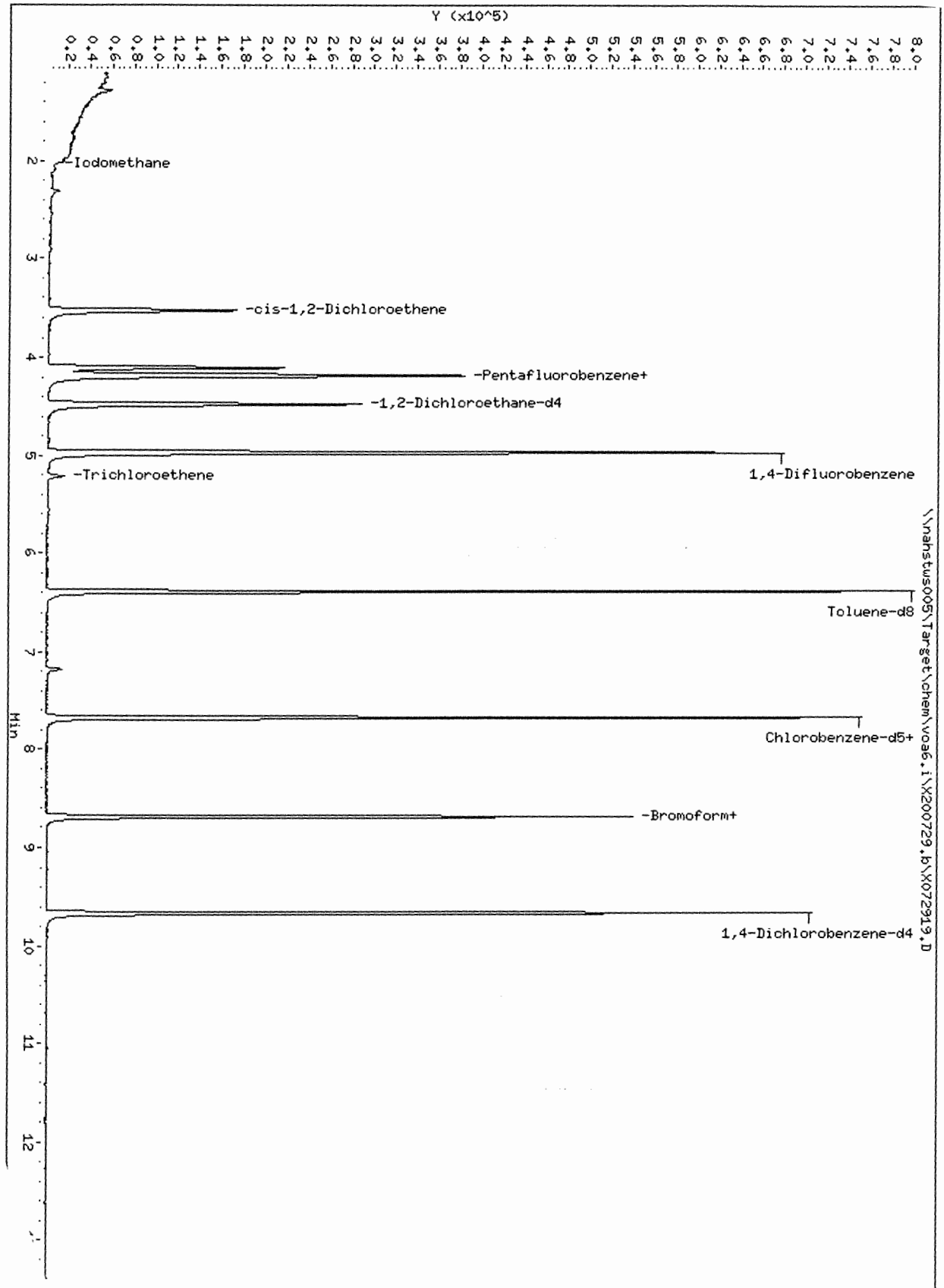
ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X200729.b\X072919.D
Lab Smp Id: HS20071147-06 Client Smp ID: HS20071147-06
Inj Date : 29-JUL-2020 19:51
Operator : PC Inst ID: voa6.i
Smp Info : HS20071147-06;HS20071147-06;;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200729.b\8260W.m
Meth Date : 21-Aug-2020 17:00 dev.giga Quant Type: ISTD
Cal Date : 13-JUL-2020 13:18 Cal File: X071308.D
Als bottle: 18
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI-Hou11.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

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

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	282375	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	475922	50.0000	
* 47 Chlorobenzene-d5	117	7.670	7.671	(1.000)	292446	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	148329	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.979)	151608	48.1790	48.17
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	212691	49.8555	49.85
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	400207	52.2443	52.24
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	147761	52.2391	52.23
27 cis-1,2-Dichloroethene	96	3.537	3.530	(0.844)	73000	20.1529	20.15
38 Trichloroethene	130	5.214	5.214	(1.049)	4017	1.17272	1.17



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Date : 29-JUL-2020 19:51
Client ID: HS200711147-06
Sample Info: HS200711147-06;HS200711147-06;;;
Purge Volume: 5.0
Column phase: DB624

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

le: \\nahstws005\Target\chem\voa6.i\X200729.b\X072919.D

, 29-JUL-2020 19:51

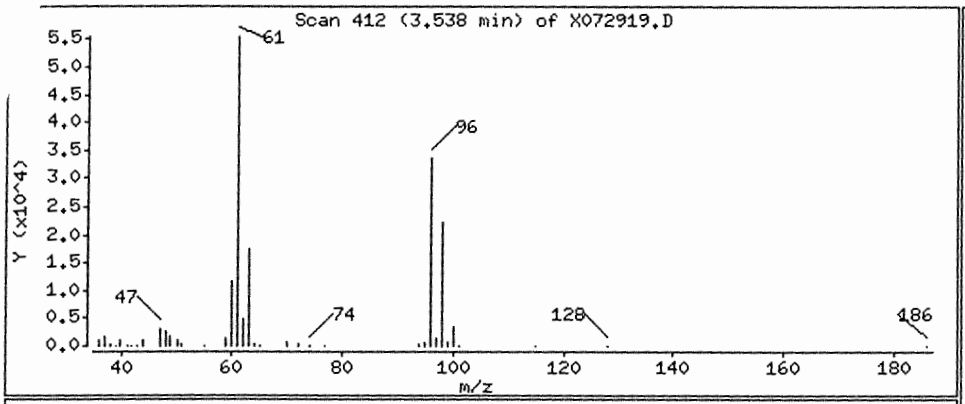
ıt ID: HS20071147-06 Instrument: voa6.i

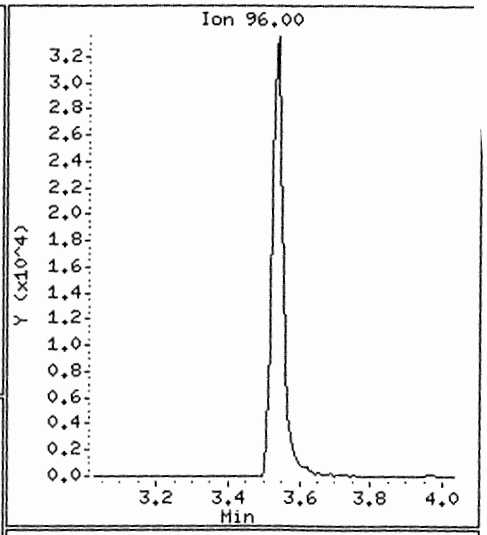
ple Info: HS20071147-06;HS20071147-06;;;

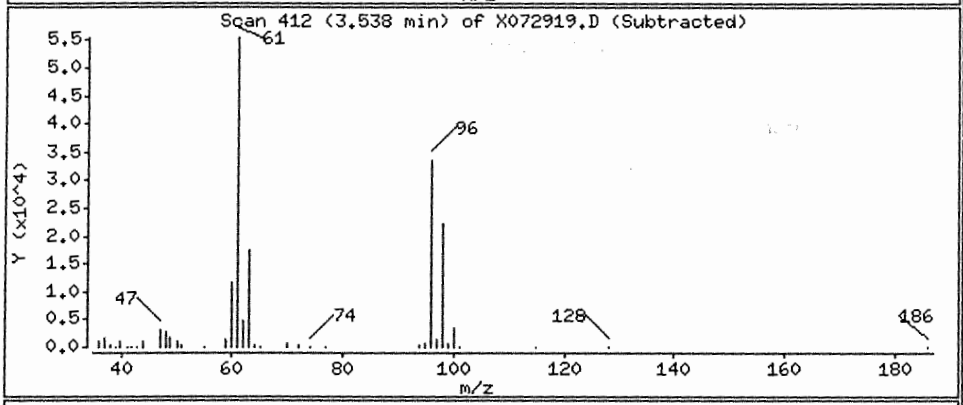
rge Volume: 5.0 Operator: PC

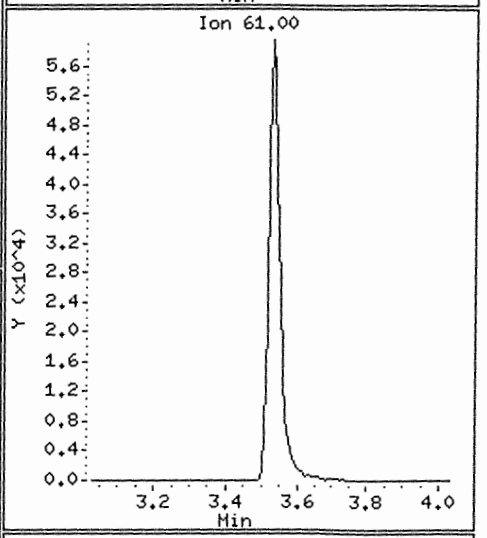
olumn phase: DB624 Column diameter: 0.18

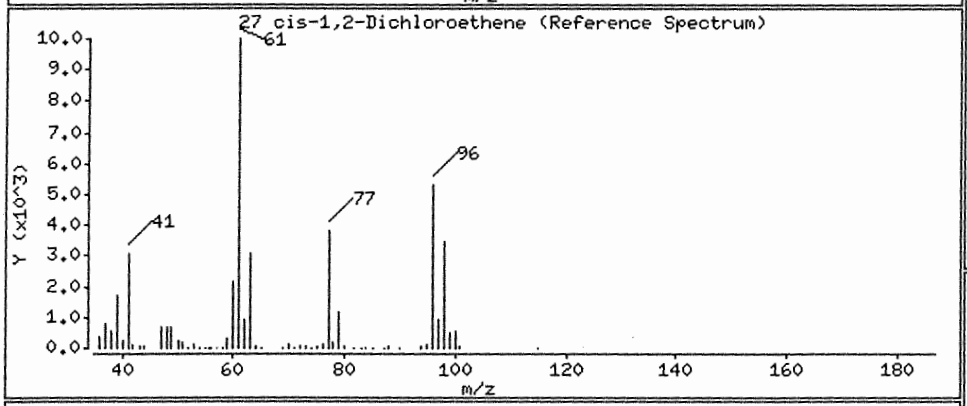
27 cis-1,2-Dichloroethene Concentration: 20.15 ug/l

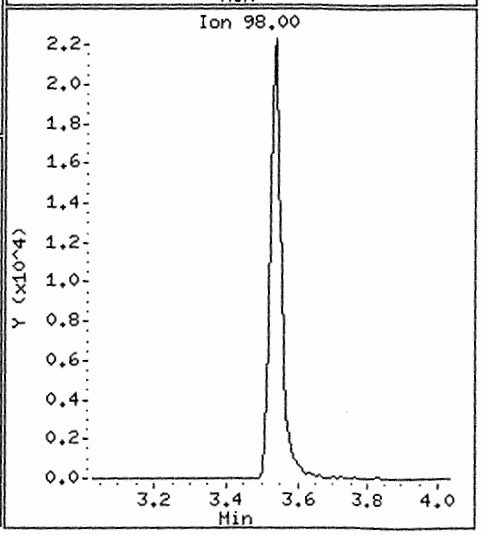


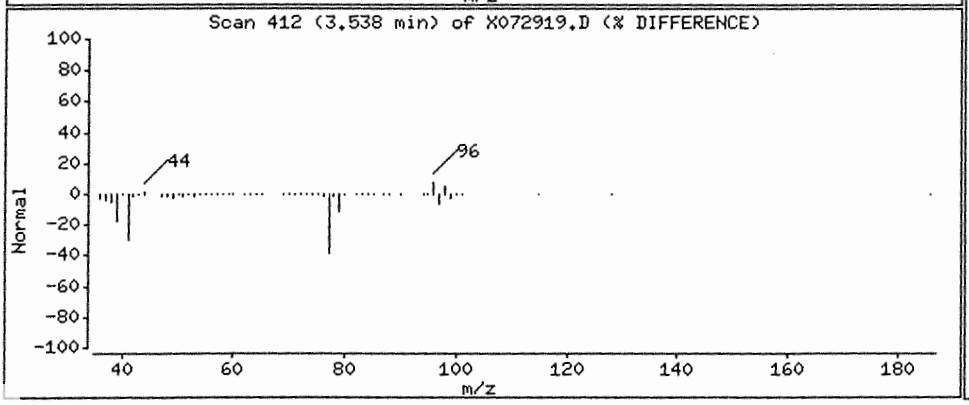












.le: \\nahstws005\Target\chem\voa6.i\X200729.b\X072919.D

: 29-JUL-2020 19:51

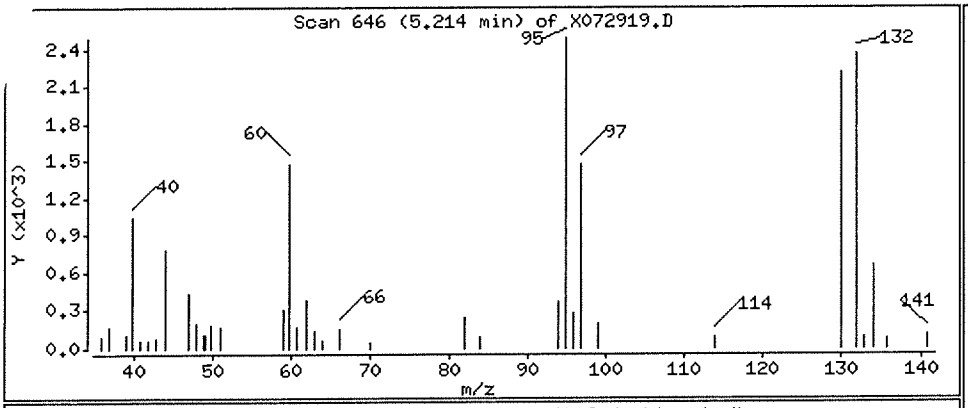
nt ID: HS20071147-06 Instrument: voa6.i

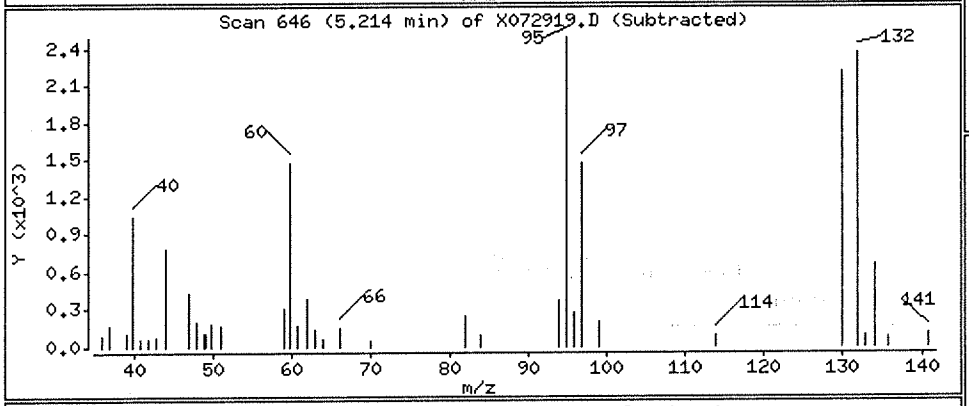
ple Info: HS20071147-06;HS20071147-06;;;

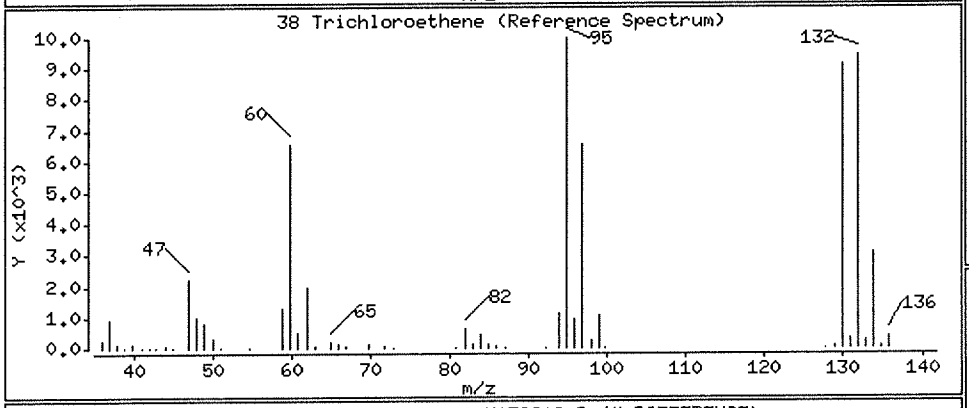
rge Volume: 5.0 Operator: PC

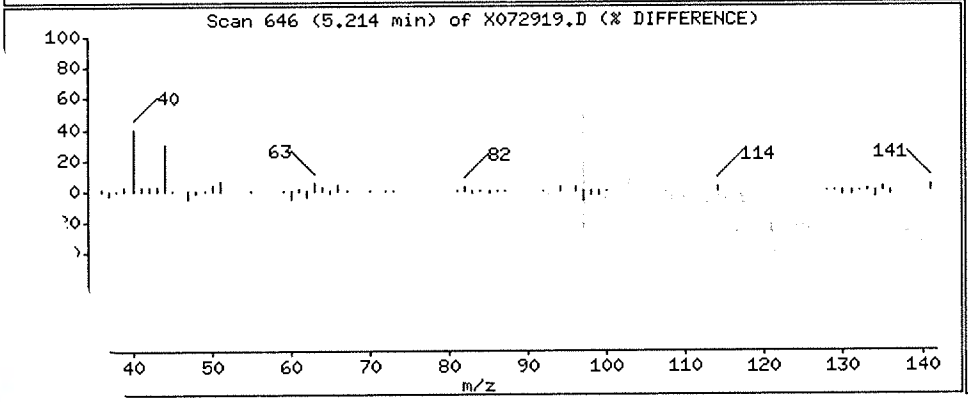
olumn phase: DB624 Column diameter: 0.18

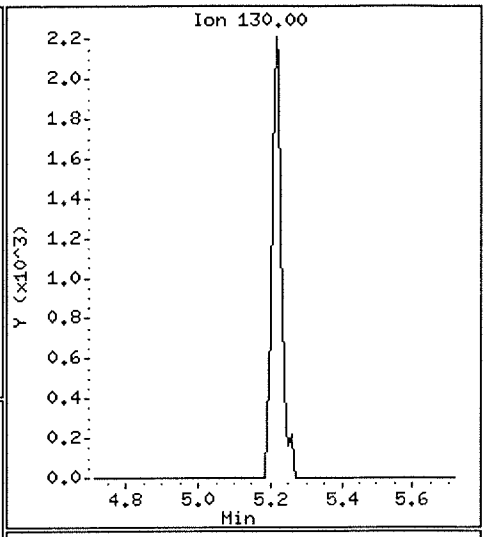
38 Trichloroethene Concentration: 1.17 ug/l

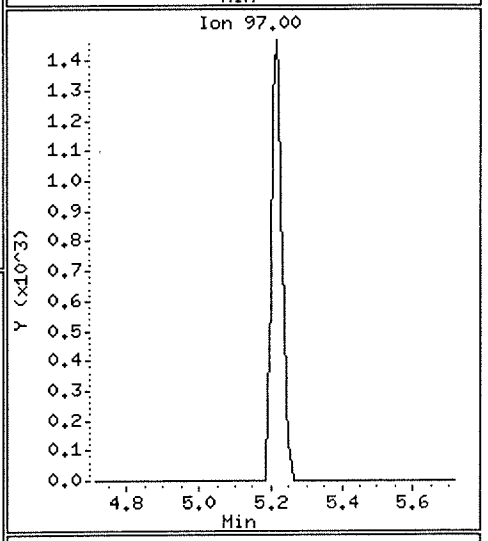


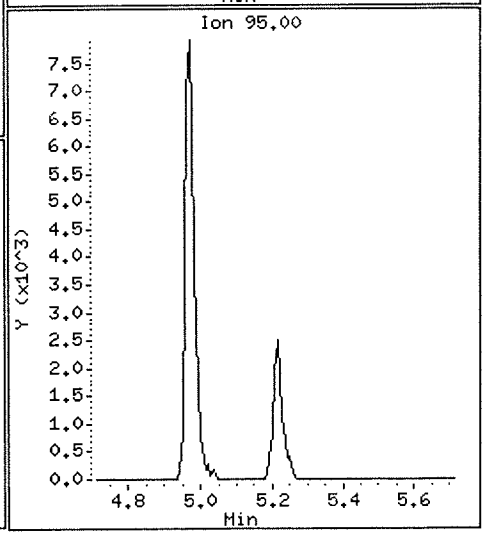












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ta file : \\nahstws005\Target\chem\voa6.i\X200729.b\X072920.D
ab Smp Id: HS20071147-07 Client Smp ID: HS20071147-07
nj Date : 29-JUL-2020 20:15
Operator : PC Inst ID: voa6.i
Smp Info : HS20071147-07;HS20071147-07;;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200729.b\8260W.m
Meth Date : 21-Aug-2020 17:00 dev.giga Quant Type: ISTD
Cal Date : 13-JUL-2020 13:18 Cal File: X071308.D
Als bottle: 19
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI-Hou11.sub
Target Version: 4.14
Processing Host: NAHSTW7056

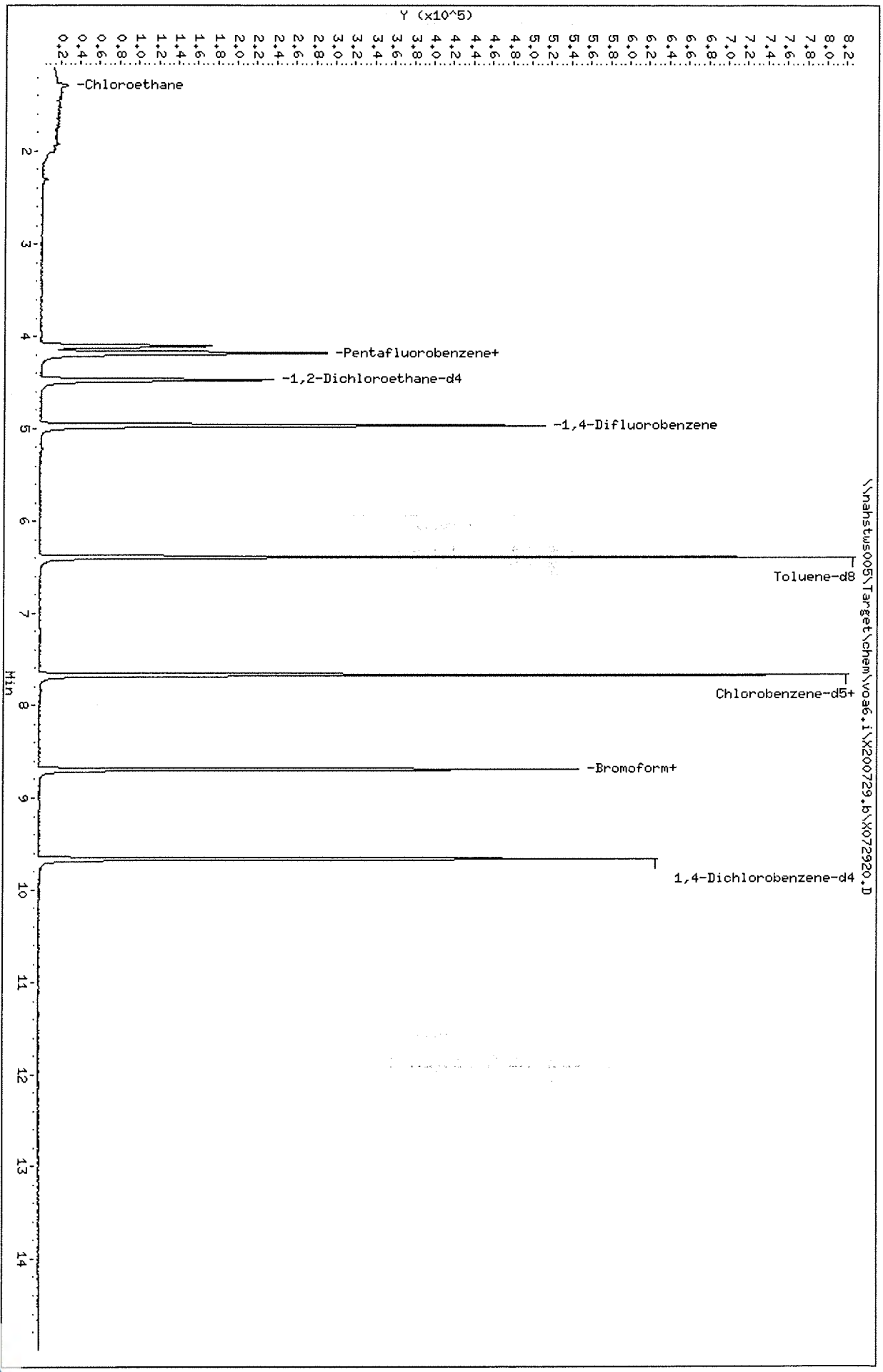
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

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

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	208184	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	347133	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	306857	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	124492	50.0000	
$ 30 Dibromofluoromethane	113	4.104	4.103	(0.979)	116567	50.2482	50.24
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	173025	54.9762	54.97
$ 48 Toluene-d8	98	6.389	6.388	(0.833)	415804	51.7312	51.73
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	150251	50.6082	50.60

Data File: \\nahstws005\Target\chem\voa6.i\X200729.b\X072920.D
Date : 29-JUL-2020 20:15
Client ID: HS200711147-07
Sample Info: HS200711147-07;HS200711147-07;;;
Purge Volume: 5.0
Column phase: DB624

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



Data File: \\nahstws005\Target\chem\voa6.i\X200729.b\X072921.D Page 1
Report Date: 21-Aug-2020 17:02

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Data file : \\nahstws005\Target\chem\voa6.i\X200729.b\X072921.D
Lab Smp Id: HS20071147-08 Client Smp ID: HS20071147-08
Inj Date : 29-JUL-2020 20:39
Operator : PC Inst ID: voa6.i
Smp Info : HS20071147-08;HS20071147-08;;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200729.b\8260W.m
Meth Date : 21-Aug-2020 17:00 dev.giga Quant Type: ISTD
Cal Date : 13-JUL-2020 13:18 Cal File: X071308.D
Als bottle: 20
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI-Hou11.sub
Target Version: 4.14
Processing Host: NAHSTW7056

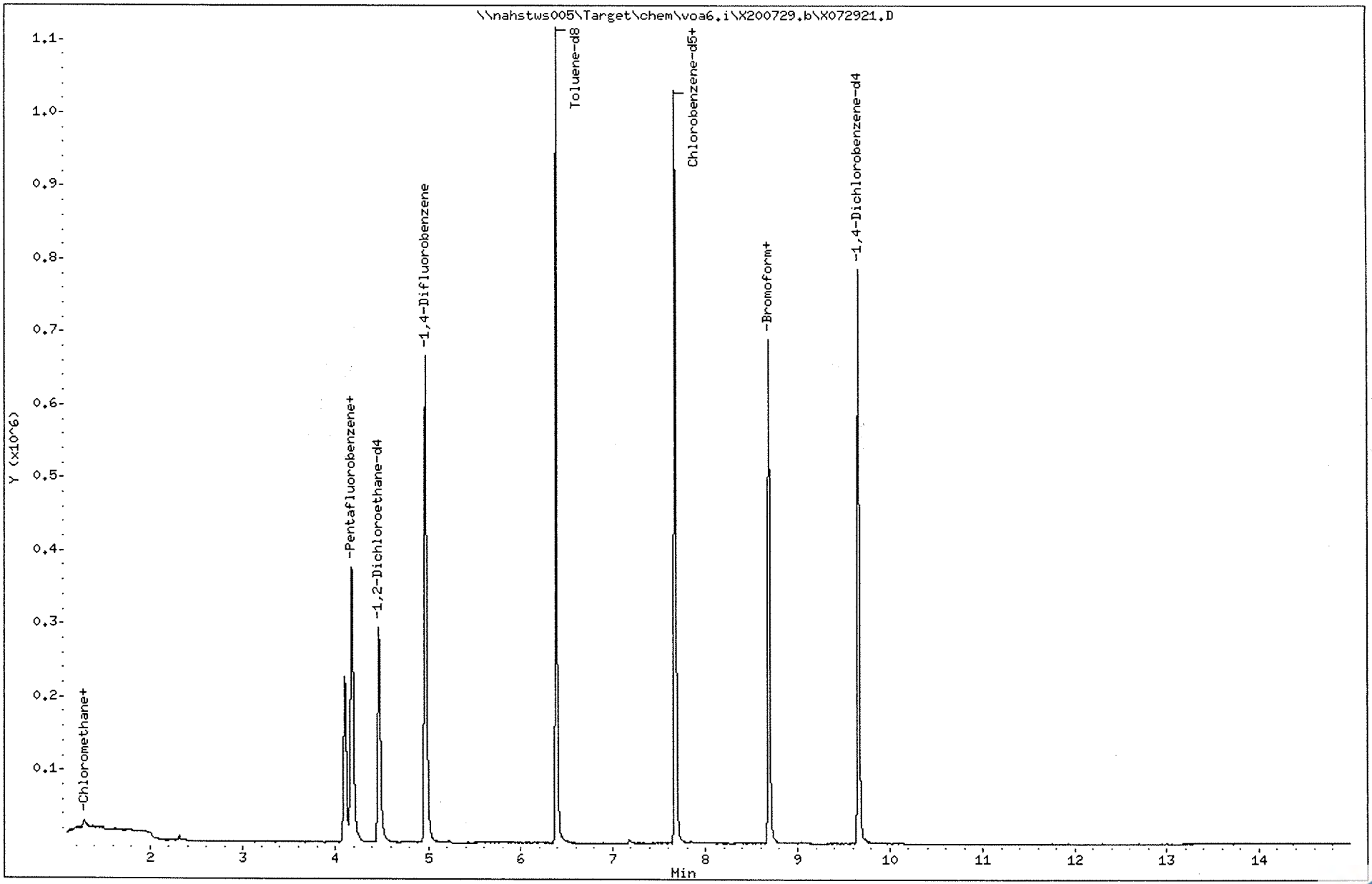
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

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

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	266141	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	449307	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	414512	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.669	(1.000)	156546	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.979)	153778	51.8557	51.85
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	210936	52.4424	52.44
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	531148	48.9191	48.91
$ 69 4-Bromofluorobenzene	95	8.688	8.695	(1.133)	203606	50.7700	50.77

Data File: \\nahstws005\Target\chem\voa6.i\X200729.b\X072921.D
Date : 29-JUL-2020 20:39
Client ID: HS20071147-08
Sample Info: HS20071147-08;HS20071147-08;;;
Purge Volume: 5.0
Column phase: DB624

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



Data File: \\nahstws005\Target\chem\voa6.i\X200729.b\X072922.D Page 1
Report Date: 21-Aug-2020 17:02

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Data file : \\nahstws005\Target\chem\voa6.i\X200729.b\X072922.D
Lab Smp Id: HS20071147-09 Client Smp ID: HS20071147-09
Inj Date : 29-JUL-2020 21:03
Operator : PC Inst ID: voa6.i
Smp Info : HS20071147-09;HS20071147-09;;;
Misc Info : HS18090001;WATER;0;1;
Comment   :
Method   : \\nahstws005\Target\chem\voa6.i\X200729.b\8260W.m
Meth Date : 21-Aug-2020 17:00 dev.giga Quant Type: ISTD
Cal Date : 13-JUL-2020 13:18 Cal File: X071308.D
Als bottle: 21
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI-Hou11.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

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

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	256115	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	445685	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	280993	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.669	(1.000)	155099	50.0000	
$ 30 Dibromofluoromethane	113	4.104	4.103	(0.979)	118068	41.3558	41.35
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	207536	53.6093	53.60
$ 48 Toluene-d8	98	6.389	6.388	(0.833)	381813	51.8747	51.87
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	143438	52.7832	52.78

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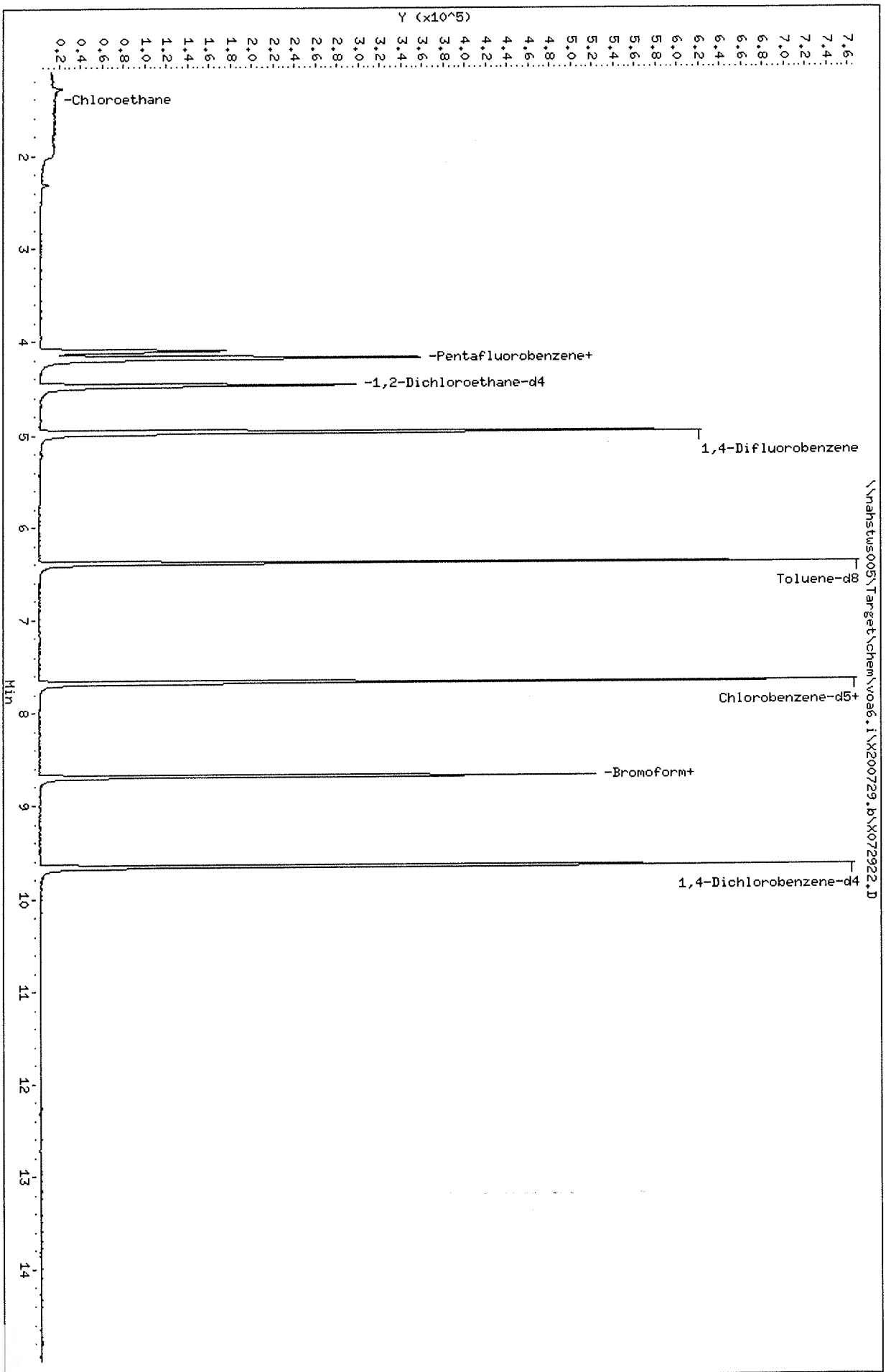
Date : 29-JUL-2020 21:03
Client ID: HS200711147-09
Sample Info: HS200711147-09;HS200711147-09;;;
Purge Volume: 5.0
Column phase: DB624

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



Data File: \\nahstws005\Target\chem\voa6.i\X200729.b\X072925.D Page 1
Report Date: 21-Aug-2020 17:02

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X200729.b\X072925.D
Lab Smp Id: HS20071147-01 Client Smp ID: HS20071147-01
Inj Date : 29-JUL-2020 22:15
Operator : PC Inst ID: voa6.i
Smp Info : HS20071147-01;HS20071147-01;;;
Misc Info : HS18090001;WATER;0;1;
Comment   :
Method   : \\nahstws005\Target\chem\voa6.i\X200729.b\8260W.m
Meth Date : 21-Aug-2020 17:00 dev.giga Quant Type: ISTD
Cal Date : 13-JUL-2020 13:18 Cal File: X071308.D
Als bottle: 24
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI-Hou11.sub
Target Version: 4.14
Processing Host: NAHSTW7056

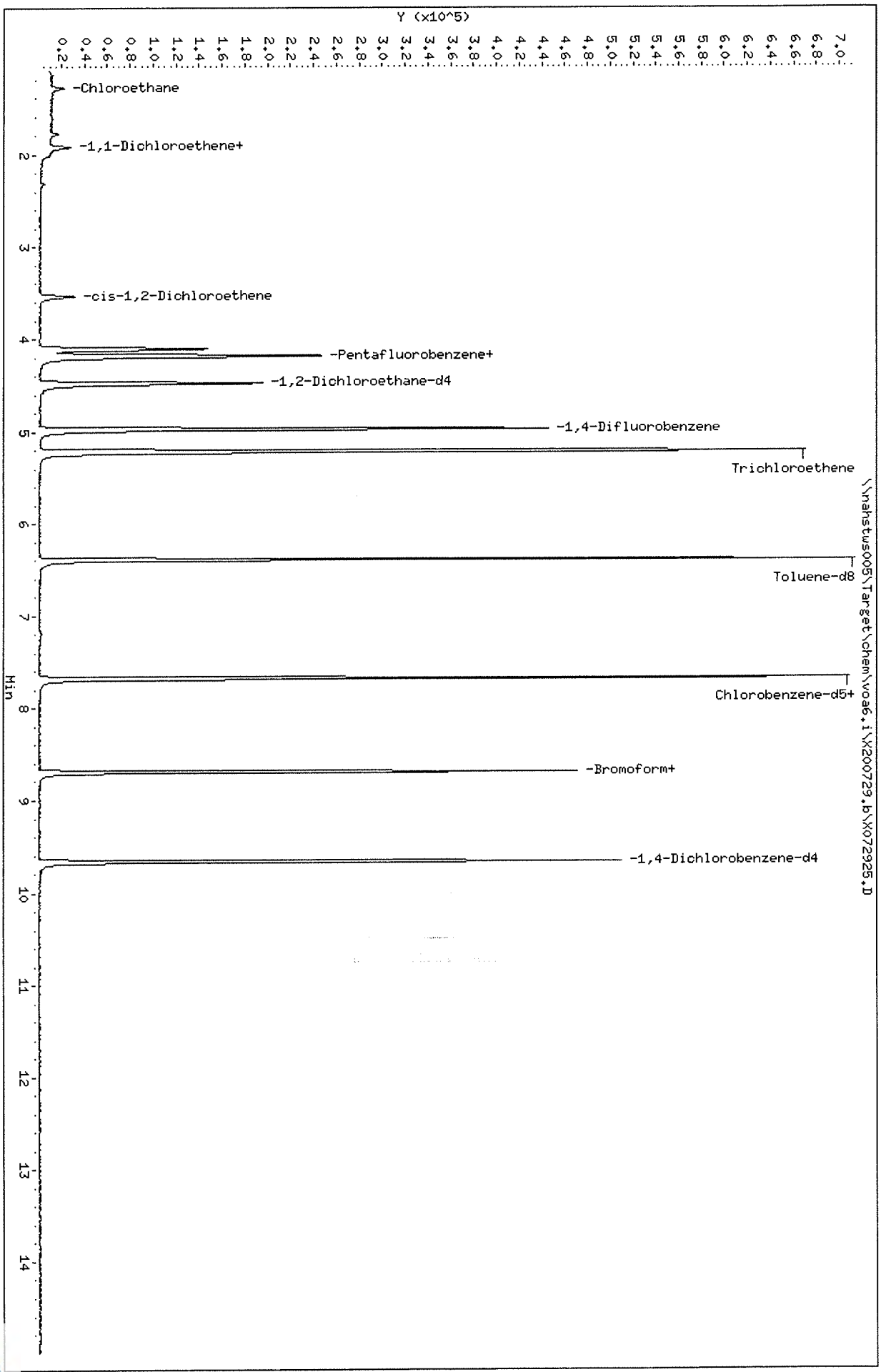
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

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

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	175963	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	300170	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	259088	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	102112	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.979)	98520	50.2453	50.24
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	142060	53.4124	53.41
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	356180	52.4834	52.48
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	123881	49.4067	49.40
11 1,1-Dichloroethene	96	1.912	1.919	(0.456)	1170	0.76003	0.76(a)
27 cis-1,2-Dichloroethene	96	3.538	3.530	(0.844)	12890	5.71049	5.71
38 Trichloroethene	130	5.214	5.214	(1.049)	187198	86.6490	86.64
5 Vinyl Chloride	62	1.145	1.145	(0.273)	1188	0.41058	0.41

QC Flag Legend

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



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Date : 29-JUL-2020 22:15
Client ID: HS20071147-01
Sample Info: HS20071147-01;HS20071147-01;;;
Purge Volume: 5.0
Column phase: DB624

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

Data File: \\nahstws005\Target\chem\voa6.i\X200729.b\X072925.D

Date : 29-JUL-2020 22:15

Client ID: HS20071147-01

Instrument: voa6.i

Sample Info: HS20071147-01;HS20071147-01;;;

Purge Volume: 5.0

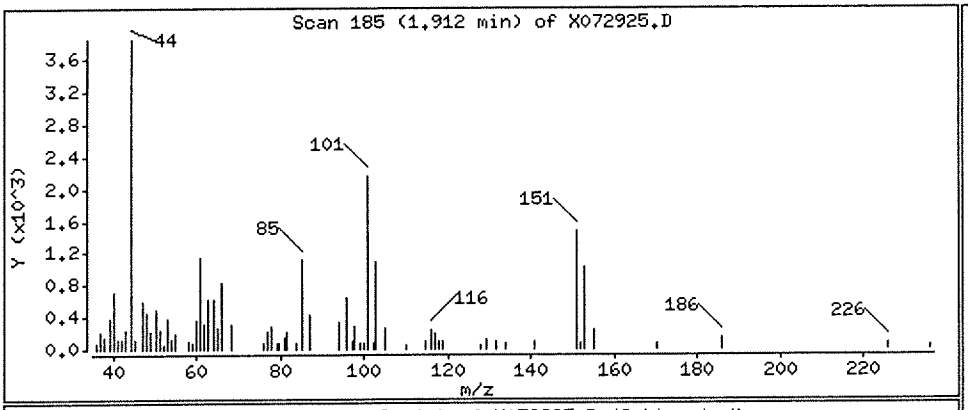
Operator: PC

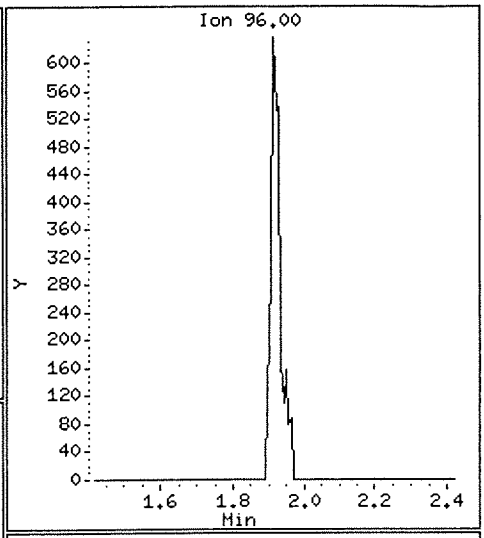
Column phase: DB624

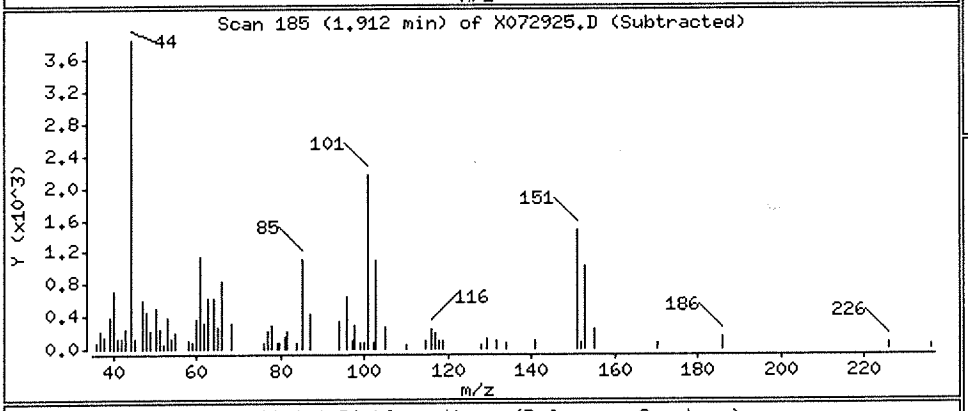
Column diameter: 0.18

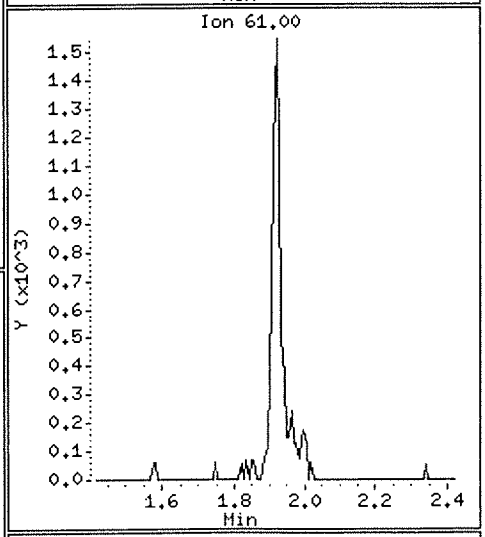
11 1,1-Dichloroethene

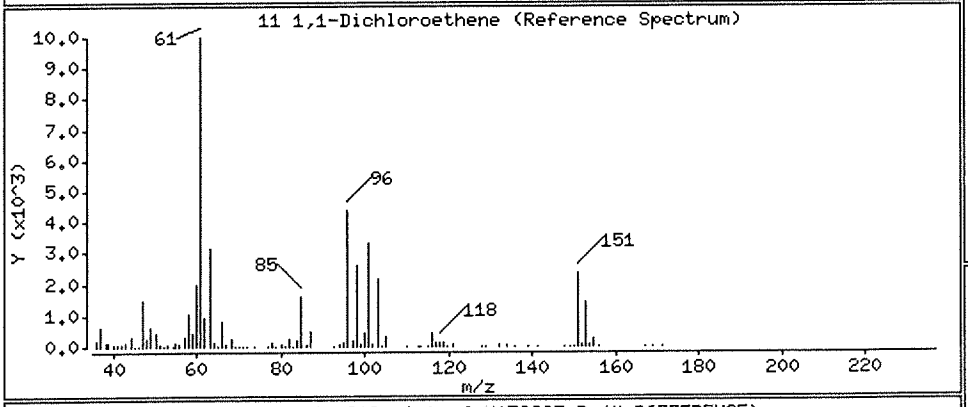
Concentration: 0.76 ug/l

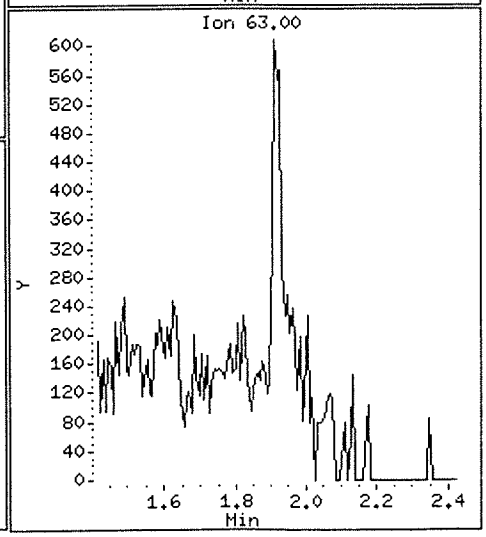


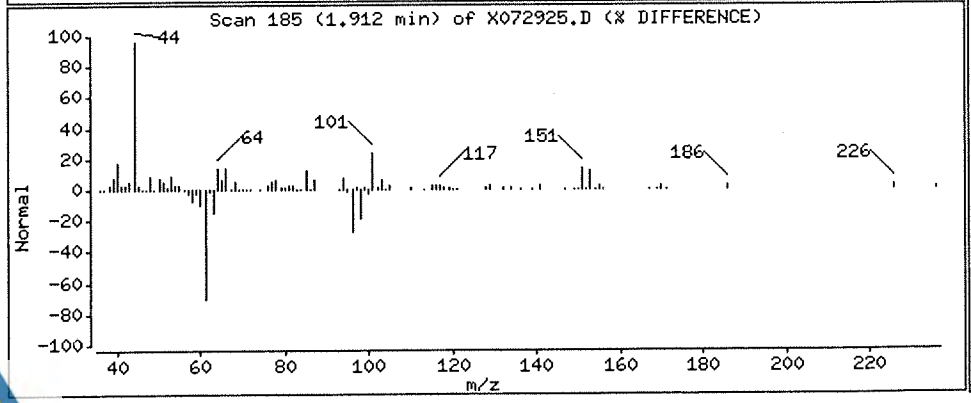












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Date : 29-JUL-2020 22:15

Client ID: HS20071147-01

Instrument: voa6.i

Sample Info: HS20071147-01;HS20071147-01;;;

Purge Volume: 5.0

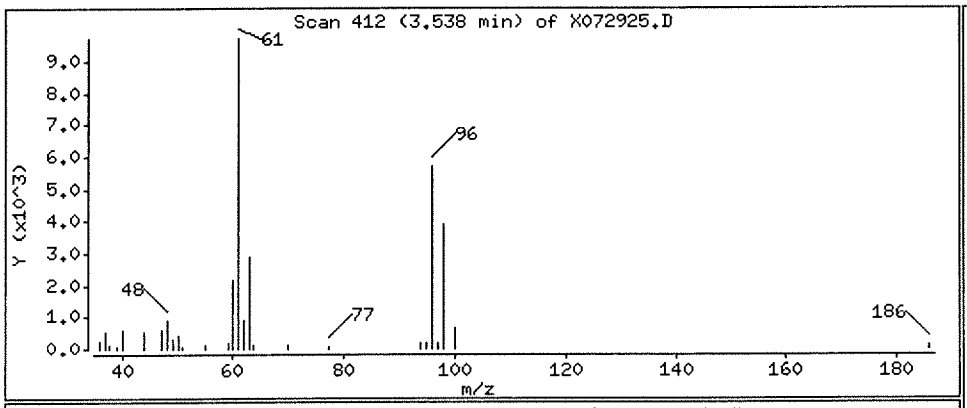
Operator: PC

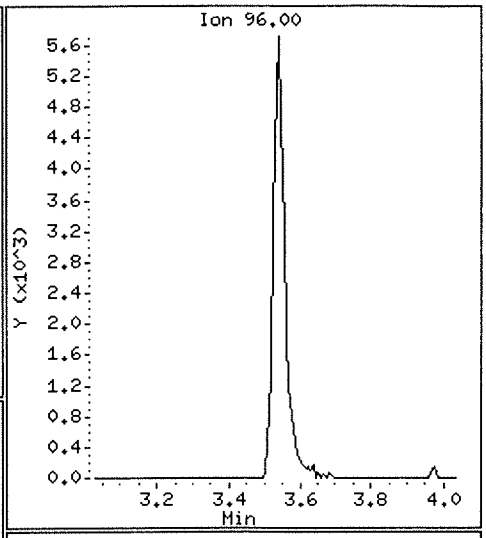
Column phase: DB624

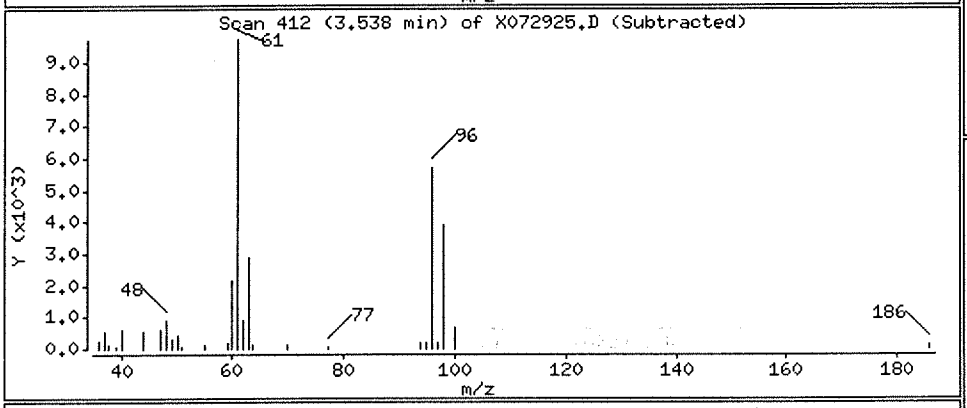
Column diameter: 0.18

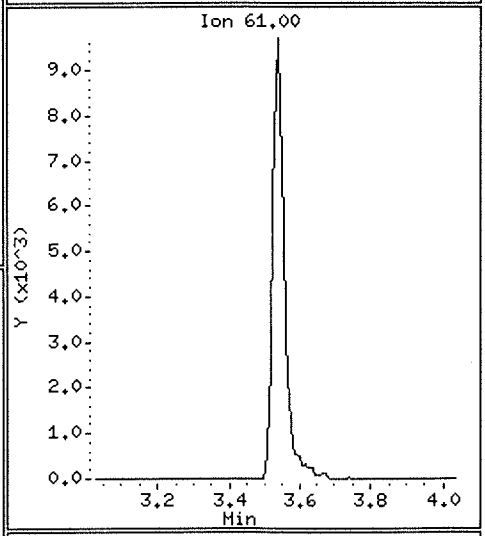
27 cis-1,2-Dichloroethene

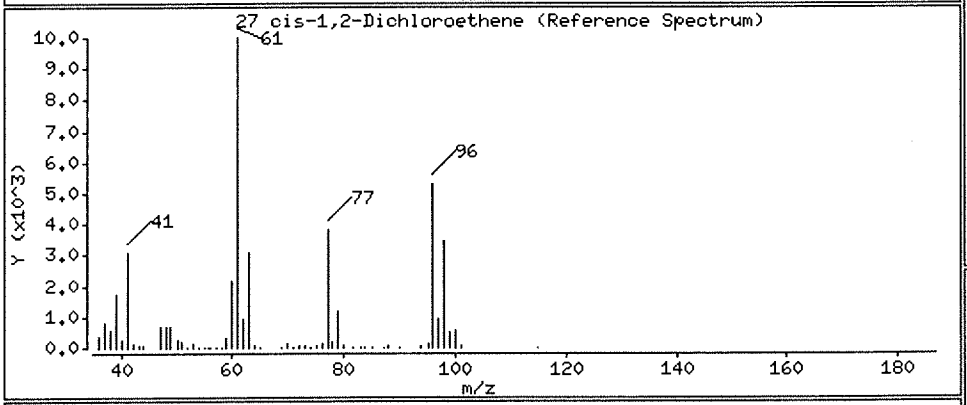
Concentration: 5.71 ug/l

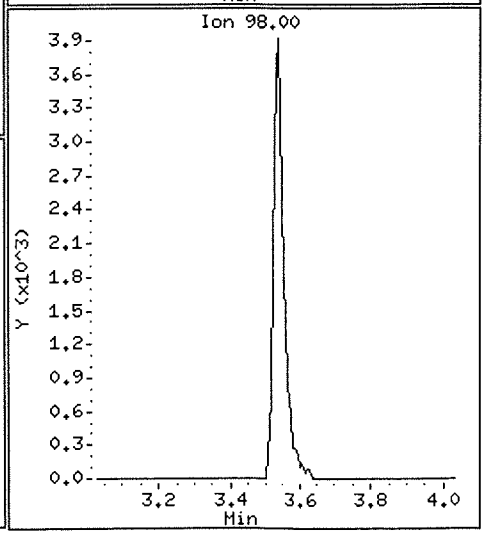


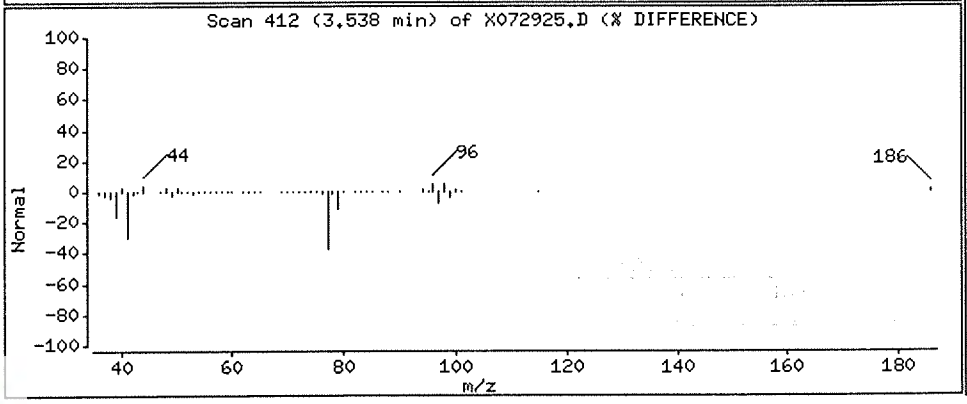












Data File: \\nahstws005\Target\chem\voa6.i\X200729.b\X072925.D

Date : 29-JUL-2020 22:15

Client ID: HS20071147-01

Instrument: voa6.i

Sample Info: HS20071147-01;HS20071147-01;;;

Purge Volume: 5.0

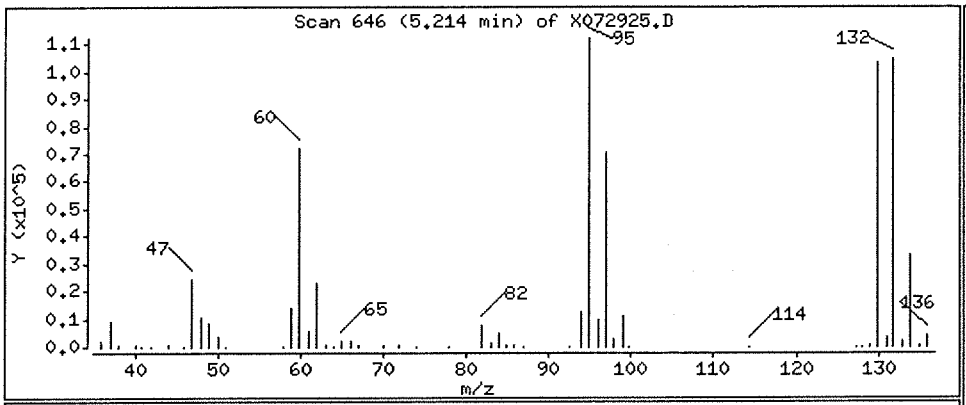
Operator: PC

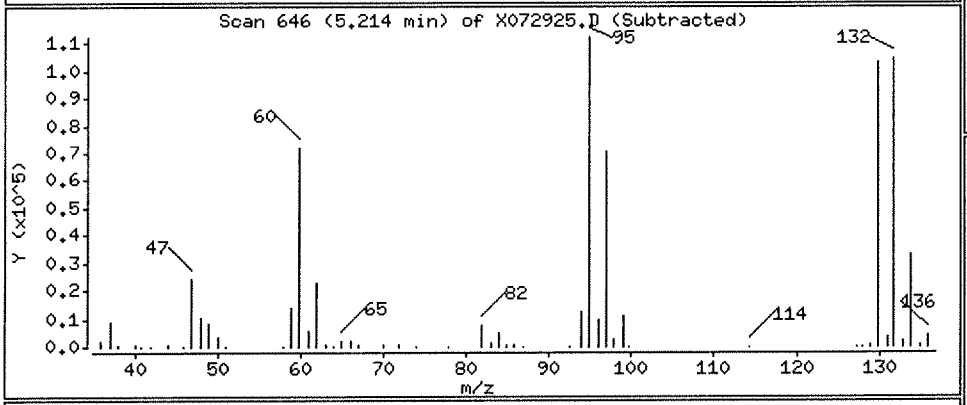
Column phase: DB624

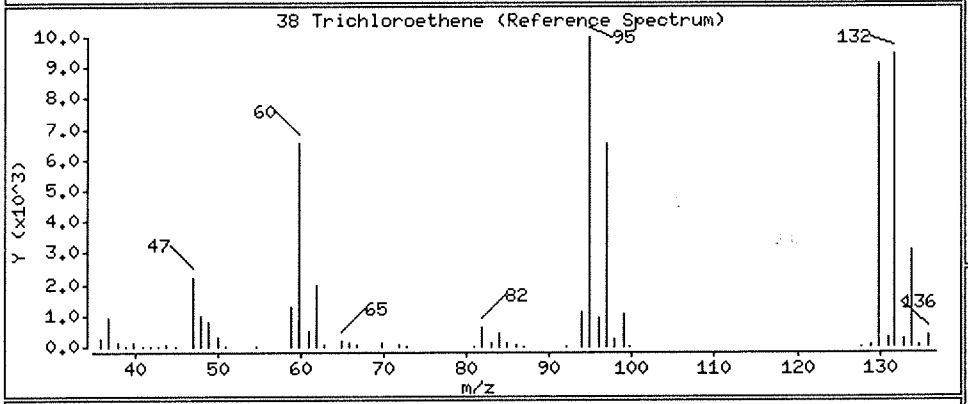
Column diameter: 0.18

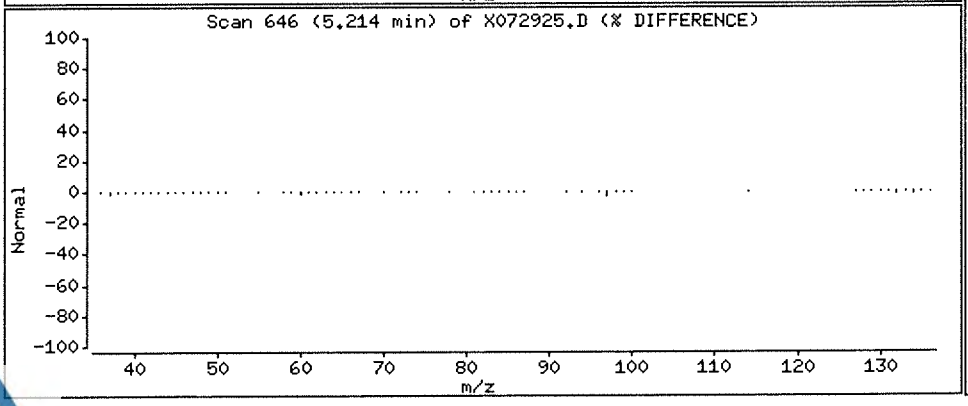
38 Trichloroethene

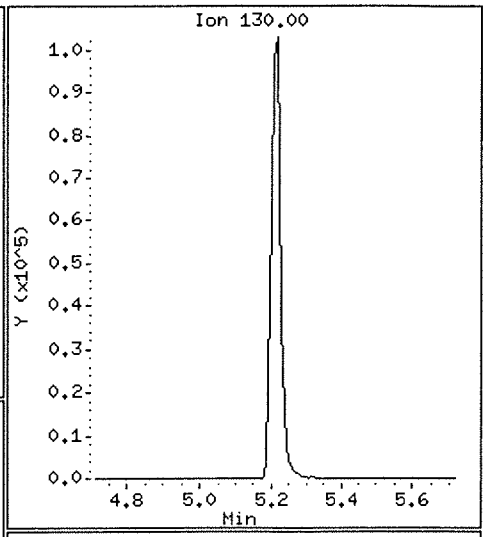
Concentration: 86.64 ug/l

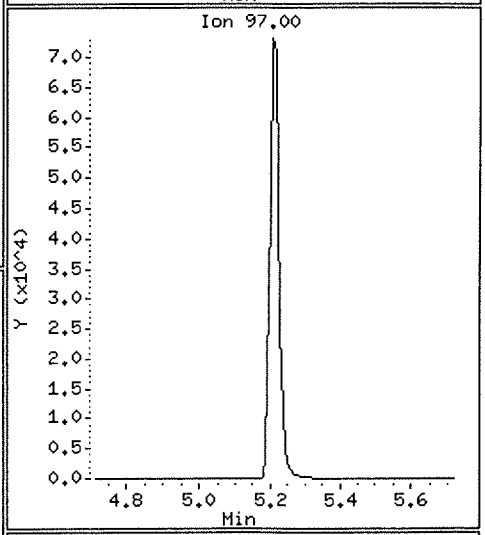


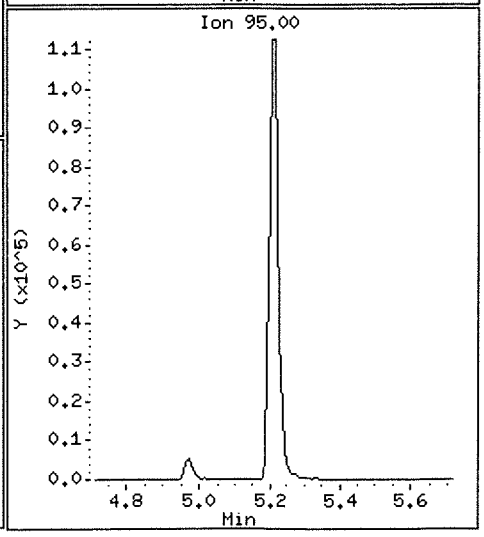












Data File: \\nahstws005\Target\chem\voa6.i\X200729.b\X072925.D

Date : 29-JUL-2020 22:15

Client ID: HS20071147-01

Instrument: voa6.i

Sample Info: HS20071147-01;HS20071147-01;;;

Purge Volume: 5.0

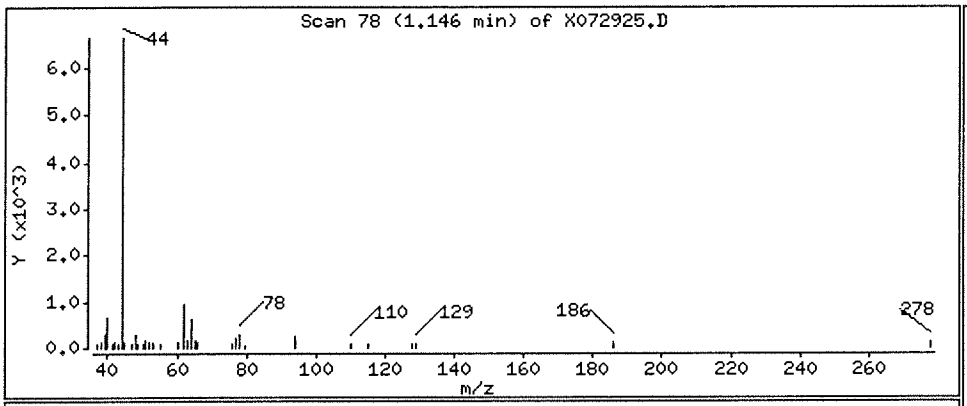
Operator: PC

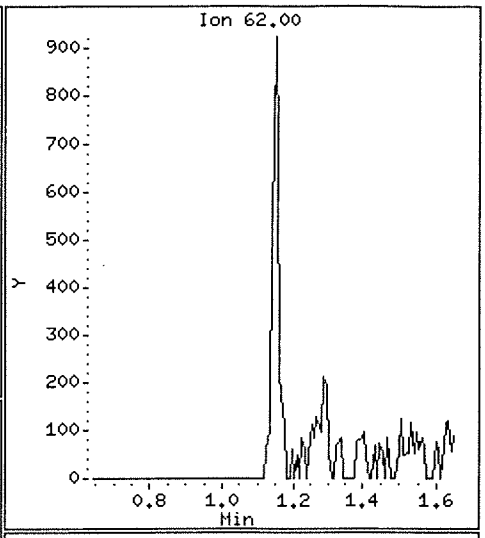
Column phase: DB624

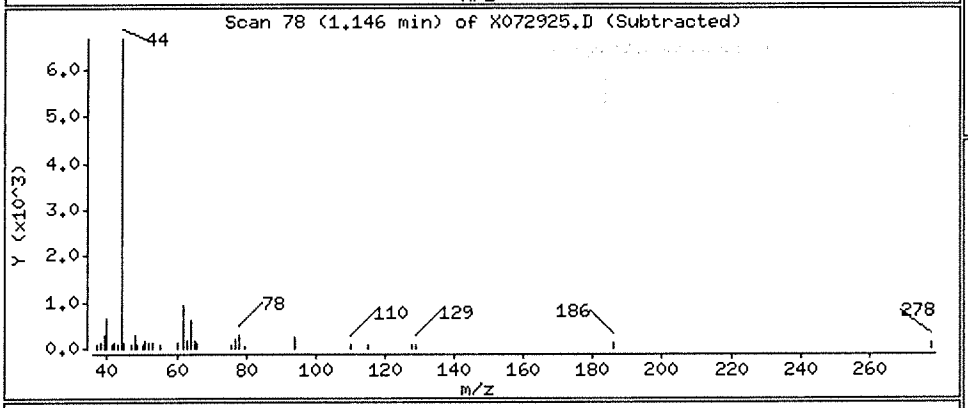
Column diameter: 0.18

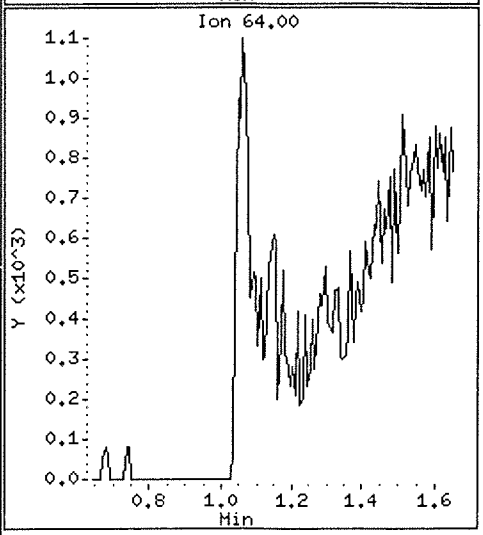
5 Vinyl Chloride

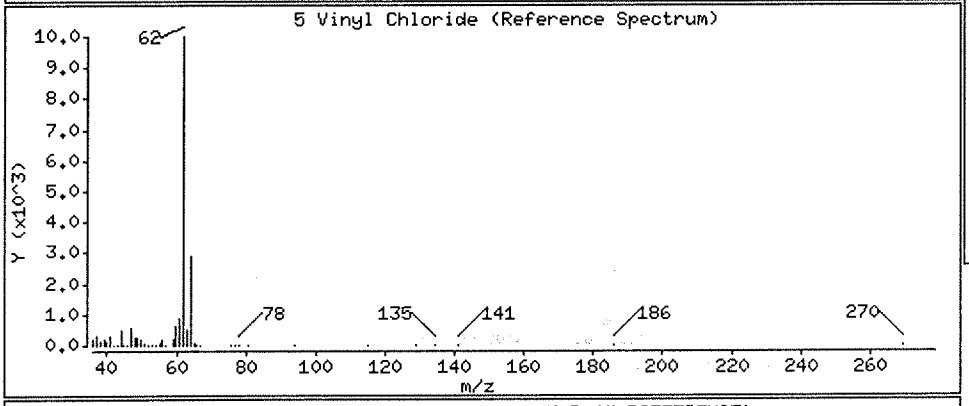
Concentration: 0.41 ug/l

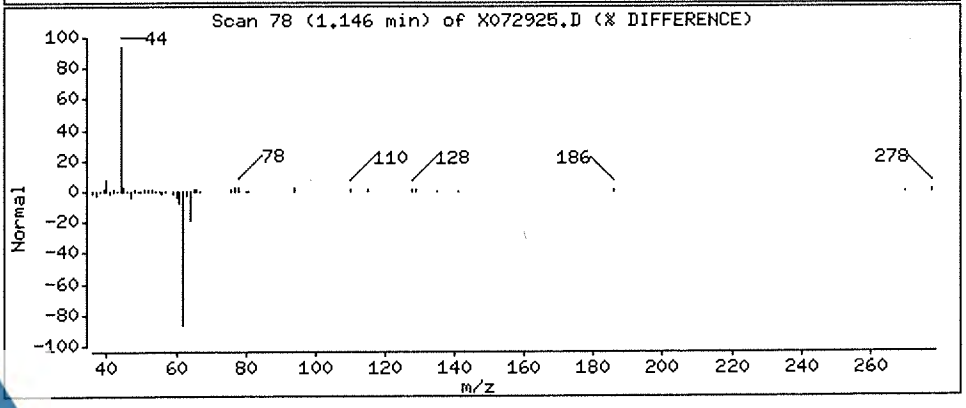












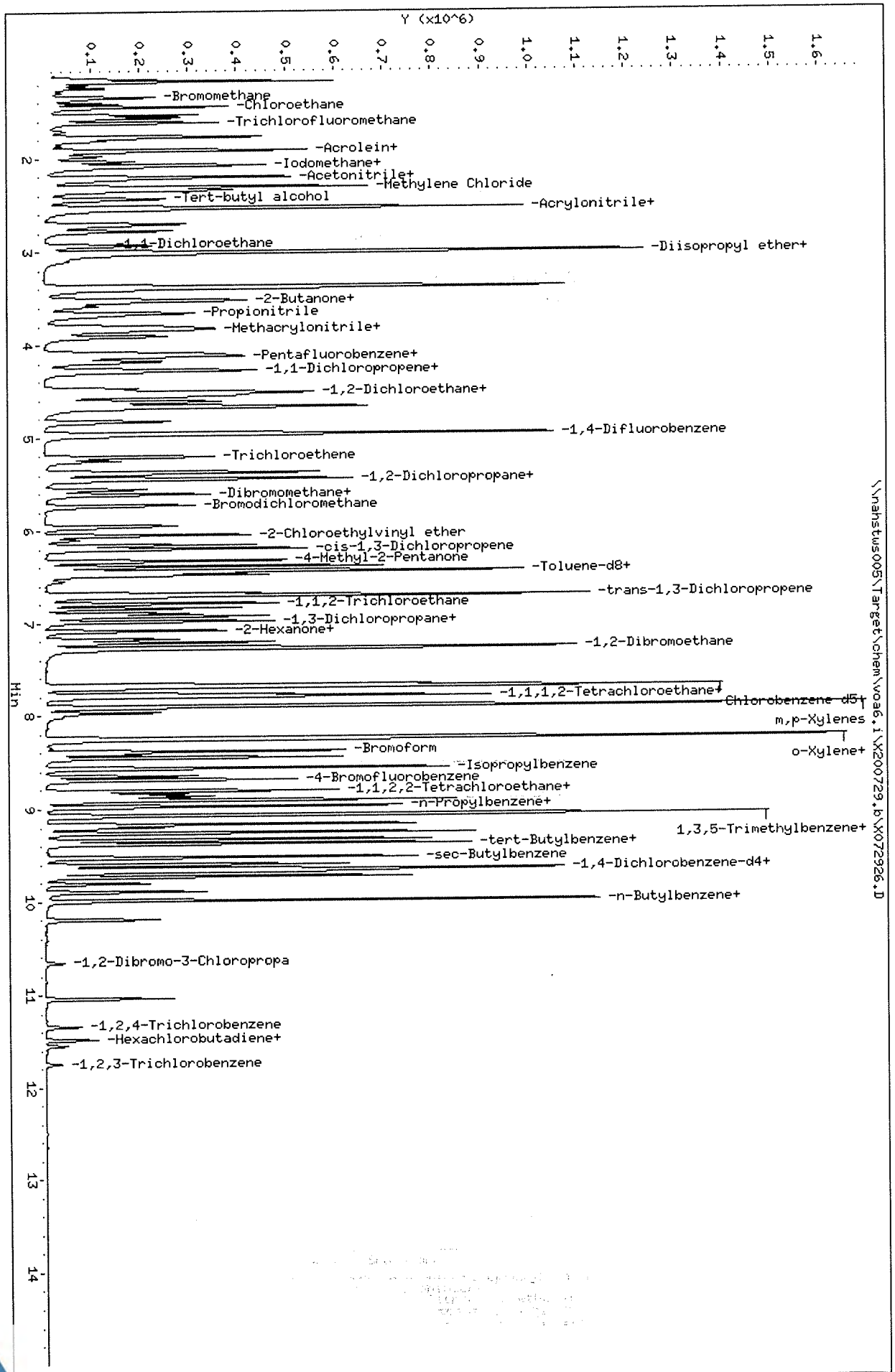
ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X200729.b\X072926.D
Lab Smp Id: CCV-END Client Smp ID: CCV-END
Inj Date : 29-JUL-2020 22:39
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\X200729.b\8260W.m
Meth Date : 21-Aug-2020 17:05 voa6.i Quant Type: ISTD
Cal Date : 13-JUL-2020 13:18 Cal File: X071308.D
Als bottle: 25 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI-Hou11.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

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

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	163193	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	298730	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	277935	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	120705	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.979)	97689	50.0000	53.72
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	140849	50.0000	57.07
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	335533	50.0000	46.08
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	132986	50.0000	49.44
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	85008	50.0000	49.95
11 1,1-Dichloroethene	96	1.919	1.919	(0.458)	81815	50.0000	57.30
33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	198116	50.0000	55.73
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.843)	111730	50.0000	53.37
17 Methylene Chloride	84	2.306	2.306	(0.550)	116105	50.0000	60.77
38 Trichloroethene	130	5.214	5.214	(1.049)	95469	50.0000	44.40
5 Vinyl Chloride	62	1.145	1.145	(0.273)	139880	50.0000	52.12



Data File: \\nahstws005\Target\chem\voa6.i\X200729.b\X072926.D
Date : 29-JUL-2020 22:39
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: 41268 **Analyst:** Presenta Cabascango

Date: 07-30-2020 **Reviewer:**

Method: 8260 **Laboratory:** Houston

Comments:

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	pH
1	BFB	TUNE	07-30-2020 10:49 am	1.00	50 mL	50 mL	X073001.D	Liquid	Y	NA
	Auto find/ purged									
2	CCV	CCV	07-30-2020 11:13 am	1.00	50 mL	50 mL	X073002.D	Liquid	Y	NA
	10 uL cal std/50 mL DI									
3	BLANK	SAMP	07-30-2020 11:37 am	1.00	50 mL	50 mL	X073003.D	Liquid	Y	NA
4	CCB	SAMP	07-30-2020 12:01 pm	1.00	50 mL	50 mL	X073004.D	Liquid	Y	NA
5	VLCSW-200730	LCS	07-30-2020 12:25 pm	1.00	50 mL	50 mL	X073005.D	Liquid	Y	NA
	4.0 uL cal std/50 mL DI									
6	BLANK	SAMP	07-30-2020 12:49 pm	1.00	50 mL	50 mL	X073006.D	Liquid	Y	NA
7	VBLKW-200730	MBLK	07-30-2020 01:13 pm	1.00	50 mL	50 mL	X073007.D	Liquid	Y	NA
8	HS20071328-20	SAMP	07-30-2020 01:37 pm	1.00	50 mL	50 mL	X073008.D	Liquid	Y	<2
9	HS20071328-01	SAMP	07-30-2020 02:01 pm	1.00	50 mL	50 mL	X073009.D	Liquid	Y	<2
10	HS20071147-10	SAMP	07-30-2020 02:25 pm	1.00	50 mL	50 mL	X073010.D	Liquid	Y	<2
11	HS20071147-11	SAMP	07-30-2020 02:49 pm	1.00	50 mL	50 mL	X073011.D	Liquid	Y	<2
12	HS20071328-05	SAMP	07-30-2020 03:13 pm	1.00	50 mL	50 mL	X073012.D	Liquid	Y	<2
13	HS20071328-06n/r	SAMP	07-30-2020 03:37 pm	5.00	10 mL	50 mL	X073013.D	Liquid	Y	<2
14	HS20071328-07n/r	SAMP	07-30-2020 04:01 pm	5.00	10 mL	50 mL	X073014.D	Liquid	Y	<2
15	HS20071328-08n/r	SAMP	07-30-2020 04:25 pm	20.00	2.5 mL	50 mL	X073015.D	Liquid	Y	<2
16	HS20071328-01MS	MS	07-30-2020 04:49 pm	1.00	50 mL	50 mL	X073016.D	Liquid	Y	<2
	3.5 uL cal std/40 mL samp									
17	HS20071328-01MSD	MSD	07-30-2020 05:13 pm	1.00	50 mL	50 mL	X073017.D	Liquid	Y	<2
	3.5 uL cal std/40 mL samp									
18	HS20071328-05	SAMP	07-30-2020 05:37 pm	5.00	10 mL	50 mL	X073018.D	Liquid	Y	<2
19	HS20071328-06	SAMP	07-30-2020 06:01 pm	25.00	2 mL	50 mL	X073019.D	Liquid	Y	<2
20	HS20071328-07	SAMP	07-30-2020 06:25 pm	25.00	2 mL	50 mL	X073020.D	Liquid	Y	<2
21	HS20071328-18	SAMP	07-30-2020 06:49 pm	1.00	50 mL	50 mL	X073021.D	Liquid	Y	<2
22	HS20071328-02	SAMP	07-30-2020 07:14 pm	1.00	50 mL	50 mL	X073022.D	Liquid	Y	<2
23	HS20071328-03	SAMP	07-30-2020 07:38 pm	1.00	50 mL	50 mL	X073023.D	Liquid	Y	<2
24	HS20071328-04	SAMP	07-30-2020 08:02 pm	1.00	50 mL	50 mL	X073024.D	Liquid	Y	<2
25	HS20071328-09	SAMP	07-30-2020 08:26 pm	1.00	50 mL	50 mL	X073025.D	Liquid	Y	<2
26	HS20071328-10	SAMP	07-30-2020 08:50 pm	1.00	50 mL	50 mL	X073026.D	Liquid	Y	<2
27	HS20071328-11n/r	SAMP	07-30-2020 09:14 pm	25.00	2 mL	50 mL	X073027.D	Liquid	Y	<2
28	HS20071328-17	SAMP	07-30-2020 09:38 pm	1.00	50 mL	50 mL	X073028.D	Liquid	Y	<2
29	CCV-END	CCV	07-30-2020 10:02 pm	1.00	50 mL	50 mL	X073029.D	Liquid	Y	na
	10 uL cal std/50 mL DI									
30	BFB	TUNE	07-30-2020 10:26 pm	1.00	50 mL	50 mL	Y073001.D	Liquid	Y	na
	Auto find/ purged									
31	CCV	CCV	07-30-2020 10:50 pm	1.00	50 mL	50 mL	Y073002.D	Liquid	Y	na
	10 uL cal std/50 mL DI									
32	CCV	CCV	07-30-2020 11:13 pm	1.00	50 mL	50 mL	Y073003a.D	Liquid	Y	na
	10 uL cal std/50 mL DI									
33	CCB	SAMP	07-30-2020 11:37 pm	1.00	50 mL	50 mL	Y073004.D	Liquid	Y	na
34	VLCSW-200730	LCS	07-31-2020 12:01 am	1.00	50 mL	50 mL	Y073005.D	Liquid	Y	na
	4.0 uL cal std/50 mL DI									
35	BLANK	SAMP	07-31-2020 12:25 am	1.00	50 mL	50 mL	Y073006.D	Liquid	Y	na
36	VBLKW-200730	MBLK	07-31-2020 12:50 am	1.00	50 mL	50 mL	Y073007.D	Liquid	Y	na

MSVOA06 -Logbook

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	pH
37	HS20071359-01	SAMP	07-31-2020 01:14 am	1.00	50 mL	50 mL	Y073008.D	Liquid	Y	<2
38	HS20071329-06	SAMP	07-31-2020 01:38 am	5.00	10 mL	50 mL	Y073009.D	Liquid	Y	<2
39	HS20071329-06	SAMP	07-31-2020 02:02 am	50.00	1 mL	50 mL	Y073010.D	Liquid	Y	<2
40	HS20071329-11	SAMP	07-31-2020 02:26 am	5.00	10 mL	50 mL	Y073011.D	Liquid	Y	<2
41	HS20071329-11	SAMP	07-31-2020 02:50 am	50.00	1 mL	50 mL	Y073012.D	Liquid	Y	<2
42	HS20071329-08	SAMP	07-31-2020 03:14 am	100.0(	500 µL	50 mL	Y073013.D	Liquid	Y	<2
43	HS20071330-01	SAMP	07-31-2020 03:38 am	100.0(	500 µL	50 mL	Y073014.D	Liquid	Y	<2
44	HS20071359-01MS	MS	07-31-2020 04:02 am	1.00	50 mL	50 mL	Y073015.D	Liquid	Y	<2
	3.5 uL cal std/40 mL samp									
45	HS20071359-01MSD	MSD	07-31-2020 04:26 am	1.00	50 mL	50 mL	Y073016.D	Liquid	Y	<2
	3.5 uL cal std/40 mL samp									
46	HS20071330-01	SAMP	07-31-2020 04:50 am	1000.0	50 µL	50 mL	Y073017.D	Liquid	Y	<2
47	HS20071329-13	SAMP	07-31-2020 05:14 am	1.00	50 mL	50 mL	Y073018.D	Liquid	Y	<2
48	HS20071329-14	SAMP	07-31-2020 05:38 am	1.00	50 mL	50 mL	Y073019.D	Liquid	Y	<2

Chemical	Value
SURR SPK ID	31106-38-06
IS ID	31106-38-06
CAL STD ID	31106-40-01/02
BFB ID	31106-38-06
pH Paper	634-64-11

FORM 2
WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20071147

	CLIENT SAMPLE NO.	SMC1 #	SMC2 (DCE) #	SMC3 (TOL) #	OTHER #	TOT OUT
01	VLCSW-200730	100	116	90	94	0
02	VBLKW-200730	101	108	107	100	0
03	HS20071147-10	102	107	106	99	0
04	HS20071147-11	95	105	96	92	0
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		QC LIMITS
SMC1	= Dibromofluoromethane	(0-130)
SMC2 (DCE)	= 1,2-Dichloroethane-d4	(0-130)
SMC3 (TOL)	= Toluene-d8	(0-130)
OTHER	= 4-Bromofluorobenzene	(0-130)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D System Monitoring Compound diluted out

FORM 4
VOLATILE METHOD BLANK SUMMARY

CLIENT SAMPLE NO.

VBLKW-200730

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20071147

Lab File ID: X073007 Lab Sample ID: VBLKW-200730

Date Analyzed: 07/30/20 Time Analyzed: 1313

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-200730	VLCSW-200730	X073005	1225
02	HS20071147-1	HS20071147-10	X073010	1425
03	HS20071147-1	HS20071147-11	X073011	1449
04	HS20071328-0	HS20071328-01M	X073016	1649
05	HS20071328-0	HS20071328-01M	X073017	1713
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COMMENTS:

FORM 5
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20071147

Lab File ID: X073001 BFB Injection Date: 07/30/20

Instrument ID: VOA6 BFB Injection Time: 1049

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	28.1
75	30.0 - 60.0% of mass 95	54.3
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.4
173	Less than 2.0% of mass 174	0.8 (1.0)1
174	Greater than 50.0% of mass 95	76.6
175	5.0 - 9.0% of mass 174	6.0 (7.8)1
176	95.0 - 101.0% of mass 174	76.1 (99.4)1
177	5.0 - 9.0% of mass 176	4.6 (6.1)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	X073002	07/30/20	1113
02	VLCSW-200730	VLCSW-200730	X073005	07/30/20	1225
03	VBLKW-200730	VBLKW-200730	X073007	07/30/20	1313
04	HS20071147-1	HS20071147-10	X073010	07/30/20	1425
05	HS20071147-1	HS20071147-11	X073011	07/30/20	1449
06	HS20071328-0	HS20071328-01M	X073016	07/30/20	1649
07	HS20071328-0	HS20071328-01M	X073017	07/30/20	1713
08	CCV-END	CCV-END	X073029	07/30/20	2202
09					
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22					

FORM 7B
VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20071147

Instrument ID: VOA6 Calibration Date: 07/30/20 Time: 1113

Lab File ID: X073002 Init. Calib. Date(s): 07/13/20 07/13/20

Init. Calib. Times: 1027 1430

GC Column: DB624 ID: 0.18 (mm)

COMPOUND	RRF or AMOUNT	RRF50.000 or AMOUNT	CCAL RRF50.000	MIN RRF	%D or %DRIFT	MAX %D or %DRIFT	CURV TYPE
Vinyl Chloride	0.8220000	0.8166989	0.8166989	0.1	0.64	20.00	AVRG
Methylene Chloride	56.232262	50.000000	0.6594440	0.1	-12.46	20.00	LINR
1,1-Dichloroethene	0.4370000	0.4736245	0.4736245	0.1	-8.38	20.00	AVRG
1,2-Dichloroethane	0.5950000	0.6681019	0.6681019	0.1	-12.29	20.00	AVRG
cis-1,2-Dichloroethene	0.6410000	0.6494157	0.6494157	0.1	-1.31	20.00	AVRG
1,1,2-Trichloroethane	0.3060000	0.3055056	0.3055056	0.1	0.16	20.00	AVRG
Trichloroethene	0.3600000	0.3313959	0.3313959	0.2	7.94	20.00	AVRG
Dibromofluoromethane	47.167544	50.000000	0.5256509	0.1	5.66	20.00	LINR
1,2-Dichloroethane-d4	52.683271	50.000000	0.7962370	0.1	-5.37	20.00	LINR
Toluene-d8	1.3100000	1.1423504	1.1423504	0.1	12.80	20.00	AVRG
4-Bromofluorobenzene	46.508968	50.000000	0.4504001	0.1	6.98	20.00	LINR

FORM 7B
VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20071147

Instrument ID: VOA6 Calibration Date: 07/30/20 Time: 2202

Lab File ID: X073029 Init. Calib. Date(s): 07/13/20 07/13/20

Init. Calib. Times: 1027 1430

GC Column: DB624 ID: 0.18 (mm)

COMPOUND	RRF or AMOUNT	RRF50.000 or AMOUNT	CCAL RRF50.000	MIN RRF	%D or %DRIFT	MAX %D or %DRIFT	CURV TYPE
Vinyl Chloride	0.8220000	0.8965646	0.8965646	0.1	-9.07	50.00	AVRG
Methylene Chloride	63.244202	50.000000	0.7397002	0.1	-26.49	50.00	LINR
1,1-Dichloroethene	0.4370000	0.5331213	0.5331213	0.1	-22.00	50.00	AVRG
1,2-Dichloroethane	0.5950000	0.6475442	0.6475442	0.1	-8.83	50.00	AVRG
cis-1,2-Dichloroethene	0.6410000	0.6968987	0.6968987	0.1	-8.72	50.00	AVRG
1,1,2-Trichloroethane	0.3060000	0.3083130	0.3083130	0.1	-0.76	50.00	AVRG
Trichloroethene	0.3600000	0.3208286	0.3208286	0.2	10.88	50.00	AVRG
Dibromofluoromethane	52.343539	50.000000	0.5832334	0.1	-4.69	50.00	LINR
1,2-Dichloroethane-d4	56.045652	50.000000	0.8473841	0.1	-12.09	50.00	LINR
Toluene-d8	1.3100000	1.1601291	1.1601291	0.1	11.44	50.00	AVRG
4-Bromofluorobenzene	46.679997	50.000000	0.4520375	0.1	6.64	50.00	LINR

FORM 8
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20071147

Lab File ID (Standard): X073002 Date Analyzed: 07/30/20

Instrument ID: VOA6 Time Analyzed: 1113

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

		IS1 AREA #	RT #	IS2(DFB) AREA #	RT #	IS3(CBZ) AREA #	RT #
	12 HOUR STD	197342	4.19	340481	4.97	314063	7.67
	UPPER LIMIT	394684	4.69	680962	5.47	628126	8.17
	LOWER LIMIT	98671	3.69	170241	4.47	157032	7.17
	CLIENT SAMPLE NO.						
01	VLCSW-200730	188786	4.19	331248	4.97	306126	7.67
02	VBLKW-200730	200198	4.19	330190	4.97	284746	7.67
03	HS20071147-10	261745	4.19	405678	4.97	394757	7.67
04	HS20071147-11	269571	4.19	454704	4.97	399845	7.67
05	HS20071328-01	197246	4.19	418230	4.97	356871	7.67
06	HS20071328-01	181219	4.19	304778	4.97	273442	7.67
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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.: HS20071147

Lab File ID (Standard): X073002 Date Analyzed: 07/30/20

Instrument ID: VOA6 Time Analyzed: 1113

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

		IS4 (DCB) AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	140949	9.66				
	UPPER LIMIT	281898	10.16				
	LOWER LIMIT	70475	9.16				
	CLIENT SAMPLE NO.						
01	VLCSW-200730	133066	9.67				
02	VBLKW-200730	118856	9.67				
03	HS20071147-10	170692	9.67				
04	HS20071147-11	161271	9.67				
05	HS20071328-01	125184	9.66				
06	HS20071328-01	134682	9.67				
07							
08							
09							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							

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

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

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

Data File: \\nahstws005\Target\chem\voa6.i\X200730.b\X073001.D Page 1

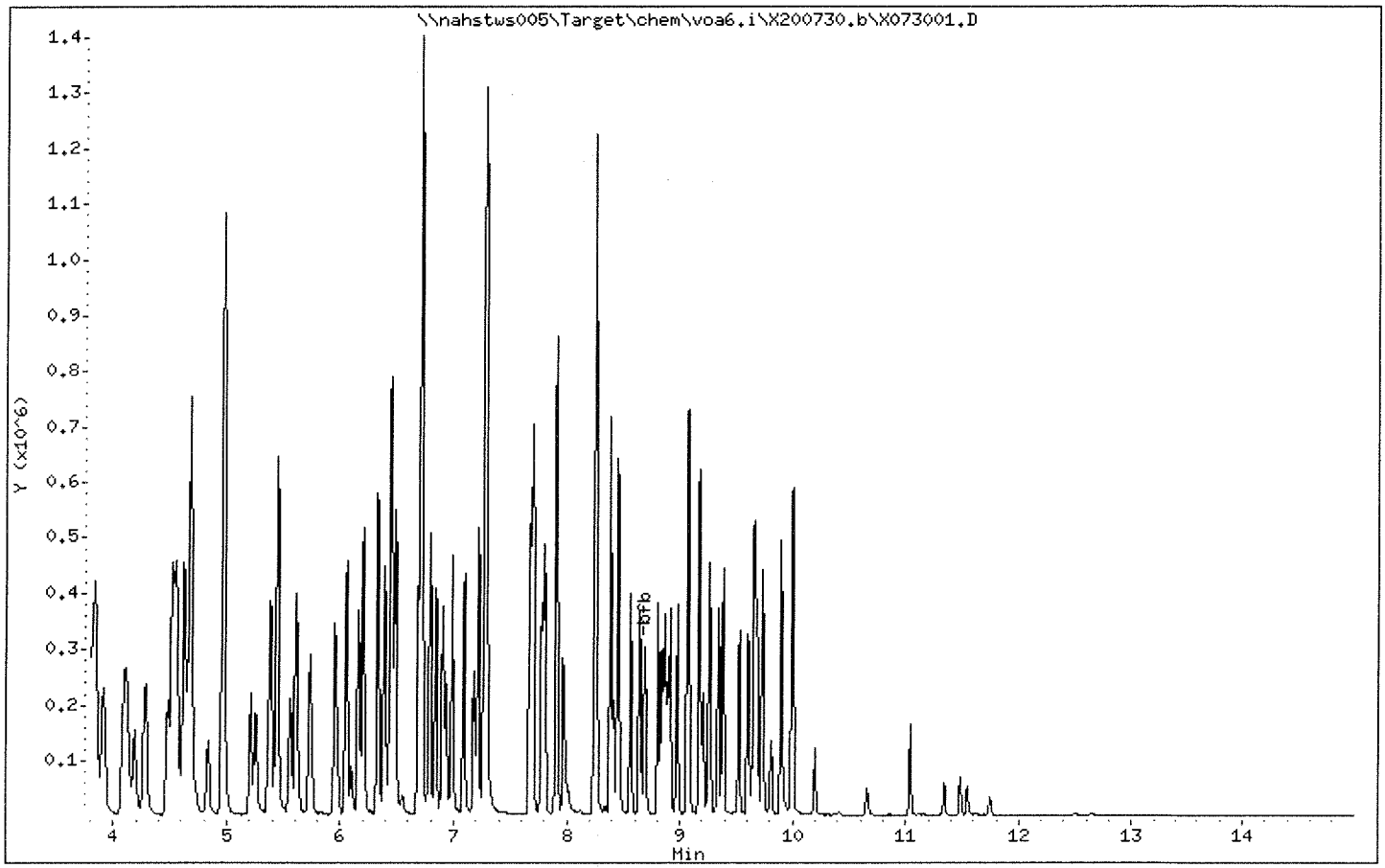
Date : 30-JUL-2020 10:49

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\X200730.b\X073001.D

Date : 30-JUL-2020 10:49

Client ID: BFB

Instrument: voa6.i

Sample Info: BFB;BFB;3;;BFB

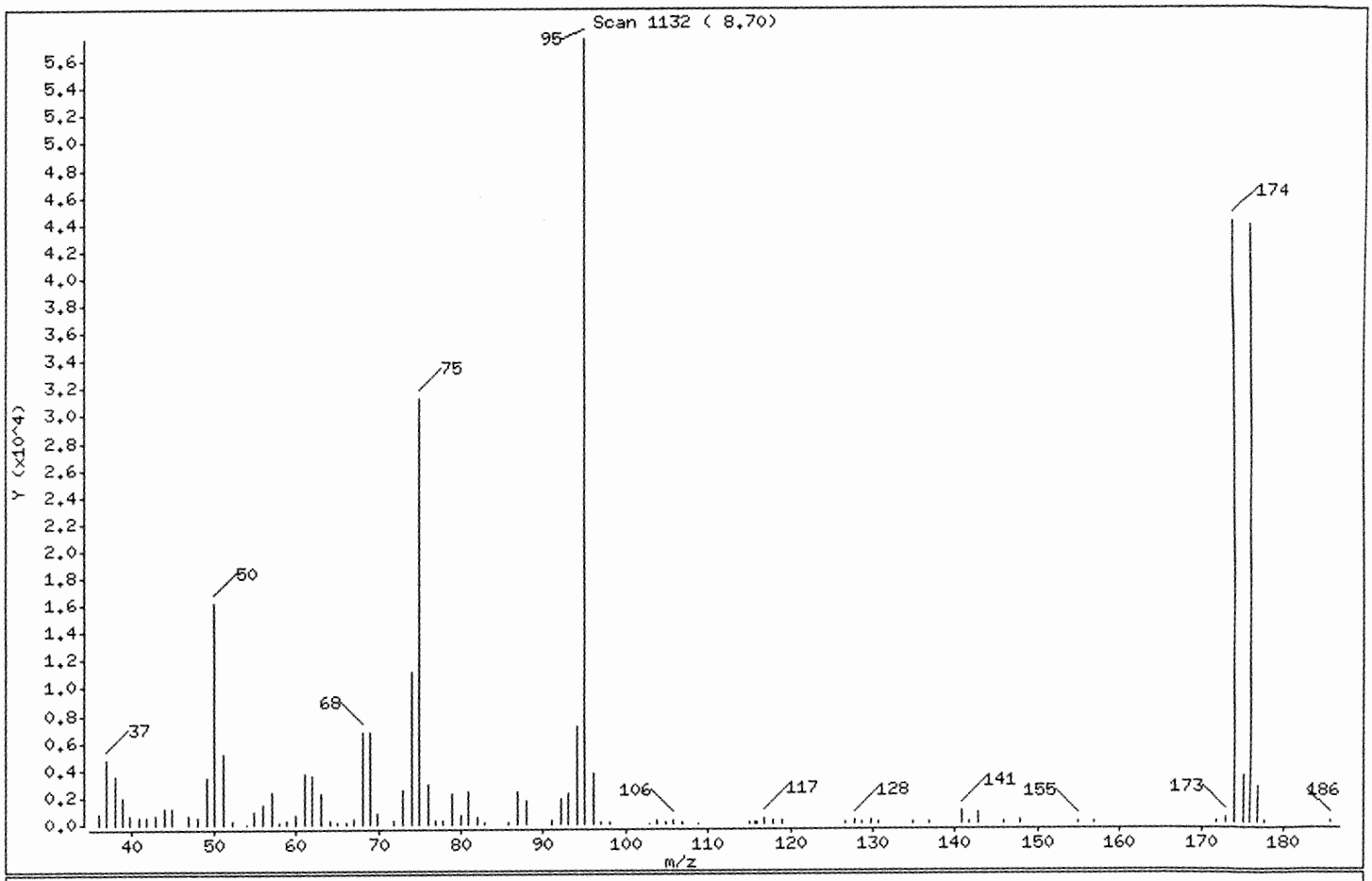
Volume Injected (uL): 2.0

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	28.08
75	30.00 - 60.00% of mass 95	54.32
96	5.00 - 9.00% of mass 95	6.40
173	Less than 2.00% of mass 174	0.80 (1.04)
174	Greater than 50.00% of mass 95	76.57
175	5.00 - 9.00% of mass 174	5.96 (7.79)
176	95.00 - 101.00% of mass 174	76.10 (99.38)
177	5.00 - 9.00% of mass 176	4.63 (6.08)

Data File: \\nahstws005\Target\chem\voa6.i\X200730.b\X073001.D

Date : 30-JUL-2020 10:49

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: X073001.D
Spectrum: Scan 1132 (8.70)
Location of Maximum: 95.00
Number of points: 90

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	857	61.00	3710	86.90	2387	127.90	304
37.00	4708	62.00	3596	88.00	1754	128.70	96
38.00	3592	63.00	2303	90.90	289	129.80	260
39.00	2014	64.00	311	92.00	1827	130.70	126
39.90	670	64.90	101	93.00	2278	134.80	115
41.00	519	66.00	81	94.00	7176	136.80	122
41.90	518	67.00	372	95.00	57600	140.90	876
42.90	624	68.00	6737	96.00	3688	141.80	107
44.00	1135	69.00	6714	96.90	75	142.90	790
45.00	1202	69.90	756	98.00	148	145.90	100
47.00	709	71.90	320	102.80	52	147.80	212
47.90	486	73.00	2523	103.80	287	154.90	183
49.00	3476	74.00	11156	104.90	166	157.00	133
50.00	16175	75.00	31288	105.80	293	171.60	76
51.00	5181	76.00	2953	106.90	131	172.90	458
52.20	217	76.90	287	108.80	52	173.90	44104
53.90	50	77.80	300	115.00	131	174.90	3435
54.90	861	78.80	2265	115.70	194	175.90	43832
56.00	1505	79.90	647	115.90	196	176.90	2667
57.00	2413	80.90	2446	116.90	397	177.90	102
57.90	157	81.90	543	117.90	224	185.90	97
58.80	302	82.90	148	118.90	301		
59.90	660	85.80	80	126.80	68		

Data File: \\nahstws005\Target\chem\voa6.i\X200730.b\X073002.D Page 1
Report Date: 21-Aug-2020 17:19

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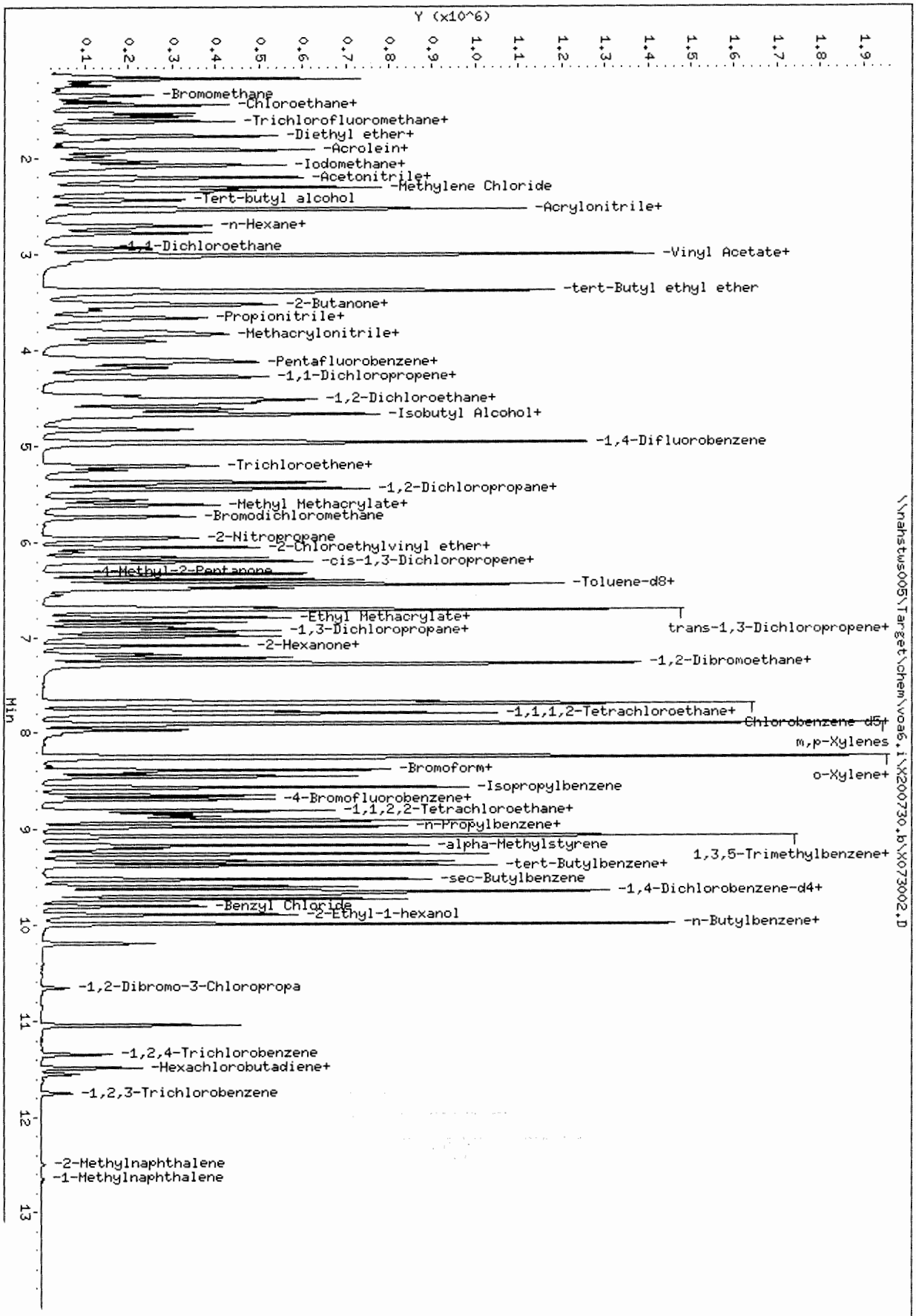
Data file : \\nahstws005\Target\chem\voa6.i\X200730.b\X073002.D
Lab Smp Id: CCV Client Smp ID: CCV
Inj Date : 30-JUL-2020 11:13
Operator : PC Inst ID: voa6.i
Smp Info : CCV;CCV;2;;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200730.b\8260W.m
Meth Date : 21-Aug-2020 17:19 voa6.i Quant Type: ISTD
Cal Date : 13-JUL-2020 13:18 Cal File: X071308.D
Als bottle: 2 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI-Hou11.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

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

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
*	1 Pentafluorobenzene	168	4.189	4.189	(1.000)	197342	50.0000	
*	36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	340481	50.0000	
*	47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	314063	50.0000	
*	70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	140949	50.0000	
$	30 Dibromofluoromethane	113	4.103	4.103	(0.979)	103733	50.0000	47.16
$	35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	157131	50.0000	52.68
$	48 Toluene-d8	98	6.388	6.388	(0.833)	358770	50.0000	43.61
$	69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	141454	50.0000	46.50
	53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	95948	50.0000	49.89
	11 1,1-Dichloroethene	96	1.919	1.919	(0.458)	93466	50.0000	54.13
	33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	227476	50.0000	56.14
	27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.843)	128157	50.0000	50.62
	17 Methylene Chloride	84	2.306	2.306	(0.550)	130136	50.0000	56.23
	38 Trichloroethene	130	5.214	5.214	(1.049)	112834	50.0000	46.04
	5 Vinyl Chloride	62	1.145	1.145	(0.273)	161169	50.0000	49.66



Data File: \\nahstws005\Target\chem\voa6,i\X200730,b\X073002,D
Date : 30-JUL-2020 11:13
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\X200730.b\X073005.D Page 1
Report Date: 21-Aug-2020 17:19

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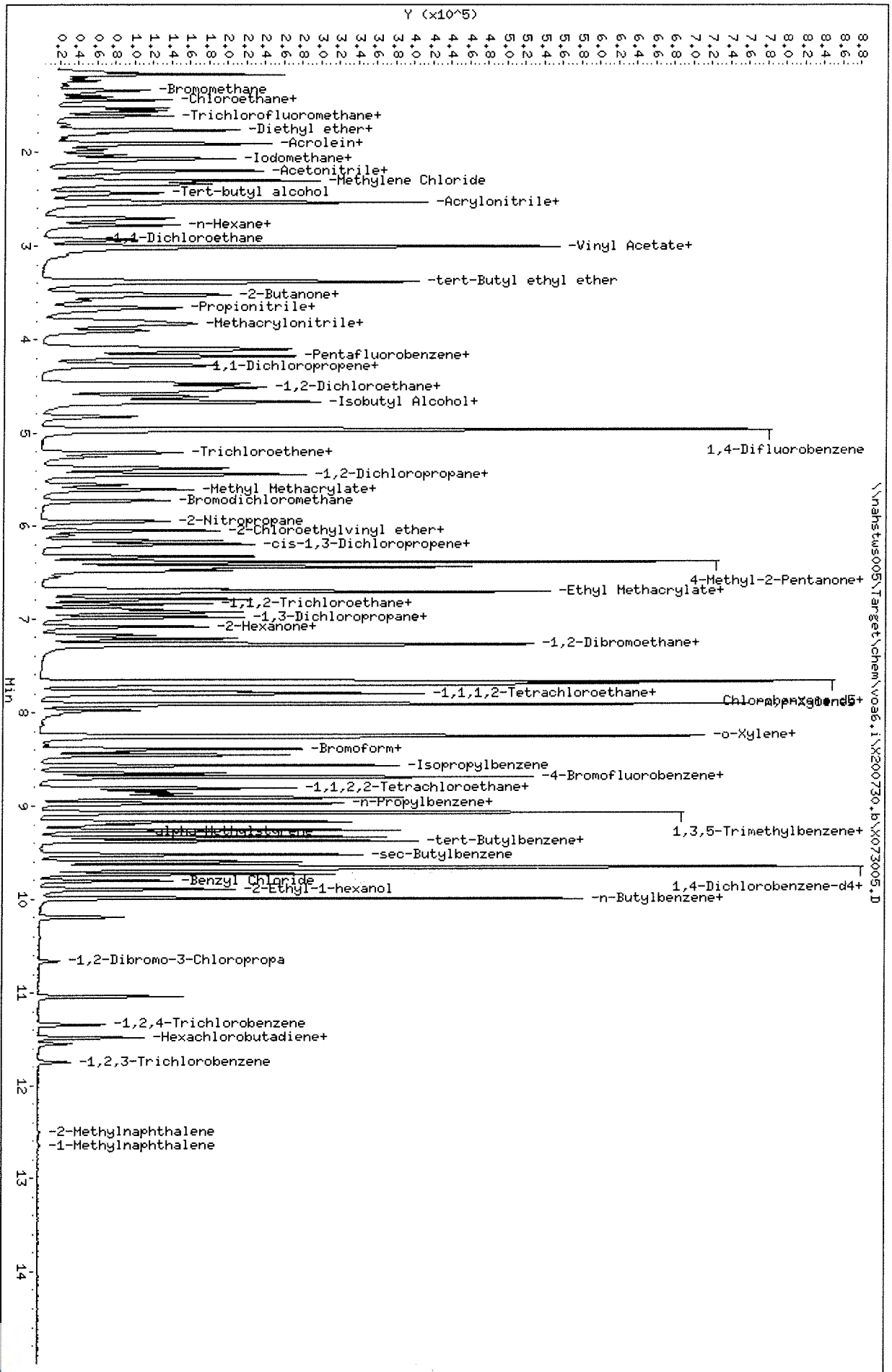
Data file : \\nahstws005\Target\chem\voa6.i\X200730.b\X073005.D
Lab Smp Id: VLCSW-200730 Client Smp ID: VLCSW-200730
Inj Date : 30-JUL-2020 12:25
Operator : PC Inst ID: voa6.i
Smp Info : VLCSW-200730;VLCSW-200730;3;;LCS
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200730.b\8260W.m
Meth Date : 21-Aug-2020 17:19 voa6.i Quant Type: ISTD
Cal Date : 13-JUL-2020 13:18 Cal File: X071308.D
Als bottle: 5 QC Sample: LCS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI-Hou11.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

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

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
*	1 Pentafluorobenzene	168	4.189	4.189	(1.000)	188786	50.0000	
*	36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	331248	50.0000	
*	47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	306126	50.0000	
*	70 1,4-Dichlorobenzene-d4	152	9.669	9.662	(1.000)	133066	50.0000	
$	30 Dibromofluoromethane	113	4.103	4.103	(0.979)	105514	50.1570	50.15
$	35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	165041	57.8100	57.81
$	48 Toluene-d8	98	6.388	6.388	(0.833)	360250	44.9266	44.92
$	69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	138624	46.7631	46.76
	53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	38501	20.5404	20.54
	11 1,1-Dichloroethene	96	1.919	1.919	(0.458)	35417	21.4442	21.44
	33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	89932	22.8163	22.81
	27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.843)	50276	20.7603	20.76
	17 Methylene Chloride	84	2.305	2.306	(0.550)	60676	26.6976	26.69
	38 Trichloroethene	130	5.214	5.214	(1.049)	43314	18.1679	18.16
	5 Vinyl Chloride	62	1.145	1.145	(0.273)	59905	19.2971	19.29



Data File: \\nahstws005\Target\chem\voa6,i\X200730,b\X073005,D
Date : 30-JUL-2020 12:25
Client ID: VLCSW-200730
Sample Info: VLCSW-200730;VLCSW-200730;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\X200730.b\X073007.D Page 1
Report Date: 21-Aug-2020 17:19

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Data file : \\nahstws005\Target\chem\voa6.i\X200730.b\X073007.D
Lab Smp Id: VBLKW-200730 Client Smp ID: VBLKW-200730
Inj Date : 30-JUL-2020 13:13
Operator : PC Inst ID: voa6.i
Smp Info : VBLKW-200730;VBLKW-200730;3;;BLANK
Misc Info : HS18090001;WATER;0;1;
Comment   :
Method   : \\nahstws005\Target\chem\voa6.i\X200730.b\8260W.m
Meth Date : 21-Aug-2020 17:19 voa6.i Quant Type: ISTD
Cal Date : 13-JUL-2020 13:18 Cal File: X071308.D
Als bottle: 7 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI-Hou11.sub
Target Version: 4.14
Processing Host: NAHSTW7056

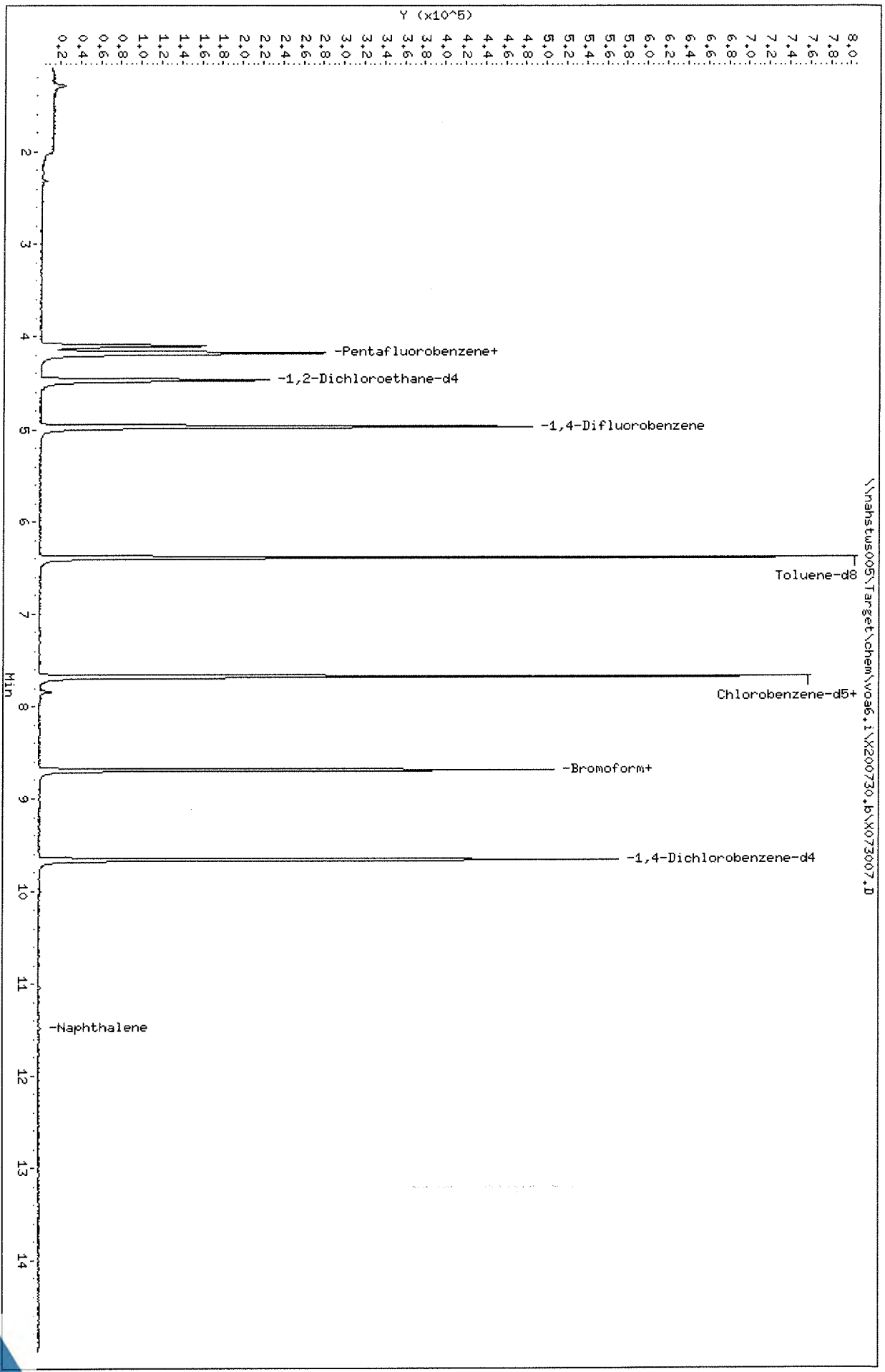
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

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

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	200198	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	330190	50.0000	
* 47 Chlorobenzene-d5	117	7.670	7.671	(1.000)	284746	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.662	(1.000)	118856	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.979)	112257	50.3207	50.32
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	162761	53.7853	53.78
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	398696	53.4545	53.45
$ 69 4-Bromofluorobenzene	95	8.688	8.695	(1.133)	137999	50.0853	50.08

Data File: \\nahstws005\Target\chem\voa6.i\X200730.b\X073007.D
Date : 30-JUL-2020 13:13
Client ID: VBLKW-200730
Sample Info: VBLKW-200730;VBLKW-200730;3;;BLANK
Purge Volume: 5.0
Column phase: DB624

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



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Data file : \\nahstws005\Target\chem\voa6.i\X200730.b\X073010.D
Lab Smp Id: HS20071147-10 Client Smp ID: HS20071147-10
Inj Date : 30-JUL-2020 14:25
Operator : PC Inst ID: voa6.i
Smp Info : HS20071147-10;HS20071147-10;;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200730.b\8260W.m
Meth Date : 21-Aug-2020 17:16 voa6.i Quant Type: ISTD
Cal Date : 13-JUL-2020 13:18 Cal File: X071308.D
Als bottle: 10
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI-Hou11.sub
Target Version: 4.14
Processing Host: NAHSTW7056

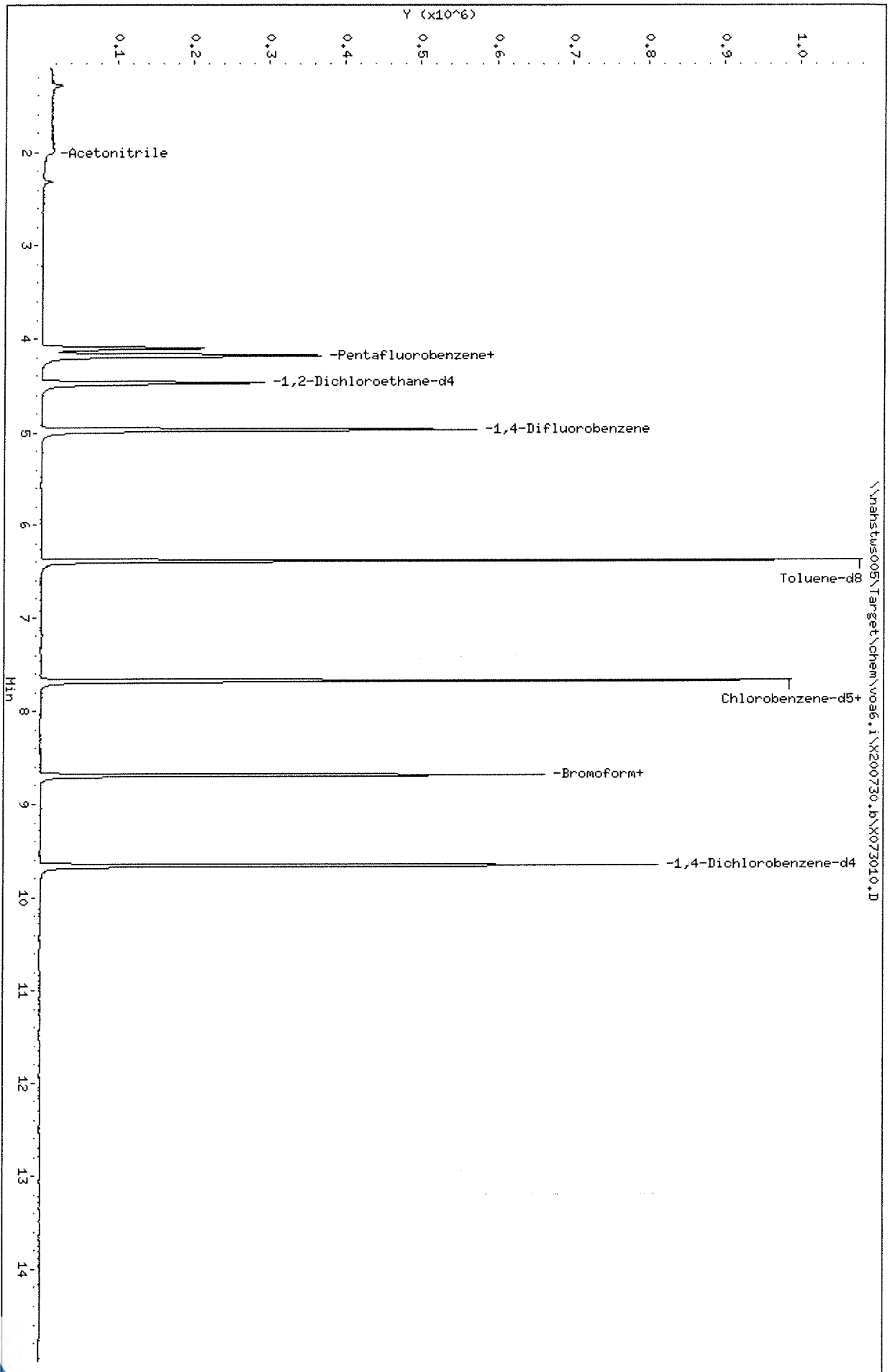
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

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

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	261745	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	405678	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	394757	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.662	(1.000)	170692	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.979)	149034	51.0988	51.09
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	212129	53.6171	53.61
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	548111	53.0077	53.00
$ 69 4-Bromofluorobenzene	95	8.688	8.695	(1.133)	188765	49.4106	49.41

Data File: \\nahstws005\Target\chem\voa6.i\X200730.b\X073010.D
Date : 30-JUL-2020 14:25
Client ID: HS20071147-10
Sample Info: HS20071147-10;HS20071147-10;;;
Purge Volume: 5.0
Column phase: DB624

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



Data File: \\nahstws005\Target\chem\voa6.i\X200730.b\X073011.D Page 1
Report Date: 21-Aug-2020 17:17

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Data file : \\nahstws005\Target\chem\voa6.i\X200730.b\X073011.D
Lab Smp Id: HS20071147-11 Client Smp ID: HS20071147-11
Inj Date : 30-JUL-2020 14:49
Operator : PC Inst ID: voa6.i
Smp Info : HS20071147-11;HS20071147-11;;;
Misc Info : HS18090001;WATER;0;1;
Comment   :
Method   : \\nahstws005\Target\chem\voa6.i\X200730.b\8260W.m
Meth Date : 21-Aug-2020 17:16 voa6.i Quant Type: ISTD
Cal Date : 13-JUL-2020 13:18 Cal File: X071308.D
Als bottle: 11
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI-Hou11.sub
Target Version: 4.14
Processing Host: NAHSTW7056

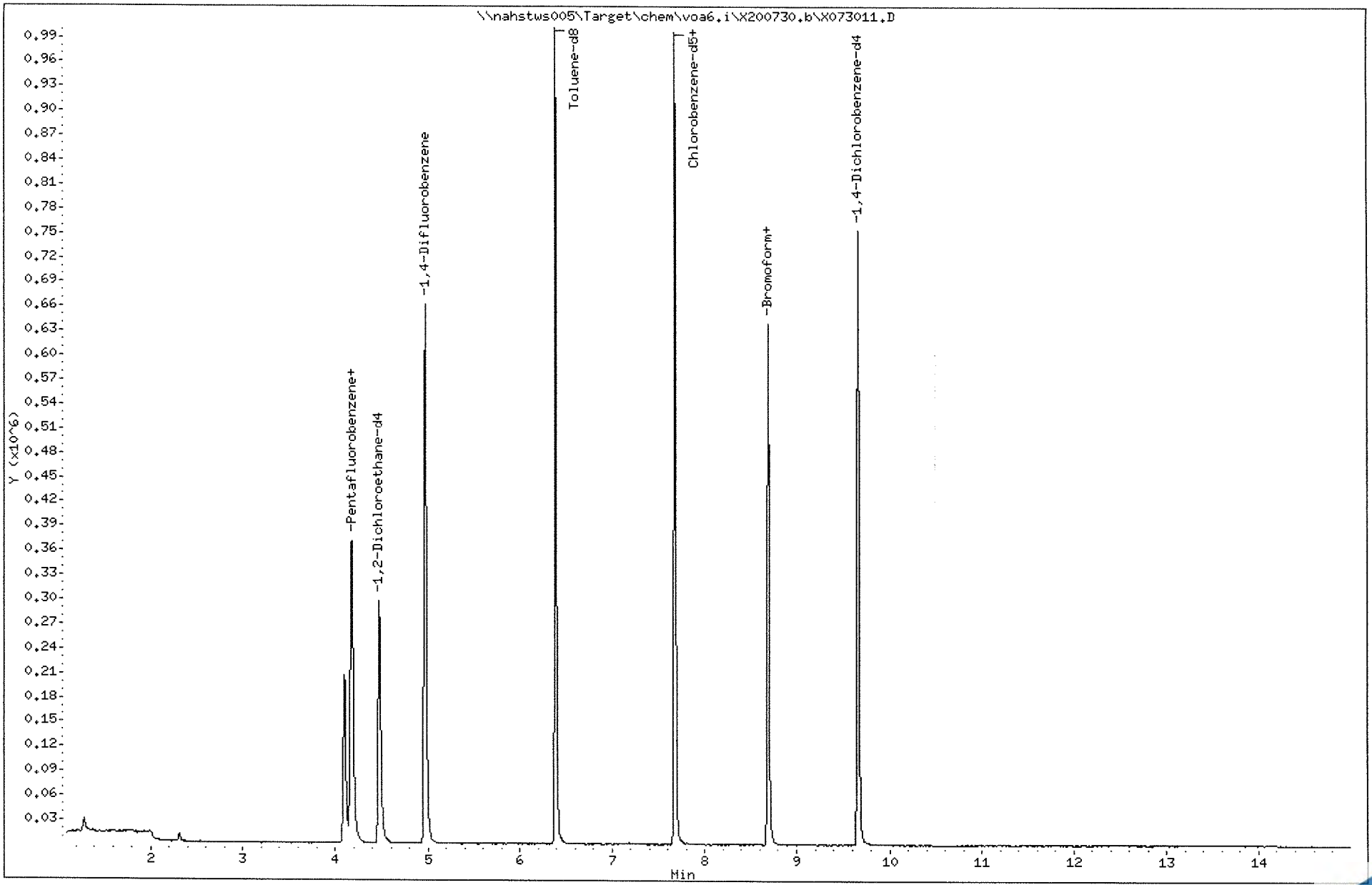
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

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

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	269571	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	454704	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	399845	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.662	(1.000)	161271	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.979)	143044	47.6156	47.61
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	214803	52.7224	52.72
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	505682	48.2821	48.28
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	178553	46.1074	46.10

Data File: \\nahstws005\Target\chem\voa6.i\X200730.b\X073011.D
Date : 30-JUL-2020 14:49
Client ID: HS20071147-11
Sample Info: HS20071147-11;HS20071147-11;;;
Purge Volume: 5.0
Column phase: DB624

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



Data File: \\nahstws005\Target\chem\voa6.i\X200730.b\X073016.D Page 1
Report Date: 21-Aug-2020 17:19

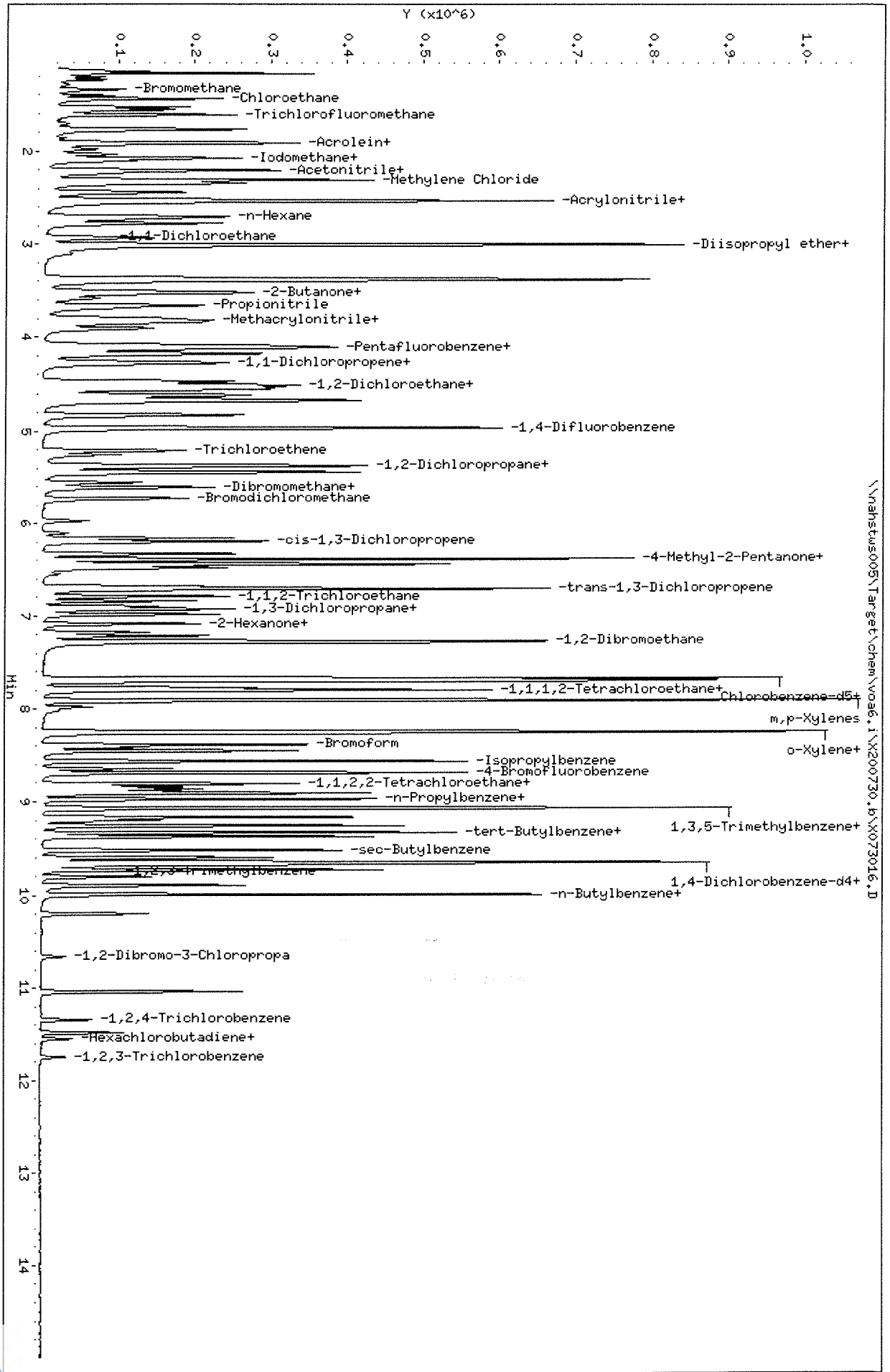
ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X200730.b\X073016.D
Lab Smp Id: HS20071328-01MS Client Smp ID: HS20071328-01MS
Inj Date : 30-JUL-2020 16:49
Operator : PC Inst ID: voa6.i
Smp Info : HS20071328-01MS;HS20071328-01MS;3;;MS
Misc Info : HS18090001;WATER;0;1;
Comment   :
Method   : \\nahstws005\Target\chem\voa6.i\X200730.b\8260W.m
Meth Date : 21-Aug-2020 17:19 voa6.i Quant Type: ISTD
Cal Date : 13-JUL-2020 13:18 Cal File: X071308.D
Als bottle: 16 QC Sample: MS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI-Hou11.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

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

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
*	1 Pentafluorobenzene	168	4.189	4.189	(1.000)	197246	50.0000	
*	36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	418230	50.0000	
*	47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	356871	50.0000	
*	70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	125184	50.0000	
$	30 Dibromofluoromethane	113	4.103	4.103	(0.979)	138142	62.8713	62.87
$	35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	185406	62.1324	62.13
$	48 Toluene-d8	98	6.388	6.388	(0.833)	377319	40.3643	40.36
$	69 4-Bromofluorobenzene	95	8.688	8.695	(1.133)	151481	43.8005	43.80
	53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	41988	19.2155	19.21
	11 1,1-Dichloroethene	96	1.919	1.919	(0.458)	46525	26.9617	26.96
	33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	121551	24.4246	24.42
	27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.843)	69860	27.6097	27.60
	17 Methylene Chloride	84	2.305	2.306	(0.550)	62338	26.2294	26.22
	38 Trichloroethene	130	5.214	5.214	(1.049)	53827	17.8819	17.88
	5 Vinyl Chloride	62	1.145	1.145	(0.273)	81241	25.0475	25.04



Data File: \\nahstws005\Target\chem\voa6.i\X200730.b\X073016.D
Date : 30-JUL-2020 16:49
Client ID: HS20071328-01HS
Sample Info: HS20071328-01HS;HS20071328-01HS;3;;HS
Purge Volume: 5.0
Column phase: DB624

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

Data File: \\nahstws005\Target\chem\voa6.i\X200730.b\X073017.D Page 1
Report Date: 21-Aug-2020 17:19

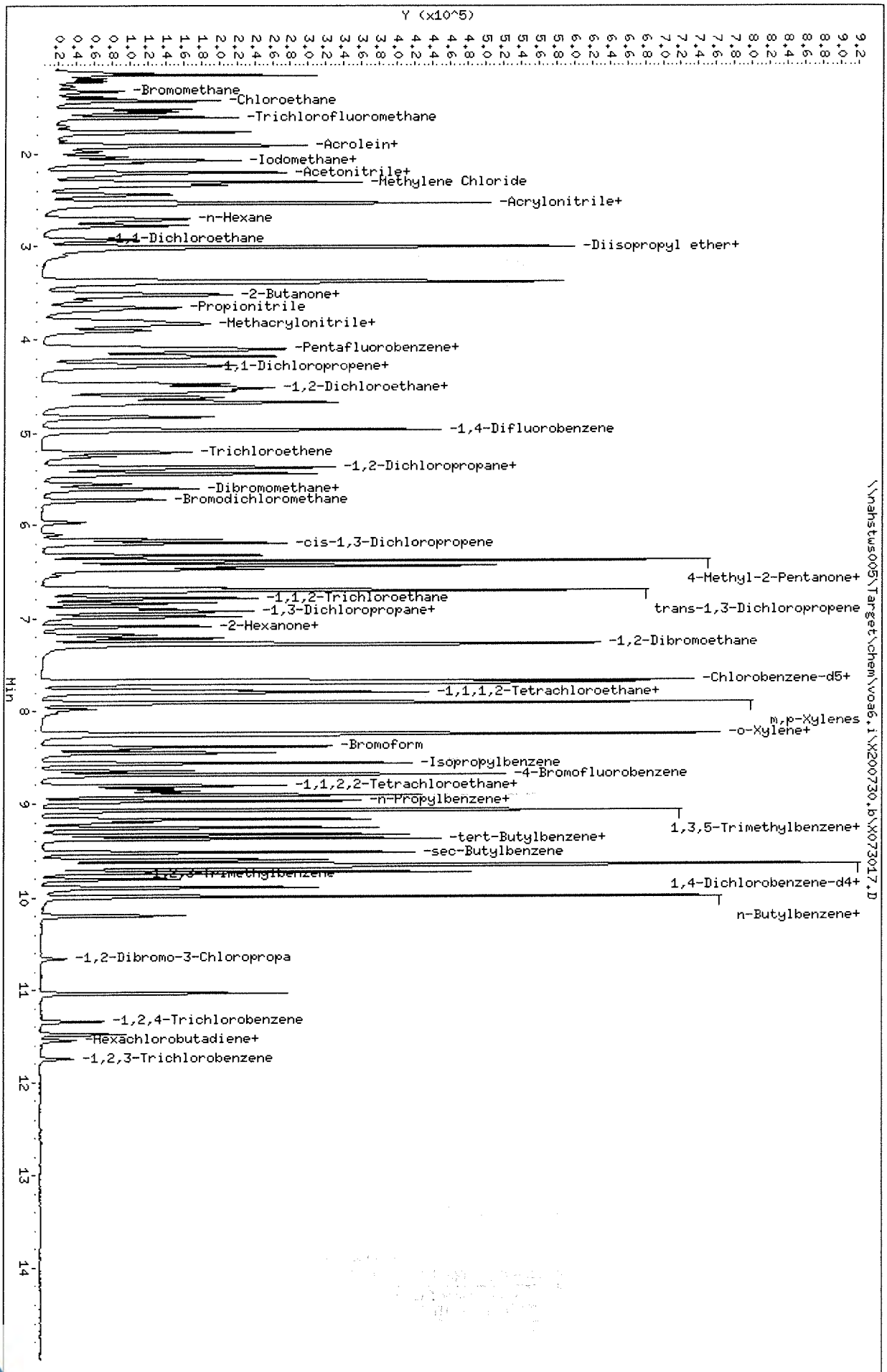
ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X200730.b\X073017.D
Lab Smp Id: HS20071328-01MSD Client Smp ID: HS20071328-01MSD
Inj Date : 30-JUL-2020 17:13
Operator : PC Inst ID: voa6.i
Smp Info : HS20071328-01MSD;HS20071328-01MSD;3;;MSD
Misc Info : HS18090001;WATER;0;1;
Comment   :
Method   : \\nahstws005\Target\chem\voa6.i\X200730.b\8260W.m
Meth Date : 21-Aug-2020 17:19 voa6.i Quant Type: ISTD
Cal Date : 13-JUL-2020 13:18 Cal File: X071308.D
Als bottle: 16 QC Sample: MSD
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI-Hou11.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

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

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
*	1 Pentafluorobenzene	168	4.189	4.189	(1.000)	181219	50.0000	
*	36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	304778	50.0000	
*	47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	273442	50.0000	
*	70 1,4-Dichlorobenzene-d4	152	9.669	9.662	(1.000)	134682	50.0000	
$	30 Dibromofluoromethane	113	4.103	4.103	(0.979)	101775	50.4001	50.40
$	35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	155618	56.7915	56.79
$	48 Toluene-d8	98	6.388	6.388	(0.833)	364406	50.8769	50.87
$	69 4-Bromofluorobenzene	95	8.688	8.695	(1.133)	137064	51.8208	51.82
	53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	40597	24.2475	24.24
	11 1,1-Dichloroethene	96	1.919	1.919	(0.458)	40090	25.2872	25.28
	33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	95271	26.2701	26.27
	27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.843)	54594	23.4846	23.48
	17 Methylene Chloride	84	2.305	2.306	(0.550)	53458	24.3902	24.39
	38 Trichloroethene	130	5.214	5.214	(1.049)	47251	21.5406	21.54
	5 Vinyl Chloride	62	1.145	1.145	(0.273)	71230	23.9033	23.90



Data File: \\nahstws005\Target\chem\voa6.i\X200730.b\X073017.D
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Client ID: HS20071328-01MSD
Sample Info: HS20071328-01MSD;HS20071328-01MSD;3;;MSD
Purge Volume: 5.0
Column phase: DB624

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

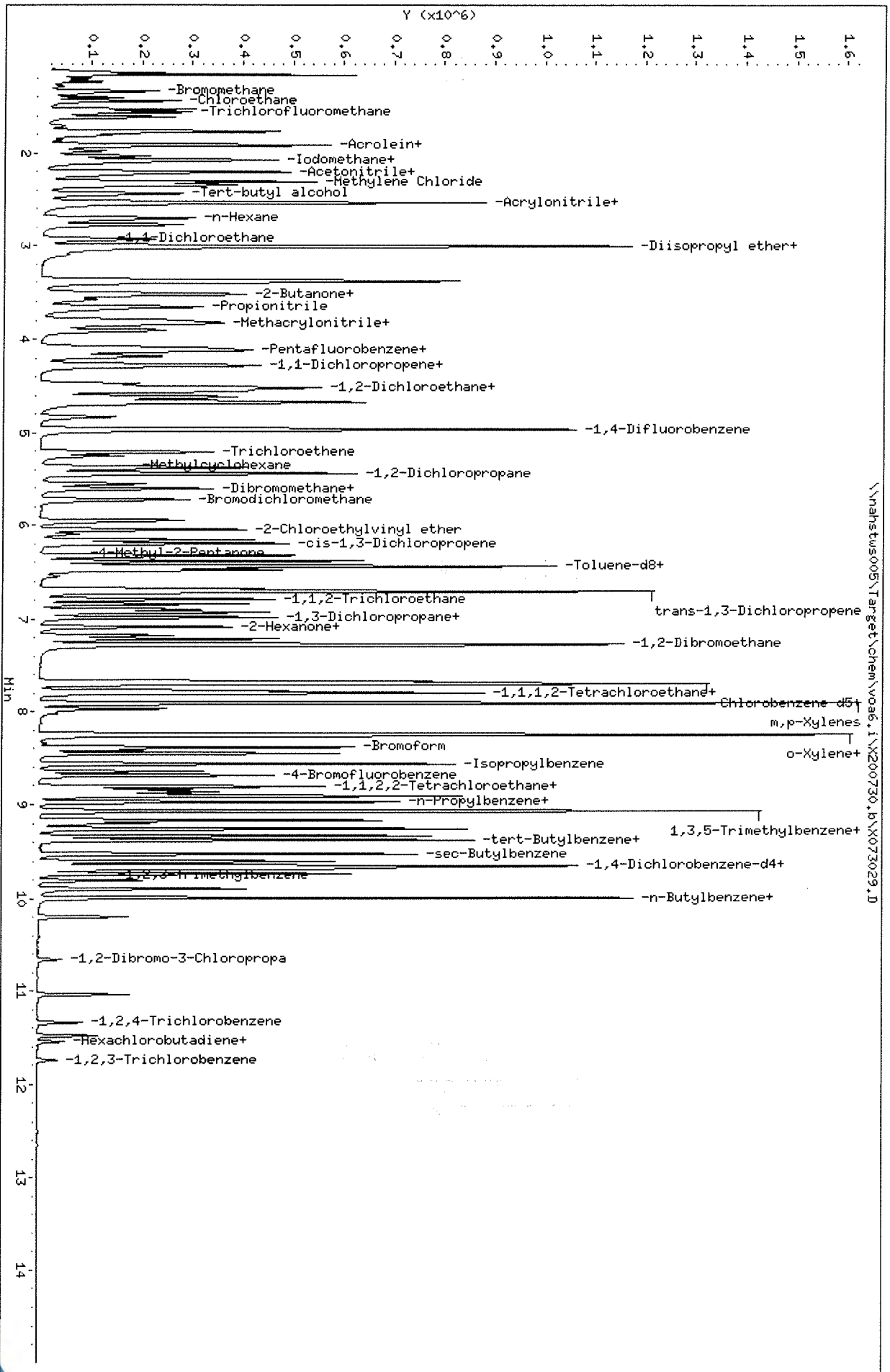
ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X200730.b\X073029.D
Lab Smp Id: CCV-END Client Smp ID: CCV-END
Inj Date : 30-JUL-2020 22:02
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\X200730.b\8260W.m
Meth Date : 21-Aug-2020 17:19 voa6.i Quant Type: ISTD
Cal Date : 13-JUL-2020 13:18 Cal File: X071308.D
Als bottle: 28 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI-Hou11.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

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

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
*	1 Pentafluorobenzene	168	4.189	4.189	(1.000)	160999	50.0000	
*	36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	297433	50.0000	
*	47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	272911	50.0000	
*	70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	119075	50.0000	
$	30 Dibromofluoromethane	113	4.103	4.103	(0.979)	93900	50.0000	52.34
$	35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	136428	50.0000	56.04
$	48 Toluene-d8	98	6.388	6.388	(0.833)	316612	50.0000	44.29
$	69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	123366	50.0000	46.68
	53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	84142	50.0000	50.35
	11 1,1-Dichloroethene	96	1.919	1.919	(0.458)	85832	50.0000	60.93
	33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	192601	50.0000	54.41
	27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.843)	112200	50.0000	54.32
	17 Methylene Chloride	84	2.305	2.305	(0.550)	119091	50.0000	63.24
	38 Trichloroethene	130	5.214	5.214	(1.049)	95425	50.0000	44.57
	5 Vinyl Chloride	62	1.145	1.145	(0.273)	144346	50.0000	54.52



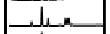
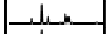
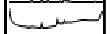
Data File: \\nahstws005\Target\chem\voa6.i\X200730.b\X073029.D
Date : 30-JUL-2020 22:02
Client ID: CCV-END
Sample Info: CCV-END;CCV-END;2;;;
Purge Volume: 5.0
Column phase: DB624

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

HS20071147 Wet Chem Raw Data (9056_W)

ALS WO# HS20071147

Sequence: 072720
Last Update Operator: alshs.nouser

CD	Name	Comment	Type	Position	Dilution	Level	Instrument Method	Processing Method	me	Status
	STD1		Calibration	GB1	1.00	1	Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	STD2		Calibration	GB2	1.00	2	Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	STD3		Calibration	GB3	1.00	3	Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	STD4		Calibration	GB4	1.00	4	Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	STD5		Calibration	GB5	1.00	5	Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	STD6		Calibration	GB6	1.00	6	Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	ICV		Unknown	GB7	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	ICB		Unknown	BA3	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	CCV		Unknown	BA2	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	CCB		Unknown	BA3	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	MBLK-072720		Unknown	BB6	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	LCS-072720		Unknown	BA8	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	CCV1		Unknown	BA4	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	CCB		Unknown	BA5	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	CCV		Unknown	BA2	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	CCB		Unknown	BA3	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	HS20071033-03	9056_W	Unknown	GC1	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	HS20071033-03MS	9056_W	Unknown	GC2	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	HS20071033-03MSD	9056_W	Unknown	GC3	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	CCV1		Unknown	BA4	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	CCB		Unknown	BA5	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	HS20071147-05	9056_W	Unknown	GC8	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	HS20071147-05MS	9056_W	Unknown	GD1	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	HS20071147-05MSD	9056_W	Unknown	GD2	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	HS20071147-06	9056_W	Unknown	GD3	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	CCV		Unknown	BA2	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	CCB		Unknown	BA3	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished

Sequence: 072720
Last Update Operator: alshs.nouser

Inject Time
6/2/2020 11:02:48 AM -05:00
6/2/2020 11:20:59 AM -05:00
6/2/2020 11:39:04 AM -05:00
6/2/2020 11:57:10 AM -05:00
6/2/2020 12:15:18 PM -05:00
6/2/2020 12:33:22 PM -05:00
6/2/2020 12:51:27 PM -05:00
6/2/2020 1:45:50 PM -05:00
7/27/2020 3:48:35 PM -05:00
7/27/2020 4:06:43 PM -05:00
7/27/2020 5:01:04 PM -05:00
7/27/2020 5:19:11 PM -05:00
7/27/2020 5:37:16 PM -05:00
7/27/2020 5:55:26 PM -05:00
7/27/2020 9:14:48 PM -05:00
7/27/2020 9:32:53 PM -05:00
7/27/2020 11:39:37 PM -05:00
7/27/2020 11:57:44 PM -05:00
7/28/2020 12:15:49 AM -05:00
7/28/2020 12:33:58 AM -05:00
7/28/2020 12:52:03 AM -05:00
7/28/2020 2:22:34 AM -05:00
7/28/2020 2:40:40 AM -05:00
7/28/2020 2:58:47 AM -05:00
7/28/2020 3:16:53 AM -05:00
7/28/2020 3:53:04 AM -05:00
7/28/2020 4:11:11 AM -05:00

Sequence: 072720
Injection #6: STD6

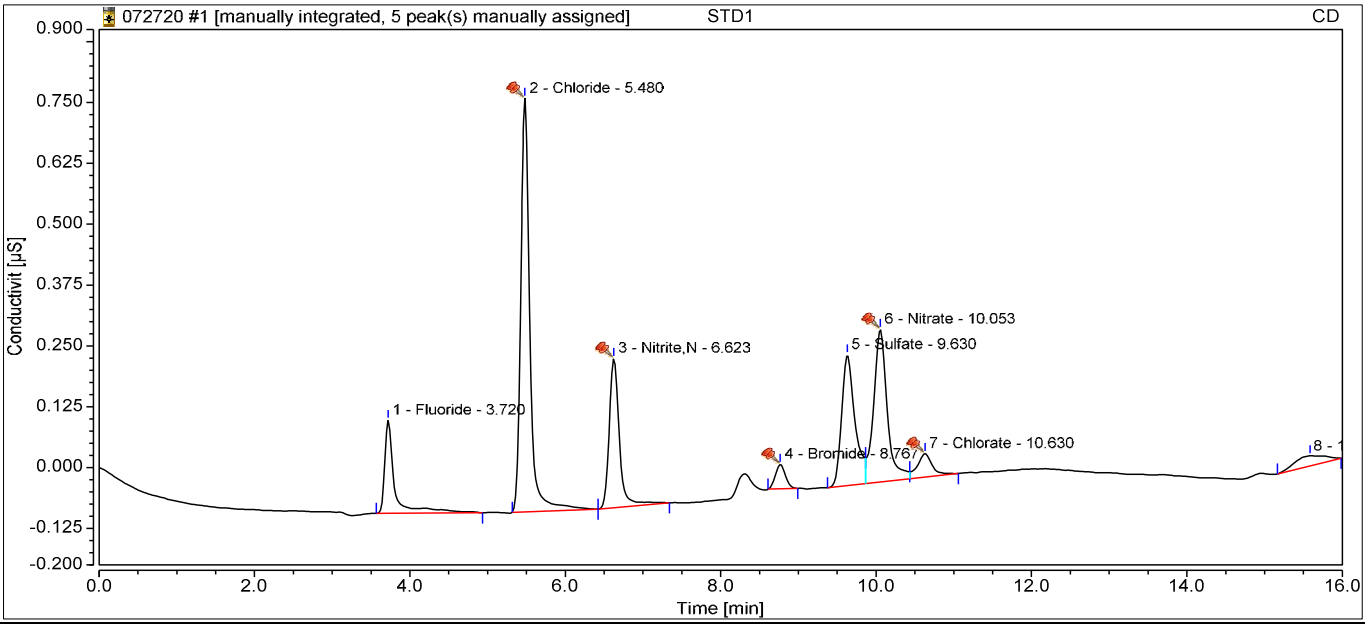
Calibration

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/x***	***Area***	***6***	***10.8139***	***0.99942***	***-0.0046***	***0.3376***	***0.0000***
2	Chloride	Lin, WithOffset, 1/x	Area	6	3.4292	0.99994	0.0066	0.2216	0.0000
3	Nitrite,N	Lin, WithOffset, 1/x	Area	6	25.3231	0.99619	0.0124	0.4569	0.0000
4	Bromide	Lin, WithOffset, 1/x	Area	6	11.6783	0.99936	-0.0023	0.0890	0.0000
5	Sulfate	Lin, WithOffset, 1/x	Area	6	4.6337	0.99991	-0.0317	0.1582	0.0000
6	Nitrate	Lin, WithOffset, 1/x	Area	6	5.8899	0.99981	0.0058	0.5970	0.0000
7	Chlorate	Lin, WithOffset, 1/x	Area	6	15.6369	0.99851	0.0032	0.0971	0.0000
8	Phosphate	Lin, WithOffset, 1/x	Area	5	24.1443	0.99440	-0.0555	0.1862	0.0000
Maximum					**25.3231**	0.99994			
Minimum					3.4292	**0.99440**			

1 STD1

Sample Name:	**STD1**	*Injection Volume:*	**5.00**
Vial Number:	**GB1**	*Channel:*	**CD**
Sample Type:	**Calibration Standard**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**06/02/2020 11:02**	*Sample Weight:*	**1.0000**

Run Time:



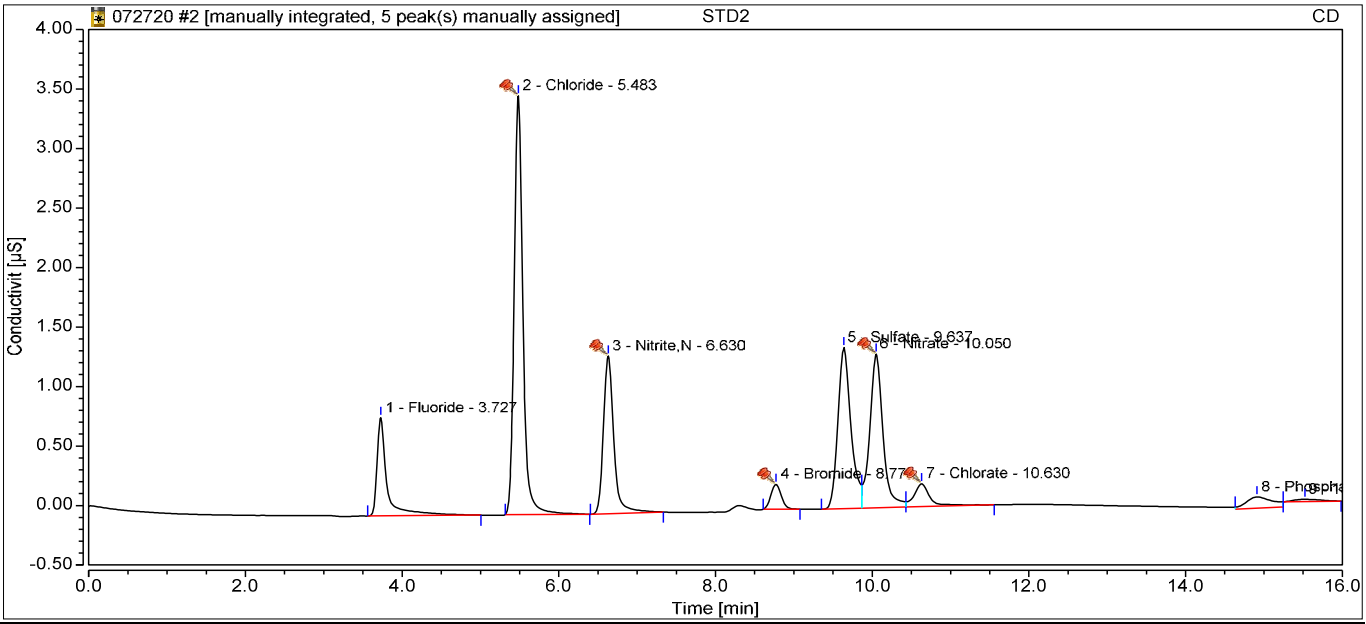
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.72	Fluoride	BMB	0.029	0.0982	0.0982	1.0000
2	5.48	Chloride	BMB^	0.115	0.4904	0.4904	1.0000
3	6.62	Nitrite,N	BMB*^	0.046	0.0745	0.0745	1.0000
4	8.77	Bromide	BMB^	0.007	0.1093	0.1093	1.0000
5	9.63	Sulfate	BM	0.053	0.5374	0.5374	1.0000
6	10.05	Nitrate	M ^	0.064	0.0969	0.0969	1.0000
7	10.63	Chlorate	MB^	0.011	0.0775	0.0775	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**0.325**		**1.48**	

2 STD2

Sample Name:	**STD2**	*Injection Volume:*	**5.00**
Vial Number:	**GB2**	*Channel:*	**CD**
Sample Type:	**Calibration Standard**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**06/02/2020 11:20**	*Sample Weight:*	**1.0000**

Run Time:



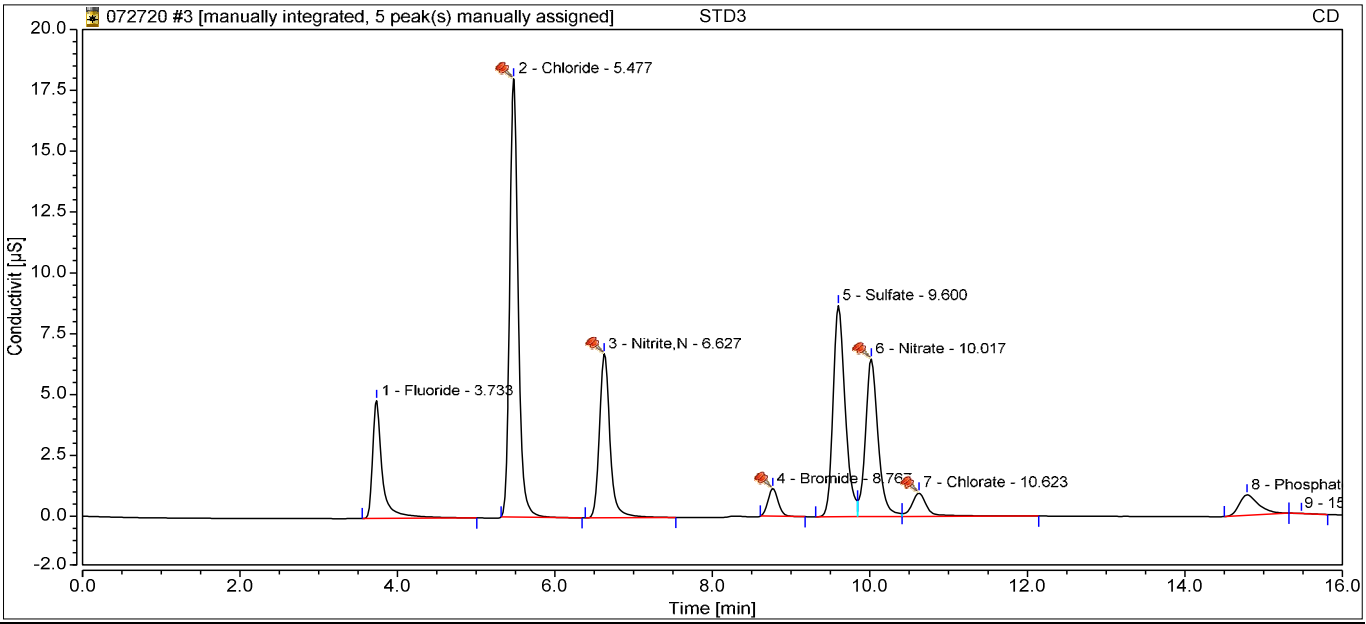
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.73	Fluoride	BMB	0.122	0.3761	0.3761	1.0000
2	5.48	Chloride	BMB^	0.452	2.0081	2.0081	1.0000
3	6.63	Nitrite,N	BMB*^	0.202	0.4159	0.4159	1.0000
4	8.77	Bromide	BMB^	0.032	0.3810	0.3810	1.0000
5	9.64	Sulfate	BM	0.263	1.8631	1.8631	1.0000
6	10.05	Nitrate	M ^	0.253	0.4135	0.4135	1.0000
7	10.63	Chlorate	MB^	0.046	0.4359	0.4359	1.0000
8	14.91	Phosphate	M *	0.037	0.4982	0.4982	1.0000
Total:			**0.000**	**1.407**		**6.39**	

3 STD3

Sample Name:	**STD3**	*Injection Volume:*	**5.00**
Vial Number:	**GB3**	*Channel:*	**CD**
Sample Type:	**Calibration Standard**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**06/02/2020 11:39**	*Sample Weight:*	**1.0000**

Run Time:



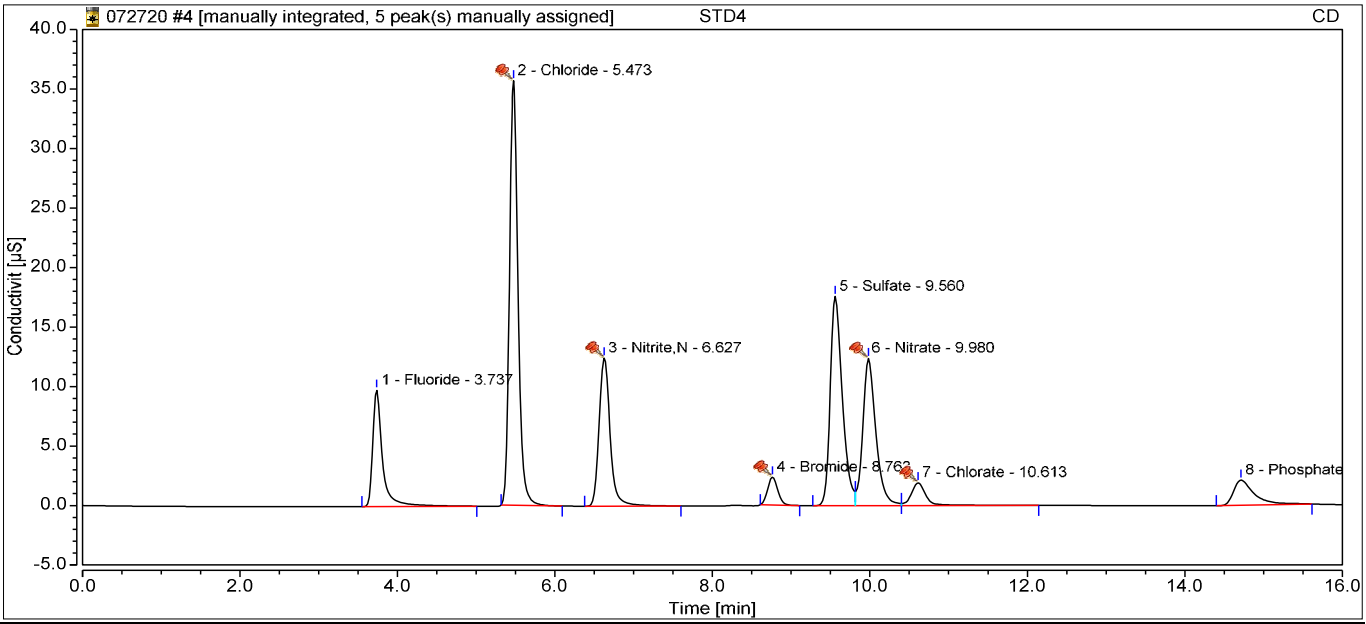
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.73	Fluoride	BMB	0.697	2.0782	2.0782	1.0000
2	5.48	Chloride	BMB^	2.257	10.1575	10.1575	1.0000
3	6.63	Nitrite,N	BMB*^	1.049	2.2692	2.2692	1.0000
4	8.77	Bromide	BMB^	0.172	1.9524	1.9524	1.0000
5	9.60	Sulfate	BM	1.543	9.9532	9.9532	1.0000
6	10.02	Nitrate	M ^	1.213	2.0220	2.0220	1.0000
7	10.62	Chlorate	MB^	0.220	2.2332	2.2332	1.0000
8	14.79	Phosphate	BMB	0.243	1.6042	1.6042	1.0000
Total:			**0.000**	**7.394**		**32.27**	

4 STD4

Sample Name:	**STD4**	*Injection Volume:*	**5.00**
Vial Number:	**GB4**	*Channel:*	**CD**
Sample Type:	**Calibration Standard**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**06/02/2020 11:57**	*Sample Weight:*	**1.0000**

Run Time:



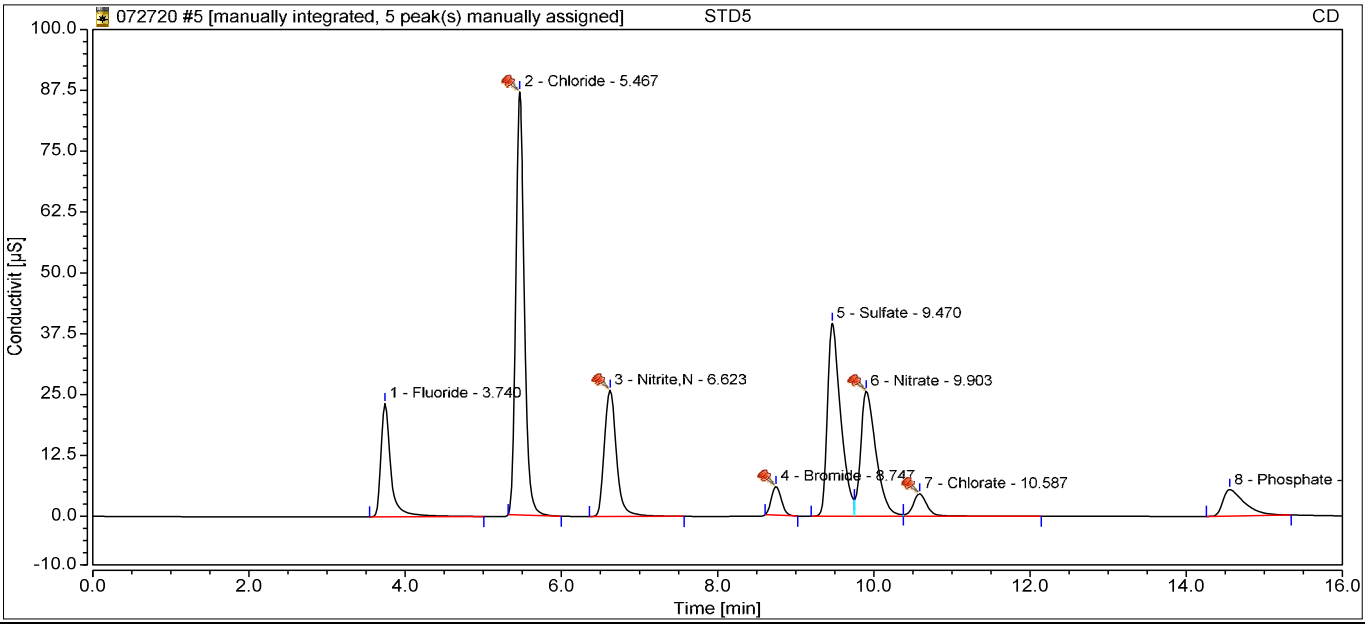
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.74	Fluoride	BMB	1.406	4.1793	4.1793	1.0000
2	5.47	Chloride	BMB^	4.475	20.1656	20.1656	1.0000
3	6.63	Nitrite,N	BMB*^	2.031	4.4170	4.4170	1.0000
4	8.76	Bromide	BMB^	0.350	3.9560	3.9560	1.0000
5	9.56	Sulfate	BM	3.131	19.9943	19.9943	1.0000
6	9.98	Nitrate	M ^	2.388	3.9909	3.9909	1.0000
7	10.61	Chlorate	MB^	0.410	4.1864	4.1864	1.0000
8	14.71	Phosphate	BMB*	0.647	3.7708	3.7708	1.0000
Total:			**0.000**	**14.837**		**64.66**	

5 STD5

Sample Name:	**STD5**	*Injection Volume:*	**5.00**
Vial Number:	**GB5**	*Channel:*	**CD**
Sample Type:	**Calibration Standard**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**06/02/2020 12:15**	*Sample Weight:*	**1.0000**

Run Time:



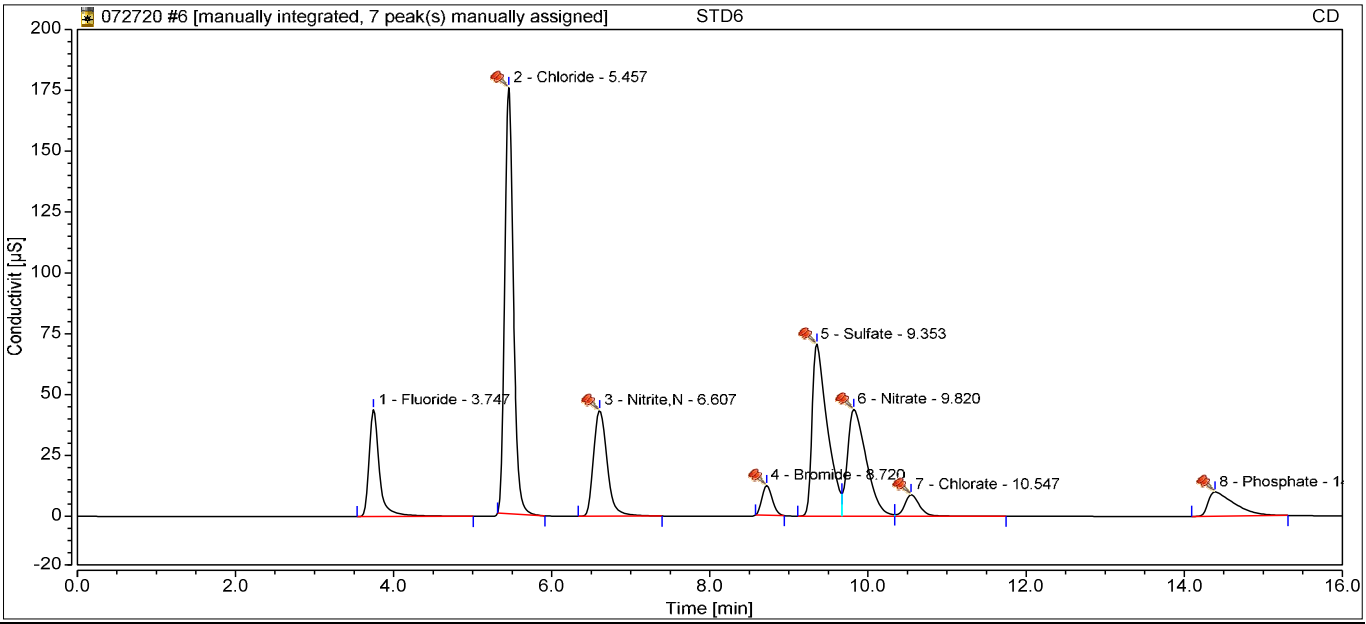
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.74	Fluoride	BMB	3.409	10.1112	10.1112	1.0000
2	5.47	Chloride	BMB^	10.962	49.4436	49.4436	1.0000
3	6.62	Nitrite,N	BMB*^	4.673	10.1996	10.1996	1.0000
4	8.75	Bromide	BMB^	0.860	9.6874	9.6874	1.0000
5	9.47	Sulfate	BM	7.832	49.7141	49.7141	1.0000
6	9.90	Nitrate	M ^	5.855	9.7981	9.7981	1.0000
7	10.59	Chlorate	MB^	0.963	9.8794	9.8794	1.0000
8	14.56	Phosphate	BMB*	1.744	9.6675	9.6675	1.0000
Total:			**0.000**	**36.299**		**158.50**	

6 STD6

Sample Name:	**STD6**	*Injection Volume:*	**5.00**
Vial Number:	**GB6**	*Channel:*	**CD**
Sample Type:	**Calibration Standard**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**06/02/2020 12:33**	*Sample Weight:*	**1.0000**

Run Time:



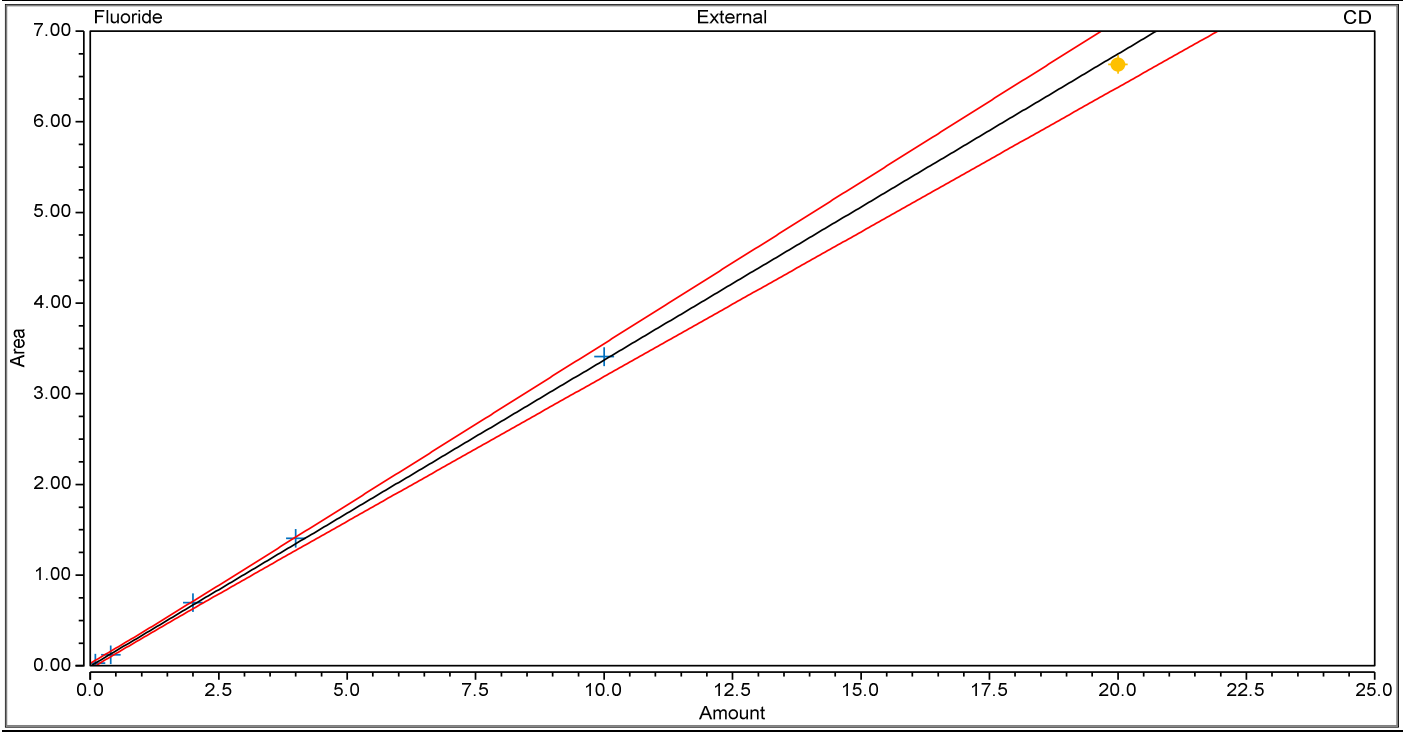
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.75	Fluoride	BMB	6.632	19.6569	19.6569	1.0000
2	5.46	Chloride	BMB^	22.217	100.2349	100.2349	1.0000
3	6.61	Nitrite,N	BMB*^	8.750	19.1238	19.1238	1.0000
4	8.72	Bromide	BMB*^	1.815	20.4140	20.4140	1.0000
5	9.35	Sulfate	BM ^	15.855	100.4380	100.4380	1.0000
6	9.82	Nitrate	M ^	12.052	20.1786	20.1786	1.0000
7	10.55	Chlorate	MB^	1.916	19.6877	19.6877	1.0000
8	14.39	Phosphate	BMB*^	3.828	20.8593	20.8593	1.0000
Total:			**0.000**	**73.065**		**320.59**	

Calibration

Calibration Details	Fluoride		
Calibration Type	Lin, WithOffset, 1/A	*Offset (C0)*	-0.0046
Evaluation Type	Area	*Slope (C1)*	0.3376
Number of Calibration Points	6	*Curve (C2)*	0.0000
Number of disabled Calibration Points	0	*R-Square*	0.9994

Calibration Plot **Fluoride**



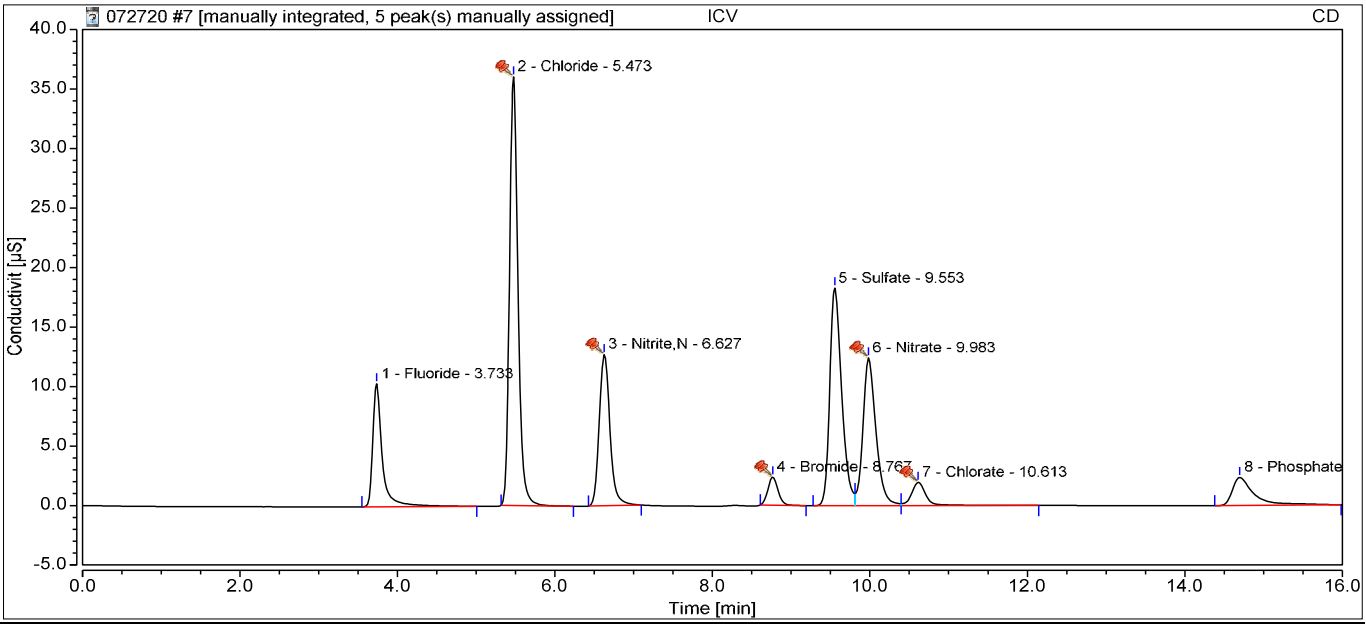
Calibration Results **Fluoride**

No.	Injection Name	Calibration Level	X Value CD Fluoride	Y Value CD Fluoride	Y Value CD Fluoride	Area µS*min CD Fluoride	Height µS CD Fluoride
1	STD1	1	0.1000	0.0285	0.0285	0.029	0.191
2	STD2	2	0.4000	0.1224	0.1224	0.122	0.826
3	STD3	3	2.0000	0.6970	0.6970	0.697	4.841
4	STD4	4	4.0000	1.4064	1.4064	1.406	9.790
5	STD5	5	10.0000	3.4092	3.4092	3.409	23.253
6	STD6	6	20.0000	6.6320	6.6320	6.632	43.889

7 ICV

Sample Name:	**ICV**	*Injection Volume:*	**5.00**
Vial Number:	**GB7**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**06/02/2020 12:51**	*Sample Weight:*	**1.0000**

Run Time:



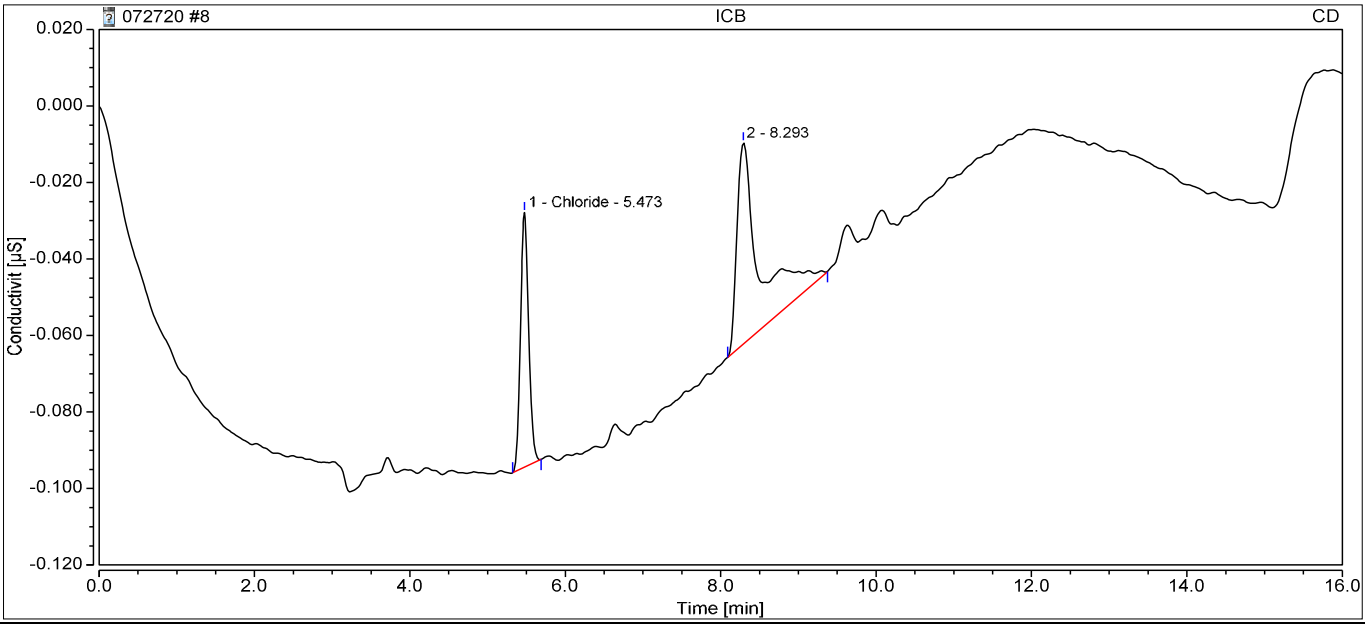
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.73	Fluoride	BMB	1.442	4.2839	4.2839	1.0000
2	5.47	Chloride	BMB^	4.508	20.3168	20.3168	1.0000
3	6.63	Nitrite,N	BMB*^	2.013	4.3785	4.3785	1.0000
4	8.77	Bromide	BMB^	0.352	3.9794	3.9794	1.0000
5	9.55	Sulfate	BM	3.208	20.4827	20.4827	1.0000
6	9.98	Nitrate	M ^	2.387	3.9894	3.9894	1.0000
7	10.61	Chlorate	MB^	0.412	4.2081	4.2081	1.0000
8	14.70	Phosphate	BMB	0.762	4.3926	4.3926	1.0000
Total:			**0.000**	**15.085**		**66.03**	

8 ICB

Sample Name:	**ICB**	*Injection Volume:*	**5.00**
Vial Number:	**BA3**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**06/02/2020 13:45**	*Sample Weight:*	**1.0000**

Run Time:



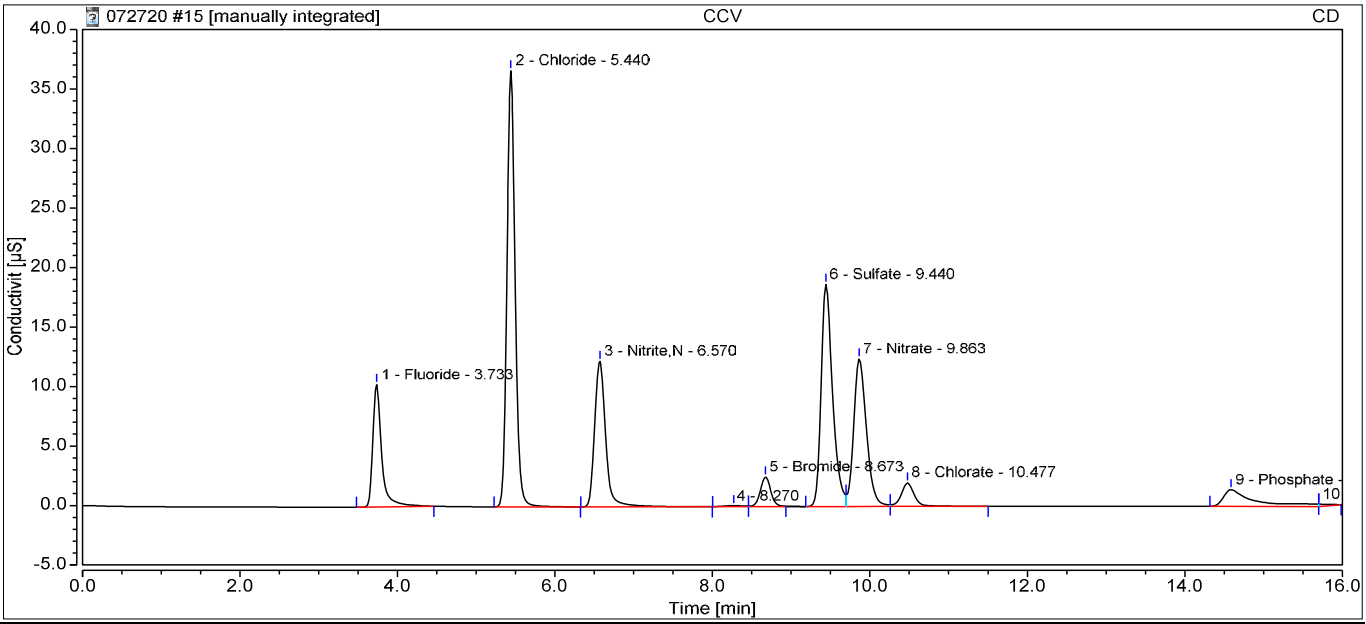
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	1.0000
1	5.47	Chloride	BMB	0.008	0.0067	0.0067	1.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Sulfate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**0.008**		**0.01**	

15 CCV

Sample Name:	**CCV**	*Injection Volume:*	**5.00**
Vial Number:	**BA2**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**07/27/2020 15:48**	*Sample Weight:*	**1.0000**

Run Time:



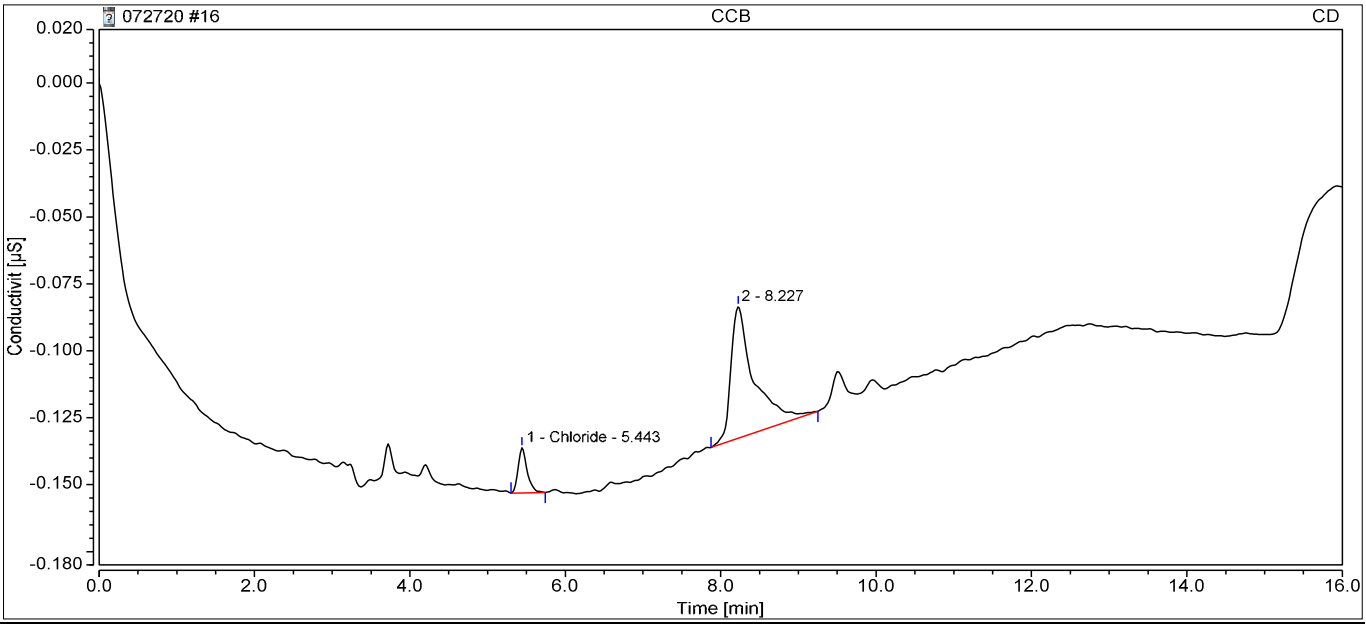
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.73	Fluoride	BMB*	1.333	3.9605	3.9605	1.0000
2	5.44	Chloride	BMB	4.453	20.0663	20.0663	1.0000
3	6.57	Nitrite,N	BMB	1.981	4.3093	4.3093	1.0000
5	8.67	Bromide	M *	0.386	4.3553	4.3553	1.0000
6	9.44	Sulfate	M	3.152	20.1250	20.1250	1.0000
7	9.86	Nitrate	M	2.315	3.8676	3.8676	1.0000
8	10.48	Chlorate	MB	0.384	3.9156	3.9156	1.0000
9	14.59	Phosphate	BM *	0.633	3.6959	3.6959	1.0000
Total:			**0.000**	**14.635**		**64.30**	

16 CCB

Sample Name:	**CCB**	*Injection Volume:*	**5.00**
Vial Number:	**BA3**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**07/27/2020 16:06**	*Sample Weight:*	**1.0000**

Run Time:



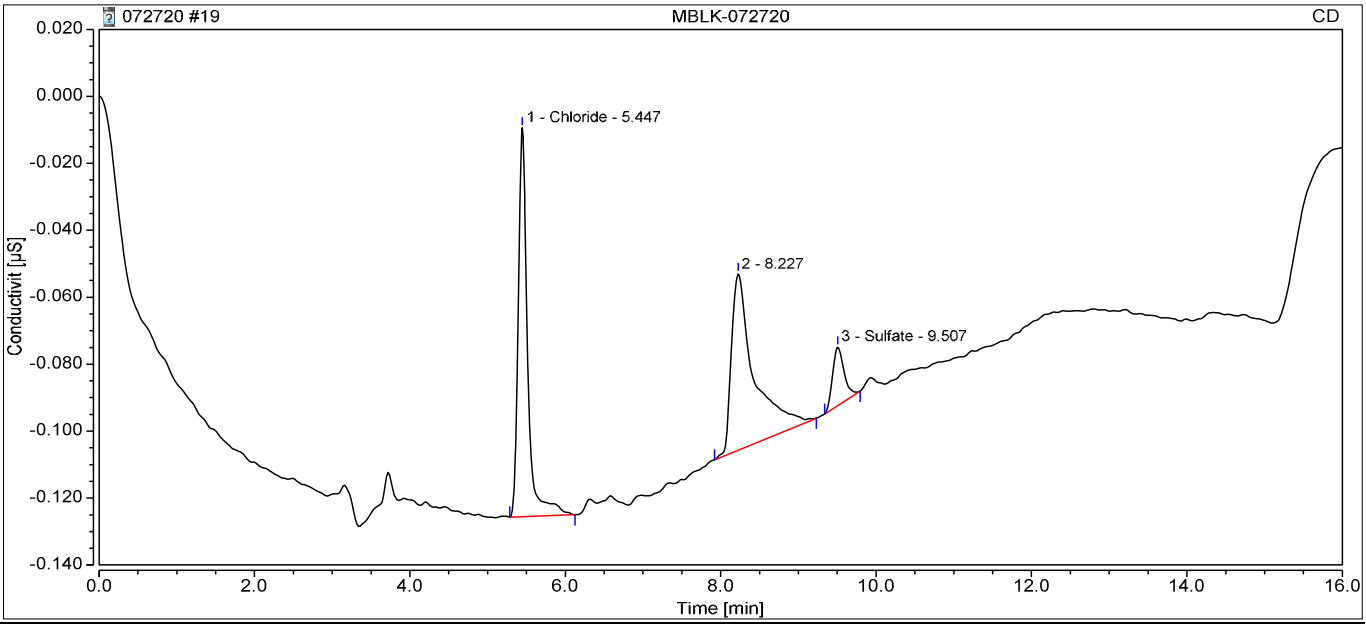
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	1.0000
1	5.44	Chloride	BMB	0.002	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Sulfate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**0.002**		**0.00**	

19 MBLK-072720

Sample Name:	**MBLK-072720**	*Injection Volume:*	**5.00**
Vial Number:	**BB6**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**07/27/2020 17:01**	*Sample Weight:*	**1.0000**

Run Time:



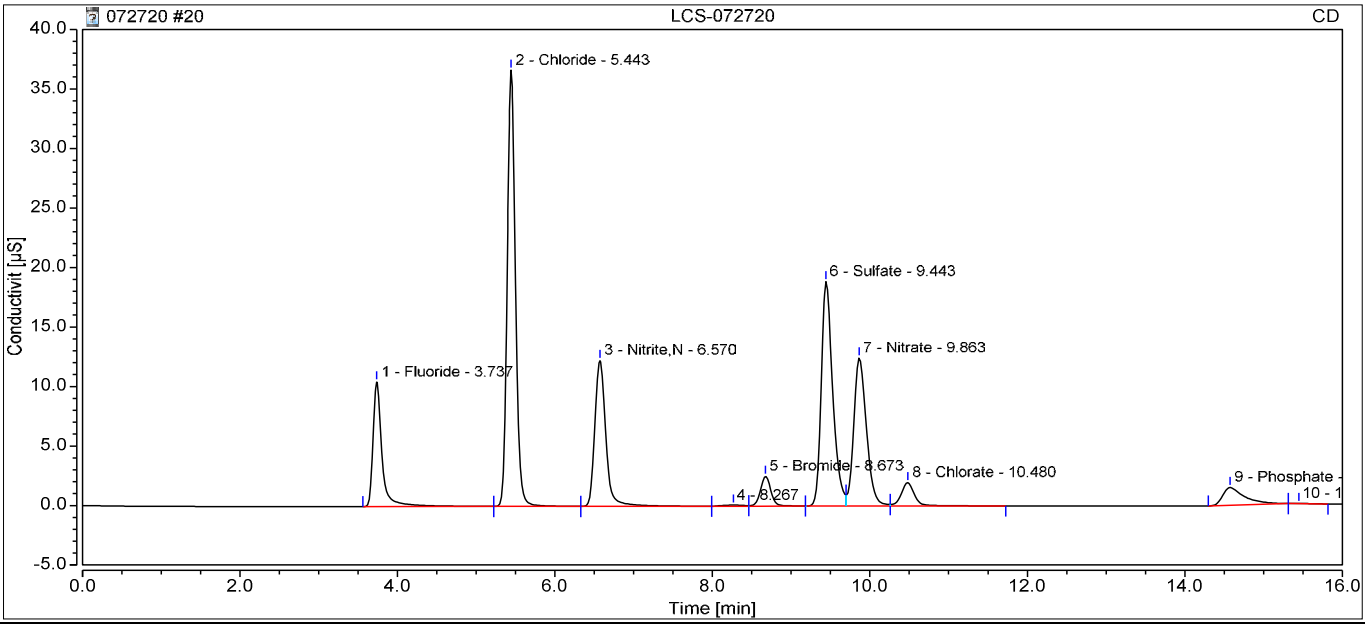
Integration Results

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
1	5.45	Chloride	BMB	0.016	0.0428	0.0428	1.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
3	9.51	Sulfate	BMB	0.003	0.2192	0.2192	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**		**0.26**	

20 LCS-072720

Sample Name:	**LCS-072720**	*Injection Volume:*	**5.00**
Vial Number:	**BA8**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**07/27/2020 17:19**	*Sample Weight:*	**1.0000**

Run Time:

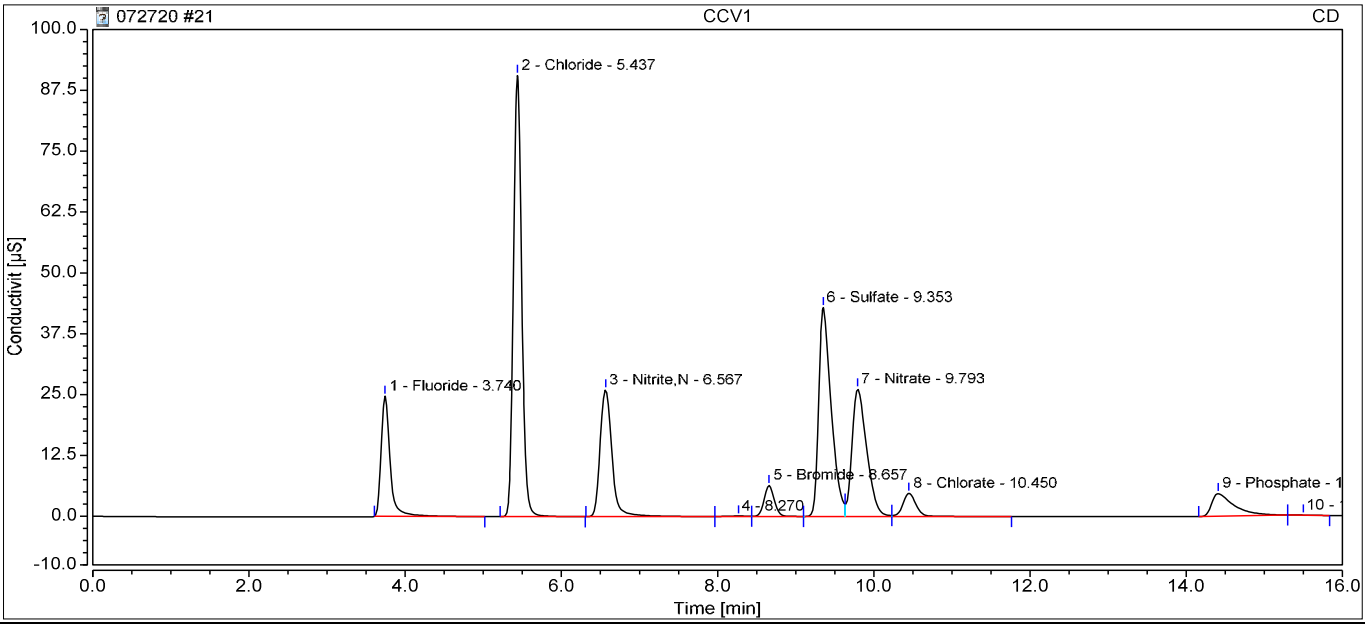


Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.74	Fluoride	BMB	1.387	4.1218	4.1218	1.0000
2	5.44	Chloride	BMB	4.457	20.0826	20.0826	1.0000
3	6.57	Nitrite,N	BMB	1.978	4.3029	4.3029	1.0000
5	8.67	Bromide	M	0.389	4.3980	4.3980	1.0000
6	9.44	Sulfate	M	3.186	20.3412	20.3412	1.0000
7	9.86	Nitrate	M	2.313	3.8645	3.8645	1.0000
8	10.48	Chlorate	MB	0.385	3.9353	3.9353	1.0000
9	14.57	Phosphate	BMB	0.479	2.8721	2.8721	1.0000
Total:			**0.000**	**14.575**		**63.92**	

21 CCV1			
Sample Name:	**CCV1**	*Injection Volume:*	**5.00**
Vial Number:	**BA4**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**07/27/2020 17:37**	*Sample Weight:*	**1.0000**

Run Time:



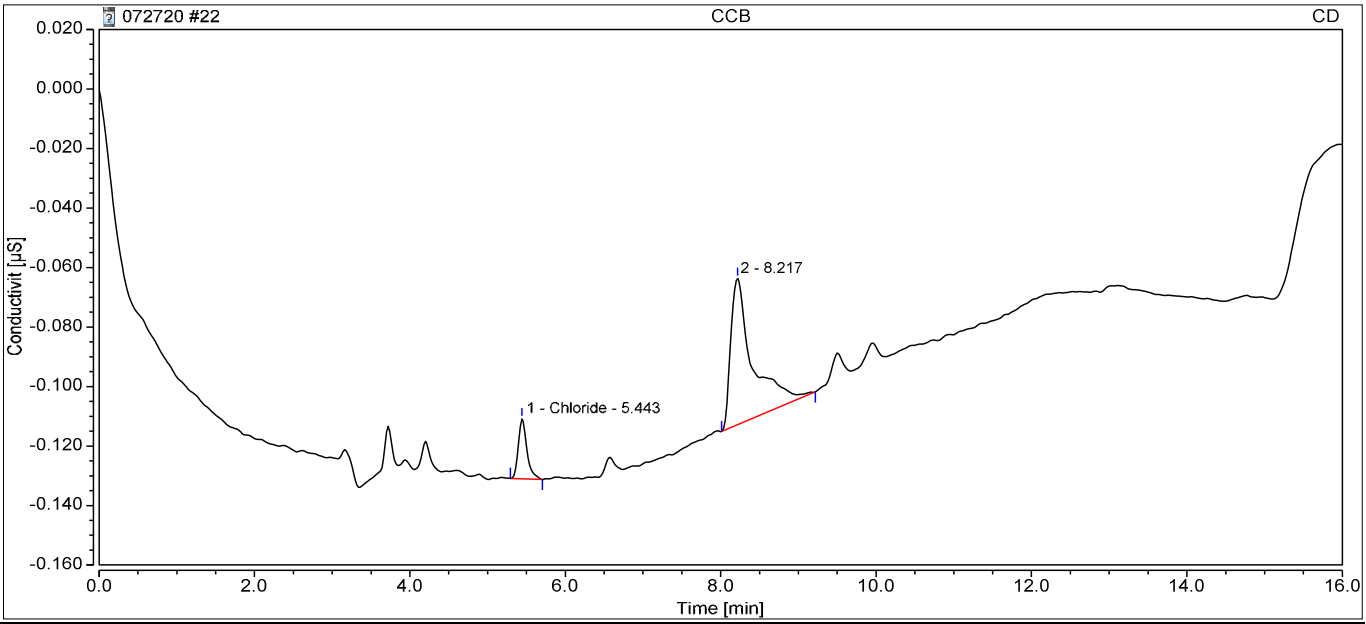
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.74	Fluoride	BMB	3.259	9.6657	9.6657	1.0000
2	5.44	Chloride	BMB	11.065	49.9078	49.9078	1.0000
3	6.57	Nitrite,N	BMB	4.594	10.0274	10.0274	1.0000
5	8.66	Bromide	M	0.972	10.9439	10.9439	1.0000
6	9.35	Sulfate	M	7.953	50.4785	50.4785	1.0000
7	9.79	Nitrate	M	5.701	9.5403	9.5403	1.0000
8	10.45	Chlorate	MB	0.933	9.5765	9.5765	1.0000
9	14.41	Phosphate	BMB	1.544	8.5925	8.5925	1.0000
Total:			**0.000**	**36.022**		**158.73**	

22 CCB

Sample Name:	**CCB**	*Injection Volume:*	**5.00**
Vial Number:	**BA5**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**07/27/2020 17:55**	*Sample Weight:*	**1.0000**

Run Time:



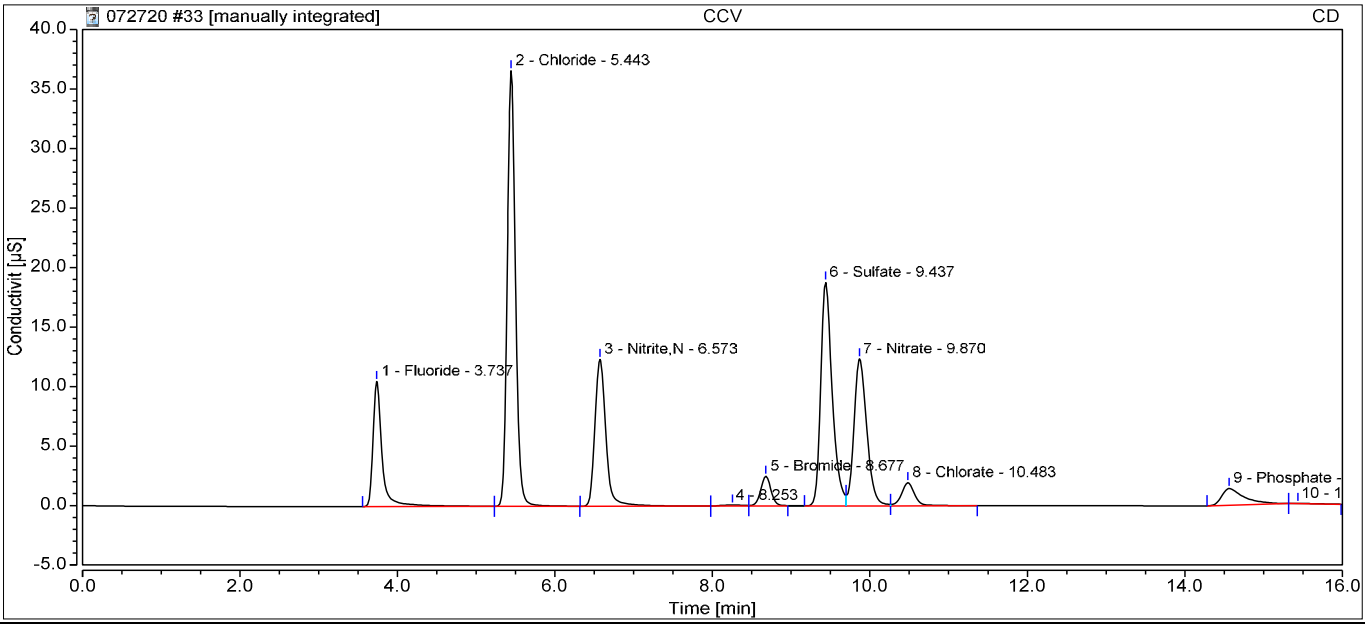
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	1.0000
1	5.44	Chloride	BMB	0.003	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Sulfate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**0.003**		**0.00**	

33 CCV

Sample Name:	**CCV**	*Injection Volume:*	**5.00**
Vial Number:	**BA2**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**07/27/2020 21:14**	*Sample Weight:*	**1.0000**

Run Time:



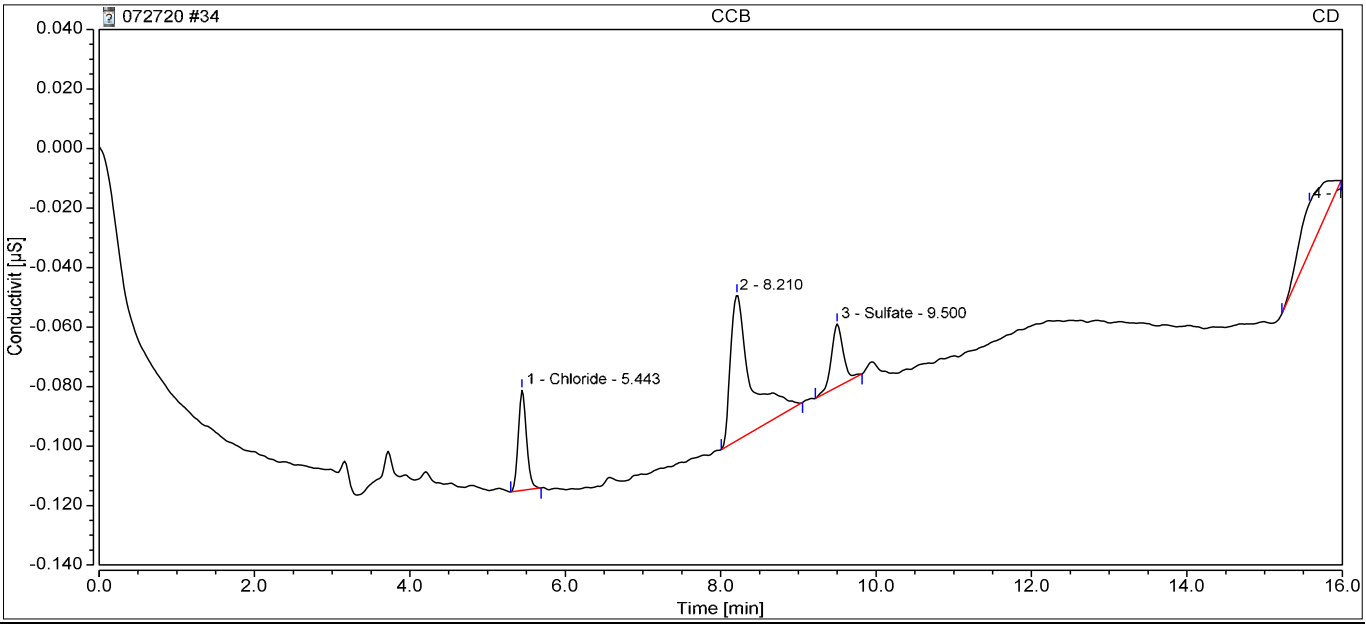
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.74	Fluoride	BMB	1.390	4.1317	4.1317	1.0000
2	5.44	Chloride	BMB	4.466	20.1239	20.1239	1.0000
3	6.57	Nitrite,N	BMB	1.989	4.3252	4.3252	1.0000
5	8.68	Bromide	M *	0.385	4.3510	4.3510	1.0000
6	9.44	Sulfate	M	3.188	20.3526	20.3526	1.0000
7	9.87	Nitrate	M	2.315	3.8677	3.8677	1.0000
8	10.48	Chlorate	MB	0.380	3.8740	3.8740	1.0000
9	14.56	Phosphate	BMB	0.462	2.7781	2.7781	1.0000
Total:			**0.000**	**14.573**		**63.80**	

34 CCB

Sample Name:	**CCB**	*Injection Volume:*	**5.00**
Vial Number:	**BA3**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**07/27/2020 21:32**	*Sample Weight:*	**1.0000**

Run Time:



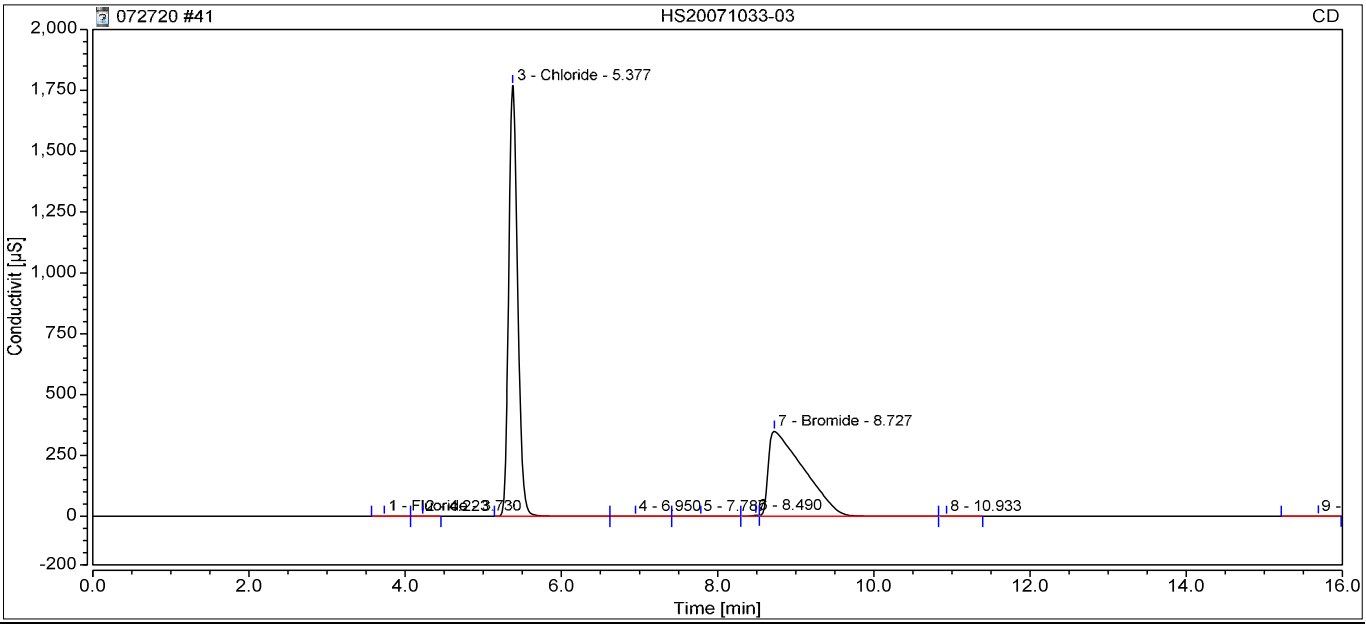
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	1.0000
1	5.44	Chloride	BMB	0.004	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
3	9.50	Sulfate	BMB	0.004	0.2239	0.2239	1.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**0.008**		**0.22**	

41 HS20071033-03

Sample Name:	**HS20071033-03**	*Injection Volume:*	**5.00**
Vial Number:	**GC1**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**07/27/2020 23:39**	*Sample Weight:*	**1.0000**

Run Time:



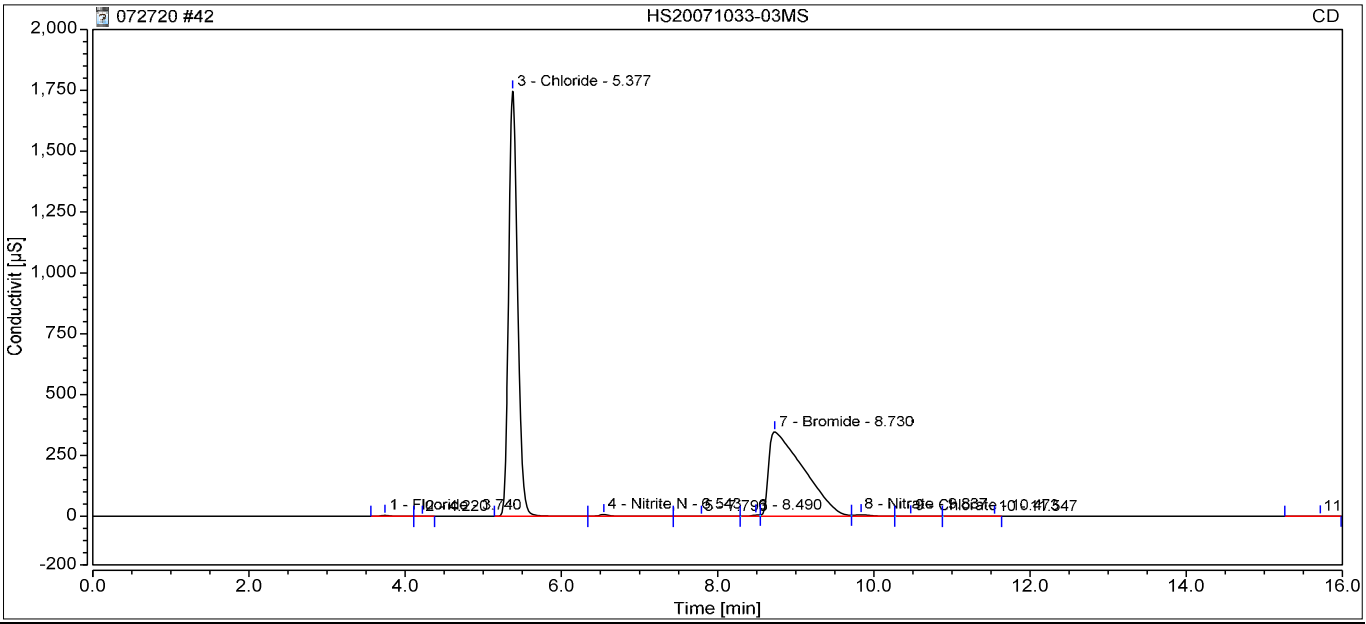
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.73	Fluoride	BMB	0.052	0.1688	0.1688	1.0000
3	5.38	Chloride	BMB	234.827	1059.7592	1059.7592	1.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	1.0000
7	8.73	Bromide	M	182.634	2051.1049	2051.1049	1.0000
n.a.	n.a.	Sulfate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**417.514**		**3111.03**	

42 HS20071033-03MS

Sample Name:	**HS20071033-03MS**	*Injection Volume:*	**5.00**
Vial Number:	**GC2**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**07/27/2020 23:57**	*Sample Weight:*	**1.0000**

Run Time:



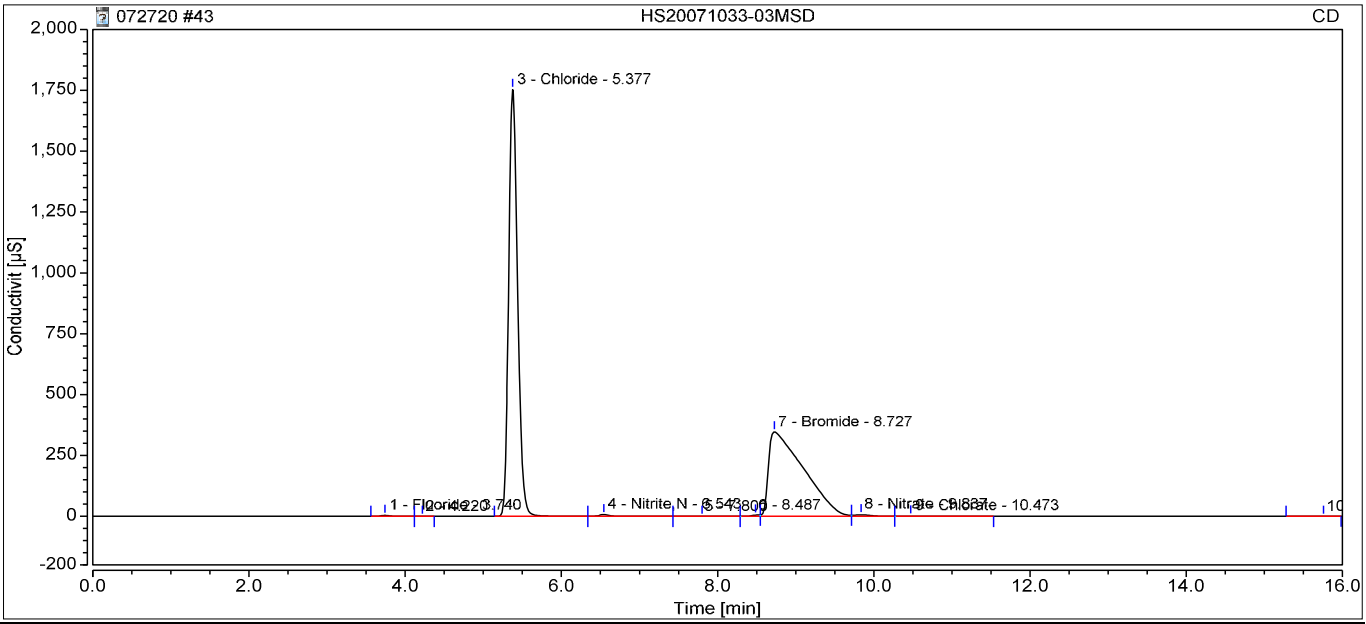
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.74	Fluoride	BMB	0.584	1.7429	1.7429	1.0000
3	5.38	Chloride	BMB	231.046	1042.6945	1042.6945	1.0000
4	6.54	Nitrite,N	BMB	1.043	2.2560	2.2560	1.0000
7	8.73	Bromide	M	179.396	2014.7415	2014.7415	1.0000
n.a.	n.a.	Sulfate	n.a.	n.a.	n.a.	n.a.	1.0000
8	9.84	Nitrate	M	1.503	2.5088	2.5088	1.0000
9	10.47	Chlorate	M	0.239	2.4318	2.4318	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**413.812**		**3066.38**	

43 HS20071033-03MSD

Sample Name:	**HS20071033-03MSD**	*Injection Volume:*	**5.00**
Vial Number:	**GC3**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**07/28/2020 00:15**	*Sample Weight:*	**1.0000**

Run Time:



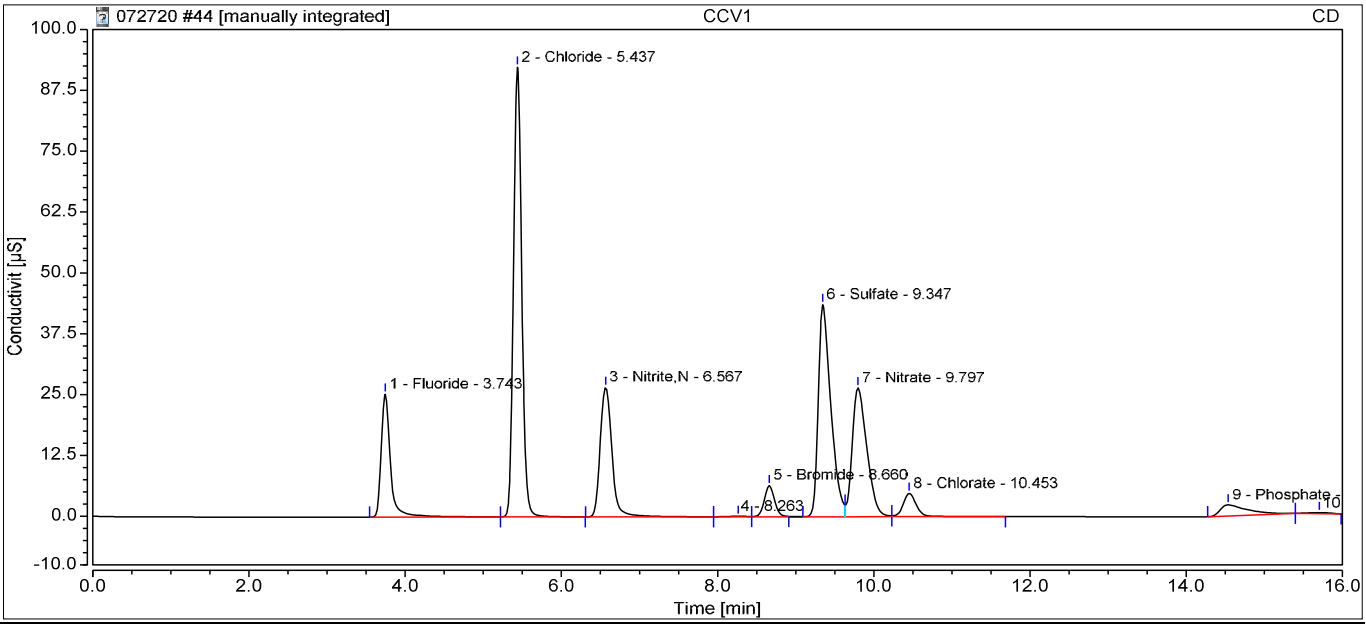
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.74	Fluoride	BMB	0.595	1.7766	1.7766	1.0000
3	5.38	Chloride	BMB	232.077	1047.3465	1047.3465	1.0000
4	6.54	Nitrite,N	BMB	1.049	2.2678	2.2678	1.0000
7	8.73	Bromide	M	180.013	2021.6644	2021.6644	1.0000
n.a.	n.a.	Sulfate	n.a.	n.a.	n.a.	n.a.	1.0000
8	9.84	Nitrate	M	1.492	2.4887	2.4887	1.0000
9	10.47	Chlorate	MB	0.248	2.5230	2.5230	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**415.473**		**3078.07**	

44 CCV1

Sample Name:	**CCV1**	*Injection Volume:*	**5.00**
Vial Number:	**BA4**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**07/28/2020 00:33**	*Sample Weight:*	**1.0000**

Run Time:



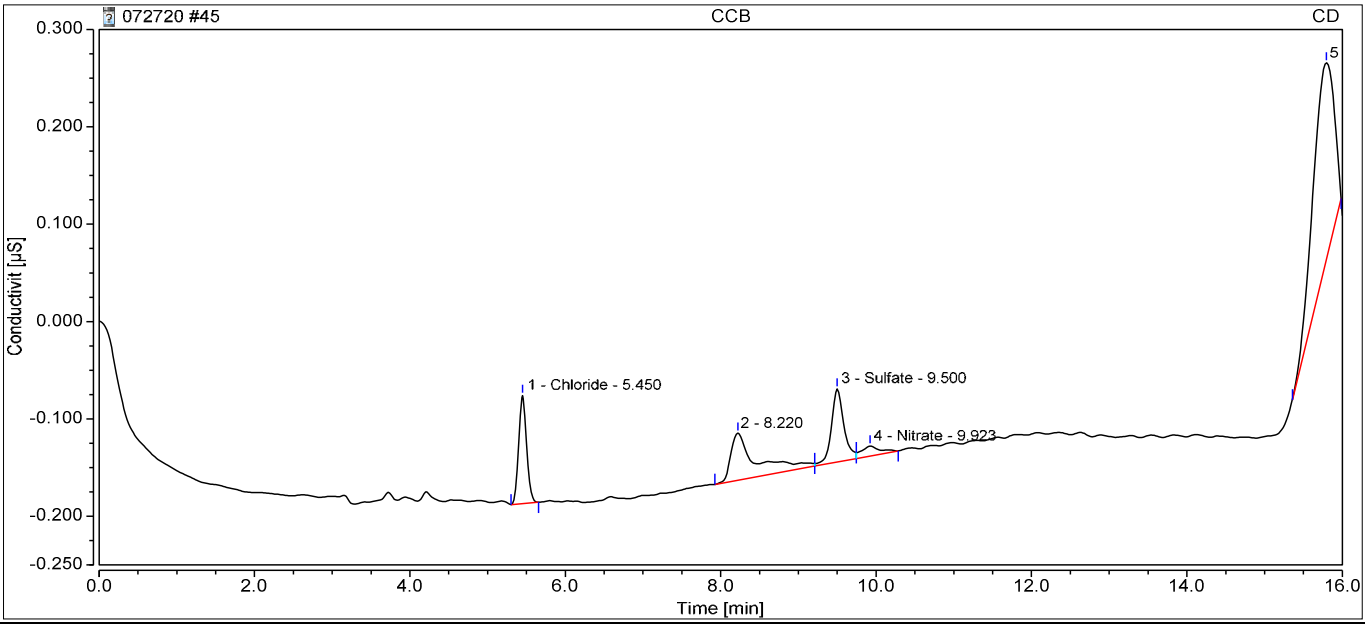
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.74	Fluoride	BMB	3.442	10.2099	10.2099	1.0000
2	5.44	Chloride	BMB	11.185	50.4504	50.4504	1.0000
3	6.57	Nitrite,N	BMB	4.633	10.1124	10.1124	1.0000
5	8.66	Bromide	M *	0.972	10.9368	10.9368	1.0000
6	9.35	Sulfate	M	8.124	51.5650	51.5650	1.0000
7	9.80	Nitrate	M	5.729	9.5860	9.5860	1.0000
8	10.45	Chlorate	MB	0.945	9.6935	9.6935	1.0000
9	14.54	Phosphate	BMB	0.911	5.1897	5.1897	1.0000
Total:			**0.000**	**35.941**		**157.74**	

45 CCB

Sample Name:	**CCB**	*Injection Volume:*	**5.00**
Vial Number:	**BA5**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**07/28/2020 00:52**	*Sample Weight:*	**1.0000**

Run Time:



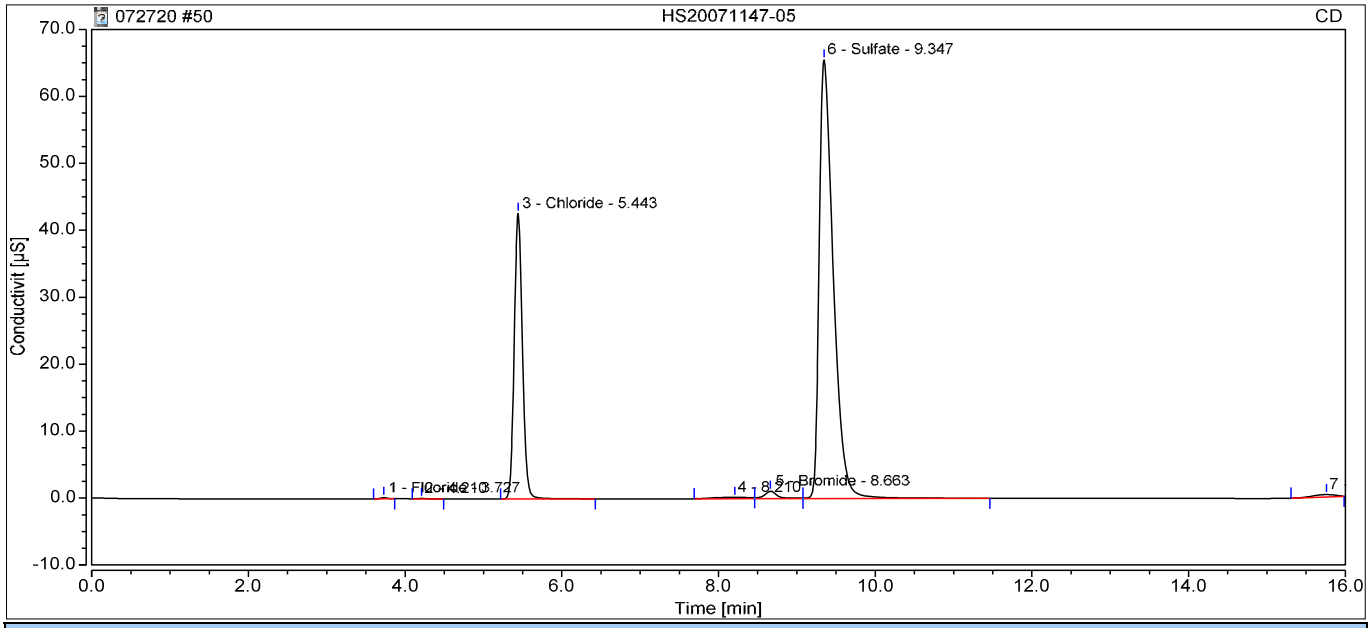
Integration Results

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
1	5.45	Chloride	BMB	0.013	0.0298	0.0298	1.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
3	9.50	Sulfate	M	0.014	0.2885	0.2885	1.0000
4	9.92	Nitrate	MB	0.003	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**	**0.030**		**0.32**	

50 HS20071147-05

Sample Name:	**HS20071147-05**	*Injection Volume:*	**5.00**
Vial Number:	**GC8**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**07/28/2020 02:22**	*Sample Weight:*	**1.0000**

Run Time:



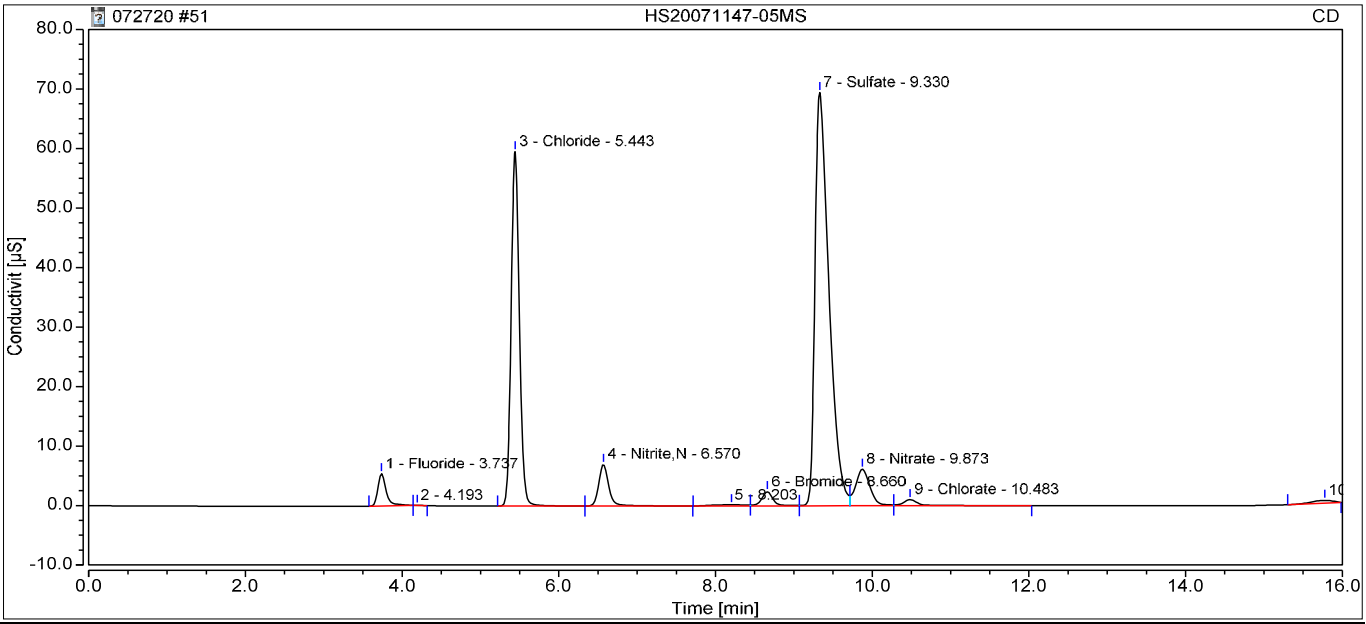
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.73	Fluoride	BMB	0.019	0.0700	0.0700	1.0000
3	5.44	Chloride	BMB	5.143	23.1800	23.1800	1.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	1.0000
5	8.66	Bromide	M	0.215	2.4453	2.4453	1.0000
6	9.35	Sulfate	MB	13.637	86.4197	86.4197	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**	**19.015**		**112.11**	

51 HS20071147-05MS

Sample Name:	**HS20071147-05MS**	*Injection Volume:*	**5.00**
Vial Number:	**GD1**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**07/28/2020 02:40**	*Sample Weight:*	**1.0000**

Run Time:



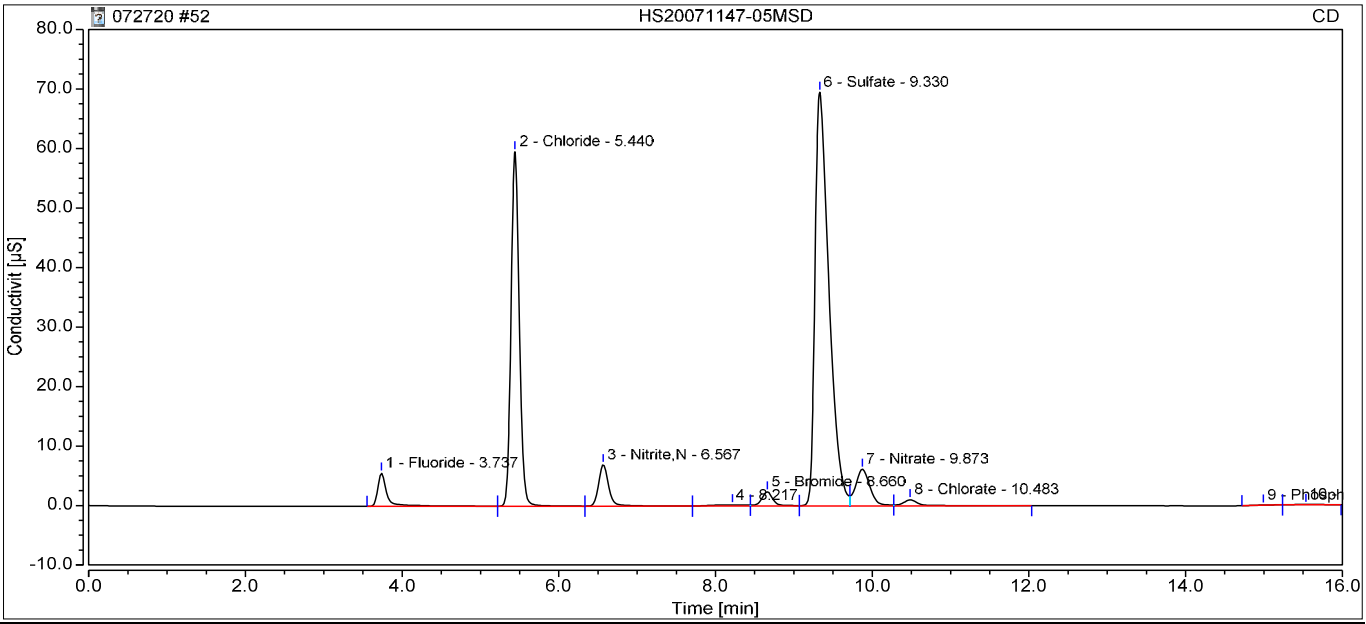
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.74	Fluoride	BMB	0.660	1.9677	1.9677	1.0000
3	5.44	Chloride	BMB	7.213	32.5223	32.5223	1.0000
4	6.57	Nitrite,N	BMB	1.050	2.2704	2.2704	1.0000
6	8.66	Bromide	M	0.404	4.5621	4.5621	1.0000
7	9.33	Sulfate	M	14.380	91.1161	91.1161	1.0000
8	9.87	Nitrate	M	1.316	2.1945	2.1945	1.0000
9	10.48	Chlorate	MB	0.245	2.4924	2.4924	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**25.268**		**137.13**	

52 HS20071147-05MSD

Sample Name:	**HS20071147-05MSD**	*Injection Volume:*	**5.00**
Vial Number:	**GD2**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**07/28/2020 02:58**	*Sample Weight:*	**1.0000**

Run Time:



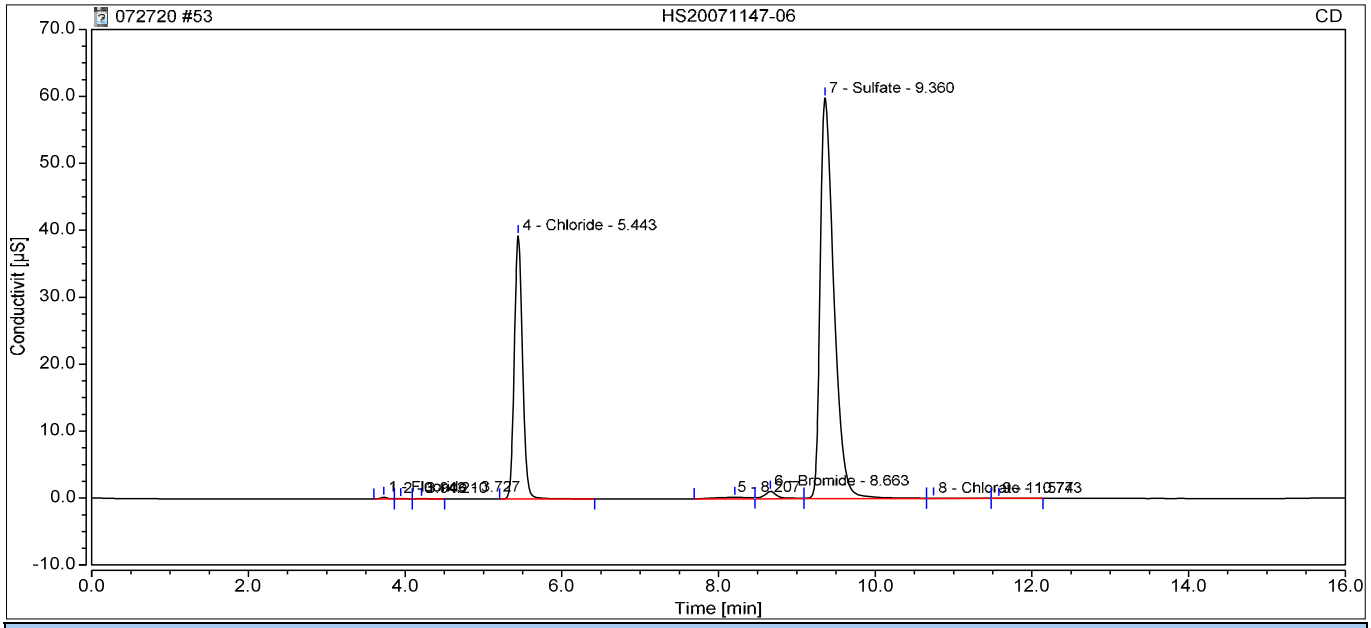
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.74	Fluoride	BMB	0.758	2.2577	2.2577	1.0000
2	5.44	Chloride	BMB	7.220	32.5540	32.5540	1.0000
3	6.57	Nitrite,N	BMB	1.051	2.2727	2.2727	1.0000
5	8.66	Bromide	M	0.405	4.5711	4.5711	1.0000
6	9.33	Sulfate	M	14.392	91.1888	91.1888	1.0000
7	9.87	Nitrate	M	1.314	2.1913	2.1913	1.0000
8	10.48	Chlorate	MB	0.237	2.4116	2.4116	1.0000
9	14.99	Phosphate	BMB	0.011	0.3547	0.3547	1.0000
Total:			**0.000**	**25.387**		**137.80**	

53 HS20071147-06

Sample Name:	**HS20071147-06**	*Injection Volume:*	**5.00**
Vial Number:	**GD3**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**07/28/2020 03:16**	*Sample Weight:*	**1.0000**

Run Time:



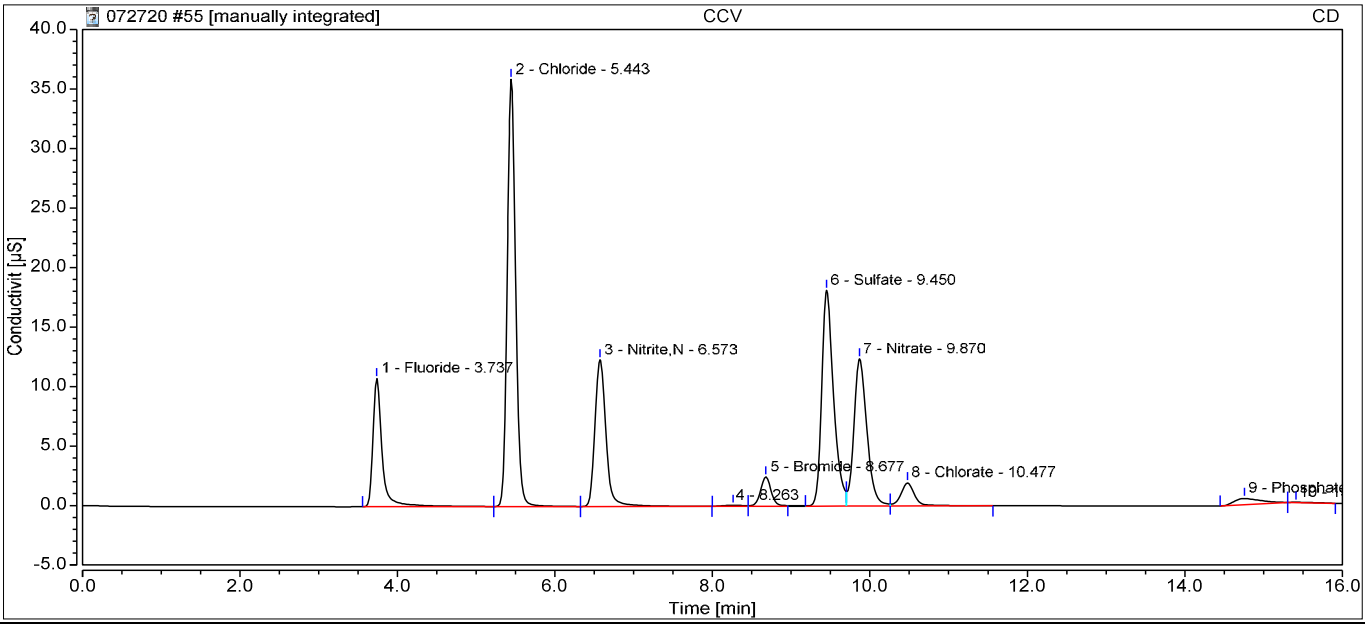
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.73	Fluoride	BMB	0.022	0.0791	0.0791	1.0000
4	5.44	Chloride	BMB	4.760	21.4524	21.4524	1.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	1.0000
6	8.66	Bromide	M	0.214	2.4325	2.4325	1.0000
7	9.36	Sulfate	M	12.132	76.9009	76.9009	1.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	1.0000
8	10.74	Chlorate	M	0.028	0.2565	0.2565	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**17.156**		**101.12**	

55 CCV

Sample Name:	**CCV**	*Injection Volume:*	**5.00**
Vial Number:	**BA2**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**07/28/2020 03:53**	*Sample Weight:*	**1.0000**

Run Time:



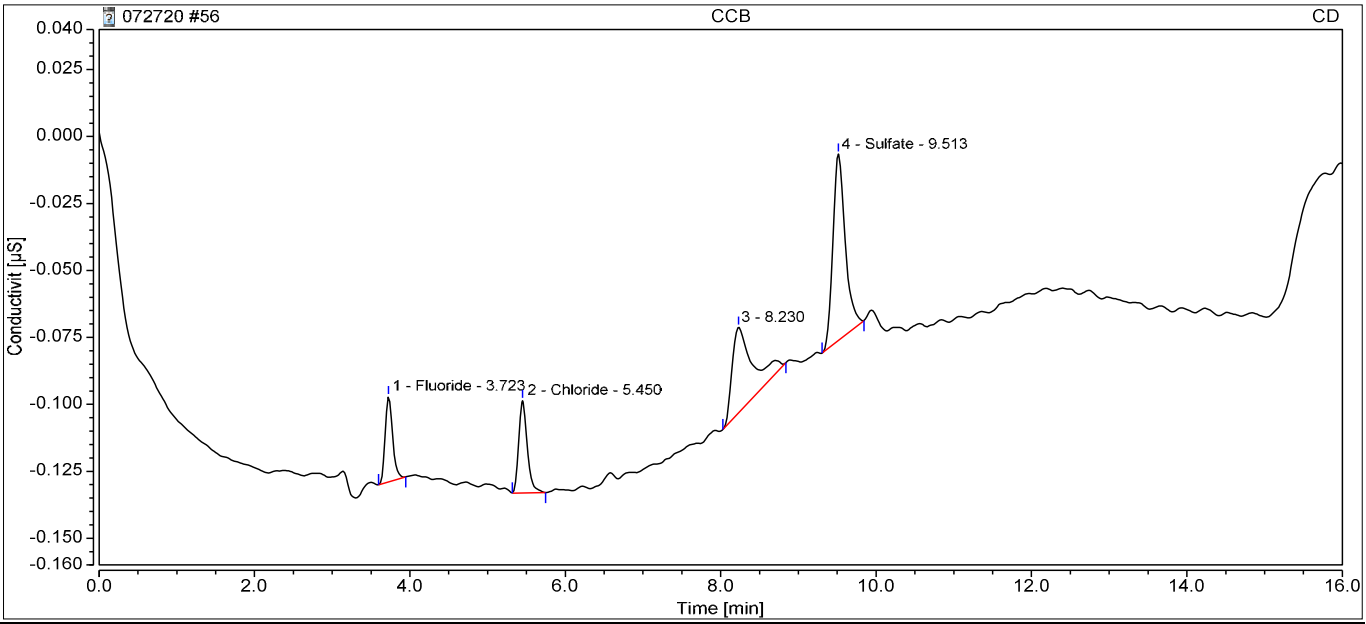
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.74	Fluoride	BMB	1.449	4.3049	4.3049	1.0000
2	5.44	Chloride	BMB	4.470	20.1419	20.1419	1.0000
3	6.57	Nitrite,N	BMB	1.996	4.3402	4.3402	1.0000
5	8.68	Bromide	M *	0.387	4.3697	4.3697	1.0000
6	9.45	Sulfate	M	3.179	20.2982	20.2982	1.0000
7	9.87	Nitrate	M	2.347	3.9221	3.9221	1.0000
8	10.48	Chlorate	MB	0.395	4.0330	4.0330	1.0000
9	14.76	Phosphate	BMB	0.198	1.3595	1.3595	1.0000
Total:			**0.000**	**14.420**		**62.77**	

56 CCB

Sample Name:	**CCB**	*Injection Volume:*	**5.00**
Vial Number:	**BA3**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**07/28/2020 04:11**	*Sample Weight:*	**1.0000**

Run Time:



Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.72	Fluoride	BMB	0.004	0.0241	0.0241	1.0000
2	5.45	Chloride	BMB	0.004	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
4	9.51	Sulfate	BMB	0.013	0.2814	0.2814	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**		**0.31**	

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August 21, 2020

Susan Huang
Aptim Environmental & Infrastucture, Inc.
2500 City West Blvd., Suite 1700
Houston, TX 77042

Work Order: **HS20071328**

Laboratory Results for: **Longhorn Army Ammunition Plant 16 July 2020**

Dear Susan Huang,

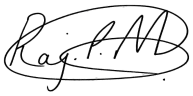
ALS Environmental received 20 sample(s) on Jul 29, 2020 for the analysis presented in the following report.

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

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

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

Sincerely,



Generated By: DAYNA.FISHER
RJ Modashia
Project Manager

ALS Houston, US Date: 21-Aug-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 July 2020
Work Order: HS20071328

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS20071328-01	16WW32-200727	Groundwater		27-Jul-2020 08:05	29-Jul-2020 09:20	☐
HS20071328-02	16WW31-200727	Groundwater		27-Jul-2020 08:50	29-Jul-2020 09:20	☐
HS20071328-03	16WW46-200727	Groundwater		27-Jul-2020 09:40	29-Jul-2020 09:20	☐
HS20071328-04	16WW46-200727-FD	Groundwater		27-Jul-2020 08:05	29-Jul-2020 09:20	☐
HS20071328-05	16WW49-200727	Groundwater		27-Jul-2020 10:30	29-Jul-2020 09:20	☐
HS20071328-06	16WW51-200727	Groundwater		27-Jul-2020 11:25	29-Jul-2020 09:20	☐
HS20071328-07	16WW51-200727-FD	Groundwater		27-Jul-2020 11:25	29-Jul-2020 09:20	☐
HS20071328-08	16RW01-200727	Groundwater		27-Jul-2020 12:20	29-Jul-2020 09:20	☐
HS20071328-09	16WW23-200727	Groundwater		27-Jul-2020 13:15	29-Jul-2020 09:20	☐
HS20071328-10	16WW24-200727	Groundwater		27-Jul-2020 14:05	29-Jul-2020 09:20	☐
HS20071328-11	16EW03-200728	Groundwater		28-Jul-2020 07:30	29-Jul-2020 09:20	☐
HS20071328-12	16EW07-200728	Groundwater		28-Jul-2020 08:15	29-Jul-2020 09:20	☐
HS20071328-13	16EW08-200728	Groundwater		28-Jul-2020 09:05	29-Jul-2020 09:20	☐
HS20071328-14	16EW04-200728	Groundwater		28-Jul-2020 09:50	29-Jul-2020 09:20	☐
HS20071328-15	16RW04-200728	Groundwater		28-Jul-2020 10:40	29-Jul-2020 09:20	☐
HS20071328-16	16IW03-200728	Groundwater		28-Jul-2020 11:30	29-Jul-2020 09:20	☐
HS20071328-17	16SW01-200728	Groundwater		27-Jul-2020 12:10	29-Jul-2020 09:20	☐
HS20071328-18	16SW02-200728	Groundwater		28-Jul-2020 12:30	29-Jul-2020 09:20	☐
HS20071328-19	16SW03-200728	Groundwater		28-Jul-2020 12:50	29-Jul-2020 09:20	☐
HS20071328-20	Trip Blank-200728	Water	CG-060320-209	28-Jul-2020 00:00	29-Jul-2020 09:20	☐

ALS Houston, US Date: 21-Aug-20

Client: Aptim Environmental & Infrastucture, Inc. **CASE NARRATIVE**
Project: Longhorn Army Ammunition Plant 16 July 2020
Work Order: HS20071328

Work Order Comments

- Analysis of Perchlorate was performed by ALS Houston TX, High Resolution. Laboratory. Final report attached.

The analysis for TOC was subcontracted to ALS Environmental in Kelso WA. Final report attached.

GC Semivolatiles by Method RSK-175

Batch ID: R365932

Sample ID: HS20071296-02DUP

- DUP is for an unrelated sample

GCMS Volatiles by Method SW8260

Batch ID: R366276

Sample ID: 16EW07-200728 (HS20071328-12)

- Lowest practical dilution for sample HS20071328-12 due to matrix.

Sample ID: 16EW07-200728 (HS20071328-12MS)

- MS and/or MSD recovered outside control limits

Batch ID: R366355

Sample ID: HS20080189-02MS

- MS and MSD are for an unrelated sample

Batch ID: R366275

Sample ID: 16EW03-200728 (HS20071328-11)

- Lowest practical dilution for sample HS20071328-11 due to matrix.

Sample ID: 16EW08-200728 (HS20071328-13)

- Lowest practical dilution for sample HS20071328-13 due to matrix. Sample has a very oily sheen.

Sample ID: 16SW03-200728 (HS20071328-19MS)

- MS recovered outside control limits for Trichloroethene

Batch ID: R365975

Sample ID: 16WW32-200727 (HS20071328-01MS)

- MS/MSD failed QC and RPD limits.

Sample ID: 16WW49-200727 (HS20071328-05)

- 4-Bromofluorobenzene (SURR) failure. Confirmed by re-analysis @ dilution .

- 4-Bromofluorobenzene (SURR) and Toluene-d8 (SURR) exceeded recovery limits. Compound reported is not associated with these SURRs

Sample ID: VLCSW-200730

ALS Houston, US Date: 21-Aug-20

Client: Aptim Environmental & Infrastucture, Inc. **CASE NARRATIVE**
Project: Longhorn Army Ammunition Plant 16 July 2020
Work Order: HS20071328

GCMS Volatiles by Method SW8260

Batch ID: R365975

- Methylene Chloride exceeded QC limits for LCS. Samples are ND for this compound.

Metals by Method SW6020

Batch ID: 156069

Sample ID: 16SW03-200728 (HS20071328-19MS)

- The MS and/or MSD recovery was outside of the control; however, the result in the parent sample is greater than 4x the spike amount. Manganese

Sample ID: 16SW03-200728 (HS20071328-19SD)

- The percent difference between the results of the sample and the serial dilution were greater than 10%. Manganese

WetChemistry by Method SW9056

Batch ID: R366038

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

Batch ID: R366006

Sample ID: 16IW03-200728 (HS20071328-16MS)

- The recovery of the Matrix Spike (MS) and/or Matrix Spike Duplicate (MSD) associated with this analyte was outside of the established control limits. However, the LCS was within control limits. The recovery of the MS/MSD may be due to sample matrix interference. (Sulfate)

ALS Houston, US Date: 21-Aug-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 July 2020
Sample ID: 16WW32-200727
Collection Date: 27-Jul-2020 08:05

ANALYTICAL REPORT
WorkOrder:HS20071328
Lab ID:HS20071328-01
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	30-Jul-2020 14:01
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	30-Jul-2020 14:01
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	30-Jul-2020 14:01
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	30-Jul-2020 14:01
Methylene chloride	1.0	U	0.40	1.0	2.0	UG/L	1	30-Jul-2020 14:01
Trichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	30-Jul-2020 14:01
Vinyl chloride	0.50	U	0.20	0.50	1.0	UG/L	1	30-Jul-2020 14:01
Surr: 1,2-Dichloroethane-d4	*105*			**0**	*81-118*	*%REC*	*1*	*30-Jul-2020 14:01*
Surr: 4-Bromofluorobenzene	*85.1*			**0**	*85-114*	*%REC*	*1*	*30-Jul-2020 14:01*
Surr: Dibromofluoromethane	*96.2*			**0**	*80-119*	*%REC*	*1*	*30-Jul-2020 14:01*
Surr: Toluene-d8	*103*			**0**	*89-112*	*%REC*	*1*	*30-Jul-2020 14:01*
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: GR
Subcontract Analysis	See Attached		0	0		NA	1	21-Aug-2020 16:29

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

ALS Houston, US Date: 21-Aug-20

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: Longhorn Army Ammunition Plant 16 July 2020 WorkOrder:HS20071328
Sample ID: 16WW31-200727 Lab ID:HS20071328-02
Collection Date: 27-Jul-2020 08:50 Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	UG/L	1	30-Jul-2020 19:14
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	30-Jul-2020 19:14
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	30-Jul-2020 19:14
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	30-Jul-2020 19:14
Methylene chloride	1.0	U	0.40	1.0	2.0	UG/L	1	30-Jul-2020 19:14
Trichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	30-Jul-2020 19:14
Vinyl chloride	0.50	U	0.20	0.50	1.0	UG/L	1	30-Jul-2020 19:14
Surr: 1,2-Dichloroethane-d4	*107*			**0**	*81-118*	*%REC*	*1*	*30-Jul-2020 19:14*
Surr: 4-Bromofluorobenzene	*98.9*			**0**	*85-114*	*%REC*	*1*	*30-Jul-2020 19:14*
Surr: Dibromofluoromethane	*101*			**0**	*80-119*	*%REC*	*1*	*30-Jul-2020 19:14*
Surr: Toluene-d8	*106*			**0**	*89-112*	*%REC*	*1*	*30-Jul-2020 19:14*
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: GR
Subcontract Analysis	See Attached		0	0		NA	1	21-Aug-2020 16:29

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

ALS Houston, US Date: 21-Aug-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 July 2020
Sample ID: 16WW46-200727
Collection Date: 27-Jul-2020 09:40

ANALYTICAL REPORT
WorkOrder:HS20071328
Lab ID:HS20071328-03
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	UG/L	1	30-Jul-2020 19:38
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	30-Jul-2020 19:38
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	30-Jul-2020 19:38
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	30-Jul-2020 19:38
Methylene chloride	1.0	U	0.40	1.0	2.0	UG/L	1	30-Jul-2020 19:38
Trichloroethene	**0.57**	J	**0.20**	**0.50**	**1.0**	**UG/L**	1	30-Jul-2020 19:38
Vinyl chloride	0.50	U	0.20	0.50	1.0	UG/L	1	30-Jul-2020 19:38
Surr: 1,2-Dichloroethane-d4	*107*			**0**	*81-118*	*%REC*	*1*	*30-Jul-2020 19:38*
Surr: 4-Bromofluorobenzene	*99.7*			**0**	*85-114*	*%REC*	*1*	*30-Jul-2020 19:38*
Surr: Dibromofluoromethane	*100.0*			**0**	*80-119*	*%REC*	*1*	*30-Jul-2020 19:38*
Surr: Toluene-d8	*106*			**0**	*89-112*	*%REC*	*1*	*30-Jul-2020 19:38*
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: GR
Subcontract Analysis	See Attached		0	0		NA	1	21-Aug-2020 16:29

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

ALS Houston, US Date: 21-Aug-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 July 2020
Sample ID: 16WW46-200727-FD
Collection Date: 27-Jul-2020 08:05

ANALYTICAL REPORT
WorkOrder:HS20071328
Lab ID:HS20071328-04
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	UG/L	1	30-Jul-2020 20:02
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	30-Jul-2020 20:02
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	30-Jul-2020 20:02
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	30-Jul-2020 20:02
Methylene chloride	1.0	U	0.40	1.0	2.0	UG/L	1	30-Jul-2020 20:02
Trichloroethene	**0.66**	J	**0.20**	**0.50**	**1.0**	**UG/L**	1	30-Jul-2020 20:02
Vinyl chloride	0.50	U	0.20	0.50	1.0	UG/L	1	30-Jul-2020 20:02
Surr: 1,2-Dichloroethane-d4	*108*			**0**	*81-118*	*%REC*	*1*	*30-Jul-2020 20:02*
Surr: 4-Bromofluorobenzene	*99.7*			**0**	*85-114*	*%REC*	*1*	*30-Jul-2020 20:02*
Surr: Dibromofluoromethane	*101*			**0**	*80-119*	*%REC*	*1*	*30-Jul-2020 20:02*
Surr: Toluene-d8	*105*			**0**	*89-112*	*%REC*	*1*	*30-Jul-2020 20:02*
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: GR
Subcontract Analysis	See Attached		0	0		NA	1	21-Aug-2020 16:29

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

ALS Houston, US Date: 21-Aug-20

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: Longhorn Army Ammunition Plant 16 July 2020 WorkOrder:HS20071328
Sample ID: 16WW49-200727 Lab ID:HS20071328-05
Collection Date: 27-Jul-2020 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	30-Jul-2020 15:13
1,1-Dichloroethene	**0.77**	J	**0.20**	**0.50**	**1.0**	**UG/L**	1	30-Jul-2020 15:13
1,2-Dichloroethane	**0.77**	J	**0.20**	**0.50**	**1.0**	**UG/L**	1	30-Jul-2020 15:13
cis-1,2-Dichloroethene	**170**		**1.0**	**2.5**	**5.0**	**UG/L**	5	30-Jul-2020 17:37
Methylene chloride	1.0	U	0.40	1.0	2.0	UG/L	1	30-Jul-2020 15:13
Trichloroethene	**36**		**0.20**	**0.50**	**1.0**	**UG/L**	1	30-Jul-2020 15:13
Vinyl chloride	**0.41**	J	**0.20**	**0.50**	**1.0**	**UG/L**	1	30-Jul-2020 15:13
Surr: 1,2-Dichloroethane-d4	*108*			**0**	*81-118*	*%REC*	*1*	*30-Jul-2020 15:13*
Surr: 1,2-Dichloroethane-d4	*96.8*			**0**	*81-118*	*%REC*	*5*	*30-Jul-2020 17:37*
Surr: 4-Bromofluorobenzene	*123*	*S*		**0**	*85-114*	*%REC*	*1*	*30-Jul-2020 15:13*
Surr: 4-Bromofluorobenzene	*81.2*	*S*		**0**	*85-114*	*%REC*	*5*	*30-Jul-2020 17:37*
Surr: Dibromofluoromethane	*101*			**0**	*80-119*	*%REC*	*1*	*30-Jul-2020 15:13*
Surr: Dibromofluoromethane	*102*			**0**	*80-119*	*%REC*	*5*	*30-Jul-2020 17:37*
Surr: Toluene-d8	*97.3*			**0**	*89-112*	*%REC*	*1*	*30-Jul-2020 15:13*
Surr: Toluene-d8	*113*	*S*		**0**	*89-112*	*%REC*	*5*	*30-Jul-2020 17:37*
ANIONS BY SW9056A		**Method:SW9056**						Analyst: YP
Bromide	**3.01**		**0.0300**	**0.100**	**0.100**	**mg/L**	1	31-Jul-2020 07:03
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: GR
Subcontract Analysis	See Attached		0	0		NA	1	21-Aug-2020 16:29
SUBCONTRACT ANALYSIS - TOC ANALYSIS		**Method:NA**						Analyst: SUBK
Subcontract Analysis	See Attached		0	0		NA	1	13-Aug-2020 12:20

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

ALS Houston, US Date: 21-Aug-20

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: Longhorn Army Ammunition Plant 16 July 2020 WorkOrder:HS20071328
Sample ID: 16WW51-200727 Lab ID:HS20071328-06
Collection Date: 27-Jul-2020 11:25 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	05-Aug-2020 18:17
1,1-Dichloroethene	**2.8**	J	**1.0**	**2.5**	**5.0**	**UG/L**	5	05-Aug-2020 18:17
1,2-Dichloroethane	2.5	U	1.0	2.5	5.0	UG/L	5	05-Aug-2020 18:17
cis-1,2-Dichloroethene	**54**		**1.0**	**2.5**	**5.0**	**UG/L**	5	05-Aug-2020 18:17
Methylene chloride	5.0	U	2.0	5.0	10	UG/L	5	05-Aug-2020 18:17
Trichloroethene	**1,300**		**5.0**	**12**	**25**	**UG/L**	25	30-Jul-2020 18:01
Vinyl chloride	2.5	U	1.0	2.5	5.0	UG/L	5	05-Aug-2020 18:17
Surr: 1,2-Dichloroethane-d4	*109*			**0**	*81-118*	*%REC*	*25*	*30-Jul-2020 18:01*
Surr: 1,2-Dichloroethane-d4	*93.3*			**0**	*81-118*	*%REC*	*5*	*05-Aug-2020 18:17*
Surr: 4-Bromofluorobenzene	*99.9*			**0**	*85-114*	*%REC*	*25*	*30-Jul-2020 18:01*
Surr: 4-Bromofluorobenzene	*97.3*			**0**	*85-114*	*%REC*	*5*	*05-Aug-2020 18:17*
Surr: Dibromofluoromethane	*99.0*			**0**	*80-119*	*%REC*	*25*	*30-Jul-2020 18:01*
Surr: Dibromofluoromethane	*94.1*			**0**	*80-119*	*%REC*	*5*	*05-Aug-2020 18:17*
Surr: Toluene-d8	*104*			**0**	*89-112*	*%REC*	*25*	*30-Jul-2020 18:01*
Surr: Toluene-d8	*106*			**0**	*89-112*	*%REC*	*5*	*05-Aug-2020 18:17*
ANIONS BY SW9056A		**Method:SW9056**						Analyst: YP
Bromide	**5.27**		**0.0300**	**0.100**	**0.100**	**mg/L**	1	31-Jul-2020 07:21
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: GR
Subcontract Analysis	See Attached		0	0		NA	1	21-Aug-2020 16:29
SUBCONTRACT ANALYSIS - TOC ANALYSIS		**Method:NA**						Analyst: SUBK
Subcontract Analysis	See Attached		0	0		NA	1	13-Aug-2020 12:20

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

ALS Houston, US Date: 21-Aug-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 July 2020
Sample ID: 16WW51-200727-FD
Collection Date: 27-Jul-2020 11:25

ANALYTICAL REPORT
WorkOrder:HS20071328
Lab ID:HS20071328-07
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	5.0	U	1.5	5.0	5.0	UG/L	5	05-Aug-2020 18:41
1,1-Dichloroethene	**3.4**	J	**1.0**	**2.5**	**5.0**	**UG/L**	5	05-Aug-2020 18:41
1,2-Dichloroethane	2.5	U	1.0	2.5	5.0	UG/L	5	05-Aug-2020 18:41
cis-1,2-Dichloroethene	**57**		**1.0**	**2.5**	**5.0**	**UG/L**	5	05-Aug-2020 18:41
Methylene chloride	5.0	U	2.0	5.0	10	UG/L	5	05-Aug-2020 18:41
Trichloroethene	**1,300**		**5.0**	**12**	**25**	**UG/L**	25	30-Jul-2020 18:25
Vinyl chloride	2.5	U	1.0	2.5	5.0	UG/L	5	05-Aug-2020 18:41
Surr: 1,2-Dichloroethane-d4	*108*			**0**	*81-118*	*%REC*	*25*	*30-Jul-2020 18:25*
Surr: 1,2-Dichloroethane-d4	*92.4*			**0**	*81-118*	*%REC*	*5*	*05-Aug-2020 18:41*
Surr: 4-Bromofluorobenzene	*98.1*			**0**	*85-114*	*%REC*	*25*	*30-Jul-2020 18:25*
Surr: 4-Bromofluorobenzene	*97.5*			**0**	*85-114*	*%REC*	*5*	*05-Aug-2020 18:41*
Surr: Dibromofluoromethane	*99.5*			**0**	*80-119*	*%REC*	*25*	*30-Jul-2020 18:25*
Surr: Dibromofluoromethane	*93.7*			**0**	*80-119*	*%REC*	*5*	*05-Aug-2020 18:41*
Surr: Toluene-d8	*104*			**0**	*89-112*	*%REC*	*25*	*30-Jul-2020 18:25*
Surr: Toluene-d8	*106*			**0**	*89-112*	*%REC*	*5*	*05-Aug-2020 18:41*
ANIONS BY SW9056A		**Method:SW9056**						Analyst: YP
Bromide	**5.26**		**0.0300**	**0.100**	**0.100**	**mg/L**	1	31-Jul-2020 07:40
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: GR
Subcontract Analysis	See Attached		0	0		NA	1	21-Aug-2020 16:29
SUBCONTRACT ANALYSIS - TOC ANALYSIS		**Method:NA**						Analyst: SUBK
Subcontract Analysis	See Attached		0	0		NA	1	13-Aug-2020 12:20

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

ALS Houston, US Date: 21-Aug-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 July 2020
Sample ID: 16RW01-200727
Collection Date: 27-Jul-2020 12:20

ANALYTICAL REPORT
WorkOrder:HS20071328
Lab ID:HS20071328-08
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	5.0	U	1.5	5.0	5.0	UG/L	5	06-Aug-2020 17:24
1,1-Dichloroethene	**3.1**	J	**1.0**	**2.5**	**5.0**	**UG/L**	5	06-Aug-2020 17:24
1,2-Dichloroethane	2.5	U	1.0	2.5	5.0	UG/L	5	06-Aug-2020 17:24
cis-1,2-Dichloroethene	**150**		**1.0**	**2.5**	**5.0**	**UG/L**	5	06-Aug-2020 17:24
Methylene chloride	5.0	U	2.0	5.0	10	UG/L	5	06-Aug-2020 17:24
Trichloroethene	**4,200**		**10**	**25**	**50**	**UG/L**	50	06-Aug-2020 19:00
Vinyl chloride	**5.7**		**1.0**	**2.5**	**5.0**	**UG/L**	5	06-Aug-2020 17:24
Surr: 1,2-Dichloroethane-d4	*93.2*			**0**	*81-118*	*%REC*	*5*	*06-Aug-2020 17:24*
Surr: 1,2-Dichloroethane-d4	*91.9*			**0**	*81-118*	*%REC*	*50*	*06-Aug-2020 19:00*
Surr: 4-Bromofluorobenzene	*100*			**0**	*85-114*	*%REC*	*5*	*06-Aug-2020 17:24*
Surr: 4-Bromofluorobenzene	*97.9*			**0**	*85-114*	*%REC*	*50*	*06-Aug-2020 19:00*
Surr: Dibromofluoromethane	*92.9*			**0**	*80-119*	*%REC*	*5*	*06-Aug-2020 17:24*
Surr: Dibromofluoromethane	*92.2*			**0**	*80-119*	*%REC*	*50*	*06-Aug-2020 19:00*
Surr: Toluene-d8	*104*			**0**	*89-112*	*%REC*	*5*	*06-Aug-2020 17:24*
Surr: Toluene-d8	*106*			**0**	*89-112*	*%REC*	*50*	*06-Aug-2020 19:00*
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: GR
Subcontract Analysis	See Attached		0	0		NA	1	21-Aug-2020 16:29

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

ALS Houston, US Date: 21-Aug-20

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: Longhorn Army Ammunition Plant 16 July 2020 WorkOrder:HS20071328
Sample ID: 16WW23-200727 Lab ID:HS20071328-09
Collection Date: 27-Jul-2020 13:15 Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	UG/L	1	30-Jul-2020 20:26
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	30-Jul-2020 20:26
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	30-Jul-2020 20:26
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	30-Jul-2020 20:26
Methylene chloride	1.0	U	0.40	1.0	2.0	UG/L	1	30-Jul-2020 20:26
Trichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	30-Jul-2020 20:26
Vinyl chloride	0.50	U	0.20	0.50	1.0	UG/L	1	30-Jul-2020 20:26
Surr: 1,2-Dichloroethane-d4	*107*			**0**	*81-118*	*%REC*	*1*	*30-Jul-2020 20:26*
Surr: 4-Bromofluorobenzene	*100*			**0**	*85-114*	*%REC*	*1*	*30-Jul-2020 20:26*
Surr: Dibromofluoromethane	*102*			**0**	*80-119*	*%REC*	*1*	*30-Jul-2020 20:26*
Surr: Toluene-d8	*107*			**0**	*89-112*	*%REC*	*1*	*30-Jul-2020 20:26*
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: GR
Subcontract Analysis	See Attached		0	0		NA	1	21-Aug-2020 16:29

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

ALS Houston, US Date: 21-Aug-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 July 2020
Sample ID: 16WW24-200727
Collection Date: 27-Jul-2020 14:05

ANALYTICAL REPORT
WorkOrder:HS20071328
Lab ID:HS20071328-10
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	1.0	U	0.30	1.0	1.0	UG/L	1	30-Jul-2020 20:50
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	30-Jul-2020 20:50
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	30-Jul-2020 20:50
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	30-Jul-2020 20:50
Methylene chloride	1.0	U	0.40	1.0	2.0	UG/L	1	30-Jul-2020 20:50
Trichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	30-Jul-2020 20:50
Vinyl chloride	0.50	U	0.20	0.50	1.0	UG/L	1	30-Jul-2020 20:50
Surr: 1,2-Dichloroethane-d4	*106*			**0**	*81-118*	*%REC*	*1*	*30-Jul-2020 20:50*
Surr: 4-Bromofluorobenzene	*99.4*			**0**	*85-114*	*%REC*	*1*	*30-Jul-2020 20:50*
Surr: Dibromofluoromethane	*99.6*			**0**	*80-119*	*%REC*	*1*	*30-Jul-2020 20:50*
Surr: Toluene-d8	*105*			**0**	*89-112*	*%REC*	*1*	*30-Jul-2020 20:50*
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: GR
Subcontract Analysis	See Attached		0	0		NA	1	21-Aug-2020 16:29

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

ALS Houston, US Date: 21-Aug-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 July 2020
Sample ID: 16EW03-200728
Collection Date: 28-Jul-2020 07:30

ANALYTICAL REPORT
WorkOrder:HS20071328
Lab ID:HS20071328-11
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	25	U	7.5	25	25	UG/L	25	05-Aug-2020 17:29
1,1-Dichloroethene	12	U	5.0	12	25	UG/L	25	05-Aug-2020 17:29
1,2-Dichloroethane	12	U	5.0	12	25	UG/L	25	05-Aug-2020 17:29
cis-1,2-Dichloroethene	**440**		**5.0**	**12**	**25**	**UG/L**	25	05-Aug-2020 17:29
Methylene chloride	25	U	10	25	50	UG/L	25	05-Aug-2020 17:29
Trichloroethene	**60**		**5.0**	**12**	**25**	**UG/L**	25	05-Aug-2020 17:29
Vinyl chloride	12	U	5.0	12	25	UG/L	25	05-Aug-2020 17:29
Surr: 1,2-Dichloroethane-d4	*94.5*			**0**	*81-118*	*%REC*	*25*	*05-Aug-2020 17:29*
Surr: 4-Bromofluorobenzene	*96.7*			**0**	*85-114*	*%REC*	*25*	*05-Aug-2020 17:29*
Surr: Dibromofluoromethane	*95.1*			**0**	*80-119*	*%REC*	*25*	*05-Aug-2020 17:29*
Surr: Toluene-d8	*106*			**0**	*89-112*	*%REC*	*25*	*05-Aug-2020 17:29*
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: GR
Subcontract Analysis	See Attached		0	0		NA	1	21-Aug-2020 16:29

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

ALS Houston, US Date: 21-Aug-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 July 2020
Sample ID: 16EW07-200728
Collection Date: 28-Jul-2020 08:15

ANALYTICAL REPORT
WorkOrder:HS20071328
Lab ID:HS20071328-12
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY SW8260C		**Method:SW8260**						Analyst: PC
1,1,2-Trichloroethane	980	U	240	980	2400	ug/Kg	500	05-Aug-2020 17:05
1,1-Dichloroethene	**10,000**		**240**	**980**	**2400**	**ug/Kg**	500	05-Aug-2020 17:05
1,2-Dichloroethane	980	U	290	980	2400	ug/Kg	500	05-Aug-2020 17:05
cis-1,2-Dichloroethene	**4,100**		**390**	**980**	**2400**	**ug/Kg**	500	05-Aug-2020 17:05
Methylene chloride	980	U	490	980	4900	ug/Kg	500	05-Aug-2020 17:05
Trichloroethene	**5,000**		**290**	**980**	**2400**	**ug/Kg**	500	05-Aug-2020 17:05
Vinyl chloride	980	U	390	980	980	ug/Kg	500	05-Aug-2020 17:05
Surr: 1,2-Dichloroethane-d4	*94.3*			**0**	*71-136*	*%REC*	*500*	*05-Aug-2020 17:05*
Surr: 4-Bromofluorobenzene	*96.8*			**0**	*79-119*	*%REC*	*500*	*05-Aug-2020 17:05*
Surr: Dibromofluoromethane	*93.7*			**0**	*78-119*	*%REC*	*500*	*05-Aug-2020 17:05*
Surr: Toluene-d8	*105*			**0**	*85-116*	*%REC*	*500*	*05-Aug-2020 17:05*
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: GR
Subcontract Analysis	See Attached		0	0		NA	1	21-Aug-2020 16:29

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

ALS Houston, US Date: 21-Aug-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 July 2020
Sample ID: 16EW08-200728
Collection Date: 28-Jul-2020 09:05

ANALYTICAL REPORT
WorkOrder:HS20071328
Lab ID:HS20071328-13
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	05-Aug-2020 17:53
1,1-Dichloroethene	25	U	10	25	50	UG/L	50	05-Aug-2020 17:53
1,2-Dichloroethane	25	U	10	25	50	UG/L	50	05-Aug-2020 17:53
cis-1,2-Dichloroethene	25	U	10	25	50	UG/L	50	05-Aug-2020 17:53
Methylene chloride	50	U	20	50	100	UG/L	50	05-Aug-2020 17:53
Trichloroethene	25	U	10	25	50	UG/L	50	05-Aug-2020 17:53
Vinyl chloride	25	U	10	25	50	UG/L	50	05-Aug-2020 17:53
Surr: 1,2-Dichloroethane-d4	*92.9*			**0**	*81-118*	*%REC*	*50*	*05-Aug-2020 17:53*
Surr: 4-Bromofluorobenzene	*98.0*			**0**	*85-114*	*%REC*	*50*	*05-Aug-2020 17:53*
Surr: Dibromofluoromethane	*93.6*			**0**	*80-119*	*%REC*	*50*	*05-Aug-2020 17:53*
Surr: Toluene-d8	*106*			**0**	*89-112*	*%REC*	*50*	*05-Aug-2020 17:53*
ANIONS BY SW9056A		**Method:SW9056**						Analyst: YP
Bromide	**16.0**		**0.0300**	**0.100**	**0.100**	**mg/L**	1	31-Jul-2020 07:58
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: GR
Subcontract Analysis	See Attached		0	0		NA	1	21-Aug-2020 16:29
SUBCONTRACT ANALYSIS - TOC ANALYSIS		**Method:NA**						Analyst: SUBK
Subcontract Analysis	See Attached		0	0		NA	1	13-Aug-2020 12:20

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

ALS Houston, US Date: 21-Aug-20

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: Longhorn Army Ammunition Plant 16 July 2020 WorkOrder:HS20071328
Sample ID: 16EW04-200728 Lab ID:HS20071328-14
Collection Date: 28-Jul-2020 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	25	U	7.5	25	25	UG/L	25	05-Aug-2020 19:05
1,1-Dichloroethene	**20**	J	**5.0**	**12**	**25**	**UG/L**	25	05-Aug-2020 19:05
1,2-Dichloroethane	**13**	J	**5.0**	**12**	**25**	**UG/L**	25	05-Aug-2020 19:05
cis-1,2-Dichloroethene	**4,300**		**5.0**	**12**	**25**	**UG/L**	25	05-Aug-2020 19:05
Methylene chloride	25	U	10	25	50	UG/L	25	05-Aug-2020 19:05
Trichloroethene	**15,000**		**100**	**250**	**500**	**UG/L**	500	05-Aug-2020 21:30
Vinyl chloride	**15**	J	**5.0**	**12**	**25**	**UG/L**	25	05-Aug-2020 19:05
Surr: 1,2-Dichloroethane-d4	*93.4*			**0**	*81-118*	*%REC*	*25*	*05-Aug-2020 19:05*
Surr: 1,2-Dichloroethane-d4	*91.6*			**0**	*81-118*	*%REC*	*500*	*05-Aug-2020 21:30*
Surr: 4-Bromofluorobenzene	*99.8*			**0**	*85-114*	*%REC*	*25*	*05-Aug-2020 19:05*
Surr: 4-Bromofluorobenzene	*97.3*			**0**	*85-114*	*%REC*	*500*	*05-Aug-2020 21:30*
Surr: Dibromofluoromethane	*93.6*			**0**	*80-119*	*%REC*	*25*	*05-Aug-2020 19:05*
Surr: Dibromofluoromethane	*93.6*			**0**	*80-119*	*%REC*	*500*	*05-Aug-2020 21:30*
Surr: Toluene-d8	*105*			**0**	*89-112*	*%REC*	*25*	*05-Aug-2020 19:05*
Surr: Toluene-d8	*106*			**0**	*89-112*	*%REC*	*500*	*05-Aug-2020 21:30*
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: GR
Subcontract Analysis	See Attached		0	0		NA	1	21-Aug-2020 16:29

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

ALS Houston, US Date: 21-Aug-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 July 2020
Sample ID: 16RW04-200728
Collection Date: 28-Jul-2020 10:40

ANALYTICAL REPORT
WorkOrder:HS20071328
Lab ID:HS20071328-15
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
1,1,2-Trichloroethane	10	U	3.0	10	10	UG/L	10	06-Aug-2020 17:48
1,1-Dichloroethene	5.0	U	2.0	5.0	10	UG/L	10	06-Aug-2020 17:48
1,2-Dichloroethane	5.0	U	2.0	5.0	10	UG/L	10	06-Aug-2020 17:48
cis-1,2-Dichloroethene	**150**		**2.0**	**5.0**	**10**	**UG/L**	10	06-Aug-2020 17:48
Methylene chloride	10	U	4.0	10	20	UG/L	10	06-Aug-2020 17:48
Trichloroethene	**3,500**		**20**	**50**	**100**	**UG/L**	100	06-Aug-2020 19:24
Vinyl chloride	**4.1**	J	**2.0**	**5.0**	**10**	**UG/L**	10	06-Aug-2020 17:48
Surr: 1,2-Dichloroethane-d4	*92.7*			**0**	*81-118*	*%REC*	*10*	*06-Aug-2020 17:48*
Surr: 1,2-Dichloroethane-d4	*93.1*			**0**	*81-118*	*%REC*	*100*	*06-Aug-2020 19:24*
Surr: 4-Bromofluorobenzene	*96.7*			**0**	*85-114*	*%REC*	*10*	*06-Aug-2020 17:48*
Surr: 4-Bromofluorobenzene	*98.4*			**0**	*85-114*	*%REC*	*100*	*06-Aug-2020 19:24*
Surr: Dibromofluoromethane	*94.2*			**0**	*80-119*	*%REC*	*10*	*06-Aug-2020 17:48*
Surr: Dibromofluoromethane	*92.8*			**0**	*80-119*	*%REC*	*100*	*06-Aug-2020 19:24*
Surr: Toluene-d8	*105*			**0**	*89-112*	*%REC*	*10*	*06-Aug-2020 17:48*
Surr: Toluene-d8	*106*			**0**	*89-112*	*%REC*	*100*	*06-Aug-2020 19:24*
ANIONS BY SW9056A		**Method:SW9056**						Analyst: YP
Bromide	**2.41**		**0.150**	**0.500**	**0.500**	**mg/L**	5	01-Aug-2020 04:16
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: GR
Subcontract Analysis	See Attached		0	0		NA	1	21-Aug-2020 16:29
SUBCONTRACT ANALYSIS - TOC ANALYSIS		**Method:NA**						Analyst: SUBK
Subcontract Analysis	See Attached		0	0		NA	1	13-Aug-2020 12:20

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

ALS Houston, US Date: 21-Aug-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 July 2020
Sample ID: 16IW03-200728
Collection Date: 28-Jul-2020 11:30

ANALYTICAL REPORT
WorkOrder:HS20071328
Lab ID:HS20071328-16
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	05-Aug-2020 19:30
1,1-Dichloroethene	**51**		**5.0**	**12**	**25**	**UG/L**	25	05-Aug-2020 19:30
1,2-Dichloroethane	12	U	5.0	12	25	UG/L	25	05-Aug-2020 19:30
cis-1,2-Dichloroethene	**14,000**		**100**	**250**	**500**	**UG/L**	500	05-Aug-2020 21:54
Methylene chloride	25	U	10	25	50	UG/L	25	05-Aug-2020 19:30
Trichloroethene	**13,000**		**100**	**250**	**500**	**UG/L**	500	05-Aug-2020 21:54
Vinyl chloride	**460**		**5.0**	**12**	**25**	**UG/L**	25	05-Aug-2020 19:30
Surr: 1,2-Dichloroethane-d4	*93.0*			**0**	*81-118*	*%REC*	*25*	*05-Aug-2020 19:30*
Surr: 1,2-Dichloroethane-d4	*91.8*			**0**	*81-118*	*%REC*	*500*	*05-Aug-2020 21:54*
Surr: 4-Bromofluorobenzene	*98.9*			**0**	*85-114*	*%REC*	*25*	*05-Aug-2020 19:30*
Surr: 4-Bromofluorobenzene	*96.8*			**0**	*85-114*	*%REC*	*500*	*05-Aug-2020 21:54*
Surr: Dibromofluoromethane	*93.6*			**0**	*80-119*	*%REC*	*25*	*05-Aug-2020 19:30*
Surr: Dibromofluoromethane	*94.4*			**0**	*80-119*	*%REC*	*500*	*05-Aug-2020 21:54*
Surr: Toluene-d8	*106*			**0**	*89-112*	*%REC*	*500*	*05-Aug-2020 21:54*
Surr: Toluene-d8	*104*			**0**	*89-112*	*%REC*	*25*	*05-Aug-2020 19:30*
DISSOLVED GASES BY RSK-175		**Method:RSK-175**						Analyst: PVL
Ethane	**0.00746**		**0.000144**	**0.000250**	**0.00100**	**mg/L**	1	30-Jul-2020 10:59
Ethene	**0.0500**		**0.000234**	**0.00100**	**0.00100**	**mg/L**	1	30-Jul-2020 10:59
Methane	**0.946**		**0.00535**	**0.0125**	**0.0250**	**mg/L**	50	30-Jul-2020 11:17
ANIONS BY SW9056A		**Method:SW9056**						Analyst: YP
Bromide	**0.973**		**0.0300**	**0.100**	**0.100**	**mg/L**	1	30-Jul-2020 00:21
Nitrogen, Nitrate (As N)	**0.851**		**0.0600**	**0.200**	**0.200**	**mg/L**	2	30-Jul-2020 10:32
Sulfate	**18.7**		**0.400**	**1.00**	**1.00**	**mg/L**	2	30-Jul-2020 10:32
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: GR
Subcontract Analysis	See Attached		0	0		NA	1	21-Aug-2020 16:29
SUBCONTRACT ANALYSIS - TOC ANALYSIS		**Method:NA**						Analyst: SUBK
Subcontract Analysis	See Attached		0	0		NA	1	13-Aug-2020 12:20

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

ALS Houston, US Date: 21-Aug-20

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: Longhorn Army Ammunition Plant 16 July 2020 WorkOrder:HS20071328
Sample ID: 16SW01-200728 Lab ID:HS20071328-17
Collection Date: 27-Jul-2020 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	1.0	U	0.30	1.0	1.0	UG/L	1	30-Jul-2020 21:38
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	30-Jul-2020 21:38
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	30-Jul-2020 21:38
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	30-Jul-2020 21:38
Methylene chloride	1.0	U	0.40	1.0	2.0	UG/L	1	30-Jul-2020 21:38
Trichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	30-Jul-2020 21:38
Vinyl chloride	0.50	U	0.20	0.50	1.0	UG/L	1	30-Jul-2020 21:38
Surr: 1,2-Dichloroethane-d4	*104*			**0**	*81-118*	*%REC*	*1*	*30-Jul-2020 21:38*
Surr: 4-Bromofluorobenzene	*99.9*			**0**	*85-114*	*%REC*	*1*	*30-Jul-2020 21:38*
Surr: Dibromofluoromethane	*100*			**0**	*80-119*	*%REC*	*1*	*30-Jul-2020 21:38*
Surr: Toluene-d8	*107*			**0**	*89-112*	*%REC*	*1*	*30-Jul-2020 21:38*
METALS BY ICPMS BY SW6020A		**Method:SW6020**				Prep:SW3010A / 05-Aug-2020		Analyst: JHD
Arsenic	**0.00195**	J	**0.000400**	**0.00100**	**0.00500**	**mg/L**	1	06-Aug-2020 12:57
Chromium	**0.00189**	J	**0.000400**	**0.00100**	**0.00500**	**mg/L**	1	06-Aug-2020 12:57
Manganese	**1.05**		**0.000700**	**0.00250**	**0.00500**	**mg/L**	1	06-Aug-2020 12:57
Nickel	**0.00364**	J	**0.000600**	**0.00100**	**0.00500**	**mg/L**	1	06-Aug-2020 12:57
Thallium	0.000500	U	0.000200	0.000500	0.00200	mg/L	1	06-Aug-2020 12:57
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: GR
Subcontract Analysis	See Attached		0	0		NA	1	21-Aug-2020 16:29

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

ALS Houston, US Date: 21-Aug-20

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: Longhorn Army Ammunition Plant 16 July 2020 WorkOrder:HS20071328
Sample ID: 16SW02-200728 Lab ID:HS20071328-18
Collection Date: 28-Jul-2020 12:30 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	30-Jul-2020 18:49
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	30-Jul-2020 18:49
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	30-Jul-2020 18:49
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	30-Jul-2020 18:49
Methylene chloride	1.0	U	0.40	1.0	2.0	UG/L	1	30-Jul-2020 18:49
Trichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	30-Jul-2020 18:49
Vinyl chloride	0.50	U	0.20	0.50	1.0	UG/L	1	30-Jul-2020 18:49
Surr: 1,2-Dichloroethane-d4	*109*			**0**	*81-118*	*%REC*	*1*	*30-Jul-2020 18:49*
Surr: 4-Bromofluorobenzene	*96.6*			**0**	*85-114*	*%REC*	*1*	*30-Jul-2020 18:49*
Surr: Dibromofluoromethane	*100*			**0**	*80-119*	*%REC*	*1*	*30-Jul-2020 18:49*
Surr: Toluene-d8	*103*			**0**	*89-112*	*%REC*	*1*	*30-Jul-2020 18:49*
METALS BY ICPMS BY SW6020A		**Method:SW6020**				Prep:SW3010A / 05-Aug-2020		Analyst: JHD
Arsenic	**0.00209**	J	**0.000400**	**0.00100**	**0.00500**	**mg/L**	1	06-Aug-2020 13:00
Chromium	**0.00196**	J	**0.000400**	**0.00100**	**0.00500**	**mg/L**	1	06-Aug-2020 13:00
Manganese	**1.42**		**0.000700**	**0.00250**	**0.00500**	**mg/L**	1	06-Aug-2020 13:00
Nickel	**0.00398**	J	**0.000600**	**0.00100**	**0.00500**	**mg/L**	1	06-Aug-2020 13:00
Thallium	0.000500	U	0.000200	0.000500	0.00200	mg/L	1	06-Aug-2020 13:00
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: GR
Subcontract Analysis	See Attached		0	0		NA	1	21-Aug-2020 16:29

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

ALS Houston, US Date: 21-Aug-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 July 2020
Sample ID: 16SW03-200728
Collection Date: 28-Jul-2020 12:50

ANALYTICAL REPORT
WorkOrder:HS20071328
Lab ID:HS20071328-19
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-Aug-2020 16:41
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	05-Aug-2020 16:41
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	05-Aug-2020 16:41
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	05-Aug-2020 16:41
Methylene chloride	1.0	U	0.40	1.0	2.0	UG/L	1	05-Aug-2020 16:41
Trichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	05-Aug-2020 16:41
Vinyl chloride	0.50	U	0.20	0.50	1.0	UG/L	1	05-Aug-2020 16:41
Surr: 1,2-Dichloroethane-d4	*92.2*			**0**	*81-118*	*%REC*	*1*	*05-Aug-2020 16:41*
Surr: 4-Bromofluorobenzene	*98.0*			**0**	*85-114*	*%REC*	*1*	*05-Aug-2020 16:41*
Surr: Dibromofluoromethane	*93.3*			**0**	*80-119*	*%REC*	*1*	*05-Aug-2020 16:41*
Surr: Toluene-d8	*107*			**0**	*89-112*	*%REC*	*1*	*05-Aug-2020 16:41*
METALS BY ICPMS BY SW6020A		**Method:SW6020**				Prep:SW3010A / 05-Aug-2020		Analyst: JHD
Arsenic	**0.00180**	J	**0.000400**	**0.00100**	**0.00500**	**mg/L**	1	06-Aug-2020 12:49
Chromium	**0.00212**	J	**0.000400**	**0.00100**	**0.00500**	**mg/L**	1	06-Aug-2020 12:49
Manganese	**0.687**		**0.000700**	**0.00250**	**0.00500**	**mg/L**	1	06-Aug-2020 12:49
Nickel	**0.00320**	J	**0.000600**	**0.00100**	**0.00500**	**mg/L**	1	06-Aug-2020 12:49
Thallium	0.000500	U	0.000200	0.000500	0.00200	mg/L	1	06-Aug-2020 12:49
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: GR
Subcontract Analysis	See Attached		0	0		NA	1	21-Aug-2020 16:29

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

ALS Houston, US Date: 21-Aug-20

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: Longhorn Army Ammunition Plant 16 July 2020 WorkOrder:HS20071328
Sample ID: Trip Blank-200728 Lab ID:HS20071328-20
Collection Date: 28-Jul-2020 00:00 Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	UG/L	1	30-Jul-2020 13:37
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	30-Jul-2020 13:37
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	30-Jul-2020 13:37
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	30-Jul-2020 13:37
Methylene chloride	1.0	U	0.40	1.0	2.0	UG/L	1	30-Jul-2020 13:37
Trichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	30-Jul-2020 13:37
Vinyl chloride	0.50	U	0.20	0.50	1.0	UG/L	1	30-Jul-2020 13:37
Surr: 1,2-Dichloroethane-d4	*106*			**0**	*81-118*	*%REC*	*1*	*30-Jul-2020 13:37*
Surr: 4-Bromofluorobenzene	*101*			**0**	*85-114*	*%REC*	*1*	*30-Jul-2020 13:37*
Surr: Dibromofluoromethane	*99.3*			**0**	*80-119*	*%REC*	*1*	*30-Jul-2020 13:37*
Surr: Toluene-d8	*106*			**0**	*89-112*	*%REC*	*1*	*30-Jul-2020 13:37*

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

ALS Houston, US Date: 21-Aug-20

Weight / Prep Log

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 July 2020
WorkOrder: HS20071328

Batch ID: 3840 **Start Date:** 30 Jul 2020 08:51 **End Date:** 30 Jul 2020 08:51
Method: VOLATILES ORGANICS BY SW8260C

Sample ID	Container	Sample Wt/Vol	Final Volume	Weight Factor	Container Type
HS20071328-12	1	5.098 (g)	5 (mL)	0.98	Bulk (5030B)

Batch ID: 156069 **Start Date:** 05 Aug 2020 13:00 **End Date:** 05 Aug 2020 17:00
Method: WATER - SW3010A **Prep Code:** 3010A

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS20071328-17		10 (mL)	10 (mL)	1
HS20071328-18		10 (mL)	10 (mL)	1
HS20071328-19		10 (mL)	10 (mL)	1

ALS Houston, US Date: 21-Aug-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 July 2020
WorkOrder: HS20071328

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: 156069 (0)	**Test Name :** METALS BY ICPMS BY SW6020A				**Matrix:** Groundwater	
HS20071328-17	16SW01-200728	27 Jul 2020 12:10		05 Aug 2020 17:00	06 Aug 2020 12:57	1
HS20071328-18	16SW02-200728	28 Jul 2020 12:30		05 Aug 2020 17:00	06 Aug 2020 13:00	1
HS20071328-19	16SW03-200728	28 Jul 2020 12:50		05 Aug 2020 17:00	06 Aug 2020 12:49	1
Batch ID: R365932 (0)	**Test Name :** DISSOLVED GASES BY RSK-175				**Matrix:** Groundwater	
HS20071328-16	16IW03-200728	28 Jul 2020 11:30			30 Jul 2020 11:17	50
HS20071328-16	16IW03-200728	28 Jul 2020 11:30			30 Jul 2020 10:59	1
Batch ID: R365975 (0)	**Test Name :** VOLATILES ORGANICS BY METHOD 8260C				**Matrix:** Water	
HS20071328-20	Trip Blank-200728	28 Jul 2020 00:00			30 Jul 2020 13:37	1
Batch ID: R365975 (0)	**Test Name :** VOLATILES ORGANICS BY METHOD 8260C				**Matrix:** Groundwater	
HS20071328-01	16WW32-200727	27 Jul 2020 08:05			30 Jul 2020 14:01	1
HS20071328-02	16WW31-200727	27 Jul 2020 08:50			30 Jul 2020 19:14	1
HS20071328-03	16WW46-200727	27 Jul 2020 09:40			30 Jul 2020 19:38	1
HS20071328-04	16WW46-200727-FD	27 Jul 2020 08:05			30 Jul 2020 20:02	1
HS20071328-05	16WW49-200727	27 Jul 2020 10:30			30 Jul 2020 17:37	5
HS20071328-05	16WW49-200727	27 Jul 2020 10:30			30 Jul 2020 15:13	1
HS20071328-06	16WW51-200727	27 Jul 2020 11:25			30 Jul 2020 18:01	25
HS20071328-07	16WW51-200727-FD	27 Jul 2020 11:25			30 Jul 2020 18:25	25
HS20071328-09	16WW23-200727	27 Jul 2020 13:15			30 Jul 2020 20:26	1
HS20071328-10	16WW24-200727	27 Jul 2020 14:05			30 Jul 2020 20:50	1
HS20071328-17	16SW01-200728	27 Jul 2020 12:10			30 Jul 2020 21:38	1
HS20071328-18	16SW02-200728	28 Jul 2020 12:30			30 Jul 2020 18:49	1
Batch ID: R366006 (0)	**Test Name :** ANIONS BY SW9056A				**Matrix:** Groundwater	
HS20071328-05	16WW49-200727	27 Jul 2020 10:30			31 Jul 2020 07:03	1
HS20071328-06	16WW51-200727	27 Jul 2020 11:25			31 Jul 2020 07:21	1
HS20071328-07	16WW51-200727-FD	27 Jul 2020 11:25			31 Jul 2020 07:40	1
HS20071328-13	16EW08-200728	28 Jul 2020 09:05			31 Jul 2020 07:58	1
HS20071328-16	16IW03-200728	28 Jul 2020 11:30			30 Jul 2020 10:32	2
HS20071328-16	16IW03-200728	28 Jul 2020 11:30			30 Jul 2020 00:21	1
Batch ID: R366038 (0)	**Test Name :** ANIONS BY SW9056A				**Matrix:** Groundwater	
HS20071328-15	16RW04-200728	28 Jul 2020 10:40			01 Aug 2020 04:16	5

ALS Houston, US Date: 21-Aug-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 July 2020
WorkOrder: HS20071328

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: R366275 (0)	**Test Name :** VOLATILES ORGANICS BY METHOD 8260C				**Matrix:** Groundwater	
HS20071328-06	16WW51-200727	27 Jul 2020 11:25			05 Aug 2020 18:17	5
HS20071328-07	16WW51-200727-FD	27 Jul 2020 11:25			05 Aug 2020 18:41	5
HS20071328-11	16EW03-200728	28 Jul 2020 07:30			05 Aug 2020 17:29	25
HS20071328-13	16EW08-200728	28 Jul 2020 09:05			05 Aug 2020 17:53	50
HS20071328-14	16EW04-200728	28 Jul 2020 09:50			05 Aug 2020 21:30	500
HS20071328-14	16EW04-200728	28 Jul 2020 09:50			05 Aug 2020 19:05	25
HS20071328-16	16IW03-200728	28 Jul 2020 11:30			05 Aug 2020 21:54	500
HS20071328-16	16IW03-200728	28 Jul 2020 11:30			05 Aug 2020 19:30	25
HS20071328-19	16SW03-200728	28 Jul 2020 12:50			05 Aug 2020 16:41	1
Batch ID: R366276 (0)	**Test Name :** VOLATILES ORGANICS BY SW8260C				**Matrix:** Groundwater	
HS20071328-12	16EW07-200728	28 Jul 2020 08:15			05 Aug 2020 17:05	500
Batch ID: R366355 (0)	**Test Name :** VOLATILES ORGANICS BY METHOD 8260C				**Matrix:** Groundwater	
HS20071328-08	16RW01-200727	27 Jul 2020 12:20			06 Aug 2020 19:00	50
HS20071328-08	16RW01-200727	27 Jul 2020 12:20			06 Aug 2020 17:24	5
HS20071328-15	16RW04-200728	28 Jul 2020 10:40			06 Aug 2020 19:24	100
HS20071328-15	16RW04-200728	28 Jul 2020 10:40			06 Aug 2020 17:48	10
Batch ID: R366701 (0)	**Test Name :** SUBCONTRACT ANALYSIS - TOC ANALYSIS				**Matrix:** Groundwater	
HS20071328-05	16WW49-200727	27 Jul 2020 10:30			13 Aug 2020 12:20	1
HS20071328-06	16WW51-200727	27 Jul 2020 11:25			13 Aug 2020 12:20	1
HS20071328-07	16WW51-200727-FD	27 Jul 2020 11:25			13 Aug 2020 12:20	1
HS20071328-13	16EW08-200728	28 Jul 2020 09:05			13 Aug 2020 12:20	1
HS20071328-15	16RW04-200728	28 Jul 2020 10:40			13 Aug 2020 12:20	1
HS20071328-16	16IW03-200728	28 Jul 2020 11:30			13 Aug 2020 12:20	1

ALS Houston, US Date: 21-Aug-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 July 2020
WorkOrder: HS20071328

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: R367235 (0)	**Test Name :** SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)				**Matrix:** Groundwater	
HS20071328-01	16WW32-200727	27 Jul 2020 08:05			21 Aug 2020 16:29	1
HS20071328-02	16WW31-200727	27 Jul 2020 08:50			21 Aug 2020 16:29	1
HS20071328-03	16WW46-200727	27 Jul 2020 09:40			21 Aug 2020 16:29	1
HS20071328-04	16WW46-200727-FD	27 Jul 2020 08:05			21 Aug 2020 16:29	1
HS20071328-05	16WW49-200727	27 Jul 2020 10:30			21 Aug 2020 16:29	1
HS20071328-06	16WW51-200727	27 Jul 2020 11:25			21 Aug 2020 16:29	1
HS20071328-07	16WW51-200727-FD	27 Jul 2020 11:25			21 Aug 2020 16:29	1
HS20071328-08	16RW01-200727	27 Jul 2020 12:20			21 Aug 2020 16:29	1
HS20071328-09	16WW23-200727	27 Jul 2020 13:15			21 Aug 2020 16:29	1
HS20071328-10	16WW24-200727	27 Jul 2020 14:05			21 Aug 2020 16:29	1
HS20071328-11	16EW03-200728	28 Jul 2020 07:30			21 Aug 2020 16:29	1
HS20071328-12	16EW07-200728	28 Jul 2020 08:15			21 Aug 2020 16:29	1
HS20071328-13	16EW08-200728	28 Jul 2020 09:05			21 Aug 2020 16:29	1
HS20071328-14	16EW04-200728	28 Jul 2020 09:50			21 Aug 2020 16:29	1
HS20071328-15	16RW04-200728	28 Jul 2020 10:40			21 Aug 2020 16:29	1
HS20071328-16	16IW03-200728	28 Jul 2020 11:30			21 Aug 2020 16:29	1
HS20071328-17	16SW01-200728	27 Jul 2020 12:10			21 Aug 2020 16:29	1
HS20071328-18	16SW02-200728	28 Jul 2020 12:30			21 Aug 2020 16:29	1
HS20071328-19	16SW03-200728	28 Jul 2020 12:50			21 Aug 2020 16:29	1

ALS Houston, US Date: 21-Aug-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 July 2020
WorkOrder: HS20071328

QC BATCH REPORT

Batch ID: R365932 (0) **Instrument: FID-4** **Method: DISSOLVED GASES BY RSK-175**

MBLK Sample ID: **MBLK-200730** Units: **mg/L** Analysis Date: **30-Jul-2020 09:41**
Client ID: Run ID: **FID-4_365932** SeqNo: **5680051** PrepDate: DF: **1**

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

LCS Sample ID: **LCS-200730** Units: **mg/L** Analysis Date: **30-Jul-2020 09:16**
Client ID: Run ID: **FID-4_365932** SeqNo: **5680049** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethane	0.0196	0.00100	0.01804	0	109	75 - 125				
Ethene	0.0171	0.00100	0.0168	0	102	75 - 125				
Methane	0.0103	0.000500	0.009647	0	107	75 - 125				

LCSD Sample ID: **LCSD-200730** Units: **mg/L** Analysis Date: **30-Jul-2020 09:29**
Client ID: Run ID: **FID-4_365932** SeqNo: **5680050** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethane	0.0189	0.00100	0.01804	0	105	75 - 125	0.01961	3.6	30	
Ethene	0.0163	0.00100	0.0168	0	97.0	75 - 125	0.01710	4.84	30	
Methane	0.00925	0.000500	0.009647	0	95.9	75 - 125	0.01031	10.8	30	

DUP Sample ID: **HS20071296-02DUP** Units: **mg/L** Analysis Date: **30-Jul-2020 11:45**
Client ID: Run ID: **FID-4_365932** SeqNo: **5680063** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethane	0.000250	0.00100					0.0002696	0	30	U
Ethene	0.00117	0.00100					0.0008246	34.3	30	R
Methane	0.0178	0.000500					0.01879	5.28	30	

The following samples were analyzed in this batch: HS20071328-16

ALS Houston, US Date: 21-Aug-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 July 2020
WorkOrder: HS20071328

QC BATCH REPORT

Batch ID: 156069 (0) **Instrument: ICPMS04** **Method: METALS BY ICPMS BY SW6020A**

MBLK Sample ID: **MBLK-156069** Units: **mg/L** Analysis Date: **06-Aug-2020 12:42**
Client ID: Run ID: **ICPMS04_366271** SeqNo: **5687690** PrepDate: **05-Aug-2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.00100	0.00500								U
Chromium	0.00100	0.00500								U
Manganese	0.00250	0.00500								U
Nickel	0.00100	0.00500								U
Thallium	0.000500	0.00200								U

LCS Sample ID: **LCS-156069** Units: **mg/L** Analysis Date: **06-Aug-2020 12:44**
Client ID: Run ID: **ICPMS04_366271** SeqNo: **5687691** PrepDate: **05-Aug-2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.05045	0.00500	0.05	0	101	84 - 116				
Chromium	0.04801	0.00500	0.05	0	96.0	85 - 116				
Manganese	0.04904	0.00500	0.05	0	98.1	87 - 115				
Nickel	0.05047	0.00500	0.05	0	101	85 - 117				
Thallium	0.04821	0.00200	0.05	0	96.4	82 - 116				

MS Sample ID: **HS20071328-19MS** Units: **mg/L** Analysis Date: **06-Aug-2020 17:23**
Client ID: **16SW03-200728** Run ID: **ICPMS04_366271** SeqNo: **5687911** PrepDate: **05-Aug-2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.05034	0.00500	0.05	0.001795	97.1	84 - 116				
Chromium	0.04739	0.00500	0.05	0.002125	90.5	85 - 116				
Manganese	0.7258	0.00500	0.05	0.6865	78.6	87 - 115				SO
Nickel	0.04902	0.00500	0.05	0.003201	91.6	85 - 117				
Thallium	0.04585	0.00200	0.05	0	91.7	82 - 116				

ALS Houston, US Date: 21-Aug-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 July 2020
WorkOrder: HS20071328

QC BATCH REPORT

Batch ID: 156069 (0) **Instrument: ICPMS04** **Method: METALS BY ICPMS BY SW6020A**

MSD Sample ID: **HS20071328-19MSD** Units: **mg/L** Analysis Date: **06-Aug-2020 17:26**
Client ID: **16SW03-200728** Run ID: **ICPMS04_366271** SeqNo: **5687912** PrepDate: **05-Aug-2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.04953	0.00500	0.05	0.001795	95.5	84 - 116	0.05034	1.62	20	
Chromium	0.04587	0.00500	0.05	0.002125	87.5	85 - 116	0.04739	3.25	20	
Manganese	0.7039	0.00500	0.05	0.6865	34.8	87 - 115	0.7258	3.06	20	SO
Nickel	0.04761	0.00500	0.05	0.003201	88.8	85 - 117	0.04902	2.91	20	
Thallium	0.04581	0.00200	0.05	0	91.6	82 - 116	0.04585	0.072	20	

PDS Sample ID: **HS20071328-19PDS** Units: **mg/L** Analysis Date: **06-Aug-2020 12:56**
Client ID: **16SW03-200728** Run ID: **ICPMS04_366271** SeqNo: **5687696** PrepDate: **05-Aug-2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.1206	0.00500	0.1	0.001795	119	80 - 120				
Chromium	0.1145	0.00500	0.1	0.002125	112	80 - 120				
Manganese	0.7857	0.00500	0.1	0.6865	99.2	80 - 120				O
Nickel	0.117	0.00500	0.1	0.003201	114	80 - 120				
Thallium	0.1078	0.00200	0.1	0.00003	108	80 - 120				

SD Sample ID: **HS20071328-19SD** Units: **mg/L** Analysis Date: **06-Aug-2020 12:46**
Client ID: **16SW03-200728** Run ID: **ICPMS04_366271** SeqNo: **5687692** PrepDate: **05-Aug-2020** DF: **5**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit	Qual
Arsenic	0.00500	0.0250					0.001795	0	10	U
Chromium	0.002258	0.0250					0.002125	0	10	J
Manganese	0.608	0.0250					0.6865	11.4	10	R
Nickel	0.003246	0.0250					0.003201	0	10	J
Thallium	0.00250	0.0100					0.00003	0	10	U

The following samples were analyzed in this batch: HS20071328-17 HS20071328-18 HS20071328-19

ALS Houston, US Date: 21-Aug-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 July 2020
WorkOrder: HS20071328

QC BATCH REPORT

Batch ID: R365975 (0) **Instrument: VOA6** **Method: VOLATILES ORGANICS BY METHOD 8260C**

MBLK Sample ID: **VBLKW-200730** Units: **UG/L** Analysis Date: **30-Jul-2020 13:13**
Client ID: Run ID: **VOA6_365975** SeqNo: **5681126** 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	*53.79*	*1.0*	*50*	*0*	*108*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*50.09*	*1.0*	*50*	*0*	*100*	*85 - 114*				
Surr: Dibromofluoromethane	*50.32*	*1.0*	*50*	*0*	*101*	*80 - 119*				
Surr: Toluene-d8	*53.45*	*1.0*	*50*	*0*	*107*	*89 - 112*				

LCS Sample ID: **VLCSW-200730** Units: **UG/L** Analysis Date: **30-Jul-2020 12:25**
Client ID: Run ID: **VOA6_365975** SeqNo: **5681125** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,2-Trichloroethane	20.54	1.0	20	0	103	80 - 119				
1,1-Dichloroethene	21.44	1.0	20	0	107	71 - 131				
1,2-Dichloroethane	22.82	1.0	20	0	114	73 - 128				
cis-1,2-Dichloroethene	20.76	1.0	20	0	104	78 - 123				
Methylene chloride	26.7	2.0	20	0	133	74 - 124				S
Trichloroethene	18.17	1.0	20	0	90.8	79 - 123				
Vinyl chloride	19.3	1.0	20	0	96.5	58 - 137				
Surr: 1,2-Dichloroethane-d4	*57.81*	*1.0*	*50*	*0*	*116*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*46.76*	*1.0*	*50*	*0*	*93.5*	*85 - 114*				
Surr: Dibromofluoromethane	*50.16*	*1.0*	*50*	*0*	*100*	*80 - 119*				
Surr: Toluene-d8	*44.93*	*1.0*	*50*	*0*	*89.9*	*89 - 112*				

ALS Houston, US Date: 21-Aug-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 July 2020
WorkOrder: HS20071328

QC BATCH REPORT

Batch ID: R365975 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MS Sample ID: **HS20071328-01MS** Units: **UG/L** Analysis Date: **30-Jul-2020 16:49**
Client ID: **16WW32-200727** Run ID: **VOA6_365975** SeqNo: **5681132** 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	19.22	1.0	20	0	96.1	80 - 119				
1,1-Dichloroethene	26.96	1.0	20	0	135	71 - 131				S
1,2-Dichloroethane	24.42	1.0	20	0	122	73 - 128				
cis-1,2-Dichloroethene	27.61	1.0	20	0	138	78 - 123				S
Methylene chloride	26.23	2.0	20	0	131	74 - 124				S
Trichloroethene	17.88	1.0	20	0	89.4	79 - 123				
Vinyl chloride	25.05	1.0	20	0	125	58 - 137				
Surr: 1,2-Dichloroethane-d4	*62.13*	*1.0*	*50*	*0*	*124*	*81 - 118*				S
Surr: 4-Bromofluorobenzene	*43.8*	*1.0*	*50*	*0*	*87.6*	*85 - 114*				
Surr: Dibromofluoromethane	*62.87*	*1.0*	*50*	*0*	*126*	*80 - 119*				S
Surr: Toluene-d8	*40.36*	*1.0*	*50*	*0*	*80.7*	*89 - 112*				S

MSD Sample ID: **HS20071328-01MSD** Units: **UG/L** Analysis Date: **30-Jul-2020 17:13**
Client ID: **16WW32-200727** Run ID: **VOA6_365975** SeqNo: **5681133** 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	24.25	1.0	20	0	121	80 - 119	19.22	23.2	20	SR
1,1-Dichloroethene	25.29	1.0	20	0	126	71 - 131	26.96	6.41	20	
1,2-Dichloroethane	26.27	1.0	20	0	131	73 - 128	24.42	7.28	20	S
cis-1,2-Dichloroethene	23.48	1.0	20	0	117	78 - 123	27.61	16.1	20	
Methylene chloride	24.39	2.0	20	0	122	74 - 124	26.23	7.27	20	
Trichloroethene	21.54	1.0	20	0	108	79 - 123	17.88	18.6	20	
Vinyl chloride	23.9	1.0	20	0	120	58 - 137	25.05	4.68	20	
Surr: 1,2-Dichloroethane-d4	*56.79*	*1.0*	*50*	*0*	*114*	*81 - 118*	*62.13*	*8.98*	*20*	
Surr: 4-Bromofluorobenzene	*51.82*	*1.0*	*50*	*0*	*104*	*85 - 114*	*43.8*	*16.8*	*20*	
Surr: Dibromofluoromethane	*50.4*	*1.0*	*50*	*0*	*101*	*80 - 119*	*62.87*	*22*	*20*	R
Surr: Toluene-d8	*50.88*	*1.0*	*50*	*0*	*102*	*89 - 112*	*40.36*	*23*	*20*	R

The following samples were analyzed in this batch:

HS20071328-01	HS20071328-02	HS20071328-03	HS20071328-04
HS20071328-05	HS20071328-06	HS20071328-07	HS20071328-09
HS20071328-10	HS20071328-17	HS20071328-18	HS20071328-20

ALS Houston, US Date: 21-Aug-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 July 2020
WorkOrder: HS20071328

QC BATCH REPORT

Batch ID: R366275 (0) **Instrument: VOA6** **Method: VOLATILES ORGANICS BY METHOD 8260C**

MBLK Sample ID: **VBLKW-200805** Units: **UG/L** Analysis Date: **05-Aug-2020 16:17**
Client ID: Run ID: **VOA6_366275** SeqNo: **5686874** 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	*46.31*	*1.0*	*50*	*0*	*92.6*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*48.23*	*1.0*	*50*	*0*	*96.5*	*85 - 114*				
Surr: Dibromofluoromethane	*46.36*	*1.0*	*50*	*0*	*92.7*	*80 - 119*				
Surr: Toluene-d8	*53.35*	*1.0*	*50*	*0*	*107*	*89 - 112*				

LCS Sample ID: **VLCSW-200805** Units: **UG/L** Analysis Date: **05-Aug-2020 15:05**
Client ID: Run ID: **VOA6_366275** SeqNo: **5686873** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,2-Trichloroethane	20.15	1.0	20	0	101	80 - 119				
1,1-Dichloroethene	20.5	1.0	20	0	103	71 - 131				
1,2-Dichloroethane	20.36	1.0	20	0	102	73 - 128				
cis-1,2-Dichloroethene	20.15	1.0	20	0	101	78 - 123				
Methylene chloride	19.85	2.0	20	0	99.2	74 - 124				
Trichloroethene	20.18	1.0	20	0	101	79 - 123				
Vinyl chloride	19.98	1.0	20	0	99.9	58 - 137				
Surr: 1,2-Dichloroethane-d4	*51.64*	*1.0*	*50*	*0*	*103*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*48.74*	*1.0*	*50*	*0*	*97.5*	*85 - 114*				
Surr: Dibromofluoromethane	*49.14*	*1.0*	*50*	*0*	*98.3*	*80 - 119*				
Surr: Toluene-d8	*49.05*	*1.0*	*50*	*0*	*98.1*	*89 - 112*				

ALS Houston, US Date: 21-Aug-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 July 2020
WorkOrder: HS20071328

QC BATCH REPORT

Batch ID: R366275 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MS Sample ID: **HS20071328-19MS** Units: **UG/L** Analysis Date: **05-Aug-2020 20:42**
Client ID: **16SW03-200728** Run ID: **VOA6_366275** SeqNo: **5686882** 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	23	1.0	20	0	115	80 - 119				
1,1-Dichloroethene	25.65	1.0	20	0	128	71 - 131				
1,2-Dichloroethane	23.39	1.0	20	0	117	73 - 128				
cis-1,2-Dichloroethene	23.46	1.0	20	0	117	78 - 123				
Methylene chloride	22.55	2.0	20	0	113	74 - 124				
Trichloroethene	24.67	1.0	20	0	123	79 - 123				S
Vinyl chloride	24.66	1.0	20	0	123	58 - 137				
Surr: 1,2-Dichloroethane-d4	*46.39*	*1.0*	*50*	*0*	*92.8*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*49*	*1.0*	*50*	*0*	*98.0*	*85 - 114*				
Surr: Dibromofluoromethane	*47.21*	*1.0*	*50*	*0*	*94.4*	*80 - 119*				
Surr: Toluene-d8	*51.94*	*1.0*	*50*	*0*	*104*	*89 - 112*				

MSD Sample ID: **HS20071328-19MSD** Units: **UG/L** Analysis Date: **05-Aug-2020 21:06**
Client ID: **16SW03-200728** Run ID: **VOA6_366275** SeqNo: **5686883** 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	23.46	1.0	20	0	117	80 - 119	23	1.94	20	
1,1-Dichloroethene	25.07	1.0	20	0	125	71 - 131	25.65	2.29	20	
1,2-Dichloroethane	23.82	1.0	20	0	119	73 - 128	23.39	1.81	20	
cis-1,2-Dichloroethene	22.82	1.0	20	0	114	78 - 123	23.46	2.75	20	
Methylene chloride	22.23	2.0	20	0	111	74 - 124	22.55	1.41	20	
Trichloroethene	24.36	1.0	20	0	122	79 - 123	24.67	1.28	20	
Vinyl chloride	23.66	1.0	20	0	118	58 - 137	24.66	4.11	20	
Surr: 1,2-Dichloroethane-d4	*45.92*	*1.0*	*50*	*0*	*91.8*	*81 - 118*	*46.39*	*1.02*	*20*	
Surr: 4-Bromofluorobenzene	*48.06*	*1.0*	*50*	*0*	*96.1*	*85 - 114*	*49*	*1.94*	*20*	
Surr: Dibromofluoromethane	*47.11*	*1.0*	*50*	*0*	*94.2*	*80 - 119*	*47.21*	*0.221*	*20*	
Surr: Toluene-d8	*53.12*	*1.0*	*50*	*0*	*106*	*89 - 112*	*51.94*	*2.24*	*20*	

The following samples were analyzed in this batch:

HS20071328-06	HS20071328-07	HS20071328-11	HS20071328-13
HS20071328-14	HS20071328-16	HS20071328-19	

ALS Houston, US Date: 21-Aug-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 July 2020
WorkOrder: HS20071328

QC BATCH REPORT

Batch ID: R366276 (0) **Instrument: VOA6** **Method: VOLATILES ORGANICS BY SW8260C**

MBLK Sample ID: **VBLKM-200805** Units: **ug/Kg** Analysis Date: **05-Aug-2020 15:53**
Client ID: Run ID: **VOA6_366276** SeqNo: **5686892** PrepDate: DF: **50**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,2-Trichloroethane	100	250								U
1,1-Dichloroethene	100	250								U
1,2-Dichloroethane	100	250								U
cis-1,2-Dichloroethene	100	250								U
Methylene chloride	100	500								U
Trichloroethene	100	250								U
Vinyl chloride	100	100								U
Surr: Toluene-d8	*2594*	*250*	*2500*	*0*	*104*	*85 - 116*				
Surr: 1,2-Dichloroethane-d4	*2332*	*250*	*2500*	*0*	*93.3*	*71 - 136*				
Surr: 4-Bromofluorobenzene	*2499*	*250*	*2500*	*0*	*100.0*	*79 - 119*				
Surr: Dibromofluoromethane	*2334*	*250*	*2500*	*0*	*93.4*	*78 - 119*				

LCS Sample ID: **VLCSW-200805** Units: **UG/L** Analysis Date: **05-Aug-2020 15:05**
Client ID: Run ID: **VOA6_366276** SeqNo: **5686890** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,2-Trichloroethane	20.15	1.0	20	0	101	80 - 119				
1,1-Dichloroethene	20.5	1.0	20	0	103	71 - 131				
1,2-Dichloroethane	20.36	1.0	20	0	102	73 - 128				
cis-1,2-Dichloroethene	20.15	1.0	20	0	101	78 - 123				
Methylene chloride	19.85	2.0	20	0	99.2	74 - 124				
Trichloroethene	20.18	1.0	20	0	101	79 - 123				
Vinyl chloride	19.98	1.0	20	0	99.9	58 - 137				
Surr: 1,2-Dichloroethane-d4	*51.64*	*1.0*	*50*	*0*	*103*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*48.74*	*1.0*	*50*	*0*	*97.5*	*85 - 114*				
Surr: Dibromofluoromethane	*49.14*	*1.0*	*50*	*0*	*98.3*	*80 - 119*				
Surr: Toluene-d8	*49.05*	*1.0*	*50*	*0*	*98.1*	*89 - 112*				

ALS Houston, US Date: 21-Aug-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 July 2020
WorkOrder: HS20071328

QC BATCH REPORT

Batch ID: R366276 (0) **Instrument: VOA6** **Method: VOLATILES ORGANICS BY SW8260C**

MS Sample ID: **HS20071328-12MS** Units: **ug/Kg** Analysis Date: **05-Aug-2020 19:54**
Client ID: **16EW07-200728** Run ID: **VOA6_366276** SeqNo: **5686894** PrepDate: DF: **500**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,2-Trichloroethane	11820	2400	10000	0	118	78 - 121				
1,1-Dichloroethene	13140	2400	10000	10200	29.4	70 - 131				S
1,2-Dichloroethane	11950	2400	10000	0	119	73 - 128				
cis-1,2-Dichloroethene	12240	2400	10000	4141	81.0	77 - 123				
Methylene chloride	11590	4900	10000	0	116	70 - 128				
Trichloroethene	13100	2400	10000	4986	81.1	77 - 123				
Vinyl chloride	12730	980	10000	0	127	56 - 135				
Surr: Toluene-d8	*25670*	*2400*	*25000*	*0*	*103*	*85 - 116*				
Surr: 1,2-Dichloroethane-d4	*22730*	*2400*	*25000*	*0*	*90.9*	*71 - 136*				
Surr: 4-Bromofluorobenzene	*23260*	*2400*	*25000*	*0*	*93.1*	*79 - 119*				
Surr: Dibromofluoromethane	*23190*	*2400*	*25000*	*0*	*92.8*	*78 - 119*				

MSD Sample ID: **HS20071328-12MSD** Units: **ug/Kg** Analysis Date: **05-Aug-2020 20:18**
Client ID: **16EW07-200728** Run ID: **VOA6_366276** SeqNo: **5686895** PrepDate: DF: **500**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,2-Trichloroethane	11720	2400	10000	0	117	78 - 121	11820	0.829	20	
1,1-Dichloroethene	12300	2400	10000	10200	21.0	70 - 131	13140	6.62	20	S
1,2-Dichloroethane	11690	2400	10000	0	117	73 - 128	11950	2.19	20	
cis-1,2-Dichloroethene	11680	2400	10000	4141	75.4	77 - 123	12240	4.73	20	S
Methylene chloride	11260	4900	10000	0	113	70 - 128	11590	2.88	20	
Trichloroethene	11880	2400	10000	4986	68.9	77 - 123	13100	9.76	20	S
Vinyl chloride	11740	980	10000	0	117	56 - 135	12730	8.15	20	
Surr: Toluene-d8	*25460*	*2400*	*25000*	*0*	*102*	*85 - 116*	*25670*	*0.804*	*20*	
Surr: 1,2-Dichloroethane-d4	*22540*	*2400*	*25000*	*0*	*90.1*	*71 - 136*	*22730*	*0.852*	*20*	
Surr: 4-Bromofluorobenzene	*23410*	*2400*	*25000*	*0*	*93.6*	*79 - 119*	*23260*	*0.622*	*20*	
Surr: Dibromofluoromethane	*23110*	*2400*	*25000*	*0*	*92.4*	*78 - 119*	*23190*	*0.349*	*20*	

The following samples were analyzed in this batch: HS20071328-12

ALS Houston, US Date: 21-Aug-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 July 2020
WorkOrder: HS20071328

QC BATCH REPORT

Batch ID: R366355 (0) **Instrument: VOA6** **Method: VOLATILES ORGANICS BY METHOD 8260C**

MBLK Sample ID: **VBLKW-200806** Units: **UG/L** Analysis Date: **06-Aug-2020 13:24**
Client ID: Run ID: **VOA6_366355** SeqNo: **5688316** 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	*46.25*	*1.0*	*50*	*0*	*92.5*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*49.02*	*1.0*	*50*	*0*	*98.0*	*85 - 114*				
Surr: Dibromofluoromethane	*46.29*	*1.0*	*50*	*0*	*92.6*	*80 - 119*				
Surr: Toluene-d8	*52.87*	*1.0*	*50*	*0*	*106*	*89 - 112*				

LCS Sample ID: **VLCSW-200806** Units: **UG/L** Analysis Date: **06-Aug-2020 12:12**
Client ID: Run ID: **VOA6_366355** SeqNo: **5688315** 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	19.55	1.0	20	0	97.8	80 - 119				
1,1-Dichloroethene	20.62	1.0	20	0	103	71 - 131				
1,2-Dichloroethane	19.89	1.0	20	0	99.4	73 - 128				
cis-1,2-Dichloroethene	19.87	1.0	20	0	99.4	78 - 123				
Methylene chloride	19.35	2.0	20	0	96.7	74 - 124				
Trichloroethene	20.53	1.0	20	0	103	79 - 123				
Vinyl chloride	19.95	1.0	20	0	99.7	58 - 137				
Surr: 1,2-Dichloroethane-d4	*50.21*	*1.0*	*50*	*0*	*100*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*48.64*	*1.0*	*50*	*0*	*97.3*	*85 - 114*				
Surr: Dibromofluoromethane	*48.24*	*1.0*	*50*	*0*	*96.5*	*80 - 119*				
Surr: Toluene-d8	*48.81*	*1.0*	*50*	*0*	*97.6*	*89 - 112*				

ALS Houston, US Date: 21-Aug-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 July 2020
WorkOrder: HS20071328

QC BATCH REPORT

Batch ID: R366355 (0) **Instrument: VOA6** **Method: VOLATILES ORGANICS BY METHOD 8260C**

MS Sample ID: **HS20080189-02MS** Units: **UG/L** Analysis Date: **06-Aug-2020 18:12**
Client ID: Run ID: **VOA6_366355** SeqNo: **5688328** 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	23.86	1.0	20	0	119	80 - 119				S
1,1-Dichloroethene	26.3	1.0	20	0	131	71 - 131				S
1,2-Dichloroethane	24.62	1.0	20	0	123	73 - 128				
cis-1,2-Dichloroethene	23.84	1.0	20	0	119	78 - 123				
Methylene chloride	22.82	2.0	20	0	114	74 - 124				
Trichloroethene	26.5	1.0	20	0	132	79 - 123				S
Vinyl chloride	25.34	1.0	20	0	127	58 - 137				
Surr: 1,2-Dichloroethane-d4	*46.28*	*1.0*	*50*	*0*	*92.6*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*49.3*	*1.0*	*50*	*0*	*98.6*	*85 - 114*				
Surr: Dibromofluoromethane	*46.96*	*1.0*	*50*	*0*	*93.9*	*80 - 119*				
Surr: Toluene-d8	*51.57*	*1.0*	*50*	*0*	*103*	*89 - 112*				

MSD Sample ID: **HS20080189-02MSD** Units: **UG/L** Analysis Date: **06-Aug-2020 18:36**
Client ID: Run ID: **VOA6_366355** SeqNo: **5688329** 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	24.38	1.0	20	0	122	80 - 119	23.86	2.17	20	S
1,1-Dichloroethene	24.72	1.0	20	0	124	71 - 131	26.3	6.19	20	
1,2-Dichloroethane	24.21	1.0	20	0	121	73 - 128	24.62	1.71	20	
cis-1,2-Dichloroethene	22.95	1.0	20	0	115	78 - 123	23.84	3.8	20	
Methylene chloride	21.6	2.0	20	0	108	74 - 124	22.82	5.49	20	
Trichloroethene	24.49	1.0	20	0	122	79 - 123	26.5	7.9	20	
Vinyl chloride	23.17	1.0	20	0	116	58 - 137	25.34	8.95	20	
Surr: 1,2-Dichloroethane-d4	*46.06*	*1.0*	*50*	*0*	*92.1*	*81 - 118*	*46.28*	*0.471*	*20*	
Surr: 4-Bromofluorobenzene	*49.6*	*1.0*	*50*	*0*	*99.2*	*85 - 114*	*49.3*	*0.607*	*20*	
Surr: Dibromofluoromethane	*47.09*	*1.0*	*50*	*0*	*94.2*	*80 - 119*	*46.96*	*0.286*	*20*	
Surr: Toluene-d8	*52.25*	*1.0*	*50*	*0*	*104*	*89 - 112*	*51.57*	*1.31*	*20*	

The following samples were analyzed in this batch: HS20071328-08 HS20071328-15

ALS Houston, US Date: 21-Aug-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 July 2020
WorkOrder: HS20071328

QC BATCH REPORT

Batch ID: R366006 (0) **Instrument: ICS-Integrion** **Method: ANIONS BY SW9056A**

MBLK Sample ID: **MBLK-072920** Units: **mg/L** Analysis Date: **30-Jul-2020 03:59**
Client ID: Run ID: **ICS-Integrion_366006** SeqNo: **5681625** 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-072920** Units: **mg/L** Analysis Date: **30-Jul-2020 06:42**
Client ID: Run ID: **ICS-Integrion_366006** SeqNo: **5681627** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromide	4.386	0.100	4	0	110	80 - 120				
Nitrogen, Nitrate (As N)	3.904	0.100	4	0	97.6	80 - 120				
Sulfate	20.15	0.500	20	0	101	80 - 120				

MS Sample ID: **HS20071328-16MS** Units: **mg/L** Analysis Date: **30-Jul-2020 00:40**
Client ID: **16IW03-200728** Run ID: **ICS-Integrion_366006** SeqNo: **5681621** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromide	3.136	0.100	2	0.9731	108	80 - 120				
Nitrogen, Nitrate (As N)	2.703	0.100	2	0.4602	112	80 - 120				
Sulfate	18.23	0.500	10	15.25	29.8	80 - 120				S

MSD Sample ID: **HS20071328-16MSD** Units: **mg/L** Analysis Date: **30-Jul-2020 00:58**
Client ID: **16IW03-200728** Run ID: **ICS-Integrion_366006** SeqNo: **5681622** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromide	3.203	0.100	2	0.9731	111	80 - 120	3.136	2.1	20	
Nitrogen, Nitrate (As N)	2.7	0.100	2	0.4602	112	80 - 120	2.703	0.122	20	
Sulfate	18.55	0.500	10	15.25	33.1	80 - 120	18.23	1.77	20	S

The following samples were analyzed in this batch: HS20071328-05 HS20071328-06 HS20071328-07 HS20071328-13 HS20071328-16

ALS Houston, US Date: 21-Aug-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 July 2020
WorkOrder: HS20071328

QC BATCH REPORT

Batch ID: R366038 (0) **Instrument: ICS-Integrion** **Method: ANIONS BY SW9056A**

MBLK Sample ID: **MBLK-073120** Units: **mg/L** Analysis Date: **31-Jul-2020 14:11**
Client ID: Run ID: **ICS-Integrion_366038** SeqNo: **5682474** 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

LCS Sample ID: **LCS-073120** Units: **mg/L** Analysis Date: **31-Jul-2020 14:47**
Client ID: Run ID: **ICS-Integrion_366038** SeqNo: **5682475** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromide	4.314	0.100	4	0	108	80 - 120				

MS Sample ID: **HS20071470-01MS** Units: **mg/L** Analysis Date: **31-Jul-2020 18:21**
Client ID: Run ID: **ICS-Integrion_366038** SeqNo: **5682480** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromide	13.45	0.100	2	11.6	92.8	80 - 120				O

MSD Sample ID: **HS20071470-01MSD** Units: **mg/L** Analysis Date: **31-Jul-2020 18:39**
Client ID: Run ID: **ICS-Integrion_366038** SeqNo: **5682481** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromide	13.5	0.100	2	11.6	95.1	80 - 120	13.45	0.339	20	O

The following samples were analyzed in this batch: HS20071328-15

ALS Houston, US Date: 21-Aug-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 July 2020
WorkOrder: **HS20071328**

QUALIFIERS, ACRONYMS, UNITS

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

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

Unit Reported	Description
mg/L	Milligrams per Liter

ALS Houston, US Date: 21-Aug-20

CERTIFICATIONS,ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
Arkansas	20-030-0	26-Mar-2021
California	2919, 2020-2021	30-Apr-2021
Dept of Defense	ANAB L2231 V010	22-Dec-2021
Florida	E87611-30-07/01/2020	30-Jun-2021
Illinois	2000322020-4	09-May-2021
Kentucky	123043, 2020-2021	30-Apr-2021
Louisiana	03087, 2020-2021	30-Jun-2021
Maryland	343, 2019-2020	30-Sep-2020
North Carolina	624-2020	31-Dec-2020
North Dakota	R-193 2020-2021	30-Apr-2021
Oklahoma	2019-141	31-Aug-2020
Texas	T104704231-20-26	30-Apr-2021

ALS Houston, US Date: 21-Aug-20

Sample Receipt Checklist

Work Order ID: HS20071328 **Date/Time Received:** **29-Jul-2020 09:20**

Client Name: CBI-Houston **Received by:** **Paresh M. Giga**

Completed By: */S/ Paresh M. Giga* 29-Jul-2020 14:02 **Reviewed by:** */S/ RJ Modashia* 29-Jul-2020 16:07

eSignature Date/Time eSignature Date/Time

Matrices: **GW-Water** Carrier name: **FedEx**

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
VOA/TX1005/TX1006 Solids in hermetically sealed vials?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	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):	2.7C U/C	IR31
Cooler(s)/Kit(s):	45975	
Date/Time sample(s) sent to storage:	7/29/2020 14:15	

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: 16RW01-200727 not checked off for analysis on chain.
Logged in analysis for containers received

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

Corrective Action:

01113742

CHAIN OF CUSTODY

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

Page 1 of 1

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

Project No. 501032

Job: **LHAAP 16 JULY 2020_ALS**

Prepared By: Scott Beesinger

P.O. Number

Field Sample I.D.	Time	Sample Matrix	Date /	MS / MSD	No. OF CONTAINERS	VOC by SW 8260B	TOC by SM5310C	MEE by RSK 175	Anions (bromide, sulfate, nitrate) by SW9056 and Alkalinity by SM2320	Bromide by SW9056	Perchlorate by SW6850	Metals (arsenic, chromium, manganese, nickel, thallium) by SW6020				Remarks (Preservati etc.)
16WW32-200727		WG	7/27/20/0805		4	X					X					
16WW31-200727		WG	7/27/20/0850		4	X					X					
16WW46-200727		WG	7/27/20/0940		4	X					X					
16WW46-200727-FD		WG	7/27/20/0940		4	X					X					
16WW49-200727		WG	7/27/20/1030		7	X	X			X	X					
16WW51-200727		WG	7/27/20/1125		7	X	X			X	X					
16WW51-200727-FD		WG	7/27/20/1125		7	X	X			X	X					
16RW01-200727		WG	7/27/20/1220													

Additional Remarks: Standard TAT on all parameters. Please email results to Susan.Huang@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	7/28/20	1430		7/29/20	09:20						

For Lab Use Only

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

Remarks:

45975 2.7° #31 Cif-o-

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

HS20071328

Aptim Environmental & Infrastucture, Inc.
Longhorn Army Ammunition Plant 16 July 2020

CHAIN OF CUSTODY

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

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

Project No. 501032

Job: **LHAAP 16 JULY 2020_ALS**

Prepared By: Scott Beesinger

P.O. Number

HS20071328

Aptim Environmental & Infrastucture, Inc.
Longhorn Army Ammunition Plant 16 July 2020

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				Remark (Presen etc.)
16WW23-200727	W6	7/27/20/1315		4	X					X					
16WW24-200727	W6	7/27/20/1405		4	X					X					
16EW03-200728	W6	7/28/20/0730		4	X					X					
16EW07-200728	W6	7/28/20/0815		4	X					X					
16EW07-200728-MS	W6	7/28/20/0815		4	X					X					
16EW07-200728-MSD	W6	7/28/20/0815		4	X					X					
16EW08-200728	W6	7/28/20/0905		7	X	X			X	X					
16EW04-200728	W6	7/28/20/0950		4	X					X					

Additional Remarks: Standard TAT on all parameters. Please email results to Susan.Huang@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	7/28/20	1430		7/29/2020	0920						

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

Page 1 of 1

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

Project No. 501032

Job: **LHAAP 16 JULY 2020_ALS**

Prepared By: Scott Beesinger

P.O. Number

Field Sample I.D. / Time	Sample Matrix	Date /	MS / MSD	No. OF CONTAINERS	VOC by SW 8260B	TOC by SM5310C	MEE by RSK 175	Anions (bromide, sulfate, nitrate) by SW9056 and Alkalinity by SM2320	Bromide by SW9056	Perchlorate by SW6850	Metals (arsenic, chromium, manganese, nickel, thallium) by SW6020				Remarks (Preservat etc.)
16RW04-200728	W6	7/28/20/1040		7	X	X			X	X					
16IW03-200728	W6	7/28/20/1130		10	X	X	X	X	X	X					
16SW01-200728	W6	7/28/20/1210		5	X					X	X				
16SW02-200728	W6	7/28/20/1230		5	X					X	X				
16SW03-200728	W6	7/28/20/1250		5	X					X	X				
TRIP BLANK-200728	W	7/28/20		2	X										

HS20071328

Aptim Environmental & Infrastucture, Inc.
Longhorn Army Ammunition Plant 16 July 2020

Additional Remarks: Standard TAT on all parameters. Please email results to Susan.Huang@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	7/28/20	1430		7/29/20	0915						

For Lab Use Only

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

Remarks:

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

45975

CUSTODY SEAL

Date: 7/28/20 Time: 1430
Name: Scott Bcesinger
Company: Bhtx Tx

Seal Broken By:
Date: 07/29/20

45975 JUL 2 9 2020

Most Deliver Next Business Day
Time and Tempature Sensitive!

45975

ORIGIN ID:SGRA (903) 930-6193
SCOTT BCESINGER
APTIM
1203-B EAST GRAND AVE.
PMB202
MARSHALL, TX 75670
UNITED STATES US

SHIP DATE: 23JUL20
ACTWGT: 1.00 LB MAN
CAD: 3001307CAFE3211
DIMS: 19x16x13 IN

TO CLIENT SERVICES
ALS LABORATORY GROUP
10450 STANCLIFF ROAD
SUITE 210
HOUSTON TX 77099
(281) 530-5656
REF: LHAAP 16 - 8072394 - RJ
RMA:

FedEx Express

FedEx
TRK# 0221 1891 8877 8255

WED - 29 JUL 10:30A
PRIORITY OVERNIGHT

AB SGRA

77099
TX-US IAH

0475872 07/28 5033/CEA6/9755

ALS Environmental
ALS Group USA, Corp
1317 South 13th Avenue
Kelso, WA 98626
T : +1 360 577 7222
F : +1 360 636 1068
www.alsglobal.com

August 12, 2020

Analytical Report for Service Request No: K2006497

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

RE: HS20071328

Dear RJ,

Enclosed are the results of the sample(s) submitted to our laboratory July 31, 2020
For your reference, these analyses have been assigned our service request number **K2006497.**

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current NELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. All results are intended to be considered in their entirety, and ALS Group USA Corp. dba ALS Environmental (ALS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please contact me if you have any questions. My extension is 3350. You may also contact me via email at Kelley.Lovejoy@alsglobal.com.

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

Kelley Lovejoy

Kelley Lovejoy
Project Manager

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Environmental
ALS Group USA, Corp
1317 South 13th Avenue
Kelso, WA 98626
T : +1 360 577 7222
F : +1 360 636 1068
www.alsglobal.com

Table of Contents

Acronyms
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State Certifications, Accreditations, And Licenses
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    General Chemistry

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LOD	Limit of Detection
LOQ	Limit of Quantitation
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Inorganic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
E	The result is an estimate amount because the value exceeded the instrument calibration range.
J	The result is an estimated value.
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
i	The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
X	See case narrative.
Q	See case narrative. One or more quality control criteria was outside the limits.
H	The holding time for this test is immediately following sample collection. The samples were analyzed as soon as possible after receipt by the laboratory.

Metals Data Qualifiers

#	The control limit criteria is not applicable. See case narrative.
J	The result is an estimated value.
E	The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
M	The duplicate injection precision was not met.
N	The Matrix Spike sample recovery is not within control limits. See case narrative.
S	The reported value was determined by the Method of Standard Additions (MSA).
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
W	The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
i	The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
X	See case narrative.
+	The correlation coefficient for the MSA is less than 0.995.
Q	See case narrative. One or more quality control criteria was outside the limits.

Organic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
A	A tentatively identified compound, a suspected aldol-condensation product.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
C	The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
D	The reported result is from a dilution.
E	The result is an estimated value.
J	The result is an estimated value.
N	The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
P	The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results.
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
i	The MRL/MDL or LOQ/LOD is elevated due to a chromatographic interference.
X	See case narrative.
Q	See case narrative. One or more quality control criteria was outside the limits.

Additional Petroleum Hydrocarbon Specific Qualifiers

F	The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
L	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
H	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
O	The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
Y	The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
Z	The chromatographic fingerprint does not resemble a petroleum product.

ALS Group USA Corp. dba ALS Environmental (ALS) - Kelso
State Certifications, Accreditations, and Licenses

Agency	Web Site	Number
Alaska DEH	http://dec.alaska.gov/eh/lab/cs/csapproval.htm	UST-040
Arizona DHS	http://www.azdhs.gov/lab/license/env.htm	AZ0339
Arkansas - DEQ	http://www.adeq.state.ar.us/techsvs/labcert.htm	88-0637
California DHS (ELAP)	http://www.cdph.ca.gov/certlic/labs/Pages/ELAP.aspx	2795
DOD ELAP	http://www.denix.osd.mil/edqw/Accreditation/AccreditedLabs.cfm	L16-58-R4
Florida DOH	http://www.doh.state.fl.us/lab/EnvLabCert/WaterCert.htm	E87412
Hawaii DOH	http://health.hawaii.gov/	-
ISO 17025	http://www.pjlabs.com/	L16-57
Louisiana DEQ	http://www.deq.louisiana.gov/page/la-lab-accreditation	03016
Maine DHS	http://www.maine.gov/dhhs/	WA01276
Minnesota DOH	http://www.health.state.mn.us/accreditation	053-999-457
Nevada DEP	http://ndep.nv.gov/bsdw/labservice.htm	WA01276
New Jersey DEP	http://www.nj.gov/dep/enforcement/oqa.html	WA005
New York - DOH	https://www.wadsworth.org/regulatory/elap	12060
North Carolina DEQ	https://deq.nc.gov/about/divisions/water-resources/water-resources-data/water-sciences-home-page/laboratory-certification-branch/non-field-lab-certification	605
Oklahoma DEQ	http://www.deq.state.ok.us/CSDnew/labcert.htm	9801
Oregon – DEQ (NELAP)	http://public.health.oregon.gov/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	WA100010
South Carolina DHEC	http://www.scdhec.gov/environment/EnvironmentalLabCertification/	61002
Texas CEQ	http://www.tceq.texas.gov/field/qa/env_lab_accreditation.html	T104704427
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C544
Wyoming (EPA Region 8)	https://www.epa.gov/region8-waterops/epa-region-8-certified-drinking-water-	-
Kelso Laboratory Website	www.alsglobal.com	NA

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. A complete listing of specific NELAP-certified analytes, can be found in the certification section at www.ALSGlobal.com or at the accreditation bodies web site.
Please refer to the certification and/or accreditation body's web site if samples are submitted for compliance purposes. The states highlighted above, require the analysis be listed on the state certification if used for compliance purposes and if the method/anlayte is offered by that state.

Case Narrative

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1317 South 13th Ave, Kelso, WA 98626 | 1-360-577-7222 | www.alsglobal.com

Client: ALS Environmental - US
Project: HS20071328
Sample Matrix: Ground Water

Service Request: K2006497
Date Received: 07/31/2020

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples for the Tier level IV requested by the client.

Sample Receipt:

Six ground water samples were received for analysis at ALS Environmental on 07/31/2020. Any discrepancies upon initial sample inspection are annotated on the sample receipt and preservation form included within this report. The samples were stored at minimum in accordance with the analytical method requirements.

General Chemistry:

No significant anomalies were noted with this analysis.

Approved by Kelley Lovejoy Date 08/12/2020

Chain of Custody

ALS Environmental—Kelso Laboratory
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K2006497

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

Subcontract Chain of Custody

SAMPLING STATE: **Dept of Defense** **COC ID:** **14394**

SUBCONTRACT TO:

ALS Environmental Kelso
1317 S. 13th Avenue
Kelso, WA 98626

Phone: +1 360 501 3312

CUSTOMER INFORMATION:

Company:	ALS Houston
Contact:	RJ Modashia
Address:	10450 Stancliff Rd, Ste 210
Phone:	+1 281 530 5656
Email:	RJ.Modashia@alsglobal.com
Alternate Contact:	
Email:	

INVOICE INFORMATION:

Company:	ALS Houston
Contact:	Accounts Payable
Address:	10450 Stancliff Rd, Ste 210
Phone:	+1 281 530 5656
Reference:	HS20071328
TSR:	Sonia West

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	**HS20071328-05**	**16WW49-200727**	**Groundwater**	**27 Jul 2020 10:30**
	TOC Analysis with DOD Level IV/EQuIS APTIM EDD			12 Aug 2020
2.	**HS20071328-06**	**16WW51-200727**	**Groundwater**	**27 Jul 2020 11:25**
	TOC Analysis with DOD Level IV/EQuIS APTIM EDD			12 Aug 2020
3.	**HS20071328-07**	**16WW51-200727-FD**	**Groundwater**	**27 Jul 2020 11:25**
	TOC Analysis with DOD Level IV/EQuIS APTIM EDD			12 Aug 2020
4.	**HS20071328-13**	**16EW08-200728**	**Groundwater**	**28 Jul 2020 09:05**
	TOC Analysis with DOD Level IV/EQuIS APTIM EDD			12 Aug 2020
5.	**HS20071328-15**	**16RW04-200728**	**Groundwater**	**28 Jul 2020 10:40**
	TOC Analysis with DOD Level IV/EQuIS APTIM EDD			12 Aug 2020
6.	**HS20071328-16**	**16IW03-200728**	**Groundwater**	**28 Jul 2020 11:30**
	TOC Analysis with DOD Level IV/EQuIS APTIM EDD			12 Aug 2020

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

QC Level: DOD IV (DoD Data Package)

RIGHT SOLUTIONS | RIGHT PARTNER

K2006497

Subcontract Chain of Custody

SAMPLING STATE: **Dept of Defense**

COC ID: **14394**

Relinquished By: _____ Date/Time: 7/30/2020 1800

Received By: _____ Date/Time: 7/31/20 0930

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

PC KL

Cooler Receipt and Preservation Form

Client AIS - Houston Service Request K20 06497

Received: 7/31/20 Opened: 7/31/20 By: BK Unloaded: 7/31/20 By: BR

1. Samples were received via? *USPS* (*Fed Ex*) *UPS* *DHL* *PDX* *Courier* *Hand Delivered*
2. Samples were received in: (circle) (*Cooler*) *Box* *Envelope* *Other* _____ *NA*
3. Were custody seals on coolers? NA (Y) N If yes, how many and where? 2 front
   If present, were custody seals intact? (Y) N If present, were they signed and dated? (Y) N

Temp Blank	Sample 1	Sample 2	Sample 3	Sample 4	IR GUN	Cooler / COC ID (NA)	Tracking Number NA	Filed
0.7	—	—	—	—	IR01	14394	189188188896	

4. Packing material: *Inserts* (*Baggies*) (*Bubble Wrap*) *Gel Packs* (*Wet Ice*) *Dry Ice* *Sleeves* _____
5. Were custody papers properly filled out (ink, signed, etc.)? NA (Y) N
6. Were samples received in good condition (temperature, unbroken)? *Indicate in the table below.* NA (Y) N
   If applicable, tissue samples were received: *Frozen* *Partially Thawed* *Thawed*
7. Were all sample labels complete (i.e analysis, preservation, etc.)? NA (Y) N
8. Did all sample labels and tags agree with custody papers? *Indicate major discrepancies in the table on page 2.* NA (Y) N
9. Were appropriate bottles/containers and volumes received for the tests indicated? NA (Y) N
10. Were the pH-preserved bottles (*see SMO GEN SOP*) received at the appropriate pH? *Indicate in the table below* NA (Y) N
11. Were VOA vials received without headspace? *Indicate in the table below.* (NA) Y N
12. Was C12/Res negative? (NA) Y N

Sample ID on Bottle	Sample ID on COC	Identified by:

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

Notes, Discrepancies, & Resolutions: _____

General Chemistry

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ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	K2006497
Project:	HS20071328	**Date Collected:**	07/27/20 - 07/28/20
Sample Matrix:	Ground Water	**Date Received:**	07/31/20
Analysis Method:	SM 5310 C	**Units:**	mg/L
Prep Method:	None	**Basis:**	NA

Carbon, Total Organic

Sample Name	Lab Code	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
16WW49-200727	K2006497-001	**4.11**	0.50	0.20	0.07	1	08/10/20 08:15	
16WW51-200727	K2006497-002	**4.55**	0.50	0.20	0.07	1	08/08/20 12:03	
16WW51-200727-FD	K2006497-003	**4.57**	0.50	0.20	0.07	1	08/08/20 12:03	
16EW08-200728	K2006497-004	**711**	13	5	2	25	08/10/20 08:15	
16RW04-200728	K2006497-005	**3.34**	0.50	0.20	0.07	1	08/10/20 08:15	
16IW03-200728	K2006497-006	**47.8**	0.50	0.20	0.07	1	08/10/20 08:15	
Method Blank	K2006497-MB1	ND U	0.50	0.20	0.07	1	08/08/20 12:03	
Method Blank	K2006497-MB2	ND U	0.50	0.20	0.07	1	08/10/20 08:15	

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	K2006497
Project:	HS20071328	**Date Analyzed:**	08/08/20
Sample Matrix:	Ground Water	**Date Extracted:**	NA

Duplicate Lab Control Sample Summary
General Chemistry Parameters

Analysis Method:	SM 5310 C	**Units:**	mg/L
Prep Method:	None	**Basis:**	NA
		Analysis Lot:	690271

	Lab Control Sample K2006497-LCS1			Duplicate Lab Control Sample K2006497-DLCS1					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Carbon, Total Organic	24.9	25.0	100	25.0	25.0	100	83-117	<1	10

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	K2006497
Project:	HS20071328	**Date Analyzed:**	08/10/20
Sample Matrix:	Ground Water	**Date Extracted:**	NA

Lab Control Sample Summary
General Chemistry Parameters

Analysis Method:	SM 5310 C	**Units:**	mg/L
Prep Method:	None	**Basis:**	NA
		Analysis Lot:	690414

Lab Control Sample
K2006497-LCS2

Analyte Name	Result	Spike Amount	% Rec	% Rec Limits
Carbon, Total Organic	24.4	25.0	98	83-117

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US **Service Request:** K2006497
Project: HS20071328

Continuing Calibration Verification (CCV) Summary

Carbon, Total Organic

Analysis Method: SM 5310 C **Units:** mg/L

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	690271	KQ2010974-07	08/08/20 12:03	25.0	25.0	100	90-110
CCV2	690271	KQ2010974-08	08/08/20 12:03	25.0	24.4	98	90-110
CCV3	690271	KQ2010974-09	08/08/20 12:03	25.0	24.9	99	90-110
CCV4	690271	KQ2010974-10	08/08/20 12:03	25.0	26.2	105	90-110
CCV5	690414	KQ2011025-07	08/10/20 08:15	25.0	24.4	98	90-110
CCV6	690414	KQ2011025-08	08/10/20 08:15	25.0	24.4	98	90-110
CCV7	690414	KQ2011025-09	08/10/20 08:15	25.0	24.8	99	90-110
CCV8	690414	KQ2011025-10	08/10/20 08:15	25.0	24.0	96	90-110

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US **Service Request:**K2006497
Project: HS20071328

Continuing Calibration Blank (CCB) Summary
Carbon, Total Organic

Analysis Method: SM 5310 C **Units:**mg/L

	Analysis Lot	Lab Code	Date Analyzed	LOQ	LOD	MDL	Result	Q
CCB1	690271	KQ2010974-12	08/08/20 12:03	0.50	0.20	0.07	ND	U
CCB2	690271	KQ2010974-13	08/08/20 12:03	0.50	0.20	0.07	ND	U
CCB3	690271	KQ2010974-14	08/08/20 12:03	0.50	0.20	0.07	ND	U
CCB4	690271	KQ2010974-17	08/08/20 12:03	0.50	0.20	0.07	ND	U
CCB5	690414	KQ2011025-03	08/10/20 08:15	0.50	0.20	0.07	ND	U
CCB6	690414	KQ2011025-04	08/10/20 08:15	0.50	0.20	0.07	ND	U
CCB7	690414	KQ2011025-05	08/10/20 08:15	0.50	0.20	0.07	ND	U
CCB8	690414	KQ2011025-06	08/10/20 08:15	0.50	0.20	0.07	ND	U

Raw Data

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General Chemistry

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Work Request # 6047 6158 6197 6297 6333 6206 6308

Tier: IV IV II II IV IV I

Date Analyzed: 8/8/20 6321 II 6497 II

Analyst: MK Run # 690270/690271 690269

Analysis: TOC/DOC

DATA QUALITY REPORT
INORGANICS

Explain any "no" responses to questions below, and any corrective actions in the comments section below.

1.	Is the method name and number correct and appropriate?	yes/no/NA
2.	Holding times met for all analyses and for all samples?	yes/no/NA
3.	Are calculations correct?	yes/no/NA
4.	Is the reporting basis correct? (Dry Weight)	yes/no/NA
5.	All quality control criteria met?	yes/no
6.	Is the calibration curve correlation coefficient ≥ 0.995?	yes/no/NA
7.	MBs, CCVs, CCBs, LCSs, Dups, and Spikes, analyzed at proper frequency?	yes/no/NA
8.	Are ICVs, CCVs, and CCBs all within acceptance limits?	yes/no/NA
9.	Are results for methods blanks all ND?	yes/no/NA
10.	Are all QC samples within acceptance criteria? (LCS % rec, MS/DMS % rec, DUP or MS/DMS RPDs, etc.)	yes/no/NA MK
11.	Are all exceptions explained?	yes/no/NA
12.	Have all applicable service requests been reviewed?	yes/no/NA
13.	Are all samples labeled correctly?	yes/no/NA
14.	Have all instructions on the service request been followed? (e.g. Special MRLs, QC on a specific sample, Form V)	yes/no/NA
15.	Are detection limits and units reported correctly?	yes/no/NA
16.	Is the unused space on the benchsheet crossed out?	yes/no/NA
17.	Was analysis turned in by the due date? (n-2) (If not record SR#)	yes/no/NA

COMMENTS:

6206-IMS low Rec Matrix
6047-5 has matrix issues raised MRL
6497-4 needs DIL
5 needs rerun

Final Approved by: _____ Date: 8/10/20

DQREPORT

Analytical Results Summary

Instrument Name: K-TOC-01 **Analyst:** MKANALY **Analysis Lot:** 690270 **Method/Testcode:** SM 5310 C/TOC T

Lab Code	Target Analytes	QC	Parent Sample	Matrix	Raw Result	Sample Amt.	Final Result	Dil	MDL	PQL	% Rec	% RSD	Date Analyzed	QC?	Tier
K2006047-001	Carbon, Total Organic	N/A		Water	3.67 mg/L	10 mL	3.67 mg/L	1	0.07	0.50			8/8/20 12:03:00	N	IV
K2006047-002	Carbon, Total Organic	N/A		Water	13.40 mg/L	10 mL	67.0 mg/L	5	0.4	2.5			8/8/20 12:03:00	N	IV
K2006047-003	Carbon, Total Organic	N/A		Water	18.64 mg/L	10 mL	18.6 mg/L	1	0.07	0.50			8/8/20 12:03:00	N	IV
K2006047-004	Carbon, Total Organic	N/A		Water	5.58 mg/L	10 mL	5.58 mg/L	1	0.07	0.50			8/8/20 12:03:00	N	IV
K2006047-005.R02	Carbon, Total Organic	N/A		Water	0.00 mg/L	10 mL	5.0 mg/L U	10	0.7	5.0			8/8/20 12:03:00	N	IV
K2006047-006	Carbon, Total Organic	N/A		Water	2.56 mg/L	10 mL	2.56 mg/L	1	0.07	0.50			8/8/20 12:03:00	N	IV
K2006158-001	Carbon, Total Organic	N/A		Ground Water	13.70 mg/L	10 mL	13.7 mg/L	1	0.07	0.50			8/8/20 12:03:00	N	IV
K2006158-003	Carbon, Total Organic	N/A		Ground Water	8.37 mg/L	10 mL	8.37 mg/L	1	0.07	0.50			8/8/20 12:03:00	N	IV
K2006158-004	Carbon, Total Organic	N/A		Ground Water	8.30 mg/L	10 mL	8.30 mg/L	1	0.07	0.50			8/8/20 12:03:00	N	IV
K2006158-005	Carbon, Total Organic	N/A		Ground Water	46.07 mg/L	10 mL	1840 mg/L	40	3	20			8/8/20 12:03:00	N	IV
K2006158-006	Carbon, Total Organic	N/A		Ground Water	20.80 mg/L	10 mL	416 mg/L	20	2	10			8/8/20 12:03:00	N	IV
K2006197-002	Carbon, Total Organic	N/A		Water	16.68 mg/L	10 mL	16.7 mg/L	1	0.07	0.50			8/8/20 12:03:00	N	II
K2006297-001	Carbon, Total Organic	N/A		Wastewater	2.11 mg/L	10 mL	2.11 mg/L	1	0.07	0.50			8/8/20 12:03:00	N	II
K2006297-002	Carbon, Total Organic	N/A		Wastewater	0.95 mg/L	10 mL	0.95 mg/L	1	0.07	0.50			8/8/20 12:03:00	N	II
K2006297-003	Carbon, Total Organic	N/A		Wastewater	0.11 mg/L	10 mL	0.11 mg/L J	1	0.07	0.50			8/8/20 12:03:00	N	II
K2006297-004	Carbon, Total Organic	N/A		Wastewater	4.21 mg/L	10 mL	4.21 mg/L	1	0.07	0.50			8/8/20 12:03:00	N	II
K2006333-001	Carbon, Total Organic	N/A		Ground Water	4.16 mg/L	10 mL	4.16 mg/L	1	0.07	0.50			8/8/20 12:03:00	N	IV
K2006333-002	Carbon, Total Organic	N/A		Ground Water	4.33 mg/L	10 mL	4.33 mg/L	1	0.07	0.50			8/8/20 12:03:00	N	IV
KQ2010960-01	Carbon, Total Organic	MB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			8/8/20 12:03:00	N	IV
KQ2010960-02	Carbon, Total Organic	LCS		Water	25.85 mg/L	10 mL	25.9 mg/L	1	0.07	0.50	103		8/8/20 12:03:00	N	IV
KQ2010960-03	Carbon, Total Organic	CCV		Water	25.52 mg/L	10 mL	25.5 mg/L	1					8/8/20 12:03:00	N	IV
KQ2010960-04	Carbon, Total Organic	CCV		Water	26.08 mg/L	10 mL	26.1 mg/L	1					8/8/20 12:03:00	N	IV
KQ2010960-05	Carbon, Total Organic	CCV		Water	25.01 mg/L	10 mL	25.0 mg/L	1					8/8/20 12:03:00	N	IV
KQ2010960-06	Carbon, Total Organic	CCV		Water	24.38 mg/L	10 mL	24.4 mg/L	1					8/8/20 12:03:00	N	IV
KQ2010960-07	Carbon, Total Organic	CCV		Water	24.86 mg/L	10 mL	24.9 mg/L	1					8/8/20 12:03:00	N	IV
KQ2010960-08	Carbon, Total Organic	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			8/8/20 12:03:00	N	IV
KQ2010960-09	Carbon, Total Organic	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			8/8/20 12:03:00	N	IV
KQ2010960-10	Carbon, Total Organic	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			8/8/20 12:03:00	N	IV
KQ2010960-11	Carbon, Total Organic	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			8/8/20 12:03:00	N	IV
KQ2010960-12	Carbon, Total Organic	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			8/8/20 12:03:00	N	IV

# indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

Analytical Results Summary

Instrument Name: K-TOC-01 **Analyst:** MKANALY **Analysis Lot:** 690270 **Method/Testcode:** SM 5310 C/TOC T

Lab Code	Target Analytes	QC	Parent Sample	Matrix	Raw Result	Sample Amt.	Final Result	Dil	MDL	PQL	% Rec	% RSD	Date Analyzed	QC?	Tier
KQ2010960-13	Carbon, Total Organic	DUP	K2006158-001	Ground Water	13.63 mg/L	10 mL	13.6 mg/L	1	0.07	0.50		<1	8/8/20 12:03:00	N	IV
KQ2010960-14	Carbon, Total Organic	MS	K2006158-001	Ground Water	41.06 mg/L	10 mL	41.1 mg/L	1	0.07	0.50	109		8/8/20 12:03:00	N	IV
KQ2010960-15	Carbon, Total Organic	DUP	K2006297-004	Wastewater	4.18 mg/L	10 mL	4.18 mg/L	1	0.07	0.50		<1	8/8/20 12:03:00	N	II
KQ2010960-16	Carbon, Total Organic	MS	K2006297-004	Wastewater	32.03 mg/L	10 mL	32.0 mg/L	1	0.07	0.50	111		8/8/20 12:03:00	N	II

# indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

Analytical Results Summary

Instrument Name: K-TOC-01 **Analyst:** MKANALY **Analysis Lot:** 690271 **Method/Testcode:** SM 5310 C/TOC T

Lab Code	Target Analytes	QC	Parent Sample	Matrix	Raw Result	Sample Amt.	Final Result	Dil	MDL	PQL	% Rec	% RSD	Date Analyzed	QC?	Tier
K2006206-001	Carbon, Total Organic	N/A		Water	1.10 mg/L	10 mL	1.10 mg/L	1	0.07	0.50			8/8/20 12:03:00	N	IV
K2006206-002	Carbon, Total Organic	N/A		Water	1.16 mg/L	10 mL	1.16 mg/L	1	0.07	0.50			8/8/20 12:03:00	N	IV
K2006308-001	Carbon, Total Organic	N/A		Drinking Water	0.76 mg/L	10 mL	0.76 mg/L	1	0.07	0.50			8/8/20 12:03:00	N	I
K2006321-001	Carbon, Total Organic	N/A		Water	0.75 mg/L	10 mL	0.75 mg/L	1	0.07	0.50			8/8/20 12:03:00	N	II
K2006321-002	Carbon, Total Organic	N/A		Water	4.37 mg/L	10 mL	8.7 mg/L	2	0.2	1.0			8/8/20 12:03:00	N	II
K2006321-003	Carbon, Total Organic	N/A		Water	4.10 mg/L	10 mL	4.10 mg/L	1	0.07	0.50			8/8/20 12:03:00	N	II
K2006321-004	Carbon, Total Organic	N/A		Water	8.76 mg/L	10 mL	8.76 mg/L	1	0.07	0.50			8/8/20 12:03:00	N	II
K2006321-005	Carbon, Total Organic	N/A		Water	2.70 mg/L	10 mL	2.70 mg/L	1	0.07	0.50			8/8/20 12:03:00	N	II
K2006321-006	Carbon, Total Organic	N/A		Water	0.59 mg/L	10 mL	0.59 mg/L	1	0.07	0.50			8/8/20 12:03:00	N	II
K2006497-002	Carbon, Total Organic	N/A		Ground Water	4.55 mg/L	10 mL	4.55 mg/L	1	0.07	0.50			8/8/20 12:03:00	N	IV
K2006497-003	Carbon, Total Organic	N/A		Ground Water	4.57 mg/L	10 mL	4.57 mg/L	1	0.07	0.50			8/8/20 12:03:00	N	IV
K2006497-004.R01	Carbon, Total Organic	N/A		Ground Water	112.94 mg/L	10 mL	113 mg/L	1	0.07	0.50			8/8/20 12:03:00	N	IV
K2006497-005.R01	Carbon, Total Organic	N/A		Ground Water	6.54 mg/L	10 mL	6.54 mg/L	1	0.07	0.50			8/8/20 12:03:00	N	IV
KQ2010974-01	Carbon, Total Organic	MB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			8/8/20 12:03:00	N	IV
KQ2010974-05	Carbon, Total Organic	LCS		Water	24.91 mg/L	10 mL	24.9 mg/L	1	0.07	0.50	100		8/8/20 12:03:00	N	IV
KQ2010974-06	Carbon, Total Organic	DLCS		Water	25.04 mg/L	10 mL	25.0 mg/L	1	0.07	0.50	100	<1	8/8/20 12:03:00	N	IV
KQ2010974-07	Carbon, Total Organic	CCV		Water	25.01 mg/L	10 mL	25.0 mg/L	1					8/8/20 12:03:00	N	IV
KQ2010974-08	Carbon, Total Organic	CCV		Water	24.38 mg/L	10 mL	24.4 mg/L	1					8/8/20 12:03:00	N	IV
KQ2010974-09	Carbon, Total Organic	CCV		Water	24.86 mg/L	10 mL	24.9 mg/L	1					8/8/20 12:03:00	N	IV
KQ2010974-10	Carbon, Total Organic	CCV		Water	26.16 mg/L	10 mL	26.2 mg/L	1					8/8/20 12:03:00	N	IV
KQ2010974-12	Carbon, Total Organic	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			8/8/20 12:03:00	N	IV
KQ2010974-13	Carbon, Total Organic	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			8/8/20 12:03:00	N	IV
KQ2010974-14	Carbon, Total Organic	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			8/8/20 12:03:00	N	IV
KQ2010974-15	Carbon, Total Organic	DUP	K2006206-001	Water	1.13 mg/L	10 mL	1.13 mg/L	1	0.07	0.50		2	8/8/20 12:03:00	N	IV
KQ2010974-16	Carbon, Total Organic	MS	K2006206-001	Water	14.69 mg/L	10 mL	14.7 mg/L	1	0.07	0.50	54*		8/8/20 12:03:00	N	IV
KQ2010974-17	Carbon, Total Organic	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			8/8/20 12:03:00	N	IV

# indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

Analytical Results Summary

Instrument Name: K-TOC-01 **Analyst:** MKANALY **Analysis Lot:** 690269 **Method/Testcode:** SM 5310 C/TOC D

Lab Code	Target Analytes	QC	Parent Sample	Matrix	Raw Result	Sample Amt.	Final Result	Dil	MDL	PQL	% Rec	% RSD	Date Analyzed	QC?	Tier
K2006297-001	Carbon, Dissolved Organic (DOC)	N/A		Wastewater	2.11 mg/L	10 mL	2.11 mg/L	1	0.07	0.50			8/8/20 12:03:00	N	II
K2006297-002	Carbon, Dissolved Organic (DOC)	N/A		Wastewater	0.95 mg/L	10 mL	0.95 mg/L	1	0.07	0.50			8/8/20 12:03:00	N	II
K2006297-003	Carbon, Dissolved Organic (DOC)	N/A		Wastewater	0.11 mg/L	10 mL	0.11 mg/L J	1	0.07	0.50			8/8/20 12:03:00	N	II
K2006297-004	Carbon, Dissolved Organic (DOC)	N/A		Wastewater	4.21 mg/L	10 mL	4.21 mg/L	1	0.07	0.50			8/8/20 12:03:00	N	II
KQ2010959-01	Carbon, Dissolved Organic (DOC)	DUP	K2006297-004	Wastewater	4.18 mg/L	10 mL	4.18 mg/L	1	0.07	0.50		<1	8/8/20 12:03:00	N	II
KQ2010959-02	Carbon, Dissolved Organic (DOC)	MS	K2006297-004	Wastewater	32.03 mg/L	10 mL	32.0 mg/L	1	0.07	0.50	111		8/8/20 12:03:00	N	II
KQ2010959-03	Carbon, Dissolved Organic (DOC)	CCV		Wastewater	25.01 mg/L	10 mL	25.0 mg/L	1					8/8/20 12:03:00	N	II
KQ2010959-04	Carbon, Dissolved Organic (DOC)	CCV		Wastewater	24.38 mg/L	10 mL	24.4 mg/L	1					8/8/20 12:03:00	N	II
KQ2010959-05	Carbon, Dissolved Organic (DOC)	CCV		Wastewater	24.86 mg/L	10 mL	24.9 mg/L	1					8/8/20 12:03:00	N	II
KQ2010959-06	Carbon, Dissolved Organic (DOC)	CCB		Wastewater	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			8/8/20 12:03:00	N	II
KQ2010959-07	Carbon, Dissolved Organic (DOC)	CCB		Wastewater	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			8/8/20 12:03:00	N	II
KQ2010959-08	Carbon, Dissolved Organic (DOC)	CCB		Wastewater	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			8/8/20 12:03:00	N	II
KQ2010959-09	Carbon, Dissolved Organic (DOC)	MB		Wastewater	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			8/8/20 12:03:00	N	II
KQ2010959-10	Carbon, Dissolved Organic (DOC)	LCS		Wastewater	25.23 mg/L	10 mL	25.2 mg/L	1	0.07	0.50	101		8/8/20 12:03:00	N	II
KQ2010959-11	Carbon, Dissolved Organic (DOC)	DLCS		Wastewater	25.11 mg/L	10 mL	25.1 mg/L	1	0.07	0.50	100	<1	8/8/20 12:03:00	N	II

# indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

TOC: 690270
TOC: 696271
TOC: ~~690290~~ MK 8-10-20
DOC 690269

Schedule: 080820

Version: 13
Instrument: Fusion1
Last Saved by: Fusion1 (Fusion1)
Last Saved on: 2020/08/09 13:02 - Sunday

Position	Sample Type	Sample ID	Method ID (Calibration ID)	Reps	Use	State
(Clean)	Clean	Clean		1	True	Ready
(Clean)	Clean	Clean		1	True	Ready
(Clean)	Clean	Clean		1	True	Ready
(Blank)	Blank	Reagent/Acid Blank		1	True	Ready
D	Sample	RB	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
B	Check Standard	[TOC] CCV 25 ppm [25 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
D	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
1	Sample	MB1	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
C	Check Standard	[TOC] CCV 25 ppm [25 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
2	Sample	ICS	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
C	Check Standard	[TOC] LCS [25.0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
3	Sample	K2006047-001	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
4	Sample	K2006047-002 5X	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
5	Sample	K2006047-003	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
6	Sample	K2006047-004	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
7	Sample	K2006047-005 10X	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
8	Sample	K2006047-006	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
9	Sample	K2006158-001	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
B	Check Standard	[TOC] CCV 25 ppm [25 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
D	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
10	Sample	K2006158-001D	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
11	Sample	K2006158-001MS	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
12	Sample	K2006158-003	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
13	Sample	K2006158-004	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
14	Sample	K2006158-005 40X	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
15	Sample	K2006158-006 20X	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
16	Sample	RB	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
17	Sample	K2006333-001	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
18	Sample	K2006333-002	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
19	Sample	RB	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
B	Check Standard	[TOC] CCV 25 ppm [25 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
D	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
20	Sample	MB2	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
C	Check Standard	[TOC] LCS [25.0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
C	Check Standard	[TOC] LCS [25.0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
22	Sample	K2006297-001	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
23	Sample	K2006297-002	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
24	Sample	K2006297-003	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
25	Sample	K2006297-004	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
26	Sample	K2006297-004D	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
27	Sample	K2006297-004MS	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
28	Sample	K2006197-001	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
B	Check Standard	[TOC] CCV 25 ppm [25 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
D	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
29	Sample	K2006297-001*	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
30	Sample	K2006297-002*	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
31	Sample	K2006297-003*	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
32	Sample	K2006297-004*	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
33	Sample	K2006297-004D*	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
34	Sample	K2006297-004S*	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
35	Sample	K2006308-001	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
36	Sample	K2006321-001	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
37	Sample	K2006321-002 2X	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
38	Sample	K2006321-003	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready

Schedule: 080820

Position	Sample Type	Sample ID	Method ID (Calibration ID)	Reps	Use	State
B	Check Standard	[TOC] CCV 25 ppm [25 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
D	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
39	Sample	MB3	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
C	Check Standard	[TOC] LCS [25.0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
C	Check Standard	[TOC] LCS [25.0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
41	Sample	K2006321-004	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
42	Sample	K2006321-005	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
43	Sample	K2006321-006	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
44	Sample	K2006206-001	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
45	Sample	K2006206-001D	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
46	Sample	K2006206-1MS	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
47	Sample	K2006206-002	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
B	Check Standard	[TOC] CCV 25 ppm [25 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
D	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
48	Sample	~~K2006280-001~~	CAS_salt_010711 (CAS_salt_010711)	2	False	Ready
49	Sample	K2006280-001D	CAS_salt_010711 (CAS_salt_010711)	2	False	Ready
50	Sample	K2006280-001S NR	CAS_salt_010711 (CAS_salt_010711)	2	False	Ready
51	Sample	K2006280-002	CAS_salt_010711 (CAS_salt_010711)	2	False	Ready
52	Sample	~~K2006280-003~~	CAS_salt_010711 (CAS_salt_010711)	2	False	Ready
53	Sample	K2006497-001	CAS_salt_010711 (CAS_salt_010711)	2	False	Ready
54	Sample	K2006497-002	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
55	Sample	K2006497-003	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
56	Sample	K2006497-004	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
57	Sample	K2006497-005	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
B	Check Standard	[TOC] CCV 25 ppm [25 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
C	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
58	Sample	MB	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
C	Check Standard	[TOC] LCS [25.0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
59	Sample	K2006497-006	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
60	Sample	K2006330-001	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
62	Sample	K2006330-001D NR	CAS_salt_010711 (CAS_salt_010711)	2	False	Ready
63	Sample	K2006330-001MS	CAS_salt_010711 (CAS_salt_010711)	2	False	Ready
64	Sample	K2006330-002	CAS_salt_010711 (CAS_salt_010711)	2	False	Ready
65	Sample	K2006330-003	CAS_salt_010711 (CAS_salt_010711)	2	False	Ready
68	Sample	K2006257-001	CAS_salt_010711 (CAS_salt_010711)	2	False	Ready
B	Check Standard	[TOC] CCV 25ppm_salt [25ppm salt]	CAS_salt (CAS_salt_0811a)	1	True	Ready
D	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
					False	

Fusion Report - 080820
Saturday, August 08, 2020 12:03 PM

(View - Reps, Unused Reps, Meta-Data, Signature, History)
Printed on 2020/08/10 07:53 - Monday

Report Summary Information

Company Location:	Gen Chem Lab		
Schedule Name:	080820	Engine Version:	1.1.5.1
Instrument Name:	Fusion1	Firmware Version:	1.2.0696
Report Version:	1 of 1	Connection:	RS232 COM1
Report Creation by Operators (schedule version):	Fusion1 (Fusion1) (v3) Fusion1 (Fusion1) (v5) Fusion1 (Fusion1) (v7) Fusion1 (Fusion1) (v9) Fusion1 (Fusion1) (v13)		
Comment:			

Report Results

Sample Type: Clean — From Schedule Version 3

	Pos	Analysis Type	Sample ID	Start Time
◆	(clean)		Clean	2020/08/08 12:03

Rep #	Base Analysis Type	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	IC Clean	13.44	27.20	13.76	49.74	07:57
2	TC Clean	9.84	22.99	13.15	49.66	07:18
3	TC Clean	1.63	14.75	13.12	49.68	07:03
4	TC Clean	0.84	13.84	12.99	49.66	07:00

Sample Type: Clean — From Schedule Version 3

	Pos	Analysis Type	Sample ID	Start Time
◆	(clean)		Clean	2020/08/08 12:37

Rep #	Base Analysis Type	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	IC Clean	-0.08	12.88	12.96	49.75	08:00
2	TC Clean	4.72	17.45	12.72	49.65	07:16
3	TC Clean	1.01	14.02	13.01	49.67	07:02

4	TC Clean	0.80	13.73	12.93	49.67	07:00

Sample Type: Clean From Schedule Version 3

	Pos	Analysis Type	Sample ID	Start Time
◆	(clean)		Clean	2020/08/08 13:11

Rep #	Base Analysis Type	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	IC Clean	-0.26	12.71	12.97	49.75	07:58
2	TC Clean	4.82	17.53	12.71	49.59	07:16
3	TC Clean	1.11	14.03	12.92	49.64	07:00
4	TC Clean	1.03	13.85	12.82	49.65	07:01

Sample Type: Blank (Creating v1430) From Schedule Version 3

	Pos	Analysis Type	Sample ID	Start Time
◆	(blank)		Reagent/Acid Blank	2020/08/08 13:45

Rep #	Base Analysis Type	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	IC Clean	-0.39	12.48	12.87	49.76	07:59
2	TC Clean	5.34	17.95	12.61	49.61	07:19
3	TC Clean	1.82	14.75	12.92	49.59	07:02
4	TC Clean	1.25	14.03	12.79	49.61	07:01
5	Reagent Blank	5.96	18.76	12.79	49.60	08:10
6	Acid Blank	0.56	13.15	12.59	49.74	08:01

Sample Type: Sample From Schedule Version 3

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	D	TOC	RB	0.2354 ppm	0.0000 ppm	0.0000%	2020/08/08 14:36

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.2354	2.3545	10.95	23.83	12.88	49.78	10:31

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> CCV 25 ppm From Schedule Version 3

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	B	TOC	25.0000	1:2	[TOC] CCV 25 ppm [25 ppm]	0 / infinity (NA / NA)	25.5238 ppm (PASS)	0.0000 ppm	0%	2020/08/08 14:51

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	25.5238	255.2379	188.94	201.71	12.77	49.74	10:33

Completion State	Success Action	Method	Calibration	STD Conc - Pos B
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	50 ppmC

Sample Type: Check Standard --> CCB From Schedule Version 3

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	D	TOC	0.0000	1:1	[TOC] CCB [0 ppm]	0 / infinity (NA / NA)	0.0000 ppm (PASS)	0.0000 ppm	0%	2020/08/08 15:06

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.0000	0.0000	8.98	21.82	12.84	49.72	10:30

Completion State	Success Action	Method	Calibration	STD Conc - Pos D
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	0 ppmC

Sample Type: Sample From Schedule Version 5

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	1	TOC	MB1	0.0000 ppm	0.0000 ppm	0.0000%	2020/08/08 15:21

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0000	0.0000	8.70	21.47	12.77	49.71	10:32

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> CCV 25 ppm From Schedule Version 7

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	C	TOC	25.0000	1:2	[TOC] CCV 25 ppm [25 ppm]	0 / infinity (NA / NA)	12.4067 ppm (PASS)	0.0000 ppm	0%	2020/08/08 15:35

NR

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
C	TOC	25 ppm	1	12.4067	124.0671	96.92	109.68	12.76	49.68	10:33

Completion State	Success Action	Method	Calibration	STD Conc - Pos C
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	50 ppmC

Sample Type: Sample — From Schedule Version 9

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	2	TOC	ICS	0.6496 ppm	0.0000 ppm	0.0000%	2020/08/08 15:50

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.6496	6.4957	13.86	26.57	12.71	49.62	10:33

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> LCS — From Schedule Version 9

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	C	TOC	25.0000	1:1	[TOC] LCS [25.0 ppm]	0 / infinity (NA / NA)	25.8527 ppm (PASS)	0.0000 ppm	0%	2020/08/08 16:05

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
C	TOC	25.0 ppm	1	25.8527	258.5266	191.24	203.85	12.61	49.64	10:33

Completion State	Success Action	Method	Calibration	STD Conc - Pos C
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	25 ppmC

Sample Type: Sample — From Schedule Version 9

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	3	TOC	K2006047-001	3.6735 ppm	0.1980 ppm	5.3900%	2020/08/08 16:20

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	3.8134	38.1344	36.05	48.77	12.72	49.62	10:29
2	TOC	3.5335	35.3346	34.09	46.79	12.70	49.62	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	4	TOC	K2006047-002 5X	13.4025 ppm	0.0162 ppm	0.1200%	2020/08/08 16:48

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	13.3910	133.9101	103.24	116.08	12.85	49.73	10:26
2	TOC	13.4140	134.1396	103.40	116.38	12.98	49.64	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	5	TOC	K2006047-003	18.6383 ppm	0.2445 ppm	1.3100%	2020/08/08 17:16

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	18.8112	188.1124	141.26	154.11	12.85	49.79	10:29
2	TOC	18.4654	184.6541	138.83	151.84	13.01	49.68	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	6	TOC	K2006047-004	5.5848 ppm	0.1138 ppm	2.0400%	2020/08/08 17:44

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	5.6652	56.6523	49.04	61.94	12.90	49.74	10:29
2	TOC	5.5043	55.0429	47.91	60.86	12.95	49.70	10:23

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	7	TOC	K2006047-005 10X	0.0000 ppm	0.0000 ppm	0.0000%	2020/08/08 18:12

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0000	0.0000	-771.14	-758.07	13.07	49.70	10:26
2	TOC	0.0000	0.0000	-527.65	-514.52	13.13	49.68	10:30

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	8	TOC	K2006047-006	2.5618 ppm	0.6570 ppm	25.6500%	2020/08/08 18:40

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	3.0264	30.2639	30.53	43.62	13.09	49.71	10:29

2	TOC	2.0972	20.9722	24.01	37.09	13.08	49.81	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	9	TOC	K2006158-001	13.7039 ppm	0.0665 ppm	0.4900%	2020/08/08 19:08

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	13.7510	137.5096	105.76	118.84	13.08	49.66	10:28
2	TOC	13.6569	136.5688	105.10	117.97	12.87	49.66	10:23

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> CCV 25 ppm From Schedule Version 9

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	B	TOC	25.0000	1:2	[TOC] CCV 25 ppm [25 ppm]	0 / infinity (NA / NA)	26.0793 ppm (PASS)	0.0000 ppm	0%	2020/08/08 19:36

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	26.0793	260.7933	192.83	205.61	12.78	49.77	10:31

Completion State	Success Action	Method	Calibration	STD Conc - Pos B
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	50 ppmC

Sample Type: Check Standard --> CCB From Schedule Version 9

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	D	TOC	0.0000	1:1	[TOC] CCB [0 ppm]	0 / infinity (NA / NA)	0.0449 ppm (PASS)	0.0000 ppm	0%	2020/08/08 19:51

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.0449	0.4490	10.21	23.03	12.82	49.62	10:31

Completion State	Success Action	Method	Calibration	STD Conc - Pos D
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	0 ppmC

Sample Type: Sample From Schedule Version 9

		Analysis			Std. Dev.		

	Pos	Type	Sample ID	Result (ppmC)	(ppmC)	RSD	Start Time
◆	10	TOC	K2006158-001D	13.6259 ppm	0.3394 ppm	2.4900%	2020/08/08 20:05

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	13.8659	138.6586	106.57	119.68	13.12	49.58	10:28
2	TOC	13.3859	133.8588	103.20	116.19	12.99	49.54	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	11	TOC	K2006158-001MS	41.0625 ppm	0.3763 ppm	0.9200%	2020/08/08 20:34

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	41.3286	413.2855	299.21	312.31	13.10	49.51	10:27
2	TOC	40.7964	407.9639	295.48	308.63	13.15	49.48	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	12	TOC	K2006158-003	8.3734 ppm	0.2055 ppm	2.4500%	2020/08/08 21:02

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	8.5188	85.1876	69.06	82.12	13.06	49.49	10:29
2	TOC	8.2281	82.2809	67.02	79.91	12.89	49.49	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	13	TOC	K2006158-004	8.2953 ppm	0.0755 ppm	0.9100%	2020/08/08 21:30

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	8.3487	83.4869	67.86	80.81	12.95	49.50	10:25
2	TOC	8.2419	82.4192	67.12	80.14	13.02	49.50	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	14	TOC	K2006158-005 40X	46.0666 ppm	0.3094 ppm	0.6700%	2020/08/08 21:58

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	45.8478	458.4784	330.92	343.86	12.94	49.51	10:30
2	TOC	46.2853	462.8534	333.98	347.14	13.16	49.54	10:25

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	15	TOC	K2006158-006 20X	20.8042 ppm	0.6440 ppm	3.1000%	2020/08/08 22:26

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	21.2596	212.5963	158.43	171.47	13.03	49.55	10:28
2	TOC	20.3488	203.4885	152.04	165.18	13.14	49.54	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	16	TOC	RB	0.8427 ppm	0.1281 ppm	15.2000%	2020/08/08 22:54

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.7521	7.5207	14.58	27.53	12.95	49.53	10:26
2	TOC	0.9333	9.3325	15.85	28.76	12.91	49.58	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	17	TOC	K2006333-001	4.1567 ppm	0.1343 ppm	3.2300%	2020/08/08 23:22

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	4.2517	42.5165	39.12	52.03	12.91	49.59	10:27
2	TOC	4.0618	40.6177	37.79	51.00	13.21	49.61	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	18	TOC	K2006333-002	4.3346 ppm	0.1227 ppm	2.8300%	2020/08/08 23:50

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	4.4213	44.2130	40.32	53.25	12.94	49.64	10:29
2	TOC	4.2478	42.4781	39.10	52.25	13.15	49.60	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	19	TOC	RB	0.1913 ppm	0.0489 ppm	25.5500%	2020/08/09 00:18

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.1568	1.5676	10.40	23.59	13.19	49.64	10:29
2	TOC	0.2259	2.2590	10.88	23.96	13.08	49.63	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> CCV 25 ppm From Schedule Version 9

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	B	TOC	25.0000	1:2	[TOC] CCV 25 ppm [25 ppm]	0 / infinity (NA / NA)	25.0089 ppm (PASS)	0.0000 ppm	0%	2020/08/09 00:46

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	25.0089	250.0888	185.32	198.36	13.04	49.58	10:33

Completion State	Success Action	Method	Calibration	STD Conc - Pos B
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	50 ppmC

Sample Type: Check Standard --> CCB From Schedule Version 9

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	D	TOC	0.0000	1:1	[TOC] CCB [0 ppm]	0 / infinity (NA / NA)	0.0000 ppm (PASS)	0.0000 ppm	0%	2020/08/09 01:01

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.0000	0.0000	9.80	22.72	12.92	49.54	10:30

Completion State	Success Action	Method	Calibration	STD Conc - Pos D
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	0 ppmC

Sample Type: Sample From Schedule Version 9

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	20	TOC	MB2	0.0000 ppm	0.0000 ppm	0.0000%	2020/08/09 01:16

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0000	0.0000	9.16	22.32	13.17	49.50	10:30

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC)	CAS_salt_010711	CAS_salt_010711

(v1430) (v4) (v38)

Sample Type: Check Standard --> LCS From Schedule Version 9

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	C	TOC	25.0000	1:1	[TOC] LCS [25.0 ppm]	0 / infinity (NA / NA)	25.2283 ppm (PASS)	0.0000 ppm	0%	2020/08/09 01:30

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
C	TOC	25.0 ppm	1	25.2283	252.2827	186.86	199.88	13.01	49.48	10:31

Completion State	Success Action	Method	Calibration	STD Conc - Pos C
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	25 ppmC

Sample Type: Check Standard --> LCS From Schedule Version 9

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	C	TOC	25.0000	1:1	[TOC] LCS [25.0 ppm]	0 / infinity (NA / NA)	25.1138 ppm (PASS)	0.0000 ppm	0%	2020/08/09 01:45

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
C	TOC	25.0 ppm	1	25.1138	251.1380	186.06	199.23	13.17	49.48	10:33

Completion State	Success Action	Method	Calibration	STD Conc - Pos C
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	25 ppmC

Sample Type: Sample From Schedule Version 9

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	22	TOC	K2006297-001	2.1105 ppm	0.0374 ppm	1.7700%	2020/08/09 01:59

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	2.1370	21.3699	24.29	37.63	13.34	49.47	10:28
2	TOC	2.0841	20.8410	23.92	37.17	13.25	49.48	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	23	TOC	K2006297-002	0.9452 ppm	0.0011 ppm	0.1200%	2020/08/09 02:27

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.9459	9.4594	15.94	29.10	13.17	49.52	10:26
2	TOC	0.9444	9.4437	15.92	28.99	13.07	49.54	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	24	TOC	K2006297-003	0.1083 ppm	0.0214 ppm	19.7300%	2020/08/09 02:55

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.1234	1.2340	10.17	23.36	13.19	49.56	10:26
2	TOC	0.0932	0.9318	9.95	23.02	13.07	49.58	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	25	TOC	K2006297-004	4.2067 ppm	0.0302 ppm	0.7200%	2020/08/09 03:23

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	4.2281	42.2813	38.96	52.02	13.06	49.65	10:26
2	TOC	4.1854	41.8537	38.66	51.79	13.13	49.71	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	26	TOC	K2006297-004D	4.1821 ppm	0.0028 ppm	0.0700%	2020/08/09 03:51

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	4.1801	41.8009	38.62	51.85	13.22	49.69	10:27
2	TOC	4.1841	41.8408	38.65	51.88	13.23	49.81	10:28

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	27	TOC	K2006297-004MS	32.0297 ppm	0.4198 ppm	1.3100%	2020/08/09 04:19

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	31.7329	317.3288	231.90	245.22	13.32	49.79	10:26
2	TOC	32.3266	323.2662	236.07	249.38	13.31	49.79	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC)	CAS_salt_010711	CAS_salt_010711

(v1430) (v4) (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	28	TOC	K2006197-001 2 MC 8/10/20	16.6761 ppm	0.0755 ppm	0.4500%	2020/08/09 04:47

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	16.6227	166.2274	125.91	139.14	13.23	49.84	10:30
2	TOC	16.7295	167.2951	126.66	140.11	13.46	49.87	10:29

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> CCV 25 ppm From Schedule Version 9

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◈	B	TOC	25.0000	1:2	[TOC] CCV 25 ppm [25 ppm]	0 / infinity (NA / NA)	24.3841 ppm (PASS)	0.0000 ppm	0%	2020/08/09 05:15

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	24.3841	243.8406	180.94	194.23	13.29	49.90	10:29

Completion State	Success Action	Method	Calibration	STD Conc - Pos B
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	50 ppmC

Sample Type: Check Standard --> CCB From Schedule Version 9

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◈	D	TOC	0.0000	1:1	[TOC] CCB [0 ppm]	0 / infinity (NA / NA)	0.0000 ppm (PASS)	0.0000 ppm	0%	2020/08/09 05:30

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.0000	0.0000	8.46	21.79	13.33	49.93	10:33

Completion State	Success Action	Method	Calibration	STD Conc - Pos D
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	0 ppmC

Sample Type: Sample From Schedule Version 9

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	29	TOC	K2006297-001*	1.8964 ppm	0.0291 ppm	1.5400%	2020/08/09 05:45

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.9170	19.1703	22.75	36.13	13.38	49.93	10:27
2	TOC	1.8758	18.7583	22.46	35.91	13.46	49.97	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	30	TOC	K2006297-002*	1.4987 ppm	0.0616 ppm	4.1100%	2020/08/09 06:13

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.4551	14.5515	19.51	32.81	13.30	49.99	10:27
2	TOC	1.5423	15.4225	20.12	33.48	13.36	49.97	10:30

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	31	TOC	K2006297-003*	0.1828 ppm	0.1654 ppm	90.5000%	2020/08/09 06:41

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0658	0.6581	9.76	23.16	13.40	49.97	10:28
2	TOC	0.2997	2.9974	11.40	24.83	13.43	49.96	10:24

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	32	TOC	K2006297-004*	4.0275 ppm	0.0781 ppm	1.9400%	2020/08/09 07:09

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	3.9722	39.7225	37.16	50.64	13.48	49.95	10:27
2	TOC	4.0827	40.8273	37.94	51.35	13.41	49.96	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	33	TOC	K2006297-004D*	4.0559 ppm	0.0077 ppm	0.1900%	2020/08/09 07:37

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	4.0505	40.5051	37.71	51.12	13.41	49.92	10:25
2	TOC	4.0613	40.6134	37.79	51.33	13.54	49.89	10:23

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC)	CAS_salt_010711	CAS_salt_010711

(v1430) (v4) (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	34	TOC	K2006297-004S*	30.5388 ppm	0.0734 ppm	0.2400%	2020/08/09 08:05

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	30.4869	304.8694	223.16	236.50	13.34	49.92	10:24
2	TOC	30.5907	305.9072	223.89	237.09	13.20	49.89	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	35	TOC	K2006308-001	0.7625 ppm	0.0787 ppm	10.3200%	2020/08/09 08:33

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.8182	8.1821	15.04	28.47	13.43	49.90	10:28
2	TOC	0.7069	7.0688	14.26	27.66	13.40	49.99	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	36	TOC	K2006321-001	0.7486 ppm	0.0339 ppm	4.5200%	2020/08/09 09:01

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.7726	7.7259	14.72	28.07	13.35	49.97	10:29
2	TOC	0.7247	7.2470	14.38	27.66	13.28	49.99	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	37	TOC	K2006321-002 2X	4.3676 ppm	0.0081 ppm	0.1800%	2020/08/09 09:29

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	4.3618	43.6185	39.90	53.10	13.20	50.01	10:31
2	TOC	4.3733	43.7325	39.98	53.00	13.02	50.01	10:29

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	38	TOC	K2006321-003	4.0969 ppm	0.1642 ppm	4.0100%	2020/08/09 09:57

Rep	Base	ppm	µg	Adjusted	NDIR (Abs)	Baseline	Pressure	Run

#	Analysis Type			(Abs)		(Abs)	(psig)	Time
1	TOC	4.2130	42.1302	38.85	52.04	13.19	50.01	10:28
2	TOC	3.9808	39.8080	37.22	50.43	13.21	50.02	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> CCV 25 ppm From Schedule Version 9

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	B	TOC	25.0000	1:2	[TOC] CCV 25 ppm [25 ppm]	0 / infinity (NA / NA)	24.8551 ppm (PASS)	0.0000 ppm	0%	2020/08/09 10:25

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	24.8551	248.5506	184.25	197.11	12.86	50.01	10:32

Completion State	Success Action	Method	Calibration	STD Conc - Pos B
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	50 ppmC

Sample Type: Check Standard --> CCB From Schedule Version 9

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	D	TOC	0.0000	1:1	[TOC] CCB [0 ppm]	0 / infinity (NA / NA)	0.0000 ppm (PASS)	0.0000 ppm	0%	2020/08/09 10:40

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.0000	0.0000	8.76	21.69	12.93	50.00	10:29

Completion State	Success Action	Method	Calibration	STD Conc - Pos D
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	0 ppmC

Sample Type: Sample From Schedule Version 9

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	39	TOC	MB3	0.0000 ppm	0.0000 ppm	0.0000%	2020/08/09 10:55

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0000	0.0000	7.94	21.07	13.13	49.99	10:32

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> LCS From Schedule Version 9

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	C	TOC	25.0000	1:1	[TOC] LCS [25.0 ppm]	0 / infinity (NA / NA)	24.9081 ppm (PASS)	0.0000 ppm	0%	2020/08/09 11:09

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
C	TOC	25.0 ppm	1	24.9081	249.0809	184.62	197.61	12.99	49.99	10:31

Completion State	Success Action	Method	Calibration	STD Conc - Pos C
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	25 ppmC

Sample Type: Check Standard --> LCS From Schedule Version 9

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	C	TOC	25.0000	1:1	[TOC] LCS [25.0 ppm]	0 / infinity (NA / NA)	25.0424 ppm (PASS)	0.0000 ppm	0%	2020/08/09 11:24

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
C	TOC	25.0 ppm	1	25.0424	250.4238	185.56	198.49	12.93	49.94	10:30

Completion State	Success Action	Method	Calibration	STD Conc - Pos C
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	25 ppmC

Sample Type: Sample From Schedule Version 9

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	41	TOC	K2006321-004	8.7645 ppm	0.1527 ppm	1.7400%	2020/08/09 11:38

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	8.8724	88.7244	71.54	84.63	13.09	49.92	10:26
2	TOC	8.6565	86.5647	70.02	82.90	12.88	49.97	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	42	TOC	K2006321-005	2.7017 ppm	0.0034 ppm	0.1300%	2020/08/09 12:07

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	2.7041	27.0408	28.27	41.07	12.80	49.90	10:25

2	TOC	2.6992	26.9923	28.24	41.15	12.92	49.88	10:31

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	43	TOC	K2006321-006	0.5873 ppm	0.0357 ppm	6.0800%	2020/08/09 12:35

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.5620	5.6204	13.24	26.35	13.10	49.89	10:26
2	TOC	0.6125	6.1251	13.60	26.50	12.90	49.86	10:24

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Sample From Schedule Version 13

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	44	TOC	K2006206-001	1.0991 ppm	0.0640 ppm	5.8200%	2020/08/09 13:03

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.1444	11.4438	17.33	30.11	12.79	49.83	10:28
2	TOC	1.0539	10.5386	16.69	29.74	13.05	49.84	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	45	TOC	K2006206-001D	1.1268 ppm	0.0070 ppm	0.6200%	2020/08/09 13:31

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.1219	11.2185	17.17	30.13	12.96	49.83	10:28
2	TOC	1.1317	11.3169	17.24	30.21	12.97	49.76	10:24

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	46	TOC	K2006206-1MS	14.6942 ppm	0.0219 ppm	0.1500%	2020/08/09 13:59

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	14.6787	146.7871	112.27	125.21	12.94	49.77	10:29
2	TOC	14.7096	147.0965	112.49	125.36	12.87	49.66	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC)	CAS_salt_010711	CAS_salt_010711

(v1430) (v4) (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	47	TOC	K2006206-002	1.1638 ppm	0.0607 ppm	5.2100%	2020/08/09 14:27

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.2067	12.0668	17.76	30.75	12.98	49.75	10:28
2	TOC	1.1209	11.2086	17.16	30.26	13.10	49.76	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> CCV 25 ppm From Schedule Version 13

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	B	TOC	25.0000	1:2	[TOC] CCV 25 ppm [25 ppm]	0 / infinity (NA / NA)	24.9271 ppm (PASS)	0.0000 ppm	0%	2020/08/09 14:55

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	24.9271	249.2705	184.75	197.76	13.01	49.70	10:30

Completion State	Success Action	Method	Calibration	STD Conc - Pos B
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	50 ppmC

Sample Type: Check Standard --> CCB From Schedule Version 13

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	D	TOC	0.0000	1:1	[TOC] CCB [0 ppm]	0 / infinity (NA / NA)	0.0000 ppm (PASS)	0.0000 ppm	0%	2020/08/09 15:10

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.0000	0.0000	8.49	21.43	12.93	49.80	10:31

Completion State	Success Action	Method	Calibration	STD Conc - Pos D
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	0 ppmC

Sample Type: Sample From Schedule Version 13

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	54	TOC	K2006497-002	4.5500 ppm	0.1081 ppm	2.3700%	2020/08/09 15:25

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	4.6264	46.2643	41.75	54.68	12.93	49.65	10:26
2	TOC	4.4736	44.7361	40.68	53.75	13.07	49.71	10:29

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	55	TOC	K2006497-003	4.5664 ppm	0.0456 ppm	1.0000%	2020/08/09 15:53

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	4.5986	45.9863	41.56	54.51	12.95	49.81	10:27
2	TOC	4.5342	45.3420	41.11	54.18	13.08	49.66	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	56	TOC	K2006497-004	112.9375 ppm	9.2415 ppm	8.1800%	2020/08/09 16:21

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	119.4722	1194.7218	847.38	860.33	12.96	49.73	10:25
2	TOC	106.4027	1064.0272	755.70	769.59	13.89	49.60	10:28

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	57	TOC	K2006497-005	6.5386 ppm	2.1962 ppm	33.5900%	2020/08/09 16:49

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	8.0915	80.9152	66.06	79.76	13.70	49.66	10:31
2	TOC	4.9857	49.8567	44.27	57.47	13.20	49.76	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> CCV 25 ppm From Schedule Version 13

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	B	TOC	25.0000	1:2	[TOC] CCV 25 ppm [25 ppm]	0 / infinity (NA / NA)	26.1637 ppm (PASS)	0.0000 ppm	0%	2020/08/09 17:17

Pos	Base Analysis	ID	Rep	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run

	Type		#							Time
B	TOC	25 ppm	1	26.1637	261.6372	193.43	206.42	13.00	49.63	10:30

Completion State	Success Action	Method	Calibration	STD Conc - Pos B
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	50 ppmC

Sample Type: Check Standard --> CCB From Schedule Version 13

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	C	TOC	0.0000	1:1	[TOC] CCB [0 ppm]	0 / infinity (NA / NA)	25.7284 ppm (PASS)	0.0000 ppm	0%	2020/08/09 17:32

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
C	TOC	0 ppm	1	25.7284	257.2836	190.37	203.33	12.96	49.69	10:35

Completion State	Success Action	Method	Calibration	STD Conc - Pos C
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	0 ppmC

Sample Type: Sample From Schedule Version 13

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	58	TOC	MB	0.5261 ppm	0.0000 ppm	0.0000%	2020/08/09 17:47

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.5261	5.2612	12.99	25.90	12.91	49.67	10:34

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> LCS From Schedule Version 13

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	C	TOC	25.0000	1:1	[TOC] LCS [25.0 ppm]	0 / infinity (NA / NA)	25.2861 ppm (PASS)	0.0000 ppm	0%	2020/08/09 18:01

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
C	TOC	25.0 ppm	1	25.2861	252.8615	187.27	200.30	13.03	49.64	10:34

Completion State	Success Action	Method	Calibration	STD Conc - Pos C
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	25 ppmC

Sample Type: Sample From Schedule Version 13

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	59	TOC	K2006497-006	49.0737 ppm	0.2470 ppm	0.5000%	2020/08/09 18:16

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	49.2483	492.4835	354.77	367.74	12.97	49.75	10:27
2	TOC	48.8991	488.9909	352.32	365.28	12.96	49.61	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	60	TOC	K2006330-001	2.2567 ppm	0.1489 ppm	6.6000%	2020/08/09 18:44

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	2.3619	23.6194	25.87	38.89	13.02	49.67	10:26
2	TOC	2.1514	21.5139	24.39	37.12	12.73	49.82	10:28

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> CCV 25ppm_salt From Schedule Version 13

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	B	TOC	25.0000	1:2	[TOC] CCV 25ppm_salt [25ppm salt]	22.5000 / 27.5000 (90% / 110%)	23.5306 ppm (PASS)	0.0000 ppm	0%	2020/08/09 19:12

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25ppm salt	1	23.5306	235.3063	187.46	200.62	13.15	49.68	10:33

Completion State	Success Action	Method	Calibration	STD Conc - Pos B
Success - Criteria met.	Do Nothing	CAS_salt (v5)	CAS_salt_0811a (v2)	50 ppmC

Sample Type: Check Standard --> CCB From Schedule Version 13

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	D	TOC	0.0000	1:1	[TOC] CCB [0 ppm]	0 / infinity (NA / NA)	0.1418 ppm (PASS)	0.0000 ppm	0%	2020/08/09 19:27

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.1418	1.4183	10.89	23.95	13.06	49.75	10:29

Completion State	Success Action	Method	Calibration	STD Conc - Pos D
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	0 ppmC

Meta Data Used in this Report

Blanks

Version	Reagent (Abs)	Acid (Abs)	DI IC (Abs)	DI TC (Abs)	DI TOC (Abs)	Save Time	Operator
v1429	1.3370	0.3660	0.0000	0.0000	0.0000	2020/08/05 18:45	Fusion1 (Fusion1)
v1430	1.9877	0.5570	0.0000	0.0000	0.0000	2020/08/08 14:36	Fusion1 (Fusion1)

Calibrations

Name: CAS_salt_010711 (TOC)

Version: v38
Calibration curve formula: TOC: y = 7.015x + 9.892
Ver Creation: 2020/06/13 16:40
r^2 value: TOC: r^2 = 0.99974
Comment:
Operator: Fusion1 (Fusion1)
Basic Analysis Type: TOC

Basic Analysis Type: TOC

Sample ID	Y Raw Value	X Expected	Message	End Time
DI Water	9.5750	0.0000		2020/06/13 15:13
0.500 ppm	12.9010	0.5000		2020/06/13 15:28
1.0 ppm	15.6320	1.0000		2020/06/13 15:42
5.0 ppm	43.2510	5.0000		2020/06/13 15:56
10 ppm	82.4040	10.0000		2020/06/13 16:11
25 ppm	188.6880	25.0000		2020/06/13 16:25
50 ppm	358.6500	50.0000		2020/06/13 16:39

Name: CAS_salt_0811a (TOC)

Version: v2
Calibration curve formula: TOC: y = 7.576x + 9.202
Ver Creation: 2010/08/11 19:18
r^2 value: TOC: r^2 = 0.99983
Comment:
Operator: Gen Chem Lab (Fusion1)
Basic Analysis Type: TOC

Basic Analysis Type: TOC

Sample ID	Y Raw Value	X Expected	Message	End Time
0	10.4200	0.0000		2010/08/11 17:57
0.500 ppm	15.3130	0.5000		2010/08/11 18:11
1.000 ppm	17.5920	1.0000		2010/08/11 18:24
5.000 ppm	44.4730	5.0000		2010/08/11 18:37
10.000 ppm	83.3970	10.0000		2010/08/11 18:51
25.000 ppm	197.1510	25.0000		2010/08/11 19:04
50.000 ppm	389.2430	50.0000		2010/08/11 19:17

Methods

Name: CAS_salt_010711 (TOC)

Version: v4 Operator: Fusion1 (Fusion1)
Ver Creation: 2019/02/21 17:57
Comment:

Parameter	Value
SampleVolume	10.0 mL
Dilution	1:10
AcidVolume	0.5 ml
ReagentVolume	2.0 ml
UVReactorPrerinse	Off
UVReactorPrerinseVolume	5.0
NumberOfUVReactorPrerinses	1
ICSpargeTime	1.00 mins
DetectorSweepFlow	500 ml/min
PreSpargeTime	2.00 mins
SystemFlow	500 ml/min

Advanced Parameter	Value
NeedleRinseVolume	5.0 ml
VialPrimeVolume	2.0 ml
ICSamplePrimeVolume	2.0 ml
ICSpargeRinseVolume	12.0 ml
BaselineStabilizeTime	0.70 min
DetectorPressureFlow	150 ml/min
SyringeSpeedWaste	10
SyringeSpeedAcid	7
SyringeSpeedReagent	7
SyringeSpeedDIWater	7
NDIRPressurization	60 psig
SyringeSpeedSampleDispense	5
SyringeSpeedSampleAspirate	4
SyringeSpeedUVDispense	5
SyringeSpeedUVAspirate	5
SyringeSpeedICDispense	5
SyringeSpeedICAspirate	5
NDIRPressureStabilize	1.75 min
SampleMixing	Off
SampleMixingCycles	1
SampleMixingVolume	10.0
LowLevelFilterNDIR	Off

Name: CAS_salt (TOC)

Version: v5 Operator: Gen Chem Lab (Fusion1)
Ver Creation: 2013/02/04 11:50
Comment: This method is designed to use the Non-Purgeable Organic Carbon (NPOC) method for TOC analysis on

waste water type samples.

Parameter	Value
SampleVolume	10.0 mL
Dilution	1:10
AcidVolume	0.5 ml
ReagentVolume	2.0 ml
UVReactorPrerinse	Off
UVReactorPrerinseVolume	5.0
NumberOfUVReactorPrerinses	1
ICSpargeTime	1.00 mins
DetectorSweepFlow	500 ml/min
PreSpargeTime	2.00 mins
SystemFlow	500 ml/min

Advanced Parameter	Value
NeedleRinseVolume	5.0 ml
VialPrimeVolume	2.0 ml
ICSamplePrimeVolume	2.0 ml
ICSpargeRinseVolume	12.0 ml
BaselineStabilizeTime	0.70 min
DetectorPressureFlow	150 ml/min
SyringeSpeedWaste	10
SyringeSpeedAcid	7
SyringeSpeedReagent	7
SyringeSpeedDIWater	7
NDIRPressurization	60 psig
SyringeSpeedSampleDispense	5
SyringeSpeedSampleAspirate	4
SyringeSpeedUVDispense	7
SyringeSpeedUVAspirate	5
SyringeSpeedICDispense	7
SyringeSpeedICAspirate	5
NDIRPressureStabilize	1.75 min
SampleMixing	Off
SampleMixingCycles	1
SampleMixingVolume	10.0
LowLevelFilterNDIR	Off

Acceptance / Approval

Electronic Signatures

Report Version	User Name	Acceptance	Reason	Date

Report History

Report History

Report Version	User Name	System Reason	User Reason	Date
1	Fusion1 (Fusion1)	Schedule completed	Schedule completed	2020/08/09 19:42

ALS Environmental

StarLIMS Run: 690270/690271/690269

Analysis: DOC/TOC

Method: SM 5310 C, 9060A, 415.1, 9060

CCV: 19-GEN-8-15-C 50 ppm LCS: 19-GEN-8-31I 25.0 ppm

ICAL Date: 6/16/2020

ICAL ID: 19-GEN-8-22-G

ICS ID: 19-GEN-8-4-G

ICS TV: 25.0 ppm ICS % R < 1

Spike ID: 19-GEN-8-15-B 0.05 ml of 5000 ppm stock ---> 10.0 ml = 25.0 ppm x dilution factor

Sodium Persulfate: 19-GEN-08-32J

21 % H3PO4: 19-GEN-08-32I

Equipment ID: K-TOC-03

PIPETTE ID: 124276B, 129001F, N11314F, Marge

FILTER ID: 16967789

Analyzed By: MV	Date Analyzed: 8-8-20
Reviewed By: JL	Date Reviewed: 8/10/20

Work Request # 6332 6345 6376 6497 6257 6280 6330

Tier: IV II IV IV IV IV IV

6331 6357 6373 6498 6506 6651

Date Analyzed: 8-10-20 IV I IV IV II II

Analyst: MK Run # 690342 | 690414

Analysis: TOC

DATA QUALITY REPORT
INORGANICS

Explain any "no" responses to questions below, and any corrective actions in the comments section below.

1.	Is the method name and number correct and appropriate?	yes/no/NA
2.	Holding times met for all analyses and for all samples?	yes/no/NA
3.	Are calculations correct?	yes/no/NA
4.	Is the reporting basis correct? (Dry Weight)	yes/no/NA
5.	All quality control criteria met?	yes/no
6.	Is the calibration curve correlation coefficient ≥ 0.995?	yes/no/NA
7.	MBs, CCVs, CCBs, LCSs, Dups, and Spikes, analyzed at proper frequency?	yes/no/NA
8.	Are ICVs, CCVs, and CCBs all within acceptance limits?	yes/no/NA
9.	Are results for methods blanks all ND?	yes/no/NA
10.	Are all QC samples within acceptance criteria? (LCS % rec, MS/DMS % rec, DUP or MS/DMS RPDs, etc.)	yes/no/NA
11.	Are all exceptions explained?	yes/no/NA
12.	Have all applicable service requests been reviewed?	yes/no/NA
13.	Are all samples labeled correctly?	yes/no/NA
14.	Have all instructions on the service request been followed? (e.g. Special MRLs, QC on a specific sample, Form V)	yes/no/NA
15.	Are detection limits and units reported correctly?	yes/no/NA
16.	Is the unused space on the benchsheet crossed out?	yes/no/NA
17.	Was analysis turned in by the due date? (n-2) (If not record SR#)	yes/no/NA

COMMENTS:

Final Approved by: _____ Date: 8/11/20

DQREPORT

Analytical Results Summary

Instrument Name: K-TOC-01 **Analyst:** MKANALY **Analysis Lot:** 690414 **Method/Testcode:** SM 5310 C/TOC T

Lab Code	Target Analytes	QC	Parent Sample	Matrix	Raw Result	Sample Amt.	Final Result	Dil	MDL	PQL	% Rec	% RSD	Date Analyzed	QC?	Tier
K2006332-001	Carbon, Total Organic	N/A		Water	0.65 mg/L	10 mL	0.65 mg/L	1	0.07	0.50			8/10/20 08:15:00	N	IV
K2006345-001	Carbon, Total Organic	N/A		Water	0.59 mg/L	10 mL	0.59 mg/L	1	0.07	0.50			8/10/20 08:15:00	N	II
K2006345-002	Carbon, Total Organic	N/A		Water	0.66 mg/L	10 mL	0.66 mg/L	1	0.07	0.50			8/10/20 08:15:00	N	II
K2006345-003	Carbon, Total Organic	N/A		Water	0.81 mg/L	10 mL	0.81 mg/L	1	0.07	0.50			8/10/20 08:15:00	N	II
K2006345-004	Carbon, Total Organic	N/A		Water	0.72 mg/L	10 mL	0.72 mg/L	1	0.07	0.50			8/10/20 08:15:00	N	II
K2006345-005	Carbon, Total Organic	N/A		Water	0.68 mg/L	10 mL	0.68 mg/L	1	0.07	0.50			8/10/20 08:15:00	N	II
K2006345-006	Carbon, Total Organic	N/A		Water	0.40 mg/L	10 mL	0.40 mg/L J	1	0.07	0.50			8/10/20 08:15:00	N	II
K2006345-007	Carbon, Total Organic	N/A		Water	0.96 mg/L	10 mL	0.96 mg/L	1	0.07	0.50			8/10/20 08:15:00	N	II
K2006345-008	Carbon, Total Organic	N/A		Water	0.55 mg/L	10 mL	0.55 mg/L	1	0.07	0.50			8/10/20 08:15:00	N	II
K2006376-001	Carbon, Total Organic	N/A		Water	1.15 mg/L	10 mL	1.15 mg/L	1	0.07	0.50			8/10/20 08:15:00	N	IV
K2006376-002	Carbon, Total Organic	N/A		Water	1.58 mg/L	10 mL	1.58 mg/L	1	0.07	0.50			8/10/20 08:15:00	N	IV
K2006376-003	Carbon, Total Organic	N/A		Water	1.28 mg/L	10 mL	1.28 mg/L	1	0.07	0.50			8/10/20 08:15:00	N	IV
K2006497-001	Carbon, Total Organic	N/A		Ground Water	4.11 mg/L	10 mL	4.11 mg/L	1	0.07	0.50			8/10/20 08:15:00	N	IV
K2006497-004	Carbon, Total Organic	N/A		Ground Water	28.43 mg/L	10 mL	711 mg/L	25	2	13			8/10/20 08:15:00	N	IV
K2006497-005	Carbon, Total Organic	N/A		Ground Water	3.34 mg/L	10 mL	3.34 mg/L	1	0.07	0.50			8/10/20 08:15:00	N	IV
K2006497-006	Carbon, Total Organic	N/A		Ground Water	47.81 mg/L	10 mL	47.8 mg/L	1	0.07	0.50			8/10/20 08:15:00	N	IV
KQ2011025-01	Carbon, Total Organic	DUP	K2006376-003	Water	1.25 mg/L	10 mL	1.25 mg/L	1	0.07	0.50		2	8/10/20 08:15:00	N	IV
KQ2011025-02	Carbon, Total Organic	MS	K2006376-003	Water	27.72 mg/L	10 mL	27.7 mg/L	1	0.07	0.50	106		8/10/20 08:15:00	N	IV
KQ2011025-03	Carbon, Total Organic	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			8/10/20 08:15:00	N	IV
KQ2011025-04	Carbon, Total Organic	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			8/10/20 08:15:00	N	IV
KQ2011025-05	Carbon, Total Organic	CCB		Water	0.02 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			8/10/20 08:15:00	N	IV
KQ2011025-06	Carbon, Total Organic	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			8/10/20 08:15:00	N	IV
KQ2011025-07	Carbon, Total Organic	CCV		Water	24.39 mg/L	10 mL	24.4 mg/L	1					8/10/20 08:15:00	N	IV
KQ2011025-08	Carbon, Total Organic	CCV		Water	24.42 mg/L	10 mL	24.4 mg/L	1					8/10/20 08:15:00	N	IV
KQ2011025-09	Carbon, Total Organic	CCV		Water	24.80 mg/L	10 mL	24.8 mg/L	1					8/10/20 08:15:00	N	IV
KQ2011025-10	Carbon, Total Organic	CCV		Water	24.03 mg/L	10 mL	24.0 mg/L	1					8/10/20 08:15:00	N	IV
KQ2011025-11	Carbon, Total Organic	MB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			8/10/20 08:15:00	N	IV
KQ2011025-12	Carbon, Total Organic	LCS		Water	24.40 mg/L	10 mL	24.4 mg/L	1	0.07	0.50	98		8/10/20 08:15:00	N	IV

# indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

Analytical Results Summary

Instrument Name: K-TOC-01 **Analyst:** MKANALY **Analysis Lot:** 690342 **Method/Testcode:** SM 5310 C/TOC T

Lab Code	Target Analytes	QC	Parent Sample	Matrix	Raw Result	Sample Amt.	Final Result	Dil	MDL	PQL	% Rec	% RSD	Date Analyzed	QC?	Tier
K2006257-001	Carbon, Total Organic	N/A		Water	0.91 mg/L	10 mL	0.91 mg/L	1	0.07	0.50			8/10/20 11:49:00	N	IV
K2006280-001	Carbon, Total Organic	N/A		Ground Water	4.58 mg/L	10 mL	4.58 mg/L	1	0.07	0.50			8/10/20 11:49:00	N	IV
K2006280-002	Carbon, Total Organic	N/A		Ground Water	8.08 mg/L	10 mL	8.08 mg/L	1	0.07	0.50			8/10/20 11:49:00	N	IV
K2006280-003	Carbon, Total Organic	N/A		Ground Water	9.97 mg/L	10 mL	9.97 mg/L	1	0.07	0.50			8/10/20 11:49:00	N	IV
K2006330-001	Carbon, Total Organic	N/A		Water	1.70 mg/L	10 mL	1.70 mg/L	1	0.07	0.50			8/10/20 11:49:00	N	IV
K2006330-002	Carbon, Total Organic	N/A		Water	1.51 mg/L	10 mL	1.51 mg/L	1	0.07	0.50			8/10/20 11:49:00	N	IV
K2006330-003	Carbon, Total Organic	N/A		Water	1.87 mg/L	10 mL	1.87 mg/L	1	0.07	0.50			8/10/20 11:49:00	N	IV
K2006331-001	Carbon, Total Organic	N/A		Water	0.88 mg/L	10 mL	0.88 mg/L	1	0.07	0.50			8/10/20 11:49:00	N	IV
K2006331-002	Carbon, Total Organic	N/A		Water	1.01 mg/L	10 mL	1.01 mg/L	1	0.07	0.50			8/10/20 11:49:00	N	V
K2006357-001	Carbon, Total Organic	N/A		Water	40.99 mg/L	10 mL	41.0 mg/L	1	0.07	0.50			8/10/20 11:49:00	N	I
K2006373-001	Carbon, Total Organic	N/A		Water	1.95 mg/L	10 mL	1.95 mg/L	1	0.07	0.50			8/10/20 11:49:00	N	II
K2006498-001	Carbon, Total Organic	N/A		Water	2.77 mg/L	10 mL	2.77 mg/L	1	0.07	0.50			8/10/20 11:49:00	N	IV
K2006506-001	Carbon, Total Organic	N/A		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			8/10/20 11:49:00	N	II
K2006651-001	Carbon, Total Organic	N/A		Water	2.24 mg/L	10 mL	2.24 mg/L	1	0.07	0.50			8/10/20 11:49:00	N	II
KQ2010989-01	Carbon, Total Organic	DUP	K2006373-001	Water	1.96 mg/L	10 mL	1.96 mg/L	1	0.07	0.50		<1	8/10/20 11:49:00	N	II
KQ2010989-02	Carbon, Total Organic	MS	K2006373-001	Water	28.22 mg/L	10 mL	28.2 mg/L	1	0.07	0.50	105		8/10/20 11:49:00	N	II
KQ2010989-03	Carbon, Total Organic	CCV		Water	24.83 mg/L	10 mL	24.8 mg/L	1					8/10/20 11:49:00	N	II
KQ2010989-04	Carbon, Total Organic	CCV		Water	24.39 mg/L	10 mL	24.4 mg/L	1					8/10/20 11:49:00	N	II
KQ2010989-05	Carbon, Total Organic	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			8/10/20 11:49:00	N	II
KQ2010989-06	Carbon, Total Organic	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			8/10/20 11:49:00	N	II
KQ2010989-07	Carbon, Total Organic	MB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			8/10/20 11:49:00	N	II
KQ2010989-08	Carbon, Total Organic	LCS		Water	24.61 mg/L	10 mL	24.6 mg/L	1	0.07	0.50	98		8/10/20 11:49:00	N	II
KQ2010989-09	Carbon, Total Organic	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			8/10/20 11:49:00	N	V
KQ2010989-10	Carbon, Total Organic	CCV		Water	24.42 mg/L	10 mL	24.4 mg/L	1					8/10/20 11:49:00	N	V

# indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

690342
690414

Schedule: 081020PART

Version: 5
Instrument: Fusion1
Last Saved by: Fusion1 (Fusion1)
Last Saved on: 2020/08/11 08:15 - Tuesday

Position	Sample Type	Sample ID	Method ID (Calibration ID)	Reps	Use	State
(Clean)	Clean	Clean		1	True	Ready
(Clean)	Clean	Clean		1	True	Ready
(Clean)	Clean	Clean		1	True	Ready
(Blank)	Blank	Reagent/Acid Blank		1	True	Ready
D	Sample	RB	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
B	Check Standard	[TOC] CCV 25 ppm [25 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
D	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
1	Sample	MB1	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
C	Check Standard	[TOC] LCS [24.0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
2	Sample	ICS	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
3	Sample	k2006373-001	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
4	Sample	K2006373-001D	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
5	Sample	K2006373-001MS	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
6	Sample	K2006330-001	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
7	Sample	K2006330-002	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
8	Sample	K2006330-003	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
9	Sample	K2006331-001	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
B	Check Standard	[TOC] CCV 25 ppm [25 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
D	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
10	Sample	K2006331-002	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
11	Sample	K2006280-001	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
12	Sample	K2006280-002	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
13	Sample	K2006280-003	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
14	Sample	K2006257-001	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
15	Sample	K2006357-001	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
16	Sample	K2006498-001	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
17	Sample	K2006651-001	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
18	Sample	K2006506-001	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
19	Sample	K2006376-001	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
B	Check Standard	[TOC] CCV 25 ppm [25 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
D	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
20	Sample	MB2	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
C	Check Standard	[TOC] LCS [24.0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
21	Sample	K2006376-002	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
22	Sample	K2006376-003	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
23	Sample	K2006376-003D	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
24	Sample	K2006376-003MS	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
25	Sample	K2006497-001	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
26	Sample	K2006497-004 25X	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
27	Sample	K2006497-005	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
28	Sample	K2006497-006 20X	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
B	Check Standard	[TOC] CCV 25 ppm [25 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
D	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
29	Sample	K2006345-001	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
30	Sample	K2006345-002	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
31	Sample	K2006345-003	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
32	Sample	K2006345-004	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
33	Sample	K2006345-005	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
34	Sample	K2006345-006	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
35	Sample	K2006345-007	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
36	Sample	K2006345-008	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
37	Sample	K2006332-001	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
38	Sample	RB	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
B	Check Standard	[TOC] CCV 25 ppm [25 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready

Schedule: 081020PART

Position	Sample Type	Sample ID	Method ID (Calibration ID)	Reps	Use	State
D	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
1	Sample		CAS_salt_010711 (CAS_salt_010711)	1	False	Ready
					False	

Fusion Report - 081020
Monday, August 10, 2020 08:55 AM

(View - Reps, Unused Reps, Meta-Data, Signature, History)
Printed on 2020/08/11 08:18 - Tuesday

Report Summary Information

Company Location:	Gen Chem Lab		
Schedule Name:	081020	Engine Version:	1.1.5.1
Instrument Name:	Fusion1	Firmware Version:	1.2.0696
Report Version:	1 of 1	Connection:	RS232 COM1
Report Creation by Operators (schedule version):	Fusion1 (Fusion1) (v1) Fusion1 (Fusion1) (v2) Fusion1 (Fusion1) (v3) Fusion1 (Fusion1) (v8) Fusion1 (Fusion1) (v10)		
Comment:			

Report Results

Sample Type: Clean — From Schedule Version 1

	Pos	Analysis Type	Sample ID	Start Time
◆	(clean)		Clean	2020/08/10 08:55

Rep #	Base Analysis Type	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	IC Clean	13.59	27.10	13.51	49.75	07:58
2	TC Clean	14.25	27.50	13.25	49.52	07:15
3	TC Clean	3.51	16.73	13.23	49.83	07:00
4	TC Clean	2.18	15.49	13.31	49.61	07:02

Sample Type: Clean — From Schedule Version 1

	Pos	Analysis Type	Sample ID	Start Time
◆	(clean)		Clean	2020/08/10 09:29

Rep #	Base Analysis Type	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	IC Clean	-0.11	13.08	13.19	49.85	07:59
2	TC Clean	6.75	19.98	13.23	49.89	07:14
3	TC Clean	2.26	15.29	13.04	49.69	07:00

4	TC Clean	1.70	14.66	12.96	49.89	07:03

Sample Type: Clean From Schedule Version 1

	Pos	Analysis Type	Sample ID	Start Time
◆	(clean)		Clean	2020/08/10 10:03

Rep #	Base Analysis Type	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	IC Clean	-0.12	12.95	13.07	49.69	05:20
2	TC Clean	5.87	18.80	12.93	49.79	07:15
3	TC Clean	1.45	14.56	13.12	49.95	07:01
4	TC Clean	1.06	14.24	13.18	49.85	07:00

Sample Type: Blank (Creating v1431) From Schedule Version 2

	Pos	Analysis Type	Sample ID	Start Time
◆	(blank)		Reagent/Acid Blank	2020/08/10 10:34

Rep #	Base Analysis Type	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	IC Clean	-0.38	12.81	13.19	49.55	05:15
2	TC Clean	5.58	18.69	13.10	49.98	07:17
3	TC Clean	1.28	14.48	13.19	49.82	07:00
4	TC Clean	1.17	14.37	13.20	49.76	07:02
5	Reagent Blank	5.19	18.27	13.09	49.97	08:09
6	Acid Blank	0.27	13.25	12.98	49.61	05:31

Sample Type: Sample From Schedule Version 2

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	D	TOC	RB	0.2109 ppm	0.0000 ppm	0.0000%	2020/08/10 11:21

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.2109	2.1088	10.73	23.88	13.15	50.04	10:33

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2487 (IC) (v1431)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> CCV 25 ppm From Schedule Version 2

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	B	TOC	25.0000	1:2	[TOC] CCV 25 ppm [25 ppm]	0 / infinity (NA / NA)	24.8308 ppm (PASS)	0.0000 ppm	0%	2020/08/10 11:35

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	24.8308	248.3083	184.08	197.28	13.20	49.97	10:29

Completion State	Success Action	Method	Calibration	STD Conc - Pos B
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	50 ppmC

Sample Type: Check Standard --> CCB From Schedule Version 2

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	D	TOC	0.0000	1:1	[TOC] CCB [0 ppm]	0 / infinity (NA / NA)	0.0000 ppm (PASS)	0.0000 ppm	0%	2020/08/10 11:50

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.0000	0.0000	8.88	22.18	13.30	49.99	10:34

Completion State	Success Action	Method	Calibration	STD Conc - Pos D
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	0 ppmC

Sample Type: Sample From Schedule Version 2

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	1	TOC	MB1	0.0000 ppm	0.0000 ppm	0.0000%	2020/08/10 12:05

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0000	0.0000	8.47	21.52	13.04	49.99	10:33

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2487 (IC) (v1431)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> LCS From Schedule Version 2

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	C	TOC	25.0000	1:1	[TOC] LCS [24.0 ppm]	0 / infinity (NA / NA)	24.6086 ppm (PASS)	0.0000 ppm	0%	2020/08/10 12:20

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
C	TOC	25.0 ppm	1	24.6086	246.0858	182.52	195.71	13.19	49.95	10:33

Completion State	Success Action	Method	Calibration	STD Conc - Pos C
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	25 ppmC

Sample Type: Sample From Schedule Version 2

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	2	TOC	ICS	0.5519 ppm	0.0000 ppm	0.0000%	2020/08/10 12:34

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.5519	5.5187	13.12	26.29	13.17	50.03	10:31

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2487 (IC) (v1431)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	3	TOC	k2006373-001	1.9518 ppm	0.0561 ppm	2.8800%	2020/08/10 12:49

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.9915	19.9154	23.22	36.45	13.24	49.99	10:28
2	TOC	1.9121	19.1213	22.66	35.92	13.26	50.00	10:28

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2487 (IC) (v1431)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	4	TOC	K2006373-001D	1.9556 ppm	0.0411 ppm	2.1000%	2020/08/10 13:17

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.9847	19.8469	23.17	36.39	13.22	50.01	10:26
2	TOC	1.9265	19.2653	22.76	35.91	13.15	50.05	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2487 (IC) (v1431)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	5	TOC	K2006373-001MS	28.2182 ppm	0.2043 ppm	0.7200%	2020/08/10 13:45

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	28.3627	283.6268	208.21	221.40	13.20	49.96	10:29
2	TOC	28.0737	280.7372	206.18	219.49	13.30	50.03	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2487 (IC) (v1431)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Sample From Schedule Version 3

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	6	TOC	K2006330-001	1.6954 ppm	0.0526 ppm	3.1000%	2020/08/10 14:13

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.7327	17.3266	21.40	34.67	13.27	50.04	10:28
2	TOC	1.6582	16.5824	20.88	34.22	13.34	50.02	10:29

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2487 (IC) (v1431)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Sample From Schedule Version 8

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	7	TOC	K2006330-002	1.5085 ppm	0.0001 ppm	0.0100%	2020/08/10 14:41

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.5086	15.0856	19.83	33.00	13.17	49.98	10:29
2	TOC	1.5084	15.0842	19.83	32.96	13.13	49.99	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2487 (IC) (v1431)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Sample From Schedule Version 10

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	8	TOC	K2006330-003	1.8656 ppm	0.0104 ppm	0.5600%	2020/08/10 15:09

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.8582	18.5825	22.28	35.40	13.12	50.00	10:28
2	TOC	1.8729	18.7293	22.39	35.66	13.27	49.99	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2487 (IC) (v1431)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	9	TOC	K2006331-001	0.8840 ppm	0.0414 ppm	4.6900%	2020/08/10 15:37

Rep	Base	ppm	µg	Adjusted	NDIR (Abs)	Baseline	Pressure	Run

#	Analysis Type			(Abs)		(Abs)	(psig)	Time
1	TOC	0.8547	8.5466	15.24	28.55	13.31	49.94	10:29
2	TOC	0.9132	9.1325	15.66	28.70	13.05	49.91	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2487 (IC) (v1431)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> CCV 25 ppm From Schedule Version 10

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◈	B	TOC	25.0000	1:2	[TOC] CCV 25 ppm [25 ppm]	0 / infinity (NA / NA)	24.3916 ppm (PASS)	0.0000 ppm	0%	2020/08/10 16:05

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	24.3916	243.9161	181.00	194.02	13.02	49.89	10:34

Completion State	Success Action	Method	Calibration	STD Conc - Pos B
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	50 ppmC

Sample Type: Check Standard --> CCB From Schedule Version 10

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◈	D	TOC	0.0000	1:1	[TOC] CCB [0 ppm]	0 / infinity (NA / NA)	0.0000 ppm (PASS)	0.0000 ppm	0%	2020/08/10 16:20

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.0000	0.0000	9.18	22.18	13.00	49.89	10:33

Completion State	Success Action	Method	Calibration	STD Conc - Pos D
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	0 ppmC

Sample Type: Sample From Schedule Version 10

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	10	TOC	K2006331-002	1.0122 ppm	0.0062 ppm	0.6200%	2020/08/10 16:35

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.0078	10.0776	16.32	29.38	13.06	49.94	10:26
2	TOC	1.0166	10.1660	16.38	29.41	13.03	49.94	10:29

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2487 (IC)	CAS_salt_010711	CAS_salt_010711

(v1431) (v4) (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	11	TOC	K2006280-001	4.5755 ppm	0.0744 ppm	1.6300%	2020/08/10 17:03

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	4.6281	46.2810	41.71	54.81	13.10	49.94	10:26
2	TOC	4.5229	45.2289	40.98	54.22	13.25	50.00	10:28

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2487 (IC) (v1431)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	12	TOC	K2006280-002	8.0784 ppm	0.0939 ppm	1.1600%	2020/08/10 17:31

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	8.1448	81.4479	66.38	79.61	13.22	49.99	10:27
2	TOC	8.0119	80.1193	65.45	78.57	13.12	50.00	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2487 (IC) (v1431)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	13	TOC	K2006280-003	9.9674 ppm	0.0659 ppm	0.6600%	2020/08/10 17:59

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	10.0140	100.1397	79.49	92.60	13.11	50.00	10:26
2	TOC	9.9207	99.2074	78.84	92.01	13.17	50.04	10:28

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2487 (IC) (v1431)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	14	TOC	K2006257-001	0.9093 ppm	0.0326 ppm	3.5800%	2020/08/10 18:27

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.8863	8.8631	15.47	28.71	13.25	50.04	10:26
2	TOC	0.9324	9.3235	15.79	28.80	13.01	49.98	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2487 (IC) (v1431)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	15	TOC	K2006357-001	40.9877 ppm	0.0236 ppm	0.0600%	2020/08/10 18:55

Rep	Base	ppm	µg	Adjusted	NDIR (Abs)	Baseline	Pressure	Run

#	Analysis Type			(Abs)		(Abs)	(psig)	Time
1	TOC	41.0043	410.0433	296.89	310.11	13.22	50.02	10:27
2	TOC	40.9710	409.7098	296.65	309.94	13.29	50.01	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2487 (IC) (v1431)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	16	TOC	K2006498-001	2.7725 ppm	0.3219 ppm	11.6100%	2020/08/10 19:23

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	3.0001	30.0011	30.29	43.72	13.43	49.99	10:27
2	TOC	2.5449	25.4494	27.10	40.40	13.30	50.04	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2487 (IC) (v1431)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	17	TOC	K2006651-001	2.2441 ppm	0.0246 ppm	1.1000%	2020/08/10 19:51

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	2.2615	22.6154	25.11	38.47	13.36	49.95	10:31
2	TOC	2.2268	22.2675	24.87	38.13	13.26	49.96	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2487 (IC) (v1431)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	18	TOC	K2006506-001	0.0000 ppm	0.0000 ppm	0.0000%	2020/08/10 20:19

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0000	0.0000	8.83	22.12	13.29	49.94	10:26
2	TOC	0.0000	0.0000	8.72	21.85	13.13	49.95	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2487 (IC) (v1431)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	19	TOC	K2006376-001	1.1534 ppm	0.0430 ppm	3.7300%	2020/08/10 20:47

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.1229	11.2295	17.13	30.17	13.05	49.93	10:29
2	TOC	1.1838	11.8382	17.55	30.64	13.09	49.97	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2487 (IC) (v1431)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> CCV 25 ppm From Schedule Version 10

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	B	TOC	25.0000	1:2	[TOC] CCV 25 ppm [25 ppm]	0 / infinity (NA / NA)	24.4188 ppm (PASS)	0.0000 ppm	0%	2020/08/10 21:15

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	24.4188	244.1884	181.19	194.34	13.16	49.89	10:32

Completion State	Success Action	Method	Calibration	STD Conc - Pos B
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	50 ppmC

Sample Type: Check Standard --> CCB From Schedule Version 10

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	D	TOC	0.0000	1:1	[TOC] CCB [0 ppm]	0 / infinity (NA / NA)	0.0000 ppm (PASS)	0.0000 ppm	0%	2020/08/10 21:30

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.0000	0.0000	9.15	22.32	13.18	49.86	10:28

Completion State	Success Action	Method	Calibration	STD Conc - Pos D
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	0 ppmC

Sample Type: Sample From Schedule Version 10

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	20	TOC	MB2	0.0000 ppm	0.0000 ppm	0.0000%	2020/08/10 21:45

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0000	0.0000	8.98	21.99	13.01	49.89	10:29

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2487 (IC) (v1431)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> LCS From Schedule Version 10

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	C	TOC	25.0000	1:1	[TOC] LCS [24.0 ppm]	0 / infinity (NA / NA)	24.4024 ppm (PASS)	0.0000 ppm	0%	2020/08/10 21:59

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
C	TOC	25.0 ppm	1	24.4024	244.0245	181.07	194.01	12.94	49.84	10:32

Completion State	Success Action	Method	Calibration	STD Conc - Pos C
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	25 ppmC

Sample Type: Sample From Schedule Version 10

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	21	TOC	K2006376-002	1.5778 ppm	0.0050 ppm	0.3200%	2020/08/10 22:14

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.5743	15.7428	20.29	33.29	12.99	49.80	10:27
2	TOC	1.5814	15.8141	20.34	33.46	13.11	49.89	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2487 (IC) (v1431)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	22	TOC	K2006376-003	1.2830 ppm	0.0367 ppm	2.8600%	2020/08/10 22:42

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.3090	13.0898	18.43	31.63	13.20	49.83	10:27
2	TOC	1.2571	12.5709	18.07	31.19	13.12	49.81	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2487 (IC) (v1431)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	23	TOC	K2006376-003D	1.2546 ppm	0.0045 ppm	0.3600%	2020/08/10 23:10

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.2514	12.5139	18.03	31.22	13.19	49.77	10:29
2	TOC	1.2578	12.5781	18.07	31.32	13.25	49.93	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2487 (IC) (v1431)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	24	TOC	K2006376-003MS	27.7238 ppm	0.1223 ppm	0.4400%	2020/08/10 23:38

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	27.6374	276.3736	203.12	216.24	13.12	49.88	10:29
2	TOC	27.8103	278.1028	204.33	217.53	13.20	49.88	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2487 (IC) (v1431)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	25	TOC	K2006497-001	4.1088 ppm	0.0689 ppm	1.6800%	2020/08/11 00:06

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	4.1575	41.5752	38.41	51.46	13.05	49.89	10:25
2	TOC	4.0600	40.6001	37.73	50.78	13.05	49.88	10:28

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2487 (IC) (v1431)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	26	TOC	K2006497-004 25X	28.4315 ppm	0.0059 ppm	0.0200%	2020/08/11 00:34

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	28.4357	284.3567	208.72	221.85	13.13	49.88	10:29
2	TOC	28.4273	284.2726	208.66	221.86	13.20	49.88	10:29

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2487 (IC) (v1431)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	27	TOC	K2006497-005	3.3441 ppm	0.1282 ppm	3.8300%	2020/08/11 01:02

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	3.4348	34.3477	33.34	46.49	13.15	49.85	10:26
2	TOC	3.2534	32.5344	32.07	45.30	13.23	49.87	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2487 (IC) (v1431)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	28	TOC	K2006497-006	47.8055 ppm	0.4564 ppm	0.9500%	2020/08/11 01:30

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	48.1282	481.2824	346.86	359.97	13.11	49.91	10:28
2	TOC	47.4828	474.8275	342.33	355.53	13.20	49.88	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2487 (IC) (v1431)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> CCV 25 ppm From Schedule Version 10

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	B	TOC	25.0000	1:2	[TOC] CCV 25 ppm [25 ppm]	0 / infinity (NA / NA)	24.7965 ppm (PASS)	0.0000 ppm	0%	2020/08/11 01:58

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	24.7965	247.9647	183.83	197.18	13.34	49.93	10:33

Completion State	Success Action	Method	Calibration	STD Conc - Pos B
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	50 ppmC

Sample Type: Check Standard --> CCB From Schedule Version 10

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	D	TOC	0.0000	1:1	[TOC] CCB [0 ppm]	0 / infinity (NA / NA)	0.0208 ppm (PASS)	0.0000 ppm	0%	2020/08/11 02:13

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.0208	0.2081	10.04	23.22	13.18	49.94	10:32

Completion State	Success Action	Method	Calibration	STD Conc - Pos D
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	0 ppmC

Sample Type: Sample From Schedule Version 10

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	29	TOC	K2006345-001	0.5919 ppm	0.0067 ppm	1.1200%	2020/08/11 02:28

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.5966	5.9663	13.43	26.85	13.41	49.97	10:31
2	TOC	0.5872	5.8723	13.37	26.74	13.38	49.95	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2487 (IC) (v1431)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	30	TOC	K2006345-002	0.6574 ppm	0.0176 ppm	2.6800%	2020/08/11 02:56

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.6699	6.6991	13.95	27.23	13.28	49.97	10:28
2	TOC	0.6450	6.4496	13.77	27.14	13.37	49.99	10:27

Dilution	Blank Contribution	Method	Calibration

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2487 (IC) (v1431)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	31	TOC	K2006345-003	0.8083 ppm	0.0132 ppm	1.6300%	2020/08/11 03:24

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.7989	7.9892	14.85	28.51	13.66	49.99	10:29
2	TOC	0.8176	8.1759	14.98	28.41	13.42	50.04	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2487 (IC) (v1431)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	32	TOC	K2006345-004	0.7226 ppm	0.0188 ppm	2.6100%	2020/08/11 03:52

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.7359	7.3591	14.41	27.78	13.37	50.03	10:30
2	TOC	0.7093	7.0925	14.22	27.64	13.42	50.03	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2487 (IC) (v1431)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	33	TOC	K2006345-005	0.6797 ppm	0.0142 ppm	2.0900%	2020/08/11 04:20

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.6696	6.6962	13.95	27.22	13.27	50.06	10:26
2	TOC	0.6897	6.8972	14.09	27.33	13.24	50.06	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2487 (IC) (v1431)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	34	TOC	K2006345-006	0.3956 ppm	0.0006 ppm	0.1500%	2020/08/11 04:48

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.3952	3.9520	12.02	25.28	13.26	50.06	10:30
2	TOC	0.3961	3.9606	12.03	25.34	13.31	50.07	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2487 (IC) (v1431)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	35	TOC	K2006345-007	0.9566 ppm	0.0433 ppm	4.5300%	2020/08/11 05:16

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.9259	9.2594	15.74	29.02	13.28	50.04	10:26
2	TOC	0.9872	9.8724	16.17	29.78	13.61	50.06	10:29

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2487 (IC) (v1431)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	36	TOC	K2006345-008	0.5492 ppm	0.0325 ppm	5.9100%	2020/08/11 05:44

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.5262	5.2621	12.94	26.39	13.45	50.04	10:25
2	TOC	0.5721	5.7211	13.26	26.71	13.45	50.04	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2487 (IC) (v1431)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	37	TOC	K2006332-001	0.6516 ppm	0.0132 ppm	2.0300%	2020/08/11 06:12

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.6423	6.4225	13.75	27.06	13.31	50.04	10:28
2	TOC	0.6609	6.6093	13.89	27.18	13.30	50.05	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2487 (IC) (v1431)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	38	TOC	RB	0.0000 ppm	0.0000 ppm	0.0000%	2020/08/11 06:40

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0000	0.0000	7.95	21.50	13.55	50.04	10:28
2	TOC	0.0000	0.0000	8.38	21.83	13.45	50.07	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2487 (IC) (v1431)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> CCV 25 ppm From Schedule Version 10

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	B	TOC	25.0000	1:2	[TOC] CCV 25 ppm [25 ppm]	0 / infinity (NA / NA)	24.0278 ppm (PASS)	0.0000 ppm	0%	2020/08/11 07:08

Pos	Base Analysis	ID	Rep	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run

	Type		#							Time
B	TOC	25 ppm	1	24.0278	240.2781	178.44	191.91	13.47	50.04	10:29

Completion State	Success Action	Method	Calibration	STD Conc - Pos B
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	50 ppmC

Sample Type: Check Standard --> CCB From Schedule Version 10

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	D	TOC	0.0000	1:1	[TOC] CCB [0 ppm]	0 / infinity (NA / NA)	0.0000 ppm (PASS)	0.0000 ppm	0%	2020/08/11 07:23

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.0000	0.0000	9.09	22.59	13.50	49.97	10:31

Completion State	Success Action	Method	Calibration	STD Conc - Pos D
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	0 ppmC

Sample Type: Sample From Schedule Version 10

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	39	TOC	MB3	0.0016 ppm	0.0000 ppm	0.0000%	2020/08/11 07:38

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0016	0.0161	9.26	22.48	13.22	49.98	10:30

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2487 (IC) (v1431)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> LCS From Schedule Version 10

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	C	TOC	25.0000	1:1	[TOC] LCS [25.0 ppm]	0 / infinity (NA / NA)	23.7533 ppm (PASS)	0.0000 ppm	0%	2020/08/11 07:52

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
C	TOC	25.0 ppm	1	23.7533	237.5325	176.52	189.89	13.38	49.92	10:28

Completion State	Success Action	Method	Calibration	STD Conc - Pos C
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	25 ppmC

Sample Type: Sample From Schedule Version 10

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	40	TOC		NaN	NaN	NaN%	2020/08/11 08:07

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time

Dilution 1:10 **Method** CAS_salt_010711 (v4) **Calibration** CAS_salt_010711 (v38)

Meta Data Used in this Report

Blanks

Version	Reagent (Abs)	Acid (Abs)	DI IC (Abs)	DI TC (Abs)	DI TOC (Abs)	Save Time	Operator
v1430	1.9877	0.5570	0.0000	0.0000	0.0000	2020/08/08 14:36	Fusion1 (Fusion1)
v1431	1.7293	0.2720	0.0000	0.0000	0.0000	2020/08/10 11:21	Fusion1 (Fusion1)

Calibrations

Name: CAS_salt_010711 (TOC)

Version: v38
Ver Creation: 2020/06/13 16:40
Comment:
Operator: Fusion1 (Fusion1)
Basic Analysis Type: TOC
Calibration curve formula: TOC: y = 7.015x + 9.892
r^2 value: TOC: r^2 = 0.99974

Basic Analysis Type: TOC

Sample ID	Y Raw Value	X Expected	Message	End Time
DI Water	9.5750	0.0000		2020/06/13 15:13
0.500 ppm	12.9010	0.5000		2020/06/13 15:28
1.0 ppm	15.6320	1.0000		2020/06/13 15:42
5.0 ppm	43.2510	5.0000		2020/06/13 15:56
10 ppm	82.4040	10.0000		2020/06/13 16:11
25 ppm	188.6880	25.0000		2020/06/13 16:25
50 ppm	358.6500	50.0000		2020/06/13 16:39

Methods

Name: CAS_salt_010711 (TOC)

Version: v4 Operator: Fusion1 (Fusion1)
Ver Creation: 2019/02/21 17:57
Comment:

Parameter	Value
SampleVolume	10.0 mL
Dilution	1:10
AcidVolume	0.5 ml
ReagentVolume	2.0 ml
UVReactorPrerinse	Off
UVReactorPrerinseVolume	5.0
NumberOfUVReactorPrerinses	1
ICSpargeTime	1.00 mins
DetectorSweepFlow	500 ml/min
PreSpargeTime	2.00 mins
SystemFlow	500 ml/min

Advanced Parameter	Value
NeedleRinseVolume	5.0 ml
VialPrimeVolume	2.0 ml
ICSamplePrimeVolume	2.0 ml
ICSpargeRinseVolume	12.0 ml
BaselineStabilizeTime	0.70 min
DetectorPressureFlow	150 ml/min
SyringeSpeedWaste	10
SyringeSpeedAcid	7
SyringeSpeedReagent	7
SyringeSpeedDIWater	7
NDIRPressurization	60 psig
SyringeSpeedSampleDispense	5
SyringeSpeedSampleAspirate	4
SyringeSpeedUVDispense	5
SyringeSpeedUVAspirate	5
SyringeSpeedICDispense	5
SyringeSpeedICAspirate	5
NDIRPressureStabilize	1.75 min
SampleMixing	Off
SampleMixingCycles	1
SampleMixingVolume	10.0
LowLevelFilterNDIR	Off

Acceptance / Approval

Electronic Signatures

Report Version	User Name	Acceptance	Reason	Date

Report History

Report History

Report Version	User Name	System Reason	User Reason	Date
1	Fusion1 (Fusion1)	Schedule completed	Schedule completed	2020/08/11 08:17

ALS Environmental

StarLIMS Run: 690342/690414

Analysis: DOC/TOC

Method: SM 5310 C, 9060A, 415.1, 9060

CCV: 19-GEN-8-15-C 50 ppm LCS: 19-GEN-8-31I 25.0 ppm

ICAL Date: 6/16/2020

ICAL ID: 19-GEN-8-22-G

ICS ID: 19-GEN-8-4-G

ICS TV: 25.0 ppm ICS % R < 1

Spike ID: 19-GEN-8-15-B 0.05 ml of 5000 ppm stock ---> 10.0 ml = 25.0 ppm x dilution factor

Sodium Persulfate: 19-GEN-08-32J

21 % H3PO4: 19-GEN-08-32I

Equipment ID: K-TOC-03

PIPETTE ID: 124276B, 129001F, N11314F, Marge

FILTER ID: 16967789

Analyzed By: MK	Date Analyzed: 8-10-20
Reviewed By:	Date Reviewed: 8/11/20

August 21, 2020 Service Request No:E2000735

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

Laboratory Results for: HS20071328

Dear RJ,

Enclosed are the results of the sample(s) submitted to our laboratory July 29, 2020
For your reference, these analyses have been assigned our service request number **E2000735.**

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current TNI standards, where applicable, and except as noted in the laboratory case narrative provided. All results are intended to be considered in their entirety and ALS Environmental is not responsible for use of less than the complete final report. Results apply only to the items submitted to the laboratory, as received for analysis. In accordance with the current TNI Standard, a statement on the estimated uncertainty of measurement of any quantitative analysis will be supplied upon request.

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

Corey Grandits
Project Manager

ADDRESS 10450 Stancliff Rd., Suite 210, Houston, TX 77099
PHONE +1 281 530 5656 | FAX +1 281 530 5887
ALS Group USA, Corp.
dba ALS Environmental

Certificate of Analysis

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

ALS Environmental

Client:	ALS Houston	**Service Request No.:**	E2000735
Project:	HS20071328	**Date Received:**	07/29/20
Sample Matrix:	S		

CASE NARRATIVE

All analyses were performed in adherence to the quality assurance program of ALS Environmental. This report contains analytical results for samples designated for Tier II. When appropriate to the method, method blank results have been reported with each analytical test.

Sample Receipt

Nineteen samples were received for analysis at ALS Environmental in Houston on 07/29/20.

The samples were received in good condition and are consistent with the accompanying chain of custody form. The samples were stored in a refrigerator at 4°C upon receipt at the laboratory.

Data Validation Notes and Discussion

Precision and Accuracy:

EQ2000327: Laboratory Control Spike/Duplicate Laboratory Control Spike (LCS/DLCS) samples were analyzed and reported in lieu of a MS/MSD for this extraction batch. The LCS and DLCS recoveries are within QC limits.

EQ2000339: Laboratory Control Spike/Duplicate Laboratory Control Spike (LCS/DLCS) samples were analyzed and reported in addition to a MS/MSD for this extraction batch. The MS, MSD, LCS and DLCS recoveries are within QC limits.

The results of analyses are given in the attached laboratory report. All results are intended to be considered in their entirety, and ALS Environmental (ALS) is not responsible for utilization of less than the complete report.

Use of ALS group USA Corp dba ALS Environmental (ALS)'s Name. Client shall not use ALS's name or trademark in any marketing or reporting materials, press releases or in any other manner ("Materials") whatsoever and shall not attribute to ALS any test result, tolerance or specification derived from ALS's data ("Attribution") without ALS's prior written consent, which may be withheld by ALS for any reason in its sole discretion. To request ALS's consent, Client shall provide copies of the proposed Materials or Attribution and describe in writing Client's proposed use of such Materials or Attribution. If ALS has not provided written approval of the Materials or Attribution within ten (10) days of receipt from Client, Client's request to use ALS's name or trademark in any Materials or Attribution shall be deemed denied. ALS may, in its discretion, reasonably charge Client for its time in reviewing Materials or Attribution requests. Client acknowledges and agrees that the unauthorized use of ALS's name or trademark may cause ALS to incur irreparable harm for which the recovery of money damages will be inadequate. Accordingly, Client acknowledges and agrees that a violation shall justify preliminary injunctive relief. For questions contact the laboratory.

Client: ALS Environmental - US **Service Request:**E2000735
Project: HS20071328

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
E2000735-001	16WW32-200727	7/27/2020	0805
E2000735-002	16WW31-200727	7/27/2020	0850
E2000735-003	16WW46-200727	7/27/2020	0940
E2000735-004	16WW46-200727-FD	7/27/2020	0940
E2000735-005	16WW49-200727	7/27/2020	1030
E2000735-006	16WW51-200727	7/27/2020	1125
E2000735-007	16WW51-200727-FD	7/27/2020	1125
E2000735-008	16RW01-200727	7/27/2020	1220
E2000735-009	16WW23-200727	7/27/2020	1315
E2000735-010	16WW24-200727	7/27/2020	1405
E2000735-011	16EW03-200728	7/28/2020	0730
E2000735-012	16EW07-200728	7/28/2020	0815
E2000735-013	16EW08-200728	7/28/2020	0905
E2000735-014	16EW04-200728	7/28/2020	0950
E2000735-015	16RW04-200728	7/28/2020	1040
E2000735-016	16IW03-200728	7/28/2020	1130
E2000735-017	16SW01-200728	7/28/2020	1210
E2000735-018	16SW02-200728	7/28/2020	1230
E2000735-019	16SW03-200728	7/28/2020	1250

Service Request Summary

Folder #: **E2000735**
Client Name: ALS Environmental - US
Project Name: HS20071328
Project Number:

Report To: RJ Modashia
ALS Laboratory Group
10450 Stancliff Road
Houston, TX 77099-4338
USA
Phone Number: 281-530-5656
Cell Number:
Fax Number: 281-530-5887
E-mail: rj.modashia@alsglobal.com

Project Chemist: Corey Grandits
Originating Lab: HOUSTON
Logged By: CGRANDITS
Date Received: 07/29/20
Internal Due Date: 8/12/2020
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: N
Report to MDL?: Y
P.O. Number: HS20071328
EDD: No EDD Specified

21 250 mL-Plastic Bottle HDPE WM CLEAR Unpreserved
Location: EHRMS-WIC 3A
Pressure Gas:

Lab Samp No.	Client Samp No	Matrix	Collected	HOUSTON ClO4 DOD/6850
E2000735-001	16WW32-200727	Water	07/27/20 0805	II
E2000735-002	16WW31-200727	Water	07/27/20 0850	II
E2000735-003	16WW46-200727	Water	07/27/20 0940	II
E2000735-004	16WW46-200727-FD	Water	07/27/20 0940	II
E2000735-005	16WW49-200727	Water	07/27/20 1030	II
E2000735-006	16WW51-200727	Water	07/27/20 1125	II
E2000735-007	16WW51-200727-FD	Water	07/27/20 1125	II
E2000735-008	16RW01-200727	Water	07/27/20 1220	II
E2000735-009	16WW23-200727	Water	07/27/20 1315	II
E2000735-010	16WW24-200727	Water	07/27/20 1405	II
E2000735-011	16EW03-200728	Water	07/28/20 0730	II
E2000735-012	16EW07-200728	Soil	07/28/20 0815	II
E2000735-013	16EW08-200728	Water	07/28/20 0905	II
E2000735-014	16EW04-200728	Water	07/28/20 0950	II
E2000735-015	16RW04-200728	Water	07/28/20 1040	II
E2000735-016	16IW03-200728	Water	07/28/20 1130	II

Service Request Summary

Folder #: **E2000735**
Client Name: ALS Environmental - US
Project Name: HS20071328
Project Number:

Report To: RJ Modashia
ALS Laboratory Group
10450 Stancliff Road
Houston, TX 77099-4338
USA
Phone Number: 281-530-5656
Cell Number:
Fax Number: 281-530-5887
E-mail: rj.modashia@alsglobal.com

Project Chemist: Corey Grandits
Originating Lab: HOUSTON
Logged By: CGRANDITS
Date Received: 07/29/20
Internal Due Date: 8/12/2020
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: N
Report to MDL?: Y
P.O. Number: HS20071328
EDD: No EDD Specified

21 250 mL-Plastic Bottle HDPE WM CLEAR Unpreserved
Location: EHRMS-WIC 3A
Pressure Gas:

Lab Samp No.	Client Samp No	Matrix	Collected	HOUSTON ClO4 DOD/6850
E2000735-017	16SW01-200728	Water	07/28/20 1210	II
E2000735-018	16SW02-200728	Water	07/28/20 1230	II
E2000735-019	16SW03-200728	Water	07/28/20 1250	II

Service Request Summary

Folder #: **E2000735**
Client Name: ALS Environmental - US
Project Name: HS20071328
Project Number:

Report To: RJ Modashia
ALS Laboratory Group
10450 Stancliff Road
Houston, TX 77099-4338
USA
Phone Number: 281-530-5656
Cell Number:
Fax Number: 281-530-5887
E-mail: rj.modashia@alsglobal.com

Project Chemist: Corey Grandits
Originating Lab: HOUSTON
Logged By: CGRANDITS
Date Received: 07/29/20
Internal Due Date: 8/12/2020
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: N
Report to MDL?: Y
P.O. Number: HS20071328
EDD: No EDD Specified

21 250 mL-Plastic Bottle HDPE WM CLEAR Unpreserved
Location: EHRMS-WIC 3A
Pressure Gas:

Test Comments:

Group	Test/Method	Samples	Comments
Semivoa GCMS	ClO4 DOD/6850	17	Level II due 8/12, level IV 8/19
Semivoa GCMS	ClO4 DOD/6850	1	Level II due 8/12,level IV 8/19
Semivoa GCMS	ClO4 DOD/6850	1	MS/MSD

Data Qualifiers

Lab Standard

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

Data Qualifiers

Lab Standard

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

ALS Laboratory Group

Acronyms

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

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

ALS Environmental

State Certifications, Accreditations, and Licenses

Agency	Number	Expire Date
American Association for Laboratory Accreditation	2897.01 2020	11/30/2021
Arkansas Department of Environmental Quality	20-030-0	3/26/2021
Department of Defense	A2LA 2897.01	11/30/2021
Hawaii Department of Health	2020	4/30/2021
Illinois Environmental Protection Agency	2000322020-4	5/9/2021
Louisiana Department of Health and Hospitals	LA028-2020	12/31/2020
Maine Department of Health and Human Services	2020016	6/5/2022
Minnesota Department of Health	1785988	12/31/2020
Nebraska Department of Health and Human Services	NE-OS-25-13 (2020)	4/30/2021
Nevada Department of Concervation and Natural Resources	TX026932021-1	7/31/2021
New Hampshire Environmental Laboratory Accreditation Program	209420	4/24/2021
New York Department of Health	11707	3/31/2021
Oklahoma Department of Environmental Quality	2019-067	8/31/2020
Tennessee Department of Environment and Concervation	04016-2020	4/30/2021
Texas Commision on Environmental Quality	T104704231-20-26	4/30/2021
United States Department of Agriculture	P330-19-00299	10/10/2022
Washington Department of Health	C819	11/14/2020

Chain of Custody

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

E2000694 5
ALS Laboratory Group
HS20071328

10450 Stancliff Rd, Ste 210
Houston, TX 77099
T: +1 281 530 5656
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Subcontract Chain of Custody

SAMPLING STATE: Dept of Defense **COC ID:** 14395

SUBCONTRACT TO:

ALS Environmental
10450 Stancliff RoadSuite 210
Houston, TX 77084

Phone: +1 281 530 5656

CUSTOMER INFORMATION:

Company: ALS Houston
Contact: RJ Modashia
Address: 10450 Stancliff Rd, Ste 210
Phone: +1 281 530 5656
Email: RJ.Modashia@alsglobal.com
Alternate Contact:
Email:

INVOICE INFORMATION:

Company: ALS Houston
Contact: Accounts Payable
Address: 10450 Stancliff Rd, Ste 210
Phone: +1 281 530 5656
Reference: HS20071328
TSR: Sonia West

	LAB SAMPLE ID / ANALYSIS REQUESTED	CLIENT SAMPLE ID	MATRIX	COLLECT DATE / DUE DATE
1.	HS20071328-01	16WW32-200727	Groundwater	27 Jul 2020 08:05
	SUB_Perch-6850			12 Aug 2020
2.	HS20071328-02	16WW31-200727	Groundwater	27 Jul 2020 08:50
	SUB_Perch-6850			12 Aug 2020
3.	HS20071328-03	16WW46-200727	Groundwater	27 Jul 2020 09:40
	SUB_Perch-6850			12 Aug 2020
4.	HS20071328-04	16WW46-200727-FD	Groundwater	27 Jul 2020 ~~08:05~~ 09:40
	SUB_Perch-6850			12 Aug 2020
5.	HS20071328-05	16WW49-200727	Groundwater	27 Jul 2020 10:30
	SUB_Perch-6850			12 Aug 2020
6.	HS20071328-06	16WW51-200727	Groundwater	27 Jul 2020 11:25
	SUB_Perch-6850			12 Aug 2020
7.	HS20071328-07	16WW51-200727-FD	Groundwater	27 Jul 2020 11:25
	SUB_Perch-6850			12 Aug 2020
8.	HS20071328-08	16RW01-200727	Groundwater	27 Jul 2020 12:20
	SUB_Perch-6850			12 Aug 2020
9.	HS20071328-09	16WW23-200727	Groundwater	27 Jul 2020 13:15

Subcontract Chain of Custody

SAMPLING STATE: **Dept of Defense** **COC ID: 14395**

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
	SUB_Perch-6850			12 Aug 2020
10.	**HS20071328-10**	**16WW24-200727**	**Groundwater**	**27 Jul 2020 14:05**
	SUB_Perch-6850			12 Aug 2020
11.	**HS20071328-11**	**16EW03-200728**	**Groundwater**	**28 Jul 2020 07:30**
	SUB_Perch-6850			12 Aug 2020
12.	**HS20071328-12**	**16EW07-200728**	**Groundwater**	**28 Jul 2020 08:15**
	SUB_Perch-6850			12 Aug 2020
13.	**HS20071328-13**	**16EW08-200728**	**Groundwater**	**28 Jul 2020 09:05**
	SUB_Perch-6850			12 Aug 2020
14.	**HS20071328-14**	**16EW04-200728**	**Groundwater**	**28 Jul 2020 09:50**
	SUB_Perch-6850			12 Aug 2020
15.	**HS20071328-15**	**16RW04-200728**	**Groundwater**	**28 Jul 2020 10:40**
	SUB_Perch-6850			12 Aug 2020
16.	**HS20071328-16**	**16IW03-200728**	**Groundwater**	**28 Jul 2020 11:30**
	SUB_Perch-6850			12 Aug 2020
17.	**HS20071328-17**	**16SW01-200728**	**Groundwater**	**27 Jul 2020 12:10**
	SUB_Perch-6850			12 Aug 2020
18.	**HS20071328-18**	**16SW02-200728**	**Groundwater**	**28 Jul 2020 12:30**
	SUB_Perch-6850			12 Aug 2020
19.	**HS20071328-19**	**16SW03-200728**	**Groundwater**	**28 Jul 2020 12:50**
	SUB_Perch-6850			12 Aug 2020

Comments: Please analyze for the analysis listed above.
Send report to the emails shown above.
HS20071328-12 = MS/MSD

QC Level: DOD IV (DoD Data Package)

Relinquished By: _____ Date/Time: _____

Received By: _____ Date/Time: 7/29/20 1531

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

ALS Environmental

Cooler Receipt Form

Project Chemist CH

Client/Project ALS-H

Thermometer ID 1231

Date/Time Received: 7/29/20 Initials: CH

Date/Time Logged in: 7/29/20 Initials CH

1. Method of delivery: ○ US Mail ○ Fed Ex ○ UPS ○ DHL ✓ ALS Courier ○ Client

2. Samples received in: ✓ Cooler ○ Box ○ Envelope ○ Other

3. Were custody seals on coolers? ○ Yes ✓ No
   Were they intact? ○ Yes ○ No ✓ N/A
   Were they signed and dated? ○ Yes ○ No ✓ N/A
   If yes, how many and where?

4. Packing Material: ○ Inserts ✓ Baggies ○ Bubble Wrap ○ Gel Packs ✓ Wet Ice ○ Sleeves ○ Other

5. Foreign or Regulated Soil? ○ Yes ○ No Location of Sampling:

Cooler Tracking Number	COC ID	Date Opened	Time Opened	Opened By	Temp. °C	Temp Blank?
-		7/29/20	1531	CH	1.1	✓
						☐
						☐
						☐

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

Notes, Discrepancies, & Resolutions:

Service request Label: XXX 735 5

E2000694
ALS Laboratory Group
HS20071328

HS-HRMSCoolerReceipt R1.0

ALS Environmental - Houston HRMS

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www.alsglobal.com

SAMPLE ACCEPTANCE POLICY

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

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

- ✓ Intact on outside of cooler, signed and dated

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

The following is required on each COC:

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

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

Sample Integrity (mandatory):

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

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

Temperature Requirement (varies by sample matrix):

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

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

Preparation Information Benchsheets

ALS Environmental - Houston HRMS
10450 Stancliff Rd., Suite 210, Houston, TX 77099
Phone (713)266-1599 Fax (713)266-0130
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Preparation Information Benchsheet

Prep Run#: 362933 **Prep WorkFlow:** GenExt28Day **Status:** Prepped
Team: Semivoa GCMS/GRIVERA **Prep Method:** Method **Prep Date/Time:** 8/5/20 11:04

#	Lab Code	Client ID	B#	Method /Test	pH	Cl	Matrix	Amt. Ext.	Sample Description
1	E2000735-001	16WW32-200727	.01	6850/ClO4 DOD			Water	10mL	
2	E2000735-002	16WW31-200727	.01	6850/ClO4 DOD			Water	10mL	
3	E2000735-003	16WW46-200727	.01	6850/ClO4 DOD			Water	10mL	
4	E2000735-004	16WW46-200727-FD	.01	6850/ClO4 DOD			Water	10mL	
5	E2000735-005	16WW49-200727	.01	6850/ClO4 DOD			Water	10mL	
6	E2000735-006	16WW51-200727	.01	6850/ClO4 DOD			Water	10mL	
7	E2000735-007	16WW51-200727-FD	.01	6850/ClO4 DOD			Water	10mL	
8	E2000735-008	16RW01-200727	.01	6850/ClO4 DOD			Water	10mL	
9	E2000735-009	16WW23-200727	.01	6850/ClO4 DOD			Water	10mL	
10	E2000735-010	16WW24-200727	.01	6850/ClO4 DOD			Water	10mL	
11	E2000735-011	16EW03-200728	.01	6850/ClO4 DOD			Water	10mL	
12	E2000735-013	16EW08-200728	.01	6850/ClO4 DOD			Water	10mL	
13	E2000735-014	16EW04-200728	.01	6850/ClO4 DOD			Water	10mL	
14	E2000735-015	16RW04-200728	.01	6850/ClO4 DOD			Water	10mL	
15	E2000735-016	16IW03-200728	.01	6850/ClO4 DOD			Water	10mL	
16	E2000735-017	16SW01-200728	.01	6850/ClO4 DOD			Water	10mL	
17	E2000735-018	16SW02-200728	.01	6850/ClO4 DOD			Water	10mL	
18	E2000735-019	16SW03-200728	.01	6850/ClO4 DOD			Water	10mL	
19	EQ2000327-01	MB		6850/ClO4 DOD			Liquid	10mL	
20	EQ2000327-02	LCS		6850/ClO4 DOD			Liquid	10mL	
21	EQ2000327-03	DLCS		6850/ClO4 DOD			Liquid	10mL	

Spiking Solutions

Name: Sodium Perchlorate 1 ug/mL (IS) (18-O) as CLO4 Inventory ID 202037 Logbook Ref: Sodium Perchlorate Expires On: 05/22/2021

E2000735-001	100.00µL	E2000735-002	100.00µL	E2000735-003	100.00µL	E2000735-004	100.00µL	E2000735-005	100.00µL	E2000735-006	100.00µL
E2000735-007	100.00µL	E2000735-008	100.00µL	E2000735-009	100.00µL	E2000735-010	100.00µL	E2000735-011	100.00µL	E2000735-013	100.00µL
E2000735-014	100.00µL	E2000735-015	100.00µL	E2000735-016	100.00µL	E2000735-017	100.00µL	E2000735-018	100.00µL	E2000735-019	100.00µL
EQ2000327-01	100.00µL	EQ2000327-02	100.00µL	EQ2000327-03	100.00µL						

Name: Perchlorate Intermediate Stock1 Inventory ID 209764 Logbook Ref: Perchlorate Int. Stock1 51820 Expires On: 11/18/2020

EQ2000327-02	1.00µL	EQ2000327-03	1.00µL

Preparation Information Benchsheet

Prep Run#: 362933
Team: Semivoa GCMS/GRIVERA
Prep WorkFlow: GenExt28Day
Prep Method: Method
Status: Prepped
Prep Date/Time: 8/5/20 11:04

Preparation Steps

Step: Preparation
Started: 8/5/20 11:04
Finished: 8/6/20 09:04
By: GRIVERA
Comments

Comments: _____

Reviewed By: _____ Date: _____

Chain of Custody

Relinquished By: _____ Date: _____

Received By: _____ Date: _____

Extracts Examined
Yes No

Preparation Information Benchsheet

Prep Run#: 363305 **Prep WorkFlow:** Gen CLO4 **Status:** Prepped
Team: Semivoa GCMS/GRIVERA **Prep Method:** Method **Prep Date/Time:** 8/11/20 16:05

#	Lab Code	Client ID	B#	Method /Test	pH	Cl	Matrix	Amt. Ext.	Sample Description
1	E2000712-001	W20H005-01	.01	6850/ClO4			Soil	0.991g	
2	E2000712-002	W20H005-02	.01	6850/ClO4			Soil	0.982g	
3	E2000712-003	W20H005-03	.01	6850/ClO4			Soil	1.053g	
4	E2000712-004	W20H005-04	.01	6850/ClO4			Soil	1.000g	
5	E2000712-005	W20H005-05	.01	6850/ClO4			Soil	1.039g	
6	E2000712-006	W20H005-06	.01	6850/ClO4			Soil	0.992g	
7	E2000712-007	W20H005-07	.01	6850/ClO4			Soil	1.079g	
8	E2000735-012	16EW07-200728	.01	6850/ClO4 DOD			Soil	0.971g	
9	EQ2000339-01	MB		6850/ClO4			Solid	1.007g	
10	EQ2000339-02	LCS		6850/ClO4			Solid	1.060g	
11	EQ2000339-03	DLCS		6850/ClO4			Solid	1.009g	
12	EQ2000339-04	16EW07-200728 MS	.01	6850/ClO4 DOD			Solid	1.034g	
13	EQ2000339-05	16EW07-200728 DMS	.01	6850/ClO4 DOD			Solid	0.988g	

Spiking Solutions

Name: Sodium Perchlorate 1 ug/mL (IS) (18-O) as CLO4 Inventory ID 202037 Logbook Ref: Sodium Perchlorate Expires On: 05/22/2021

E2000712-001	100.00µL	E2000712-002	100.00µL	E2000712-003	100.00µL	E2000712-004	100.00µL	E2000712-005	100.00µL	E2000712-006	100.00µL
E2000712-007	100.00µL	E2000735-012	100.00µL	EQ2000339-01	100.00µL	EQ2000339-02	100.00µL	EQ2000339-03	100.00µL	EQ2000339-04	100.00µL
EQ2000339-05	100.00µL										

Name: Perchlorate Intermediate Stock1 Inventory ID 209764 Logbook Ref: Perchlorate Int. Stock1 51820 Expires On: 11/18/2020

EQ2000339-02	100.00µL	EQ2000339-03	100.00µL	EQ2000339-04	100.00µL	EQ2000339-05	100.00µL

Preparation Steps

Step: Extraction
Started: 8/11/20 16:05
Finished: 8/11/20 17:00
By: GRIVERA
Comments

Comments: _____

Reviewed By: _____ Date: _____

Preparation Information Benchsheet

Prep Run#: 363305
Team: Semivoa GCMS/GRIVERA

Prep WorkFlow: Gen CLO4
Prep Method: Method

Status: Prepped
Prep Date/Time: 8/11/20 16:05

Chain of Custody

Relinquished By:		Date:		Extracts Examined
Received By:		Date:		Yes No

Analytical Results

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ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000735
Project:	HS20071328	**Date Collected:**	7/27/20 0805
Sample Matrix:	Water	**Date Received:**	7/29/20
		Date Extracted:	8/5/20
		Date Analyzed:	8/19/20 14:37
Sample Name:	16WW32-200727	**Units:**	µg/L
Lab Code:	E2000735-001	**Basis:**	NA

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

Analytical Method:	6850	**Analysis Lot:**	691702
Prep Method:	Method	**Extraction Lot:**	362933
Data File Name:	I:\LCMS01\DATA\20200819\20200819_035	**Instrument Name:**	E-LCMS-01
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	LOQ	LOD	MDL	Note
14797-73-0	Perchlorate	ND	U	0.100	0.0500	0.0250	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000735
Project:	HS20071328	**Date Collected:**	7/27/20 0850
Sample Matrix:	Water	**Date Received:**	7/29/20
		Date Extracted:	8/5/20
		Date Analyzed:	8/20/20 10:29
Sample Name:	16WW31-200727	**Units:**	µg/L
Lab Code:	E2000735-002	**Basis:**	NA

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

Analytical Method:	6850	**Analysis Lot:**	691880
Prep Method:	Method	**Extraction Lot:**	362933
Data File Name:	I:\LCMS01\DATA\20200820\20200820_007	**Instrument Name:**	E-LCMS-01
		Dilution Factor:	2

CAS No.	Analyte Name	Result	Q	LOQ	LOD	MDL	Note
14797-73-0	Perchlorate	**1.31**		0.200	0.100	0.0500	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000735
Project:	HS20071328	**Date Collected:**	7/27/20 0940
Sample Matrix:	Water	**Date Received:**	7/29/20
		Date Extracted:	8/5/20
		Date Analyzed:	8/20/20 10:37
Sample Name:	16WW46-200727	**Units:**	µg/L
Lab Code:	E2000735-003	**Basis:**	NA

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

Analytical Method:	6850	**Analysis Lot:**	691880
Prep Method:	Method	**Extraction Lot:**	362933
Data File Name:	I:\LCMS01\DATA\20200820\20200820_008	**Instrument Name:**	E-LCMS-01
		Dilution Factor:	10

CAS No.	Analyte Name	Result	Q	LOQ	LOD	MDL	Note
14797-73-0	Perchlorate	**4.07**		1.00	0.500	0.250	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000735
Project:	HS20071328	**Date Collected:**	7/27/20 0940
Sample Matrix:	Water	**Date Received:**	7/29/20
		Date Extracted:	8/5/20
		Date Analyzed:	8/20/20 10:45
Sample Name:	16WW46-200727-FD	**Units:**	µg/L
Lab Code:	E2000735-004	**Basis:**	NA

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

Analytical Method:	6850	**Analysis Lot:**	691880
Prep Method:	Method	**Extraction Lot:**	362933
Data File Name:	I:\LCMS01\DATA\20200820\20200820_009	**Instrument Name:**	E-LCMS-01
		Dilution Factor:	10

CAS No.	Analyte Name	Result	Q	LOQ	LOD	MDL	Note
14797-73-0	Perchlorate	**3.31**		1.00	0.500	0.250	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000735
Project:	HS20071328	**Date Collected:**	7/27/20 1030
Sample Matrix:	Water	**Date Received:**	7/29/20
		Date Extracted:	8/5/20
		Date Analyzed:	8/20/20 10:53
Sample Name:	16WW49-200727	**Units:**	µg/L
Lab Code:	E2000735-005	**Basis:**	NA

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

Analytical Method:	6850	**Analysis Lot:**	691880
Prep Method:	Method	**Extraction Lot:**	362933
Data File Name:	I:\LCMS01\DATA\20200820\20200820_010	**Instrument Name:**	E-LCMS-01
		Dilution Factor:	10

CAS No.	Analyte Name	Result	Q	LOQ	LOD	MDL	Note
14797-73-0	Perchlorate	**2.41**		1.00	0.500	0.250	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000735
Project:	HS20071328	**Date Collected:**	7/27/20 1125
Sample Matrix:	Water	**Date Received:**	7/29/20
		Date Extracted:	8/5/20
		Date Analyzed:	8/20/20 11:01
Sample Name:	16WW51-200727	**Units:**	µg/L
Lab Code:	E2000735-006	**Basis:**	NA

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

Analytical Method:	6850	**Analysis Lot:**	691880
Prep Method:	Method	**Extraction Lot:**	362933
Data File Name:	I:\LCMS01\DATA\20200820\20200820_011	**Instrument Name:**	E-LCMS-01
		Dilution Factor:	10

CAS No.	Analyte Name	Result	Q	LOQ	LOD	MDL	Note
14797-73-0	Perchlorate	**2.86**		1.00	0.500	0.250	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000735
Project:	HS20071328	**Date Collected:**	7/27/20 1125
Sample Matrix:	Water	**Date Received:**	7/29/20
		Date Extracted:	8/5/20
		Date Analyzed:	8/20/20 11:09
Sample Name:	16WW51-200727-FD	**Units:**	µg/L
Lab Code:	E2000735-007	**Basis:**	NA

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

Analytical Method:	6850	**Analysis Lot:**	691880
Prep Method:	Method	**Extraction Lot:**	362933
Data File Name:	I:\LCMS01\DATA\20200820\20200820_012	**Instrument Name:**	E-LCMS-01
		Dilution Factor:	10

CAS No.	Analyte Name	Result	Q	LOQ	LOD	MDL	Note
14797-73-0	Perchlorate	**2.82**		1.00	0.500	0.250	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000735
Project:	HS20071328	**Date Collected:**	7/27/20 1220
Sample Matrix:	Water	**Date Received:**	7/29/20
		Date Extracted:	8/5/20
		Date Analyzed:	8/20/20 13:48
Sample Name:	16RW01-200727	**Units:**	µg/L
Lab Code:	E2000735-008	**Basis:**	NA

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

Analytical Method:	6850	**Analysis Lot:**	691880
Prep Method:	Method	**Extraction Lot:**	362933
Data File Name:	I:\LCMS01\DATA\20200820\20200820_032	**Instrument Name:**	E-LCMS-01
		Dilution Factor:	10

CAS No.	Analyte Name	Result	Q	LOQ	LOD	MDL	Note
14797-73-0	Perchlorate	**1.63**		1.00	0.500	0.250	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000735
Project:	HS20071328	**Date Collected:**	7/27/20 1315
Sample Matrix:	Water	**Date Received:**	7/29/20
		Date Extracted:	8/5/20
		Date Analyzed:	8/19/20 15:44
Sample Name:	16WW23-200727	**Units:**	µg/L
Lab Code:	E2000735-009	**Basis:**	NA

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

Analytical Method:	6850	**Analysis Lot:**	691702
Prep Method:	Method	**Extraction Lot:**	362933
Data File Name:	I:\LCMS01\DATA\20200819\20200819_043	**Instrument Name:**	E-LCMS-01
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	LOQ	LOD	MDL	Note
14797-73-0	Perchlorate	ND	U	0.100	0.0500	0.0250	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000735
Project:	HS20071328	**Date Collected:**	7/27/20 1405
Sample Matrix:	Water	**Date Received:**	7/29/20
		Date Extracted:	8/5/20
		Date Analyzed:	8/20/20 11:25
Sample Name:	16WW24-200727	**Units:**	µg/L
Lab Code:	E2000735-010	**Basis:**	NA

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

Analytical Method:	6850	**Analysis Lot:**	691880
Prep Method:	Method	**Extraction Lot:**	362933
Data File Name:	I:\LCMS01\DATA\20200820\20200820_014	**Instrument Name:**	E-LCMS-01
		Dilution Factor:	10

CAS No.	Analyte Name	Result	Q	LOQ	LOD	MDL	Note
14797-73-0	Perchlorate	**2.38**		1.00	0.500	0.250	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000735
Project:	HS20071328	**Date Collected:**	7/28/20 0730
Sample Matrix:	Water	**Date Received:**	7/29/20
		Date Extracted:	8/5/20
		Date Analyzed:	8/20/20 11:32
Sample Name:	16EW03-200728	**Units:**	µg/L
Lab Code:	E2000735-011	**Basis:**	NA

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

Analytical Method:	6850	**Analysis Lot:**	691880
Prep Method:	Method	**Extraction Lot:**	362933
Data File Name:	I:\LCMS01\DATA\20200820\20200820_015	**Instrument Name:**	E-LCMS-01
		Dilution Factor:	10

CAS No.	Analyte Name	Result	Q	LOQ	LOD	MDL	Note
14797-73-0	Perchlorate	**2.09**		1.00	0.500	0.250	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000735
Project:	HS20071328	**Date Collected:**	7/28/20 0815
Sample Matrix:	Soil	**Date Received:**	7/29/20
		Date Extracted:	8/11/20
		Date Analyzed:	8/21/20 10:26
Sample Name:	16EW07-200728	**Units:**	µg/Kg
Lab Code:	E2000735-012	**Basis:**	As Received

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

Analytical Method:	6850	**Analysis Lot:**	691993
Prep Method:	Method	**Extraction Lot:**	363305
Data File Name:	I:\LCMS01\DATA\20200821\20200821_007	**Instrument Name:**	E-LCMS-01
		Dilution Factor:	10

CAS No.	Analyte Name	Result	Q	LOQ	LOD	MDL	Note
14797-73-0	Perchlorate	**4.68**	J	10.3	7.72	3.09	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000735
Project:	HS20071328	**Date Collected:**	7/28/20 0905
Sample Matrix:	Water	**Date Received:**	7/29/20
		Date Extracted:	8/5/20
		Date Analyzed:	8/19/20 16:16
Sample Name:	16EW08-200728	**Units:**	µg/L
Lab Code:	E2000735-013	**Basis:**	NA

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

Analytical Method:	6850	**Analysis Lot:**	691702
Prep Method:	Method	**Extraction Lot:**	362933
Data File Name:	I:\LCMS01\DATA\20200819\20200819_047	**Instrument Name:**	E-LCMS-01
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	LOQ	LOD	MDL	Note
14797-73-0	Perchlorate	**0.0836**	J	0.100	0.0500	0.0250	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000735
Project:	HS20071328	**Date Collected:**	7/28/20 0950
Sample Matrix:	Water	**Date Received:**	7/29/20
		Date Extracted:	8/5/20
		Date Analyzed:	8/20/20 11:40
Sample Name:	16EW04-200728	**Units:**	µg/L
Lab Code:	E2000735-014	**Basis:**	NA

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

Analytical Method:	6850	**Analysis Lot:**	691880
Prep Method:	Method	**Extraction Lot:**	362933
Data File Name:	I:\LCMS01\DATA\20200820\20200820_016	**Instrument Name:**	E-LCMS-01
		Dilution Factor:	10

CAS No.	Analyte Name	Result	Q	LOQ	LOD	MDL	Note
14797-73-0	Perchlorate	**1.42**		1.00	0.500	0.250	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000735
Project:	HS20071328	**Date Collected:**	7/28/20 1040
Sample Matrix:	Water	**Date Received:**	7/29/20
		Date Extracted:	8/5/20
		Date Analyzed:	8/20/20 11:56
Sample Name:	16RW04-200728	**Units:**	µg/L
Lab Code:	E2000735-015	**Basis:**	NA

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

Analytical Method:	6850	**Analysis Lot:**	691880
Prep Method:	Method	**Extraction Lot:**	362933
Data File Name:	I:\LCMS01\DATA\20200820\20200820_018	**Instrument Name:**	E-LCMS-01
		Dilution Factor:	10

CAS No.	Analyte Name	Result	Q	LOQ	LOD	MDL	Note
14797-73-0	Perchlorate	**2.08**		1.00	0.500	0.250	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000735
Project:	HS20071328	**Date Collected:**	7/28/20 1130
Sample Matrix:	Water	**Date Received:**	7/29/20
		Date Extracted:	8/5/20
		Date Analyzed:	8/20/20 12:04
Sample Name:	16IW03-200728	**Units:**	µg/L
Lab Code:	E2000735-016	**Basis:**	NA

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

Analytical Method:	6850	**Analysis Lot:**	691880
Prep Method:	Method	**Extraction Lot:**	362933
Data File Name:	I:\LCMS01\DATA\20200820\20200820_019	**Instrument Name:**	E-LCMS-01
		Dilution Factor:	10

CAS No.	Analyte Name	Result	Q	LOQ	LOD	MDL	Note
14797-73-0	Perchlorate	**1.85**		1.00	0.500	0.250	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000735
Project:	HS20071328	**Date Collected:**	7/28/20 1210
Sample Matrix:	Water	**Date Received:**	7/29/20
		Date Extracted:	8/5/20
		Date Analyzed:	8/20/20 12:12
Sample Name:	16SW01-200728	**Units:**	µg/L
Lab Code:	E2000735-017	**Basis:**	NA

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

Analytical Method:	6850	**Analysis Lot:**	691880
Prep Method:	Method	**Extraction Lot:**	362933
Data File Name:	I:\LCMS01\DATA\20200820\20200820_020	**Instrument Name:**	E-LCMS-01
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	LOQ	LOD	MDL	Note
14797-73-0	Perchlorate	ND	U	0.100	0.0500	0.0250	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000735
Project:	HS20071328	**Date Collected:**	7/28/20 1230
Sample Matrix:	Water	**Date Received:**	7/29/20
		Date Extracted:	8/5/20
		Date Analyzed:	8/20/20 12:20
Sample Name:	16SW02-200728	**Units:**	µg/L
Lab Code:	E2000735-018	**Basis:**	NA

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

Analytical Method:	6850	**Analysis Lot:**	691880
Prep Method:	Method	**Extraction Lot:**	362933
Data File Name:	I:\LCMS01\DATA\20200820\20200820_021	**Instrument Name:**	E-LCMS-01
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	LOQ	LOD	MDL	Note
14797-73-0	Perchlorate	ND	U	0.100	0.0500	0.0250	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000735
Project:	HS20071328	**Date Collected:**	7/28/20 1250
Sample Matrix:	Water	**Date Received:**	7/29/20
		Date Extracted:	8/5/20
		Date Analyzed:	8/20/20 12:28
Sample Name:	16SW03-200728	**Units:**	µg/L
Lab Code:	E2000735-019	**Basis:**	NA

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

Analytical Method:	6850	**Analysis Lot:**	691880
Prep Method:	Method	**Extraction Lot:**	362933
Data File Name:	I:\LCMS01\DATA\20200820\20200820_022	**Instrument Name:**	E-LCMS-01
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	LOQ	LOD	MDL	Note
14797-73-0	Perchlorate	ND	U	0.100	0.0500	0.0250	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000735
Project:	HS20071328	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
		Date Extracted:	8/5/20
		Date Analyzed:	8/19/20 14:04
Sample Name:	Method Blank	**Units:**	µg/L
Lab Code:	EQ2000327-01	**Basis:**	NA

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

Analytical Method:	6850	**Analysis Lot:**	691702
Prep Method:	Method	**Extraction Lot:**	362933
Data File Name:	I:\LCMS01\DATA\20200819\20200819_030	**Instrument Name:**	E-LCMS-01
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	LOQ	LOD	MDL	Note
14797-73-0	Perchlorate	ND	U	0.100	0.0500	0.0250	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000735
Project:	HS20071328	**Date Collected:**	NA
Sample Matrix:	Soil	**Date Received:**	NA
		Date Extracted:	8/11/20
		Date Analyzed:	8/20/20 12:36
Sample Name:	Method Blank	**Units:**	µg/Kg
Lab Code:	EQ2000339-01	**Basis:**	Dry

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

Analytical Method:	6850	**Analysis Lot:**	691993
Prep Method:	Method	**Extraction Lot:**	363305
Data File Name:	I:\LCMS01\DATA\20200820\20200820_023	**Instrument Name:**	E-LCMS-01
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	LOQ	LOD	MDL	Note
14797-73-0	Perchlorate	ND	U	0.993	0.750	0.300	

Accuracy & Precision

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ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20071328
Sample Matrix: Water

Service Request: E2000735
Date Analyzed: 8/19/20

Lab Control Sample Summary
Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
Prep Method: Method

Units: µg/L
Basis: NA

Extraction Lot: 362933

	Lab Control Sample EQ2000327-02			Duplicate Lab Control Sample EQ2000327-03					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Perchlorate	0.106	0.100	106	0.101	0.100	101	84 - 119	4	15

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

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000735
Project:	HS20071328	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
		Date Extracted:	8/5/20
		Date Analyzed:	8/19/20 14:12
Sample Name:	Lab Control Sample	**Units:**	µg/L
Lab Code:	EQ2000327-02	**Basis:**	NA

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

Analytical Method:	6850	**Analysis Lot:**	691702
Prep Method:	Method	**Extraction Lot:**	362933
Data File Name:	I:\LCMS01\DATA\20200819\20200819_031	**Instrument Name:**	E-LCMS-01
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	LOQ	LOD	MDL	Note
14797-73-0	Perchlorate	**0.106**		0.100	0.0500	0.0250	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000735
Project:	HS20071328	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
		Date Extracted:	8/5/20
		Date Analyzed:	8/19/20 14:21
Sample Name:	Duplicate Lab Control Sample	**Units:**	µg/L
Lab Code:	EQ2000327-03	**Basis:**	NA

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

Analytical Method:	6850	**Analysis Lot:**	691702
Prep Method:	Method	**Extraction Lot:**	362933
Data File Name:	I:\LCMS01\DATA\20200819\20200819_033	**Instrument Name:**	E-LCMS-01
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	LOQ	LOD	MDL	Note
14797-73-0	Perchlorate	**0.101**		0.100	0.0500	0.0250	

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000735
Project:	HS20071328	**Date Analyzed:**	8/20/20
Sample Matrix:	Soil		

Lab Control Sample Summary

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

Analytical Method:	6850	**Units:**	µg/Kg
Prep Method:	Method	**Basis:**	Dry
		Extraction Lot:	363305

	Lab Control Sample EQ2000339-02			Duplicate Lab Control Sample EQ2000339-03					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Perchlorate	87.3	94.3	92	90.7	99.1	92	80 - 120	4	15

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

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000735
Project:	HS20071328	**Date Collected:**	NA
Sample Matrix:	Soil	**Date Received:**	NA
		Date Extracted:	8/11/20
		Date Analyzed:	8/20/20 12:43
Sample Name:	Lab Control Sample	**Units:**	µg/Kg
Lab Code:	EQ2000339-02	**Basis:**	Dry

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

Analytical Method:	6850	**Analysis Lot:**	691993
Prep Method:	Method	**Extraction Lot:**	363305
Data File Name:	I:\LCMS01\DATA\20200820\20200820_024	**Instrument Name:**	E-LCMS-01
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	LOQ	LOD	MDL	Note
14797-73-0	Perchlorate	**87.3**		0.943	0.750	0.300	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000735
Project:	HS20071328	**Date Collected:**	NA
Sample Matrix:	Soil	**Date Received:**	NA
		Date Extracted:	8/11/20
		Date Analyzed:	8/20/20 12:51
Sample Name:	Duplicate Lab Control Sample	**Units:**	µg/Kg
Lab Code:	EQ2000339-03	**Basis:**	Dry

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

Analytical Method:	6850	**Analysis Lot:**	691993
Prep Method:	Method	**Extraction Lot:**	363305
Data File Name:	I:\LCMS01\DATA\20200820\20200820_025	**Instrument Name:**	E-LCMS-01
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	LOQ	LOD	MDL	Note
14797-73-0	Perchlorate	**90.7**		0.991	0.750	0.300	

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000735
Project:	HS20071328	**Date Collected:**	7/28/20
Sample Matrix:	Soil	**Date Received:**	7/29/20
		Date Analyzed:	8/21/20

Matrix Spike Summary

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

Sample Name:	16EW07-200728	**Units:**	µg/Kg
Lab Code:	E2000735-012	**Basis:**	As Received

Analytical Method: 6850
Prep Method: Method

		16EW07-200728MS				16EW07-200728DMS					
		Matrix Spike				**Duplicate Matrix Spike**					
		EQ2000339-04				EQ2000339-05					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Perchlorate	4.68	85.9	96.7	84	93.7	101	88	84 - 121	9	15

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

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000735
Project:	HS20071328	**Date Collected:**	7/28/20 0815
Sample Matrix:	Soil	**Date Received:**	7/29/20
		Date Extracted:	8/11/20
		Date Analyzed:	8/21/20 10:34
Sample Name:	16EW07-200728	**Units:**	µg/Kg
Lab Code:	EQ2000339-04	**Basis:**	As Received
Run Type:	Matrix Spike		

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

Analytical Method:	6850	**Analysis Lot:**	691993
Prep Method:	Method	**Extraction Lot:**	363305
Data File Name:	I:\LCMS01\DATA\20200821\20200821_008	**Instrument Name:**	E-LCMS-01
		Dilution Factor:	10

CAS No.	Analyte Name	Result	Q	LOQ	LOD	MDL	Note
14797-73-0	Perchlorate	**85.9**		9.67	7.50	3.00	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000735
Project:	HS20071328	**Date Collected:**	7/28/20 0815
Sample Matrix:	Soil	**Date Received:**	7/29/20
		Date Extracted:	8/11/20
		Date Analyzed:	8/21/20 10:58
Sample Name:	16EW07-200728	**Units:**	µg/Kg
Lab Code:	EQ2000339-05	**Basis:**	As Received
Run Type:	Duplicate Matrix Spike		

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

Analytical Method:	6850	**Analysis Lot:**	691993
Prep Method:	Method	**Extraction Lot:**	363305
Data File Name:	I:\LCMS01\DATA\20200821\20200821_009	**Instrument Name:**	E-LCMS-01
		Dilution Factor:	10

CAS No.	Analyte Name	Result	Q	LOQ	LOD	MDL	Note
14797-73-0	Perchlorate	**93.7**		10.1	7.59	3.04	

Initial Calibration

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20200819

ALS Environmental

ICAL Date: 7/19/2020
Cal. Std. xp: 11/18/2020
ICAL ID: EC2000022

1st Review: Kneir
2nd Review: Hvan

Injection Log
LCMS01 -Shimadzu 8050

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

			File Name	Acquisition Method	Dilution	R	Comments	Date/Time
1	PERCHLORATE1		20200819_005	Perchlorate6850b.lcm	1x	☒	3100806-05	8/19/2020 10:42
2	PERCHLORATE2		20200819_006	Perchlorate6850b.lcm	1x	☒	3100806-06	8/19/2020 10:50
3	PERCHLORATE3		20200819_007	Perchlorate6850b.lcm	1x	☒	3100806-07	8/19/2020 10:58
4	PERCHLORATE4		20200819_008	Perchlorate6850b.lcm	1x	☒	3100807-01	8/19/2020 11:06
5	PERCHLORATE5		20200819_009	Perchlorate6850b.lcm	1x	☒	3100807-02	8/19/2020 11:14
6	PERCHLORATE6		20200819_010	Perchlorate6850b.lcm	1x	☒	3100807-03	8/19/2020 11:22
7	PERCHLORATE7		20200819_011	Perchlorate6850b.lcm	1x	☒	3100807-04	8/19/2020 11:30
8	PERCHLORATE8		20200819_012	Perchlorate6850b.lcm	1x	☒	3100807-05	8/19/2020 11:38
9	PERCHLORATE9		20200819_013	Perchlorate6850b.lcm	1x	☒	3100807-06	8/19/2020 11:45
10	PERCHLORATE10		20200819_014	Perchlorate6850b.lcm	1x	☒	3100807-07	8/19/2020 11:53
11	PERCHLORATEICV		20200819_016	Perchlorate6850b.lcm	1x	☒	3100807-08	8/19/2020 12:09
12	LODV		20200819_017	Perchlorate6850b.lcm	1x	☒		8/19/2020 12:17
13	EQ2000337-01		20200819_019	Perchlorate6850b.lcm	1x	☒		8/19/2020 12:38
14	EQ2000337-02		20200819_020	Perchlorate6850b.lcm	1x	☒		8/19/2020 12:46
15	EQ2000337-03		20200819_021	Perchlorate6850b.lcm	1x	☒		8/19/2020 12:53
16	E2000723-001		20200819_022	Perchlorate6850b.lcm	1x	☒		8/19/2020 13:01
17	PERCHLORATE7		20200819_023	Perchlorate6850b.lcm	1x	☒	3100807-04	8/19/2020 13:09
18	E2000680-002X10		20200819_024	Perchlorate6850b.lcm	10x	☒		8/19/2020 13:17
19	E2000680-004X2		20200819_025	Perchlorate6850b.lcm	2x	☒		8/19/2020 13:25
20	E2000680-007X10		20200819_026	Perchlorate6850b.lcm	10x	☒		8/19/2020 13:33
21	E2000680-009X10		20200819_027	Perchlorate6850b.lcm	10x	☒		8/19/2020 13:41
22	E2000680-010X10		20200819_028	Perchlorate6850b.lcm	10x	☒		8/19/2020 13:49
23	E2000680-011X10		20200819_029	Perchlorate6850b.lcm	10x	☒		8/19/2020 13:57
24	EQ2000327-01		20200819_030	Perchlorate6850b.lcm	1x	☒		8/19/2020 14:04
25	EQ2000327-02		20200819_031	Perchlorate6850b.lcm	1x	☒		8/19/2020 14:12
26	EQ2000327-03		20200819_033	Perchlorate6850b.lcm	1x	☒		8/19/2020 14:21
27	PERCHLORATE7		20200819_034	Perchlorate6850b.lcm	1x	☒	3100807-04	8/19/2020 14:29
28	E2000735-001		20200819_035	Perchlorate6850b.lcm	1x	☒		8/19/2020 14:37
29	E2000735-002		20200819_036	Perchlorate6850b.lcm	1x	☒		8/19/2020 14:45
30	E2000735-003		20200819_037	Perchlorate6850b.lcm	1x	☒		8/19/2020 14:53
31	E2000735-004		20200819_038	Perchlorate6850b.lcm	1x	☒		8/19/2020 15:01
32	E2000735-005		20200819_039	Perchlorate6850b.lcm	1x	☒		8/19/2020 15:09
33	E2000735-006		20200819_040	Perchlorate6850b.lcm	1x	☒		8/19/2020 15:16
34	E2000735-007		20200819_041	Perchlorate6850b.lcm	1x	☒		8/19/2020 15:24
35	E2000735-008		20200819_042	Perchlorate6850b.lcm	1x	☒		8/19/2020 15:32
36	E2000735-009		20200819_043	Perchlorate6850b.lcm	1x	☒		8/19/2020 15:44
37	PERCHLORATE7		20200819_044	Perchlorate6850b.lcm	1x	☒	3100807-04	8/19/2020 15:52
38	E2000735-010		20200819_045	Perchlorate6850b.lcm	1x	☒		8/19/2020 16:00
39	E2000735-011		20200819_046	Perchlorate6850b.lcm	1x	☒		8/19/2020 16:08
40	E2000735-013		20200819_047	Perchlorate6850b.lcm	1x	☒		8/19/2020 16:16
41	E2000735-014		20200819_048	Perchlorate6850b.lcm	1x	☒		8/19/2020 16:24
42	E2000735-015		20200819_049	Perchlorate6850b.lcm	1x	☒		8/19/2020 16:32
43	E2000735-016		20200819_050	Perchlorate6850b.lcm	1x	☒		8/19/2020 16:40
44	E2000735-017		20200819_051	Perchlorate6850b.lcm	1x	☒		8/19/2020 16:47
45	E2000735-018		20200819_052	Perchlorate6850b.lcm	1x	☒		8/19/2020 16:55
46	E2000735-019		20200819_053	Perchlorate6850b.lcm	1x	☒		8/19/2020 17:03
47	PERCHLORATE7		20200819_054	Perchlorate6850b.lcm	1x	☒	3100807-04	8/19/2020 17:11
48	EQ2000339-01		20200819_055	Perchlorate6850b.lcm	1x	☒		8/19/2020 17:19
49	EQ2000339-02		20200819_056	Perchlorate6850b.lcm	1x	☒		8/19/2020 17:27
50	EQ2000339-03		20200819_057	Perchlorate6850b.lcm	1x	☒		8/19/2020 17:35
51	E2000712-001		20200819_058	Perchlorate6850b.lcm	1x	☒		8/19/2020 17:43
52	E2000712-002		20200819_059	Perchlorate6850b.lcm	1x	☒		8/19/2020 17:51
53	E2000712-003		20200819_060	Perchlorate6850b.lcm	1x	☒		8/19/2020 17:59
54	IB		20200819_061	Perchlorate6850b.lcm	1x	☒		8/19/2020 18:08
55	IB		20200819_062	Perchlorate6850b.lcm	1x	☒		8/19/2020 18:16
56	IB		20200819_063	Perchlorate6850b.lcm	1x	☒		8/19/2020 18:24
57	IB		20200819_064	Perchlorate6850b.lcm	1x	☒		8/19/2020 18:32
58	PERCHLORATE7		20200819_065	Perchlorate6850b.lcm	1x	☒	3100807-04	8/19/2020 18:40
59	E2000712-004		20200819_066	Perchlorate6850b.lcm	1x	☒		8/19/2020 18:48
60	E2000712-005		20200819_067	Perchlorate6850b.lcm	1x	☒		8/19/2020 18:56
61	E2000712-006		20200819_068	Perchlorate6850b.lcm	1x	☒		8/19/2020 19:04

20200819

1st Review: Kneir
2nd Review: Hvan

Injection Log
LCMS01 -Shimadzu 8050

ICAL Date: 7/19/2020
Cal. Std. xp: 11/18/2020
ICAL ID: **EC2000022**

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

			File Name	Acquisition Method	Dilution	R	Comments	Date/Time
62	E2000712-007		20200819_069	Perchlorate6850b.lcm	1x	☒		8/19/2020 19:12
63	E2000694-012		20200819_070	Perchlorate6850b.lcm	1x	☒		8/19/2020 19:19
64	E2000694-012MS		20200819_071	Perchlorate6850b.lcm	1x	☒		8/19/2020 19:27
65	E2000694-012MSD		20200819_072	Perchlorate6850b.lcm	1x	☒		8/19/2020 19:35
66	E2000711-001		20200819_073	Perchlorate6850b.lcm	1x	☒		8/19/2020 19:43
67	E2000711-002		20200819_074	Perchlorate6850b.lcm	1x	☒		8/19/2020 19:51
68	E2000724-001		20200819_075	Perchlorate6850b.lcm	1x	☒		8/19/2020 19:59
69	PERCHLORATE7		20200819_076	Perchlorate6850b.lcm	1x	☒	3100807-04	8/19/2020 20:07
70	E2000724-002		20200819_077	Perchlorate6850b.lcm	1x	☒		8/19/2020 20:15
71	E2000724-003		20200819_078	Perchlorate6850b.lcm	1x	☒		8/19/2020 20:22
72	E2000724-004		20200819_079	Perchlorate6850b.lcm	1x	☒		8/19/2020 20:30
73	E2000728-001		20200819_080	Perchlorate6850b.lcm	1x	☒		8/19/2020 20:38
74	E2000728-002		20200819_081	Perchlorate6850b.lcm	1x	☒		8/19/2020 20:46
75	E2000729-001		20200819_082	Perchlorate6850b.lcm	1x	☒		8/19/2020 20:54
76	R2006493-001		20200819_083	Perchlorate6850b.lcm	1x	☒		8/19/2020 21:02
77	R2006493-003		20200819_084	Perchlorate6850b.lcm	1x	☒		8/19/2020 21:10
78	R2006493-005		20200819_085	Perchlorate6850b.lcm	1x	☒		8/19/2020 21:18
79	R2006493-007		20200819_086	Perchlorate6850b.lcm	1x	☒		8/19/2020 21:26
80	PERCHLORATE7		20200819_087	Perchlorate6850b.lcm	1x	☒	3100807-04	8/19/2020 21:33
81	R2006493-009		20200819_088	Perchlorate6850b.lcm	1x	☒		8/19/2020 21:41
82	R2006493-011		20200819_089	Perchlorate6850b.lcm	1x	☒		8/19/2020 21:49
83	R2006493-013		20200819_090	Perchlorate6850b.lcm	1x	☒		8/19/2020 21:57
84	R2006493-015		20200819_091	Perchlorate6850b.lcm	1x	☒		8/19/2020 22:05
85	PERCHLORATE7		20200819_092	Perchlorate6850b.lcm	1x	☒	3100807-04	8/19/2020 22:13
86	EQ2000338-01		20200819_093	Perchlorate6850b.lcm	1x	☒		8/19/2020 22:21
87	EQ2000338-02		20200819_094	Perchlorate6850b.lcm	1x	☒		8/19/2020 22:29
88	EQ2000338-03		20200819_095	Perchlorate6850b.lcm	1x	☒		8/19/2020 22:37
89	EQ2000338-04		20200819_096	Perchlorate6850b.lcm	1x	☒		8/19/2020 22:44
90	EQ2000338-05		20200819_097	Perchlorate6850b.lcm	1x	☒		8/19/2020 22:52
91	R2006532-001		20200819_098	Perchlorate6850b.lcm	1x	☒		8/19/2020 23:00
92	R2006532-003		20200819_099	Perchlorate6850b.lcm	1x	☒		8/19/2020 23:08
93	R2006532-005		20200819_100	Perchlorate6850b.lcm	1x	☒		8/19/2020 23:16
94	R2006532-007		20200819_101	Perchlorate6850b.lcm	1x	☒		8/19/2020 23:24
95	R2006532-009		20200819_102	Perchlorate6850b.lcm	1x	☒		8/19/2020 23:32
96	PERCHLORATE7		20200819_103	Perchlorate6850b.lcm	1x	☒	3100807-04	8/19/2020 23:40
97	R2006532-011		20200819_104	Perchlorate6850b.lcm	1x	☒		8/19/2020 23:47
98	R2006555-002		20200819_105	Perchlorate6850b.lcm	1x	☒		8/19/2020 23:55
99	R2006555-004		20200819_106	Perchlorate6850b.lcm	1x	☒		8/20/2020 0:03
100	R2006555-006		20200819_107	Perchlorate6850b.lcm	1x	☒		8/20/2020 0:11
101	R2006555-008		20200819_108	Perchlorate6850b.lcm	1x	☒		8/20/2020 0:19
102	R2006555-010		20200819_109	Perchlorate6850b.lcm	1x	☒		8/20/2020 0:27
103	R2006555-012		20200819_110	Perchlorate6850b.lcm	1x	☒		8/20/2020 0:35
104	R2006617-001		20200819_111	Perchlorate6850b.lcm	1x	☒		8/20/2020 0:43
105	R2006617-003		20200819_112	Perchlorate6850b.lcm	1x	☒		8/20/2020 0:50
106	R2006617-005		20200819_113	Perchlorate6850b.lcm	1x	☒		8/20/2020 0:58
107	PERCHLORATE7		20200819_114	Perchlorate6850b.lcm	1x	☒	3100807-04	8/20/2020 1:06
108	R2006617-007		20200819_115	Perchlorate6850b.lcm	1x	☒		8/20/2020 1:14
109	R2006617-009		20200819_116	Perchlorate6850b.lcm	1x	☒		8/20/2020 1:22
110	R2006617-010		20200819_117	Perchlorate6850b.lcm	1x	☒		8/20/2020 1:30
111	PERCHLORATE7		20200819_118	Perchlorate6850b.lcm	1x	☒	3100807-04	8/20/2020 1:38

Initial Calibration - Detailed Report

Calibration ID: EC2000022 **Instrument ID:** E-LCMS-01
Column Name: 1

#	Lab Code	Sample Name	File Location	Aquisition Date
01	EC2000022-01	PERCHLORATE1	20200819_005	08/19/2020 10:42
02	EC2000022-02	PERCHLORATE2	20200819_006	08/19/2020 10:50
03	EC2000022-03	PERCHLORATE3	20200819_007	08/19/2020 10:58
04	EC2000022-04	PERCHLORATE4	20200819_008	08/19/2020 11:06
05	EC2000022-05	PERCHLORATE5	20200819_009	08/19/2020 11:14
06	EC2000022-06	PERCHLORATE6	20200819_010	08/19/2020 11:22
07	EC2000022-07	PERCHLORATE7	20200819_011	08/19/2020 11:30
08	EC2000022-08	PERCHLORATE8	20200819_012	08/19/2020 11:38
09	EC2000022-09	PERCHLORATE9	20200819_013	08/19/2020 11:45
10	EC2000022-10	PERCHLORATE10	20200819_014	08/19/2020 11:53

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

Perchlorate **Average RF** **RSD = 5.952** **Average RF = 0.1131**

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.1000	0.1299	02	0.5000	0.113	03	0.7000	0.1123	04	1.0000	0.1147
05	2.0000	0.1134	06	5.0000	0.1082	07	10.0000	0.1069	08	20.0000	0.1158
09	30.0000	0.1094	10	50.0000	0.107						

Analyte

Perchlorate

#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D
01	0.1000	0.115	14.9	02	0.5000	0.500	-0.1	03	0.7000	0.695	-0.7
04	1.0000	1.01	1.5	05	2.0000	2.01	0.3	06	5.0000	4.78	-4.3
07	10.0000	9.46	-5.4	08	20.0000	20.5	2.4	09	30.0000	29.0	-3.2
10	50.0000	47.3	-5.4								

Initial Calibration Verification Summary Report

Calibration ID:	EC2000022	**Instrument ID:**	E-LCMS-01
Datafile ID:	20200819_016	**Column Name:**	1

Analyte	Lab Code	Type	Curve Fit	True Value	Calc Conc	Units	Result	Criteria
Perchlorate	EC2000022-11	T	Average RF	10	9.352	ng/mL	-6.5	<= 15

ALS Group Houston

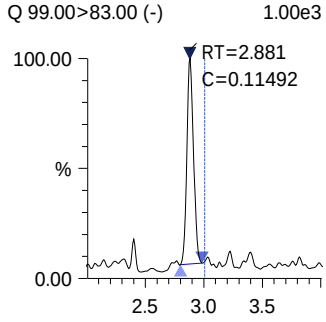
PERCHLORATE1

Date acquired: 8/19/2020 10:42:37 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200819\20200819_005.lcd
Vial: 5 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE1	8/19/2020 10:42:37 AM	3802	0.11492	20200819_005	2.881	25.0000	1.0000	5
Sodium Perchlorate-18O4_IS	PERCHLORATE1	8/19/2020 10:42:37 AM	292622	1.00000	20200819_005	2.877	25.0000	1.0000	5

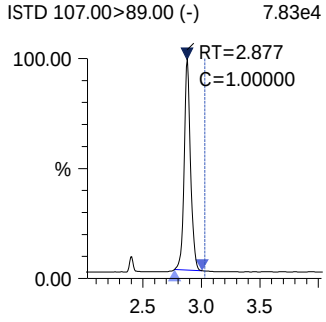
Perchlorate

Conc 0.11492
Area 3802



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 292622



ALS Group Houston

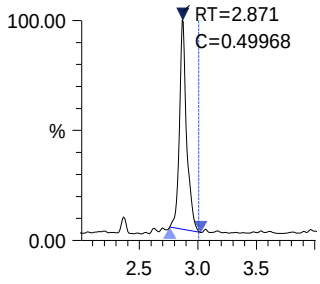
PERCHLORATE2

Date acquired: 8/19/2020 10:50:33 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200819\20200819_006.lcd
Vial: 6 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE2	8/19/2020 10:50:33 AM	18036	0.49968	20200819_006	2.871	25.0000	1.0000	6
Sodium Perchlorate-18O4_IS	PERCHLORATE2	8/19/2020 10:50:33 AM	319274	1.00000	20200819_006	2.870	25.0000	1.0000	6

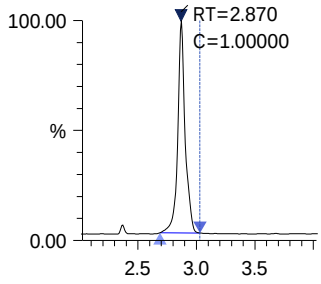
Perchlorate

Conc 0.49968
Area 18036
Q 99.00>83.00 (-) 4.32e3



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 319274
ISTD 107.00>89.00 (-) 7.26e4



ALS Group Houston

PERCHLORATE3

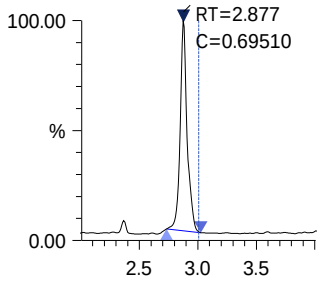
Date acquired: 8/19/2020 10:58:27 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200819\20200819_007.lcd
Vial: 7 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE3	8/19/2020 10:58:27 AM	24394	0.69510	20200819_007	2.877	25.0000	1.0000	7
Sodium Perchlorate-18O4_IS	PERCHLORATE3	8/19/2020 10:58:27 AM	310422	1.00000	20200819_007	2.874	25.0000	1.0000	7

Perchlorate

Conc 0.69510
Area 24394

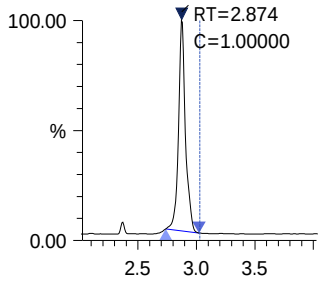
Q 99.00>83.00 (-) 5.99e3



Sodium Perchlorate-18O4 _IS

Conc 1.00000
Area 310422

ISTD 107.00>89.00 (-) 7.56e4



ALS Group Houston

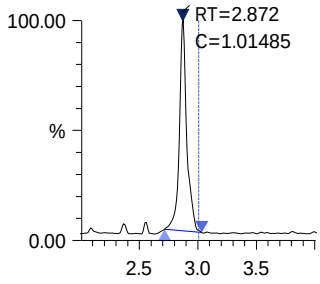
PERCHLORATE4

Date acquired: 8/19/2020 11:06:22 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200819\20200819_008.lcd
Vial: 8 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE4	8/19/2020 11:06:22 AM	33591	1.01485	20200819_008	2.872	25.0000	1.0000	8
Sodium Perchlorate-18O4_IS	PERCHLORATE4	8/19/2020 11:06:22 AM	292786	1.00000	20200819_008	2.872	25.0000	1.0000	8

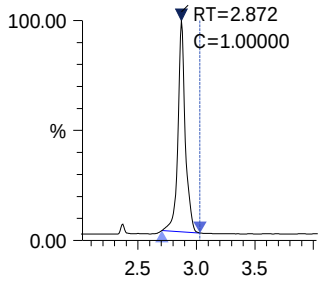
Perchlorate

Conc 1.01485
Area 33591
Q 99.00>83.00 (-) 7.70e3



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 292786
ISTD 107.00>89.00 (-) 6.80e4



ALS Group Houston

PERCHLORATE5

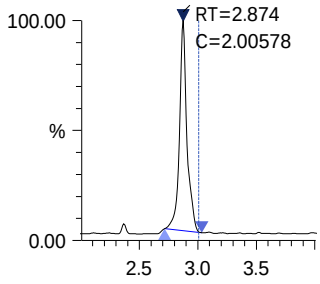
Date acquired: 8/19/2020 11:14:18 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200819\20200819_009.lcd
Vial: 9 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE5	8/19/2020 11:14:18 AM	65114	2.00578	20200819_009	2.874	25.0000	1.0000	9
Sodium Perchlorate-18O4_IS	PERCHLORATE5	8/19/2020 11:14:18 AM	287158	1.00000	20200819_009	2.873	25.0000	1.0000	9

Perchlorate

Conc 2.00578
Area 65114

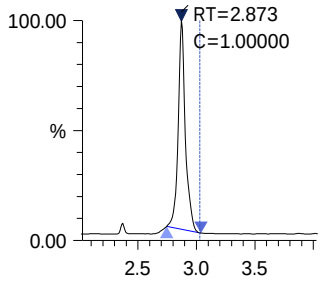
Q 99.00>83.00 (-) 1.49e4



Sodium Perchlorate-18O4 _IS

Conc 1.00000
Area 287158

ISTD 107.00>89.00 (-) 6.84e4



ALS Group Houston

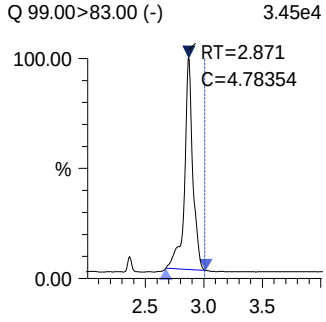
PERCHLORATE6

Date acquired: 8/19/2020 11:22:10 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200819\20200819_010.lcd
Vial: 10 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE6	8/19/2020 11:22:10 AM	167892	4.78354	20200819_010	2.871	25.0000	1.0000	10
Sodium Perchlorate-18O4_IS	PERCHLORATE6	8/19/2020 11:22:10 AM	310462	1.00000	20200819_010	2.870	25.0000	1.0000	10

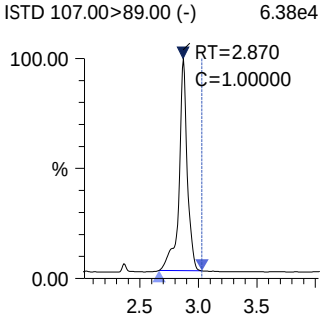
Perchlorate

Conc 4.78354
Area 167892



Sodium Perchlorate-18O4 _IS

Conc 1.00000
Area 310462



ALS Group Houston

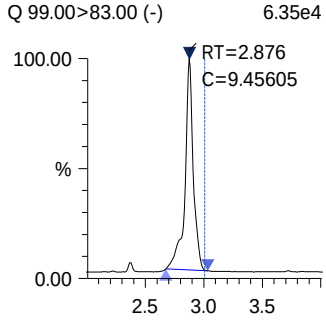
PERCHLORATE7

Date acquired: 8/19/2020 11:30:05 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200819\20200819_011.lcd
Vial: 4 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE7	8/19/2020 11:30:05 AM	309830	9.45605	20200819_011	2.876	25.0000	1.0000	4
Sodium Perchlorate-18O4_IS	PERCHLORATE7	8/19/2020 11:30:05 AM	289828	1.00000	20200819_011	2.875	25.0000	1.0000	4

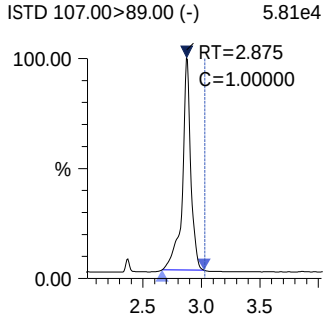
Perchlorate

Conc 9.45605
Area 309830



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 289828



ALS Group Houston

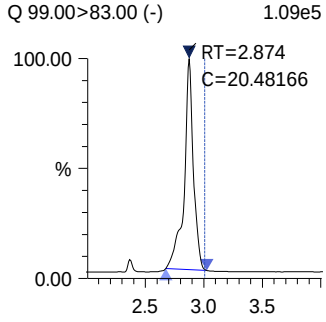
PERCHLORATE8

Date acquired: 8/19/2020 11:38:00 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200819\20200819_012.lcd
Vial: 11 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE8	8/19/2020 11:38:00 AM	587088	20.48166	20200819_012	2.874	25.0000	1.0000	11
Sodium Perchlorate-18O4_IS	PERCHLORATE8	8/19/2020 11:38:00 AM	253551	1.00000	20200819_012	2.873	25.0000	1.0000	11

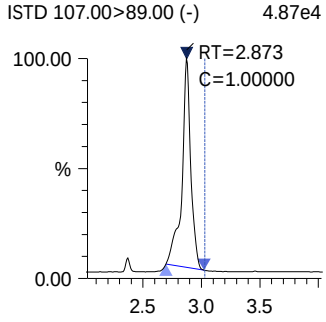
Perchlorate

Conc 20.48166
Area 587088



Sodium Perchlorate-18O4 _IS

Conc 1.00000
Area 253551



ALS Group Houston

PERCHLORATE9

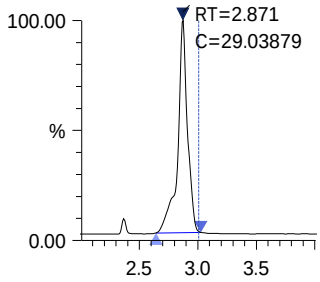
Date acquired: 8/19/2020 11:45:53 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200819\20200819_013.lcd
Vial: 12 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE9	8/19/2020 11:45:53 AM	849278	29.03879	20200819_013	2.871	25.0000	1.0000	12
Sodium Perchlorate-18O4_IS	PERCHLORATE9	8/19/2020 11:45:53 AM	258702	1.00000	20200819_013	2.870	25.0000	1.0000	12

Perchlorate

Conc 29.03879
Area 849278

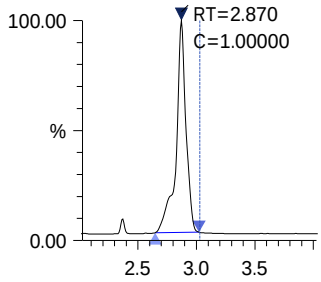
Q 99.00>83.00 (-) 1.48e5



Sodium Perchlorate-18O4 _IS

Conc 1.00000
Area 258702

ISTD 107.00>89.00 (-) 4.43e4



ALS Group Houston

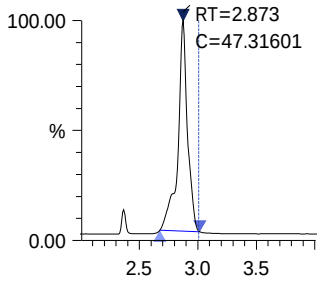
PERCHLORATE10

Date acquired: 8/19/2020 11:53:48 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200819\20200819_014.lcd
Vial: 13 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE10	8/19/2020 11:53:48 AM	1220253	47.31601	20200819_014	2.873	25.0000	1.0000	13
Sodium Perchlorate-18O4_IS	PERCHLORATE10	8/19/2020 11:53:48 AM	228123	1.00000	20200819_014	2.871	25.0000	1.0000	13

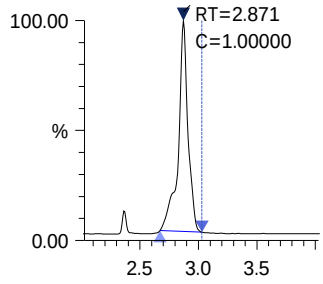
Perchlorate

Conc 47.31601
Area 1220253
Q 99.00>83.00 (-) 2.17e5



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 228123
ISTD 107.00>89.00 (-) 3.99e4



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PERCHLORATEICV

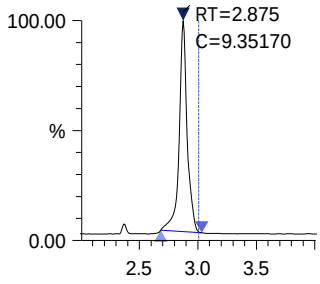
Date acquired: 8/19/2020 12:09:35 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200819\20200819_016.lcd
Vial: 14 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATEICV	8/19/2020 12:09:35 PM	294031	9.35170	20200819_016	2.875	25.0000	1.0000	14
Sodium Perchlorate-18O4_IS	PERCHLORATEICV	8/19/2020 12:09:35 PM	278118	1.00000	20200819_016	2.873	25.0000	1.0000	14

Perchlorate

Conc 9.35170
Area 294031

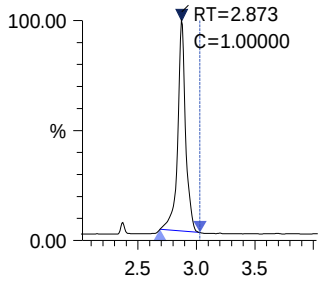
Q 99.00>83.00 (-) 6.27e4



Sodium Perchlorate-18O4 _IS

Conc 1.00000
Area 278118

ISTD 107.00>89.00 (-) 5.98e4



Chromatograms and Selected Ion Monitoring

ALS Environmental - Houston HRMS
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www.alsglobal.com

20200819

ALS Environmental

ICAL Date: 7/19/2020
Cal. Std. xp: 11/18/2020
ICAL ID: EC2000022

1st Review: Kneir
2nd Review: Hvan

Injection Log
LCMS01 -Shimadzu 8050

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

			File Name	Acquisition Method	Dilution	R	Comments	Date/Time
1	PERCHLORATE1		20200819_005	Perchlorate6850b.lcm	1x	☒	3100806-05	8/19/2020 10:42
2	PERCHLORATE2		20200819_006	Perchlorate6850b.lcm	1x	☒	3100806-06	8/19/2020 10:50
3	PERCHLORATE3		20200819_007	Perchlorate6850b.lcm	1x	☒	3100806-07	8/19/2020 10:58
4	PERCHLORATE4		20200819_008	Perchlorate6850b.lcm	1x	☒	3100807-01	8/19/2020 11:06
5	PERCHLORATE5		20200819_009	Perchlorate6850b.lcm	1x	☒	3100807-02	8/19/2020 11:14
6	PERCHLORATE6		20200819_010	Perchlorate6850b.lcm	1x	☒	3100807-03	8/19/2020 11:22
7	PERCHLORATE7		20200819_011	Perchlorate6850b.lcm	1x	☒	3100807-04	8/19/2020 11:30
8	PERCHLORATE8		20200819_012	Perchlorate6850b.lcm	1x	☒	3100807-05	8/19/2020 11:38
9	PERCHLORATE9		20200819_013	Perchlorate6850b.lcm	1x	☒	3100807-06	8/19/2020 11:45
10	PERCHLORATE10		20200819_014	Perchlorate6850b.lcm	1x	☒	3100807-07	8/19/2020 11:53
11	PERCHLORATEICV		20200819_016	Perchlorate6850b.lcm	1x	☒	3100807-08	8/19/2020 12:09
12	LODV		20200819_017	Perchlorate6850b.lcm	1x	☒		8/19/2020 12:17
13	EQ2000337-01		20200819_019	Perchlorate6850b.lcm	1x	☒		8/19/2020 12:38
14	EQ2000337-02		20200819_020	Perchlorate6850b.lcm	1x	☒		8/19/2020 12:46
15	EQ2000337-03		20200819_021	Perchlorate6850b.lcm	1x	☒		8/19/2020 12:53
16	E2000723-001		20200819_022	Perchlorate6850b.lcm	1x	☒		8/19/2020 13:01
17	PERCHLORATE7		20200819_023	Perchlorate6850b.lcm	1x	☒	3100807-04	8/19/2020 13:09
18	E2000680-002X10		20200819_024	Perchlorate6850b.lcm	10x	☒		8/19/2020 13:17
19	E2000680-004X2		20200819_025	Perchlorate6850b.lcm	2x	☒		8/19/2020 13:25
20	E2000680-007X10		20200819_026	Perchlorate6850b.lcm	10x	☒		8/19/2020 13:33
21	E2000680-009X10		20200819_027	Perchlorate6850b.lcm	10x	☒		8/19/2020 13:41
22	E2000680-010X10		20200819_028	Perchlorate6850b.lcm	10x	☒		8/19/2020 13:49
23	E2000680-011X10		20200819_029	Perchlorate6850b.lcm	10x	☒		8/19/2020 13:57
24	EQ2000327-01		20200819_030	Perchlorate6850b.lcm	1x	☒		8/19/2020 14:04
25	EQ2000327-02		20200819_031	Perchlorate6850b.lcm	1x	☒		8/19/2020 14:12
26	EQ2000327-03		20200819_033	Perchlorate6850b.lcm	1x	☒		8/19/2020 14:21
27	PERCHLORATE7		20200819_034	Perchlorate6850b.lcm	1x	☒	3100807-04	8/19/2020 14:29
28	E2000735-001		20200819_035	Perchlorate6850b.lcm	1x	☒		8/19/2020 14:37
29	E2000735-002		20200819_036	Perchlorate6850b.lcm	1x	☒		8/19/2020 14:45
30	E2000735-003		20200819_037	Perchlorate6850b.lcm	1x	☒		8/19/2020 14:53
31	E2000735-004		20200819_038	Perchlorate6850b.lcm	1x	☒		8/19/2020 15:01
32	E2000735-005		20200819_039	Perchlorate6850b.lcm	1x	☒		8/19/2020 15:09
33	E2000735-006		20200819_040	Perchlorate6850b.lcm	1x	☒		8/19/2020 15:16
34	E2000735-007		20200819_041	Perchlorate6850b.lcm	1x	☒		8/19/2020 15:24
35	E2000735-008		20200819_042	Perchlorate6850b.lcm	1x	☒		8/19/2020 15:32
36	E2000735-009		20200819_043	Perchlorate6850b.lcm	1x	☒		8/19/2020 15:44
37	PERCHLORATE7		20200819_044	Perchlorate6850b.lcm	1x	☒	3100807-04	8/19/2020 15:52
38	E2000735-010		20200819_045	Perchlorate6850b.lcm	1x	☒		8/19/2020 16:00
39	E2000735-011		20200819_046	Perchlorate6850b.lcm	1x	☒		8/19/2020 16:08
40	E2000735-013		20200819_047	Perchlorate6850b.lcm	1x	☒		8/19/2020 16:16
41	E2000735-014		20200819_048	Perchlorate6850b.lcm	1x	☒		8/19/2020 16:24
42	E2000735-015		20200819_049	Perchlorate6850b.lcm	1x	☒		8/19/2020 16:32
43	E2000735-016		20200819_050	Perchlorate6850b.lcm	1x	☒		8/19/2020 16:40
44	E2000735-017		20200819_051	Perchlorate6850b.lcm	1x	☒		8/19/2020 16:47
45	E2000735-018		20200819_052	Perchlorate6850b.lcm	1x	☒		8/19/2020 16:55
46	E2000735-019		20200819_053	Perchlorate6850b.lcm	1x	☒		8/19/2020 17:03
47	PERCHLORATE7		20200819_054	Perchlorate6850b.lcm	1x	☒	3100807-04	8/19/2020 17:11
48	EQ2000339-01		20200819_055	Perchlorate6850b.lcm	1x	☒		8/19/2020 17:19
49	EQ2000339-02		20200819_056	Perchlorate6850b.lcm	1x	☒		8/19/2020 17:27
50	EQ2000339-03		20200819_057	Perchlorate6850b.lcm	1x	☒		8/19/2020 17:35
51	E2000712-001		20200819_058	Perchlorate6850b.lcm	1x	☒		8/19/2020 17:43
52	E2000712-002		20200819_059	Perchlorate6850b.lcm	1x	☒		8/19/2020 17:51
53	E2000712-003		20200819_060	Perchlorate6850b.lcm	1x	☒		8/19/2020 17:59
54	IB		20200819_061	Perchlorate6850b.lcm	1x	☒		8/19/2020 18:08
55	IB		20200819_062	Perchlorate6850b.lcm	1x	☒		8/19/2020 18:16
56	IB		20200819_063	Perchlorate6850b.lcm	1x	☒		8/19/2020 18:24
57	IB		20200819_064	Perchlorate6850b.lcm	1x	☒		8/19/2020 18:32
58	PERCHLORATE7		20200819_065	Perchlorate6850b.lcm	1x	☒	3100807-04	8/19/2020 18:40
59	E2000712-004		20200819_066	Perchlorate6850b.lcm	1x	☒		8/19/2020 18:48
60	E2000712-005		20200819_067	Perchlorate6850b.lcm	1x	☒		8/19/2020 18:56
61	E2000712-006		20200819_068	Perchlorate6850b.lcm	1x	☒		8/19/2020 19:04

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1st Review: Kneir
2nd Review: Hvan

Injection Log
LCMS01 -Shimadzu 8050

ICAL Date: 7/19/2020
Cal. Std. xp: 11/18/2020
ICAL ID: **EC2000022**

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

			File Name	Acquisition Method	Dilution	R	Comments	Date/Time
62	E2000712-007		20200819_069	Perchlorate6850b.lcm	1x	☒		8/19/2020 19:12
63	E2000694-012		20200819_070	Perchlorate6850b.lcm	1x	☒		8/19/2020 19:19
64	E2000694-012MS		20200819_071	Perchlorate6850b.lcm	1x	☒		8/19/2020 19:27
65	E2000694-012MSD		20200819_072	Perchlorate6850b.lcm	1x	☒		8/19/2020 19:35
66	E2000711-001		20200819_073	Perchlorate6850b.lcm	1x	☒		8/19/2020 19:43
67	E2000711-002		20200819_074	Perchlorate6850b.lcm	1x	☒		8/19/2020 19:51
68	E2000724-001		20200819_075	Perchlorate6850b.lcm	1x	☒		8/19/2020 19:59
69	PERCHLORATE7		20200819_076	Perchlorate6850b.lcm	1x	☒	3100807-04	8/19/2020 20:07
70	E2000724-002		20200819_077	Perchlorate6850b.lcm	1x	☒		8/19/2020 20:15
71	E2000724-003		20200819_078	Perchlorate6850b.lcm	1x	☒		8/19/2020 20:22
72	E2000724-004		20200819_079	Perchlorate6850b.lcm	1x	☒		8/19/2020 20:30
73	E2000728-001		20200819_080	Perchlorate6850b.lcm	1x	☒		8/19/2020 20:38
74	E2000728-002		20200819_081	Perchlorate6850b.lcm	1x	☒		8/19/2020 20:46
75	E2000729-001		20200819_082	Perchlorate6850b.lcm	1x	☒		8/19/2020 20:54
76	R2006493-001		20200819_083	Perchlorate6850b.lcm	1x	☒		8/19/2020 21:02
77	R2006493-003		20200819_084	Perchlorate6850b.lcm	1x	☒		8/19/2020 21:10
78	R2006493-005		20200819_085	Perchlorate6850b.lcm	1x	☒		8/19/2020 21:18
79	R2006493-007		20200819_086	Perchlorate6850b.lcm	1x	☒		8/19/2020 21:26
80	PERCHLORATE7		20200819_087	Perchlorate6850b.lcm	1x	☒	3100807-04	8/19/2020 21:33
81	R2006493-009		20200819_088	Perchlorate6850b.lcm	1x	☒		8/19/2020 21:41
82	R2006493-011		20200819_089	Perchlorate6850b.lcm	1x	☒		8/19/2020 21:49
83	R2006493-013		20200819_090	Perchlorate6850b.lcm	1x	☒		8/19/2020 21:57
84	R2006493-015		20200819_091	Perchlorate6850b.lcm	1x	☒		8/19/2020 22:05
85	PERCHLORATE7		20200819_092	Perchlorate6850b.lcm	1x	☒	3100807-04	8/19/2020 22:13
86	EQ2000338-01		20200819_093	Perchlorate6850b.lcm	1x	☒		8/19/2020 22:21
87	EQ2000338-02		20200819_094	Perchlorate6850b.lcm	1x	☒		8/19/2020 22:29
88	EQ2000338-03		20200819_095	Perchlorate6850b.lcm	1x	☒		8/19/2020 22:37
89	EQ2000338-04		20200819_096	Perchlorate6850b.lcm	1x	☒		8/19/2020 22:44
90	EQ2000338-05		20200819_097	Perchlorate6850b.lcm	1x	☒		8/19/2020 22:52
91	R2006532-001		20200819_098	Perchlorate6850b.lcm	1x	☒		8/19/2020 23:00
92	R2006532-003		20200819_099	Perchlorate6850b.lcm	1x	☒		8/19/2020 23:08
93	R2006532-005		20200819_100	Perchlorate6850b.lcm	1x	☒		8/19/2020 23:16
94	R2006532-007		20200819_101	Perchlorate6850b.lcm	1x	☒		8/19/2020 23:24
95	R2006532-009		20200819_102	Perchlorate6850b.lcm	1x	☒		8/19/2020 23:32
96	PERCHLORATE7		20200819_103	Perchlorate6850b.lcm	1x	☒	3100807-04	8/19/2020 23:40
97	R2006532-011		20200819_104	Perchlorate6850b.lcm	1x	☒		8/19/2020 23:47
98	R2006555-002		20200819_105	Perchlorate6850b.lcm	1x	☒		8/19/2020 23:55
99	R2006555-004		20200819_106	Perchlorate6850b.lcm	1x	☒		8/20/2020 0:03
100	R2006555-006		20200819_107	Perchlorate6850b.lcm	1x	☒		8/20/2020 0:11
101	R2006555-008		20200819_108	Perchlorate6850b.lcm	1x	☒		8/20/2020 0:19
102	R2006555-010		20200819_109	Perchlorate6850b.lcm	1x	☒		8/20/2020 0:27
103	R2006555-012		20200819_110	Perchlorate6850b.lcm	1x	☒		8/20/2020 0:35
104	R2006617-001		20200819_111	Perchlorate6850b.lcm	1x	☒		8/20/2020 0:43
105	R2006617-003		20200819_112	Perchlorate6850b.lcm	1x	☒		8/20/2020 0:50
106	R2006617-005		20200819_113	Perchlorate6850b.lcm	1x	☒		8/20/2020 0:58
107	PERCHLORATE7		20200819_114	Perchlorate6850b.lcm	1x	☒	3100807-04	8/20/2020 1:06
108	R2006617-007		20200819_115	Perchlorate6850b.lcm	1x	☒		8/20/2020 1:14
109	R2006617-009		20200819_116	Perchlorate6850b.lcm	1x	☒		8/20/2020 1:22
110	R2006617-010		20200819_117	Perchlorate6850b.lcm	1x	☒		8/20/2020 1:30
111	PERCHLORATE7		20200819_118	Perchlorate6850b.lcm	1x	☒	3100807-04	8/20/2020 1:38

20200820

1st Review: Kneir
2nd Review: Hvan

Injection Log
LCMS01 -Shimadzu 8050

ICAL Date: 7/19/2020
Cal. Std. xp: 11/18/2020
ICAL ID: **EC2000022**

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

			File Name	Acquisition Method	Dilution	R	Comments	Date/Time
1	null		20200820_001	Perchlorate6850b.lcm	1x	☒		8/20/2020 9:48
2	null		20200820_002	Perchlorate6850b.lcm	1x	☒		8/20/2020 9:52
3	IB		20200820_003	Perchlorate6850b.lcm	1x	☒		8/20/2020 9:58
4	IB		20200820_004	Perchlorate6850b.lcm	1x	☒		8/20/2020 10:06
5	LODV		20200820_005	Perchlorate6850b.lcm	1x	☒		8/20/2020 10:14
6	PERCHLORATE7		20200820_006	Perchlorate6850b.lcm	1x	☒	3100807-04	8/20/2020 10:21
7	E2000735-002X2		20200820_007	Perchlorate6850b.lcm	2x	☒		8/20/2020 10:29
8	E2000735-003X10		20200820_008	Perchlorate6850b.lcm	10x	☒		8/20/2020 10:37
9	E2000735-004X10		20200820_009	Perchlorate6850b.lcm	10x	☒		8/20/2020 10:45
10	E2000735-005X10		20200820_010	Perchlorate6850b.lcm	10x	☒		8/20/2020 10:53
11	E2000735-006X10		20200820_011	Perchlorate6850b.lcm	10x	☒		8/20/2020 11:01
12	E2000735-007X10		20200820_012	Perchlorate6850b.lcm	10x	☒		8/20/2020 11:09
13	E2000735-008X2		20200820_013	Perchlorate6850b.lcm	2x	☒		8/20/2020 11:17
14	E2000735-010X10		20200820_014	Perchlorate6850b.lcm	10x	☒		8/20/2020 11:25
15	E2000735-011X10		20200820_015	Perchlorate6850b.lcm	10x	☒		8/20/2020 11:32
16	E2000735-014X10		20200820_016	Perchlorate6850b.lcm	10x	☒		8/20/2020 11:40
17	PERCHLORATE7		20200820_017	Perchlorate6850b.lcm	1x	☒	3100807-04	8/20/2020 11:48
18	E2000735-015X10		20200820_018	Perchlorate6850b.lcm	10x	☒		8/20/2020 11:56
19	E2000735-016X10		20200820_019	Perchlorate6850b.lcm	10x	☒		8/20/2020 12:04
20	E2000735-017		20200820_020	Perchlorate6850b.lcm	1x	☒		8/20/2020 12:12
21	E2000735-018		20200820_021	Perchlorate6850b.lcm	1x	☒		8/20/2020 12:20
22	E2000735-019		20200820_022	Perchlorate6850b.lcm	1x	☒		8/20/2020 12:28
23	EQ2000339-01		20200820_023	Perchlorate6850b.lcm	1x	☒		8/20/2020 12:36
24	EQ2000339-02		20200820_024	Perchlorate6850b.lcm	1x	☒		8/20/2020 12:43
25	EQ2000339-03		20200820_025	Perchlorate6850b.lcm	1x	☒		8/20/2020 12:51
26	E2000712-001X10		20200820_026	Perchlorate6850b.lcm	10x	☒		8/20/2020 12:59
27	E2000712-002X10		20200820_027	Perchlorate6850b.lcm	10x	☒		8/20/2020 13:07
28	PERCHLORATE7		20200820_028	Perchlorate6850b.lcm	1x	☒	3100807-04	8/20/2020 13:16
29	R2006617-009X10		20200820_029	Perchlorate6850b.lcm	10x	☒		8/20/2020 13:24
30	R2006493-005X2		20200820_030	Perchlorate6850b.lcm	2x	☒		8/20/2020 13:32
31	R2006493-007X10		20200820_031	Perchlorate6850b.lcm	10x	☒		8/20/2020 13:40
32	E2000735-008X10		20200820_032	Perchlorate6850b.lcm	10x	☒		8/20/2020 13:48
33	E2000711-002X10		20200820_033	Perchlorate6850b.lcm	10x	☒		8/20/2020 13:55
34	E2000724-001X1000		20200820_034	Perchlorate6850b.lcm	1000x	☒		8/20/2020 14:03
35	E2000724-003X100		20200820_035	Perchlorate6850b.lcm	100x	☒		8/20/2020 14:11
36	E2000724-004X1000		20200820_036	Perchlorate6850b.lcm	1000x	☒		8/20/2020 14:19
37	E2000728-001X10		20200820_037	Perchlorate6850b.lcm	10x	☒		8/20/2020 14:27
38	PERCHLORATE7		20200820_038	Perchlorate6850b.lcm	1x	☒	3100807-04	8/20/2020 14:37

20200821

1st Review: Grivera
2nd Review: Hvan

Injection Log
LCMS01 -Shimadzu 8050

ICAL Date: 7/19/2020
Cal. Std. xp: 11/18/2020
ICAL ID: **EC2000022**

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

			File Name	Acquisition Method	Dilution	R	Comments	Date/Time
1	null		20200821_001	Perchlorate6850b.lcm	1x	☒		8/21/2020 9:44
2	null		20200821_002	Perchlorate6850b.lcm	1x	☒		8/21/2020 9:49
3	IB		20200821_003	Perchlorate6850b.lcm	1x	☒		8/21/2020 9:54
4	IB		20200821_004	Perchlorate6850b.lcm	1x	☒		8/21/2020 10:02
5	LODV		20200821_005	Perchlorate6850b.lcm	1x	☒		8/21/2020 10:10
6	PERCHLORATE7		20200821_006	Perchlorate6850b.lcm	1x	☒	3100807-04	8/21/2020 10:18
7	E2000735-012		20200821_007	Perchlorate6850b.lcm	10x	☒		8/21/2020 10:26
8	EQ2000339-004		20200821_008	Perchlorate6850b.lcm	10x	☒		8/21/2020 10:34
9	EQ2000339-005		20200821_009	Perchlorate6850b.lcm	10x	☒		8/21/2020 10:58
10	PERCHLORATE7		20200821_010	Perchlorate6850b.lcm	1x	☒	3100807-04	8/21/2020 11:06
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ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20071328

Service Request: E2000735
Date Analyzed: 8/19/20

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

Analytical Method: 6850
File ID: I:\LCMS01\DATA\20200819\20200819_023

Calibration Date: 8/19/20
Calibration ID: EC2000022
Analysis Lot: 691702
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.74	0.1131	0.1101	-2.6	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20071328

Service Request: E2000735
Date Analyzed: 8/19/20

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

Analytical Method: 6850
File ID: I:\LCMS01\DATA\20200819\20200819_034

Calibration Date: 8/19/20
Calibration ID: EC2000022
Analysis Lot: 691702
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.56	0.1131	0.1081	-4.4	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000735
Project:	HS20071328	**Date Analyzed:**	8/19/20

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

Analytical Method:	6850	**Calibration Date:**	8/19/20
File ID:	I:\LCMS01\DATA\20200819\20200819_044	**Calibration ID:**	EC2000022
		Analysis Lot:	691702
		Units:	ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.41	0.1131	0.1064	-5.9	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20071328

Service Request: E2000735
Date Analyzed: 8/19/20

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

Analytical Method: 6850
File ID: I:\LCMS01\DATA\20200819\20200819_054

Calibration Date: 8/19/20
Calibration ID: EC2000022
Analysis Lot: 691702
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.68	0.1131	0.1094	-3.2	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20071328

Service Request: E2000735
Date Analyzed: 8/19/20

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

Analytical Method: 6850
File ID: I:\LCMS01\DATA\20200819\20200819_065

Calibration Date: 8/19/20
Calibration ID: EC2000022
Analysis Lot: 691702
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.60	0.1131	0.1085	-4.0	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20071328

Service Request: E2000735
Date Analyzed: 8/19/20

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

Analytical Method: 6850
File ID: I:\LCMS01\DATA\20200819\20200819_076

Calibration Date: 8/19/20
Calibration ID: EC2000022
Analysis Lot: 691702
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	10.9	0.1131	0.1227	8.5	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20071328

Service Request: E2000735
Date Analyzed: 8/19/20

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

Analytical Method: 6850
File ID: I:\LCMS01\DATA\20200819\20200819_087

Calibration Date: 8/19/20
Calibration ID: EC2000022
Analysis Lot: 691702
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.42	0.1131	0.1064	-5.8	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20071328

Service Request: E2000735
Date Analyzed: 8/19/20

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

Analytical Method: 6850
File ID: I:\LCMS01\DATA\20200819\20200819_092

Calibration Date: 8/19/20
Calibration ID: EC2000022
Analysis Lot: 691702
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.40	0.1131	0.1063	-6.0	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20071328

Service Request: E2000735
Date Analyzed: 8/19/20

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

Analytical Method: 6850
File ID: I:\LCMS01\DATA\20200819\20200819_103

Calibration Date: 8/19/20
Calibration ID: EC2000022
Analysis Lot: 691702
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.43	0.1131	0.1066	-5.7	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20071328

Service Request: E2000735
Date Analyzed: 8/20/20

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

Analytical Method: 6850
File ID: I:\LCMS01\DATA\20200819\20200819_114

Calibration Date: 8/19/20
Calibration ID: EC2000022
Analysis Lot: 691702
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.97	0.1131	0.1127	-0.3	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20071328

Service Request: E2000735
Date Analyzed: 8/20/20

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

Analytical Method: 6850
File ID: I:\LCMS01\DATA\20200819\20200819_118

Calibration Date: 8/19/20
Calibration ID: EC2000022
Analysis Lot: 691702
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.28	0.1131	0.1049	-7.2	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000735
Project:	HS20071328	**Date Analyzed:**	8/20/20

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

Analytical Method:	6850	**Calibration Date:**	8/19/20
File ID:	I:\LCMS01\DATA\20200820\20200820_006	**Calibration ID:**	EC2000022
		Analysis Lot:	691880
		Units:	ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.53	0.1131	0.1077	-4.7	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000735
Project:	HS20071328	**Date Analyzed:**	8/20/20

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

Analytical Method:	6850	**Calibration Date:**	8/19/20
File ID:	I:\LCMS01\DATA\20200820\20200820_017	**Calibration ID:**	EC2000022
		Analysis Lot:	691880
		Units:	ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.25	0.1131	0.1046	-7.5	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20071328

Service Request: E2000735
Date Analyzed: 8/20/20

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

Analytical Method: 6850
File ID: I:\LCMS01\DATA\20200820\20200820_028

Calibration Date: 8/19/20
Calibration ID: EC2000022
Analysis Lot: 691880
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.37	0.1131	0.1059	-6.3	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20071328

Service Request: E2000735
Date Analyzed: 8/20/20

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

Analytical Method: 6850
File ID: I:\LCMS01\DATA\20200820\20200820_038

Calibration Date: 8/19/20
Calibration ID: EC2000022
Analysis Lot: 691880
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.63	0.1131	0.1088	-3.7	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000735
Project:	HS20071328	**Date Analyzed:**	8/19/20 13:09

Internal Standard Area and RT Summary

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

File ID:	I:\LCMS01\DATA\20200819\20200819_023	**Lab Code:**	EQ2000350-01
Instrument ID:	E-LCMS-01	**Analysis Lot:**	691702
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	284,293	2.87
	Upper Limit ==>	426,440	4.87
	Lower Limit ==>	142,147	0.87
Associated Analyses			
Continuing Calibration Verification	EQ2000350-01	275,008	2.87
Method Blank	EQ2000327-01	296,394	2.87
Lab Control Sample	EQ2000327-02	300,790	2.87
Duplicate Lab Control Sample	EQ2000327-03	332,996	2.82

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

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000735
Project:	HS20071328	**Date Analyzed:**	8/19/20 14:29

Internal Standard Area and RT Summary

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

File ID:	I:\LCMS01\DATA\20200819\20200819_034	**Lab Code:**	EQ2000350-02
Instrument ID:	E-LCMS-01	**Analysis Lot:**	691702
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	284,293	2.87
	Upper Limit ==>	426,440	4.87
	Lower Limit ==>	142,147	0.87
Associated Analyses			
Continuing Calibration Verification	EQ2000350-02	259,146	2.80
16WW32-200727	E2000735-001	197,622	2.87
16WW23-200727	E2000735-009	176,240	2.74

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

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000735
Project:	HS20071328	**Date Analyzed:**	8/19/20 15:52

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

File ID:	I:\LCMS01\DATA\20200819\20200819_044	**Lab Code:**	EQ2000350-03
Instrument ID:	E-LCMS-01	**Analysis Lot:**	691702
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	284,293	2.87
	Upper Limit ==>	426,440	4.87
	Lower Limit ==>	142,147	0.87
Associated Analyses			
Continuing Calibration Verification	EQ2000350-03	257,649	2.76
16EW08-200728	E2000735-013	175,334	2.85

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

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000735
Project:	HS20071328	**Date Analyzed:**	8/19/20 17:11

Internal Standard Area and RT Summary

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

File ID:	I:\LCMS01\DATA\20200819\20200819_054	**Lab Code:**	EQ2000350-04
Instrument ID:	E-LCMS-01	**Analysis Lot:**	691702
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	284,293	2.87
	Upper Limit ==>	426,440	4.87
	Lower Limit ==>	142,147	0.87
Associated Analyses			
Continuing Calibration Verification	EQ2000350-04	178,952	2.84

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

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000735
Project:	HS20071328	**Date Analyzed:**	8/19/20 18:40

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

File ID:	I:\LCMS01\DATA\20200819\20200819_065	**Lab Code:**	EQ2000350-05
Instrument ID:	E-LCMS-01	**Analysis Lot:**	691702
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	284,293	2.87
	Upper Limit ==>	426,440	4.87
	Lower Limit ==>	142,147	0.87
Associated Analyses			
Continuing Calibration Verification	EQ2000350-05	224,737	2.87

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

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000735
Project:	HS20071328	**Date Analyzed:**	8/19/20 20:07

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

File ID:	I:\LCMS01\DATA\20200819\20200819_076	**Lab Code:**	EQ2000350-06
Instrument ID:	E-LCMS-01	**Analysis Lot:**	691702
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	284,293	2.87
	Upper Limit ==>	426,440	4.87
	Lower Limit ==>	142,147	0.87
Associated Analyses			
Continuing Calibration Verification	EQ2000350-06	216,860	2.87

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

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000735
Project:	HS20071328	**Date Analyzed:**	8/19/20 21:33

Internal Standard Area and RT Summary

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

File ID:	I:\LCMS01\DATA\20200819\20200819_087	**Lab Code:**	EQ2000350-07
Instrument ID:	E-LCMS-01	**Analysis Lot:**	691702
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	284,293	2.87
	Upper Limit ==>	426,440	4.87
	Lower Limit ==>	142,147	0.87
Associated Analyses			
Continuing Calibration Verification	EQ2000350-07	220,049	2.88

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

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000735
Project:	HS20071328	**Date Analyzed:**	8/19/20 22:13

Internal Standard Area and RT Summary

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

File ID:	I:\LCMS01\DATA\20200819\20200819_092	**Lab Code:**	EQ2000350-08
Instrument ID:	E-LCMS-01	**Analysis Lot:**	691702
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	284,293	2.87
	Upper Limit ==>	426,440	4.87
	Lower Limit ==>	142,147	0.87
Associated Analyses			
Continuing Calibration Verification	EQ2000350-08	234,006	2.87

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

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000735
Project:	HS20071328	**Date Analyzed:**	8/19/20 23:40

Internal Standard Area and RT Summary

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

File ID:	I:\LCMS01\DATA\20200819\20200819_103	**Lab Code:**	EQ2000350-09
Instrument ID:	E-LCMS-01	**Analysis Lot:**	691702
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	284,293	2.87
	Upper Limit ==>	426,440	4.87
	Lower Limit ==>	142,147	0.87
Associated Analyses			
Continuing Calibration Verification	EQ2000350-09	215,258	2.87

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

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000735
Project:	HS20071328	**Date Analyzed:**	8/20/20 01:06

Internal Standard Area and RT Summary

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

File ID:	I:\LCMS01\DATA\20200819\20200819_114	**Lab Code:**	EQ2000350-10
Instrument ID:	E-LCMS-01	**Analysis Lot:**	691702
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	284,293	2.87
	Upper Limit ==>	426,440	4.87
	Lower Limit ==>	142,147	0.87
Associated Analyses			
Continuing Calibration Verification	EQ2000350-10	215,703	2.87

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

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000735
Project:	HS20071328	**Date Analyzed:**	8/20/20 01:38

Internal Standard Area and RT Summary

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

File ID:	I:\LCMS01\DATA\20200819\20200819_118	**Lab Code:**	EQ2000350-11
Instrument ID:	E-LCMS-01	**Analysis Lot:**	691702
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	284,293	2.87
	Upper Limit ==>	426,440	4.87
	Lower Limit ==>	142,147	0.87
Associated Analyses			
Continuing Calibration Verification	EQ2000350-11	207,196	2.87

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

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000735
Project:	HS20071328	**Date Analyzed:**	8/20/20 10:21

Internal Standard Area and RT Summary

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

File ID:	I:\LCMS01\DATA\20200820\20200820_006	**Lab Code:**	EQ2000352-01
Instrument ID:	E-LCMS-01	**Analysis Lot:**	691880
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	284,293	2.87
	Upper Limit ==>	426,440	4.87
	Lower Limit ==>	142,147	0.87
Associated Analyses			
Continuing Calibration Verification	EQ2000352-01	181,308	2.87
16WW31-200727	E2000735-002	143,004	2.88
16WW46-200727	E2000735-003	145,047	2.87
16WW46-200727-FD	E2000735-004	144,956	2.87
16WW49-200727	E2000735-005	142,280	2.87
16WW51-200727	E2000735-006	142,732	2.88
16WW51-200727-FD	E2000735-007	148,694	2.88
16WW24-200727	E2000735-010	143,668	2.88
16EW03-200728	E2000735-011	143,204	2.87
16EW04-200728	E2000735-014	144,973	2.87

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

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000735
Project:	HS20071328	**Date Analyzed:**	8/20/20 11:48

Internal Standard Area and RT Summary

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

File ID:	I:\LCMS01\DATA\20200820\20200820_017	**Lab Code:**	EQ2000352-02
Instrument ID:	E-LCMS-01	**Analysis Lot:**	691880
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	284,293	2.87
	Upper Limit ==>	426,440	4.87
	Lower Limit ==>	142,147	0.87
Associated Analyses			
Continuing Calibration Verification	EQ2000352-02	175,978	2.87
16RW04-200728	E2000735-015	166,494	2.87
16IW03-200728	E2000735-016	175,140	2.88
16SW01-200728	E2000735-017	158,770	2.87
16SW02-200728	E2000735-018	175,766	2.87
16SW03-200728	E2000735-019	173,443	2.87

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

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000735
Project:	HS20071328	**Date Analyzed:**	8/20/20 13:16

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

File ID:	I:\LCMS01\DATA\20200820\20200820_028	**Lab Code:**	EQ2000352-03
Instrument ID:	E-LCMS-01	**Analysis Lot:**	691880
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	284,293	2.87
	Upper Limit ==>	426,440	4.87
	Lower Limit ==>	142,147	0.87
Associated Analyses			
Continuing Calibration Verification	EQ2000352-03	206,153	2.80
16RW01-200727	E2000735-008	164,153	2.87

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

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000735
Project:	HS20071328	**Date Analyzed:**	8/20/20 14:37

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

File ID:	I:\LCMS01\DATA\20200820\20200820_038	**Lab Code:**	EQ2000352-04
Instrument ID:	E-LCMS-01	**Analysis Lot:**	691880
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	284,293	2.87
	Upper Limit ==>	426,440	4.87
	Lower Limit ==>	142,147	0.87
Associated Analyses			
Continuing Calibration Verification	EQ2000352-04	185,825	2.87

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

ALS Group Houston

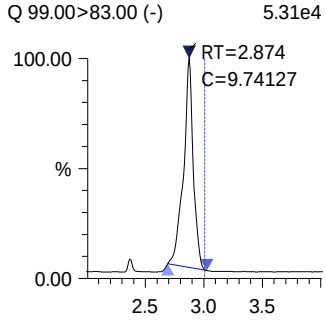
PERCHLORATE7

Date acquired: 8/19/2020 1:09:40 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200819\20200819_023.lcd
Vial: 4 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE7	8/19/2020 1:09:40 PM	302854	9.74127	20200819_023	2.874	25.0000	1.0000	4
Sodium Perchlorate-18O4_IS	PERCHLORATE7	8/19/2020 1:09:40 PM	275008	1.00000	20200819_023	2.873	25.0000	1.0000	4

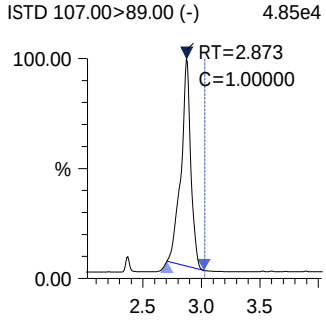
Perchlorate

Conc 9.74127
Area 302854



Sodium Perchlorate-18O4 _IS

Conc 1.00000
Area 275008



ALS Group Houston

EQ2000327-01

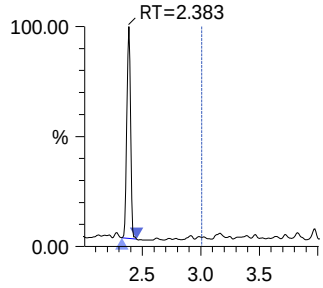
Date acquired: 8/19/2020 2:04:56 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200819\20200819_030.lcd
Vial: 7 | Inj. Volume: 25.0000uL | Tray: 3

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	EQ2000327-01	8/19/2020 2:04:56 PM	----	----	20200819_030	----	25.0000	1.0000	7
Sodium Perchlorate-18O4_IS	EQ2000327-01	8/19/2020 2:04:56 PM	296394	1.00000	20200819_030	2.868	25.0000	1.0000	7

Perchlorate

Conc ----
Area ----

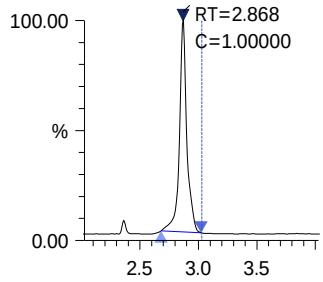
Q 99.00>83.00 (-) 1.78e3



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 296394

ISTD 107.00>89.00 (-) 6.75e4



ALS Group Houston

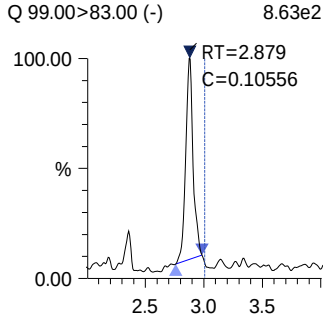
EQ2000327-02

Date acquired: 8/19/2020 2:12:48 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200819\20200819_031.lcd
Vial: 8 | Inj. Volume: 25.0000uL | Tray: 3

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	EQ2000327-02	8/19/2020 2:12:48 PM	3590	0.10556	20200819_031	2.879	25.0000	1.0000	8
Sodium Perchlorate-18O4_IS	EQ2000327-02	8/19/2020 2:12:48 PM	300790	1.00000	20200819_031	2.871	25.0000	1.0000	8

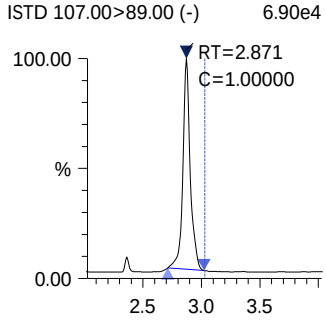
Perchlorate

Conc 0.10556
Area 3590



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 300790



ALS Group Houston

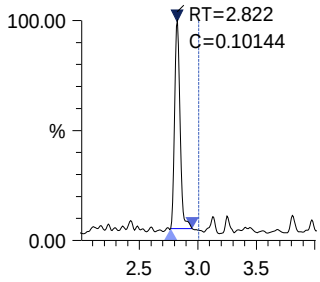
EQ2000327-03

Date acquired: 8/19/2020 2:21:27 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200819\20200819_033.lcd
Vial: 9 | Inj. Volume: 25.0000uL | Tray: 3

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	EQ2000327-03	8/19/2020 2:21:27 PM	3819	0.10144	20200819_033	2.822	25.0000	1.0000	9
Sodium Perchlorate-18O4_IS	EQ2000327-03	8/19/2020 2:21:27 PM	332996	1.00000	20200819_033	2.822	25.0000	1.0000	9

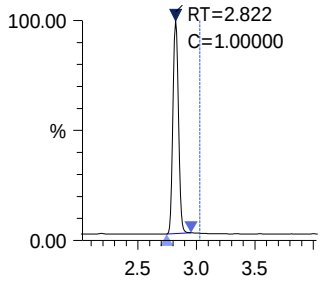
Perchlorate

Conc 0.10144
Area 3819
Q 99.00>83.00 (-) 1.19e3



Sodium Perchlorate-18O4 _IS

Conc 1.00000
Area 332996
ISTD 107.00>89.00 (-) 1.04e5



ALS Group Houston

PERCHLORATE7

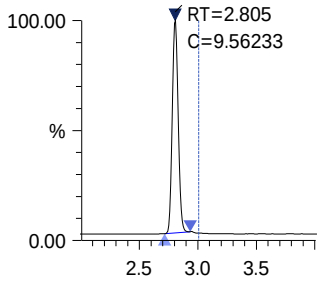
Date acquired: 8/19/2020 2:29:30 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200819\20200819_034.lcd
Vial: 4 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE7	8/19/2020 2:29:30 PM	280144	9.56233	20200819_034	2.805	25.0000	1.0000	4
Sodium Perchlorate-18O4_IS	PERCHLORATE7	8/19/2020 2:29:30 PM	259146	1.00000	20200819_034	2.803	25.0000	1.0000	4

Perchlorate

Conc 9.56233
Area 280144

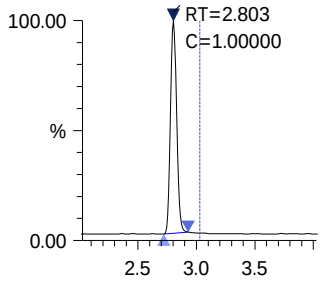
Q 99.00>83.00 (-) 7.85e4



Sodium Perchlorate-18O4 _IS

Conc 1.00000
Area 259146

ISTD 107.00>89.00 (-) 7.19e4



ALS Group Houston

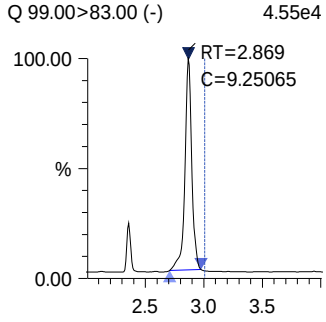
PERCHLORATE7

Date acquired: 8/20/2020 11:48:45 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200820\20200820_017.lcd
Vial: 4 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE7	8/20/2020 11:48:45 AM	184036	9.25065	20200820_017	2.869	25.0000	1.0000	4
Sodium Perchlorate-18O4_IS	PERCHLORATE7	8/20/2020 11:48:45 AM	175978	1.00000	20200820_017	2.868	25.0000	1.0000	4

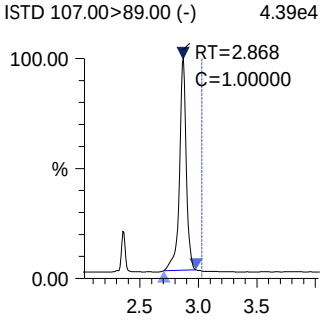
Perchlorate

Conc 9.25065
Area 184036



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 175978



ALS Group Houston

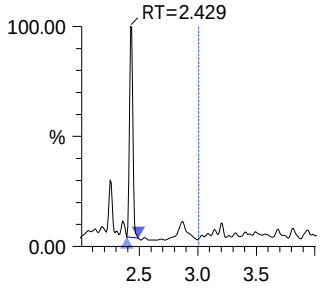
EQ2000339-01

Date acquired: 8/20/2020 12:36:05 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200820\20200820_023.lcd
Vial: 28 | Inj. Volume: 25.0000uL | Tray: 3

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	EQ2000339-01	8/20/2020 12:36:05 PM	----	----	20200820_023	----	25.0000	1.0000	28
Sodium Perchlorate-18O4_IS	EQ2000339-01	8/20/2020 12:36:05 PM	143789	1.00000	20200820_023	2.867	25.0000	1.0000	28

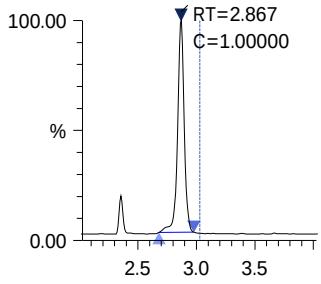
Perchlorate

Conc ----
Area ----
Q 99.00>83.00 (-) 7.23e2



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 143789
ISTD 107.00>89.00 (-) 3.65e4



ALS Group Houston

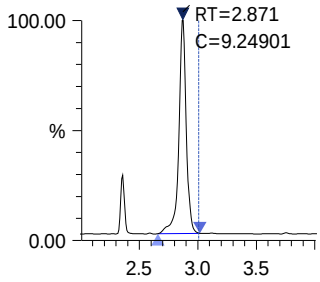
EQ2000339-02

Date acquired: 8/20/2020 12:43:58 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200820\20200820_024.lcd
Vial: 29 | Inj. Volume: 25.0000uL | Tray: 3

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	EQ2000339-02	8/20/2020 12:43:58 PM	149486	9.24901	20200820_024	2.871	25.0000	1.0000	29
Sodium Perchlorate-18O4_IS	EQ2000339-02	8/20/2020 12:43:58 PM	142966	1.00000	20200820_024	2.869	25.0000	1.0000	29

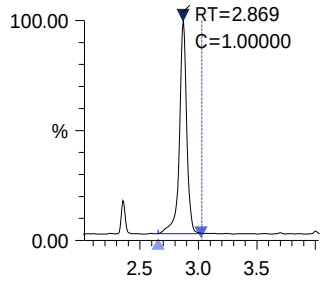
Perchlorate

Conc 9.24901
Area 149486
Q 99.00>83.00 (-) 3.38e4



Sodium Perchlorate-18O4 _IS

Conc 1.00000
Area 142966
ISTD 107.00>89.00 (-) 2.99e4



ALS Group Houston

EQ2000339-03

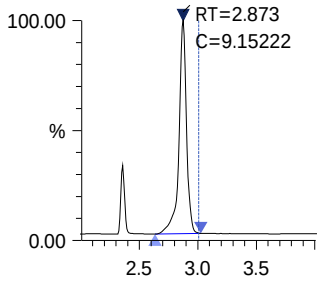
Date acquired: 8/20/2020 12:51:52 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200820\20200820_025.lcd
Vial: 30 | Inj. Volume: 25.0000uL | Tray: 3

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	EQ2000339-03	8/20/2020 12:51:52 PM	149626	9.15222	20200820_025	2.873	25.0000	1.0000	30
Sodium Perchlorate-18O4_IS	EQ2000339-03	8/20/2020 12:51:52 PM	144614	1.00000	20200820_025	2.872	25.0000	1.0000	30

Perchlorate

Conc 9.15222
Area 149626

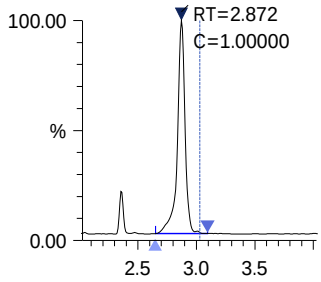
Q 99.00>83.00 (-) 3.33e4



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 144614

ISTD 107.00>89.00 (-) 2.81e4



ALS Group Houston

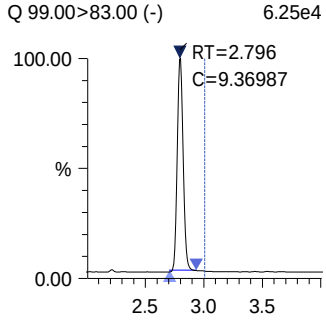
PERCHLORATE7

Date acquired: 8/20/2020 1:16:34 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200820\20200820_028.lcd
Vial: 4 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE7	8/20/2020 1:16:34 PM	218372	9.36987	20200820_028	2.796	25.0000	1.0000	4
Sodium Perchlorate-18O4_IS	PERCHLORATE7	8/20/2020 1:16:34 PM	206153	1.00000	20200820_028	2.795	25.0000	1.0000	4

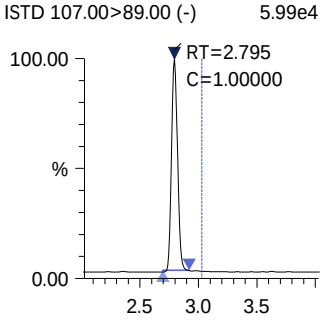
Perchlorate

Conc 9.36987
Area 218372



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 206153



ALS Group Houston

PERCHLORATE7

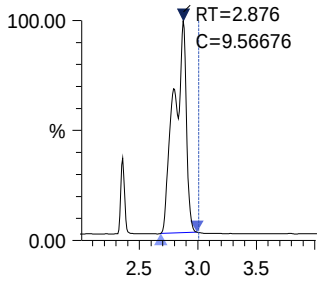
Date acquired: 8/21/2020 10:18:42 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200821\20200821_006.lcd
Vial: 4 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE7	8/21/2020 10:18:42 AM	205758	9.56676	20200821_006	2.876	25.0000	1.0000	4
Sodium Perchlorate-18O4_IS	PERCHLORATE7	8/21/2020 10:18:42 AM	190247	1.00000	20200821_006	2.874	25.0000	1.0000	4

Perchlorate

Conc 9.56676
Area 205758

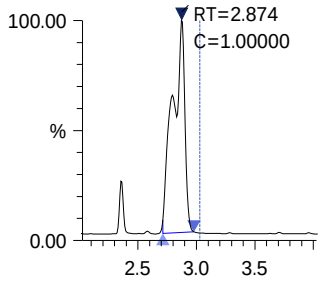
Q 99.00>83.00 (-) 2.82e4



Sodium Perchlorate-18O4 _IS

Conc 1.00000
Area 190247

ISTD 107.00>89.00 (-) 2.63e4



ALS Group Houston

EQ2000339-004

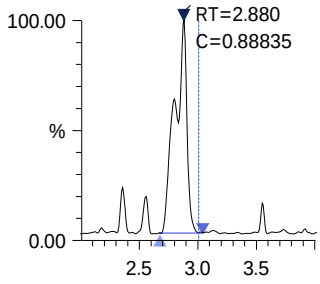
Date acquired: 8/21/2020 10:34:30 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200821\20200821_008.lcd
Vial: 39 | Inj. Volume: 25.0000uL | Tray: 3

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	EQ2000339-004	8/21/2020 10:34:30 AM	18698	0.88835	20200821_008	2.880	25.0000	1.0000	39
Sodium Perchlorate-18O4_IS	EQ2000339-004	8/21/2020 10:34:30 AM	186180	1.00000	20200821_008	2.879	25.0000	1.0000	39

Perchlorate

Conc 0.88835
Area 18698

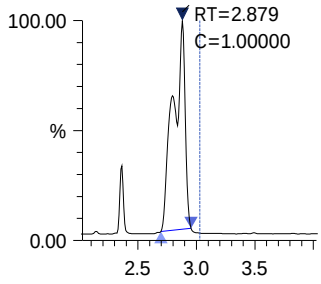
Q 99.00>83.00 (-) 2.55e3



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 186180

ISTD 107.00>89.00 (-) 2.72e4



ALS Group Houston

EQ2000339-005

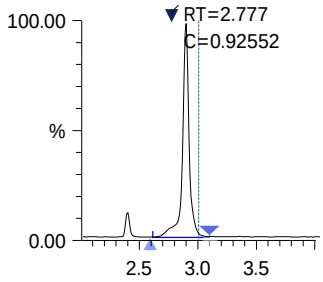
Date acquired: 8/21/2020 10:58:20 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200821\20200821_009.lcd
Vial: 40 | Inj. Volume: 25.0000uL | Tray: 3

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	EQ2000339-005	8/21/2020 10:58:20 AM	22682	0.92552	20200821_009	2.777	25.0000	1.0000	40
Sodium Perchlorate-18O4_IS	EQ2000339-005	8/21/2020 10:58:20 AM	216777	1.00000	20200821_009	2.775	25.0000	1.0000	40

Perchlorate

Conc 0.92552
Area 22682

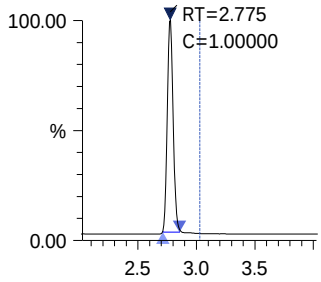
Q 99.00>83.00 (-) 5.57e3



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 216777

ISTD 107.00>89.00 (-) 6.26e4



ALS Group Houston

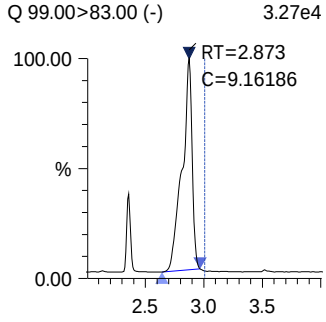
PERCHLORATE7

Date acquired: 8/21/2020 11:06:17 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200821\20200821_010.lcd
Vial: 4 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE7	8/21/2020 11:06:17 AM	192676	9.16186	20200821_010	2.873	25.0000	1.0000	4
Sodium Perchlorate-18O4_IS	PERCHLORATE7	8/21/2020 11:06:17 AM	186024	1.00000	20200821_010	2.872	25.0000	1.0000	4

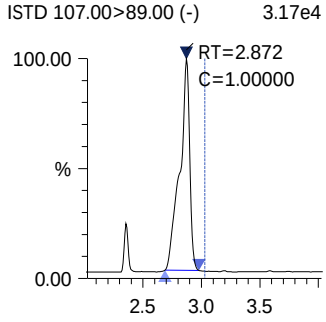
Perchlorate

Conc 9.16186
Area 192676



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 186024



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WorkOrder: HS20071328

Longhorn Army Ammunition Plant 16 July 2020

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HS20071328 Longhorn Army Ammunition Plant
16 July 2020 Final

ALS WO# HS20071328

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August 21, 2020

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Aptim Environmental & Infrastucture, Inc.
2500 City West Blvd., Suite 1700
Houston, TX 77042

Work Order: **HS20071328**

Laboratory Results for: **Longhorn Army Ammunition Plant 16 July 2020**

Dear Susan Huang,

ALS Environmental received 20 sample(s) on Jul 29, 2020 for the analysis presented in the following report.

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

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

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

Sincerely,

Generated By: DAYNA.FISHER
RJ Modashia
Project Manager

ALS Houston, US Date: 21-Aug-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 July 2020
Work Order: HS20071328

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS20071328-01	16WW32-200727	Groundwater		27-Jul-2020 08:05	29-Jul-2020 09:20	☐
HS20071328-02	16WW31-200727	Groundwater		27-Jul-2020 08:50	29-Jul-2020 09:20	☐
HS20071328-03	16WW46-200727	Groundwater		27-Jul-2020 09:40	29-Jul-2020 09:20	☐
HS20071328-04	16WW46-200727-FD	Groundwater		27-Jul-2020 08:05	29-Jul-2020 09:20	☐
HS20071328-05	16WW49-200727	Groundwater		27-Jul-2020 10:30	29-Jul-2020 09:20	☐
HS20071328-06	16WW51-200727	Groundwater		27-Jul-2020 11:25	29-Jul-2020 09:20	☐
HS20071328-07	16WW51-200727-FD	Groundwater		27-Jul-2020 11:25	29-Jul-2020 09:20	☐
HS20071328-08	16RW01-200727	Groundwater		27-Jul-2020 12:20	29-Jul-2020 09:20	☐
HS20071328-09	16WW23-200727	Groundwater		27-Jul-2020 13:15	29-Jul-2020 09:20	☐
HS20071328-10	16WW24-200727	Groundwater		27-Jul-2020 14:05	29-Jul-2020 09:20	☐
HS20071328-11	16EW03-200728	Groundwater		28-Jul-2020 07:30	29-Jul-2020 09:20	☐
HS20071328-12	16EW07-200728	Groundwater		28-Jul-2020 08:15	29-Jul-2020 09:20	☐
HS20071328-13	16EW08-200728	Groundwater		28-Jul-2020 09:05	29-Jul-2020 09:20	☐
HS20071328-14	16EW04-200728	Groundwater		28-Jul-2020 09:50	29-Jul-2020 09:20	☐
HS20071328-15	16RW04-200728	Groundwater		28-Jul-2020 10:40	29-Jul-2020 09:20	☐
HS20071328-16	16IW03-200728	Groundwater		28-Jul-2020 11:30	29-Jul-2020 09:20	☐
HS20071328-17	16SW01-200728	Groundwater		27-Jul-2020 12:10	29-Jul-2020 09:20	☐
HS20071328-18	16SW02-200728	Groundwater		28-Jul-2020 12:30	29-Jul-2020 09:20	☐
HS20071328-19	16SW03-200728	Groundwater		28-Jul-2020 12:50	29-Jul-2020 09:20	☐
HS20071328-20	Trip Blank-200728	Water	CG-060320-209	28-Jul-2020 00:00	29-Jul-2020 09:20	☐

ALS Houston, US Date: 21-Aug-20

Client: Aptim Environmental & Infrastucture, Inc. **CASE NARRATIVE**
Project: Longhorn Army Ammunition Plant 16 July 2020
Work Order: HS20071328

Work Order Comments

- Analysis of Perchlorate was performed by ALS Houston TX, High Resolution. Laboratory. Final report attached.

  The analysis for TOC was subcontracted to ALS Environmental in Kelso WA. Final report attached.

GC Semivolatiles by Method RSK-175

Batch ID: R365932

Sample ID: HS20071296-02DUP

- DUP is for an unrelated sample

GCMS Volatiles by Method SW8260

Batch ID: R366276

Sample ID: 16EW07-200728 (HS20071328-12)

- Lowest practical dilution for sample HS20071328-12 due to matrix.

Sample ID: 16EW07-200728 (HS20071328-12MS)

- MS and/or MSD recovered outside control limits

Batch ID: R366355

Sample ID: HS20080189-02MS

- MS and MSD are for an unrelated sample

Batch ID: R366275

Sample ID: 16EW03-200728 (HS20071328-11)

- Lowest practical dilution for sample HS20071328-11 due to matrix.

Sample ID: 16EW08-200728 (HS20071328-13)

- Lowest practical dilution for sample HS20071328-13 due to matrix. Sample has a very oily sheen.

Sample ID: 16SW03-200728 (HS20071328-19MS)

- MS recovered outside control limits for Trichloroethene

Batch ID: R365975

Sample ID: 16WW32-200727 (HS20071328-01MS)

- MS/MSD failed QC and RPD limits.

Sample ID: 16WW49-200727 (HS20071328-05)

- 4-Bromofluorobenzene (SURR) failure. Confirmed by re-analysis @ dilution .

- 4-Bromofluorobenzene (SURR) and Toluene-d8 (SURR) exceeded recovery limits. Compound reported is not associated with these SURRs

Sample ID: VLCSW-200730

ALS Houston, US Date: 21-Aug-20

Client: Aptim Environmental & Infrastucture, Inc. **CASE NARRATIVE**
Project: Longhorn Army Ammunition Plant 16 July 2020
Work Order: HS20071328

GCMS Volatiles by Method SW8260

Batch ID: R365975

- Methylene Chloride exceeded QC limits for LCS. Samples are ND for this compound.

Metals by Method SW6020

Batch ID: 156069

Sample ID: 16SW03-200728 (HS20071328-19MS)

- The MS and/or MSD recovery was outside of the control; however, the result in the parent sample is greater than 4x the spike amount. Manganese

Sample ID: 16SW03-200728 (HS20071328-19SD)

- The percent difference between the results of the sample and the serial dilution were greater than 10%. Manganese

WetChemistry by Method SW9056

Batch ID: R366038

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

Batch ID: R366006

Sample ID: 16IW03-200728 (HS20071328-16MS)

- The recovery of the Matrix Spike (MS) and/or Matrix Spike Duplicate (MSD) associated with this analyte was outside of the established control limits. However, the LCS was within control limits. The recovery of the MS/MSD may be due to sample matrix interference. (Sulfate)

ALS Houston, US Date: 21-Aug-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 July 2020
Sample ID: 16WW32-200727
Collection Date: 27-Jul-2020 08:05

ANALYTICAL REPORT
WorkOrder:HS20071328
Lab ID:HS20071328-01
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	30-Jul-2020 14:01
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	30-Jul-2020 14:01
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	30-Jul-2020 14:01
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	30-Jul-2020 14:01
Methylene chloride	1.0	U	0.40	1.0	2.0	UG/L	1	30-Jul-2020 14:01
Trichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	30-Jul-2020 14:01
Vinyl chloride	0.50	U	0.20	0.50	1.0	UG/L	1	30-Jul-2020 14:01
Surr: 1,2-Dichloroethane-d4	*105*			**0**	*81-118*	*%REC*	*1*	*30-Jul-2020 14:01*
Surr: 4-Bromofluorobenzene	*85.1*			**0**	*85-114*	*%REC*	*1*	*30-Jul-2020 14:01*
Surr: Dibromofluoromethane	*96.2*			**0**	*80-119*	*%REC*	*1*	*30-Jul-2020 14:01*
Surr: Toluene-d8	*103*			**0**	*89-112*	*%REC*	*1*	*30-Jul-2020 14:01*
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: GR
Subcontract Analysis	See Attached		0	0		NA	1	21-Aug-2020 16:29

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

ALS Houston, US Date: 21-Aug-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 July 2020
Sample ID: 16WW31-200727
Collection Date: 27-Jul-2020 08:50

ANALYTICAL REPORT
WorkOrder:HS20071328
Lab ID:HS20071328-02
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	30-Jul-2020 19:14
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	30-Jul-2020 19:14
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	30-Jul-2020 19:14
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	30-Jul-2020 19:14
Methylene chloride	1.0	U	0.40	1.0	2.0	UG/L	1	30-Jul-2020 19:14
Trichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	30-Jul-2020 19:14
Vinyl chloride	0.50	U	0.20	0.50	1.0	UG/L	1	30-Jul-2020 19:14
Surr: 1,2-Dichloroethane-d4	*107*			**0**	*81-118*	*%REC*	*1*	*30-Jul-2020 19:14*
Surr: 4-Bromofluorobenzene	*98.9*			**0**	*85-114*	*%REC*	*1*	*30-Jul-2020 19:14*
Surr: Dibromofluoromethane	*101*			**0**	*80-119*	*%REC*	*1*	*30-Jul-2020 19:14*
Surr: Toluene-d8	*106*			**0**	*89-112*	*%REC*	*1*	*30-Jul-2020 19:14*
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: GR
Subcontract Analysis	See Attached		0	0		NA	1	21-Aug-2020 16:29

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

ALS Houston, US Date: 21-Aug-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 July 2020
Sample ID: 16WW46-200727
Collection Date: 27-Jul-2020 09:40

ANALYTICAL REPORT
WorkOrder:HS20071328
Lab ID:HS20071328-03
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	UG/L	1	30-Jul-2020 19:38
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	30-Jul-2020 19:38
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	30-Jul-2020 19:38
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	30-Jul-2020 19:38
Methylene chloride	1.0	U	0.40	1.0	2.0	UG/L	1	30-Jul-2020 19:38
Trichloroethene	**0.57**	J	**0.20**	**0.50**	**1.0**	**UG/L**	1	30-Jul-2020 19:38
Vinyl chloride	0.50	U	0.20	0.50	1.0	UG/L	1	30-Jul-2020 19:38
Surr: 1,2-Dichloroethane-d4	*107*			**0**	*81-118*	*%REC*	*1*	*30-Jul-2020 19:38*
Surr: 4-Bromofluorobenzene	*99.7*			**0**	*85-114*	*%REC*	*1*	*30-Jul-2020 19:38*
Surr: Dibromofluoromethane	*100.0*			**0**	*80-119*	*%REC*	*1*	*30-Jul-2020 19:38*
Surr: Toluene-d8	*106*			**0**	*89-112*	*%REC*	*1*	*30-Jul-2020 19:38*
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: GR
Subcontract Analysis	See Attached		0	0		NA	1	21-Aug-2020 16:29

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

ALS Houston, US Date: 21-Aug-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 July 2020
Sample ID: 16WW46-200727-FD
Collection Date: 27-Jul-2020 08:05

ANALYTICAL REPORT
WorkOrder:HS20071328
Lab ID:HS20071328-04
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	UG/L	1	30-Jul-2020 20:02
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	30-Jul-2020 20:02
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	30-Jul-2020 20:02
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	30-Jul-2020 20:02
Methylene chloride	1.0	U	0.40	1.0	2.0	UG/L	1	30-Jul-2020 20:02
Trichloroethene	**0.66**	J	**0.20**	**0.50**	**1.0**	**UG/L**	1	30-Jul-2020 20:02
Vinyl chloride	0.50	U	0.20	0.50	1.0	UG/L	1	30-Jul-2020 20:02
Surr: 1,2-Dichloroethane-d4	*108*			**0**	*81-118*	*%REC*	*1*	*30-Jul-2020 20:02*
Surr: 4-Bromofluorobenzene	*99.7*			**0**	*85-114*	*%REC*	*1*	*30-Jul-2020 20:02*
Surr: Dibromofluoromethane	*101*			**0**	*80-119*	*%REC*	*1*	*30-Jul-2020 20:02*
Surr: Toluene-d8	*105*			**0**	*89-112*	*%REC*	*1*	*30-Jul-2020 20:02*
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: GR
Subcontract Analysis	See Attached		0	0		NA	1	21-Aug-2020 16:29

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

ALS Houston, US Date: 21-Aug-20

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: Longhorn Army Ammunition Plant 16 July 2020 WorkOrder:HS20071328
Sample ID: 16WW49-200727 Lab ID:HS20071328-05
Collection Date: 27-Jul-2020 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	30-Jul-2020 15:13
1,1-Dichloroethene	**0.77**	J	**0.20**	**0.50**	**1.0**	**UG/L**	1	30-Jul-2020 15:13
1,2-Dichloroethane	**0.77**	J	**0.20**	**0.50**	**1.0**	**UG/L**	1	30-Jul-2020 15:13
cis-1,2-Dichloroethene	**170**		**1.0**	**2.5**	**5.0**	**UG/L**	5	30-Jul-2020 17:37
Methylene chloride	1.0	U	0.40	1.0	2.0	UG/L	1	30-Jul-2020 15:13
Trichloroethene	**36**		**0.20**	**0.50**	**1.0**	**UG/L**	1	30-Jul-2020 15:13
Vinyl chloride	**0.41**	J	**0.20**	**0.50**	**1.0**	**UG/L**	1	30-Jul-2020 15:13
Surr: 1,2-Dichloroethane-d4	*108*			**0**	*81-118*	*%REC*	*1*	*30-Jul-2020 15:13*
Surr: 1,2-Dichloroethane-d4	*96.8*			**0**	*81-118*	*%REC*	*5*	*30-Jul-2020 17:37*
Surr: 4-Bromofluorobenzene	*123*	*S*		**0**	*85-114*	*%REC*	*1*	*30-Jul-2020 15:13*
Surr: 4-Bromofluorobenzene	*81.2*	*S*		**0**	*85-114*	*%REC*	*5*	*30-Jul-2020 17:37*
Surr: Dibromofluoromethane	*101*			**0**	*80-119*	*%REC*	*1*	*30-Jul-2020 15:13*
Surr: Dibromofluoromethane	*102*			**0**	*80-119*	*%REC*	*5*	*30-Jul-2020 17:37*
Surr: Toluene-d8	*97.3*			**0**	*89-112*	*%REC*	*1*	*30-Jul-2020 15:13*
Surr: Toluene-d8	*113*	*S*		**0**	*89-112*	*%REC*	*5*	*30-Jul-2020 17:37*
ANIONS BY SW9056A		**Method:SW9056**						Analyst: YP
Bromide	**3.01**		**0.0300**	**0.100**	**0.100**	**mg/L**	1	31-Jul-2020 07:03
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: GR
Subcontract Analysis	See Attached		0	0		NA	1	21-Aug-2020 16:29
SUBCONTRACT ANALYSIS - TOC ANALYSIS		**Method:NA**						Analyst: SUBK
Subcontract Analysis	See Attached		0	0		NA	1	13-Aug-2020 12:20

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

ALS Houston, US Date: 21-Aug-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 July 2020
Sample ID: 16WW51-200727
Collection Date: 27-Jul-2020 11:25

ANALYTICAL REPORT
WorkOrder:HS20071328
Lab ID:HS20071328-06
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
1,1,2-Trichloroethane	5.0	U	1.5	5.0	5.0	UG/L	5	05-Aug-2020 18:17
1,1-Dichloroethene	**2.8**	J	**1.0**	**2.5**	**5.0**	**UG/L**	5	05-Aug-2020 18:17
1,2-Dichloroethane	2.5	U	1.0	2.5	5.0	UG/L	5	05-Aug-2020 18:17
cis-1,2-Dichloroethene	**54**		**1.0**	**2.5**	**5.0**	**UG/L**	5	05-Aug-2020 18:17
Methylene chloride	5.0	U	2.0	5.0	10	UG/L	5	05-Aug-2020 18:17
Trichloroethene	**1,300**		**5.0**	**12**	**25**	**UG/L**	25	30-Jul-2020 18:01
Vinyl chloride	2.5	U	1.0	2.5	5.0	UG/L	5	05-Aug-2020 18:17
Surr: 1,2-Dichloroethane-d4	*109*			**0**	*81-118*	*%REC*	*25*	*30-Jul-2020 18:01*
Surr: 1,2-Dichloroethane-d4	*93.3*			**0**	*81-118*	*%REC*	*5*	*05-Aug-2020 18:17*
Surr: 4-Bromofluorobenzene	*99.9*			**0**	*85-114*	*%REC*	*25*	*30-Jul-2020 18:01*
Surr: 4-Bromofluorobenzene	*97.3*			**0**	*85-114*	*%REC*	*5*	*05-Aug-2020 18:17*
Surr: Dibromofluoromethane	*99.0*			**0**	*80-119*	*%REC*	*25*	*30-Jul-2020 18:01*
Surr: Dibromofluoromethane	*94.1*			**0**	*80-119*	*%REC*	*5*	*05-Aug-2020 18:17*
Surr: Toluene-d8	*104*			**0**	*89-112*	*%REC*	*25*	*30-Jul-2020 18:01*
Surr: Toluene-d8	*106*			**0**	*89-112*	*%REC*	*5*	*05-Aug-2020 18:17*
ANIONS BY SW9056A		**Method:SW9056**						Analyst: YP
Bromide	**5.27**		**0.0300**	**0.100**	**0.100**	**mg/L**	1	31-Jul-2020 07:21
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: GR
Subcontract Analysis	See Attached		0	0		NA	1	21-Aug-2020 16:29
SUBCONTRACT ANALYSIS - TOC ANALYSIS		**Method:NA**						Analyst: SUBK
Subcontract Analysis	See Attached		0	0		NA	1	13-Aug-2020 12:20

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

ALS Houston, US Date: 21-Aug-20

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: Longhorn Army Ammunition Plant 16 July 2020 WorkOrder:HS20071328
Sample ID: 16WW51-200727-FD Lab ID:HS20071328-07
Collection Date: 27-Jul-2020 11:25 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	05-Aug-2020 18:41
1,1-Dichloroethene	**3.4**	J	**1.0**	**2.5**	**5.0**	**UG/L**	5	05-Aug-2020 18:41
1,2-Dichloroethane	2.5	U	1.0	2.5	5.0	UG/L	5	05-Aug-2020 18:41
cis-1,2-Dichloroethene	**57**		**1.0**	**2.5**	**5.0**	**UG/L**	5	05-Aug-2020 18:41
Methylene chloride	5.0	U	2.0	5.0	10	UG/L	5	05-Aug-2020 18:41
Trichloroethene	**1,300**		**5.0**	**12**	**25**	**UG/L**	25	30-Jul-2020 18:25
Vinyl chloride	2.5	U	1.0	2.5	5.0	UG/L	5	05-Aug-2020 18:41
Surr: 1,2-Dichloroethane-d4	*108*			**0**	*81-118*	*%REC*	*25*	*30-Jul-2020 18:25*
Surr: 1,2-Dichloroethane-d4	*92.4*			**0**	*81-118*	*%REC*	*5*	*05-Aug-2020 18:41*
Surr: 4-Bromofluorobenzene	*98.1*			**0**	*85-114*	*%REC*	*25*	*30-Jul-2020 18:25*
Surr: 4-Bromofluorobenzene	*97.5*			**0**	*85-114*	*%REC*	*5*	*05-Aug-2020 18:41*
Surr: Dibromofluoromethane	*99.5*			**0**	*80-119*	*%REC*	*25*	*30-Jul-2020 18:25*
Surr: Dibromofluoromethane	*93.7*			**0**	*80-119*	*%REC*	*5*	*05-Aug-2020 18:41*
Surr: Toluene-d8	*104*			**0**	*89-112*	*%REC*	*25*	*30-Jul-2020 18:25*
Surr: Toluene-d8	*106*			**0**	*89-112*	*%REC*	*5*	*05-Aug-2020 18:41*
ANIONS BY SW9056A		**Method:SW9056**						Analyst: YP
Bromide	**5.26**		**0.0300**	**0.100**	**0.100**	**mg/L**	1	31-Jul-2020 07:40
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: GR
Subcontract Analysis	See Attached		0	0		NA	1	21-Aug-2020 16:29
SUBCONTRACT ANALYSIS - TOC ANALYSIS		**Method:NA**						Analyst: SUBK
Subcontract Analysis	See Attached		0	0		NA	1	13-Aug-2020 12:20

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

ALS Houston, US Date: 21-Aug-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 July 2020
Sample ID: 16RW01-200727
Collection Date: 27-Jul-2020 12:20

ANALYTICAL REPORT
WorkOrder:HS20071328
Lab ID:HS20071328-08
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	5.0	U	1.5	5.0	5.0	UG/L	5	06-Aug-2020 17:24
1,1-Dichloroethene	**3.1**	J	**1.0**	**2.5**	**5.0**	**UG/L**	5	06-Aug-2020 17:24
1,2-Dichloroethane	2.5	U	1.0	2.5	5.0	UG/L	5	06-Aug-2020 17:24
cis-1,2-Dichloroethene	**150**		**1.0**	**2.5**	**5.0**	**UG/L**	5	06-Aug-2020 17:24
Methylene chloride	5.0	U	2.0	5.0	10	UG/L	5	06-Aug-2020 17:24
Trichloroethene	**4,200**		**10**	**25**	**50**	**UG/L**	50	06-Aug-2020 19:00
Vinyl chloride	**5.7**		**1.0**	**2.5**	**5.0**	**UG/L**	5	06-Aug-2020 17:24
Surr: 1,2-Dichloroethane-d4	*93.2*			**0**	*81-118*	*%REC*	*5*	*06-Aug-2020 17:24*
Surr: 1,2-Dichloroethane-d4	*91.9*			**0**	*81-118*	*%REC*	*50*	*06-Aug-2020 19:00*
Surr: 4-Bromofluorobenzene	*100*			**0**	*85-114*	*%REC*	*5*	*06-Aug-2020 17:24*
Surr: 4-Bromofluorobenzene	*97.9*			**0**	*85-114*	*%REC*	*50*	*06-Aug-2020 19:00*
Surr: Dibromofluoromethane	*92.9*			**0**	*80-119*	*%REC*	*5*	*06-Aug-2020 17:24*
Surr: Dibromofluoromethane	*92.2*			**0**	*80-119*	*%REC*	*50*	*06-Aug-2020 19:00*
Surr: Toluene-d8	*104*			**0**	*89-112*	*%REC*	*5*	*06-Aug-2020 17:24*
Surr: Toluene-d8	*106*			**0**	*89-112*	*%REC*	*50*	*06-Aug-2020 19:00*
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: GR
Subcontract Analysis	See Attached		0	0		NA	1	21-Aug-2020 16:29

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

ALS Houston, US Date: 21-Aug-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 July 2020
Sample ID: 16WW23-200727
Collection Date: 27-Jul-2020 13:15

ANALYTICAL REPORT
WorkOrder:HS20071328
Lab ID:HS20071328-09
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	30-Jul-2020 20:26
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	30-Jul-2020 20:26
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	30-Jul-2020 20:26
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	30-Jul-2020 20:26
Methylene chloride	1.0	U	0.40	1.0	2.0	UG/L	1	30-Jul-2020 20:26
Trichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	30-Jul-2020 20:26
Vinyl chloride	0.50	U	0.20	0.50	1.0	UG/L	1	30-Jul-2020 20:26
Surr: 1,2-Dichloroethane-d4	*107*			**0**	*81-118*	*%REC*	*1*	*30-Jul-2020 20:26*
Surr: 4-Bromofluorobenzene	*100*			**0**	*85-114*	*%REC*	*1*	*30-Jul-2020 20:26*
Surr: Dibromofluoromethane	*102*			**0**	*80-119*	*%REC*	*1*	*30-Jul-2020 20:26*
Surr: Toluene-d8	*107*			**0**	*89-112*	*%REC*	*1*	*30-Jul-2020 20:26*
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: GR
Subcontract Analysis	See Attached		0	0		NA	1	21-Aug-2020 16:29

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

ALS Houston, US Date: 21-Aug-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 July 2020
Sample ID: 16WW24-200727
Collection Date: 27-Jul-2020 14:05

ANALYTICAL REPORT
WorkOrder:HS20071328
Lab ID:HS20071328-10
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	1.0	U	0.30	1.0	1.0	UG/L	1	30-Jul-2020 20:50
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	30-Jul-2020 20:50
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	30-Jul-2020 20:50
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	30-Jul-2020 20:50
Methylene chloride	1.0	U	0.40	1.0	2.0	UG/L	1	30-Jul-2020 20:50
Trichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	30-Jul-2020 20:50
Vinyl chloride	0.50	U	0.20	0.50	1.0	UG/L	1	30-Jul-2020 20:50
Surr: 1,2-Dichloroethane-d4	*106*			**0**	*81-118*	*%REC*	*1*	*30-Jul-2020 20:50*
Surr: 4-Bromofluorobenzene	*99.4*			**0**	*85-114*	*%REC*	*1*	*30-Jul-2020 20:50*
Surr: Dibromofluoromethane	*99.6*			**0**	*80-119*	*%REC*	*1*	*30-Jul-2020 20:50*
Surr: Toluene-d8	*105*			**0**	*89-112*	*%REC*	*1*	*30-Jul-2020 20:50*
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: GR
Subcontract Analysis	See Attached		0	0		NA	1	21-Aug-2020 16:29

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

ALS Houston, US Date: 21-Aug-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 July 2020
Sample ID: 16EW03-200728
Collection Date: 28-Jul-2020 07:30

ANALYTICAL REPORT
WorkOrder:HS20071328
Lab ID:HS20071328-11
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	25	U	7.5	25	25	UG/L	25	05-Aug-2020 17:29
1,1-Dichloroethene	12	U	5.0	12	25	UG/L	25	05-Aug-2020 17:29
1,2-Dichloroethane	12	U	5.0	12	25	UG/L	25	05-Aug-2020 17:29
cis-1,2-Dichloroethene	**440**		**5.0**	**12**	**25**	**UG/L**	25	05-Aug-2020 17:29
Methylene chloride	25	U	10	25	50	UG/L	25	05-Aug-2020 17:29
Trichloroethene	**60**		**5.0**	**12**	**25**	**UG/L**	25	05-Aug-2020 17:29
Vinyl chloride	12	U	5.0	12	25	UG/L	25	05-Aug-2020 17:29
Surr: 1,2-Dichloroethane-d4	*94.5*			**0**	*81-118*	*%REC*	*25*	*05-Aug-2020 17:29*
Surr: 4-Bromofluorobenzene	*96.7*			**0**	*85-114*	*%REC*	*25*	*05-Aug-2020 17:29*
Surr: Dibromofluoromethane	*95.1*			**0**	*80-119*	*%REC*	*25*	*05-Aug-2020 17:29*
Surr: Toluene-d8	*106*			**0**	*89-112*	*%REC*	*25*	*05-Aug-2020 17:29*
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: GR
Subcontract Analysis	See Attached		0	0		NA	1	21-Aug-2020 16:29

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

ALS Houston, US Date: 21-Aug-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 July 2020
Sample ID: 16EW07-200728
Collection Date: 28-Jul-2020 08:15

ANALYTICAL REPORT
WorkOrder:HS20071328
Lab ID:HS20071328-12
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY SW8260C		**Method:SW8260**						Analyst: PC
1,1,2-Trichloroethane	980	U	240	980	2400	ug/Kg	500	05-Aug-2020 17:05
1,1-Dichloroethene	**10,000**		**240**	**980**	**2400**	**ug/Kg**	500	05-Aug-2020 17:05
1,2-Dichloroethane	980	U	290	980	2400	ug/Kg	500	05-Aug-2020 17:05
cis-1,2-Dichloroethene	**4,100**		**390**	**980**	**2400**	**ug/Kg**	500	05-Aug-2020 17:05
Methylene chloride	980	U	490	980	4900	ug/Kg	500	05-Aug-2020 17:05
Trichloroethene	**5,000**		**290**	**980**	**2400**	**ug/Kg**	500	05-Aug-2020 17:05
Vinyl chloride	980	U	390	980	980	ug/Kg	500	05-Aug-2020 17:05
Surr: 1,2-Dichloroethane-d4	*94.3*			**0**	*71-136*	*%REC*	*500*	*05-Aug-2020 17:05*
Surr: 4-Bromofluorobenzene	*96.8*			**0**	*79-119*	*%REC*	*500*	*05-Aug-2020 17:05*
Surr: Dibromofluoromethane	*93.7*			**0**	*78-119*	*%REC*	*500*	*05-Aug-2020 17:05*
Surr: Toluene-d8	*105*			**0**	*85-116*	*%REC*	*500*	*05-Aug-2020 17:05*
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: GR
Subcontract Analysis	See Attached		0	0		NA	1	21-Aug-2020 16:29

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

ALS Houston, US Date: 21-Aug-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 July 2020
Sample ID: 16EW08-200728
Collection Date: 28-Jul-2020 09:05

ANALYTICAL REPORT
WorkOrder:HS20071328
Lab ID:HS20071328-13
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	05-Aug-2020 17:53
1,1-Dichloroethene	25	U	10	25	50	UG/L	50	05-Aug-2020 17:53
1,2-Dichloroethane	25	U	10	25	50	UG/L	50	05-Aug-2020 17:53
cis-1,2-Dichloroethene	25	U	10	25	50	UG/L	50	05-Aug-2020 17:53
Methylene chloride	50	U	20	50	100	UG/L	50	05-Aug-2020 17:53
Trichloroethene	25	U	10	25	50	UG/L	50	05-Aug-2020 17:53
Vinyl chloride	25	U	10	25	50	UG/L	50	05-Aug-2020 17:53
Surr: 1,2-Dichloroethane-d4	*92.9*			**0**	*81-118*	*%REC*	*50*	*05-Aug-2020 17:53*
Surr: 4-Bromofluorobenzene	*98.0*			**0**	*85-114*	*%REC*	*50*	*05-Aug-2020 17:53*
Surr: Dibromofluoromethane	*93.6*			**0**	*80-119*	*%REC*	*50*	*05-Aug-2020 17:53*
Surr: Toluene-d8	*106*			**0**	*89-112*	*%REC*	*50*	*05-Aug-2020 17:53*
ANIONS BY SW9056A		**Method:SW9056**						Analyst: YP
Bromide	**16.0**		**0.0300**	**0.100**	**0.100**	**mg/L**	1	31-Jul-2020 07:58
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: GR
Subcontract Analysis	See Attached		0	0		NA	1	21-Aug-2020 16:29
SUBCONTRACT ANALYSIS - TOC ANALYSIS		**Method:NA**						Analyst: SUBK
Subcontract Analysis	See Attached		0	0		NA	1	13-Aug-2020 12:20

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

ALS Houston, US Date: 21-Aug-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 July 2020
Sample ID: 16EW04-200728
Collection Date: 28-Jul-2020 09:50

ANALYTICAL REPORT
WorkOrder:HS20071328
Lab ID:HS20071328-14
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	05-Aug-2020 19:05
1,1-Dichloroethene	**20**	J	**5.0**	**12**	**25**	**UG/L**	25	05-Aug-2020 19:05
1,2-Dichloroethane	**13**	J	**5.0**	**12**	**25**	**UG/L**	25	05-Aug-2020 19:05
cis-1,2-Dichloroethene	**4,300**		**5.0**	**12**	**25**	**UG/L**	25	05-Aug-2020 19:05
Methylene chloride	25	U	10	25	50	UG/L	25	05-Aug-2020 19:05
Trichloroethene	**15,000**		**100**	**250**	**500**	**UG/L**	500	05-Aug-2020 21:30
Vinyl chloride	**15**	J	**5.0**	**12**	**25**	**UG/L**	25	05-Aug-2020 19:05
Surr: 1,2-Dichloroethane-d4	*93.4*			**0**	*81-118*	*%REC*	*25*	*05-Aug-2020 19:05*
Surr: 1,2-Dichloroethane-d4	*91.6*			**0**	*81-118*	*%REC*	*500*	*05-Aug-2020 21:30*
Surr: 4-Bromofluorobenzene	*99.8*			**0**	*85-114*	*%REC*	*25*	*05-Aug-2020 19:05*
Surr: 4-Bromofluorobenzene	*97.3*			**0**	*85-114*	*%REC*	*500*	*05-Aug-2020 21:30*
Surr: Dibromofluoromethane	*93.6*			**0**	*80-119*	*%REC*	*25*	*05-Aug-2020 19:05*
Surr: Dibromofluoromethane	*93.6*			**0**	*80-119*	*%REC*	*500*	*05-Aug-2020 21:30*
Surr: Toluene-d8	*105*			**0**	*89-112*	*%REC*	*25*	*05-Aug-2020 19:05*
Surr: Toluene-d8	*106*			**0**	*89-112*	*%REC*	*500*	*05-Aug-2020 21:30*
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: GR
Subcontract Analysis	See Attached		0	0		NA	1	21-Aug-2020 16:29

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

ALS Houston, US Date: 21-Aug-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 July 2020
Sample ID: 16RW04-200728
Collection Date: 28-Jul-2020 10:40

ANALYTICAL REPORT
WorkOrder:HS20071328
Lab ID:HS20071328-15
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
1,1,2-Trichloroethane	10	U	3.0	10	10	UG/L	10	06-Aug-2020 17:48
1,1-Dichloroethene	5.0	U	2.0	5.0	10	UG/L	10	06-Aug-2020 17:48
1,2-Dichloroethane	5.0	U	2.0	5.0	10	UG/L	10	06-Aug-2020 17:48
cis-1,2-Dichloroethene	**150**		**2.0**	**5.0**	**10**	**UG/L**	10	06-Aug-2020 17:48
Methylene chloride	10	U	4.0	10	20	UG/L	10	06-Aug-2020 17:48
Trichloroethene	**3,500**		**20**	**50**	**100**	**UG/L**	100	06-Aug-2020 19:24
Vinyl chloride	**4.1**	J	**2.0**	**5.0**	**10**	**UG/L**	10	06-Aug-2020 17:48
Surr: 1,2-Dichloroethane-d4	*92.7*			**0**	*81-118*	*%REC*	*10*	*06-Aug-2020 17:48*
Surr: 1,2-Dichloroethane-d4	*93.1*			**0**	*81-118*	*%REC*	*100*	*06-Aug-2020 19:24*
Surr: 4-Bromofluorobenzene	*96.7*			**0**	*85-114*	*%REC*	*10*	*06-Aug-2020 17:48*
Surr: 4-Bromofluorobenzene	*98.4*			**0**	*85-114*	*%REC*	*100*	*06-Aug-2020 19:24*
Surr: Dibromofluoromethane	*94.2*			**0**	*80-119*	*%REC*	*10*	*06-Aug-2020 17:48*
Surr: Dibromofluoromethane	*92.8*			**0**	*80-119*	*%REC*	*100*	*06-Aug-2020 19:24*
Surr: Toluene-d8	*105*			**0**	*89-112*	*%REC*	*10*	*06-Aug-2020 17:48*
Surr: Toluene-d8	*106*			**0**	*89-112*	*%REC*	*100*	*06-Aug-2020 19:24*
ANIONS BY SW9056A		**Method:SW9056**						Analyst: YP
Bromide	**2.41**		**0.150**	**0.500**	**0.500**	**mg/L**	5	01-Aug-2020 04:16
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: GR
Subcontract Analysis	See Attached		0	0		NA	1	21-Aug-2020 16:29
SUBCONTRACT ANALYSIS - TOC ANALYSIS		**Method:NA**						Analyst: SUBK
Subcontract Analysis	See Attached		0	0		NA	1	13-Aug-2020 12:20

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

ALS Houston, US Date: 21-Aug-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 July 2020
Sample ID: 16IW03-200728
Collection Date: 28-Jul-2020 11:30

ANALYTICAL REPORT
WorkOrder:HS20071328
Lab ID:HS20071328-16
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	05-Aug-2020 19:30
1,1-Dichloroethene	**51**		**5.0**	**12**	**25**	**UG/L**	25	05-Aug-2020 19:30
1,2-Dichloroethane	12	U	5.0	12	25	UG/L	25	05-Aug-2020 19:30
cis-1,2-Dichloroethene	**14,000**		**100**	**250**	**500**	**UG/L**	500	05-Aug-2020 21:54
Methylene chloride	25	U	10	25	50	UG/L	25	05-Aug-2020 19:30
Trichloroethene	**13,000**		**100**	**250**	**500**	**UG/L**	500	05-Aug-2020 21:54
Vinyl chloride	**460**		**5.0**	**12**	**25**	**UG/L**	25	05-Aug-2020 19:30
Surr: 1,2-Dichloroethane-d4	*93.0*			**0**	*81-118*	*%REC*	*25*	*05-Aug-2020 19:30*
Surr: 1,2-Dichloroethane-d4	*91.8*			**0**	*81-118*	*%REC*	*500*	*05-Aug-2020 21:54*
Surr: 4-Bromofluorobenzene	*98.9*			**0**	*85-114*	*%REC*	*25*	*05-Aug-2020 19:30*
Surr: 4-Bromofluorobenzene	*96.8*			**0**	*85-114*	*%REC*	*500*	*05-Aug-2020 21:54*
Surr: Dibromofluoromethane	*93.6*			**0**	*80-119*	*%REC*	*25*	*05-Aug-2020 19:30*
Surr: Dibromofluoromethane	*94.4*			**0**	*80-119*	*%REC*	*500*	*05-Aug-2020 21:54*
Surr: Toluene-d8	*106*			**0**	*89-112*	*%REC*	*500*	*05-Aug-2020 21:54*
Surr: Toluene-d8	*104*			**0**	*89-112*	*%REC*	*25*	*05-Aug-2020 19:30*
DISSOLVED GASES BY RSK-175		**Method:RSK-175**						Analyst: PVL
Ethane	**0.00746**		**0.000144**	**0.000250**	**0.00100**	**mg/L**	1	30-Jul-2020 10:59
Ethene	**0.0500**		**0.000234**	**0.00100**	**0.00100**	**mg/L**	1	30-Jul-2020 10:59
Methane	**0.946**		**0.00535**	**0.0125**	**0.0250**	**mg/L**	50	30-Jul-2020 11:17
ANIONS BY SW9056A		**Method:SW9056**						Analyst: YP
Bromide	**0.973**		**0.0300**	**0.100**	**0.100**	**mg/L**	1	30-Jul-2020 00:21
Nitrogen, Nitrate (As N)	**0.851**		**0.0600**	**0.200**	**0.200**	**mg/L**	2	30-Jul-2020 10:32
Sulfate	**18.7**		**0.400**	**1.00**	**1.00**	**mg/L**	2	30-Jul-2020 10:32
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: GR
Subcontract Analysis	See Attached		0	0		NA	1	21-Aug-2020 16:29
SUBCONTRACT ANALYSIS - TOC ANALYSIS		**Method:NA**						Analyst: SUBK
Subcontract Analysis	See Attached		0	0		NA	1	13-Aug-2020 12:20

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

ALS Houston, US Date: 21-Aug-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 July 2020
Sample ID: 16SW01-200728
Collection Date: 27-Jul-2020 12:10

ANALYTICAL REPORT
WorkOrder:HS20071328
Lab ID:HS20071328-17
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	30-Jul-2020 21:38
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	30-Jul-2020 21:38
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	30-Jul-2020 21:38
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	30-Jul-2020 21:38
Methylene chloride	1.0	U	0.40	1.0	2.0	UG/L	1	30-Jul-2020 21:38
Trichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	30-Jul-2020 21:38
Vinyl chloride	0.50	U	0.20	0.50	1.0	UG/L	1	30-Jul-2020 21:38
Surr: 1,2-Dichloroethane-d4	*104*			**0**	*81-118*	*%REC*	*1*	*30-Jul-2020 21:38*
Surr: 4-Bromofluorobenzene	*99.9*			**0**	*85-114*	*%REC*	*1*	*30-Jul-2020 21:38*
Surr: Dibromofluoromethane	*100*			**0**	*80-119*	*%REC*	*1*	*30-Jul-2020 21:38*
Surr: Toluene-d8	*107*			**0**	*89-112*	*%REC*	*1*	*30-Jul-2020 21:38*
METALS BY ICPMS BY SW6020A		**Method:SW6020**				Prep:SW3010A / 05-Aug-2020		Analyst: JHD
Arsenic	**0.00195**	J	**0.000400**	**0.00100**	**0.00500**	**mg/L**	1	06-Aug-2020 12:57
Chromium	**0.00189**	J	**0.000400**	**0.00100**	**0.00500**	**mg/L**	1	06-Aug-2020 12:57
Manganese	**1.05**		**0.000700**	**0.00250**	**0.00500**	**mg/L**	1	06-Aug-2020 12:57
Nickel	**0.00364**	J	**0.000600**	**0.00100**	**0.00500**	**mg/L**	1	06-Aug-2020 12:57
Thallium	0.000500	U	0.000200	0.000500	0.00200	mg/L	1	06-Aug-2020 12:57
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: GR
Subcontract Analysis	See Attached		0	0		NA	1	21-Aug-2020 16:29

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

ALS Houston, US Date: 21-Aug-20

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: Longhorn Army Ammunition Plant 16 July 2020 WorkOrder:HS20071328
Sample ID: 16SW02-200728 Lab ID:HS20071328-18
Collection Date: 28-Jul-2020 12:30 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	30-Jul-2020 18:49
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	30-Jul-2020 18:49
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	30-Jul-2020 18:49
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	30-Jul-2020 18:49
Methylene chloride	1.0	U	0.40	1.0	2.0	UG/L	1	30-Jul-2020 18:49
Trichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	30-Jul-2020 18:49
Vinyl chloride	0.50	U	0.20	0.50	1.0	UG/L	1	30-Jul-2020 18:49
Surr: 1,2-Dichloroethane-d4	*109*			**0**	*81-118*	*%REC*	*1*	*30-Jul-2020 18:49*
Surr: 4-Bromofluorobenzene	*96.6*			**0**	*85-114*	*%REC*	*1*	*30-Jul-2020 18:49*
Surr: Dibromofluoromethane	*100*			**0**	*80-119*	*%REC*	*1*	*30-Jul-2020 18:49*
Surr: Toluene-d8	*103*			**0**	*89-112*	*%REC*	*1*	*30-Jul-2020 18:49*
METALS BY ICPMS BY SW6020A		**Method:SW6020**				Prep:SW3010A / 05-Aug-2020		Analyst: JHD
Arsenic	**0.00209**	J	**0.000400**	**0.00100**	**0.00500**	**mg/L**	1	06-Aug-2020 13:00
Chromium	**0.00196**	J	**0.000400**	**0.00100**	**0.00500**	**mg/L**	1	06-Aug-2020 13:00
Manganese	**1.42**		**0.000700**	**0.00250**	**0.00500**	**mg/L**	1	06-Aug-2020 13:00
Nickel	**0.00398**	J	**0.000600**	**0.00100**	**0.00500**	**mg/L**	1	06-Aug-2020 13:00
Thallium	0.000500	U	0.000200	0.000500	0.00200	mg/L	1	06-Aug-2020 13:00
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: GR
Subcontract Analysis	See Attached		0	0		NA	1	21-Aug-2020 16:29

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

ALS Houston, US Date: 21-Aug-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 July 2020
Sample ID: 16SW03-200728
Collection Date: 28-Jul-2020 12:50

ANALYTICAL REPORT
WorkOrder:HS20071328
Lab ID:HS20071328-19
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-Aug-2020 16:41
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	05-Aug-2020 16:41
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	05-Aug-2020 16:41
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	05-Aug-2020 16:41
Methylene chloride	1.0	U	0.40	1.0	2.0	UG/L	1	05-Aug-2020 16:41
Trichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	05-Aug-2020 16:41
Vinyl chloride	0.50	U	0.20	0.50	1.0	UG/L	1	05-Aug-2020 16:41
Surr: 1,2-Dichloroethane-d4	*92.2*			**0**	*81-118*	*%REC*	*1*	*05-Aug-2020 16:41*
Surr: 4-Bromofluorobenzene	*98.0*			**0**	*85-114*	*%REC*	*1*	*05-Aug-2020 16:41*
Surr: Dibromofluoromethane	*93.3*			**0**	*80-119*	*%REC*	*1*	*05-Aug-2020 16:41*
Surr: Toluene-d8	*107*			**0**	*89-112*	*%REC*	*1*	*05-Aug-2020 16:41*
METALS BY ICPMS BY SW6020A		**Method:SW6020**				Prep:SW3010A / 05-Aug-2020		Analyst: JHD
Arsenic	**0.00180**	J	**0.000400**	**0.00100**	**0.00500**	**mg/L**	1	06-Aug-2020 12:49
Chromium	**0.00212**	J	**0.000400**	**0.00100**	**0.00500**	**mg/L**	1	06-Aug-2020 12:49
Manganese	**0.687**		**0.000700**	**0.00250**	**0.00500**	**mg/L**	1	06-Aug-2020 12:49
Nickel	**0.00320**	J	**0.000600**	**0.00100**	**0.00500**	**mg/L**	1	06-Aug-2020 12:49
Thallium	0.000500	U	0.000200	0.000500	0.00200	mg/L	1	06-Aug-2020 12:49
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: GR
Subcontract Analysis	See Attached		0	0		NA	1	21-Aug-2020 16:29

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

ALS Houston, US Date: 21-Aug-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 July 2020
Sample ID: Trip Blank-200728
Collection Date: 28-Jul-2020 00:00

ANALYTICAL REPORT
WorkOrder:HS20071328
Lab ID:HS20071328-20
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	30-Jul-2020 13:37
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	30-Jul-2020 13:37
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	30-Jul-2020 13:37
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	30-Jul-2020 13:37
Methylene chloride	1.0	U	0.40	1.0	2.0	UG/L	1	30-Jul-2020 13:37
Trichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	30-Jul-2020 13:37
Vinyl chloride	0.50	U	0.20	0.50	1.0	UG/L	1	30-Jul-2020 13:37
Surr: 1,2-Dichloroethane-d4	*106*			**0**	*81-118*	*%REC*	*1*	*30-Jul-2020 13:37*
Surr: 4-Bromofluorobenzene	*101*			**0**	*85-114*	*%REC*	*1*	*30-Jul-2020 13:37*
Surr: Dibromofluoromethane	*99.3*			**0**	*80-119*	*%REC*	*1*	*30-Jul-2020 13:37*
Surr: Toluene-d8	*106*			**0**	*89-112*	*%REC*	*1*	*30-Jul-2020 13:37*

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

Weight / Prep Log

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 July 2020
WorkOrder: HS20071328

Batch ID: 3840 **Start Date:** 30 Jul 2020 08:51 **End Date:** 30 Jul 2020 08:51
Method: VOLATILES ORGANICS BY SW8260C

Sample ID	Container	Sample Wt/Vol	Final Volume	Weight Factor	Container Type
HS20071328-12	1	5.098 (g)	5 (mL)	0.98	Bulk (5030B)

Batch ID: 156069 **Start Date:** 05 Aug 2020 13:00 **End Date:** 05 Aug 2020 17:00
Method: WATER - SW3010A **Prep Code:** 3010A

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS20071328-17		10 (mL)	10 (mL)	1
HS20071328-18		10 (mL)	10 (mL)	1
HS20071328-19		10 (mL)	10 (mL)	1

ALS Houston, US Date: 21-Aug-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 July 2020
WorkOrder: HS20071328

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: 156069 (0)	**Test Name :** METALS BY ICPMS BY SW6020A				**Matrix:** Groundwater	
HS20071328-17	16SW01-200728	27 Jul 2020 12:10		05 Aug 2020 17:00	06 Aug 2020 12:57	1
HS20071328-18	16SW02-200728	28 Jul 2020 12:30		05 Aug 2020 17:00	06 Aug 2020 13:00	1
HS20071328-19	16SW03-200728	28 Jul 2020 12:50		05 Aug 2020 17:00	06 Aug 2020 12:49	1
Batch ID: R365932 (0)	**Test Name :** DISSOLVED GASES BY RSK-175				**Matrix:** Groundwater	
HS20071328-16	16IW03-200728	28 Jul 2020 11:30			30 Jul 2020 11:17	50
HS20071328-16	16IW03-200728	28 Jul 2020 11:30			30 Jul 2020 10:59	1
Batch ID: R365975 (0)	**Test Name :** VOLATILES ORGANICS BY METHOD 8260C				**Matrix:** Water	
HS20071328-20	Trip Blank-200728	28 Jul 2020 00:00			30 Jul 2020 13:37	1
Batch ID: R365975 (0)	**Test Name :** VOLATILES ORGANICS BY METHOD 8260C				**Matrix:** Groundwater	
HS20071328-01	16WW32-200727	27 Jul 2020 08:05			30 Jul 2020 14:01	1
HS20071328-02	16WW31-200727	27 Jul 2020 08:50			30 Jul 2020 19:14	1
HS20071328-03	16WW46-200727	27 Jul 2020 09:40			30 Jul 2020 19:38	1
HS20071328-04	16WW46-200727-FD	27 Jul 2020 08:05			30 Jul 2020 20:02	1
HS20071328-05	16WW49-200727	27 Jul 2020 10:30			30 Jul 2020 17:37	5
HS20071328-05	16WW49-200727	27 Jul 2020 10:30			30 Jul 2020 15:13	1
HS20071328-06	16WW51-200727	27 Jul 2020 11:25			30 Jul 2020 18:01	25
HS20071328-07	16WW51-200727-FD	27 Jul 2020 11:25			30 Jul 2020 18:25	25
HS20071328-09	16WW23-200727	27 Jul 2020 13:15			30 Jul 2020 20:26	1
HS20071328-10	16WW24-200727	27 Jul 2020 14:05			30 Jul 2020 20:50	1
HS20071328-17	16SW01-200728	27 Jul 2020 12:10			30 Jul 2020 21:38	1
HS20071328-18	16SW02-200728	28 Jul 2020 12:30			30 Jul 2020 18:49	1
Batch ID: R366006 (0)	**Test Name :** ANIONS BY SW9056A				**Matrix:** Groundwater	
HS20071328-05	16WW49-200727	27 Jul 2020 10:30			31 Jul 2020 07:03	1
HS20071328-06	16WW51-200727	27 Jul 2020 11:25			31 Jul 2020 07:21	1
HS20071328-07	16WW51-200727-FD	27 Jul 2020 11:25			31 Jul 2020 07:40	1
HS20071328-13	16EW08-200728	28 Jul 2020 09:05			31 Jul 2020 07:58	1
HS20071328-16	16IW03-200728	28 Jul 2020 11:30			30 Jul 2020 10:32	2
HS20071328-16	16IW03-200728	28 Jul 2020 11:30			30 Jul 2020 00:21	1
Batch ID: R366038 (0)	**Test Name :** ANIONS BY SW9056A				**Matrix:** Groundwater	
HS20071328-15	16RW04-200728	28 Jul 2020 10:40			01 Aug 2020 04:16	5

ALS Houston, US Date: 21-Aug-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 July 2020
WorkOrder: HS20071328

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: R366275 (0)	**Test Name :** VOLATILES ORGANICS BY METHOD 8260C				**Matrix:** Groundwater	
HS20071328-06	16WW51-200727	27 Jul 2020 11:25			05 Aug 2020 18:17	5
HS20071328-07	16WW51-200727-FD	27 Jul 2020 11:25			05 Aug 2020 18:41	5
HS20071328-11	16EW03-200728	28 Jul 2020 07:30			05 Aug 2020 17:29	25
HS20071328-13	16EW08-200728	28 Jul 2020 09:05			05 Aug 2020 17:53	50
HS20071328-14	16EW04-200728	28 Jul 2020 09:50			05 Aug 2020 21:30	500
HS20071328-14	16EW04-200728	28 Jul 2020 09:50			05 Aug 2020 19:05	25
HS20071328-16	16IW03-200728	28 Jul 2020 11:30			05 Aug 2020 21:54	500
HS20071328-16	16IW03-200728	28 Jul 2020 11:30			05 Aug 2020 19:30	25
HS20071328-19	16SW03-200728	28 Jul 2020 12:50			05 Aug 2020 16:41	1
Batch ID: R366276 (0)	**Test Name :** VOLATILES ORGANICS BY SW8260C				**Matrix:** Groundwater	
HS20071328-12	16EW07-200728	28 Jul 2020 08:15			05 Aug 2020 17:05	500
Batch ID: R366355 (0)	**Test Name :** VOLATILES ORGANICS BY METHOD 8260C				**Matrix:** Groundwater	
HS20071328-08	16RW01-200727	27 Jul 2020 12:20			06 Aug 2020 19:00	50
HS20071328-08	16RW01-200727	27 Jul 2020 12:20			06 Aug 2020 17:24	5
HS20071328-15	16RW04-200728	28 Jul 2020 10:40			06 Aug 2020 19:24	100
HS20071328-15	16RW04-200728	28 Jul 2020 10:40			06 Aug 2020 17:48	10
Batch ID: R366701 (0)	**Test Name :** SUBCONTRACT ANALYSIS - TOC ANALYSIS				**Matrix:** Groundwater	
HS20071328-05	16WW49-200727	27 Jul 2020 10:30			13 Aug 2020 12:20	1
HS20071328-06	16WW51-200727	27 Jul 2020 11:25			13 Aug 2020 12:20	1
HS20071328-07	16WW51-200727-FD	27 Jul 2020 11:25			13 Aug 2020 12:20	1
HS20071328-13	16EW08-200728	28 Jul 2020 09:05			13 Aug 2020 12:20	1
HS20071328-15	16RW04-200728	28 Jul 2020 10:40			13 Aug 2020 12:20	1
HS20071328-16	16IW03-200728	28 Jul 2020 11:30			13 Aug 2020 12:20	1

ALS Houston, US Date: 21-Aug-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 July 2020
WorkOrder: HS20071328

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: R367235 (0)	**Test Name :** SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)				**Matrix:** Groundwater	
HS20071328-01	16WW32-200727	27 Jul 2020 08:05			21 Aug 2020 16:29	1
HS20071328-02	16WW31-200727	27 Jul 2020 08:50			21 Aug 2020 16:29	1
HS20071328-03	16WW46-200727	27 Jul 2020 09:40			21 Aug 2020 16:29	1
HS20071328-04	16WW46-200727-FD	27 Jul 2020 08:05			21 Aug 2020 16:29	1
HS20071328-05	16WW49-200727	27 Jul 2020 10:30			21 Aug 2020 16:29	1
HS20071328-06	16WW51-200727	27 Jul 2020 11:25			21 Aug 2020 16:29	1
HS20071328-07	16WW51-200727-FD	27 Jul 2020 11:25			21 Aug 2020 16:29	1
HS20071328-08	16RW01-200727	27 Jul 2020 12:20			21 Aug 2020 16:29	1
HS20071328-09	16WW23-200727	27 Jul 2020 13:15			21 Aug 2020 16:29	1
HS20071328-10	16WW24-200727	27 Jul 2020 14:05			21 Aug 2020 16:29	1
HS20071328-11	16EW03-200728	28 Jul 2020 07:30			21 Aug 2020 16:29	1
HS20071328-12	16EW07-200728	28 Jul 2020 08:15			21 Aug 2020 16:29	1
HS20071328-13	16EW08-200728	28 Jul 2020 09:05			21 Aug 2020 16:29	1
HS20071328-14	16EW04-200728	28 Jul 2020 09:50			21 Aug 2020 16:29	1
HS20071328-15	16RW04-200728	28 Jul 2020 10:40			21 Aug 2020 16:29	1
HS20071328-16	16IW03-200728	28 Jul 2020 11:30			21 Aug 2020 16:29	1
HS20071328-17	16SW01-200728	27 Jul 2020 12:10			21 Aug 2020 16:29	1
HS20071328-18	16SW02-200728	28 Jul 2020 12:30			21 Aug 2020 16:29	1
HS20071328-19	16SW03-200728	28 Jul 2020 12:50			21 Aug 2020 16:29	1

ALS Houston, US Date: 21-Aug-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 July 2020
WorkOrder: HS20071328

QC BATCH REPORT

Batch ID: R365932 (0) **Instrument:** FID-4 **Method:** DISSOLVED GASES BY RSK-175

MBLK Sample ID: **MBLK-200730** Units: **mg/L** Analysis Date: **30-Jul-2020 09:41**
Client ID: Run ID: **FID-4_365932** SeqNo: **5680051** PrepDate: DF: **1**

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

LCS Sample ID: **LCS-200730** Units: **mg/L** Analysis Date: **30-Jul-2020 09:16**
Client ID: Run ID: **FID-4_365932** SeqNo: **5680049** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethane	0.0196	0.00100	0.01804	0	109	75 - 125				
Ethene	0.0171	0.00100	0.0168	0	102	75 - 125				
Methane	0.0103	0.000500	0.009647	0	107	75 - 125				

LCSD Sample ID: **LCSD-200730** Units: **mg/L** Analysis Date: **30-Jul-2020 09:29**
Client ID: Run ID: **FID-4_365932** SeqNo: **5680050** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethane	0.0189	0.00100	0.01804	0	105	75 - 125	0.01961	3.6	30	
Ethene	0.0163	0.00100	0.0168	0	97.0	75 - 125	0.01710	4.84	30	
Methane	0.00925	0.000500	0.009647	0	95.9	75 - 125	0.01031	10.8	30	

DUP Sample ID: **HS20071296-02DUP** Units: **mg/L** Analysis Date: **30-Jul-2020 11:45**
Client ID: Run ID: **FID-4_365932** SeqNo: **5680063** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethane	0.000250	0.00100					0.0002696	0	30	U
Ethene	0.00117	0.00100					0.0008246	34.3	30	R
Methane	0.0178	0.000500					0.01879	5.28	30	

The following samples were analyzed in this batch: HS20071328-16

ALS Houston, US Date: 21-Aug-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 July 2020
WorkOrder: HS20071328

QC BATCH REPORT

Batch ID: 156069 (0) **Instrument: ICPMS04** **Method: METALS BY ICPMS BY SW6020A**

MBLK Sample ID: **MBLK-156069** Units: **mg/L** Analysis Date: **06-Aug-2020 12:42**
Client ID: Run ID: **ICPMS04_366271** SeqNo: **5687690** PrepDate: **05-Aug-2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.00100	0.00500								U
Chromium	0.00100	0.00500								U
Manganese	0.00250	0.00500								U
Nickel	0.00100	0.00500								U
Thallium	0.000500	0.00200								U

LCS Sample ID: **LCS-156069** Units: **mg/L** Analysis Date: **06-Aug-2020 12:44**
Client ID: Run ID: **ICPMS04_366271** SeqNo: **5687691** PrepDate: **05-Aug-2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.05045	0.00500	0.05	0	101	84 - 116				
Chromium	0.04801	0.00500	0.05	0	96.0	85 - 116				
Manganese	0.04904	0.00500	0.05	0	98.1	87 - 115				
Nickel	0.05047	0.00500	0.05	0	101	85 - 117				
Thallium	0.04821	0.00200	0.05	0	96.4	82 - 116				

MS Sample ID: **HS20071328-19MS** Units: **mg/L** Analysis Date: **06-Aug-2020 17:23**
Client ID: **16SW03-200728** Run ID: **ICPMS04_366271** SeqNo: **5687911** PrepDate: **05-Aug-2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.05034	0.00500	0.05	0.001795	97.1	84 - 116				
Chromium	0.04739	0.00500	0.05	0.002125	90.5	85 - 116				
Manganese	0.7258	0.00500	0.05	0.6865	78.6	87 - 115				SO
Nickel	0.04902	0.00500	0.05	0.003201	91.6	85 - 117				
Thallium	0.04585	0.00200	0.05	0	91.7	82 - 116				

ALS Houston, US Date: 21-Aug-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 July 2020
WorkOrder: HS20071328

QC BATCH REPORT

Batch ID: 156069 (0) **Instrument: ICPMS04** **Method: METALS BY ICPMS BY SW6020A**

MSD Sample ID: **HS20071328-19MSD** Units: **mg/L** Analysis Date: **06-Aug-2020 17:26**
Client ID: **16SW03-200728** Run ID: **ICPMS04_366271** SeqNo: **5687912** PrepDate: **05-Aug-2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.04953	0.00500	0.05	0.001795	95.5	84 - 116	0.05034	1.62	20	
Chromium	0.04587	0.00500	0.05	0.002125	87.5	85 - 116	0.04739	3.25	20	
Manganese	0.7039	0.00500	0.05	0.6865	34.8	87 - 115	0.7258	3.06	20	SO
Nickel	0.04761	0.00500	0.05	0.003201	88.8	85 - 117	0.04902	2.91	20	
Thallium	0.04581	0.00200	0.05	0	91.6	82 - 116	0.04585	0.072	20	

PDS Sample ID: **HS20071328-19PDS** Units: **mg/L** Analysis Date: **06-Aug-2020 12:56**
Client ID: **16SW03-200728** Run ID: **ICPMS04_366271** SeqNo: **5687696** PrepDate: **05-Aug-2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.1206	0.00500	0.1	0.001795	119	80 - 120				
Chromium	0.1145	0.00500	0.1	0.002125	112	80 - 120				
Manganese	0.7857	0.00500	0.1	0.6865	99.2	80 - 120				O
Nickel	0.117	0.00500	0.1	0.003201	114	80 - 120				
Thallium	0.1078	0.00200	0.1	0.00003	108	80 - 120				

SD Sample ID: **HS20071328-19SD** Units: **mg/L** Analysis Date: **06-Aug-2020 12:46**
Client ID: **16SW03-200728** Run ID: **ICPMS04_366271** SeqNo: **5687692** PrepDate: **05-Aug-2020** DF: **5**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit	Qual
Arsenic	0.00500	0.0250					0.001795	0	10	U
Chromium	0.002258	0.0250					0.002125	0	10	J
Manganese	0.608	0.0250					0.6865	11.4	10	R
Nickel	0.003246	0.0250					0.003201	0	10	J
Thallium	0.00250	0.0100					0.00003	0	10	U

The following samples were analyzed in this batch: HS20071328-17 HS20071328-18 HS20071328-19

ALS Houston, US Date: 21-Aug-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 July 2020
WorkOrder: HS20071328

QC BATCH REPORT

Batch ID: R365975 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MBLK Sample ID: **VBLKW-200730** Units: **UG/L** Analysis Date: **30-Jul-2020 13:13**
Client ID: Run ID: **VOA6_365975** SeqNo: **5681126** 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	*53.79*	*1.0*	*50*	*0*	*108*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*50.09*	*1.0*	*50*	*0*	*100*	*85 - 114*				
Surr: Dibromofluoromethane	*50.32*	*1.0*	*50*	*0*	*101*	*80 - 119*				
Surr: Toluene-d8	*53.45*	*1.0*	*50*	*0*	*107*	*89 - 112*				

LCS Sample ID: **VLCSW-200730** Units: **UG/L** Analysis Date: **30-Jul-2020 12:25**
Client ID: Run ID: **VOA6_365975** SeqNo: **5681125** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,2-Trichloroethane	20.54	1.0	20	0	103	80 - 119				
1,1-Dichloroethene	21.44	1.0	20	0	107	71 - 131				
1,2-Dichloroethane	22.82	1.0	20	0	114	73 - 128				
cis-1,2-Dichloroethene	20.76	1.0	20	0	104	78 - 123				
Methylene chloride	26.7	2.0	20	0	133	74 - 124				S
Trichloroethene	18.17	1.0	20	0	90.8	79 - 123				
Vinyl chloride	19.3	1.0	20	0	96.5	58 - 137				
Surr: 1,2-Dichloroethane-d4	*57.81*	*1.0*	*50*	*0*	*116*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*46.76*	*1.0*	*50*	*0*	*93.5*	*85 - 114*				
Surr: Dibromofluoromethane	*50.16*	*1.0*	*50*	*0*	*100*	*80 - 119*				
Surr: Toluene-d8	*44.93*	*1.0*	*50*	*0*	*89.9*	*89 - 112*				

ALS Houston, US Date: 21-Aug-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 July 2020
WorkOrder: HS20071328

QC BATCH REPORT

Batch ID: R365975 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MS Sample ID: **HS20071328-01MS** Units: **UG/L** Analysis Date: **30-Jul-2020 16:49**
Client ID: **16WW32-200727** Run ID: **VOA6_365975** SeqNo: **5681132** 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	19.22	1.0	20	0	96.1	80 - 119				
1,1-Dichloroethene	26.96	1.0	20	0	135	71 - 131				S
1,2-Dichloroethane	24.42	1.0	20	0	122	73 - 128				
cis-1,2-Dichloroethene	27.61	1.0	20	0	138	78 - 123				S
Methylene chloride	26.23	2.0	20	0	131	74 - 124				S
Trichloroethene	17.88	1.0	20	0	89.4	79 - 123				
Vinyl chloride	25.05	1.0	20	0	125	58 - 137				
Surr: 1,2-Dichloroethane-d4	*62.13*	*1.0*	*50*	*0*	*124*	*81 - 118*				S
Surr: 4-Bromofluorobenzene	*43.8*	*1.0*	*50*	*0*	*87.6*	*85 - 114*				
Surr: Dibromofluoromethane	*62.87*	*1.0*	*50*	*0*	*126*	*80 - 119*				S
Surr: Toluene-d8	*40.36*	*1.0*	*50*	*0*	*80.7*	*89 - 112*				S

MSD Sample ID: **HS20071328-01MSD** Units: **UG/L** Analysis Date: **30-Jul-2020 17:13**
Client ID: **16WW32-200727** Run ID: **VOA6_365975** SeqNo: **5681133** 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	24.25	1.0	20	0	121	80 - 119	19.22	23.2	20	SR
1,1-Dichloroethene	25.29	1.0	20	0	126	71 - 131	26.96	6.41	20	
1,2-Dichloroethane	26.27	1.0	20	0	131	73 - 128	24.42	7.28	20	S
cis-1,2-Dichloroethene	23.48	1.0	20	0	117	78 - 123	27.61	16.1	20	
Methylene chloride	24.39	2.0	20	0	122	74 - 124	26.23	7.27	20	
Trichloroethene	21.54	1.0	20	0	108	79 - 123	17.88	18.6	20	
Vinyl chloride	23.9	1.0	20	0	120	58 - 137	25.05	4.68	20	
Surr: 1,2-Dichloroethane-d4	*56.79*	*1.0*	*50*	*0*	*114*	*81 - 118*	*62.13*	*8.98*	*20*	
Surr: 4-Bromofluorobenzene	*51.82*	*1.0*	*50*	*0*	*104*	*85 - 114*	*43.8*	*16.8*	*20*	
Surr: Dibromofluoromethane	*50.4*	*1.0*	*50*	*0*	*101*	*80 - 119*	*62.87*	*22*	*20*	R
Surr: Toluene-d8	*50.88*	*1.0*	*50*	*0*	*102*	*89 - 112*	*40.36*	*23*	*20*	R

The following samples were analyzed in this batch:

HS20071328-01	HS20071328-02	HS20071328-03	HS20071328-04
HS20071328-05	HS20071328-06	HS20071328-07	HS20071328-09
HS20071328-10	HS20071328-17	HS20071328-18	HS20071328-20

ALS Houston, US Date: 21-Aug-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 July 2020
WorkOrder: HS20071328

QC BATCH REPORT

Batch ID: R366275 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MBLK Sample ID: **VBLKW-200805** Units: **UG/L** Analysis Date: **05-Aug-2020 16:17**
Client ID: Run ID: **VOA6_366275** SeqNo: **5686874** 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	*46.31*	*1.0*	*50*	*0*	*92.6*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*48.23*	*1.0*	*50*	*0*	*96.5*	*85 - 114*				
Surr: Dibromofluoromethane	*46.36*	*1.0*	*50*	*0*	*92.7*	*80 - 119*				
Surr: Toluene-d8	*53.35*	*1.0*	*50*	*0*	*107*	*89 - 112*				

LCS Sample ID: **VLCSW-200805** Units: **UG/L** Analysis Date: **05-Aug-2020 15:05**
Client ID: Run ID: **VOA6_366275** SeqNo: **5686873** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,2-Trichloroethane	20.15	1.0	20	0	101	80 - 119				
1,1-Dichloroethene	20.5	1.0	20	0	103	71 - 131				
1,2-Dichloroethane	20.36	1.0	20	0	102	73 - 128				
cis-1,2-Dichloroethene	20.15	1.0	20	0	101	78 - 123				
Methylene chloride	19.85	2.0	20	0	99.2	74 - 124				
Trichloroethene	20.18	1.0	20	0	101	79 - 123				
Vinyl chloride	19.98	1.0	20	0	99.9	58 - 137				
Surr: 1,2-Dichloroethane-d4	*51.64*	*1.0*	*50*	*0*	*103*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*48.74*	*1.0*	*50*	*0*	*97.5*	*85 - 114*				
Surr: Dibromofluoromethane	*49.14*	*1.0*	*50*	*0*	*98.3*	*80 - 119*				
Surr: Toluene-d8	*49.05*	*1.0*	*50*	*0*	*98.1*	*89 - 112*				

ALS Houston, US Date: 21-Aug-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 July 2020
WorkOrder: HS20071328

QC BATCH REPORT

Batch ID: R366275 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MS Sample ID: **HS20071328-19MS** Units: **UG/L** Analysis Date: **05-Aug-2020 20:42**
Client ID: **16SW03-200728** Run ID: **VOA6_366275** SeqNo: **5686882** 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	23	1.0	20	0	115	80 - 119				
1,1-Dichloroethene	25.65	1.0	20	0	128	71 - 131				
1,2-Dichloroethane	23.39	1.0	20	0	117	73 - 128				
cis-1,2-Dichloroethene	23.46	1.0	20	0	117	78 - 123				
Methylene chloride	22.55	2.0	20	0	113	74 - 124				
Trichloroethene	24.67	1.0	20	0	123	79 - 123				S
Vinyl chloride	24.66	1.0	20	0	123	58 - 137				
Surr: 1,2-Dichloroethane-d4	*46.39*	*1.0*	*50*	*0*	*92.8*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*49*	*1.0*	*50*	*0*	*98.0*	*85 - 114*				
Surr: Dibromofluoromethane	*47.21*	*1.0*	*50*	*0*	*94.4*	*80 - 119*				
Surr: Toluene-d8	*51.94*	*1.0*	*50*	*0*	*104*	*89 - 112*				

MSD Sample ID: **HS20071328-19MSD** Units: **UG/L** Analysis Date: **05-Aug-2020 21:06**
Client ID: **16SW03-200728** Run ID: **VOA6_366275** SeqNo: **5686883** 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	23.46	1.0	20	0	117	80 - 119	23	1.94	20	
1,1-Dichloroethene	25.07	1.0	20	0	125	71 - 131	25.65	2.29	20	
1,2-Dichloroethane	23.82	1.0	20	0	119	73 - 128	23.39	1.81	20	
cis-1,2-Dichloroethene	22.82	1.0	20	0	114	78 - 123	23.46	2.75	20	
Methylene chloride	22.23	2.0	20	0	111	74 - 124	22.55	1.41	20	
Trichloroethene	24.36	1.0	20	0	122	79 - 123	24.67	1.28	20	
Vinyl chloride	23.66	1.0	20	0	118	58 - 137	24.66	4.11	20	
Surr: 1,2-Dichloroethane-d4	*45.92*	*1.0*	*50*	*0*	*91.8*	*81 - 118*	*46.39*	*1.02*	*20*	
Surr: 4-Bromofluorobenzene	*48.06*	*1.0*	*50*	*0*	*96.1*	*85 - 114*	*49*	*1.94*	*20*	
Surr: Dibromofluoromethane	*47.11*	*1.0*	*50*	*0*	*94.2*	*80 - 119*	*47.21*	*0.221*	*20*	
Surr: Toluene-d8	*53.12*	*1.0*	*50*	*0*	*106*	*89 - 112*	*51.94*	*2.24*	*20*	

The following samples were analyzed in this batch:

HS20071328-06	HS20071328-07	HS20071328-11	HS20071328-13
HS20071328-14	HS20071328-16	HS20071328-19	

ALS Houston, US Date: 21-Aug-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 July 2020
WorkOrder: HS20071328

QC BATCH REPORT

Batch ID: R366276 (0) **Instrument: VOA6** **Method: VOLATILES ORGANICS BY SW8260C**

MBLK Sample ID: **VBLKM-200805** Units: **ug/Kg** Analysis Date: **05-Aug-2020 15:53**
Client ID: Run ID: **VOA6_366276** SeqNo: **5686892** PrepDate: DF: **50**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,2-Trichloroethane	100	250								U
1,1-Dichloroethene	100	250								U
1,2-Dichloroethane	100	250								U
cis-1,2-Dichloroethene	100	250								U
Methylene chloride	100	500								U
Trichloroethene	100	250								U
Vinyl chloride	100	100								U
Surr: Toluene-d8	*2594*	*250*	*2500*	*0*	*104*	*85 - 116*				
Surr: 1,2-Dichloroethane-d4	*2332*	*250*	*2500*	*0*	*93.3*	*71 - 136*				
Surr: 4-Bromofluorobenzene	*2499*	*250*	*2500*	*0*	*100.0*	*79 - 119*				
Surr: Dibromofluoromethane	*2334*	*250*	*2500*	*0*	*93.4*	*78 - 119*				

LCS Sample ID: **VLCSW-200805** Units: **UG/L** Analysis Date: **05-Aug-2020 15:05**
Client ID: Run ID: **VOA6_366276** SeqNo: **5686890** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,2-Trichloroethane	20.15	1.0	20	0	101	80 - 119				
1,1-Dichloroethene	20.5	1.0	20	0	103	71 - 131				
1,2-Dichloroethane	20.36	1.0	20	0	102	73 - 128				
cis-1,2-Dichloroethene	20.15	1.0	20	0	101	78 - 123				
Methylene chloride	19.85	2.0	20	0	99.2	74 - 124				
Trichloroethene	20.18	1.0	20	0	101	79 - 123				
Vinyl chloride	19.98	1.0	20	0	99.9	58 - 137				
Surr: 1,2-Dichloroethane-d4	*51.64*	*1.0*	*50*	*0*	*103*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*48.74*	*1.0*	*50*	*0*	*97.5*	*85 - 114*				
Surr: Dibromofluoromethane	*49.14*	*1.0*	*50*	*0*	*98.3*	*80 - 119*				
Surr: Toluene-d8	*49.05*	*1.0*	*50*	*0*	*98.1*	*89 - 112*				

ALS Houston, US Date: 21-Aug-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 July 2020
WorkOrder: HS20071328

QC BATCH REPORT

Batch ID: R366276 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY SW8260C

MS Sample ID: **HS20071328-12MS** Units: **ug/Kg** Analysis Date: **05-Aug-2020 19:54**
Client ID: **16EW07-200728** Run ID: **VOA6_366276** SeqNo: **5686894** PrepDate: DF: **500**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,2-Trichloroethane	11820	2400	10000	0	118	78 - 121				
1,1-Dichloroethene	13140	2400	10000	10200	29.4	70 - 131				S
1,2-Dichloroethane	11950	2400	10000	0	119	73 - 128				
cis-1,2-Dichloroethene	12240	2400	10000	4141	81.0	77 - 123				
Methylene chloride	11590	4900	10000	0	116	70 - 128				
Trichloroethene	13100	2400	10000	4986	81.1	77 - 123				
Vinyl chloride	12730	980	10000	0	127	56 - 135				
Surr: Toluene-d8	*25670*	*2400*	*25000*	*0*	*103*	*85 - 116*				
Surr: 1,2-Dichloroethane-d4	*22730*	*2400*	*25000*	*0*	*90.9*	*71 - 136*				
Surr: 4-Bromofluorobenzene	*23260*	*2400*	*25000*	*0*	*93.1*	*79 - 119*				
Surr: Dibromofluoromethane	*23190*	*2400*	*25000*	*0*	*92.8*	*78 - 119*				

MSD Sample ID: **HS20071328-12MSD** Units: **ug/Kg** Analysis Date: **05-Aug-2020 20:18**
Client ID: **16EW07-200728** Run ID: **VOA6_366276** SeqNo: **5686895** PrepDate: DF: **500**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,2-Trichloroethane	11720	2400	10000	0	117	78 - 121	11820	0.829	20	
1,1-Dichloroethene	12300	2400	10000	10200	21.0	70 - 131	13140	6.62	20	S
1,2-Dichloroethane	11690	2400	10000	0	117	73 - 128	11950	2.19	20	
cis-1,2-Dichloroethene	11680	2400	10000	4141	75.4	77 - 123	12240	4.73	20	S
Methylene chloride	11260	4900	10000	0	113	70 - 128	11590	2.88	20	
Trichloroethene	11880	2400	10000	4986	68.9	77 - 123	13100	9.76	20	S
Vinyl chloride	11740	980	10000	0	117	56 - 135	12730	8.15	20	
Surr: Toluene-d8	*25460*	*2400*	*25000*	*0*	*102*	*85 - 116*	*25670*	*0.804*	*20*	
Surr: 1,2-Dichloroethane-d4	*22540*	*2400*	*25000*	*0*	*90.1*	*71 - 136*	*22730*	*0.852*	*20*	
Surr: 4-Bromofluorobenzene	*23410*	*2400*	*25000*	*0*	*93.6*	*79 - 119*	*23260*	*0.622*	*20*	
Surr: Dibromofluoromethane	*23110*	*2400*	*25000*	*0*	*92.4*	*78 - 119*	*23190*	*0.349*	*20*	

The following samples were analyzed in this batch: HS20071328-12

ALS Houston, US Date: 21-Aug-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 July 2020
WorkOrder: HS20071328

QC BATCH REPORT

Batch ID: R366355 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MBLK Sample ID: **VBLKW-200806** Units: **UG/L** Analysis Date: **06-Aug-2020 13:24**
Client ID: Run ID: **VOA6_366355** SeqNo: **5688316** 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	*46.25*	*1.0*	*50*	*0*	*92.5*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*49.02*	*1.0*	*50*	*0*	*98.0*	*85 - 114*				
Surr: Dibromofluoromethane	*46.29*	*1.0*	*50*	*0*	*92.6*	*80 - 119*				
Surr: Toluene-d8	*52.87*	*1.0*	*50*	*0*	*106*	*89 - 112*				

LCS Sample ID: **VLCSW-200806** Units: **UG/L** Analysis Date: **06-Aug-2020 12:12**
Client ID: Run ID: **VOA6_366355** SeqNo: **5688315** 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	19.55	1.0	20	0	97.8	80 - 119				
1,1-Dichloroethene	20.62	1.0	20	0	103	71 - 131				
1,2-Dichloroethane	19.89	1.0	20	0	99.4	73 - 128				
cis-1,2-Dichloroethene	19.87	1.0	20	0	99.4	78 - 123				
Methylene chloride	19.35	2.0	20	0	96.7	74 - 124				
Trichloroethene	20.53	1.0	20	0	103	79 - 123				
Vinyl chloride	19.95	1.0	20	0	99.7	58 - 137				
Surr: 1,2-Dichloroethane-d4	*50.21*	*1.0*	*50*	*0*	*100*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*48.64*	*1.0*	*50*	*0*	*97.3*	*85 - 114*				
Surr: Dibromofluoromethane	*48.24*	*1.0*	*50*	*0*	*96.5*	*80 - 119*				
Surr: Toluene-d8	*48.81*	*1.0*	*50*	*0*	*97.6*	*89 - 112*				

ALS Houston, US Date: 21-Aug-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 July 2020
WorkOrder: HS20071328

QC BATCH REPORT

Batch ID: R366355 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MS Sample ID: **HS20080189-02MS** Units: **UG/L** Analysis Date: **06-Aug-2020 18:12**
Client ID: Run ID: **VOA6_366355** SeqNo: **5688328** 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	23.86	1.0	20	0	119	80 - 119				S
1,1-Dichloroethene	26.3	1.0	20	0	131	71 - 131				S
1,2-Dichloroethane	24.62	1.0	20	0	123	73 - 128				
cis-1,2-Dichloroethene	23.84	1.0	20	0	119	78 - 123				
Methylene chloride	22.82	2.0	20	0	114	74 - 124				
Trichloroethene	26.5	1.0	20	0	132	79 - 123				S
Vinyl chloride	25.34	1.0	20	0	127	58 - 137				
Surr: 1,2-Dichloroethane-d4	*46.28*	*1.0*	*50*	*0*	*92.6*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*49.3*	*1.0*	*50*	*0*	*98.6*	*85 - 114*				
Surr: Dibromofluoromethane	*46.96*	*1.0*	*50*	*0*	*93.9*	*80 - 119*				
Surr: Toluene-d8	*51.57*	*1.0*	*50*	*0*	*103*	*89 - 112*				

MSD Sample ID: **HS20080189-02MSD** Units: **UG/L** Analysis Date: **06-Aug-2020 18:36**
Client ID: Run ID: **VOA6_366355** SeqNo: **5688329** 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	24.38	1.0	20	0	122	80 - 119	23.86	2.17	20	S
1,1-Dichloroethene	24.72	1.0	20	0	124	71 - 131	26.3	6.19	20	
1,2-Dichloroethane	24.21	1.0	20	0	121	73 - 128	24.62	1.71	20	
cis-1,2-Dichloroethene	22.95	1.0	20	0	115	78 - 123	23.84	3.8	20	
Methylene chloride	21.6	2.0	20	0	108	74 - 124	22.82	5.49	20	
Trichloroethene	24.49	1.0	20	0	122	79 - 123	26.5	7.9	20	
Vinyl chloride	23.17	1.0	20	0	116	58 - 137	25.34	8.95	20	
Surr: 1,2-Dichloroethane-d4	*46.06*	*1.0*	*50*	*0*	*92.1*	*81 - 118*	*46.28*	*0.471*	*20*	
Surr: 4-Bromofluorobenzene	*49.6*	*1.0*	*50*	*0*	*99.2*	*85 - 114*	*49.3*	*0.607*	*20*	
Surr: Dibromofluoromethane	*47.09*	*1.0*	*50*	*0*	*94.2*	*80 - 119*	*46.96*	*0.286*	*20*	
Surr: Toluene-d8	*52.25*	*1.0*	*50*	*0*	*104*	*89 - 112*	*51.57*	*1.31*	*20*	

The following samples were analyzed in this batch: HS20071328-08 HS20071328-15

ALS Houston, US Date: 21-Aug-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 July 2020
WorkOrder: HS20071328

QC BATCH REPORT

Batch ID: R366006 (0) **Instrument:** ICS-Integrion **Method:** ANIONS BY SW9056A

MBLK Sample ID: **MBLK-072920** Units: **mg/L** Analysis Date: **30-Jul-2020 03:59**
Client ID: Run ID: **ICS-Integrion_366006** SeqNo: **5681625** 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-072920** Units: **mg/L** Analysis Date: **30-Jul-2020 06:42**
Client ID: Run ID: **ICS-Integrion_366006** SeqNo: **5681627** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromide	4.386	0.100	4	0	110	80 - 120				
Nitrogen, Nitrate (As N)	3.904	0.100	4	0	97.6	80 - 120				
Sulfate	20.15	0.500	20	0	101	80 - 120				

MS Sample ID: **HS20071328-16MS** Units: **mg/L** Analysis Date: **30-Jul-2020 00:40**
Client ID: **16IW03-200728** Run ID: **ICS-Integrion_366006** SeqNo: **5681621** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromide	3.136	0.100	2	0.9731	108	80 - 120				
Nitrogen, Nitrate (As N)	2.703	0.100	2	0.4602	112	80 - 120				
Sulfate	18.23	0.500	10	15.25	29.8	80 - 120				S

MSD Sample ID: **HS20071328-16MSD** Units: **mg/L** Analysis Date: **30-Jul-2020 00:58**
Client ID: **16IW03-200728** Run ID: **ICS-Integrion_366006** SeqNo: **5681622** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromide	3.203	0.100	2	0.9731	111	80 - 120	3.136	2.1	20	
Nitrogen, Nitrate (As N)	2.7	0.100	2	0.4602	112	80 - 120	2.703	0.122	20	
Sulfate	18.55	0.500	10	15.25	33.1	80 - 120	18.23	1.77	20	S

The following samples were analyzed in this batch: HS20071328-05 HS20071328-06 HS20071328-07 HS20071328-13 HS20071328-16

ALS Houston, US Date: 21-Aug-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 July 2020
WorkOrder: HS20071328

QC BATCH REPORT

Batch ID: R366038 (0) **Instrument: ICS-Integrion** **Method: ANIONS BY SW9056A**

MBLK Sample ID: **MBLK-073120** Units: **mg/L** Analysis Date: **31-Jul-2020 14:11**
Client ID: Run ID: **ICS-Integrion_366038** SeqNo: **5682474** 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

LCS Sample ID: **LCS-073120** Units: **mg/L** Analysis Date: **31-Jul-2020 14:47**
Client ID: Run ID: **ICS-Integrion_366038** SeqNo: **5682475** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromide	4.314	0.100	4	0	108	80 - 120				

MS Sample ID: **HS20071470-01MS** Units: **mg/L** Analysis Date: **31-Jul-2020 18:21**
Client ID: Run ID: **ICS-Integrion_366038** SeqNo: **5682480** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromide	13.45	0.100	2	11.6	92.8	80 - 120				O

MSD Sample ID: **HS20071470-01MSD** Units: **mg/L** Analysis Date: **31-Jul-2020 18:39**
Client ID: Run ID: **ICS-Integrion_366038** SeqNo: **5682481** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromide	13.5	0.100	2	11.6	95.1	80 - 120	13.45	0.339	20	O

The following samples were analyzed in this batch: HS20071328-15

ALS Houston, US Date: 21-Aug-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 July 2020
WorkOrder: **HS20071328**

QUALIFIERS, ACRONYMS, UNITS

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

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

Unit Reported	Description
mg/L	Milligrams per Liter

CERTIFICATIONS,ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
Arkansas	20-030-0	26-Mar-2021
California	2919, 2020-2021	30-Apr-2021
Dept of Defense	ANAB L2231 V010	22-Dec-2021
Florida	E87611-30-07/01/2020	30-Jun-2021
Illinois	2000322020-4	09-May-2021
Kentucky	123043, 2020-2021	30-Apr-2021
Louisiana	03087, 2020-2021	30-Jun-2021
Maryland	343, 2019-2020	30-Sep-2020
North Carolina	624-2020	31-Dec-2020
North Dakota	R-193 2020-2021	30-Apr-2021
Oklahoma	2019-141	31-Aug-2020
Texas	T104704231-20-26	30-Apr-2021

ALS Houston, US Date: 21-Aug-20

Sample Receipt Checklist

Work Order ID: HS20071328 **Date/Time Received:** 29-Jul-2020 09:20

Client Name: CBI-Houston **Received by:** Paresh M. Giga

Completed By: /S/ Paresh M. Giga (eSignature) 29-Jul-2020 14:02 (Date/Time) **Reviewed by:** /S/ RJ Modashia (eSignature) 29-Jul-2020 16:07 (Date/Time)

Matrices: GW-Water Carrier name: FedEx

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
VOA/TX1005/TX1006 Solids in hermetically sealed vials?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	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):	2.7C U/C	IR31
Cooler(s)/Kit(s):	45975	
Date/Time sample(s) sent to storage:	7/29/2020 14:15	

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: 16RW01-200727 not checked off for analysis on chain.
Logged in analysis for containers received

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

Corrective Action:

CHAIN OF CUSTODY

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

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

Project No. 501032

Job: **LHAAP 16 JULY 2020_ALS**

Prepared By: Scott Beesinger

P.O. Number

Aptim Environmental & Infrastucture, Inc.
Longhorn Army Ammunition Plant 16 July 2020

HS20071328

Field Sample I.D. / Time	Sample Matrix	Date /	MS / MSD	No. OF CONTAINERS	VOC by SW 8260B	TOC by SM5310C	MEE by RSK 175	Anions (bromide, sulfate, nitrate) by SW9056 and Alkalinity by SM2320	Bromide by SW9056	Perchlorate by SW6850	Metals (arsenic, chromium, manganese, nickel, thallium) by SW6020				Remarks (Preservati etc.)
16WW32-200727	WG	7/27/20/0805		4	X					X					
16WW31-200727	WG	7/27/20/0850		4	X					X					
16WW46-200727	WG	7/27/20/0940		4	X					X					
16WW46-200727-FD	WG	7/27/20/0940		4	X					X					
16WW49-200727	WG	7/27/20/1030		7	X	X			X	X					
16WWS1-200727	WG	7/27/20/1125		7	X	X			X	X					
16WWS1-200727-FD	WG	7/27/20/1125		7	X	X			X	X					
16RW01-200727	WG	7/27/20/1220													

Additional Remarks: Standard TAT on all parameters. Please email results to Susan.Huang@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	7/28/20	1430		7/29/20	09:20						

For Lab Use Only

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

Remarks:

45975 WC 2.7° #31 CIF-0

(Word) S:\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: R.J Modashia

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

Project No. 501032

Job: **LHAAP 16 JULY 2020_ALS**

Prepared By: Scott Beesinger

P.O. Number

HS20071328

Aptim Environmental & Infrastructure, Inc.
Longhorn Army Ammunition Plant 16 July 2020

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				Remark (Presen etc.)
16WW23-200727	W6	7/27/20/1315		4	X					X					
16WW24-200727	W6	7/27/20/1405		4	X					X					
16EW03-200728	W6	7/28/20/0730		4	X					X					
16EW07-200728	W6	7/28/20/0815		4	X					X					
16EW07-200728-MS	W6	7/28/20/0815		4	X					X					
16EW07-200728-MSD	W6	7/28/20/0815		4	X					X					
16EW08-200728	W6	7/28/20/0905		7	X	X			X	X					
16EW04-200728	W6	7/28/20/0950		4	X					X					

Additional Remarks: Standard TAT on all parameters. Please email results to Susan.Huang@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	7/28/20	1430		7/29/2020	09:20						

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

Page 1 of 1

Project: APTIM LONGHORN ARMY AMMN. PLANT (LHAAP) GROUNDWATER TREATMENT PLANT (GWTP) KARNACK, TEXAS	Project No. 501032
Job: **LHAAP 16 JULY 2020_ALS**	
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 (Preservat etc.)
16RW04-200728	WG	7/28/20/1040		7	X	X			X	X		
16IW03-200728	WG	7/28/20/1130		10	X	X	X	X	X	X		
16SW01-200728	WG	7/28/20/1210		5	X					X	X	
16SW02-200728	WG	7/28/20/1230		5	X					X	X	
16SW03-200728	WG	7/28/20/1250		5	X					X	X	
TRIP BLANK-200728	W	7/28/20		2	X							

HS20071328

Aptim Environmental & Infrastructure, Inc.
Longhorn Army Ammunition Plant 16 July 2020

Additional Remarks: Standard TAT on all parameters. Please email results to Susan.Huang@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	7/28/20	1430		7/29/20	08:20						

For Lab Use Only

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

Remarks:

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

45975

CUSTODY SEAL

Date: 7/28/20 Time: 1430
Name: Scott Bcesinger
Company: BHHA TX

Seal Broken By:
Date: 07/29/20

45975 JUL 29 2020

Must Deliver Next Business Day
Time and Tempature Sensitive!

45975

ORIGIN ID:SGRA (903) 930-8181
SCOTT BCESINGER
APTIM
1203-B EAST GRAND AVE.
PMB202
MARSHALL, TX 75670
UNITED STATES US

SHIP DATE: 23JUL20
ACTWGT: 1.00 LB MAN
CAD: 3001307/CAFE3211
DIMS: 19x16x13 IN

TO CLIENT SERVICES
ALS LABORATORY GROUP
10450 STANCLIFF ROAD
SUITE 210
HOUSTON TX 77099
(281) 530-5656
REF: LHAAP 16 - 8072394 - RJ
RMA:

FedEx Express

FedEx
TRK# 0221 1891 8877 8255

WED - 29 JUL 10:30A
PRIORITY OVERNIGHT

AB SGRA

77099
TX-US IAH

0475872 07/28 5613J/CEA6/9755

ALS Environmental
ALS Group USA, Corp
1317 South 13th Avenue
Kelso, WA 98626
T : +1 360 577 7222
F : +1 360 636 1068
www.alsglobal.com

August 12, 2020

Analytical Report for Service Request No: K2006497

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

RE: HS20071328

Dear RJ,

Enclosed are the results of the sample(s) submitted to our laboratory July 31, 2020
For your reference, these analyses have been assigned our service request number **K2006497.**

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current NELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. All results are intended to be considered in their entirety, and ALS Group USA Corp. dba ALS Environmental (ALS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please contact me if you have any questions. My extension is 3350. You may also contact me via email at Kelley.Lovejoy@alsglobal.com.

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

Kelley Lovejoy

Kelley Lovejoy
Project Manager

RIGHT SOLUTIONS | RIGHT PARTNER

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Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LOD	Limit of Detection
LOQ	Limit of Quantitation
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Inorganic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
E	The result is an estimate amount because the value exceeded the instrument calibration range.
J	The result is an estimated value.
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
i	The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
X	See case narrative.
Q	See case narrative. One or more quality control criteria was outside the limits.
H	The holding time for this test is immediately following sample collection. The samples were analyzed as soon as possible after receipt by the laboratory.

Metals Data Qualifiers

#	The control limit criteria is not applicable. See case narrative.
J	The result is an estimated value.
E	The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
M	The duplicate injection precision was not met.
N	The Matrix Spike sample recovery is not within control limits. See case narrative.
S	The reported value was determined by the Method of Standard Additions (MSA).
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
W	The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
i	The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
X	See case narrative.
+	The correlation coefficient for the MSA is less than 0.995.
Q	See case narrative. One or more quality control criteria was outside the limits.

Organic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
A	A tentatively identified compound, a suspected aldol-condensation product.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
C	The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
D	The reported result is from a dilution.
E	The result is an estimated value.
J	The result is an estimated value.
N	The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
P	The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results.
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
i	The MRL/MDL or LOQ/LOD is elevated due to a chromatographic interference.
X	See case narrative.
Q	See case narrative. One or more quality control criteria was outside the limits.

Additional Petroleum Hydrocarbon Specific Qualifiers

F	The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
L	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
H	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
O	The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
Y	The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
Z	The chromatographic fingerprint does not resemble a petroleum product.

ALS Group USA Corp. dba ALS Environmental (ALS) - Kelso
State Certifications, Accreditations, and Licenses

Agency	Web Site	Number
Alaska DEH	http://dec.alaska.gov/eh/lab/cs/csapproval.htm	UST-040
Arizona DHS	http://www.azdhs.gov/lab/license/env.htm	AZ0339
Arkansas - DEQ	http://www.adeq.state.ar.us/techsvs/labcert.htm	88-0637
California DHS (ELAP)	http://www.cdph.ca.gov/certlic/labs/Pages/ELAP.aspx	2795
DOD ELAP	http://www.denix.osd.mil/edqw/Accreditation/AccreditedLabs.cfm	L16-58-R4
Florida DOH	http://www.doh.state.fl.us/lab/EnvLabCert/WaterCert.htm	E87412
Hawaii DOH	http://health.hawaii.gov/	-
ISO 17025	http://www.pjlabs.com/	L16-57
Louisiana DEQ	http://www.deq.louisiana.gov/page/la-lab-accreditation	03016
Maine DHS	http://www.maine.gov/dhhs/	WA01276
Minnesota DOH	http://www.health.state.mn.us/accreditation	053-999-457
Nevada DEP	http://ndep.nv.gov/bsdw/labservice.htm	WA01276
New Jersey DEP	http://www.nj.gov/dep/enforcement/oqa.html	WA005
New York - DOH	https://www.wadsworth.org/regulatory/elap	12060
North Carolina DEQ	https://deq.nc.gov/about/divisions/water-resources/water-resources-data/water-sciences-home-page/laboratory-certification-branch/non-field-lab-certification	605
Oklahoma DEQ	http://www.deq.state.ok.us/CSDnew/labcert.htm	9801
Oregon – DEQ (NELAP)	http://public.health.oregon.gov/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	WA100010
South Carolina DHEC	http://www.scdhec.gov/environment/EnvironmentalLabCertification/	61002
Texas CEQ	http://www.tceq.texas.gov/field/qa/env_lab_accreditation.html	T104704427
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C544
Wyoming (EPA Region 8)	https://www.epa.gov/region8-waterops/epa-region-8-certified-drinking-water-	-
Kelso Laboratory Website	www.alsglobal.com	NA

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. A complete listing of specific NELAP-certified analytes, can be found in the certification section at www.ALSGlobal.com or at the accreditation bodies web site.
Please refer to the certification and/or accreditation body's web site if samples are submitted for compliance purposes. The states highlighted above, require the analysis be listed on the state certification if used for compliance purposes and if the method/anlayte is offered by that state.

Case Narrative

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Client: ALS Environmental - US
Project: HS20071328
Sample Matrix: Ground Water

Service Request: K2006497
Date Received: 07/31/2020

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples for the Tier level IV requested by the client.

Sample Receipt:

Six ground water samples were received for analysis at ALS Environmental on 07/31/2020. Any discrepancies upon initial sample inspection are annotated on the sample receipt and preservation form included within this report. The samples were stored at minimum in accordance with the analytical method requirements.

General Chemistry:

No significant anomalies were noted with this analysis.

Approved by Kelley Lovejoy Date 08/12/2020

Chain of Custody

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Subcontract Chain of Custody

SAMPLING STATE: **Dept of Defense** **COC ID:** **14394**

SUBCONTRACT TO:

ALS Environmental Kelso
1317 S. 13th Avenue
Kelso, WA 98626

Phone: +1 360 501 3312

CUSTOMER INFORMATION:

Company:	ALS Houston
Contact:	RJ Modashia
Address:	10450 Stancliff Rd, Ste 210
Phone:	+1 281 530 5656
Email:	RJ.Modashia@alsglobal.com
Alternate Contact:	
Email:	

INVOICE INFORMATION:

Company:	ALS Houston
Contact:	Accounts Payable
Address:	10450 Stancliff Rd, Ste 210
Phone:	+1 281 530 5656
Reference:	HS20071328
TSR:	Sonia West

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	**HS20071328-05**	**16WW49-200727**	**Groundwater**	**27 Jul 2020 10:30**
	TOC Analysis with DOD Level IV/EQuIS APTIM EDD			12 Aug 2020
2.	**HS20071328-06**	**16WW51-200727**	**Groundwater**	**27 Jul 2020 11:25**
	TOC Analysis with DOD Level IV/EQuIS APTIM EDD			12 Aug 2020
3.	**HS20071328-07**	**16WW51-200727-FD**	**Groundwater**	**27 Jul 2020 11:25**
	TOC Analysis with DOD Level IV/EQuIS APTIM EDD			12 Aug 2020
4.	**HS20071328-13**	**16EW08-200728**	**Groundwater**	**28 Jul 2020 09:05**
	TOC Analysis with DOD Level IV/EQuIS APTIM EDD			12 Aug 2020
5.	**HS20071328-15**	**16RW04-200728**	**Groundwater**	**28 Jul 2020 10:40**
	TOC Analysis with DOD Level IV/EQuIS APTIM EDD			12 Aug 2020
6.	**HS20071328-16**	**16IW03-200728**	**Groundwater**	**28 Jul 2020 11:30**
	TOC Analysis with DOD Level IV/EQuIS APTIM EDD			12 Aug 2020

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

QC Level: DOD IV (DoD Data Package)

RIGHT SOLUTIONS | RIGHT PARTNER

K2006497

Subcontract Chain of Custody

SAMPLING STATE: **Dept of Defense**

COC ID: **14394**

Relinquished By: _____ Date/Time: 7/30/2020 1800

Received By: _____ Date/Time: 7/31/20 0930

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

PC KL

Cooler Receipt and Preservation Form

Client AIS - Houston Service Request K20 06497

Received: 7/31/20 Opened: 7/31/20 By: BK Unloaded: 7/31/20 By: BR

1. Samples were received via? *USPS* (*Fed Ex*) *UPS* *DHL* *PDX* *Courier* *Hand Delivered*
2. Samples were received in: (circle) (*Cooler*) *Box* *Envelope* *Other* _____ *NA*
3. Were custody seals on coolers? NA (Y) N If yes, how many and where? 2 front
   If present, were custody seals intact? (Y) N If present, were they signed and dated? (Y) N

Temp Blank	Sample 1	Sample 2	Sample 3	Sample 4	IR GUN	Cooler / COC ID (NA) CG 7/31	Tracking Number NA	Filed
0.1	—	—	—	—	IR01	14394	189188788896	

4. Packing material: *Inserts* (*Baggies*) (*Bubble Wrap*) *Gel Packs* (*Wet Ice*) *Dry Ice* *Sleeves* _____
5. Were custody papers properly filled out (ink, signed, etc.)? NA (Y) N
6. Were samples received in good condition (temperature, unbroken)? *Indicate in the table below.* NA (Y) N
   If applicable, tissue samples were received: *Frozen* *Partially Thawed* *Thawed*
7. Were all sample labels complete (i.e analysis, preservation, etc.)? NA (Y) N
8. Did all sample labels and tags agree with custody papers? *Indicate major discrepancies in the table on page 2.* NA (Y) N
9. Were appropriate bottles/containers and volumes received for the tests indicated? NA (Y) N
10. Were the pH-preserved bottles (*see SMO GEN SOP*) received at the appropriate pH? *Indicate in the table below* NA (Y) N
11. Were VOA vials received without headspace? *Indicate in the table below.* (NA) Y N
12. Was C12/Res negative? (NA) Y N

Sample ID on Bottle	Sample ID on COC	Identified by:

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

Notes, Discrepancies, & Resolutions: _____

General Chemistry

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ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	K2006497
Project:	HS20071328	**Date Collected:**	07/27/20 - 07/28/20
Sample Matrix:	Ground Water	**Date Received:**	07/31/20
Analysis Method:	SM 5310 C	**Units:**	mg/L
Prep Method:	None	**Basis:**	NA

Carbon, Total Organic

Sample Name	Lab Code	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
16WW49-200727	K2006497-001	**4.11**	0.50	0.20	0.07	1	08/10/20 08:15	
16WW51-200727	K2006497-002	**4.55**	0.50	0.20	0.07	1	08/08/20 12:03	
16WW51-200727-FD	K2006497-003	**4.57**	0.50	0.20	0.07	1	08/08/20 12:03	
16EW08-200728	K2006497-004	**711**	13	5	2	25	08/10/20 08:15	
16RW04-200728	K2006497-005	**3.34**	0.50	0.20	0.07	1	08/10/20 08:15	
16IW03-200728	K2006497-006	**47.8**	0.50	0.20	0.07	1	08/10/20 08:15	
Method Blank	K2006497-MB1	ND U	0.50	0.20	0.07	1	08/08/20 12:03	
Method Blank	K2006497-MB2	ND U	0.50	0.20	0.07	1	08/10/20 08:15	

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	K2006497
Project:	HS20071328	**Date Analyzed:**	08/08/20
Sample Matrix:	Ground Water	**Date Extracted:**	NA

Duplicate Lab Control Sample Summary
General Chemistry Parameters

Analysis Method:	SM 5310 C	**Units:**	mg/L
Prep Method:	None	**Basis:**	NA
		Analysis Lot:	690271

	Lab Control Sample K2006497-LCS1			Duplicate Lab Control Sample K2006497-DLCS1					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Carbon, Total Organic	24.9	25.0	100	25.0	25.0	100	83-117	<1	10

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	K2006497
Project:	HS20071328	**Date Analyzed:**	08/10/20
Sample Matrix:	Ground Water	**Date Extracted:**	NA

Lab Control Sample Summary
General Chemistry Parameters

Analysis Method:	SM 5310 C	**Units:**	mg/L
Prep Method:	None	**Basis:**	NA
		Analysis Lot:	690414

Lab Control Sample
K2006497-LCS2

Analyte Name	Result	Spike Amount	% Rec	% Rec Limits
Carbon, Total Organic	24.4	25.0	98	83-117

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US **Service Request:** K2006497
Project: HS20071328

Continuing Calibration Verification (CCV) Summary

Carbon, Total Organic

Analysis Method: SM 5310 C **Units:** mg/L

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	690271	KQ2010974-07	08/08/20 12:03	25.0	25.0	100	90-110
CCV2	690271	KQ2010974-08	08/08/20 12:03	25.0	24.4	98	90-110
CCV3	690271	KQ2010974-09	08/08/20 12:03	25.0	24.9	99	90-110
CCV4	690271	KQ2010974-10	08/08/20 12:03	25.0	26.2	105	90-110
CCV5	690414	KQ2011025-07	08/10/20 08:15	25.0	24.4	98	90-110
CCV6	690414	KQ2011025-08	08/10/20 08:15	25.0	24.4	98	90-110
CCV7	690414	KQ2011025-09	08/10/20 08:15	25.0	24.8	99	90-110
CCV8	690414	KQ2011025-10	08/10/20 08:15	25.0	24.0	96	90-110

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US **Service Request:**K2006497
Project: HS20071328

Continuing Calibration Blank (CCB) Summary
Carbon, Total Organic

Analysis Method: SM 5310 C **Units:**mg/L

	Analysis Lot	Lab Code	Date Analyzed	LOQ	LOD	MDL	Result	Q
CCB1	690271	KQ2010974-12	08/08/20 12:03	0.50	0.20	0.07	ND	U
CCB2	690271	KQ2010974-13	08/08/20 12:03	0.50	0.20	0.07	ND	U
CCB3	690271	KQ2010974-14	08/08/20 12:03	0.50	0.20	0.07	ND	U
CCB4	690271	KQ2010974-17	08/08/20 12:03	0.50	0.20	0.07	ND	U
CCB5	690414	KQ2011025-03	08/10/20 08:15	0.50	0.20	0.07	ND	U
CCB6	690414	KQ2011025-04	08/10/20 08:15	0.50	0.20	0.07	ND	U
CCB7	690414	KQ2011025-05	08/10/20 08:15	0.50	0.20	0.07	ND	U
CCB8	690414	KQ2011025-06	08/10/20 08:15	0.50	0.20	0.07	ND	U

Raw Data

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General Chemistry

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Work Request # 6047 6158 6197 6297 6333 6206 6308

Tier: IV IV II II IV IV I

Date Analyzed: 8.8.20 6321 II 6497 II

Analyst: MK

Analysis: TOC/DOC

Run # 690270/690271 690269

DATA QUALITY REPORT
INORGANICS

Explain any "no" responses to questions below, and any corrective actions in the comments section below.

1.	Is the method name and number correct and appropriate?	yes/no/NA
2.	Holding times met for all analyses and for all samples?	yes/no/NA
3.	Are calculations correct?	yes/no/NA
4.	Is the reporting basis correct? (Dry Weight)	yes/no/NA
5.	All quality control criteria met?	yes/no
6.	Is the calibration curve correlation coefficient ≥ 0.995?	yes/no/NA
7.	MBs, CCVs, CCBs, LCSs, Dups, and Spikes, analyzed at proper frequency?	yes/no/NA
8.	Are ICVs, CCVs, and CCBs all within acceptance limits?	yes/no/NA
9.	Are results for methods blanks all ND?	yes/no/NA
10.	Are all QC samples within acceptance criteria? (LCS % rec, MS/DMS % rec, DUP or MS/DMS RPDs, etc.)	yes/no/NA MK
11.	Are all exceptions explained?	yes/no/NA
12.	Have all applicable service requests been reviewed?	yes/no/NA
13.	Are all samples labeled correctly?	yes/no/NA
14.	Have all instructions on the service request been followed? (e.g. Special MRLs, QC on a specific sample, Form V)	yes/no/NA
15.	Are detection limits and units reported correctly?	yes/no/NA
16.	Is the unused space on the benchsheet crossed out?	yes/no/NA
17.	Was analysis turned in by the due date? (n-2) (If not record SR#)	yes/no/NA

COMMENTS:

6206-1MS low Rec matrix
6047-5 has matrix issues raised MRL
6497-4 needs DIL
5 needs rerun

Final Approved by: _____ Date: 8/10/20

DQREPORT

Analytical Results Summary

Instrument Name: K-TOC-01 **Analyst:** MKANALY **Analysis Lot:** 690270 **Method/Testcode:** SM 5310 C/TOC T

Lab Code	Target Analytes	QC	Parent Sample	Matrix	Raw Result	Sample Amt.	Final Result	Dil	MDL	PQL	% Rec	% RSD	Date Analyzed	QC?	Tier
K2006047-001	Carbon, Total Organic	N/A		Water	3.67 mg/L	10 mL	3.67 mg/L	1	0.07	0.50			8/8/20 12:03:00	N	IV
K2006047-002	Carbon, Total Organic	N/A		Water	13.40 mg/L	10 mL	67.0 mg/L	5	0.4	2.5			8/8/20 12:03:00	N	IV
K2006047-003	Carbon, Total Organic	N/A		Water	18.64 mg/L	10 mL	18.6 mg/L	1	0.07	0.50			8/8/20 12:03:00	N	IV
K2006047-004	Carbon, Total Organic	N/A		Water	5.58 mg/L	10 mL	5.58 mg/L	1	0.07	0.50			8/8/20 12:03:00	N	IV
K2006047-005.R02	Carbon, Total Organic	N/A		Water	0.00 mg/L	10 mL	5.0 mg/L U	10	0.7	5.0			8/8/20 12:03:00	N	IV
K2006047-006	Carbon, Total Organic	N/A		Water	2.56 mg/L	10 mL	2.56 mg/L	1	0.07	0.50			8/8/20 12:03:00	N	IV
K2006158-001	Carbon, Total Organic	N/A		Ground Water	13.70 mg/L	10 mL	13.7 mg/L	1	0.07	0.50			8/8/20 12:03:00	N	IV
K2006158-003	Carbon, Total Organic	N/A		Ground Water	8.37 mg/L	10 mL	8.37 mg/L	1	0.07	0.50			8/8/20 12:03:00	N	IV
K2006158-004	Carbon, Total Organic	N/A		Ground Water	8.30 mg/L	10 mL	8.30 mg/L	1	0.07	0.50			8/8/20 12:03:00	N	IV
K2006158-005	Carbon, Total Organic	N/A		Ground Water	46.07 mg/L	10 mL	1840 mg/L	40	3	20			8/8/20 12:03:00	N	IV
K2006158-006	Carbon, Total Organic	N/A		Ground Water	20.80 mg/L	10 mL	416 mg/L	20	2	10			8/8/20 12:03:00	N	IV
K2006197-002	Carbon, Total Organic	N/A		Water	16.68 mg/L	10 mL	16.7 mg/L	1	0.07	0.50			8/8/20 12:03:00	N	II
K2006297-001	Carbon, Total Organic	N/A		Wastewater	2.11 mg/L	10 mL	2.11 mg/L	1	0.07	0.50			8/8/20 12:03:00	N	II
K2006297-002	Carbon, Total Organic	N/A		Wastewater	0.95 mg/L	10 mL	0.95 mg/L	1	0.07	0.50			8/8/20 12:03:00	N	II
K2006297-003	Carbon, Total Organic	N/A		Wastewater	0.11 mg/L	10 mL	0.11 mg/L J	1	0.07	0.50			8/8/20 12:03:00	N	II
K2006297-004	Carbon, Total Organic	N/A		Wastewater	4.21 mg/L	10 mL	4.21 mg/L	1	0.07	0.50			8/8/20 12:03:00	N	II
K2006333-001	Carbon, Total Organic	N/A		Ground Water	4.16 mg/L	10 mL	4.16 mg/L	1	0.07	0.50			8/8/20 12:03:00	N	IV
K2006333-002	Carbon, Total Organic	N/A		Ground Water	4.33 mg/L	10 mL	4.33 mg/L	1	0.07	0.50			8/8/20 12:03:00	N	IV
KQ2010960-01	Carbon, Total Organic	MB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			8/8/20 12:03:00	N	IV
KQ2010960-02	Carbon, Total Organic	LCS		Water	25.85 mg/L	10 mL	25.9 mg/L	1	0.07	0.50	103		8/8/20 12:03:00	N	IV
KQ2010960-03	Carbon, Total Organic	CCV		Water	25.52 mg/L	10 mL	25.5 mg/L	1					8/8/20 12:03:00	N	IV
KQ2010960-04	Carbon, Total Organic	CCV		Water	26.08 mg/L	10 mL	26.1 mg/L	1					8/8/20 12:03:00	N	IV
KQ2010960-05	Carbon, Total Organic	CCV		Water	25.01 mg/L	10 mL	25.0 mg/L	1					8/8/20 12:03:00	N	IV
KQ2010960-06	Carbon, Total Organic	CCV		Water	24.38 mg/L	10 mL	24.4 mg/L	1					8/8/20 12:03:00	N	IV
KQ2010960-07	Carbon, Total Organic	CCV		Water	24.86 mg/L	10 mL	24.9 mg/L	1					8/8/20 12:03:00	N	IV
KQ2010960-08	Carbon, Total Organic	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			8/8/20 12:03:00	N	IV
KQ2010960-09	Carbon, Total Organic	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			8/8/20 12:03:00	N	IV
KQ2010960-10	Carbon, Total Organic	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			8/8/20 12:03:00	N	IV
KQ2010960-11	Carbon, Total Organic	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			8/8/20 12:03:00	N	IV
KQ2010960-12	Carbon, Total Organic	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			8/8/20 12:03:00	N	IV

# indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

Analytical Results Summary

Instrument Name: K-TOC-01 **Analyst:** MKANALY **Analysis Lot:** 690270 **Method/Testcode:** SM 5310 C/TOC T

Lab Code	Target Analytes	QC	Parent Sample	Matrix	Raw Result	Sample Amt.	Final Result	Dil	MDL	PQL	% Rec	% RSD	Date Analyzed	QC?	Tier
KQ2010960-13	Carbon, Total Organic	DUP	K2006158-001	Ground Water	13.63 mg/L	10 mL	13.6 mg/L	1	0.07	0.50		<1	8/8/20 12:03:00	N	IV
KQ2010960-14	Carbon, Total Organic	MS	K2006158-001	Ground Water	41.06 mg/L	10 mL	41.1 mg/L	1	0.07	0.50	109		8/8/20 12:03:00	N	IV
KQ2010960-15	Carbon, Total Organic	DUP	K2006297-004	Wastewater	4.18 mg/L	10 mL	4.18 mg/L	1	0.07	0.50		<1	8/8/20 12:03:00	N	II
KQ2010960-16	Carbon, Total Organic	MS	K2006297-004	Wastewater	32.03 mg/L	10 mL	32.0 mg/L	1	0.07	0.50	111		8/8/20 12:03:00	N	II

# indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

Analytical Results Summary

Instrument Name: K-TOC-01 **Analyst:** MKANALY **Analysis Lot:** 690271 **Method/Testcode:** SM 5310 C/TOC T

Lab Code	Target Analytes	QC	Parent Sample	Matrix	Raw Result	Sample Amt.	Final Result	Dil	MDL	PQL	% Rec	% RSD	Date Analyzed	QC?	Tier
K2006206-001	Carbon, Total Organic	N/A		Water	1.10 mg/L	10 mL	1.10 mg/L	1	0.07	0.50			8/8/20 12:03:00	N	IV
K2006206-002	Carbon, Total Organic	N/A		Water	1.16 mg/L	10 mL	1.16 mg/L	1	0.07	0.50			8/8/20 12:03:00	N	IV
K2006308-001	Carbon, Total Organic	N/A		Drinking Water	0.76 mg/L	10 mL	0.76 mg/L	1	0.07	0.50			8/8/20 12:03:00	N	I
K2006321-001	Carbon, Total Organic	N/A		Water	0.75 mg/L	10 mL	0.75 mg/L	1	0.07	0.50			8/8/20 12:03:00	N	II
K2006321-002	Carbon, Total Organic	N/A		Water	4.37 mg/L	10 mL	8.7 mg/L	2	0.2	1.0			8/8/20 12:03:00	N	II
K2006321-003	Carbon, Total Organic	N/A		Water	4.10 mg/L	10 mL	4.10 mg/L	1	0.07	0.50			8/8/20 12:03:00	N	II
K2006321-004	Carbon, Total Organic	N/A		Water	8.76 mg/L	10 mL	8.76 mg/L	1	0.07	0.50			8/8/20 12:03:00	N	II
K2006321-005	Carbon, Total Organic	N/A		Water	2.70 mg/L	10 mL	2.70 mg/L	1	0.07	0.50			8/8/20 12:03:00	N	II
K2006321-006	Carbon, Total Organic	N/A		Water	0.59 mg/L	10 mL	0.59 mg/L	1	0.07	0.50			8/8/20 12:03:00	N	II
K2006497-002	Carbon, Total Organic	N/A		Ground Water	4.55 mg/L	10 mL	4.55 mg/L	1	0.07	0.50			8/8/20 12:03:00	N	IV
K2006497-003	Carbon, Total Organic	N/A		Ground Water	4.57 mg/L	10 mL	4.57 mg/L	1	0.07	0.50			8/8/20 12:03:00	N	IV
K2006497-004.R01	Carbon, Total Organic	N/A		Ground Water	112.94 mg/L	10 mL	113 mg/L	1	0.07	0.50			8/8/20 12:03:00	N	IV
K2006497-005.R01	Carbon, Total Organic	N/A		Ground Water	6.54 mg/L	10 mL	6.54 mg/L	1	0.07	0.50			8/8/20 12:03:00	N	IV
KQ2010974-01	Carbon, Total Organic	MB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			8/8/20 12:03:00	N	IV
KQ2010974-05	Carbon, Total Organic	LCS		Water	24.91 mg/L	10 mL	24.9 mg/L	1	0.07	0.50	100		8/8/20 12:03:00	N	IV
KQ2010974-06	Carbon, Total Organic	DLCS		Water	25.04 mg/L	10 mL	25.0 mg/L	1	0.07	0.50	100	<1	8/8/20 12:03:00	N	IV
KQ2010974-07	Carbon, Total Organic	CCV		Water	25.01 mg/L	10 mL	25.0 mg/L	1					8/8/20 12:03:00	N	IV
KQ2010974-08	Carbon, Total Organic	CCV		Water	24.38 mg/L	10 mL	24.4 mg/L	1					8/8/20 12:03:00	N	IV
KQ2010974-09	Carbon, Total Organic	CCV		Water	24.86 mg/L	10 mL	24.9 mg/L	1					8/8/20 12:03:00	N	IV
KQ2010974-10	Carbon, Total Organic	CCV		Water	26.16 mg/L	10 mL	26.2 mg/L	1					8/8/20 12:03:00	N	IV
KQ2010974-12	Carbon, Total Organic	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			8/8/20 12:03:00	N	IV
KQ2010974-13	Carbon, Total Organic	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			8/8/20 12:03:00	N	IV
KQ2010974-14	Carbon, Total Organic	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			8/8/20 12:03:00	N	IV
KQ2010974-15	Carbon, Total Organic	DUP	K2006206-001	Water	1.13 mg/L	10 mL	1.13 mg/L	1	0.07	0.50		2	8/8/20 12:03:00	N	IV
KQ2010974-16	Carbon, Total Organic	MS	K2006206-001	Water	14.69 mg/L	10 mL	14.7 mg/L	1	0.07	0.50	54*		8/8/20 12:03:00	N	IV
KQ2010974-17	Carbon, Total Organic	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			8/8/20 12:03:00	N	IV

# indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

Analytical Results Summary

Instrument Name: K-TOC-01 **Analyst:** MKANALY **Analysis Lot:** 690269 **Method/Testcode:** SM 5310 C/TOC D

Lab Code	Target Analytes	QC	Parent Sample	Matrix	Raw Result	Sample Amt.	Final Result	Dil	MDL	PQL	% Rec	% RSD	Date Analyzed	QC?	Tier
K2006297-001	Carbon, Dissolved Organic (DOC)	N/A		Wastewater	2.11 mg/L	10 mL	2.11 mg/L	1	0.07	0.50			8/8/20 12:03:00	N	II
K2006297-002	Carbon, Dissolved Organic (DOC)	N/A		Wastewater	0.95 mg/L	10 mL	0.95 mg/L	1	0.07	0.50			8/8/20 12:03:00	N	II
K2006297-003	Carbon, Dissolved Organic (DOC)	N/A		Wastewater	0.11 mg/L	10 mL	0.11 mg/L J	1	0.07	0.50			8/8/20 12:03:00	N	II
K2006297-004	Carbon, Dissolved Organic (DOC)	N/A		Wastewater	4.21 mg/L	10 mL	4.21 mg/L	1	0.07	0.50			8/8/20 12:03:00	N	II
KQ2010959-01	Carbon, Dissolved Organic (DOC)	DUP	K2006297-004	Wastewater	4.18 mg/L	10 mL	4.18 mg/L	1	0.07	0.50		<1	8/8/20 12:03:00	N	II
KQ2010959-02	Carbon, Dissolved Organic (DOC)	MS	K2006297-004	Wastewater	32.03 mg/L	10 mL	32.0 mg/L	1	0.07	0.50	111		8/8/20 12:03:00	N	II
KQ2010959-03	Carbon, Dissolved Organic (DOC)	CCV		Wastewater	25.01 mg/L	10 mL	25.0 mg/L	1					8/8/20 12:03:00	N	II
KQ2010959-04	Carbon, Dissolved Organic (DOC)	CCV		Wastewater	24.38 mg/L	10 mL	24.4 mg/L	1					8/8/20 12:03:00	N	II
KQ2010959-05	Carbon, Dissolved Organic (DOC)	CCV		Wastewater	24.86 mg/L	10 mL	24.9 mg/L	1					8/8/20 12:03:00	N	II
KQ2010959-06	Carbon, Dissolved Organic (DOC)	CCB		Wastewater	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			8/8/20 12:03:00	N	II
KQ2010959-07	Carbon, Dissolved Organic (DOC)	CCB		Wastewater	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			8/8/20 12:03:00	N	II
KQ2010959-08	Carbon, Dissolved Organic (DOC)	CCB		Wastewater	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			8/8/20 12:03:00	N	II
KQ2010959-09	Carbon, Dissolved Organic (DOC)	MB		Wastewater	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			8/8/20 12:03:00	N	II
KQ2010959-10	Carbon, Dissolved Organic (DOC)	LCS		Wastewater	25.23 mg/L	10 mL	25.2 mg/L	1	0.07	0.50	101		8/8/20 12:03:00	N	II
KQ2010959-11	Carbon, Dissolved Organic (DOC)	DLCS		Wastewater	25.11 mg/L	10 mL	25.1 mg/L	1	0.07	0.50	100	<1	8/8/20 12:03:00	N	II

# indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

TOC : 690270
TOC : 696271
TOC : ~~690290~~ MK 8-10-20
DOC 690269

Schedule: 080820

Version: 13
Instrument: Fusion1
Last Saved by: Fusion1 (Fusion1)
Last Saved on: 2020/08/09 13:02 - Sunday

Position	Sample Type	Sample ID	Method ID (Calibration ID)	Reps	Use	State
(Clean)	Clean	Clean		1	True	Ready
(Clean)	Clean	Clean		1	True	Ready
(Clean)	Clean	Clean		1	True	Ready
(Blank)	Blank	Reagent/Acid Blank		1	True	Ready
D	Sample	RB	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
B	Check Standard	[TOC] CCV 25 ppm [25 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
D	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
1	Sample	MB1	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
C	Check Standard	[TOC] CCV 25 ppm [25 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
2	Sample	ICS	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
C	Check Standard	[TOC] LCS [25.0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
3	Sample	K2006047-001	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
4	Sample	K2006047-002 5X	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
5	Sample	K2006047-003	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
6	Sample	K2006047-004	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
7	Sample	K2006047-005 10X	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
8	Sample	K2006047-006	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
9	Sample	K2006158-001	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
B	Check Standard	[TOC] CCV 25 ppm [25 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
D	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
10	Sample	K2006158-001D	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
11	Sample	K2006158-001MS	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
12	Sample	K2006158-003	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
13	Sample	K2006158-004	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
14	Sample	K2006158-005 40X	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
15	Sample	K2006158-006 20X	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
16	Sample	RB	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
17	Sample	K2006333-001	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
18	Sample	K2006333-002	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
19	Sample	RB	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
B	Check Standard	[TOC] CCV 25 ppm [25 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
D	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
20	Sample	MB2	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
C	Check Standard	[TOC] LCS [25.0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
C	Check Standard	[TOC] LCS [25.0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
22	Sample	K2006297-001	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
23	Sample	K2006297-002	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
24	Sample	K2006297-003	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
25	Sample	K2006297-004	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
26	Sample	K2006297-004D	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
27	Sample	K2006297-004MS	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
28	Sample	K2006197-001	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
B	Check Standard	[TOC] CCV 25 ppm [25 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
D	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
29	Sample	K2006297-001*	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
30	Sample	K2006297-002*	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
31	Sample	K2006297-003*	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
32	Sample	K2006297-004*	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
33	Sample	K2006297-004D*	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
34	Sample	K2006297-004S*	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
35	Sample	K2006308-001	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
36	Sample	K2006321-001	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
37	Sample	K2006321-002 2X	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
38	Sample	K2006321-003	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready

Schedule: 080820

Position	Sample Type	Sample ID	Method ID (Calibration ID)	Reps	Use	State
B	Check Standard	[TOC] CCV 25 ppm [25 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
D	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
39	Sample	MB3	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
C	Check Standard	[TOC] LCS [25.0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
C	Check Standard	[TOC] LCS [25.0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
41	Sample	K2006321-004	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
42	Sample	K2006321-005	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
43	Sample	K2006321-006	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
44	Sample	K2006206-001	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
45	Sample	K2006206-001D	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
46	Sample	K2006206-1MS	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
47	Sample	K2006206-002	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
B	Check Standard	[TOC] CCV 25 ppm [25 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
D	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
48	Sample	~~K2006280-001~~	CAS_salt_010711 (CAS_salt_010711)	2	False	Ready
49	Sample	K2006280-001D	CAS_salt_010711 (CAS_salt_010711)	2	False	Ready
50	Sample	K2006280-001S NR	CAS_salt_010711 (CAS_salt_010711)	2	False	Ready
51	Sample	K2006280-002	CAS_salt_010711 (CAS_salt_010711)	2	False	Ready
52	Sample	~~K2006280-003~~	CAS_salt_010711 (CAS_salt_010711)	2	False	Ready
53	Sample	K2006497-001	CAS_salt_010711 (CAS_salt_010711)	2	False	Ready
54	Sample	K2006497-002	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
55	Sample	K2006497-003	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
56	Sample	K2006497-004	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
57	Sample	K2006497-005	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
B	Check Standard	[TOC] CCV 25 ppm [25 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
C	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
58	Sample	MB	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
C	Check Standard	[TOC] LCS [25.0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
59	Sample	K2006497-006	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
60	Sample	K2006330-001	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
62	Sample	K2006330-001D NR	CAS_salt_010711 (CAS_salt_010711)	2	False	Ready
63	Sample	K2006330-001MS	CAS_salt_010711 (CAS_salt_010711)	2	False	Ready
64	Sample	K2006330-002	CAS_salt_010711 (CAS_salt_010711)	2	False	Ready
65	Sample	K2006330-003	CAS_salt_010711 (CAS_salt_010711)	2	False	Ready
68	Sample	K2006257-001	CAS_salt_010711 (CAS_salt_010711)	2	False	Ready
B	Check Standard	[TOC] CCV 25ppm_salt [25ppm salt]	CAS_salt (CAS_salt_0811a)	1	True	Ready
D	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
					False	

Fusion Report - 080820
Saturday, August 08, 2020 12:03 PM

(View - Reps, Unused Reps, Meta-Data, Signature, History)
Printed on 2020/08/10 07:53 - Monday

Report Summary Information

Company Location:	Gen Chem Lab		
Schedule Name:	080820	Engine Version:	1.1.5.1
Instrument Name:	Fusion1	Firmware Version:	1.2.0696
Report Version:	1 of 1	Connection:	RS232 COM1
Report Creation by Operators (schedule version):	Fusion1 (Fusion1) (v3) Fusion1 (Fusion1) (v5) Fusion1 (Fusion1) (v7) Fusion1 (Fusion1) (v9) Fusion1 (Fusion1) (v13)		
Comment:			

Report Results

Sample Type: Clean — From Schedule Version 3

	Pos	Analysis Type	Sample ID	Start Time
◆	(clean)		Clean	2020/08/08 12:03

Rep #	Base Analysis Type	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	IC Clean	13.44	27.20	13.76	49.74	07:57
2	TC Clean	9.84	22.99	13.15	49.66	07:18
3	TC Clean	1.63	14.75	13.12	49.68	07:03
4	TC Clean	0.84	13.84	12.99	49.66	07:00

Sample Type: Clean — From Schedule Version 3

	Pos	Analysis Type	Sample ID	Start Time
◆	(clean)		Clean	2020/08/08 12:37

Rep #	Base Analysis Type	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	IC Clean	-0.08	12.88	12.96	49.75	08:00
2	TC Clean	4.72	17.45	12.72	49.65	07:16
3	TC Clean	1.01	14.02	13.01	49.67	07:02

4	TC Clean	0.80	13.73	12.93	49.67	07:00

Sample Type: Clean From Schedule Version 3

	Pos	Analysis Type	Sample ID	Start Time
◆	(clean)		Clean	2020/08/08 13:11

Rep #	Base Analysis Type	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	IC Clean	-0.26	12.71	12.97	49.75	07:58
2	TC Clean	4.82	17.53	12.71	49.59	07:16
3	TC Clean	1.11	14.03	12.92	49.64	07:00
4	TC Clean	1.03	13.85	12.82	49.65	07:01

Sample Type: Blank (Creating v1430) From Schedule Version 3

	Pos	Analysis Type	Sample ID	Start Time
◆	(blank)		Reagent/Acid Blank	2020/08/08 13:45

Rep #	Base Analysis Type	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	IC Clean	-0.39	12.48	12.87	49.76	07:59
2	TC Clean	5.34	17.95	12.61	49.61	07:19
3	TC Clean	1.82	14.75	12.92	49.59	07:02
4	TC Clean	1.25	14.03	12.79	49.61	07:01
5	Reagent Blank	5.96	18.76	12.79	49.60	08:10
6	Acid Blank	0.56	13.15	12.59	49.74	08:01

Sample Type: Sample From Schedule Version 3

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	D	TOC	RB	0.2354 ppm	0.0000 ppm	0.0000%	2020/08/08 14:36

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.2354	2.3545	10.95	23.83	12.88	49.78	10:31

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> CCV 25 ppm From Schedule Version 3

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	B	TOC	25.0000	1:2	[TOC] CCV 25 ppm [25 ppm]	0 / infinity (NA / NA)	25.5238 ppm (PASS)	0.0000 ppm	0%	2020/08/08 14:51

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	25.5238	255.2379	188.94	201.71	12.77	49.74	10:33

Completion State	Success Action	Method	Calibration	STD Conc - Pos B
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	50 ppmC

Sample Type: Check Standard --> CCB From Schedule Version 3

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	D	TOC	0.0000	1:1	[TOC] CCB [0 ppm]	0 / infinity (NA / NA)	0.0000 ppm (PASS)	0.0000 ppm	0%	2020/08/08 15:06

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.0000	0.0000	8.98	21.82	12.84	49.72	10:30

Completion State	Success Action	Method	Calibration	STD Conc - Pos D
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	0 ppmC

Sample Type: Sample From Schedule Version 5

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	1	TOC	MB1	0.0000 ppm	0.0000 ppm	0.0000%	2020/08/08 15:21

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0000	0.0000	8.70	21.47	12.77	49.71	10:32

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> CCV 25 ppm From Schedule Version 7

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	C	TOC	25.0000	1:2	[TOC] CCV 25 ppm [25 ppm]	0 / infinity (NA / NA)	12.4067 ppm (PASS)	0.0000 ppm	0%	2020/08/08 15:35

NR

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
C	TOC	25 ppm	1	12.4067	124.0671	96.92	109.68	12.76	49.68	10:33

Completion State	Success Action	Method	Calibration	STD Conc - Pos C
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	50 ppmC

Sample Type: Sample — From Schedule Version 9

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	2	TOC	ICS	0.6496 ppm	0.0000 ppm	0.0000%	2020/08/08 15:50

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.6496	6.4957	13.86	26.57	12.71	49.62	10:33

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> LCS — From Schedule Version 9

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	C	TOC	25.0000	1:1	[TOC] LCS [25.0 ppm]	0 / infinity (NA / NA)	25.8527 ppm (PASS)	0.0000 ppm	0%	2020/08/08 16:05

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
C	TOC	25.0 ppm	1	25.8527	258.5266	191.24	203.85	12.61	49.64	10:33

Completion State	Success Action	Method	Calibration	STD Conc - Pos C
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	25 ppmC

Sample Type: Sample — From Schedule Version 9

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	3	TOC	K2006047-001	3.6735 ppm	0.1980 ppm	5.3900%	2020/08/08 16:20

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	3.8134	38.1344	36.05	48.77	12.72	49.62	10:29
2	TOC	3.5335	35.3346	34.09	46.79	12.70	49.62	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	4	TOC	K2006047-002 5X	13.4025 ppm	0.0162 ppm	0.1200%	2020/08/08 16:48

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	13.3910	133.9101	103.24	116.08	12.85	49.73	10:26
2	TOC	13.4140	134.1396	103.40	116.38	12.98	49.64	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	5	TOC	K2006047-003	18.6383 ppm	0.2445 ppm	1.3100%	2020/08/08 17:16

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	18.8112	188.1124	141.26	154.11	12.85	49.79	10:29
2	TOC	18.4654	184.6541	138.83	151.84	13.01	49.68	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	6	TOC	K2006047-004	5.5848 ppm	0.1138 ppm	2.0400%	2020/08/08 17:44

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	5.6652	56.6523	49.04	61.94	12.90	49.74	10:29
2	TOC	5.5043	55.0429	47.91	60.86	12.95	49.70	10:23

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	7	TOC	K2006047-005 10X	0.0000 ppm	0.0000 ppm	0.0000%	2020/08/08 18:12

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0000	0.0000	-771.14	-758.07	13.07	49.70	10:26
2	TOC	0.0000	0.0000	-527.65	-514.52	13.13	49.68	10:30

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	8	TOC	K2006047-006	2.5618 ppm	0.6570 ppm	25.6500%	2020/08/08 18:40

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	3.0264	30.2639	30.53	43.62	13.09	49.71	10:29

2	TOC	2.0972	20.9722	24.01	37.09	13.08	49.81	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	9	TOC	K2006158-001	13.7039 ppm	0.0665 ppm	0.4900%	2020/08/08 19:08

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	13.7510	137.5096	105.76	118.84	13.08	49.66	10:28
2	TOC	13.6569	136.5688	105.10	117.97	12.87	49.66	10:23

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> CCV 25 ppm From Schedule Version 9

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	B	TOC	25.0000	1:2	[TOC] CCV 25 ppm [25 ppm]	0 / infinity (NA / NA)	26.0793 ppm (PASS)	0.0000 ppm	0%	2020/08/08 19:36

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	26.0793	260.7933	192.83	205.61	12.78	49.77	10:31

Completion State	Success Action	Method	Calibration	STD Conc - Pos B
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	50 ppmC

Sample Type: Check Standard --> CCB From Schedule Version 9

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	D	TOC	0.0000	1:1	[TOC] CCB [0 ppm]	0 / infinity (NA / NA)	0.0449 ppm (PASS)	0.0000 ppm	0%	2020/08/08 19:51

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.0449	0.4490	10.21	23.03	12.82	49.62	10:31

Completion State	Success Action	Method	Calibration	STD Conc - Pos D
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	0 ppmC

Sample Type: Sample From Schedule Version 9

		Analysis			Std. Dev.		

	Pos	Type	Sample ID	Result (ppmC)	(ppmC)	RSD	Start Time
◆	10	TOC	K2006158-001D	13.6259 ppm	0.3394 ppm	2.4900%	2020/08/08 20:05

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	13.8659	138.6586	106.57	119.68	13.12	49.58	10:28
2	TOC	13.3859	133.8588	103.20	116.19	12.99	49.54	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	11	TOC	K2006158-001MS	41.0625 ppm	0.3763 ppm	0.9200%	2020/08/08 20:34

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	41.3286	413.2855	299.21	312.31	13.10	49.51	10:27
2	TOC	40.7964	407.9639	295.48	308.63	13.15	49.48	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	12	TOC	K2006158-003	8.3734 ppm	0.2055 ppm	2.4500%	2020/08/08 21:02

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	8.5188	85.1876	69.06	82.12	13.06	49.49	10:29
2	TOC	8.2281	82.2809	67.02	79.91	12.89	49.49	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	13	TOC	K2006158-004	8.2953 ppm	0.0755 ppm	0.9100%	2020/08/08 21:30

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	8.3487	83.4869	67.86	80.81	12.95	49.50	10:25
2	TOC	8.2419	82.4192	67.12	80.14	13.02	49.50	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	14	TOC	K2006158-005 40X	46.0666 ppm	0.3094 ppm	0.6700%	2020/08/08 21:58

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	45.8478	458.4784	330.92	343.86	12.94	49.51	10:30
2	TOC	46.2853	462.8534	333.98	347.14	13.16	49.54	10:25

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	15	TOC	K2006158-006 20X	20.8042 ppm	0.6440 ppm	3.1000%	2020/08/08 22:26

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	21.2596	212.5963	158.43	171.47	13.03	49.55	10:28
2	TOC	20.3488	203.4885	152.04	165.18	13.14	49.54	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	16	TOC	RB	0.8427 ppm	0.1281 ppm	15.2000%	2020/08/08 22:54

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.7521	7.5207	14.58	27.53	12.95	49.53	10:26
2	TOC	0.9333	9.3325	15.85	28.76	12.91	49.58	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	17	TOC	K2006333-001	4.1567 ppm	0.1343 ppm	3.2300%	2020/08/08 23:22

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	4.2517	42.5165	39.12	52.03	12.91	49.59	10:27
2	TOC	4.0618	40.6177	37.79	51.00	13.21	49.61	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	18	TOC	K2006333-002	4.3346 ppm	0.1227 ppm	2.8300%	2020/08/08 23:50

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	4.4213	44.2130	40.32	53.25	12.94	49.64	10:29
2	TOC	4.2478	42.4781	39.10	52.25	13.15	49.60	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	19	TOC	RB	0.1913 ppm	0.0489 ppm	25.5500%	2020/08/09 00:18

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.1568	1.5676	10.40	23.59	13.19	49.64	10:29
2	TOC	0.2259	2.2590	10.88	23.96	13.08	49.63	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> CCV 25 ppm From Schedule Version 9

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	B	TOC	25.0000	1:2	[TOC] CCV 25 ppm [25 ppm]	0 / infinity (NA / NA)	25.0089 ppm (PASS)	0.0000 ppm	0%	2020/08/09 00:46

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	25.0089	250.0888	185.32	198.36	13.04	49.58	10:33

Completion State	Success Action	Method	Calibration	STD Conc - Pos B
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	50 ppmC

Sample Type: Check Standard --> CCB From Schedule Version 9

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	D	TOC	0.0000	1:1	[TOC] CCB [0 ppm]	0 / infinity (NA / NA)	0.0000 ppm (PASS)	0.0000 ppm	0%	2020/08/09 01:01

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.0000	0.0000	9.80	22.72	12.92	49.54	10:30

Completion State	Success Action	Method	Calibration	STD Conc - Pos D
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	0 ppmC

Sample Type: Sample From Schedule Version 9

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	20	TOC	MB2	0.0000 ppm	0.0000 ppm	0.0000%	2020/08/09 01:16

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0000	0.0000	9.16	22.32	13.17	49.50	10:30

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC)	CAS_salt_010711	CAS_salt_010711

(v1430)	(v4)	(v38)

Sample Type: Check Standard --> LCS From Schedule Version 9

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	C	TOC	25.0000	1:1	[TOC] LCS [25.0 ppm]	0 / infinity (NA / NA)	25.2283 ppm (PASS)	0.0000 ppm	0%	2020/08/09 01:30

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
C	TOC	25.0 ppm	1	25.2283	252.2827	186.86	199.88	13.01	49.48	10:31

Completion State	Success Action	Method	Calibration	STD Conc - Pos C
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	25 ppmC

Sample Type: Check Standard --> LCS From Schedule Version 9

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	C	TOC	25.0000	1:1	[TOC] LCS [25.0 ppm]	0 / infinity (NA / NA)	25.1138 ppm (PASS)	0.0000 ppm	0%	2020/08/09 01:45

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
C	TOC	25.0 ppm	1	25.1138	251.1380	186.06	199.23	13.17	49.48	10:33

Completion State	Success Action	Method	Calibration	STD Conc - Pos C
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	25 ppmC

Sample Type: Sample From Schedule Version 9

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	22	TOC	K2006297-001	2.1105 ppm	0.0374 ppm	1.7700%	2020/08/09 01:59

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	2.1370	21.3699	24.29	37.63	13.34	49.47	10:28
2	TOC	2.0841	20.8410	23.92	37.17	13.25	49.48	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	23	TOC	K2006297-002	0.9452 ppm	0.0011 ppm	0.1200%	2020/08/09 02:27

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.9459	9.4594	15.94	29.10	13.17	49.52	10:26
2	TOC	0.9444	9.4437	15.92	28.99	13.07	49.54	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	24	TOC	K2006297-003	0.1083 ppm	0.0214 ppm	19.7300%	2020/08/09 02:55

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.1234	1.2340	10.17	23.36	13.19	49.56	10:26
2	TOC	0.0932	0.9318	9.95	23.02	13.07	49.58	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	25	TOC	K2006297-004	4.2067 ppm	0.0302 ppm	0.7200%	2020/08/09 03:23

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	4.2281	42.2813	38.96	52.02	13.06	49.65	10:26
2	TOC	4.1854	41.8537	38.66	51.79	13.13	49.71	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	26	TOC	K2006297-004D	4.1821 ppm	0.0028 ppm	0.0700%	2020/08/09 03:51

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	4.1801	41.8009	38.62	51.85	13.22	49.69	10:27
2	TOC	4.1841	41.8408	38.65	51.88	13.23	49.81	10:28

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	27	TOC	K2006297-004MS	32.0297 ppm	0.4198 ppm	1.3100%	2020/08/09 04:19

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	31.7329	317.3288	231.90	245.22	13.32	49.79	10:26
2	TOC	32.3266	323.2662	236.07	249.38	13.31	49.79	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC)	CAS_salt_010711	CAS_salt_010711

(v1430) (v4) (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	28	TOC	K2006197-002 MC 8/10/20	16.6761 ppm	0.0755 ppm	0.4500%	2020/08/09 04:47

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	16.6227	166.2274	125.91	139.14	13.23	49.84	10:30
2	TOC	16.7295	167.2951	126.66	140.11	13.46	49.87	10:29

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> CCV 25 ppm From Schedule Version 9

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	B	TOC	25.0000	1:2	[TOC] CCV 25 ppm [25 ppm]	0 / infinity (NA / NA)	24.3841 ppm (PASS)	0.0000 ppm	0%	2020/08/09 05:15

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	24.3841	243.8406	180.94	194.23	13.29	49.90	10:29

Completion State	Success Action	Method	Calibration	STD Conc - Pos B
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	50 ppmC

Sample Type: Check Standard --> CCB From Schedule Version 9

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	D	TOC	0.0000	1:1	[TOC] CCB [0 ppm]	0 / infinity (NA / NA)	0.0000 ppm (PASS)	0.0000 ppm	0%	2020/08/09 05:30

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.0000	0.0000	8.46	21.79	13.33	49.93	10:33

Completion State	Success Action	Method	Calibration	STD Conc - Pos D
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	0 ppmC

Sample Type: Sample From Schedule Version 9

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	29	TOC	K2006297-001*	1.8964 ppm	0.0291 ppm	1.5400%	2020/08/09 05:45

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.9170	19.1703	22.75	36.13	13.38	49.93	10:27
2	TOC	1.8758	18.7583	22.46	35.91	13.46	49.97	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	30	TOC	K2006297-002*	1.4987 ppm	0.0616 ppm	4.1100%	2020/08/09 06:13

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.4551	14.5515	19.51	32.81	13.30	49.99	10:27
2	TOC	1.5423	15.4225	20.12	33.48	13.36	49.97	10:30

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	31	TOC	K2006297-003*	0.1828 ppm	0.1654 ppm	90.5000%	2020/08/09 06:41

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0658	0.6581	9.76	23.16	13.40	49.97	10:28
2	TOC	0.2997	2.9974	11.40	24.83	13.43	49.96	10:24

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	32	TOC	K2006297-004*	4.0275 ppm	0.0781 ppm	1.9400%	2020/08/09 07:09

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	3.9722	39.7225	37.16	50.64	13.48	49.95	10:27
2	TOC	4.0827	40.8273	37.94	51.35	13.41	49.96	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	33	TOC	K2006297-004D*	4.0559 ppm	0.0077 ppm	0.1900%	2020/08/09 07:37

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	4.0505	40.5051	37.71	51.12	13.41	49.92	10:25
2	TOC	4.0613	40.6134	37.79	51.33	13.54	49.89	10:23

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC)	CAS_salt_010711	CAS_salt_010711

(v1430) (v4) (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	34	TOC	K2006297-004S*	30.5388 ppm	0.0734 ppm	0.2400%	2020/08/09 08:05

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	30.4869	304.8694	223.16	236.50	13.34	49.92	10:24
2	TOC	30.5907	305.9072	223.89	237.09	13.20	49.89	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	35	TOC	K2006308-001	0.7625 ppm	0.0787 ppm	10.3200%	2020/08/09 08:33

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.8182	8.1821	15.04	28.47	13.43	49.90	10:28
2	TOC	0.7069	7.0688	14.26	27.66	13.40	49.99	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	36	TOC	K2006321-001	0.7486 ppm	0.0339 ppm	4.5200%	2020/08/09 09:01

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.7726	7.7259	14.72	28.07	13.35	49.97	10:29
2	TOC	0.7247	7.2470	14.38	27.66	13.28	49.99	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	37	TOC	K2006321-002 2X	4.3676 ppm	0.0081 ppm	0.1800%	2020/08/09 09:29

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	4.3618	43.6185	39.90	53.10	13.20	50.01	10:31
2	TOC	4.3733	43.7325	39.98	53.00	13.02	50.01	10:29

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	38	TOC	K2006321-003	4.0969 ppm	0.1642 ppm	4.0100%	2020/08/09 09:57

Rep	Base	ppm	µg	Adjusted	NDIR (Abs)	Baseline	Pressure	Run

#	Analysis Type			(Abs)		(Abs)	(psig)	Time
1	TOC	4.2130	42.1302	38.85	52.04	13.19	50.01	10:28
2	TOC	3.9808	39.8080	37.22	50.43	13.21	50.02	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> CCV 25 ppm From Schedule Version 9

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	B	TOC	25.0000	1:2	[TOC] CCV 25 ppm [25 ppm]	0 / infinity (NA / NA)	24.8551 ppm (PASS)	0.0000 ppm	0%	2020/08/09 10:25

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	24.8551	248.5506	184.25	197.11	12.86	50.01	10:32

Completion State	Success Action	Method	Calibration	STD Conc - Pos B
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	50 ppmC

Sample Type: Check Standard --> CCB From Schedule Version 9

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	D	TOC	0.0000	1:1	[TOC] CCB [0 ppm]	0 / infinity (NA / NA)	0.0000 ppm (PASS)	0.0000 ppm	0%	2020/08/09 10:40

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.0000	0.0000	8.76	21.69	12.93	50.00	10:29

Completion State	Success Action	Method	Calibration	STD Conc - Pos D
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	0 ppmC

Sample Type: Sample From Schedule Version 9

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	39	TOC	MB3	0.0000 ppm	0.0000 ppm	0.0000%	2020/08/09 10:55

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0000	0.0000	7.94	21.07	13.13	49.99	10:32

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> LCS From Schedule Version 9

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	C	TOC	25.0000	1:1	[TOC] LCS [25.0 ppm]	0 / infinity (NA / NA)	24.9081 ppm (PASS)	0.0000 ppm	0%	2020/08/09 11:09

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
C	TOC	25.0 ppm	1	24.9081	249.0809	184.62	197.61	12.99	49.99	10:31

Completion State	Success Action	Method	Calibration	STD Conc - Pos C
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	25 ppmC

Sample Type: Check Standard --> LCS From Schedule Version 9

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	C	TOC	25.0000	1:1	[TOC] LCS [25.0 ppm]	0 / infinity (NA / NA)	25.0424 ppm (PASS)	0.0000 ppm	0%	2020/08/09 11:24

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
C	TOC	25.0 ppm	1	25.0424	250.4238	185.56	198.49	12.93	49.94	10:30

Completion State	Success Action	Method	Calibration	STD Conc - Pos C
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	25 ppmC

Sample Type: Sample From Schedule Version 9

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	41	TOC	K2006321-004	8.7645 ppm	0.1527 ppm	1.7400%	2020/08/09 11:38

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	8.8724	88.7244	71.54	84.63	13.09	49.92	10:26
2	TOC	8.6565	86.5647	70.02	82.90	12.88	49.97	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	42	TOC	K2006321-005	2.7017 ppm	0.0034 ppm	0.1300%	2020/08/09 12:07

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	2.7041	27.0408	28.27	41.07	12.80	49.90	10:25

2	TOC	2.6992	26.9923	28.24	41.15	12.92	49.88	10:31

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	43	TOC	K2006321-006	0.5873 ppm	0.0357 ppm	6.0800%	2020/08/09 12:35

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.5620	5.6204	13.24	26.35	13.10	49.89	10:26
2	TOC	0.6125	6.1251	13.60	26.50	12.90	49.86	10:24

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Sample From Schedule Version 13

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	44	TOC	K2006206-001	1.0991 ppm	0.0640 ppm	5.8200%	2020/08/09 13:03

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.1444	11.4438	17.33	30.11	12.79	49.83	10:28
2	TOC	1.0539	10.5386	16.69	29.74	13.05	49.84	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	45	TOC	K2006206-001D	1.1268 ppm	0.0070 ppm	0.6200%	2020/08/09 13:31

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.1219	11.2185	17.17	30.13	12.96	49.83	10:28
2	TOC	1.1317	11.3169	17.24	30.21	12.97	49.76	10:24

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	46	TOC	K2006206-1MS	14.6942 ppm	0.0219 ppm	0.1500%	2020/08/09 13:59

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	14.6787	146.7871	112.27	125.21	12.94	49.77	10:29
2	TOC	14.7096	147.0965	112.49	125.36	12.87	49.66	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC)	CAS_salt_010711	CAS_salt_010711

(v1430) (v4) (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	47	TOC	K2006206-002	1.1638 ppm	0.0607 ppm	5.2100%	2020/08/09 14:27

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.2067	12.0668	17.76	30.75	12.98	49.75	10:28
2	TOC	1.1209	11.2086	17.16	30.26	13.10	49.76	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> CCV 25 ppm From Schedule Version 13

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	B	TOC	25.0000	1:2	[TOC] CCV 25 ppm [25 ppm]	0 / infinity (NA / NA)	24.9271 ppm (PASS)	0.0000 ppm	0%	2020/08/09 14:55

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	24.9271	249.2705	184.75	197.76	13.01	49.70	10:30

Completion State	Success Action	Method	Calibration	STD Conc - Pos B
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	50 ppmC

Sample Type: Check Standard --> CCB From Schedule Version 13

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	D	TOC	0.0000	1:1	[TOC] CCB [0 ppm]	0 / infinity (NA / NA)	0.0000 ppm (PASS)	0.0000 ppm	0%	2020/08/09 15:10

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.0000	0.0000	8.49	21.43	12.93	49.80	10:31

Completion State	Success Action	Method	Calibration	STD Conc - Pos D
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	0 ppmC

Sample Type: Sample From Schedule Version 13

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	54	TOC	K2006497-002	4.5500 ppm	0.1081 ppm	2.3700%	2020/08/09 15:25

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	4.6264	46.2643	41.75	54.68	12.93	49.65	10:26
2	TOC	4.4736	44.7361	40.68	53.75	13.07	49.71	10:29

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	55	TOC	K2006497-003	4.5664 ppm	0.0456 ppm	1.0000%	2020/08/09 15:53

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	4.5986	45.9863	41.56	54.51	12.95	49.81	10:27
2	TOC	4.5342	45.3420	41.11	54.18	13.08	49.66	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	56	TOC	K2006497-004	112.9375 ppm	9.2415 ppm	8.1800%	2020/08/09 16:21

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	119.4722	1194.7218	847.38	860.33	12.96	49.73	10:25
2	TOC	106.4027	1064.0272	755.70	769.59	13.89	49.60	10:28

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	57	TOC	K2006497-005	6.5386 ppm	2.1962 ppm	33.5900%	2020/08/09 16:49

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	8.0915	80.9152	66.06	79.76	13.70	49.66	10:31
2	TOC	4.9857	49.8567	44.27	57.47	13.20	49.76	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> CCV 25 ppm From Schedule Version 13

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	B	TOC	25.0000	1:2	[TOC] CCV 25 ppm [25 ppm]	0 / infinity (NA / NA)	26.1637 ppm (PASS)	0.0000 ppm	0%	2020/08/09 17:17

Pos	Base Analysis	ID	Rep	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run

	Type		#							Time
B	TOC	25 ppm	1	26.1637	261.6372	193.43	206.42	13.00	49.63	10:30

Completion State	Success Action	Method	Calibration	STD Conc - Pos B
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	50 ppmC

Sample Type: Check Standard --> CCB From Schedule Version 13

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	C	TOC	0.0000	1:1	[TOC] CCB [0 ppm]	0 / infinity (NA / NA)	25.7284 ppm (PASS)	0.0000 ppm	0%	2020/08/09 17:32

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
C	TOC	0 ppm	1	25.7284	257.2836	190.37	203.33	12.96	49.69	10:35

Completion State	Success Action	Method	Calibration	STD Conc - Pos C
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	0 ppmC

Sample Type: Sample From Schedule Version 13

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	58	TOC	MB	0.5261 ppm	0.0000 ppm	0.0000%	2020/08/09 17:47

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.5261	5.2612	12.99	25.90	12.91	49.67	10:34

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> LCS From Schedule Version 13

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	C	TOC	25.0000	1:1	[TOC] LCS [25.0 ppm]	0 / infinity (NA / NA)	25.2861 ppm (PASS)	0.0000 ppm	0%	2020/08/09 18:01

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
C	TOC	25.0 ppm	1	25.2861	252.8615	187.27	200.30	13.03	49.64	10:34

Completion State	Success Action	Method	Calibration	STD Conc - Pos C
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	25 ppmC

Sample Type: Sample From Schedule Version 13

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	59	TOC	K2006497-006	49.0737 ppm	0.2470 ppm	0.5000%	2020/08/09 18:16

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	49.2483	492.4835	354.77	367.74	12.97	49.75	10:27
2	TOC	48.8991	488.9909	352.32	365.28	12.96	49.61	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	60	TOC	K2006330-001	2.2567 ppm	0.1489 ppm	6.6000%	2020/08/09 18:44

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	2.3619	23.6194	25.87	38.89	13.02	49.67	10:26
2	TOC	2.1514	21.5139	24.39	37.12	12.73	49.82	10:28

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.3004 (IC) (v1430)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> CCV 25ppm_salt From Schedule Version 13

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	B	TOC	25.0000	1:2	[TOC] CCV 25ppm_salt [25ppm salt]	22.5000 / 27.5000 (90% / 110%)	23.5306 ppm (PASS)	0.0000 ppm	0%	2020/08/09 19:12

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25ppm salt	1	23.5306	235.3063	187.46	200.62	13.15	49.68	10:33

Completion State	Success Action	Method	Calibration	STD Conc - Pos B
Success - Criteria met.	Do Nothing	CAS_salt (v5)	CAS_salt_0811a (v2)	50 ppmC

Sample Type: Check Standard --> CCB From Schedule Version 13

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	D	TOC	0.0000	1:1	[TOC] CCB [0 ppm]	0 / infinity (NA / NA)	0.1418 ppm (PASS)	0.0000 ppm	0%	2020/08/09 19:27

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.1418	1.4183	10.89	23.95	13.06	49.75	10:29

Completion State	Success Action	Method	Calibration	STD Conc - Pos D
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	0 ppmC

Meta Data Used in this Report

Blanks

Version	Reagent (Abs)	Acid (Abs)	DI IC (Abs)	DI TC (Abs)	DI TOC (Abs)	Save Time	Operator
v1429	1.3370	0.3660	0.0000	0.0000	0.0000	2020/08/05 18:45	Fusion1 (Fusion1)
v1430	1.9877	0.5570	0.0000	0.0000	0.0000	2020/08/08 14:36	Fusion1 (Fusion1)

Calibrations

Name: CAS_salt_010711 (TOC)

Version: v38
Calibration curve formula: TOC: y = 7.015x + 9.892
Ver Creation: 2020/06/13 16:40
r^2 value: TOC: r^2 = 0.99974
Comment:
Operator: Fusion1 (Fusion1)
Basic Analysis Type: TOC

Basic Analysis Type: TOC

Sample ID	Y Raw Value	X Expected	Message	End Time
DI Water	9.5750	0.0000		2020/06/13 15:13
0.500 ppm	12.9010	0.5000		2020/06/13 15:28
1.0 ppm	15.6320	1.0000		2020/06/13 15:42
5.0 ppm	43.2510	5.0000		2020/06/13 15:56
10 ppm	82.4040	10.0000		2020/06/13 16:11
25 ppm	188.6880	25.0000		2020/06/13 16:25
50 ppm	358.6500	50.0000		2020/06/13 16:39

Name: CAS_salt_0811a (TOC)

Version: v2
Calibration curve formula: TOC: y = 7.576x + 9.202
Ver Creation: 2010/08/11 19:18
r^2 value: TOC: r^2 = 0.99983
Comment:
Operator: Gen Chem Lab (Fusion1)
Basic Analysis Type: TOC

Basic Analysis Type: TOC

Sample ID	Y Raw Value	X Expected	Message	End Time
0	10.4200	0.0000		2010/08/11 17:57
0.500 ppm	15.3130	0.5000		2010/08/11 18:11
1.000 ppm	17.5920	1.0000		2010/08/11 18:24
5.000 ppm	44.4730	5.0000		2010/08/11 18:37
10.000 ppm	83.3970	10.0000		2010/08/11 18:51
25.000 ppm	197.1510	25.0000		2010/08/11 19:04
50.000 ppm	389.2430	50.0000		2010/08/11 19:17

Methods

Name: CAS_salt_010711 (TOC)

Version: v4 Operator: Fusion1 (Fusion1)
Ver Creation: 2019/02/21 17:57
Comment:

Parameter	Value
SampleVolume	10.0 mL
Dilution	1:10
AcidVolume	0.5 ml
ReagentVolume	2.0 ml
UVReactorPrerinse	Off
UVReactorPrerinseVolume	5.0
NumberOfUVReactorPrerinses	1
ICSpargeTime	1.00 mins
DetectorSweepFlow	500 ml/min
PreSpargeTime	2.00 mins
SystemFlow	500 ml/min

Advanced Parameter	Value
NeedleRinseVolume	5.0 ml
VialPrimeVolume	2.0 ml
ICSamplePrimeVolume	2.0 ml
ICSpargeRinseVolume	12.0 ml
BaselineStabilizeTime	0.70 min
DetectorPressureFlow	150 ml/min
SyringeSpeedWaste	10
SyringeSpeedAcid	7
SyringeSpeedReagent	7
SyringeSpeedDIWater	7
NDIRPressurization	60 psig
SyringeSpeedSampleDispense	5
SyringeSpeedSampleAspirate	4
SyringeSpeedUVDispense	5
SyringeSpeedUVAspirate	5
SyringeSpeedICDispense	5
SyringeSpeedICAspirate	5
NDIRPressureStabilize	1.75 min
SampleMixing	Off
SampleMixingCycles	1
SampleMixingVolume	10.0
LowLevelFilterNDIR	Off

Name: CAS_salt (TOC)

Version: v5 Operator: Gen Chem Lab (Fusion1)
Ver Creation: 2013/02/04 11:50
Comment: This method is designed to use the Non-Purgeable Organic Carbon (NPOC) method for TOC analysis on

waste water type samples.

Parameter	Value
SampleVolume	10.0 mL
Dilution	1:10
AcidVolume	0.5 ml
ReagentVolume	2.0 ml
UVReactorPrerinse	Off
UVReactorPrerinseVolume	5.0
NumberOfUVReactorPrerinses	1
ICSpargeTime	1.00 mins
DetectorSweepFlow	500 ml/min
PreSpargeTime	2.00 mins
SystemFlow	500 ml/min

Advanced Parameter	Value
NeedleRinseVolume	5.0 ml
VialPrimeVolume	2.0 ml
ICSamplePrimeVolume	2.0 ml
ICSpargeRinseVolume	12.0 ml
BaselineStabilizeTime	0.70 min
DetectorPressureFlow	150 ml/min
SyringeSpeedWaste	10
SyringeSpeedAcid	7
SyringeSpeedReagent	7
SyringeSpeedDIWater	7
NDIRPressurization	60 psig
SyringeSpeedSampleDispense	5
SyringeSpeedSampleAspirate	4
SyringeSpeedUVDispense	7
SyringeSpeedUVAspirate	5
SyringeSpeedICDispense	7
SyringeSpeedICAspirate	5
NDIRPressureStabilize	1.75 min
SampleMixing	Off
SampleMixingCycles	1
SampleMixingVolume	10.0
LowLevelFilterNDIR	Off

Acceptance / Approval

Electronic Signatures

Report Version	User Name	Acceptance	Reason	Date

Report History

Report History

Report Version	User Name	System Reason	User Reason	Date
1	Fusion1 (Fusion1)	Schedule completed	Schedule completed	2020/08/09 19:42

ALS Environmental

StarLIMS Run: 690270/690271/690269

Analysis: DOC/TOC

Method: SM 5310 C, 9060A, 415.1, 9060

CCV: 19-GEN-8-15-C 50 ppm LCS: 19-GEN-8-31I 25.0 ppm

ICAL Date: 6/16/2020

ICAL ID: 19-GEN-8-22-G

ICS ID: 19-GEN-8-4-G

ICS TV: 25.0 ppm ICS % R < 1

Spike ID: 19-GEN-8-15-B 0.05 ml of 5000 ppm stock ---> 10.0 ml = 25.0 ppm x dilution factor

Sodium Persulfate: 19-GEN-08-32J

21 % H3PO4: 19-GEN-08-32I

Equipment ID: K-TOC-03

PIPETTE ID: 124276B, 129001F, N11314F, Marge

FILTER ID: 16967789

Analyzed By: MV	Date Analyzed: 8-8-20
Reviewed By: JL	Date Reviewed: 8/10/20

Work Request # 6332 6345 6376 6497 6257 6280 6330

Tier: IV II IV IV IV IV IV

6331 6357 6373 6498 6506 6651

Date Analyzed: 8-10-20 IV I IV IV II II

Analyst: MK Run # 690342 | 690414

Analysis: TOC

DATA QUALITY REPORT
INORGANICS

Explain any "no" responses to questions below, and any corrective actions in the comments section below.

1.	Is the method name and number correct and appropriate?	yes/no/NA
2.	Holding times met for all analyses and for all samples?	yes/no/NA
3.	Are calculations correct?	yes/no/NA
4.	Is the reporting basis correct? (Dry Weight)	yes/no/NA
5.	All quality control criteria met?	yes/no
6.	Is the calibration curve correlation coefficient ≥ 0.995?	yes/no/NA
7.	MBs, CCVs, CCBs, LCSs, Dups, and Spikes, analyzed at proper frequency?	yes/no/NA
8.	Are ICVs, CCVs, and CCBs all within acceptance limits?	yes/no/NA
9.	Are results for methods blanks all ND?	yes/no/NA
10.	Are all QC samples within acceptance criteria? (LCS % rec, MS/DMS % rec, DUP or MS/DMS RPDs, etc.)	yes/no/NA
11.	Are all exceptions explained?	yes/no/NA
12.	Have all applicable service requests been reviewed?	yes/no/NA
13.	Are all samples labeled correctly?	yes/no/NA
14.	Have all instructions on the service request been followed? (e.g. Special MRLs, QC on a specific sample, Form V)	yes/no/NA
15.	Are detection limits and units reported correctly?	yes/no/NA
16.	Is the unused space on the benchsheet crossed out?	yes/no/NA
17.	Was analysis turned in by the due date? (n-2) (If not record SR#)	yes/no/NA

COMMENTS:

Final Approved by: _____ Date: 8/11/20

DQREPORT

Analytical Results Summary

Instrument Name: K-TOC-01 **Analyst:** MKANALY **Analysis Lot:** 690414 **Method/Testcode:** SM 5310 C/TOC T

Lab Code	Target Analytes	QC	Parent Sample	Matrix	Raw Result	Sample Amt.	Final Result	Dil	MDL	PQL	% Rec	% RSD	Date Analyzed	QC?	Tier
K2006332-001	Carbon, Total Organic	N/A		Water	0.65 mg/L	10 mL	0.65 mg/L	1	0.07	0.50			8/10/20 08:15:00	N	IV
K2006345-001	Carbon, Total Organic	N/A		Water	0.59 mg/L	10 mL	0.59 mg/L	1	0.07	0.50			8/10/20 08:15:00	N	II
K2006345-002	Carbon, Total Organic	N/A		Water	0.66 mg/L	10 mL	0.66 mg/L	1	0.07	0.50			8/10/20 08:15:00	N	II
K2006345-003	Carbon, Total Organic	N/A		Water	0.81 mg/L	10 mL	0.81 mg/L	1	0.07	0.50			8/10/20 08:15:00	N	II
K2006345-004	Carbon, Total Organic	N/A		Water	0.72 mg/L	10 mL	0.72 mg/L	1	0.07	0.50			8/10/20 08:15:00	N	II
K2006345-005	Carbon, Total Organic	N/A		Water	0.68 mg/L	10 mL	0.68 mg/L	1	0.07	0.50			8/10/20 08:15:00	N	II
K2006345-006	Carbon, Total Organic	N/A		Water	0.40 mg/L	10 mL	0.40 mg/L J	1	0.07	0.50			8/10/20 08:15:00	N	II
K2006345-007	Carbon, Total Organic	N/A		Water	0.96 mg/L	10 mL	0.96 mg/L	1	0.07	0.50			8/10/20 08:15:00	N	II
K2006345-008	Carbon, Total Organic	N/A		Water	0.55 mg/L	10 mL	0.55 mg/L	1	0.07	0.50			8/10/20 08:15:00	N	II
K2006376-001	Carbon, Total Organic	N/A		Water	1.15 mg/L	10 mL	1.15 mg/L	1	0.07	0.50			8/10/20 08:15:00	N	IV
K2006376-002	Carbon, Total Organic	N/A		Water	1.58 mg/L	10 mL	1.58 mg/L	1	0.07	0.50			8/10/20 08:15:00	N	IV
K2006376-003	Carbon, Total Organic	N/A		Water	1.28 mg/L	10 mL	1.28 mg/L	1	0.07	0.50			8/10/20 08:15:00	N	IV
K2006497-001	Carbon, Total Organic	N/A		Ground Water	4.11 mg/L	10 mL	4.11 mg/L	1	0.07	0.50			8/10/20 08:15:00	N	IV
K2006497-004	Carbon, Total Organic	N/A		Ground Water	28.43 mg/L	10 mL	711 mg/L	25	2	13			8/10/20 08:15:00	N	IV
K2006497-005	Carbon, Total Organic	N/A		Ground Water	3.34 mg/L	10 mL	3.34 mg/L	1	0.07	0.50			8/10/20 08:15:00	N	IV
K2006497-006	Carbon, Total Organic	N/A		Ground Water	47.81 mg/L	10 mL	47.8 mg/L	1	0.07	0.50			8/10/20 08:15:00	N	IV
KQ2011025-01	Carbon, Total Organic	DUP	K2006376-003	Water	1.25 mg/L	10 mL	1.25 mg/L	1	0.07	0.50		2	8/10/20 08:15:00	N	IV
KQ2011025-02	Carbon, Total Organic	MS	K2006376-003	Water	27.72 mg/L	10 mL	27.7 mg/L	1	0.07	0.50	106		8/10/20 08:15:00	N	IV
KQ2011025-03	Carbon, Total Organic	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			8/10/20 08:15:00	N	IV
KQ2011025-04	Carbon, Total Organic	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			8/10/20 08:15:00	N	IV
KQ2011025-05	Carbon, Total Organic	CCB		Water	0.02 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			8/10/20 08:15:00	N	IV
KQ2011025-06	Carbon, Total Organic	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			8/10/20 08:15:00	N	IV
KQ2011025-07	Carbon, Total Organic	CCV		Water	24.39 mg/L	10 mL	24.4 mg/L	1					8/10/20 08:15:00	N	IV
KQ2011025-08	Carbon, Total Organic	CCV		Water	24.42 mg/L	10 mL	24.4 mg/L	1					8/10/20 08:15:00	N	IV
KQ2011025-09	Carbon, Total Organic	CCV		Water	24.80 mg/L	10 mL	24.8 mg/L	1					8/10/20 08:15:00	N	IV
KQ2011025-10	Carbon, Total Organic	CCV		Water	24.03 mg/L	10 mL	24.0 mg/L	1					8/10/20 08:15:00	N	IV
KQ2011025-11	Carbon, Total Organic	MB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			8/10/20 08:15:00	N	IV
KQ2011025-12	Carbon, Total Organic	LCS		Water	24.40 mg/L	10 mL	24.4 mg/L	1	0.07	0.50	98		8/10/20 08:15:00	N	IV

# indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

Analytical Results Summary

Instrument Name: K-TOC-01 **Analyst:** MKANALY **Analysis Lot:** 690342 **Method/Testcode:** SM 5310 C/TOC T

Lab Code	Target Analytes	QC	Parent Sample	Matrix	Raw Result	Sample Amt.	Final Result	Dil	MDL	PQL	% Rec	% RSD	Date Analyzed	QC?	Tier
K2006257-001	Carbon, Total Organic	N/A		Water	0.91 mg/L	10 mL	0.91 mg/L	1	0.07	0.50			8/10/20 11:49:00	N	IV
K2006280-001	Carbon, Total Organic	N/A		Ground Water	4.58 mg/L	10 mL	4.58 mg/L	1	0.07	0.50			8/10/20 11:49:00	N	IV
K2006280-002	Carbon, Total Organic	N/A		Ground Water	8.08 mg/L	10 mL	8.08 mg/L	1	0.07	0.50			8/10/20 11:49:00	N	IV
K2006280-003	Carbon, Total Organic	N/A		Ground Water	9.97 mg/L	10 mL	9.97 mg/L	1	0.07	0.50			8/10/20 11:49:00	N	IV
K2006330-001	Carbon, Total Organic	N/A		Water	1.70 mg/L	10 mL	1.70 mg/L	1	0.07	0.50			8/10/20 11:49:00	N	IV
K2006330-002	Carbon, Total Organic	N/A		Water	1.51 mg/L	10 mL	1.51 mg/L	1	0.07	0.50			8/10/20 11:49:00	N	IV
K2006330-003	Carbon, Total Organic	N/A		Water	1.87 mg/L	10 mL	1.87 mg/L	1	0.07	0.50			8/10/20 11:49:00	N	IV
K2006331-001	Carbon, Total Organic	N/A		Water	0.88 mg/L	10 mL	0.88 mg/L	1	0.07	0.50			8/10/20 11:49:00	N	IV
K2006331-002	Carbon, Total Organic	N/A		Water	1.01 mg/L	10 mL	1.01 mg/L	1	0.07	0.50			8/10/20 11:49:00	N	V
K2006357-001	Carbon, Total Organic	N/A		Water	40.99 mg/L	10 mL	41.0 mg/L	1	0.07	0.50			8/10/20 11:49:00	N	I
K2006373-001	Carbon, Total Organic	N/A		Water	1.95 mg/L	10 mL	1.95 mg/L	1	0.07	0.50			8/10/20 11:49:00	N	II
K2006498-001	Carbon, Total Organic	N/A		Water	2.77 mg/L	10 mL	2.77 mg/L	1	0.07	0.50			8/10/20 11:49:00	N	IV
K2006506-001	Carbon, Total Organic	N/A		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			8/10/20 11:49:00	N	II
K2006651-001	Carbon, Total Organic	N/A		Water	2.24 mg/L	10 mL	2.24 mg/L	1	0.07	0.50			8/10/20 11:49:00	N	II
KQ2010989-01	Carbon, Total Organic	DUP	K2006373-001	Water	1.96 mg/L	10 mL	1.96 mg/L	1	0.07	0.50		<1	8/10/20 11:49:00	N	II
KQ2010989-02	Carbon, Total Organic	MS	K2006373-001	Water	28.22 mg/L	10 mL	28.2 mg/L	1	0.07	0.50	105		8/10/20 11:49:00	N	II
KQ2010989-03	Carbon, Total Organic	CCV		Water	24.83 mg/L	10 mL	24.8 mg/L	1					8/10/20 11:49:00	N	II
KQ2010989-04	Carbon, Total Organic	CCV		Water	24.39 mg/L	10 mL	24.4 mg/L	1					8/10/20 11:49:00	N	II
KQ2010989-05	Carbon, Total Organic	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			8/10/20 11:49:00	N	II
KQ2010989-06	Carbon, Total Organic	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			8/10/20 11:49:00	N	II
KQ2010989-07	Carbon, Total Organic	MB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			8/10/20 11:49:00	N	II
KQ2010989-08	Carbon, Total Organic	LCS		Water	24.61 mg/L	10 mL	24.6 mg/L	1	0.07	0.50	98		8/10/20 11:49:00	N	II
KQ2010989-09	Carbon, Total Organic	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			8/10/20 11:49:00	N	V
KQ2010989-10	Carbon, Total Organic	CCV		Water	24.42 mg/L	10 mL	24.4 mg/L	1					8/10/20 11:49:00	N	V

# indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

690342
690414

Schedule: 081020PART

Version: 5
Instrument: Fusion1
Last Saved by: Fusion1 (Fusion1)
Last Saved on: 2020/08/11 08:15 - Tuesday

Position	Sample Type	Sample ID	Method ID (Calibration ID)	Reps	Use	State
(Clean)	Clean	Clean		1	True	Ready
(Clean)	Clean	Clean		1	True	Ready
(Clean)	Clean	Clean		1	True	Ready
(Blank)	Blank	Reagent/Acid Blank		1	True	Ready
D	Sample	RB	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
B	Check Standard	[TOC] CCV 25 ppm [25 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
D	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
1	Sample	MB1	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
C	Check Standard	[TOC] LCS [24.0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
2	Sample	ICS	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
3	Sample	k2006373-001	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
4	Sample	K2006373-001D	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
5	Sample	K2006373-001MS	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
6	Sample	K2006330-001	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
7	Sample	K2006330-002	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
8	Sample	K2006330-003	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
9	Sample	K2006331-001	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
B	Check Standard	[TOC] CCV 25 ppm [25 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
D	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
10	Sample	K2006331-002	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
11	Sample	K2006280-001	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
12	Sample	K2006280-002	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
13	Sample	K2006280-003	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
14	Sample	K2006257-001	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
15	Sample	K2006357-001	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
16	Sample	K2006498-001	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
17	Sample	K2006651-001	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
18	Sample	K2006506-001	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
19	Sample	K2006376-001	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
B	Check Standard	[TOC] CCV 25 ppm [25 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
D	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
20	Sample	MB2	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
C	Check Standard	[TOC] LCS [24.0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
21	Sample	K2006376-002	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
22	Sample	K2006376-003	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
23	Sample	K2006376-003D	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
24	Sample	K2006376-003MS	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
25	Sample	K2006497-001	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
26	Sample	K2006497-004 25X	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
27	Sample	K2006497-005	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
28	Sample	K2006497-006 20X	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
B	Check Standard	[TOC] CCV 25 ppm [25 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
D	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
29	Sample	K2006345-001	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
30	Sample	K2006345-002	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
31	Sample	K2006345-003	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
32	Sample	K2006345-004	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
33	Sample	K2006345-005	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
34	Sample	K2006345-006	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
35	Sample	K2006345-007	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
36	Sample	K2006345-008	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
37	Sample	K2006332-001	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
38	Sample	RB	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
B	Check Standard	[TOC] CCV 25 ppm [25 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready

Schedule: 081020PART

Position	Sample Type	Sample ID	Method ID (Calibration ID)	Reps	Use	State
D	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
1	Sample		CAS_salt_010711 (CAS_salt_010711)	1	False	Ready
					False	

Fusion Report - 081020
Monday, August 10, 2020 08:55 AM

(View - Reps, Unused Reps, Meta-Data, Signature, History)
Printed on 2020/08/11 08:18 - Tuesday

Report Summary Information

Company Location:	Gen Chem Lab		
Schedule Name:	081020	Engine Version:	1.1.5.1
Instrument Name:	Fusion1	Firmware Version:	1.2.0696
Report Version:	1 of 1	Connection:	RS232 COM1
Report Creation by Operators (schedule version):	Fusion1 (Fusion1) (v1) Fusion1 (Fusion1) (v2) Fusion1 (Fusion1) (v3) Fusion1 (Fusion1) (v8) Fusion1 (Fusion1) (v10)		
Comment:			

Report Results

Sample Type: Clean — From Schedule Version 1

	Pos	Analysis Type	Sample ID	Start Time
◆	(clean)		Clean	2020/08/10 08:55

Rep #	Base Analysis Type	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	IC Clean	13.59	27.10	13.51	49.75	07:58
2	TC Clean	14.25	27.50	13.25	49.52	07:15
3	TC Clean	3.51	16.73	13.23	49.83	07:00
4	TC Clean	2.18	15.49	13.31	49.61	07:02

Sample Type: Clean — From Schedule Version 1

	Pos	Analysis Type	Sample ID	Start Time
◆	(clean)		Clean	2020/08/10 09:29

Rep #	Base Analysis Type	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	IC Clean	-0.11	13.08	13.19	49.85	07:59
2	TC Clean	6.75	19.98	13.23	49.89	07:14
3	TC Clean	2.26	15.29	13.04	49.69	07:00

4	TC Clean	1.70	14.66	12.96	49.89	07:03

Sample Type: Clean From Schedule Version 1

	Pos	Analysis Type	Sample ID	Start Time
◆	(clean)		Clean	2020/08/10 10:03

Rep #	Base Analysis Type	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	IC Clean	-0.12	12.95	13.07	49.69	05:20
2	TC Clean	5.87	18.80	12.93	49.79	07:15
3	TC Clean	1.45	14.56	13.12	49.95	07:01
4	TC Clean	1.06	14.24	13.18	49.85	07:00

Sample Type: Blank (Creating v1431) From Schedule Version 2

	Pos	Analysis Type	Sample ID	Start Time
◆	(blank)		Reagent/Acid Blank	2020/08/10 10:34

Rep #	Base Analysis Type	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	IC Clean	-0.38	12.81	13.19	49.55	05:15
2	TC Clean	5.58	18.69	13.10	49.98	07:17
3	TC Clean	1.28	14.48	13.19	49.82	07:00
4	TC Clean	1.17	14.37	13.20	49.76	07:02
5	Reagent Blank	5.19	18.27	13.09	49.97	08:09
6	Acid Blank	0.27	13.25	12.98	49.61	05:31

Sample Type: Sample From Schedule Version 2

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	D	TOC	RB	0.2109 ppm	0.0000 ppm	0.0000%	2020/08/10 11:21

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.2109	2.1088	10.73	23.88	13.15	50.04	10:33

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2487 (IC) (v1431)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> CCV 25 ppm From Schedule Version 2

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	B	TOC	25.0000	1:2	[TOC] CCV 25 ppm [25 ppm]	0 / infinity (NA / NA)	24.8308 ppm (PASS)	0.0000 ppm	0%	2020/08/10 11:35

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	24.8308	248.3083	184.08	197.28	13.20	49.97	10:29

Completion State	Success Action	Method	Calibration	STD Conc - Pos B
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	50 ppmC

Sample Type: Check Standard --> CCB From Schedule Version 2

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	D	TOC	0.0000	1:1	[TOC] CCB [0 ppm]	0 / infinity (NA / NA)	0.0000 ppm (PASS)	0.0000 ppm	0%	2020/08/10 11:50

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.0000	0.0000	8.88	22.18	13.30	49.99	10:34

Completion State	Success Action	Method	Calibration	STD Conc - Pos D
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	0 ppmC

Sample Type: Sample From Schedule Version 2

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	1	TOC	MB1	0.0000 ppm	0.0000 ppm	0.0000%	2020/08/10 12:05

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0000	0.0000	8.47	21.52	13.04	49.99	10:33

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2487 (IC) (v1431)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> LCS From Schedule Version 2

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	C	TOC	25.0000	1:1	[TOC] LCS [24.0 ppm]	0 / infinity (NA / NA)	24.6086 ppm (PASS)	0.0000 ppm	0%	2020/08/10 12:20

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
C	TOC	25.0 ppm	1	24.6086	246.0858	182.52	195.71	13.19	49.95	10:33

Completion State	Success Action	Method	Calibration	STD Conc - Pos C
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	25 ppmC

Sample Type: Sample From Schedule Version 2

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	2	TOC	ICS	0.5519 ppm	0.0000 ppm	0.0000%	2020/08/10 12:34

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.5519	5.5187	13.12	26.29	13.17	50.03	10:31

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2487 (IC) (v1431)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	3	TOC	k2006373-001	1.9518 ppm	0.0561 ppm	2.8800%	2020/08/10 12:49

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.9915	19.9154	23.22	36.45	13.24	49.99	10:28
2	TOC	1.9121	19.1213	22.66	35.92	13.26	50.00	10:28

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2487 (IC) (v1431)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	4	TOC	K2006373-001D	1.9556 ppm	0.0411 ppm	2.1000%	2020/08/10 13:17

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.9847	19.8469	23.17	36.39	13.22	50.01	10:26
2	TOC	1.9265	19.2653	22.76	35.91	13.15	50.05	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2487 (IC) (v1431)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	5	TOC	K2006373-001MS	28.2182 ppm	0.2043 ppm	0.7200%	2020/08/10 13:45

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	28.3627	283.6268	208.21	221.40	13.20	49.96	10:29
2	TOC	28.0737	280.7372	206.18	219.49	13.30	50.03	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2487 (IC) (v1431)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Sample From Schedule Version 3

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	6	TOC	K2006330-001	1.6954 ppm	0.0526 ppm	3.1000%	2020/08/10 14:13

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.7327	17.3266	21.40	34.67	13.27	50.04	10:28
2	TOC	1.6582	16.5824	20.88	34.22	13.34	50.02	10:29

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2487 (IC) (v1431)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Sample From Schedule Version 8

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	7	TOC	K2006330-002	1.5085 ppm	0.0001 ppm	0.0100%	2020/08/10 14:41

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.5086	15.0856	19.83	33.00	13.17	49.98	10:29
2	TOC	1.5084	15.0842	19.83	32.96	13.13	49.99	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2487 (IC) (v1431)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Sample From Schedule Version 10

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	8	TOC	K2006330-003	1.8656 ppm	0.0104 ppm	0.5600%	2020/08/10 15:09

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.8582	18.5825	22.28	35.40	13.12	50.00	10:28
2	TOC	1.8729	18.7293	22.39	35.66	13.27	49.99	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2487 (IC) (v1431)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	9	TOC	K2006331-001	0.8840 ppm	0.0414 ppm	4.6900%	2020/08/10 15:37

Rep	Base	ppm	µg	Adjusted	NDIR (Abs)	Baseline	Pressure	Run

#	Analysis Type			(Abs)		(Abs)	(psig)	Time
1	TOC	0.8547	8.5466	15.24	28.55	13.31	49.94	10:29
2	TOC	0.9132	9.1325	15.66	28.70	13.05	49.91	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2487 (IC) (v1431)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> CCV 25 ppm From Schedule Version 10

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	B	TOC	25.0000	1:2	[TOC] CCV 25 ppm [25 ppm]	0 / infinity (NA / NA)	24.3916 ppm (PASS)	0.0000 ppm	0%	2020/08/10 16:05

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	24.3916	243.9161	181.00	194.02	13.02	49.89	10:34

Completion State	Success Action	Method	Calibration	STD Conc - Pos B
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	50 ppmC

Sample Type: Check Standard --> CCB From Schedule Version 10

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	D	TOC	0.0000	1:1	[TOC] CCB [0 ppm]	0 / infinity (NA / NA)	0.0000 ppm (PASS)	0.0000 ppm	0%	2020/08/10 16:20

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.0000	0.0000	9.18	22.18	13.00	49.89	10:33

Completion State	Success Action	Method	Calibration	STD Conc - Pos D
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	0 ppmC

Sample Type: Sample From Schedule Version 10

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	10	TOC	K2006331-002	1.0122 ppm	0.0062 ppm	0.6200%	2020/08/10 16:35

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.0078	10.0776	16.32	29.38	13.06	49.94	10:26
2	TOC	1.0166	10.1660	16.38	29.41	13.03	49.94	10:29

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2487 (IC)	CAS_salt_010711	CAS_salt_010711

(v1431) (v4) (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	11	TOC	K2006280-001	4.5755 ppm	0.0744 ppm	1.6300%	2020/08/10 17:03

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	4.6281	46.2810	41.71	54.81	13.10	49.94	10:26
2	TOC	4.5229	45.2289	40.98	54.22	13.25	50.00	10:28

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2487 (IC) (v1431)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	12	TOC	K2006280-002	8.0784 ppm	0.0939 ppm	1.1600%	2020/08/10 17:31

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	8.1448	81.4479	66.38	79.61	13.22	49.99	10:27
2	TOC	8.0119	80.1193	65.45	78.57	13.12	50.00	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2487 (IC) (v1431)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	13	TOC	K2006280-003	9.9674 ppm	0.0659 ppm	0.6600%	2020/08/10 17:59

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	10.0140	100.1397	79.49	92.60	13.11	50.00	10:26
2	TOC	9.9207	99.2074	78.84	92.01	13.17	50.04	10:28

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2487 (IC) (v1431)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	14	TOC	K2006257-001	0.9093 ppm	0.0326 ppm	3.5800%	2020/08/10 18:27

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.8863	8.8631	15.47	28.71	13.25	50.04	10:26
2	TOC	0.9324	9.3235	15.79	28.80	13.01	49.98	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2487 (IC) (v1431)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	15	TOC	K2006357-001	40.9877 ppm	0.0236 ppm	0.0600%	2020/08/10 18:55

Rep	Base	ppm	µg	Adjusted	NDIR (Abs)	Baseline	Pressure	Run

#	Analysis Type			(Abs)		(Abs)	(psig)	Time
1	TOC	41.0043	410.0433	296.89	310.11	13.22	50.02	10:27
2	TOC	40.9710	409.7098	296.65	309.94	13.29	50.01	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2487 (IC) (v1431)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	16	TOC	K2006498-001	2.7725 ppm	0.3219 ppm	11.6100%	2020/08/10 19:23

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	3.0001	30.0011	30.29	43.72	13.43	49.99	10:27
2	TOC	2.5449	25.4494	27.10	40.40	13.30	50.04	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2487 (IC) (v1431)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	17	TOC	K2006651-001	2.2441 ppm	0.0246 ppm	1.1000%	2020/08/10 19:51

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	2.2615	22.6154	25.11	38.47	13.36	49.95	10:31
2	TOC	2.2268	22.2675	24.87	38.13	13.26	49.96	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2487 (IC) (v1431)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	18	TOC	K2006506-001	0.0000 ppm	0.0000 ppm	0.0000%	2020/08/10 20:19

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0000	0.0000	8.83	22.12	13.29	49.94	10:26
2	TOC	0.0000	0.0000	8.72	21.85	13.13	49.95	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2487 (IC) (v1431)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	19	TOC	K2006376-001	1.1534 ppm	0.0430 ppm	3.7300%	2020/08/10 20:47

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.1229	11.2295	17.13	30.17	13.05	49.93	10:29
2	TOC	1.1838	11.8382	17.55	30.64	13.09	49.97	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2487 (IC) (v1431)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> CCV 25 ppm From Schedule Version 10

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	B	TOC	25.0000	1:2	[TOC] CCV 25 ppm [25 ppm]	0 / infinity (NA / NA)	24.4188 ppm (PASS)	0.0000 ppm	0%	2020/08/10 21:15

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	24.4188	244.1884	181.19	194.34	13.16	49.89	10:32

Completion State	Success Action	Method	Calibration	STD Conc - Pos B
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	50 ppmC

Sample Type: Check Standard --> CCB From Schedule Version 10

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	D	TOC	0.0000	1:1	[TOC] CCB [0 ppm]	0 / infinity (NA / NA)	0.0000 ppm (PASS)	0.0000 ppm	0%	2020/08/10 21:30

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.0000	0.0000	9.15	22.32	13.18	49.86	10:28

Completion State	Success Action	Method	Calibration	STD Conc - Pos D
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	0 ppmC

Sample Type: Sample From Schedule Version 10

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	20	TOC	MB2	0.0000 ppm	0.0000 ppm	0.0000%	2020/08/10 21:45

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0000	0.0000	8.98	21.99	13.01	49.89	10:29

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2487 (IC) (v1431)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> LCS From Schedule Version 10

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	C	TOC	25.0000	1:1	[TOC] LCS [24.0 ppm]	0 / infinity (NA / NA)	24.4024 ppm (PASS)	0.0000 ppm	0%	2020/08/10 21:59

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
C	TOC	25.0 ppm	1	24.4024	244.0245	181.07	194.01	12.94	49.84	10:32

Completion State	Success Action	Method	Calibration	STD Conc - Pos C
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	25 ppmC

Sample Type: Sample From Schedule Version 10

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	21	TOC	K2006376-002	1.5778 ppm	0.0050 ppm	0.3200%	2020/08/10 22:14

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.5743	15.7428	20.29	33.29	12.99	49.80	10:27
2	TOC	1.5814	15.8141	20.34	33.46	13.11	49.89	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2487 (IC) (v1431)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	22	TOC	K2006376-003	1.2830 ppm	0.0367 ppm	2.8600%	2020/08/10 22:42

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.3090	13.0898	18.43	31.63	13.20	49.83	10:27
2	TOC	1.2571	12.5709	18.07	31.19	13.12	49.81	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2487 (IC) (v1431)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	23	TOC	K2006376-003D	1.2546 ppm	0.0045 ppm	0.3600%	2020/08/10 23:10

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.2514	12.5139	18.03	31.22	13.19	49.77	10:29
2	TOC	1.2578	12.5781	18.07	31.32	13.25	49.93	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2487 (IC) (v1431)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	24	TOC	K2006376-003MS	27.7238 ppm	0.1223 ppm	0.4400%	2020/08/10 23:38

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	27.6374	276.3736	203.12	216.24	13.12	49.88	10:29
2	TOC	27.8103	278.1028	204.33	217.53	13.20	49.88	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2487 (IC) (v1431)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	25	TOC	K2006497-001	4.1088 ppm	0.0689 ppm	1.6800%	2020/08/11 00:06

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	4.1575	41.5752	38.41	51.46	13.05	49.89	10:25
2	TOC	4.0600	40.6001	37.73	50.78	13.05	49.88	10:28

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2487 (IC) (v1431)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	26	TOC	K2006497-004 25X	28.4315 ppm	0.0059 ppm	0.0200%	2020/08/11 00:34

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	28.4357	284.3567	208.72	221.85	13.13	49.88	10:29
2	TOC	28.4273	284.2726	208.66	221.86	13.20	49.88	10:29

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2487 (IC) (v1431)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	27	TOC	K2006497-005	3.3441 ppm	0.1282 ppm	3.8300%	2020/08/11 01:02

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	3.4348	34.3477	33.34	46.49	13.15	49.85	10:26
2	TOC	3.2534	32.5344	32.07	45.30	13.23	49.87	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2487 (IC) (v1431)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	28	TOC	K2006497-006	47.8055 ppm	0.4564 ppm	0.9500%	2020/08/11 01:30

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	48.1282	481.2824	346.86	359.97	13.11	49.91	10:28
2	TOC	47.4828	474.8275	342.33	355.53	13.20	49.88	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2487 (IC) (v1431)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> CCV 25 ppm From Schedule Version 10

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	B	TOC	25.0000	1:2	[TOC] CCV 25 ppm [25 ppm]	0 / infinity (NA / NA)	24.7965 ppm (PASS)	0.0000 ppm	0%	2020/08/11 01:58

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	24.7965	247.9647	183.83	197.18	13.34	49.93	10:33

Completion State	Success Action	Method	Calibration	STD Conc - Pos B
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	50 ppmC

Sample Type: Check Standard --> CCB From Schedule Version 10

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	D	TOC	0.0000	1:1	[TOC] CCB [0 ppm]	0 / infinity (NA / NA)	0.0208 ppm (PASS)	0.0000 ppm	0%	2020/08/11 02:13

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.0208	0.2081	10.04	23.22	13.18	49.94	10:32

Completion State	Success Action	Method	Calibration	STD Conc - Pos D
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	0 ppmC

Sample Type: Sample From Schedule Version 10

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	29	TOC	K2006345-001	0.5919 ppm	0.0067 ppm	1.1200%	2020/08/11 02:28

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.5966	5.9663	13.43	26.85	13.41	49.97	10:31
2	TOC	0.5872	5.8723	13.37	26.74	13.38	49.95	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2487 (IC) (v1431)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	30	TOC	K2006345-002	0.6574 ppm	0.0176 ppm	2.6800%	2020/08/11 02:56

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.6699	6.6991	13.95	27.23	13.28	49.97	10:28
2	TOC	0.6450	6.4496	13.77	27.14	13.37	49.99	10:27

Dilution	Blank Contribution	Method	Calibration

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2487 (IC) (v1431)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	31	TOC	K2006345-003	0.8083 ppm	0.0132 ppm	1.6300%	2020/08/11 03:24

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.7989	7.9892	14.85	28.51	13.66	49.99	10:29
2	TOC	0.8176	8.1759	14.98	28.41	13.42	50.04	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2487 (IC) (v1431)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	32	TOC	K2006345-004	0.7226 ppm	0.0188 ppm	2.6100%	2020/08/11 03:52

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.7359	7.3591	14.41	27.78	13.37	50.03	10:30
2	TOC	0.7093	7.0925	14.22	27.64	13.42	50.03	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2487 (IC) (v1431)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	33	TOC	K2006345-005	0.6797 ppm	0.0142 ppm	2.0900%	2020/08/11 04:20

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.6696	6.6962	13.95	27.22	13.27	50.06	10:26
2	TOC	0.6897	6.8972	14.09	27.33	13.24	50.06	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2487 (IC) (v1431)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	34	TOC	K2006345-006	0.3956 ppm	0.0006 ppm	0.1500%	2020/08/11 04:48

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.3952	3.9520	12.02	25.28	13.26	50.06	10:30
2	TOC	0.3961	3.9606	12.03	25.34	13.31	50.07	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2487 (IC) (v1431)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	35	TOC	K2006345-007	0.9566 ppm	0.0433 ppm	4.5300%	2020/08/11 05:16

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.9259	9.2594	15.74	29.02	13.28	50.04	10:26
2	TOC	0.9872	9.8724	16.17	29.78	13.61	50.06	10:29

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2487 (IC) (v1431)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	36	TOC	K2006345-008	0.5492 ppm	0.0325 ppm	5.9100%	2020/08/11 05:44

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.5262	5.2621	12.94	26.39	13.45	50.04	10:25
2	TOC	0.5721	5.7211	13.26	26.71	13.45	50.04	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2487 (IC) (v1431)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	37	TOC	K2006332-001	0.6516 ppm	0.0132 ppm	2.0300%	2020/08/11 06:12

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.6423	6.4225	13.75	27.06	13.31	50.04	10:28
2	TOC	0.6609	6.6093	13.89	27.18	13.30	50.05	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2487 (IC) (v1431)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	38	TOC	RB	0.0000 ppm	0.0000 ppm	0.0000%	2020/08/11 06:40

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0000	0.0000	7.95	21.50	13.55	50.04	10:28
2	TOC	0.0000	0.0000	8.38	21.83	13.45	50.07	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2487 (IC) (v1431)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> CCV 25 ppm From Schedule Version 10

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	B	TOC	25.0000	1:2	[TOC] CCV 25 ppm [25 ppm]	0 / infinity (NA / NA)	24.0278 ppm (PASS)	0.0000 ppm	0%	2020/08/11 07:08

Pos	Base Analysis	ID	Rep	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run

	Type		#							Time
B	TOC	25 ppm	1	24.0278	240.2781	178.44	191.91	13.47	50.04	10:29

Completion State	Success Action	Method	Calibration	STD Conc - Pos B
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	50 ppmC

Sample Type: Check Standard --> CCB From Schedule Version 10

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	D	TOC	0.0000	1:1	[TOC] CCB [0 ppm]	0 / infinity (NA / NA)	0.0000 ppm (PASS)	0.0000 ppm	0%	2020/08/11 07:23

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.0000	0.0000	9.09	22.59	13.50	49.97	10:31

Completion State	Success Action	Method	Calibration	STD Conc - Pos D
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	0 ppmC

Sample Type: Sample From Schedule Version 10

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	39	TOC	MB3	0.0016 ppm	0.0000 ppm	0.0000%	2020/08/11 07:38

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0016	0.0161	9.26	22.48	13.22	49.98	10:30

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2487 (IC) (v1431)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> LCS From Schedule Version 10

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	C	TOC	25.0000	1:1	[TOC] LCS [25.0 ppm]	0 / infinity (NA / NA)	23.7533 ppm (PASS)	0.0000 ppm	0%	2020/08/11 07:52

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
C	TOC	25.0 ppm	1	23.7533	237.5325	176.52	189.89	13.38	49.92	10:28

Completion State	Success Action	Method	Calibration	STD Conc - Pos C
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	25 ppmC

Sample Type: Sample From Schedule Version 10

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	40	TOC		NaN	NaN	NaN%	2020/08/11 08:07

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time

Dilution 1:10 **Method** CAS_salt_010711 (v4) **Calibration** CAS_salt_010711 (v38)

Meta Data Used in this Report

Blanks

Version	Reagent (Abs)	Acid (Abs)	DI IC (Abs)	DI TC (Abs)	DI TOC (Abs)	Save Time	Operator
v1430	1.9877	0.5570	0.0000	0.0000	0.0000	2020/08/08 14:36	Fusion1 (Fusion1)
v1431	1.7293	0.2720	0.0000	0.0000	0.0000	2020/08/10 11:21	Fusion1 (Fusion1)

Calibrations

Name: CAS_salt_010711 (TOC)

Version: v38
Ver Creation: 2020/06/13 16:40
Comment:
Operator: Fusion1 (Fusion1)
Basic Analysis Type: TOC
Calibration curve formula: TOC: y = 7.015x + 9.892
r^2 value: TOC: r^2 = 0.99974

Basic Analysis Type: TOC

Sample ID	Y Raw Value	X Expected	Message	End Time
DI Water	9.5750	0.0000		2020/06/13 15:13
0.500 ppm	12.9010	0.5000		2020/06/13 15:28
1.0 ppm	15.6320	1.0000		2020/06/13 15:42
5.0 ppm	43.2510	5.0000		2020/06/13 15:56
10 ppm	82.4040	10.0000		2020/06/13 16:11
25 ppm	188.6880	25.0000		2020/06/13 16:25
50 ppm	358.6500	50.0000		2020/06/13 16:39

Methods

Name: CAS_salt_010711 (TOC)

Version: v4 Operator: Fusion1 (Fusion1)
Ver Creation: 2019/02/21 17:57
Comment:

Parameter	Value
SampleVolume	10.0 mL
Dilution	1:10
AcidVolume	0.5 ml
ReagentVolume	2.0 ml
UVReactorPrerinse	Off
UVReactorPrerinseVolume	5.0
NumberOfUVReactorPrerinses	1
ICSpargeTime	1.00 mins
DetectorSweepFlow	500 ml/min
PreSpargeTime	2.00 mins
SystemFlow	500 ml/min

Advanced Parameter	Value
NeedleRinseVolume	5.0 ml
VialPrimeVolume	2.0 ml
ICSamplePrimeVolume	2.0 ml
ICSpargeRinseVolume	12.0 ml
BaselineStabilizeTime	0.70 min
DetectorPressureFlow	150 ml/min
SyringeSpeedWaste	10
SyringeSpeedAcid	7
SyringeSpeedReagent	7
SyringeSpeedDIWater	7
NDIRPressurization	60 psig
SyringeSpeedSampleDispense	5
SyringeSpeedSampleAspirate	4
SyringeSpeedUVDispense	5
SyringeSpeedUVAspirate	5
SyringeSpeedICDispense	5
SyringeSpeedICAspirate	5
NDIRPressureStabilize	1.75 min
SampleMixing	Off
SampleMixingCycles	1
SampleMixingVolume	10.0
LowLevelFilterNDIR	Off

Acceptance / Approval

Electronic Signatures

Report Version	User Name	Acceptance	Reason	Date

Report History

Report History

Report Version	User Name	System Reason	User Reason	Date
1	Fusion1 (Fusion1)	Schedule completed	Schedule completed	2020/08/11 08:17

ALS Environmental

StarLIMS Run: 690342/690414

Analysis: DOC/TOC

Method: SM 5310 C, 9060A, 415.1, 9060

CCV: 19-GEN-8-15-C 50 ppm LCS: 19-GEN-8-31I 25.0 ppm

ICAL Date: 6/16/2020

ICAL ID: 19-GEN-8-22-G

ICS ID: 19-GEN-8-4-G

ICS TV: 25.0 ppm ICS % R < 1

Spike ID: 19-GEN-8-15-B 0.05 ml of 5000 ppm stock ---> 10.0 ml = 25.0 ppm x dilution factor

Sodium Persulfate: 19-GEN-08-32J

21 % H3PO4: 19-GEN-08-32I

Equipment ID: K-TOC-03

PIPETTE ID: 124276B, 129001F, N11314F, Marge

FILTER ID: 16967789

Analyzed By: MK	Date Analyzed: 8-10-20
Reviewed By:	Date Reviewed: 8/11/20

August 21, 2020 Service Request No:E2000735

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

Laboratory Results for: HS20071328

Dear RJ,

Enclosed are the results of the sample(s) submitted to our laboratory July 29, 2020
For your reference, these analyses have been assigned our service request number **E2000735.**

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current TNI standards, where applicable, and except as noted in the laboratory case narrative provided. All results are intended to be considered in their entirety and ALS Environmental is not responsible for use of less than the complete final report. Results apply only to the items submitted to the laboratory, as received for analysis. In accordance with the current TNI Standard, a statement on the estimated uncertainty of measurement of any quantitative analysis will be supplied upon request.

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

Corey Grandits
Project Manager

ADDRESS 10450 Stancliff Rd., Suite 210, Houston, TX 77099
PHONE +1 281 530 5656 | FAX +1 281 530 5887
ALS Group USA, Corp.
dba ALS Environmental

Certificate of Analysis

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

ALS Environmental

Client:	ALS Houston	**Service Request No.:**	E2000735
Project:	HS20071328	**Date Received:**	07/29/20
Sample Matrix:	S		

CASE NARRATIVE

All analyses were performed in adherence to the quality assurance program of ALS Environmental. This report contains analytical results for samples designated for Tier II. When appropriate to the method, method blank results have been reported with each analytical test.

Sample Receipt

Nineteen samples were received for analysis at ALS Environmental in Houston on 07/29/20.

The samples were received in good condition and are consistent with the accompanying chain of custody form. The samples were stored in a refrigerator at 4°C upon receipt at the laboratory.

Data Validation Notes and Discussion

Precision and Accuracy:

EQ2000327: Laboratory Control Spike/Duplicate Laboratory Control Spike (LCS/DLCS) samples were analyzed and reported in lieu of a MS/MSD for this extraction batch. The LCS and DLCS recoveries are within QC limits.

EQ2000339: Laboratory Control Spike/Duplicate Laboratory Control Spike (LCS/DLCS) samples were analyzed and reported in addition to a MS/MSD for this extraction batch. The MS, MSD, LCS and DLCS recoveries are within QC limits.

The results of analyses are given in the attached laboratory report. All results are intended to be considered in their entirety, and ALS Environmental (ALS) is not responsible for utilization of less than the complete report.

Use of ALS group USA Corp dba ALS Environmental (ALS)'s Name. Client shall not use ALS's name or trademark in any marketing or reporting materials, press releases or in any other manner ("Materials") whatsoever and shall not attribute to ALS any test result, tolerance or specification derived from ALS's data ("Attribution") without ALS's prior written consent, which may be withheld by ALS for any reason in its sole discretion. To request ALS's consent, Client shall provide copies of the proposed Materials or Attribution and describe in writing Client's proposed use of such Materials or Attribution. If ALS has not provided written approval of the Materials or Attribution within ten (10) days of receipt from Client, Client's request to use ALS's name or trademark in any Materials or Attribution shall be deemed denied. ALS may, in its discretion, reasonably charge Client for its time in reviewing Materials or Attribution requests. Client acknowledges and agrees that the unauthorized use of ALS's name or trademark may cause ALS to incur irreparable harm for which the recovery of money damages will be inadequate. Accordingly, Client acknowledges and agrees that a violation shall justify preliminary injunctive relief. For questions contact the laboratory.

Client: ALS Environmental - US **Service Request:**E2000735
Project: HS20071328

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
E2000735-001	16WW32-200727	7/27/2020	0805
E2000735-002	16WW31-200727	7/27/2020	0850
E2000735-003	16WW46-200727	7/27/2020	0940
E2000735-004	16WW46-200727-FD	7/27/2020	0940
E2000735-005	16WW49-200727	7/27/2020	1030
E2000735-006	16WW51-200727	7/27/2020	1125
E2000735-007	16WW51-200727-FD	7/27/2020	1125
E2000735-008	16RW01-200727	7/27/2020	1220
E2000735-009	16WW23-200727	7/27/2020	1315
E2000735-010	16WW24-200727	7/27/2020	1405
E2000735-011	16EW03-200728	7/28/2020	0730
E2000735-012	16EW07-200728	7/28/2020	0815
E2000735-013	16EW08-200728	7/28/2020	0905
E2000735-014	16EW04-200728	7/28/2020	0950
E2000735-015	16RW04-200728	7/28/2020	1040
E2000735-016	16IW03-200728	7/28/2020	1130
E2000735-017	16SW01-200728	7/28/2020	1210
E2000735-018	16SW02-200728	7/28/2020	1230
E2000735-019	16SW03-200728	7/28/2020	1250

Service Request Summary

Folder #: **E2000735**
Client Name: ALS Environmental - US
Project Name: HS20071328
Project Number:

Report To: RJ Modashia
ALS Laboratory Group
10450 Stancliff Road
Houston, TX 77099-4338
USA
Phone Number: 281-530-5656
Cell Number:
Fax Number: 281-530-5887
E-mail: rj.modashia@alsglobal.com

Project Chemist: Corey Grandits
Originating Lab: HOUSTON
Logged By: CGRANDITS
Date Received: 07/29/20
Internal Due Date: 8/12/2020
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: N
Report to MDL?: Y
P.O. Number: HS20071328
EDD: No EDD Specified

21 250 mL-Plastic Bottle HDPE WM CLEAR Unpreserved
Location: EHRMS-WIC 3A
Pressure Gas:

Lab Samp No.	Client Samp No	Matrix	Collected	HOUSTON ClO4 DOD/6850
E2000735-001	16WW32-200727	Water	07/27/20 0805	II
E2000735-002	16WW31-200727	Water	07/27/20 0850	II
E2000735-003	16WW46-200727	Water	07/27/20 0940	II
E2000735-004	16WW46-200727-FD	Water	07/27/20 0940	II
E2000735-005	16WW49-200727	Water	07/27/20 1030	II
E2000735-006	16WW51-200727	Water	07/27/20 1125	II
E2000735-007	16WW51-200727-FD	Water	07/27/20 1125	II
E2000735-008	16RW01-200727	Water	07/27/20 1220	II
E2000735-009	16WW23-200727	Water	07/27/20 1315	II
E2000735-010	16WW24-200727	Water	07/27/20 1405	II
E2000735-011	16EW03-200728	Water	07/28/20 0730	II
E2000735-012	16EW07-200728	Soil	07/28/20 0815	II
E2000735-013	16EW08-200728	Water	07/28/20 0905	II
E2000735-014	16EW04-200728	Water	07/28/20 0950	II
E2000735-015	16RW04-200728	Water	07/28/20 1040	II
E2000735-016	16IW03-200728	Water	07/28/20 1130	II

Service Request Summary

Folder #: **E2000735**
Client Name: ALS Environmental - US
Project Name: HS20071328
Project Number:

Report To: RJ Modashia
ALS Laboratory Group
10450 Stancliff Road
Houston, TX 77099-4338
USA
Phone Number: 281-530-5656
Cell Number:
Fax Number: 281-530-5887
E-mail: rj.modashia@alsglobal.com

Project Chemist: Corey Grandits
Originating Lab: HOUSTON
Logged By: CGRANDITS
Date Received: 07/29/20
Internal Due Date: 8/12/2020
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: N
Report to MDL?: Y
P.O. Number: HS20071328
EDD: No EDD Specified

21 250 mL-Plastic Bottle HDPE WM CLEAR Unpreserved
Location: EHRMS-WIC 3A
Pressure Gas:

Lab Samp No.	Client Samp No	Matrix	Collected	HOUSTON ClO4 DOD/6850
E2000735-017	16SW01-200728	Water	07/28/20 1210	II
E2000735-018	16SW02-200728	Water	07/28/20 1230	II
E2000735-019	16SW03-200728	Water	07/28/20 1250	II

Service Request Summary

Folder #: **E2000735**
Client Name: ALS Environmental - US
Project Name: HS20071328
Project Number:

Report To: RJ Modashia
ALS Laboratory Group
10450 Stancliff Road
Houston, TX 77099-4338
USA
Phone Number: 281-530-5656
Cell Number:
Fax Number: 281-530-5887
E-mail: rj.modashia@alsglobal.com

Project Chemist: Corey Grandits
Originating Lab: HOUSTON
Logged By: CGRANDITS
Date Received: 07/29/20
Internal Due Date: 8/12/2020
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: N
Report to MDL?: Y
P.O. Number: HS20071328
EDD: No EDD Specified

21 250 mL-Plastic Bottle HDPE WM CLEAR Unpreserved
Location: EHRMS-WIC 3A
Pressure Gas:

Test Comments:

Group	Test/Method	Samples	Comments
Semivoa GCMS	ClO4 DOD/6850	17	Level II due 8/12, level IV 8/19
Semivoa GCMS	ClO4 DOD/6850	1	Level II due 8/12,level IV 8/19
Semivoa GCMS	ClO4 DOD/6850	1	MS/MSD

Data Qualifiers

Lab Standard

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

Data Qualifiers

Lab Standard

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

ALS Laboratory Group

Acronyms

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

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

ALS Environmental

State Certifications, Accreditations, and Licenses

Agency	Number	Expire Date
American Association for Laboratory Accreditation	2897.01 2020	11/30/2021
Arkansas Department of Environmental Quality	20-030-0	3/26/2021
Department of Defense	A2LA 2897.01	11/30/2021
Hawaii Department of Health	2020	4/30/2021
Illinois Environmental Protection Agency	2000322020-4	5/9/2021
Louisiana Department of Health and Hospitals	LA028-2020	12/31/2020
Maine Department of Health and Human Services	2020016	6/5/2022
Minnesota Department of Health	1785988	12/31/2020
Nebraska Department of Health and Human Services	NE-OS-25-13 (2020)	4/30/2021
Nevada Department of Concervation and Natural Resources	TX026932021-1	7/31/2021
New Hampshire Environmental Laboratory Accreditation Program	209420	4/24/2021
New York Department of Health	11707	3/31/2021
Oklahoma Department of Environmental Quality	2019-067	8/31/2020
Tennessee Department of Environment and Concervation	04016-2020	4/30/2021
Texas Commision on Environmental Quality	T104704231-20-26	4/30/2021
United States Department of Agriculture	P330-19-00299	10/10/2022
Washington Department of Health	C819	11/14/2020

ALS

Chain of Custody

ALS Environmental - Houston HRMS
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HS20071328

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Subcontract Chain of Custody

SAMPLING STATE: **Dept of Defense** **COC ID:** **14395**

SUBCONTRACT TO:

ALS Environmental
10450 Stancliff RoadSuite 210
Houston, TX 77084

Phone: +1 281 530 5656

CUSTOMER INFORMATION:

Company: ALS Houston
Contact: RJ Modashia
Address: 10450 Stancliff Rd, Ste 210
Phone: +1 281 530 5656
Email: RJ.Modashia@alsglobal.com
Alternate Contact:
Email:

INVOICE INFORMATION:

Company: ALS Houston
Contact: Accounts Payable
Address: 10450 Stancliff Rd, Ste 210
Phone: +1 281 530 5656
Reference: HS20071328
TSR: Sonia West

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	**HS20071328-01**	**16WW32-200727**	**Groundwater**	**27 Jul 2020 08:05**
	SUB_Perch-6850			12 Aug 2020
2.	**HS20071328-02**	**16WW31-200727**	**Groundwater**	**27 Jul 2020 08:50**
	SUB_Perch-6850			12 Aug 2020
3.	**HS20071328-03**	**16WW46-200727**	**Groundwater**	**27 Jul 2020 09:40**
	SUB_Perch-6850			12 Aug 2020
4.	**HS20071328-04**	**16WW46-200727-FD**	**Groundwater**	**27 Jul 2020 ~~08:05~~ 09:40**
	SUB_Perch-6850			12 Aug 2020
5.	**HS20071328-05**	**16WW49-200727**	**Groundwater**	**27 Jul 2020 10:30**
	SUB_Perch-6850			12 Aug 2020
6.	**HS20071328-06**	**16WW51-200727**	**Groundwater**	**27 Jul 2020 11:25**
	SUB_Perch-6850			12 Aug 2020
7.	**HS20071328-07**	**16WW51-200727-FD**	**Groundwater**	**27 Jul 2020 11:25**
	SUB_Perch-6850			12 Aug 2020
8.	**HS20071328-08**	**16RW01-200727**	**Groundwater**	**27 Jul 2020 12:20**
	SUB_Perch-6850			12 Aug 2020
9.	**HS20071328-09**	**16WW23-200727**	**Groundwater**	**27 Jul 2020 13:15**

Subcontract Chain of Custody

SAMPLING STATE: **Dept of Defense** **COC ID: 14395**

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
	SUB_Perch-6850			12 Aug 2020
10.	**HS20071328-10**	**16WW24-200727**	**Groundwater**	**27 Jul 2020 14:05**
	SUB_Perch-6850			12 Aug 2020
11.	**HS20071328-11**	**16EW03-200728**	**Groundwater**	**28 Jul 2020 07:30**
	SUB_Perch-6850			12 Aug 2020
12.	**HS20071328-12**	**16EW07-200728**	**Groundwater**	**28 Jul 2020 08:15**
	SUB_Perch-6850			12 Aug 2020
13.	**HS20071328-13**	**16EW08-200728**	**Groundwater**	**28 Jul 2020 09:05**
	SUB_Perch-6850			12 Aug 2020
14.	**HS20071328-14**	**16EW04-200728**	**Groundwater**	**28 Jul 2020 09:50**
	SUB_Perch-6850			12 Aug 2020
15.	**HS20071328-15**	**16RW04-200728**	**Groundwater**	**28 Jul 2020 10:40**
	SUB_Perch-6850			12 Aug 2020
16.	**HS20071328-16**	**16IW03-200728**	**Groundwater**	**28 Jul 2020 11:30**
	SUB_Perch-6850			12 Aug 2020
17.	**HS20071328-17**	**16SW01-200728**	**Groundwater**	**27 Jul 2020 12:10**
	SUB_Perch-6850			12 Aug 2020
18.	**HS20071328-18**	**16SW02-200728**	**Groundwater**	**28 Jul 2020 12:30**
	SUB_Perch-6850			12 Aug 2020
19.	**HS20071328-19**	**16SW03-200728**	**Groundwater**	**28 Jul 2020 12:50**
	SUB_Perch-6850			12 Aug 2020

Comments: Please analyze for the analysis listed above.
Send report to the emails shown above.
HS20071328-12 = MS/MSD

QC Level: DOD IV (DoD Data Package)

Relinquished By: _____ Date/Time: _____

Received By: _____ Date/Time: 7/29/20 1531

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

ALS Environmental

Cooler Receipt Form

Project Chemist CH

Client/Project ALS-H

Thermometer ID 1R11

Date/Time Received: 7/29/20 Initials: CH

Date/Time Logged in: 7/29/20 Initials CH

1. Method of delivery: ○ US Mail ○ Fed Ex ○ UPS ○ DHL ✓ ALS Courier ○ Client

2. Samples received in: ✓ Cooler ○ Box ○ Envelope ○ Other

3. Were custody seals on coolers? ○ Yes ✓ No

Were they intact? ○ Yes ○ No ✓ N/A

Were they signed and dated? ○ Yes ○ No ✓ N/A

If yes, how many and where?

4. Packing Material: ○ Inserts ✓ Baggies ○ Bubble Wrap ○ Gel Packs ✓ Wet Ice ○ Sleeves ○ Other

5. Foreign or Regulated Soil? ○ Yes ○ No Location of Sampling:

Cooler Tracking Number	COC ID	Date Opened	Time Opened	Opened By	Temp. °C	Temp Blank?
-		7/29/20	1531	CH	1.1	✓
						☐
						☐
						☐

6. Were custody papers properly filled out (ink, signed, dated, etc)? ✓ Yes ○ No

7. Did all bottles arrive in good condition (not broken, no signs of leakage)? ✓ Yes ○ No

8. Were all sample labels complete (i.e., sample ID, analysis, preservation, etc)? ✓ Yes ○ No

9. Were appropriate bottles/containers and volumes received for the requested tests? ✓ Yes ○ No

10. Did sample labels and tags agree with custody documents? ✓ Yes ○ No

Notes, Discrepancies, & Resolutions:

Service request Label: E2000694 5

ALS Laboratory Group XXX735

HS20071328

HS-HRMSCoolerReceipt R1.0

ALS Environmental - Houston HRMS

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

SAMPLE ACCEPTANCE POLICY

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

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

- ✓ Intact on outside of cooler, signed and dated

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

The following is required on each COC:

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

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

Sample Integrity (mandatory):

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

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

Temperature Requirement (varies by sample matrix):

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

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

Preparation Information Benchsheets

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

Preparation Information Benchsheet

Prep Run#: 362933 **Prep WorkFlow:** GenExt28Day **Status:** Prepped
Team: Semivoa GCMS/GRIVERA **Prep Method:** Method **Prep Date/Time:** 8/5/20 11:04

#	Lab Code	Client ID	B#	Method /Test	pH	Cl	Matrix	Amt. Ext.	Sample Description
1	E2000735-001	16WW32-200727	.01	6850/ClO4 DOD			Water	10mL	
2	E2000735-002	16WW31-200727	.01	6850/ClO4 DOD			Water	10mL	
3	E2000735-003	16WW46-200727	.01	6850/ClO4 DOD			Water	10mL	
4	E2000735-004	16WW46-200727-FD	.01	6850/ClO4 DOD			Water	10mL	
5	E2000735-005	16WW49-200727	.01	6850/ClO4 DOD			Water	10mL	
6	E2000735-006	16WW51-200727	.01	6850/ClO4 DOD			Water	10mL	
7	E2000735-007	16WW51-200727-FD	.01	6850/ClO4 DOD			Water	10mL	
8	E2000735-008	16RW01-200727	.01	6850/ClO4 DOD			Water	10mL	
9	E2000735-009	16WW23-200727	.01	6850/ClO4 DOD			Water	10mL	
10	E2000735-010	16WW24-200727	.01	6850/ClO4 DOD			Water	10mL	
11	E2000735-011	16EW03-200728	.01	6850/ClO4 DOD			Water	10mL	
12	E2000735-013	16EW08-200728	.01	6850/ClO4 DOD			Water	10mL	
13	E2000735-014	16EW04-200728	.01	6850/ClO4 DOD			Water	10mL	
14	E2000735-015	16RW04-200728	.01	6850/ClO4 DOD			Water	10mL	
15	E2000735-016	16IW03-200728	.01	6850/ClO4 DOD			Water	10mL	
16	E2000735-017	16SW01-200728	.01	6850/ClO4 DOD			Water	10mL	
17	E2000735-018	16SW02-200728	.01	6850/ClO4 DOD			Water	10mL	
18	E2000735-019	16SW03-200728	.01	6850/ClO4 DOD			Water	10mL	
19	EQ2000327-01	MB		6850/ClO4 DOD			Liquid	10mL	
20	EQ2000327-02	LCS		6850/ClO4 DOD			Liquid	10mL	
21	EQ2000327-03	DLCS		6850/ClO4 DOD			Liquid	10mL	

Spiking Solutions

Name: Sodium Perchlorate 1 ug/mL (IS) (18-O) as CLO4 Inventory ID 202037 Logbook Ref: Sodium Perchlorate Expires On: 05/22/2021

E2000735-001	100.00µL	E2000735-002	100.00µL	E2000735-003	100.00µL	E2000735-004	100.00µL	E2000735-005	100.00µL	E2000735-006	100.00µL
E2000735-007	100.00µL	E2000735-008	100.00µL	E2000735-009	100.00µL	E2000735-010	100.00µL	E2000735-011	100.00µL	E2000735-013	100.00µL
E2000735-014	100.00µL	E2000735-015	100.00µL	E2000735-016	100.00µL	E2000735-017	100.00µL	E2000735-018	100.00µL	E2000735-019	100.00µL
EQ2000327-01	100.00µL	EQ2000327-02	100.00µL	EQ2000327-03	100.00µL						

Name: Perchlorate Intermediate Stock1 Inventory ID 209764 Logbook Ref: Perchlorate Int. Stock1 51820 Expires On: 11/18/2020

EQ2000327-02	1.00µL	EQ2000327-03	1.00µL

Preparation Information Benchsheet

Prep Run#: 362933
Team: Semivoa GCMS/GRIVERA
Prep WorkFlow: GenExt28Day
Prep Method: Method
Status: Prepped
Prep Date/Time: 8/5/20 11:04

Preparation Steps

Step: Preparation
Started: 8/5/20 11:04
Finished: 8/6/20 09:04
By: GRIVERA
Comments

Comments: _____

Reviewed By: _____ Date: _____

Chain of Custody

Relinquished By: _____ Date: _____ Extracts Examined

Received By: _____ Date: _____ Yes No

Preparation Information Benchsheet

Prep Run#: 363305 **Prep WorkFlow:** Gen CLO4 **Status:** Prepped
Team: Semivoa GCMS/GRIVERA **Prep Method:** Method **Prep Date/Time:** 8/11/20 16:05

#	Lab Code	Client ID	B#	Method /Test	pH	Cl	Matrix	Amt. Ext.	Sample Description
1	E2000712-001	W20H005-01	.01	6850/ClO4			Soil	0.991g	
2	E2000712-002	W20H005-02	.01	6850/ClO4			Soil	0.982g	
3	E2000712-003	W20H005-03	.01	6850/ClO4			Soil	1.053g	
4	E2000712-004	W20H005-04	.01	6850/ClO4			Soil	1.000g	
5	E2000712-005	W20H005-05	.01	6850/ClO4			Soil	1.039g	
6	E2000712-006	W20H005-06	.01	6850/ClO4			Soil	0.992g	
7	E2000712-007	W20H005-07	.01	6850/ClO4			Soil	1.079g	
8	E2000735-012	16EW07-200728	.01	6850/ClO4 DOD			Soil	0.971g	
9	EQ2000339-01	MB		6850/ClO4			Solid	1.007g	
10	EQ2000339-02	LCS		6850/ClO4			Solid	1.060g	
11	EQ2000339-03	DLCS		6850/ClO4			Solid	1.009g	
12	EQ2000339-04	16EW07-200728 MS	.01	6850/ClO4 DOD			Solid	1.034g	
13	EQ2000339-05	16EW07-200728 DMS	.01	6850/ClO4 DOD			Solid	0.988g	

Spiking Solutions

Name: Sodium Perchlorate 1 ug/mL (IS) (18-O) as CLO4 Inventory ID 202037 Logbook Ref: Sodium Perchlorate Expires On: 05/22/2021

E2000712-001	100.00µL	E2000712-002	100.00µL	E2000712-003	100.00µL	E2000712-004	100.00µL	E2000712-005	100.00µL	E2000712-006	100.00µL
E2000712-007	100.00µL	E2000735-012	100.00µL	EQ2000339-01	100.00µL	EQ2000339-02	100.00µL	EQ2000339-03	100.00µL	EQ2000339-04	100.00µL
EQ2000339-05	100.00µL										

Name: Perchlorate Intermediate Stock1 Inventory ID 209764 Logbook Ref: Perchlorate Int. Stock1 51820 Expires On: 11/18/2020

EQ2000339-02	100.00µL	EQ2000339-03	100.00µL	EQ2000339-04	100.00µL	EQ2000339-05	100.00µL

Preparation Steps

Step: Extraction
Started: 8/11/20 16:05
Finished: 8/11/20 17:00
By: GRIVERA
Comments

Comments: _____

Reviewed By: _____ Date: _____

Preparation Information Benchsheet

Prep Run#: 363305
Team: Semivoa GCMS/GRIVERA

Prep WorkFlow: Gen CLO4
Prep Method: Method

Status: Prepped
Prep Date/Time: 8/11/20 16:05

Chain of Custody

Relinquished By: _____ Date: _____

Received By: _____ Date: _____

Extracts Examined
Yes No

Analytical Results

ALS Environmental - Houston HRMS
10450 Stancliff Rd., Suite 210, Houston, TX 77099
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ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000735
Project:	HS20071328	**Date Collected:**	7/27/20 0805
Sample Matrix:	Water	**Date Received:**	7/29/20
		Date Extracted:	8/5/20
		Date Analyzed:	8/19/20 14:37
Sample Name:	16WW32-200727	**Units:**	µg/L
Lab Code:	E2000735-001	**Basis:**	NA

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

Analytical Method:	6850	**Analysis Lot:**	691702
Prep Method:	Method	**Extraction Lot:**	362933
Data File Name:	I:\LCMS01\DATA\20200819\20200819_035	**Instrument Name:**	E-LCMS-01
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	LOQ	LOD	MDL	Note
14797-73-0	Perchlorate	ND	U	0.100	0.0500	0.0250	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000735
Project:	HS20071328	**Date Collected:**	7/27/20 0850
Sample Matrix:	Water	**Date Received:**	7/29/20
		Date Extracted:	8/5/20
		Date Analyzed:	8/20/20 10:29
Sample Name:	16WW31-200727	**Units:**	µg/L
Lab Code:	E2000735-002	**Basis:**	NA

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

Analytical Method:	6850	**Analysis Lot:**	691880
Prep Method:	Method	**Extraction Lot:**	362933
Data File Name:	I:\LCMS01\DATA\20200820\20200820_007	**Instrument Name:**	E-LCMS-01
		Dilution Factor:	2

CAS No.	Analyte Name	Result	Q	LOQ	LOD	MDL	Note
14797-73-0	Perchlorate	**1.31**		0.200	0.100	0.0500	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000735
Project:	HS20071328	**Date Collected:**	7/27/20 0940
Sample Matrix:	Water	**Date Received:**	7/29/20
		Date Extracted:	8/5/20
		Date Analyzed:	8/20/20 10:37
Sample Name:	16WW46-200727	**Units:**	µg/L
Lab Code:	E2000735-003	**Basis:**	NA

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

Analytical Method:	6850	**Analysis Lot:**	691880
Prep Method:	Method	**Extraction Lot:**	362933
Data File Name:	I:\LCMS01\DATA\20200820\20200820_008	**Instrument Name:**	E-LCMS-01
		Dilution Factor:	10

CAS No.	Analyte Name	Result	Q	LOQ	LOD	MDL	Note
14797-73-0	Perchlorate	**4.07**		1.00	0.500	0.250	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000735
Project:	HS20071328	**Date Collected:**	7/27/20 0940
Sample Matrix:	Water	**Date Received:**	7/29/20
		Date Extracted:	8/5/20
		Date Analyzed:	8/20/20 10:45
Sample Name:	16WW46-200727-FD	**Units:**	µg/L
Lab Code:	E2000735-004	**Basis:**	NA

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

Analytical Method:	6850	**Analysis Lot:**	691880
Prep Method:	Method	**Extraction Lot:**	362933
Data File Name:	I:\LCMS01\DATA\20200820\20200820_009	**Instrument Name:**	E-LCMS-01
		Dilution Factor:	10

CAS No.	Analyte Name	Result	Q	LOQ	LOD	MDL	Note
14797-73-0	Perchlorate	**3.31**		1.00	0.500	0.250	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000735
Project:	HS20071328	**Date Collected:**	7/27/20 1030
Sample Matrix:	Water	**Date Received:**	7/29/20
		Date Extracted:	8/5/20
		Date Analyzed:	8/20/20 10:53
Sample Name:	16WW49-200727	**Units:**	µg/L
Lab Code:	E2000735-005	**Basis:**	NA

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

Analytical Method:	6850	**Analysis Lot:**	691880
Prep Method:	Method	**Extraction Lot:**	362933
Data File Name:	I:\LCMS01\DATA\20200820\20200820_010	**Instrument Name:**	E-LCMS-01
		Dilution Factor:	10

CAS No.	Analyte Name	Result	Q	LOQ	LOD	MDL	Note
14797-73-0	Perchlorate	**2.41**		1.00	0.500	0.250	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000735
Project:	HS20071328	**Date Collected:**	7/27/20 1125
Sample Matrix:	Water	**Date Received:**	7/29/20
		Date Extracted:	8/5/20
		Date Analyzed:	8/20/20 11:01
Sample Name:	16WW51-200727	**Units:**	µg/L
Lab Code:	E2000735-006	**Basis:**	NA

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

Analytical Method:	6850	**Analysis Lot:**	691880
Prep Method:	Method	**Extraction Lot:**	362933
Data File Name:	I:\LCMS01\DATA\20200820\20200820_011	**Instrument Name:**	E-LCMS-01
		Dilution Factor:	10

CAS No.	Analyte Name	Result	Q	LOQ	LOD	MDL	Note
14797-73-0	Perchlorate	**2.86**		1.00	0.500	0.250	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000735
Project:	HS20071328	**Date Collected:**	7/27/20 1125
Sample Matrix:	Water	**Date Received:**	7/29/20
		Date Extracted:	8/5/20
		Date Analyzed:	8/20/20 11:09
Sample Name:	16WW51-200727-FD	**Units:**	µg/L
Lab Code:	E2000735-007	**Basis:**	NA

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

Analytical Method:	6850	**Analysis Lot:**	691880
Prep Method:	Method	**Extraction Lot:**	362933
Data File Name:	I:\LCMS01\DATA\20200820\20200820_012	**Instrument Name:**	E-LCMS-01
		Dilution Factor:	10

CAS No.	Analyte Name	Result	Q	LOQ	LOD	MDL	Note
14797-73-0	Perchlorate	**2.82**		1.00	0.500	0.250	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000735
Project:	HS20071328	**Date Collected:**	7/27/20 1220
Sample Matrix:	Water	**Date Received:**	7/29/20
		Date Extracted:	8/5/20
		Date Analyzed:	8/20/20 13:48
Sample Name:	16RW01-200727	**Units:**	µg/L
Lab Code:	E2000735-008	**Basis:**	NA

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

Analytical Method:	6850	**Analysis Lot:**	691880
Prep Method:	Method	**Extraction Lot:**	362933
Data File Name:	I:\LCMS01\DATA\20200820\20200820_032	**Instrument Name:**	E-LCMS-01
		Dilution Factor:	10

CAS No.	Analyte Name	Result	Q	LOQ	LOD	MDL	Note
14797-73-0	Perchlorate	**1.63**		1.00	0.500	0.250	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000735
Project:	HS20071328	**Date Collected:**	7/27/20 1315
Sample Matrix:	Water	**Date Received:**	7/29/20
		Date Extracted:	8/5/20
		Date Analyzed:	8/19/20 15:44
Sample Name:	16WW23-200727	**Units:**	µg/L
Lab Code:	E2000735-009	**Basis:**	NA

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

Analytical Method:	6850	**Analysis Lot:**	691702
Prep Method:	Method	**Extraction Lot:**	362933
Data File Name:	I:\LCMS01\DATA\20200819\20200819_043	**Instrument Name:**	E-LCMS-01
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	LOQ	LOD	MDL	Note
14797-73-0	Perchlorate	ND	U	0.100	0.0500	0.0250	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000735
Project:	HS20071328	**Date Collected:**	7/27/20 1405
Sample Matrix:	Water	**Date Received:**	7/29/20
		Date Extracted:	8/5/20
		Date Analyzed:	8/20/20 11:25
Sample Name:	16WW24-200727	**Units:**	µg/L
Lab Code:	E2000735-010	**Basis:**	NA

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

Analytical Method:	6850	**Analysis Lot:**	691880
Prep Method:	Method	**Extraction Lot:**	362933
Data File Name:	I:\LCMS01\DATA\20200820\20200820_014	**Instrument Name:**	E-LCMS-01
		Dilution Factor:	10

CAS No.	Analyte Name	Result	Q	LOQ	LOD	MDL	Note
14797-73-0	Perchlorate	**2.38**		1.00	0.500	0.250	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000735
Project:	HS20071328	**Date Collected:**	7/28/20 0730
Sample Matrix:	Water	**Date Received:**	7/29/20
		Date Extracted:	8/5/20
		Date Analyzed:	8/20/20 11:32
Sample Name:	16EW03-200728	**Units:**	µg/L
Lab Code:	E2000735-011	**Basis:**	NA

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

Analytical Method:	6850	**Analysis Lot:**	691880
Prep Method:	Method	**Extraction Lot:**	362933
Data File Name:	I:\LCMS01\DATA\20200820\20200820_015	**Instrument Name:**	E-LCMS-01
		Dilution Factor:	10

CAS No.	Analyte Name	Result	Q	LOQ	LOD	MDL	Note
14797-73-0	Perchlorate	**2.09**		1.00	0.500	0.250	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000735
Project:	HS20071328	**Date Collected:**	7/28/20 0815
Sample Matrix:	Soil	**Date Received:**	7/29/20
		Date Extracted:	8/11/20
		Date Analyzed:	8/21/20 10:26
Sample Name:	16EW07-200728	**Units:**	µg/Kg
Lab Code:	E2000735-012	**Basis:**	As Received

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

Analytical Method:	6850	**Analysis Lot:**	691993
Prep Method:	Method	**Extraction Lot:**	363305
Data File Name:	I:\LCMS01\DATA\20200821\20200821_007	**Instrument Name:**	E-LCMS-01
		Dilution Factor:	10

CAS No.	Analyte Name	Result	Q	LOQ	LOD	MDL	Note
14797-73-0	Perchlorate	**4.68**	J	10.3	7.72	3.09	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000735
Project:	HS20071328	**Date Collected:**	7/28/20 0905
Sample Matrix:	Water	**Date Received:**	7/29/20
		Date Extracted:	8/5/20
		Date Analyzed:	8/19/20 16:16
Sample Name:	16EW08-200728	**Units:**	µg/L
Lab Code:	E2000735-013	**Basis:**	NA

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

Analytical Method:	6850	**Analysis Lot:**	691702
Prep Method:	Method	**Extraction Lot:**	362933
Data File Name:	I:\LCMS01\DATA\20200819\20200819_047	**Instrument Name:**	E-LCMS-01
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	LOQ	LOD	MDL	Note
14797-73-0	Perchlorate	**0.0836**	J	0.100	0.0500	0.0250	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000735
Project:	HS20071328	**Date Collected:**	7/28/20 0950
Sample Matrix:	Water	**Date Received:**	7/29/20
		Date Extracted:	8/5/20
		Date Analyzed:	8/20/20 11:40
Sample Name:	16EW04-200728	**Units:**	µg/L
Lab Code:	E2000735-014	**Basis:**	NA

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

Analytical Method:	6850	**Analysis Lot:**	691880
Prep Method:	Method	**Extraction Lot:**	362933
Data File Name:	I:\LCMS01\DATA\20200820\20200820_016	**Instrument Name:**	E-LCMS-01
		Dilution Factor:	10

CAS No.	Analyte Name	Result	Q	LOQ	LOD	MDL	Note
14797-73-0	Perchlorate	**1.42**		1.00	0.500	0.250	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000735
Project:	HS20071328	**Date Collected:**	7/28/20 1040
Sample Matrix:	Water	**Date Received:**	7/29/20
		Date Extracted:	8/5/20
		Date Analyzed:	8/20/20 11:56
Sample Name:	16RW04-200728	**Units:**	µg/L
Lab Code:	E2000735-015	**Basis:**	NA

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

Analytical Method:	6850	**Analysis Lot:**	691880
Prep Method:	Method	**Extraction Lot:**	362933
Data File Name:	I:\LCMS01\DATA\20200820\20200820_018	**Instrument Name:**	E-LCMS-01
		Dilution Factor:	10

CAS No.	Analyte Name	Result	Q	LOQ	LOD	MDL	Note
14797-73-0	Perchlorate	**2.08**		1.00	0.500	0.250	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000735
Project:	HS20071328	**Date Collected:**	7/28/20 1130
Sample Matrix:	Water	**Date Received:**	7/29/20
		Date Extracted:	8/5/20
		Date Analyzed:	8/20/20 12:04
Sample Name:	16IW03-200728	**Units:**	µg/L
Lab Code:	E2000735-016	**Basis:**	NA

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

Analytical Method:	6850	**Analysis Lot:**	691880
Prep Method:	Method	**Extraction Lot:**	362933
Data File Name:	I:\LCMS01\DATA\20200820\20200820_019	**Instrument Name:**	E-LCMS-01
		Dilution Factor:	10

CAS No.	Analyte Name	Result	Q	LOQ	LOD	MDL	Note
14797-73-0	Perchlorate	**1.85**		1.00	0.500	0.250	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000735
Project:	HS20071328	**Date Collected:**	7/28/20 1210
Sample Matrix:	Water	**Date Received:**	7/29/20
		Date Extracted:	8/5/20
		Date Analyzed:	8/20/20 12:12
Sample Name:	16SW01-200728	**Units:**	µg/L
Lab Code:	E2000735-017	**Basis:**	NA

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

Analytical Method:	6850	**Analysis Lot:**	691880
Prep Method:	Method	**Extraction Lot:**	362933
Data File Name:	I:\LCMS01\DATA\20200820\20200820_020	**Instrument Name:**	E-LCMS-01
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	LOQ	LOD	MDL	Note
14797-73-0	Perchlorate	ND	U	0.100	0.0500	0.0250	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000735
Project:	HS20071328	**Date Collected:**	7/28/20 1230
Sample Matrix:	Water	**Date Received:**	7/29/20
		Date Extracted:	8/5/20
		Date Analyzed:	8/20/20 12:20
Sample Name:	16SW02-200728	**Units:**	µg/L
Lab Code:	E2000735-018	**Basis:**	NA

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

Analytical Method:	6850	**Analysis Lot:**	691880
Prep Method:	Method	**Extraction Lot:**	362933
Data File Name:	I:\LCMS01\DATA\20200820\20200820_021	**Instrument Name:**	E-LCMS-01
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	LOQ	LOD	MDL	Note
14797-73-0	Perchlorate	ND	U	0.100	0.0500	0.0250	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000735
Project:	HS20071328	**Date Collected:**	7/28/20 1250
Sample Matrix:	Water	**Date Received:**	7/29/20
		Date Extracted:	8/5/20
		Date Analyzed:	8/20/20 12:28
Sample Name:	16SW03-200728	**Units:**	µg/L
Lab Code:	E2000735-019	**Basis:**	NA

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

Analytical Method:	6850	**Analysis Lot:**	691880
Prep Method:	Method	**Extraction Lot:**	362933
Data File Name:	I:\LCMS01\DATA\20200820\20200820_022	**Instrument Name:**	E-LCMS-01
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	LOQ	LOD	MDL	Note
14797-73-0	Perchlorate	ND	U	0.100	0.0500	0.0250	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000735
Project:	HS20071328	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
		Date Extracted:	8/5/20
		Date Analyzed:	8/19/20 14:04
Sample Name:	Method Blank	**Units:**	µg/L
Lab Code:	EQ2000327-01	**Basis:**	NA

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

Analytical Method:	6850	**Analysis Lot:**	691702
Prep Method:	Method	**Extraction Lot:**	362933
Data File Name:	I:\LCMS01\DATA\20200819\20200819_030	**Instrument Name:**	E-LCMS-01
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	LOQ	LOD	MDL	Note
14797-73-0	Perchlorate	ND	U	0.100	0.0500	0.0250	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000735
Project:	HS20071328	**Date Collected:**	NA
Sample Matrix:	Soil	**Date Received:**	NA
		Date Extracted:	8/11/20
		Date Analyzed:	8/20/20 12:36
Sample Name:	Method Blank	**Units:**	µg/Kg
Lab Code:	EQ2000339-01	**Basis:**	Dry

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

Analytical Method:	6850	**Analysis Lot:**	691993
Prep Method:	Method	**Extraction Lot:**	363305
Data File Name:	I:\LCMS01\DATA\20200820\20200820_023	**Instrument Name:**	E-LCMS-01
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	LOQ	LOD	MDL	Note
14797-73-0	Perchlorate	ND	U	0.993	0.750	0.300	

Accuracy & Precision

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ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20071328
Sample Matrix: Water

Service Request: E2000735
Date Analyzed: 8/19/20

Lab Control Sample Summary
Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
Prep Method: Method

Units: µg/L
Basis: NA

Extraction Lot: 362933

	Lab Control Sample EQ2000327-02			Duplicate Lab Control Sample EQ2000327-03					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Perchlorate	0.106	0.100	106	0.101	0.100	101	84 - 119	4	15

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

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000735
Project:	HS20071328	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
		Date Extracted:	8/5/20
		Date Analyzed:	8/19/20 14:12
Sample Name:	Lab Control Sample	**Units:**	µg/L
Lab Code:	EQ2000327-02	**Basis:**	NA

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

Analytical Method:	6850	**Analysis Lot:**	691702
Prep Method:	Method	**Extraction Lot:**	362933
Data File Name:	I:\LCMS01\DATA\20200819\20200819_031	**Instrument Name:**	E-LCMS-01
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	LOQ	LOD	MDL	Note
14797-73-0	Perchlorate	**0.106**		0.100	0.0500	0.0250	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000735
Project:	HS20071328	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
		Date Extracted:	8/5/20
		Date Analyzed:	8/19/20 14:21
Sample Name:	Duplicate Lab Control Sample	**Units:**	µg/L
Lab Code:	EQ2000327-03	**Basis:**	NA

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

Analytical Method:	6850	**Analysis Lot:**	691702
Prep Method:	Method	**Extraction Lot:**	362933
Data File Name:	I:\LCMS01\DATA\20200819\20200819_033	**Instrument Name:**	E-LCMS-01
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	LOQ	LOD	MDL	Note
14797-73-0	Perchlorate	**0.101**		0.100	0.0500	0.0250	

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20071328
Sample Matrix: Soil

Service Request: E2000735
Date Analyzed: 8/20/20

Lab Control Sample Summary
Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
Prep Method: Method

Units: µg/Kg
Basis: Dry

Extraction Lot: 363305

	Lab Control Sample EQ2000339-02			Duplicate Lab Control Sample EQ2000339-03					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Perchlorate	87.3	94.3	92	90.7	99.1	92	80 - 120	4	15

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

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000735
Project:	HS20071328	**Date Collected:**	NA
Sample Matrix:	Soil	**Date Received:**	NA
		Date Extracted:	8/11/20
		Date Analyzed:	8/20/20 12:43
Sample Name:	Lab Control Sample	**Units:**	µg/Kg
Lab Code:	EQ2000339-02	**Basis:**	Dry

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

Analytical Method:	6850	**Analysis Lot:**	691993
Prep Method:	Method	**Extraction Lot:**	363305
Data File Name:	I:\LCMS01\DATA\20200820\20200820_024	**Instrument Name:**	E-LCMS-01
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	LOQ	LOD	MDL	Note
14797-73-0	Perchlorate	**87.3**		0.943	0.750	0.300	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000735
Project:	HS20071328	**Date Collected:**	NA
Sample Matrix:	Soil	**Date Received:**	NA
		Date Extracted:	8/11/20
		Date Analyzed:	8/20/20 12:51
Sample Name:	Duplicate Lab Control Sample	**Units:**	µg/Kg
Lab Code:	EQ2000339-03	**Basis:**	Dry

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

Analytical Method:	6850	**Analysis Lot:**	691993
Prep Method:	Method	**Extraction Lot:**	363305
Data File Name:	I:\LCMS01\DATA\20200820\20200820_025	**Instrument Name:**	E-LCMS-01
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	LOQ	LOD	MDL	Note
14797-73-0	Perchlorate	**90.7**		0.991	0.750	0.300	

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000735
Project:	HS20071328	**Date Collected:**	7/28/20
Sample Matrix:	Soil	**Date Received:**	7/29/20
		Date Analyzed:	8/21/20

Matrix Spike Summary

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

Sample Name:	16EW07-200728	**Units:**	µg/Kg
Lab Code:	E2000735-012	**Basis:**	As Received

Analytical Method: 6850
Prep Method: Method

		16EW07-200728MS				16EW07-200728DMS					
		Matrix Spike				**Duplicate Matrix Spike**					
		EQ2000339-04				EQ2000339-05					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**		**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Perchlorate	4.68	85.9	96.7	84		93.7	101	88	84 - 121	9	15

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

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000735
Project:	HS20071328	**Date Collected:**	7/28/20 0815
Sample Matrix:	Soil	**Date Received:**	7/29/20
		Date Extracted:	8/11/20
		Date Analyzed:	8/21/20 10:34
Sample Name:	16EW07-200728	**Units:**	µg/Kg
Lab Code:	EQ2000339-04	**Basis:**	As Received
Run Type:	Matrix Spike		

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

Analytical Method:	6850	**Analysis Lot:**	691993
Prep Method:	Method	**Extraction Lot:**	363305
Data File Name:	I:\LCMS01\DATA\20200821\20200821_008	**Instrument Name:**	E-LCMS-01
		Dilution Factor:	10

CAS No.	Analyte Name	Result	Q	LOQ	LOD	MDL	Note
14797-73-0	Perchlorate	**85.9**		9.67	7.50	3.00	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000735
Project:	HS20071328	**Date Collected:**	7/28/20 0815
Sample Matrix:	Soil	**Date Received:**	7/29/20
		Date Extracted:	8/11/20
		Date Analyzed:	8/21/20 10:58
Sample Name:	16EW07-200728	**Units:**	µg/Kg
Lab Code:	EQ2000339-05	**Basis:**	As Received
Run Type:	Duplicate Matrix Spike		

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

Analytical Method:	6850	**Analysis Lot:**	691993
Prep Method:	Method	**Extraction Lot:**	363305
Data File Name:	I:\LCMS01\DATA\20200821\20200821_009	**Instrument Name:**	E-LCMS-01
		Dilution Factor:	10

CAS No.	Analyte Name	Result	Q	LOQ	LOD	MDL	Note
14797-73-0	Perchlorate	**93.7**		10.1	7.59	3.04	

Initial Calibration

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20200819

ALS Environmental

ICAL Date: 7/19/2020
Cal. Std. xp: 11/18/2020
ICAL ID: EC2000022

1st Review: Kneir
2nd Review: Hvan

Injection Log
LCMS01 -Shimadzu 8050

Mobile Phases **A:** 0.75% Formic Acid/Water 3100807-09 **B:** MeOH 3100802-01

			File Name	Acquisition Method	Dilution	R	Comments	Date/Time
1	PERCHLORATE1		20200819_005	Perchlorate6850b.lcm	1x	☒	3100806-05	8/19/2020 10:42
2	PERCHLORATE2		20200819_006	Perchlorate6850b.lcm	1x	☒	3100806-06	8/19/2020 10:50
3	PERCHLORATE3		20200819_007	Perchlorate6850b.lcm	1x	☒	3100806-07	8/19/2020 10:58
4	PERCHLORATE4		20200819_008	Perchlorate6850b.lcm	1x	☒	3100807-01	8/19/2020 11:06
5	PERCHLORATE5		20200819_009	Perchlorate6850b.lcm	1x	☒	3100807-02	8/19/2020 11:14
6	PERCHLORATE6		20200819_010	Perchlorate6850b.lcm	1x	☒	3100807-03	8/19/2020 11:22
7	PERCHLORATE7		20200819_011	Perchlorate6850b.lcm	1x	☒	3100807-04	8/19/2020 11:30
8	PERCHLORATE8		20200819_012	Perchlorate6850b.lcm	1x	☒	3100807-05	8/19/2020 11:38
9	PERCHLORATE9		20200819_013	Perchlorate6850b.lcm	1x	☒	3100807-06	8/19/2020 11:45
10	PERCHLORATE10		20200819_014	Perchlorate6850b.lcm	1x	☒	3100807-07	8/19/2020 11:53
11	PERCHLORATEICV		20200819_016	Perchlorate6850b.lcm	1x	☒	3100807-08	8/19/2020 12:09
12	LODV		20200819_017	Perchlorate6850b.lcm	1x	☒		8/19/2020 12:17
13	EQ2000337-01		20200819_019	Perchlorate6850b.lcm	1x	☒		8/19/2020 12:38
14	EQ2000337-02		20200819_020	Perchlorate6850b.lcm	1x	☒		8/19/2020 12:46
15	EQ2000337-03		20200819_021	Perchlorate6850b.lcm	1x	☒		8/19/2020 12:53
16	E2000723-001		20200819_022	Perchlorate6850b.lcm	1x	☒		8/19/2020 13:01
17	PERCHLORATE7		20200819_023	Perchlorate6850b.lcm	1x	☒	3100807-04	8/19/2020 13:09
18	E2000680-002X10		20200819_024	Perchlorate6850b.lcm	10x	☒		8/19/2020 13:17
19	E2000680-004X2		20200819_025	Perchlorate6850b.lcm	2x	☒		8/19/2020 13:25
20	E2000680-007X10		20200819_026	Perchlorate6850b.lcm	10x	☒		8/19/2020 13:33
21	E2000680-009X10		20200819_027	Perchlorate6850b.lcm	10x	☒		8/19/2020 13:41
22	E2000680-010X10		20200819_028	Perchlorate6850b.lcm	10x	☒		8/19/2020 13:49
23	E2000680-011X10		20200819_029	Perchlorate6850b.lcm	10x	☒		8/19/2020 13:57
24	EQ2000327-01		20200819_030	Perchlorate6850b.lcm	1x	☒		8/19/2020 14:04
25	EQ2000327-02		20200819_031	Perchlorate6850b.lcm	1x	☒		8/19/2020 14:12
26	EQ2000327-03		20200819_033	Perchlorate6850b.lcm	1x	☒		8/19/2020 14:21
27	PERCHLORATE7		20200819_034	Perchlorate6850b.lcm	1x	☒	3100807-04	8/19/2020 14:29
28	E2000735-001		20200819_035	Perchlorate6850b.lcm	1x	☒		8/19/2020 14:37
29	E2000735-002		20200819_036	Perchlorate6850b.lcm	1x	☒		8/19/2020 14:45
30	E2000735-003		20200819_037	Perchlorate6850b.lcm	1x	☒		8/19/2020 14:53
31	E2000735-004		20200819_038	Perchlorate6850b.lcm	1x	☒		8/19/2020 15:01
32	E2000735-005		20200819_039	Perchlorate6850b.lcm	1x	☒		8/19/2020 15:09
33	E2000735-006		20200819_040	Perchlorate6850b.lcm	1x	☒		8/19/2020 15:16
34	E2000735-007		20200819_041	Perchlorate6850b.lcm	1x	☒		8/19/2020 15:24
35	E2000735-008		20200819_042	Perchlorate6850b.lcm	1x	☒		8/19/2020 15:32
36	E2000735-009		20200819_043	Perchlorate6850b.lcm	1x	☒		8/19/2020 15:44
37	PERCHLORATE7		20200819_044	Perchlorate6850b.lcm	1x	☒	3100807-04	8/19/2020 15:52
38	E2000735-010		20200819_045	Perchlorate6850b.lcm	1x	☒		8/19/2020 16:00
39	E2000735-011		20200819_046	Perchlorate6850b.lcm	1x	☒		8/19/2020 16:08
40	E2000735-013		20200819_047	Perchlorate6850b.lcm	1x	☒		8/19/2020 16:16
41	E2000735-014		20200819_048	Perchlorate6850b.lcm	1x	☒		8/19/2020 16:24
42	E2000735-015		20200819_049	Perchlorate6850b.lcm	1x	☒		8/19/2020 16:32
43	E2000735-016		20200819_050	Perchlorate6850b.lcm	1x	☒		8/19/2020 16:40
44	E2000735-017		20200819_051	Perchlorate6850b.lcm	1x	☒		8/19/2020 16:47
45	E2000735-018		20200819_052	Perchlorate6850b.lcm	1x	☒		8/19/2020 16:55
46	E2000735-019		20200819_053	Perchlorate6850b.lcm	1x	☒		8/19/2020 17:03
47	PERCHLORATE7		20200819_054	Perchlorate6850b.lcm	1x	☒	3100807-04	8/19/2020 17:11
48	EQ2000339-01		20200819_055	Perchlorate6850b.lcm	1x	☒		8/19/2020 17:19
49	EQ2000339-02		20200819_056	Perchlorate6850b.lcm	1x	☒		8/19/2020 17:27
50	EQ2000339-03		20200819_057	Perchlorate6850b.lcm	1x	☒		8/19/2020 17:35
51	E2000712-001		20200819_058	Perchlorate6850b.lcm	1x	☒		8/19/2020 17:43
52	E2000712-002		20200819_059	Perchlorate6850b.lcm	1x	☒		8/19/2020 17:51
53	E2000712-003		20200819_060	Perchlorate6850b.lcm	1x	☒		8/19/2020 17:59
54	IB		20200819_061	Perchlorate6850b.lcm	1x	☒		8/19/2020 18:08
55	IB		20200819_062	Perchlorate6850b.lcm	1x	☒		8/19/2020 18:16
56	IB		20200819_063	Perchlorate6850b.lcm	1x	☒		8/19/2020 18:24
57	IB		20200819_064	Perchlorate6850b.lcm	1x	☒		8/19/2020 18:32
58	PERCHLORATE7		20200819_065	Perchlorate6850b.lcm	1x	☒	3100807-04	8/19/2020 18:40
59	E2000712-004		20200819_066	Perchlorate6850b.lcm	1x	☒		8/19/2020 18:48
60	E2000712-005		20200819_067	Perchlorate6850b.lcm	1x	☒		8/19/2020 18:56
61	E2000712-006		20200819_068	Perchlorate6850b.lcm	1x	☒		8/19/2020 19:04

20200819

ALS Environmental

ICAL Date: 7/19/2020
Cal. Std. xp: 11/18/2020
ICAL ID: EC2000022

1st Review: Kneir
2nd Review: Hvan

Injection Log
LCMS01 -Shimadzu 8050

Mobile Phases **A:** 0.75% Formic Acid/Water 3100807-09 **B:** MeOH 3100802-01

			File Name	Acquisition Method	Dilution	R	Comments	Date/Time
62	E2000712-007		20200819_069	Perchlorate6850b.lcm	1x	☒		8/19/2020 19:12
63	E2000694-012		20200819_070	Perchlorate6850b.lcm	1x	☒		8/19/2020 19:19
64	E2000694-012MS		20200819_071	Perchlorate6850b.lcm	1x	☒		8/19/2020 19:27
65	E2000694-012MSD		20200819_072	Perchlorate6850b.lcm	1x	☒		8/19/2020 19:35
66	E2000711-001		20200819_073	Perchlorate6850b.lcm	1x	☒		8/19/2020 19:43
67	E2000711-002		20200819_074	Perchlorate6850b.lcm	1x	☒		8/19/2020 19:51
68	E2000724-001		20200819_075	Perchlorate6850b.lcm	1x	☒		8/19/2020 19:59
69	PERCHLORATE7		20200819_076	Perchlorate6850b.lcm	1x	☒	3100807-04	8/19/2020 20:07
70	E2000724-002		20200819_077	Perchlorate6850b.lcm	1x	☒		8/19/2020 20:15
71	E2000724-003		20200819_078	Perchlorate6850b.lcm	1x	☒		8/19/2020 20:22
72	E2000724-004		20200819_079	Perchlorate6850b.lcm	1x	☒		8/19/2020 20:30
73	E2000728-001		20200819_080	Perchlorate6850b.lcm	1x	☒		8/19/2020 20:38
74	E2000728-002		20200819_081	Perchlorate6850b.lcm	1x	☒		8/19/2020 20:46
75	E2000729-001		20200819_082	Perchlorate6850b.lcm	1x	☒		8/19/2020 20:54
76	R2006493-001		20200819_083	Perchlorate6850b.lcm	1x	☒		8/19/2020 21:02
77	R2006493-003		20200819_084	Perchlorate6850b.lcm	1x	☒		8/19/2020 21:10
78	R2006493-005		20200819_085	Perchlorate6850b.lcm	1x	☒		8/19/2020 21:18
79	R2006493-007		20200819_086	Perchlorate6850b.lcm	1x	☒		8/19/2020 21:26
80	PERCHLORATE7		20200819_087	Perchlorate6850b.lcm	1x	☒	3100807-04	8/19/2020 21:33
81	R2006493-009		20200819_088	Perchlorate6850b.lcm	1x	☒		8/19/2020 21:41
82	R2006493-011		20200819_089	Perchlorate6850b.lcm	1x	☒		8/19/2020 21:49
83	R2006493-013		20200819_090	Perchlorate6850b.lcm	1x	☒		8/19/2020 21:57
84	R2006493-015		20200819_091	Perchlorate6850b.lcm	1x	☒		8/19/2020 22:05
85	PERCHLORATE7		20200819_092	Perchlorate6850b.lcm	1x	☒	3100807-04	8/19/2020 22:13
86	EQ2000338-01		20200819_093	Perchlorate6850b.lcm	1x	☒		8/19/2020 22:21
87	EQ2000338-02		20200819_094	Perchlorate6850b.lcm	1x	☒		8/19/2020 22:29
88	EQ2000338-03		20200819_095	Perchlorate6850b.lcm	1x	☒		8/19/2020 22:37
89	EQ2000338-04		20200819_096	Perchlorate6850b.lcm	1x	☒		8/19/2020 22:44
90	EQ2000338-05		20200819_097	Perchlorate6850b.lcm	1x	☒		8/19/2020 22:52
91	R2006532-001		20200819_098	Perchlorate6850b.lcm	1x	☒		8/19/2020 23:00
92	R2006532-003		20200819_099	Perchlorate6850b.lcm	1x	☒		8/19/2020 23:08
93	R2006532-005		20200819_100	Perchlorate6850b.lcm	1x	☒		8/19/2020 23:16
94	R2006532-007		20200819_101	Perchlorate6850b.lcm	1x	☒		8/19/2020 23:24
95	R2006532-009		20200819_102	Perchlorate6850b.lcm	1x	☒		8/19/2020 23:32
96	PERCHLORATE7		20200819_103	Perchlorate6850b.lcm	1x	☒	3100807-04	8/19/2020 23:40
97	R2006532-011		20200819_104	Perchlorate6850b.lcm	1x	☒		8/19/2020 23:47
98	R2006555-002		20200819_105	Perchlorate6850b.lcm	1x	☒		8/19/2020 23:55
99	R2006555-004		20200819_106	Perchlorate6850b.lcm	1x	☒		8/20/2020 0:03
100	R2006555-006		20200819_107	Perchlorate6850b.lcm	1x	☒		8/20/2020 0:11
101	R2006555-008		20200819_108	Perchlorate6850b.lcm	1x	☒		8/20/2020 0:19
102	R2006555-010		20200819_109	Perchlorate6850b.lcm	1x	☒		8/20/2020 0:27
103	R2006555-012		20200819_110	Perchlorate6850b.lcm	1x	☒		8/20/2020 0:35
104	R2006617-001		20200819_111	Perchlorate6850b.lcm	1x	☒		8/20/2020 0:43
105	R2006617-003		20200819_112	Perchlorate6850b.lcm	1x	☒		8/20/2020 0:50
106	R2006617-005		20200819_113	Perchlorate6850b.lcm	1x	☒		8/20/2020 0:58
107	PERCHLORATE7		20200819_114	Perchlorate6850b.lcm	1x	☒	3100807-04	8/20/2020 1:06
108	R2006617-007		20200819_115	Perchlorate6850b.lcm	1x	☒		8/20/2020 1:14
109	R2006617-009		20200819_116	Perchlorate6850b.lcm	1x	☒		8/20/2020 1:22
110	R2006617-010		20200819_117	Perchlorate6850b.lcm	1x	☒		8/20/2020 1:30
111	PERCHLORATE7		20200819_118	Perchlorate6850b.lcm	1x	☒	3100807-04	8/20/2020 1:38

Initial Calibration - Detailed Report

Calibration ID: EC2000022 **Instrument ID:** E-LCMS-01
Column Name: 1

#	Lab Code	Sample Name	File Location	Aquisition Date
01	EC2000022-01	PERCHLORATE1	20200819_005	08/19/2020 10:42
02	EC2000022-02	PERCHLORATE2	20200819_006	08/19/2020 10:50
03	EC2000022-03	PERCHLORATE3	20200819_007	08/19/2020 10:58
04	EC2000022-04	PERCHLORATE4	20200819_008	08/19/2020 11:06
05	EC2000022-05	PERCHLORATE5	20200819_009	08/19/2020 11:14
06	EC2000022-06	PERCHLORATE6	20200819_010	08/19/2020 11:22
07	EC2000022-07	PERCHLORATE7	20200819_011	08/19/2020 11:30
08	EC2000022-08	PERCHLORATE8	20200819_012	08/19/2020 11:38
09	EC2000022-09	PERCHLORATE9	20200819_013	08/19/2020 11:45
10	EC2000022-10	PERCHLORATE10	20200819_014	08/19/2020 11:53

Analyte **Curve Fit** **Weighting**

Perchlorate **Average RF** **RSD = 5.952** **Average RF = 0.1131**

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.1000	0.1299	02	0.5000	0.113	03	0.7000	0.1123	04	1.0000	0.1147
05	2.0000	0.1134	06	5.0000	0.1082	07	10.0000	0.1069	08	20.0000	0.1158
09	30.0000	0.1094	10	50.0000	0.107						

Analyte

Perchlorate

#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D
01	0.1000	0.115	14.9	02	0.5000	0.500	-0.1	03	0.7000	0.695	-0.7
04	1.0000	1.01	1.5	05	2.0000	2.01	0.3	06	5.0000	4.78	-4.3
07	10.0000	9.46	-5.4	08	20.0000	20.5	2.4	09	30.0000	29.0	-3.2
10	50.0000	47.3	-5.4								

Initial Calibration Verification Summary Report

Calibration ID:	EC2000022	**Instrument ID:**	E-LCMS-01
Datafile ID:	20200819_016	**Column Name:**	1

Analyte	Lab Code	Type	Curve Fit	True Value	Calc Conc	Units	Result	Criteria
Perchlorate	EC2000022-11	T	Average RF	10	9.352	ng/mL	-6.5	<= 15

ALS Group Houston

PERCHLORATE1

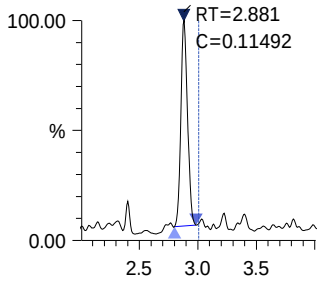
Date acquired: 8/19/2020 10:42:37 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200819\20200819_005.lcd
Vial: 5 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE1	8/19/2020 10:42:37 AM	3802	0.11492	20200819_005	2.881	25.0000	1.0000	5
Sodium Perchlorate-18O4_IS	PERCHLORATE1	8/19/2020 10:42:37 AM	292622	1.00000	20200819_005	2.877	25.0000	1.0000	5

Perchlorate

Conc 0.11492
Area 3802

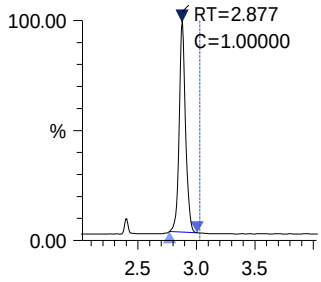
Q 99.00>83.00 (-) 1.00e3



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 292622

ISTD 107.00>89.00 (-) 7.83e4



ALS Group Houston

PERCHLORATE2

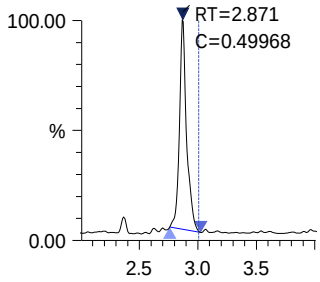
Date acquired: 8/19/2020 10:50:33 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200819\20200819_006.lcd
Vial: 6 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE2	8/19/2020 10:50:33 AM	18036	0.49968	20200819_006	2.871	25.0000	1.0000	6
Sodium Perchlorate-18O4_IS	PERCHLORATE2	8/19/2020 10:50:33 AM	319274	1.00000	20200819_006	2.870	25.0000	1.0000	6

Perchlorate

Conc 0.49968
Area 18036

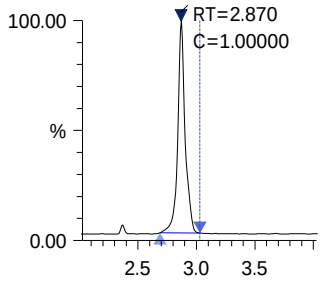
Q 99.00>83.00 (-) 4.32e3



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 319274

ISTD 107.00>89.00 (-) 7.26e4



ALS Group Houston

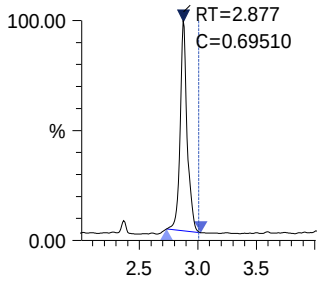
PERCHLORATE3

Date acquired: 8/19/2020 10:58:27 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200819\20200819_007.lcd
Vial: 7 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE3	8/19/2020 10:58:27 AM	24394	0.69510	20200819_007	2.877	25.0000	1.0000	7
Sodium Perchlorate-18O4_IS	PERCHLORATE3	8/19/2020 10:58:27 AM	310422	1.00000	20200819_007	2.874	25.0000	1.0000	7

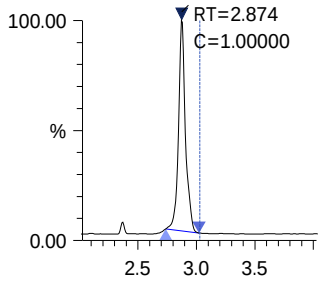
Perchlorate

Conc 0.69510
Area 24394
Q 99.00>83.00 (-) 5.99e3



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 310422
ISTD 107.00>89.00 (-) 7.56e4



ALS Group Houston

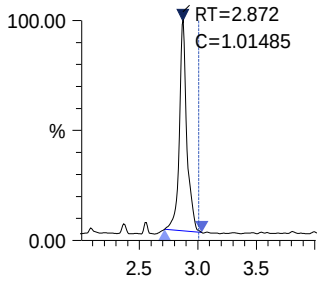
PERCHLORATE4

Date acquired: 8/19/2020 11:06:22 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200819\20200819_008.lcd
Vial: 8 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE4	8/19/2020 11:06:22 AM	33591	1.01485	20200819_008	2.872	25.0000	1.0000	8
Sodium Perchlorate-18O4_IS	PERCHLORATE4	8/19/2020 11:06:22 AM	292786	1.00000	20200819_008	2.872	25.0000	1.0000	8

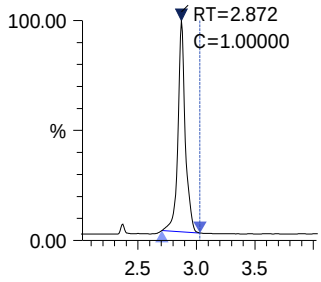
Perchlorate

Conc 1.01485
Area 33591
Q 99.00>83.00 (-) 7.70e3



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 292786
ISTD 107.00>89.00 (-) 6.80e4



ALS Group Houston

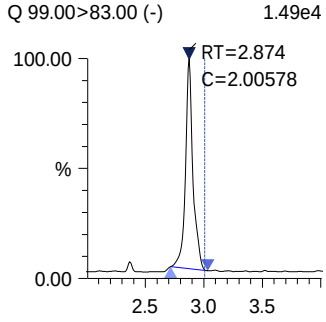
PERCHLORATE5

Date acquired: 8/19/2020 11:14:18 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200819\20200819_009.lcd
Vial: 9 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE5	8/19/2020 11:14:18 AM	65114	2.00578	20200819_009	2.874	25.0000	1.0000	9
Sodium Perchlorate-18O4_IS	PERCHLORATE5	8/19/2020 11:14:18 AM	287158	1.00000	20200819_009	2.873	25.0000	1.0000	9

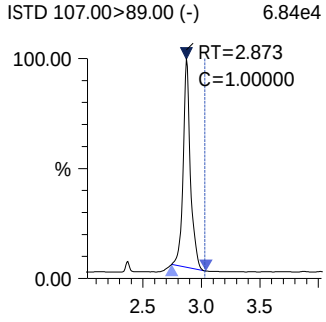
Perchlorate

Conc 2.00578
Area 65114



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 287158



ALS Group Houston

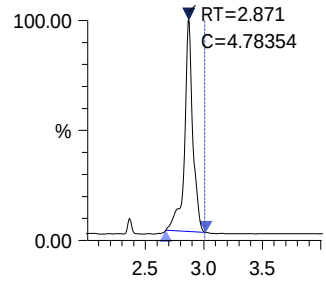
PERCHLORATE6

Date acquired: 8/19/2020 11:22:10 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200819\20200819_010.lcd
Vial: 10 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE6	8/19/2020 11:22:10 AM	167892	4.78354	20200819_010	2.871	25.0000	1.0000	10
Sodium Perchlorate-18O4_IS	PERCHLORATE6	8/19/2020 11:22:10 AM	310462	1.00000	20200819_010	2.870	25.0000	1.0000	10

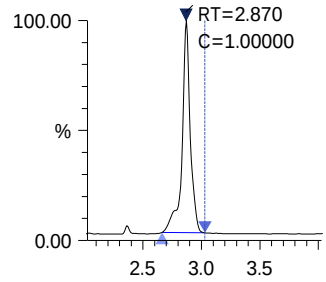
Perchlorate

Conc 4.78354
Area 167892



Sodium Perchlorate-18O4 _IS

Conc 1.00000
Area 310462



ALS Group Houston

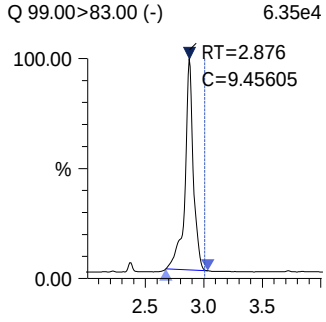
PERCHLORATE7

Date acquired: 8/19/2020 11:30:05 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200819\20200819_011.lcd
Vial: 4 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE7	8/19/2020 11:30:05 AM	309830	9.45605	20200819_011	2.876	25.0000	1.0000	4
Sodium Perchlorate-18O4_IS	PERCHLORATE7	8/19/2020 11:30:05 AM	289828	1.00000	20200819_011	2.875	25.0000	1.0000	4

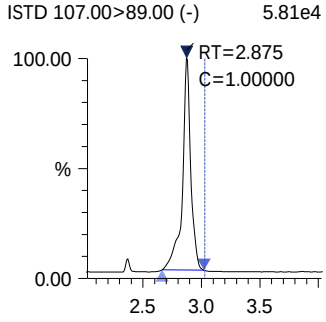
Perchlorate

Conc 9.45605
Area 309830



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 289828



ALS Group Houston

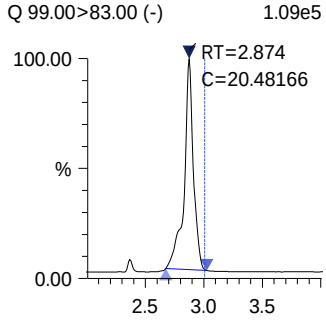
PERCHLORATE8

Date acquired: 8/19/2020 11:38:00 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200819\20200819_012.lcd
Vial: 11 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE8	8/19/2020 11:38:00 AM	587088	20.48166	20200819_012	2.874	25.0000	1.0000	11
Sodium Perchlorate-18O4_IS	PERCHLORATE8	8/19/2020 11:38:00 AM	253551	1.00000	20200819_012	2.873	25.0000	1.0000	11

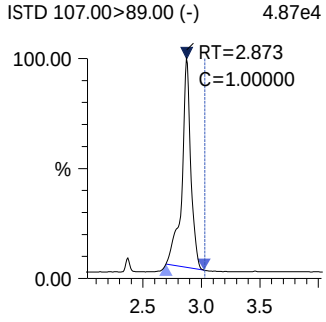
Perchlorate

Conc 20.48166
Area 587088



Sodium Perchlorate-18O4 _IS

Conc 1.00000
Area 253551



ALS Group Houston

PERCHLORATE9

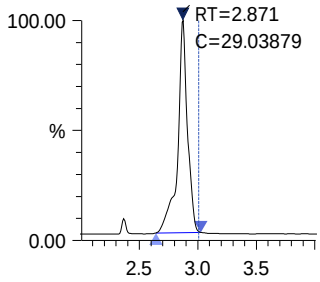
Date acquired: 8/19/2020 11:45:53 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200819\20200819_013.lcd
Vial: 12 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE9	8/19/2020 11:45:53 AM	849278	29.03879	20200819_013	2.871	25.0000	1.0000	12
Sodium Perchlorate-18O4_IS	PERCHLORATE9	8/19/2020 11:45:53 AM	258702	1.00000	20200819_013	2.870	25.0000	1.0000	12

Perchlorate

Conc 29.03879
Area 849278

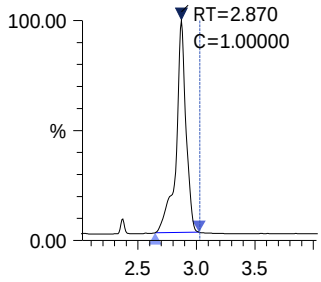
Q 99.00>83.00 (-) 1.48e5



Sodium Perchlorate-18O4 _IS

Conc 1.00000
Area 258702

ISTD 107.00>89.00 (-) 4.43e4



ALS Group Houston

PERCHLORATE10

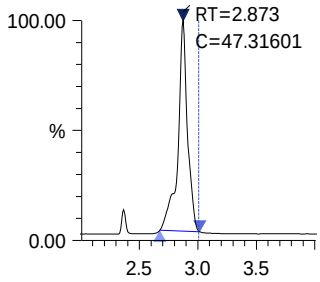
Date acquired: 8/19/2020 11:53:48 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200819\20200819_014.lcd
Vial: 13 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE10	8/19/2020 11:53:48 AM	1220253	47.31601	20200819_014	2.873	25.0000	1.0000	13
Sodium Perchlorate-18O4_IS	PERCHLORATE10	8/19/2020 11:53:48 AM	228123	1.00000	20200819_014	2.871	25.0000	1.0000	13

Perchlorate

Conc 47.31601
Area 1220253

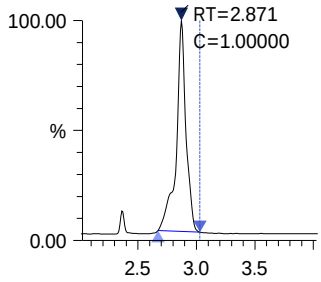
Q 99.00>83.00 (-) 2.17e5



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 228123

ISTD 107.00>89.00 (-) 3.99e4



ALS Group Houston

PERCHLORATEICV

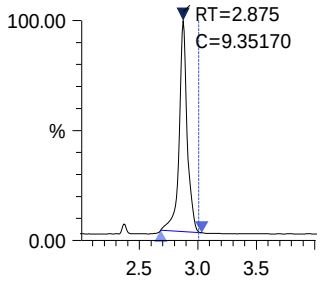
Date acquired: 8/19/2020 12:09:35 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200819\20200819_016.lcd
Vial: 14 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATEICV	8/19/2020 12:09:35 PM	294031	9.35170	20200819_016	2.875	25.0000	1.0000	14
Sodium Perchlorate-18O4_IS	PERCHLORATEICV	8/19/2020 12:09:35 PM	278118	1.00000	20200819_016	2.873	25.0000	1.0000	14

Perchlorate

Conc 9.35170
Area 294031

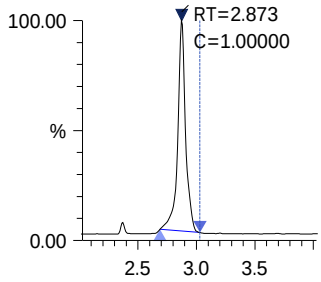
Q 99.00>83.00 (-) 6.27e4



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 278118

ISTD 107.00>89.00 (-) 5.98e4



Chromatograms and Selected Ion Monitoring

ALS Environmental - Houston HRMS
10450 Stancliff Rd., Suite 320, Houston TX 77099
Phone (713)266-1599 Fax (713)266-0130
www.alsglobal.com

20200819

ALS Environmental

ICAL Date: 7/19/2020
Cal. Std. xp: 11/18/2020
ICAL ID: EC2000022

1st Review: Kneir
2nd Review: Hvan

Injection Log
LCMS01 -Shimadzu 8050

Mobile Phases **A:** 0.75% Formic Acid/Water 3100807-09 **B:** MeOH 3100802-01

			File Name	Acquisition Method	Dilution	R	Comments	Date/Time
1	PERCHLORATE1		20200819_005	Perchlorate6850b.lcm	1x	☒	3100806-05	8/19/2020 10:42
2	PERCHLORATE2		20200819_006	Perchlorate6850b.lcm	1x	☒	3100806-06	8/19/2020 10:50
3	PERCHLORATE3		20200819_007	Perchlorate6850b.lcm	1x	☒	3100806-07	8/19/2020 10:58
4	PERCHLORATE4		20200819_008	Perchlorate6850b.lcm	1x	☒	3100807-01	8/19/2020 11:06
5	PERCHLORATE5		20200819_009	Perchlorate6850b.lcm	1x	☒	3100807-02	8/19/2020 11:14
6	PERCHLORATE6		20200819_010	Perchlorate6850b.lcm	1x	☒	3100807-03	8/19/2020 11:22
7	PERCHLORATE7		20200819_011	Perchlorate6850b.lcm	1x	☒	3100807-04	8/19/2020 11:30
8	PERCHLORATE8		20200819_012	Perchlorate6850b.lcm	1x	☒	3100807-05	8/19/2020 11:38
9	PERCHLORATE9		20200819_013	Perchlorate6850b.lcm	1x	☒	3100807-06	8/19/2020 11:45
10	PERCHLORATE10		20200819_014	Perchlorate6850b.lcm	1x	☒	3100807-07	8/19/2020 11:53
11	PERCHLORATEICV		20200819_016	Perchlorate6850b.lcm	1x	☒	3100807-08	8/19/2020 12:09
12	LODV		20200819_017	Perchlorate6850b.lcm	1x	☒		8/19/2020 12:17
13	EQ2000337-01		20200819_019	Perchlorate6850b.lcm	1x	☒		8/19/2020 12:38
14	EQ2000337-02		20200819_020	Perchlorate6850b.lcm	1x	☒		8/19/2020 12:46
15	EQ2000337-03		20200819_021	Perchlorate6850b.lcm	1x	☒		8/19/2020 12:53
16	E2000723-001		20200819_022	Perchlorate6850b.lcm	1x	☒		8/19/2020 13:01
17	PERCHLORATE7		20200819_023	Perchlorate6850b.lcm	1x	☒	3100807-04	8/19/2020 13:09
18	E2000680-002X10		20200819_024	Perchlorate6850b.lcm	10x	☒		8/19/2020 13:17
19	E2000680-004X2		20200819_025	Perchlorate6850b.lcm	2x	☒		8/19/2020 13:25
20	E2000680-007X10		20200819_026	Perchlorate6850b.lcm	10x	☒		8/19/2020 13:33
21	E2000680-009X10		20200819_027	Perchlorate6850b.lcm	10x	☒		8/19/2020 13:41
22	E2000680-010X10		20200819_028	Perchlorate6850b.lcm	10x	☒		8/19/2020 13:49
23	E2000680-011X10		20200819_029	Perchlorate6850b.lcm	10x	☒		8/19/2020 13:57
24	EQ2000327-01		20200819_030	Perchlorate6850b.lcm	1x	☒		8/19/2020 14:04
25	EQ2000327-02		20200819_031	Perchlorate6850b.lcm	1x	☒		8/19/2020 14:12
26	EQ2000327-03		20200819_033	Perchlorate6850b.lcm	1x	☒		8/19/2020 14:21
27	PERCHLORATE7		20200819_034	Perchlorate6850b.lcm	1x	☒	3100807-04	8/19/2020 14:29
28	E2000735-001		20200819_035	Perchlorate6850b.lcm	1x	☒		8/19/2020 14:37
29	E2000735-002		20200819_036	Perchlorate6850b.lcm	1x	☒		8/19/2020 14:45
30	E2000735-003		20200819_037	Perchlorate6850b.lcm	1x	☒		8/19/2020 14:53
31	E2000735-004		20200819_038	Perchlorate6850b.lcm	1x	☒		8/19/2020 15:01
32	E2000735-005		20200819_039	Perchlorate6850b.lcm	1x	☒		8/19/2020 15:09
33	E2000735-006		20200819_040	Perchlorate6850b.lcm	1x	☒		8/19/2020 15:16
34	E2000735-007		20200819_041	Perchlorate6850b.lcm	1x	☒		8/19/2020 15:24
35	E2000735-008		20200819_042	Perchlorate6850b.lcm	1x	☒		8/19/2020 15:32
36	E2000735-009		20200819_043	Perchlorate6850b.lcm	1x	☒		8/19/2020 15:44
37	PERCHLORATE7		20200819_044	Perchlorate6850b.lcm	1x	☒	3100807-04	8/19/2020 15:52
38	E2000735-010		20200819_045	Perchlorate6850b.lcm	1x	☒		8/19/2020 16:00
39	E2000735-011		20200819_046	Perchlorate6850b.lcm	1x	☒		8/19/2020 16:08
40	E2000735-013		20200819_047	Perchlorate6850b.lcm	1x	☒		8/19/2020 16:16
41	E2000735-014		20200819_048	Perchlorate6850b.lcm	1x	☒		8/19/2020 16:24
42	E2000735-015		20200819_049	Perchlorate6850b.lcm	1x	☒		8/19/2020 16:32
43	E2000735-016		20200819_050	Perchlorate6850b.lcm	1x	☒		8/19/2020 16:40
44	E2000735-017		20200819_051	Perchlorate6850b.lcm	1x	☒		8/19/2020 16:47
45	E2000735-018		20200819_052	Perchlorate6850b.lcm	1x	☒		8/19/2020 16:55
46	E2000735-019		20200819_053	Perchlorate6850b.lcm	1x	☒		8/19/2020 17:03
47	PERCHLORATE7		20200819_054	Perchlorate6850b.lcm	1x	☒	3100807-04	8/19/2020 17:11
48	EQ2000339-01		20200819_055	Perchlorate6850b.lcm	1x	☒		8/19/2020 17:19
49	EQ2000339-02		20200819_056	Perchlorate6850b.lcm	1x	☒		8/19/2020 17:27
50	EQ2000339-03		20200819_057	Perchlorate6850b.lcm	1x	☒		8/19/2020 17:35
51	E2000712-001		20200819_058	Perchlorate6850b.lcm	1x	☒		8/19/2020 17:43
52	E2000712-002		20200819_059	Perchlorate6850b.lcm	1x	☒		8/19/2020 17:51
53	E2000712-003		20200819_060	Perchlorate6850b.lcm	1x	☒		8/19/2020 17:59
54	IB		20200819_061	Perchlorate6850b.lcm	1x	☒		8/19/2020 18:08
55	IB		20200819_062	Perchlorate6850b.lcm	1x	☒		8/19/2020 18:16
56	IB		20200819_063	Perchlorate6850b.lcm	1x	☒		8/19/2020 18:24
57	IB		20200819_064	Perchlorate6850b.lcm	1x	☒		8/19/2020 18:32
58	PERCHLORATE7		20200819_065	Perchlorate6850b.lcm	1x	☒	3100807-04	8/19/2020 18:40
59	E2000712-004		20200819_066	Perchlorate6850b.lcm	1x	☒		8/19/2020 18:48
60	E2000712-005		20200819_067	Perchlorate6850b.lcm	1x	☒		8/19/2020 18:56
61	E2000712-006		20200819_068	Perchlorate6850b.lcm	1x	☒		8/19/2020 19:04

20200819

ALS Environmental

ICAL Date: 7/19/2020
Cal. Std. xp: 11/18/2020
ICAL ID: EC2000022

1st Review: Kneir
2nd Review: Hvan

Injection Log
LCMS01 -Shimadzu 8050

Mobile Phases **A:** 0.75% Formic Acid/Water 3100807-09 **B:** MeOH 3100802-01

			File Name	Acquisition Method	Dilution	R	Comments	Date/Time
62	E2000712-007		20200819_069	Perchlorate6850b.lcm	1x	☒		8/19/2020 19:12
63	E2000694-012		20200819_070	Perchlorate6850b.lcm	1x	☒		8/19/2020 19:19
64	E2000694-012MS		20200819_071	Perchlorate6850b.lcm	1x	☒		8/19/2020 19:27
65	E2000694-012MSD		20200819_072	Perchlorate6850b.lcm	1x	☒		8/19/2020 19:35
66	E2000711-001		20200819_073	Perchlorate6850b.lcm	1x	☒		8/19/2020 19:43
67	E2000711-002		20200819_074	Perchlorate6850b.lcm	1x	☒		8/19/2020 19:51
68	E2000724-001		20200819_075	Perchlorate6850b.lcm	1x	☒		8/19/2020 19:59
69	PERCHLORATE7		20200819_076	Perchlorate6850b.lcm	1x	☒	3100807-04	8/19/2020 20:07
70	E2000724-002		20200819_077	Perchlorate6850b.lcm	1x	☒		8/19/2020 20:15
71	E2000724-003		20200819_078	Perchlorate6850b.lcm	1x	☒		8/19/2020 20:22
72	E2000724-004		20200819_079	Perchlorate6850b.lcm	1x	☒		8/19/2020 20:30
73	E2000728-001		20200819_080	Perchlorate6850b.lcm	1x	☒		8/19/2020 20:38
74	E2000728-002		20200819_081	Perchlorate6850b.lcm	1x	☒		8/19/2020 20:46
75	E2000729-001		20200819_082	Perchlorate6850b.lcm	1x	☒		8/19/2020 20:54
76	R2006493-001		20200819_083	Perchlorate6850b.lcm	1x	☒		8/19/2020 21:02
77	R2006493-003		20200819_084	Perchlorate6850b.lcm	1x	☒		8/19/2020 21:10
78	R2006493-005		20200819_085	Perchlorate6850b.lcm	1x	☒		8/19/2020 21:18
79	R2006493-007		20200819_086	Perchlorate6850b.lcm	1x	☒		8/19/2020 21:26
80	PERCHLORATE7		20200819_087	Perchlorate6850b.lcm	1x	☒	3100807-04	8/19/2020 21:33
81	R2006493-009		20200819_088	Perchlorate6850b.lcm	1x	☒		8/19/2020 21:41
82	R2006493-011		20200819_089	Perchlorate6850b.lcm	1x	☒		8/19/2020 21:49
83	R2006493-013		20200819_090	Perchlorate6850b.lcm	1x	☒		8/19/2020 21:57
84	R2006493-015		20200819_091	Perchlorate6850b.lcm	1x	☒		8/19/2020 22:05
85	PERCHLORATE7		20200819_092	Perchlorate6850b.lcm	1x	☒	3100807-04	8/19/2020 22:13
86	EQ2000338-01		20200819_093	Perchlorate6850b.lcm	1x	☒		8/19/2020 22:21
87	EQ2000338-02		20200819_094	Perchlorate6850b.lcm	1x	☒		8/19/2020 22:29
88	EQ2000338-03		20200819_095	Perchlorate6850b.lcm	1x	☒		8/19/2020 22:37
89	EQ2000338-04		20200819_096	Perchlorate6850b.lcm	1x	☒		8/19/2020 22:44
90	EQ2000338-05		20200819_097	Perchlorate6850b.lcm	1x	☒		8/19/2020 22:52
91	R2006532-001		20200819_098	Perchlorate6850b.lcm	1x	☒		8/19/2020 23:00
92	R2006532-003		20200819_099	Perchlorate6850b.lcm	1x	☒		8/19/2020 23:08
93	R2006532-005		20200819_100	Perchlorate6850b.lcm	1x	☒		8/19/2020 23:16
94	R2006532-007		20200819_101	Perchlorate6850b.lcm	1x	☒		8/19/2020 23:24
95	R2006532-009		20200819_102	Perchlorate6850b.lcm	1x	☒		8/19/2020 23:32
96	PERCHLORATE7		20200819_103	Perchlorate6850b.lcm	1x	☒	3100807-04	8/19/2020 23:40
97	R2006532-011		20200819_104	Perchlorate6850b.lcm	1x	☒		8/19/2020 23:47
98	R2006555-002		20200819_105	Perchlorate6850b.lcm	1x	☒		8/19/2020 23:55
99	R2006555-004		20200819_106	Perchlorate6850b.lcm	1x	☒		8/20/2020 0:03
100	R2006555-006		20200819_107	Perchlorate6850b.lcm	1x	☒		8/20/2020 0:11
101	R2006555-008		20200819_108	Perchlorate6850b.lcm	1x	☒		8/20/2020 0:19
102	R2006555-010		20200819_109	Perchlorate6850b.lcm	1x	☒		8/20/2020 0:27
103	R2006555-012		20200819_110	Perchlorate6850b.lcm	1x	☒		8/20/2020 0:35
104	R2006617-001		20200819_111	Perchlorate6850b.lcm	1x	☒		8/20/2020 0:43
105	R2006617-003		20200819_112	Perchlorate6850b.lcm	1x	☒		8/20/2020 0:50
106	R2006617-005		20200819_113	Perchlorate6850b.lcm	1x	☒		8/20/2020 0:58
107	PERCHLORATE7		20200819_114	Perchlorate6850b.lcm	1x	☒	3100807-04	8/20/2020 1:06
108	R2006617-007		20200819_115	Perchlorate6850b.lcm	1x	☒		8/20/2020 1:14
109	R2006617-009		20200819_116	Perchlorate6850b.lcm	1x	☒		8/20/2020 1:22
110	R2006617-010		20200819_117	Perchlorate6850b.lcm	1x	☒		8/20/2020 1:30
111	PERCHLORATE7		20200819_118	Perchlorate6850b.lcm	1x	☒	3100807-04	8/20/2020 1:38

20200820

ALS Environmental

ICAL Date: 7/19/2020
Cal. Std. xp: 11/18/2020
ICAL ID: EC2000022

1st Review: Kneir
2nd Review: Hvan

Injection Log
LCMS01 -Shimadzu 8050

Mobile Phases **A:** 0.75% Formic Acid/Water 3100807-09 **B:** MeOH 3100802-01

		File Name	Acquisition Method	Dilution	R	Comments	Date/Time
1	null	20200820_001	Perchlorate6850b.lcm	1x	☒		8/20/2020 9:48
2	null	20200820_002	Perchlorate6850b.lcm	1x	☒		8/20/2020 9:52
3	IB	20200820_003	Perchlorate6850b.lcm	1x	☒		8/20/2020 9:58
4	IB	20200820_004	Perchlorate6850b.lcm	1x	☒		8/20/2020 10:06
5	LODV	20200820_005	Perchlorate6850b.lcm	1x	☒		8/20/2020 10:14
6	PERCHLORATE7	20200820_006	Perchlorate6850b.lcm	1x	☒	3100807-04	8/20/2020 10:21
7	E2000735-002X2	20200820_007	Perchlorate6850b.lcm	2x	☒		8/20/2020 10:29
8	E2000735-003X10	20200820_008	Perchlorate6850b.lcm	10x	☒		8/20/2020 10:37
9	E2000735-004X10	20200820_009	Perchlorate6850b.lcm	10x	☒		8/20/2020 10:45
10	E2000735-005X10	20200820_010	Perchlorate6850b.lcm	10x	☒		8/20/2020 10:53
11	E2000735-006X10	20200820_011	Perchlorate6850b.lcm	10x	☒		8/20/2020 11:01
12	E2000735-007X10	20200820_012	Perchlorate6850b.lcm	10x	☒		8/20/2020 11:09
13	E2000735-008X2	20200820_013	Perchlorate6850b.lcm	2x	☒		8/20/2020 11:17
14	E2000735-010X10	20200820_014	Perchlorate6850b.lcm	10x	☒		8/20/2020 11:25
15	E2000735-011X10	20200820_015	Perchlorate6850b.lcm	10x	☒		8/20/2020 11:32
16	E2000735-014X10	20200820_016	Perchlorate6850b.lcm	10x	☒		8/20/2020 11:40
17	PERCHLORATE7	20200820_017	Perchlorate6850b.lcm	1x	☒	3100807-04	8/20/2020 11:48
18	E2000735-015X10	20200820_018	Perchlorate6850b.lcm	10x	☒		8/20/2020 11:56
19	E2000735-016X10	20200820_019	Perchlorate6850b.lcm	10x	☒		8/20/2020 12:04
20	E2000735-017	20200820_020	Perchlorate6850b.lcm	1x	☒		8/20/2020 12:12
21	E2000735-018	20200820_021	Perchlorate6850b.lcm	1x	☒		8/20/2020 12:20
22	E2000735-019	20200820_022	Perchlorate6850b.lcm	1x	☒		8/20/2020 12:28
23	EQ2000339-01	20200820_023	Perchlorate6850b.lcm	1x	☒		8/20/2020 12:36
24	EQ2000339-02	20200820_024	Perchlorate6850b.lcm	1x	☒		8/20/2020 12:43
25	EQ2000339-03	20200820_025	Perchlorate6850b.lcm	1x	☒		8/20/2020 12:51
26	E2000712-001X10	20200820_026	Perchlorate6850b.lcm	10x	☒		8/20/2020 12:59
27	E2000712-002X10	20200820_027	Perchlorate6850b.lcm	10x	☒		8/20/2020 13:07
28	PERCHLORATE7	20200820_028	Perchlorate6850b.lcm	1x	☒	3100807-04	8/20/2020 13:16
29	R2006617-009X10	20200820_029	Perchlorate6850b.lcm	10x	☒		8/20/2020 13:24
30	R2006493-005X2	20200820_030	Perchlorate6850b.lcm	2x	☒		8/20/2020 13:32
31	R2006493-007X10	20200820_031	Perchlorate6850b.lcm	10x	☒		8/20/2020 13:40
32	E2000735-008X10	20200820_032	Perchlorate6850b.lcm	10x	☒		8/20/2020 13:48
33	E2000711-002X10	20200820_033	Perchlorate6850b.lcm	10x	☒		8/20/2020 13:55
34	E2000724-001X1000	20200820_034	Perchlorate6850b.lcm	1000x	☒		8/20/2020 14:03
35	E2000724-003X100	20200820_035	Perchlorate6850b.lcm	100x	☒		8/20/2020 14:11
36	E2000724-004X1000	20200820_036	Perchlorate6850b.lcm	1000x	☒		8/20/2020 14:19
37	E2000728-001X10	20200820_037	Perchlorate6850b.lcm	10x	☒		8/20/2020 14:27
38	PERCHLORATE7	20200820_038	Perchlorate6850b.lcm	1x	☒	3100807-04	8/20/2020 14:37

20200821

ALS Environmental

ICAL Date: 7/19/2020
Cal. Std. xp: 11/18/2020
ICAL ID: EC2000022

1st Review: Grivera
2nd Review: Hvan

Injection Log
LCMS01 -Shimadzu 8050

Mobile Phases **A:** 0.75% Formic Acid/Water 3100807-09 **B:** MeOH 3100802-01

			File Name	Acquisition Method	Dilution	R	Comments	Date/Time
1	null		20200821_001	Perchlorate6850b.lcm	1x	☒		8/21/2020 9:44
2	null		20200821_002	Perchlorate6850b.lcm	1x	☒		8/21/2020 9:49
3	IB		20200821_003	Perchlorate6850b.lcm	1x	☒		8/21/2020 9:54
4	IB		20200821_004	Perchlorate6850b.lcm	1x	☒		8/21/2020 10:02
5	LODV		20200821_005	Perchlorate6850b.lcm	1x	☒		8/21/2020 10:10
6	PERCHLORATE7		20200821_006	Perchlorate6850b.lcm	1x	☒	3100807-04	8/21/2020 10:18
7	E2000735-012		20200821_007	Perchlorate6850b.lcm	10x	☒		8/21/2020 10:26
8	EQ2000339-004		20200821_008	Perchlorate6850b.lcm	10x	☒		8/21/2020 10:34
9	EQ2000339-005		20200821_009	Perchlorate6850b.lcm	10x	☒		8/21/2020 10:58
10	PERCHLORATE7		20200821_010	Perchlorate6850b.lcm	1x	☒	3100807-04	8/21/2020 11:06
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ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20071328

Service Request: E2000735
Date Analyzed: 8/19/20

Continuing Calibration Verification Summary
Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
File ID: I:\LCMS01\DATA\20200819\20200819_023

Calibration Date: 8/19/20
Calibration ID: EC2000022
Analysis Lot: 691702
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.74	0.1131	0.1101	-2.6	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20071328

Service Request: E2000735
Date Analyzed: 8/19/20

Continuing Calibration Verification Summary
Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
File ID: I:\LCMS01\DATA\20200819\20200819_034

Calibration Date: 8/19/20
Calibration ID: EC2000022
Analysis Lot: 691702
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.56	0.1131	0.1081	-4.4	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20071328

Service Request: E2000735
Date Analyzed: 8/19/20

Continuing Calibration Verification Summary
Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
File ID: I:\LCMS01\DATA\20200819\20200819_044

Calibration Date: 8/19/20
Calibration ID: EC2000022
Analysis Lot: 691702
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.41	0.1131	0.1064	-5.9	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20071328

Service Request: E2000735
Date Analyzed: 8/19/20

Continuing Calibration Verification Summary
Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
File ID: I:\LCMS01\DATA\20200819\20200819_054

Calibration Date: 8/19/20
Calibration ID: EC2000022
Analysis Lot: 691702
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.68	0.1131	0.1094	-3.2	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20071328

Service Request: E2000735
Date Analyzed: 8/19/20

Continuing Calibration Verification Summary
Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
File ID: I:\LCMS01\DATA\20200819\20200819_065

Calibration Date: 8/19/20
Calibration ID: EC2000022
Analysis Lot: 691702
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.60	0.1131	0.1085	-4.0	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20071328

Service Request: E2000735
Date Analyzed: 8/19/20

Continuing Calibration Verification Summary
Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
File ID: I:\LCMS01\DATA\20200819\20200819_076

Calibration Date: 8/19/20
Calibration ID: EC2000022
Analysis Lot: 691702
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	10.9	0.1131	0.1227	8.5	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20071328

Service Request: E2000735
Date Analyzed: 8/19/20

Continuing Calibration Verification Summary
Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
File ID: I:\LCMS01\DATA\20200819\20200819_087

Calibration Date: 8/19/20
Calibration ID: EC2000022
Analysis Lot: 691702
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.42	0.1131	0.1064	-5.8	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20071328

Service Request: E2000735
Date Analyzed: 8/19/20

Continuing Calibration Verification Summary
Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
File ID: I:\LCMS01\DATA\20200819\20200819_092

Calibration Date: 8/19/20
Calibration ID: EC2000022
Analysis Lot: 691702
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.40	0.1131	0.1063	-6.0	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20071328

Service Request: E2000735
Date Analyzed: 8/19/20

Continuing Calibration Verification Summary
Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
File ID: I:\LCMS01\DATA\20200819\20200819_103

Calibration Date: 8/19/20
Calibration ID: EC2000022
Analysis Lot: 691702
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.43	0.1131	0.1066	-5.7	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20071328

Service Request: E2000735
Date Analyzed: 8/20/20

Continuing Calibration Verification Summary
Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
File ID: I:\LCMS01\DATA\20200819\20200819_114

Calibration Date: 8/19/20
Calibration ID: EC2000022
Analysis Lot: 691702
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.97	0.1131	0.1127	-0.3	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20071328

Service Request: E2000735
Date Analyzed: 8/20/20

Continuing Calibration Verification Summary
Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
File ID: I:\LCMS01\DATA\20200819\20200819_118

Calibration Date: 8/19/20
Calibration ID: EC2000022
Analysis Lot: 691702
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.28	0.1131	0.1049	-7.2	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20071328

Service Request: E2000735
Date Analyzed: 8/20/20

Continuing Calibration Verification Summary
Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
File ID: I:\LCMS01\DATA\20200820\20200820_006

Calibration Date: 8/19/20
Calibration ID: EC2000022
Analysis Lot: 691880
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.53	0.1131	0.1077	-4.7	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20071328

Service Request: E2000735
Date Analyzed: 8/20/20

Continuing Calibration Verification Summary
Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
File ID: I:\LCMS01\DATA\20200820\20200820_017

Calibration Date: 8/19/20
Calibration ID: EC2000022
Analysis Lot: 691880
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.25	0.1131	0.1046	-7.5	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20071328

Service Request: E2000735
Date Analyzed: 8/20/20

Continuing Calibration Verification Summary
Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
File ID: I:\LCMS01\DATA\20200820\20200820_028

Calibration Date: 8/19/20
Calibration ID: EC2000022
Analysis Lot: 691880
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.37	0.1131	0.1059	-6.3	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20071328

Service Request: E2000735
Date Analyzed: 8/20/20

Continuing Calibration Verification Summary
Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
File ID: I:\LCMS01\DATA\20200820\20200820_038

Calibration Date: 8/19/20
Calibration ID: EC2000022
Analysis Lot: 691880
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.63	0.1131	0.1088	-3.7	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20071328

Service Request: E2000735
Date Analyzed: 8/19/20 13:09

Internal Standard Area and RT Summary
Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

File ID: I:\LCMS01\DATA\20200819\20200819_023
Instrument ID: E-LCMS-01
Analytical Method: 6850

Lab Code: EQ2000350-01
Analysis Lot: 691702
Signal ID: 1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	284,293	2.87
	Upper Limit ==>	426,440	4.87
	Lower Limit ==>	142,147	0.87
Associated Analyses			
Continuing Calibration Verification	EQ2000350-01	275,008	2.87
Method Blank	EQ2000327-01	296,394	2.87
Lab Control Sample	EQ2000327-02	300,790	2.87
Duplicate Lab Control Sample	EQ2000327-03	332,996	2.82

Results flagged with an asterisk (*) indicate values outside control criteria.

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20071328

Service Request: E2000735
Date Analyzed: 8/19/20 14:29

Internal Standard Area and RT Summary
Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

File ID: I:\LCMS01\DATA\20200819\20200819_034
Instrument ID: E-LCMS-01
Analytical Method: 6850

Lab Code: EQ2000350-02
Analysis Lot: 691702
Signal ID: 1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	284,293	2.87
	Upper Limit ==>	426,440	4.87
	Lower Limit ==>	142,147	0.87
Associated Analyses			
Continuing Calibration Verification	EQ2000350-02	259,146	2.80
16WW32-200727	E2000735-001	197,622	2.87
16WW23-200727	E2000735-009	176,240	2.74

Results flagged with an asterisk (*) indicate values outside control criteria.

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000735
Project:	HS20071328	**Date Analyzed:**	8/19/20 15:52

Internal Standard Area and RT Summary

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

File ID:	I:\LCMS01\DATA\20200819\20200819_044	**Lab Code:**	EQ2000350-03
Instrument ID:	E-LCMS-01	**Analysis Lot:**	691702
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	284,293	2.87
	Upper Limit ==>	426,440	4.87
	Lower Limit ==>	142,147	0.87
Associated Analyses			
Continuing Calibration Verification	EQ2000350-03	257,649	2.76
16EW08-200728	E2000735-013	175,334	2.85

Results flagged with an asterisk (*) indicate values outside control criteria.

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000735
Project:	HS20071328	**Date Analyzed:**	8/19/20 17:11

Internal Standard Area and RT Summary

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

File ID:	I:\LCMS01\DATA\20200819\20200819_054	**Lab Code:**	EQ2000350-04
Instrument ID:	E-LCMS-01	**Analysis Lot:**	691702
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	284,293	2.87
	Upper Limit ==>	426,440	4.87
	Lower Limit ==>	142,147	0.87
Associated Analyses			
Continuing Calibration Verification	EQ2000350-04	178,952	2.84

Results flagged with an asterisk (*) indicate values outside control criteria.

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000735
Project:	HS20071328	**Date Analyzed:**	8/19/20 18:40

Internal Standard Area and RT Summary

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

File ID:	I:\LCMS01\DATA\20200819\20200819_065	**Lab Code:**	EQ2000350-05
Instrument ID:	E-LCMS-01	**Analysis Lot:**	691702
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	284,293	2.87
	Upper Limit ==>	426,440	4.87
	Lower Limit ==>	142,147	0.87
Associated Analyses			
Continuing Calibration Verification	EQ2000350-05	224,737	2.87

Results flagged with an asterisk (*) indicate values outside control criteria.

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000735
Project:	HS20071328	**Date Analyzed:**	8/19/20 20:07

Internal Standard Area and RT Summary

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

File ID:	I:\LCMS01\DATA\20200819\20200819_076	**Lab Code:**	EQ2000350-06
Instrument ID:	E-LCMS-01	**Analysis Lot:**	691702
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	284,293	2.87
	Upper Limit ==>	426,440	4.87
	Lower Limit ==>	142,147	0.87
Associated Analyses			
Continuing Calibration Verification	EQ2000350-06	216,860	2.87

Results flagged with an asterisk (*) indicate values outside control criteria.

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000735
Project:	HS20071328	**Date Analyzed:**	8/19/20 21:33

Internal Standard Area and RT Summary

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

File ID:	I:\LCMS01\DATA\20200819\20200819_087	**Lab Code:**	EQ2000350-07
Instrument ID:	E-LCMS-01	**Analysis Lot:**	691702
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	284,293	2.87
	Upper Limit ==>	426,440	4.87
	Lower Limit ==>	142,147	0.87
Associated Analyses			
Continuing Calibration Verification	EQ2000350-07	220,049	2.88

Results flagged with an asterisk (*) indicate values outside control criteria.

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000735
Project:	HS20071328	**Date Analyzed:**	8/19/20 22:13

Internal Standard Area and RT Summary

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

File ID:	I:\LCMS01\DATA\20200819\20200819_092	**Lab Code:**	EQ2000350-08
Instrument ID:	E-LCMS-01	**Analysis Lot:**	691702
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	284,293	2.87
	Upper Limit ==>	426,440	4.87
	Lower Limit ==>	142,147	0.87
Associated Analyses			
Continuing Calibration Verification	EQ2000350-08	234,006	2.87

Results flagged with an asterisk (*) indicate values outside control criteria.

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000735
Project:	HS20071328	**Date Analyzed:**	8/19/20 23:40

Internal Standard Area and RT Summary

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

File ID:	I:\LCMS01\DATA\20200819\20200819_103	**Lab Code:**	EQ2000350-09
Instrument ID:	E-LCMS-01	**Analysis Lot:**	691702
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	284,293	2.87
	Upper Limit ==>	426,440	4.87
	Lower Limit ==>	142,147	0.87
Associated Analyses			
Continuing Calibration Verification	EQ2000350-09	215,258	2.87

Results flagged with an asterisk (*) indicate values outside control criteria.

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20071328

Service Request: E2000735
Date Analyzed: 8/20/20 01:06

Internal Standard Area and RT Summary
Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

File ID: I:\LCMS01\DATA\20200819\20200819_114
Instrument ID: E-LCMS-01
Analytical Method: 6850

Lab Code: EQ2000350-10
Analysis Lot: 691702
Signal ID: 1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	284,293	2.87
	Upper Limit ==>	426,440	4.87
	Lower Limit ==>	142,147	0.87
Associated Analyses			
Continuing Calibration Verification	EQ2000350-10	215,703	2.87

Results flagged with an asterisk (*) indicate values outside control criteria.

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000735
Project:	HS20071328	**Date Analyzed:**	8/20/20 01:38

Internal Standard Area and RT Summary

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

File ID:	I:\LCMS01\DATA\20200819\20200819_118	**Lab Code:**	EQ2000350-11
Instrument ID:	E-LCMS-01	**Analysis Lot:**	691702
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	284,293	2.87
	Upper Limit ==>	426,440	4.87
	Lower Limit ==>	142,147	0.87
Associated Analyses			
Continuing Calibration Verification	EQ2000350-11	207,196	2.87

Results flagged with an asterisk (*) indicate values outside control criteria.

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20071328

Service Request: E2000735
Date Analyzed: 8/20/20 10:21

Internal Standard Area and RT Summary
Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

File ID: I:\LCMS01\DATA\20200820\20200820_006
Instrument ID: E-LCMS-01
Analytical Method: 6850

Lab Code: EQ2000352-01
Analysis Lot: 691880
Signal ID: 1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	284,293	2.87
	Upper Limit ==>	426,440	4.87
	Lower Limit ==>	142,147	0.87
Associated Analyses			
Continuing Calibration Verification	EQ2000352-01	181,308	2.87
16WW31-200727	E2000735-002	143,004	2.88
16WW46-200727	E2000735-003	145,047	2.87
16WW46-200727-FD	E2000735-004	144,956	2.87
16WW49-200727	E2000735-005	142,280	2.87
16WW51-200727	E2000735-006	142,732	2.88
16WW51-200727-FD	E2000735-007	148,694	2.88
16WW24-200727	E2000735-010	143,668	2.88
16EW03-200728	E2000735-011	143,204	2.87
16EW04-200728	E2000735-014	144,973	2.87

Results flagged with an asterisk (*) indicate values outside control criteria.

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20071328

Service Request: E2000735
Date Analyzed: 8/20/20 11:48

Internal Standard Area and RT Summary
Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

File ID: I:\LCMS01\DATA\20200820\20200820_017
Instrument ID: E-LCMS-01
Analytical Method: 6850

Lab Code: EQ2000352-02
Analysis Lot: 691880
Signal ID: 1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	284,293	2.87
	Upper Limit ==>	426,440	4.87
	Lower Limit ==>	142,147	0.87
Associated Analyses			
Continuing Calibration Verification	EQ2000352-02	175,978	2.87
16RW04-200728	E2000735-015	166,494	2.87
16IW03-200728	E2000735-016	175,140	2.88
16SW01-200728	E2000735-017	158,770	2.87
16SW02-200728	E2000735-018	175,766	2.87
16SW03-200728	E2000735-019	173,443	2.87

Results flagged with an asterisk (*) indicate values outside control criteria.

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20071328

Service Request: E2000735
Date Analyzed: 8/20/20 13:16

Internal Standard Area and RT Summary
Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

File ID: I:\LCMS01\DATA\20200820\20200820_028
Instrument ID: E-LCMS-01
Analytical Method: 6850

Lab Code: EQ2000352-03
Analysis Lot: 691880
Signal ID: 1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	284,293	2.87
	Upper Limit ==>	426,440	4.87
	Lower Limit ==>	142,147	0.87
Associated Analyses			
Continuing Calibration Verification	EQ2000352-03	206,153	2.80
16RW01-200727	E2000735-008	164,153	2.87

Results flagged with an asterisk (*) indicate values outside control criteria.

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000735
Project:	HS20071328	**Date Analyzed:**	8/20/20 14:37

Internal Standard Area and RT Summary

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

File ID:	I:\LCMS01\DATA\20200820\20200820_038	**Lab Code:**	EQ2000352-04
Instrument ID:	E-LCMS-01	**Analysis Lot:**	691880
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	284,293	2.87
	Upper Limit ==>	426,440	4.87
	Lower Limit ==>	142,147	0.87
Associated Analyses			
Continuing Calibration Verification	EQ2000352-04	185,825	2.87

Results flagged with an asterisk (*) indicate values outside control criteria.

ALS Group Houston

PERCHLORATE7

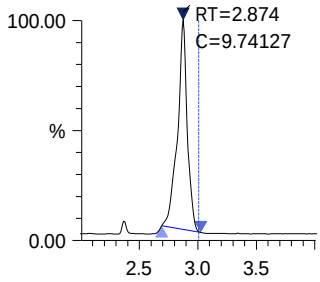
Date acquired: 8/19/2020 1:09:40 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200819\20200819_023.lcd
Vial: 4 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE7	8/19/2020 1:09:40 PM	302854	9.74127	20200819_023	2.874	25.0000	1.0000	4
Sodium Perchlorate-18O4_IS	PERCHLORATE7	8/19/2020 1:09:40 PM	275008	1.00000	20200819_023	2.873	25.0000	1.0000	4

Perchlorate

Conc 9.74127
Area 302854

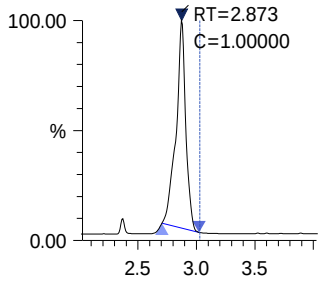
Q 99.00>83.00 (-) 5.31e4



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 275008

ISTD 107.00>89.00 (-) 4.85e4



ALS Group Houston

EQ2000327-01

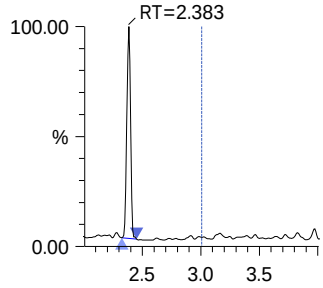
Date acquired: 8/19/2020 2:04:56 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200819\20200819_030.lcd
Vial: 7 | Inj. Volume: 25.0000uL | Tray: 3

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	EQ2000327-01	8/19/2020 2:04:56 PM	----	----	20200819_030	----	25.0000	1.0000	7
Sodium Perchlorate-18O4_IS	EQ2000327-01	8/19/2020 2:04:56 PM	296394	1.00000	20200819_030	2.868	25.0000	1.0000	7

Perchlorate

Conc ----
Area ----

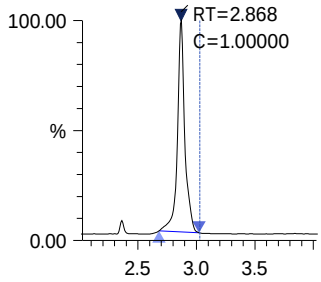
Q 99.00>83.00 (-) 1.78e3



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 296394

ISTD 107.00>89.00 (-) 6.75e4



ALS Group Houston

EQ2000327-02

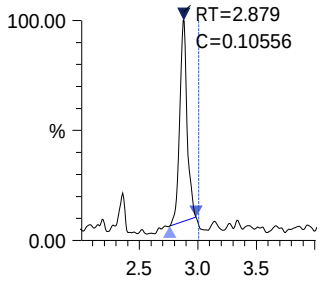
Date acquired: 8/19/2020 2:12:48 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200819\20200819_031.lcd
Vial: 8 | Inj. Volume: 25.0000uL | Tray: 3

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	EQ2000327-02	8/19/2020 2:12:48 PM	3590	0.10556	20200819_031	2.879	25.0000	1.0000	8
Sodium Perchlorate-18O4_IS	EQ2000327-02	8/19/2020 2:12:48 PM	300790	1.00000	20200819_031	2.871	25.0000	1.0000	8

Perchlorate

Conc 0.10556
Area 3590

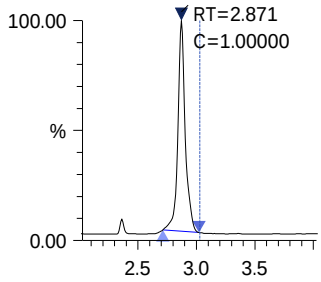
Q 99.00>83.00 (-) 8.63e2



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 300790

ISTD 107.00>89.00 (-) 6.90e4



ALS Group Houston

EQ2000327-03

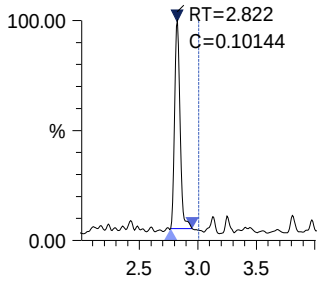
Date acquired: 8/19/2020 2:21:27 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200819\20200819_033.lcd
Vial: 9 | Inj. Volume: 25.0000uL | Tray: 3

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	EQ2000327-03	8/19/2020 2:21:27 PM	3819	0.10144	20200819_033	2.822	25.0000	1.0000	9
Sodium Perchlorate-18O4_IS	EQ2000327-03	8/19/2020 2:21:27 PM	332996	1.00000	20200819_033	2.822	25.0000	1.0000	9

Perchlorate

Conc 0.10144
Area 3819

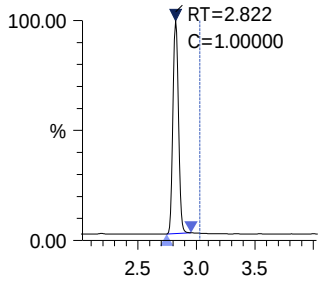
Q 99.00>83.00 (-) 1.19e3



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 332996

ISTD 107.00>89.00 (-) 1.04e5



ALS Group Houston

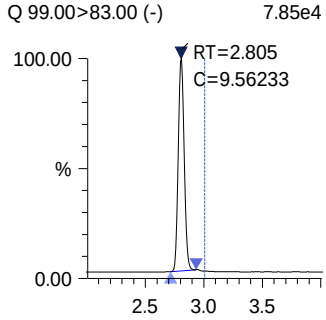
PERCHLORATE7

Date acquired: 8/19/2020 2:29:30 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200819\20200819_034.lcd
Vial: 4 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE7	8/19/2020 2:29:30 PM	280144	9.56233	20200819_034	2.805	25.0000	1.0000	4
Sodium Perchlorate-18O4_IS	PERCHLORATE7	8/19/2020 2:29:30 PM	259146	1.00000	20200819_034	2.803	25.0000	1.0000	4

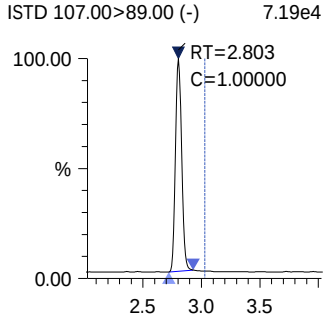
Perchlorate

Conc 9.56233
Area 280144



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 259146



ALS Group Houston

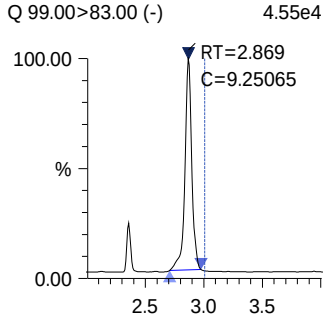
PERCHLORATE7

Date acquired: 8/20/2020 11:48:45 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200820\20200820_017.lcd
Vial: 4 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE7	8/20/2020 11:48:45 AM	184036	9.25065	20200820_017	2.869	25.0000	1.0000	4
Sodium Perchlorate-18O4_IS	PERCHLORATE7	8/20/2020 11:48:45 AM	175978	1.00000	20200820_017	2.868	25.0000	1.0000	4

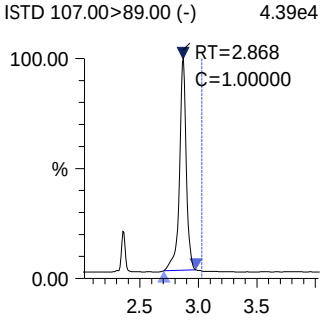
Perchlorate

Conc 9.25065
Area 184036



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 175978



ALS Group Houston

EQ2000339-01

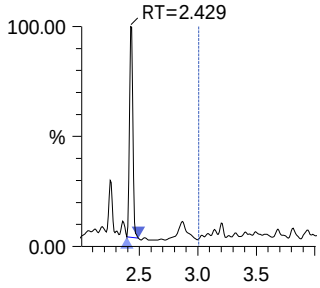
Date acquired: 8/20/2020 12:36:05 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200820\20200820_023.lcd
Vial: 28 | Inj. Volume: 25.0000uL | Tray: 3

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	EQ2000339-01	8/20/2020 12:36:05 PM	----	----	20200820_023	----	25.0000	1.0000	28
Sodium Perchlorate-18O4_IS	EQ2000339-01	8/20/2020 12:36:05 PM	143789	1.00000	20200820_023	2.867	25.0000	1.0000	28

Perchlorate

Conc ----
Area ----

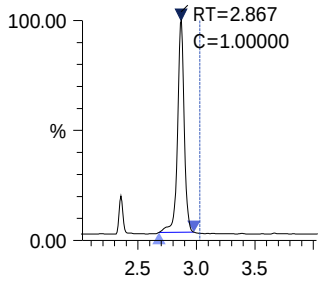
Q 99.00>83.00 (-) 7.23e2



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 143789

ISTD 107.00>89.00 (-) 3.65e4



ALS Group Houston

EQ2000339-02

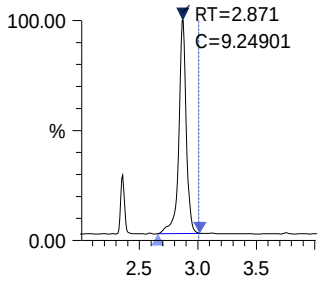
Date acquired: 8/20/2020 12:43:58 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200820\20200820_024.lcd
Vial: 29 | Inj. Volume: 25.0000uL | Tray: 3

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	EQ2000339-02	8/20/2020 12:43:58 PM	149486	9.24901	20200820_024	2.871	25.0000	1.0000	29
Sodium Perchlorate-18O4_IS	EQ2000339-02	8/20/2020 12:43:58 PM	142966	1.00000	20200820_024	2.869	25.0000	1.0000	29

Perchlorate

Conc 9.24901
Area 149486

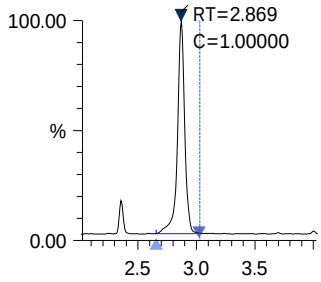
Q 99.00>83.00 (-) 3.38e4



Sodium Perchlorate-18O4 _IS

Conc 1.00000
Area 142966

ISTD 107.00>89.00 (-) 2.99e4



ALS Group Houston

EQ2000339-03

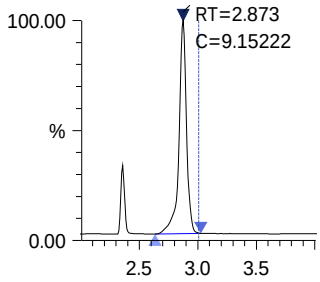
Date acquired: 8/20/2020 12:51:52 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200820\20200820_025.lcd
Vial: 30 | Inj. Volume: 25.0000uL | Tray: 3

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	EQ2000339-03	8/20/2020 12:51:52 PM	149626	9.15222	20200820_025	2.873	25.0000	1.0000	30
Sodium Perchlorate-18O4_IS	EQ2000339-03	8/20/2020 12:51:52 PM	144614	1.00000	20200820_025	2.872	25.0000	1.0000	30

Perchlorate

Conc 9.15222
Area 149626

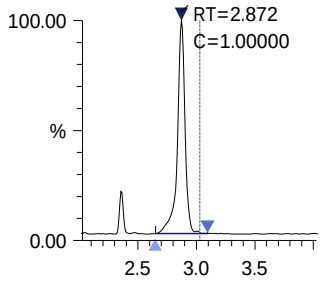
Q 99.00>83.00 (-) 3.33e4



Sodium Perchlorate-18O4 _IS

Conc 1.00000
Area 144614

ISTD 107.00>89.00 (-) 2.81e4



ALS Group Houston

PERCHLORATE7

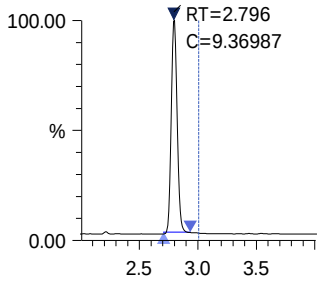
Date acquired: 8/20/2020 1:16:34 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200820\20200820_028.lcd
Vial: 4 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE7	8/20/2020 1:16:34 PM	218372	9.36987	20200820_028	2.796	25.0000	1.0000	4
Sodium Perchlorate-18O4_IS	PERCHLORATE7	8/20/2020 1:16:34 PM	206153	1.00000	20200820_028	2.795	25.0000	1.0000	4

Perchlorate

Conc 9.36987
Area 218372

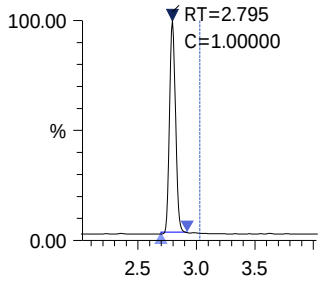
Q 99.00>83.00 (-) 6.25e4



Sodium Perchlorate-18O4 _IS

Conc 1.00000
Area 206153

ISTD 107.00>89.00 (-) 5.99e4



ALS Group Houston

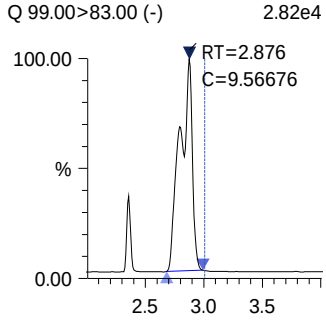
PERCHLORATE7

Date acquired: 8/21/2020 10:18:42 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200821\20200821_006.lcd
Vial: 4 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE7	8/21/2020 10:18:42 AM	205758	9.56676	20200821_006	2.876	25.0000	1.0000	4
Sodium Perchlorate-18O4_IS	PERCHLORATE7	8/21/2020 10:18:42 AM	190247	1.00000	20200821_006	2.874	25.0000	1.0000	4

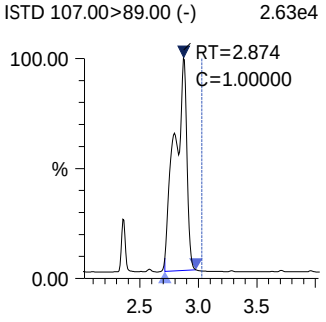
Perchlorate

Conc 9.56676
Area 205758



Sodium Perchlorate-18O4 _IS

Conc 1.00000
Area 190247



ALS Group Houston

EQ2000339-004

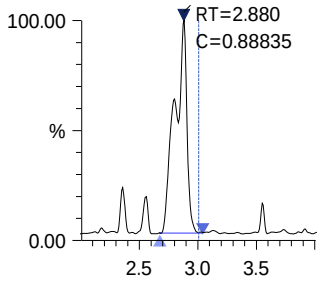
Date acquired: 8/21/2020 10:34:30 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200821\20200821_008.lcd
Vial: 39 | Inj. Volume: 25.0000uL | Tray: 3

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	EQ2000339-004	8/21/2020 10:34:30 AM	18698	0.88835	20200821_008	2.880	25.0000	1.0000	39
Sodium Perchlorate-18O4_IS	EQ2000339-004	8/21/2020 10:34:30 AM	186180	1.00000	20200821_008	2.879	25.0000	1.0000	39

Perchlorate

Conc 0.88835
Area 18698

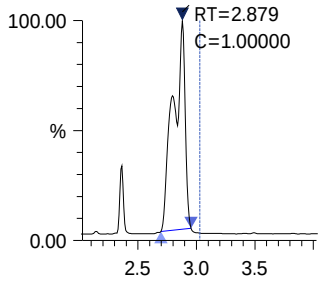
Q 99.00>83.00 (-) 2.55e3



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 186180

ISTD 107.00>89.00 (-) 2.72e4



ALS Group Houston

EQ2000339-005

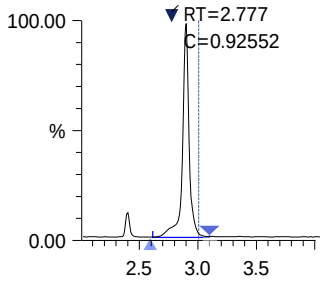
Date acquired: 8/21/2020 10:58:20 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200821\20200821_009.lcd
Vial: 40 | Inj. Volume: 25.0000uL | Tray: 3

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	EQ2000339-005	8/21/2020 10:58:20 AM	22682	0.92552	20200821_009	2.777	25.0000	1.0000	40
Sodium Perchlorate-18O4_IS	EQ2000339-005	8/21/2020 10:58:20 AM	216777	1.00000	20200821_009	2.775	25.0000	1.0000	40

Perchlorate

Conc 0.92552
Area 22682

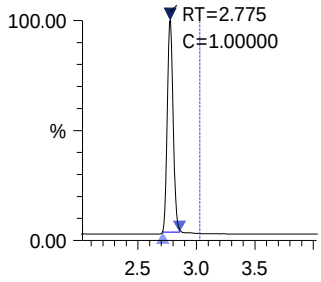
Q 99.00>83.00 (-) 5.57e3



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 216777

ISTD 107.00>89.00 (-) 6.26e4



ALS Group Houston

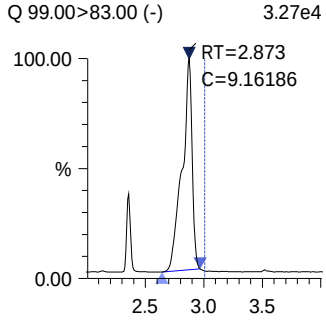
PERCHLORATE7

Date acquired: 8/21/2020 11:06:17 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200821\20200821_010.lcd
Vial: 4 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE7	8/21/2020 11:06:17 AM	192676	9.16186	20200821_010	2.873	25.0000	1.0000	4
Sodium Perchlorate-18O4_IS	PERCHLORATE7	8/21/2020 11:06:17 AM	186024	1.00000	20200821_010	2.872	25.0000	1.0000	4

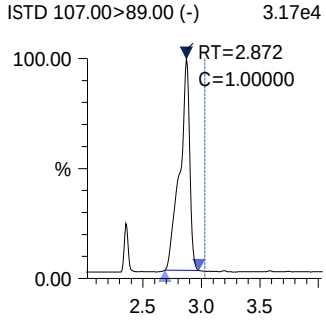
Perchlorate

Conc 9.16186
Area 192676



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 186024



HS20071328 8260 Raw Data

ALS WO# HS20071328

MSVOA06 -Logbook

Batch: 41087 **Analyst:** Presenta Cabascango

Date: 07-13-2020 **Reviewer:**

Method: 8260 **Laboratory:** Houston

Comments:

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	pH
1	BFB	TUNE	07-13-2020 10:03 am	1.00	50 mL	50 mL	X071301.D	Liquid	Y	NA
	Auto find/ purged									
2	VSTD000.25	ICAL1	07-13-2020 10:27 am	1.00	50 mL	50 mL	X071302.D	Liquid	Y	NA
	0.10 uL cal std/100 mL DI									
3	VSTD000.5	ICAL2	07-13-2020 10:55 am	1.00	50 mL	50 mL	X071303.D	Liquid	Y	NA
	0.10 uL cal std/50 mL DI									
4	VSTD001	ICAL3	07-13-2020 11:42 am	1.00	50 mL	50 mL	X071304.D	Liquid	Y	NA
	0.20 uL cal std/50 mL DI									
5	VSTD002	ICAL4	07-13-2020 12:06 pm	1.00	50 mL	50 mL	X071305.D	Liquid	Y	NA
	0.40 uL cal std/50 mL DI									
6	VSTD005	ICAL5	07-13-2020 12:30 pm	1.00	50 mL	50 mL	X071306.D	Liquid	Y	NA
	1.0 uL cal std/50 mL DI									
7	VSTD020	ICAL6	07-13-2020 12:54 pm	1.00	50 mL	50 mL	X071307.D	Liquid	Y	NA
	4.0 uL cal std/50 mL DI									
8	VSTD050	ICAL7	07-13-2020 01:18 pm	1.00	50 mL	50 mL	X071308.D	Liquid	Y	NA
	10 uL cal std/50 mL DI									
9	VSTD100	ICAL8	07-13-2020 01:42 pm	1.00	50 mL	50 mL	X071309.D	Liquid	Y	NA
	20 uL cal std/50 mL DI									
10	VSTD150	ICAL9	07-13-2020 02:06 pm	1.00	50 mL	50 mL	X071310.D	Liquid	Y	NA
	30 uL cal std/50 mL DI									
11	VSTD200	ICAL	07-13-2020 02:30 pm	1.00	50 mL	50 mL	X071311.D	Liquid	Y	NA
	40 uL cal std/50 mL DI									
12	BLANK	SAMP	07-13-2020 02:54 pm	1.00	50 mL	50 mL	X071312.D	Liquid	Y	NA
13	CCV	ICV	07-13-2020 03:42 pm	1.00	50 mL	50 mL	X071313.D	Liquid	Y	NA
	10 uL ical std/50 mL DI									
14	BFB	TUNE	07-13-2020 04:06 pm	1.00	50 mL	50 mL	Y071301.D	Liquid	Y	NA
	Auto find/ purged									
15	CCV	CCV	07-13-2020 04:30 pm	1.00	50 mL	50 mL	Y071302.D	Liquid	Y	NA
	10 uL cal std/50 mL DI									
16	BLANK	SAMP	07-13-2020 04:53 pm	1.00	50 mL	50 mL	Y071303.D	Liquid	Y	NA
17	CCB	SAMP	07-13-2020 05:17 pm	1.00	50 mL	50 mL	Y071304.D	Liquid	Y	NA
18	VLCSW-200713	LCS	07-13-2020 05:41 pm	1.00	50 mL	50 mL	Y071305.D	Liquid	Y	NA
	4.0 uL cal std/50 mL DI									
19	BLANK	SAMP	07-13-2020 06:05 pm	1.00	50 mL	50 mL	Y071306.D	Liquid	Y	NA
20	VBLKW-200713	MBLK	07-13-2020 06:29 pm	1.00	50 mL	50 mL	Y071307.D	Liquid	Y	NA
21	HS20070399-02	SAMP	07-13-2020 06:53 pm	1.00	50 mL	50 mL	Y071308.D	Liquid	Y	<2
22	HS20070399-01	SAMP	07-13-2020 07:17 pm	1.00	50 mL	50 mL	Y071309.D	Liquid	Y	<2
23	HS20070043-19	SAMP	07-13-2020 07:41 pm	200.0(	250 µL	50 mL	Y071310.D	Liquid	Y	<2
24	HS20070043-19	SAMP	07-13-2020 08:05 pm	20.00	2.5 mL	50 mL	Y071311.D	Liquid	Y	<2
25	HS20070043-19MS	MS	07-13-2020 08:29 pm	200.0(	250 µL	50 mL	Y071312.D	Liquid	Y	<2
	3.5 uL cal std/40 mL samp									
26	HS20070043-19MSD	MSD	07-13-2020 08:54 pm	200.0(	250 µL	50 mL	Y071313.D	Liquid	Y	<2
	3.5 uL cal std/40 mL samp									
27	HS20070096-06	SAMP	07-13-2020 09:18 pm	100.0(	500 µL	50 mL	Y071314.D	Liquid	Y	<2
28	HS20070043-05	SAMP	07-13-2020 09:42 pm	50.00	1 mL	50 mL	Y071315.D	Liquid	Y	<2
29	HS20070043-05	SAMP	07-13-2020 10:06 pm	500.0(	100 µL	50 mL	Y071316.D	Liquid	Y	<2
30	HS20070043-06	SAMP	07-13-2020 10:30 pm	50.00	1 mL	50 mL	Y071317.D	Liquid	Y	<2
31	HS20070043-06	SAMP	07-13-2020 10:54 pm	500.0(	100 µL	50 mL	Y071318.D	Liquid	Y	<2
32	HS20070043-11	SAMP	07-13-2020 11:18 pm	50.00	1 mL	50 mL	Y071319.D	Liquid	Y	<2

MSVOA06 -Logbook

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	pH
33	HS20070043-11	SAMP	07-13-2020 11:42 pm	500.0(	100 µL	50 mL	Y071320.D	Liquid	Y	<2
34	CCV-END	CCV	07-14-2020 12:06 am	1.00	50 mL	50 mL	Y071321.D	Liquid	Y	NA
	10 uL cal std/50 mL DI									
35	HS20070493-01	SAMP	07-14-2020 12:30 am	1.00	50 mL	50 mL	Y071322.D	Liquid	Y	<2
36	HS20070096-29	SAMP	07-14-2020 12:54 am	10.00	5 mL	50 mL	Y071323.D	Liquid	Y	<2
37	HS20070096-29	SAMP	07-14-2020 01:18 am	100.0(	500 µL	50 mL	Y071324.D	Liquid	Y	<2
38	HS20070096-24	SAMP	07-14-2020 01:42 am	10.00	5 mL	50 mL	Y071325.D	Liquid	Y	<2
39	HS20070096-24	SAMP	07-14-2020 02:06 am	100.0(	500 µL	50 mL	Y071326.D	Liquid	Y	<2
40	HS20070096-30	SAMP	07-14-2020 02:30 am	25.00	2 mL	50 mL	Y071327.D	Liquid	Y	<2
41	HS20070096-30	SAMP	07-14-2020 02:54 am	250.0(	200 µL	50 mL	Y071328.D	Liquid	Y	<2
42	HS20070096-34	SAMP	07-14-2020 03:18 am	25.00	2 mL	50 mL	Y071329.D	Liquid	Y	<2
43	HS20070096-34	SAMP	07-14-2020 03:42 am	500.0(	100 µL	50 mL	Y071330.D	Liquid	Y	<2
44	BLANK	SAMP	07-14-2020 04:07 am	1.00	50 mL	50 mL	Y071340.D	Liquid	Y	NA

Chemical	Value
SURR SPK ID	31106-38-06-
IS ID	31106-38-06
CAL STD ID	31106-38-01/02
BFB ID	31106-38-06

FORM 3
WATER VOLATILE METHOD SPIKE RECOVERY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20071328

Matrix Spike - Sample No.: ICV

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE AMOUNT ()	% REC #	QC. LIMITS REC.
Vinyl Chloride	50.00	41.64	83	80-120
Methylene Chloride	50.00	43.61	87	80-120
1,1-Dichloroethene	50.00	44.05	88	80-120
1,2-Dichloroethane	50.00	51.43	103	80-120
cis-1,2-Dichloroethene	50.00	49.13	98	80-120
1,1,2-Trichloroethane	50.00	50.25	100	80-120
Trichloroethene	50.00	48.39	97	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.: HS20071328

Lab File ID: X071301 BFB Injection Date: 07/13/20

Instrument ID: VOA6 BFB Injection Time: 1003

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	32.0
75	30.0 - 60.0% of mass 95	53.2
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	7.2
173	Less than 2.0% of mass 174	0.5 (0.8)1
174	Greater than 50.0% of mass 95	56.5
175	5.0 - 9.0% of mass 174	4.8 (8.5)1
176	95.0 - 101.0% of mass 174	54.9 (97.2)1
177	5.0 - 9.0% of mass 176	4.7 (8.6)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD000.25	VSTD000.25	X071302	07/13/20	1027
02	VSTD000.5	VSTD000.5	X071303	07/13/20	1055
03	VSTD001	VSTD001	X071304	07/13/20	1142
04	VSTD002	VSTD002	X071305	07/13/20	1206
05	VSTD005	VSTD005	X071306	07/13/20	1230
06	VSTD020	VSTD020	X071307	07/13/20	1254
07	VSTD050	VSTD050	X071308	07/13/20	1318
08	VSTD100	VSTD100	X071309	07/13/20	1342
09	VSTD150	VSTD150	X071310	07/13/20	1406
10	VSTD200	VSTD200	X071311	07/13/20	1430
11	ICV	ICV	X071313	07/13/20	1542
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.: HS20071328

Instrument ID: VOA6 Calibration Date(s): 07/13/20 07/13/20

Column: DB624 ID: 0.18 (mm) Calibration Time(s): 1027 1430

LAB FILE ID: RF0.25: X071302 RF0.5: X071303 RF1: X071304
RF2: X071305 RF5: X071306 RF20: X071307

COMPOUND	RF0.25	RF0.5	RF1	RF2	RF5	RF20
Vinyl Chloride		0.884	0.854	0.860	0.769	0.732
Methylene Chloride		4271	5799	8593	18680	58274
1,1-Dichloroethene		0.507	0.437	0.472	0.433	0.404
1,2-Dichloroethane		0.620	0.589	0.616	0.503	0.603
cis-1,2-Dichloroethene		0.671	0.633	0.710	0.601	0.608
1,1,2-Trichloroethane		0.319	0.237	0.296	0.390	0.314
Trichloroethene		0.390	0.356	0.356	0.342	0.350
Dibromofluoromethane		2011	3129	5716	15802	57060
1,2-Dichloroethane-d4		2548	4323	6078	19086	78060
Toluene-d8		1.494	1.286	1.208	1.624	1.277
4-Bromofluorobenzene		3265	4513	7984	21438	75648

FORM VI VOA

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS2007132

Instrument ID: VOA6 Calibration Date(s): 07/13/20 07/13/20

Column: DB624 ID: 0.18 (mm) Calibration Time(s): 1027 1430

LAB FILE ID: RF50: X071308 RF100: X071309 RF150: X071310
RF200: X071311

COMPOUND	RF50	RF100	RF150	RF200
Vinyl Chloride	0.805	0.795	0.856	0.845
Methylene Chloride	153830	277730	426028	499769
1,1-Dichloroethene	0.446	0.413	0.423	0.401
1,2-Dichloroethane	0.601	0.616	0.602	0.603
cis-1,2-Dichloroethene	0.633	0.635	0.649	0.632
1,1,2-Trichloroethane	0.308	0.302	0.302	0.288
Trichloroethene	0.359	0.360	0.366	0.359
Dibromofluoromethane	137160	266517	392708	499552
1,2-Dichloroethane-d4	186102	358725	528876	688409
Toluene-d8	1.249	1.216	1.221	1.211
4-Bromofluorobenzene	186024	353354		

FORM VI VOA

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS2007132

Instrument ID: VOA6 Calibration Date(s): 07/13/20 07/13/20

Column: DB624 ID: 0.18 (mm) Calibration Time(s): 1027 1430

COMPOUND	CURVE	COEFFICENTS A0	COEFFICENTS A1	%RSD OR R^2	MAX %RSD OR R^2
Vinyl Chloride	AVRG		0.82218964	6.078	15.000
Methylene Chloride	LINR	-2.77e-002	1.74738834	0.9957026	0.9900000
1,1-Dichloroethene	AVRG		0.43742258	7.870	15.000
1,2-Dichloroethane	AVRG		0.59495642	5.987	15.000
cis-1,2-Dichloroethene	AVRG		0.64139859	5.112	15.000
1,1,2-Trichloroethane	AVRG		0.30614855	12.846	15.000
Trichloroethene	AVRG		0.35986567	3.677	15.000
Dibromofluoromethane	LINR	-1.65e-003	1.79776555	0.9996449	0.9900000
1,2-Dichloroethane-d4	LINR	6.783e-003	1.31478695	0.9998415	0.9900000
Toluene-d8	AVRG		1.30969442	11.293	15.000
4-Bromofluorobenzene	LINR	-1.07e-002	2.08902614	0.9998105	0.9900000

Data File: \\nahstws005\Target\chem\voa6.i\X200713.b\X071301.D

Date : 13-JUL-2020 10:03

Client ID: BFB

Instrument: voa6.i

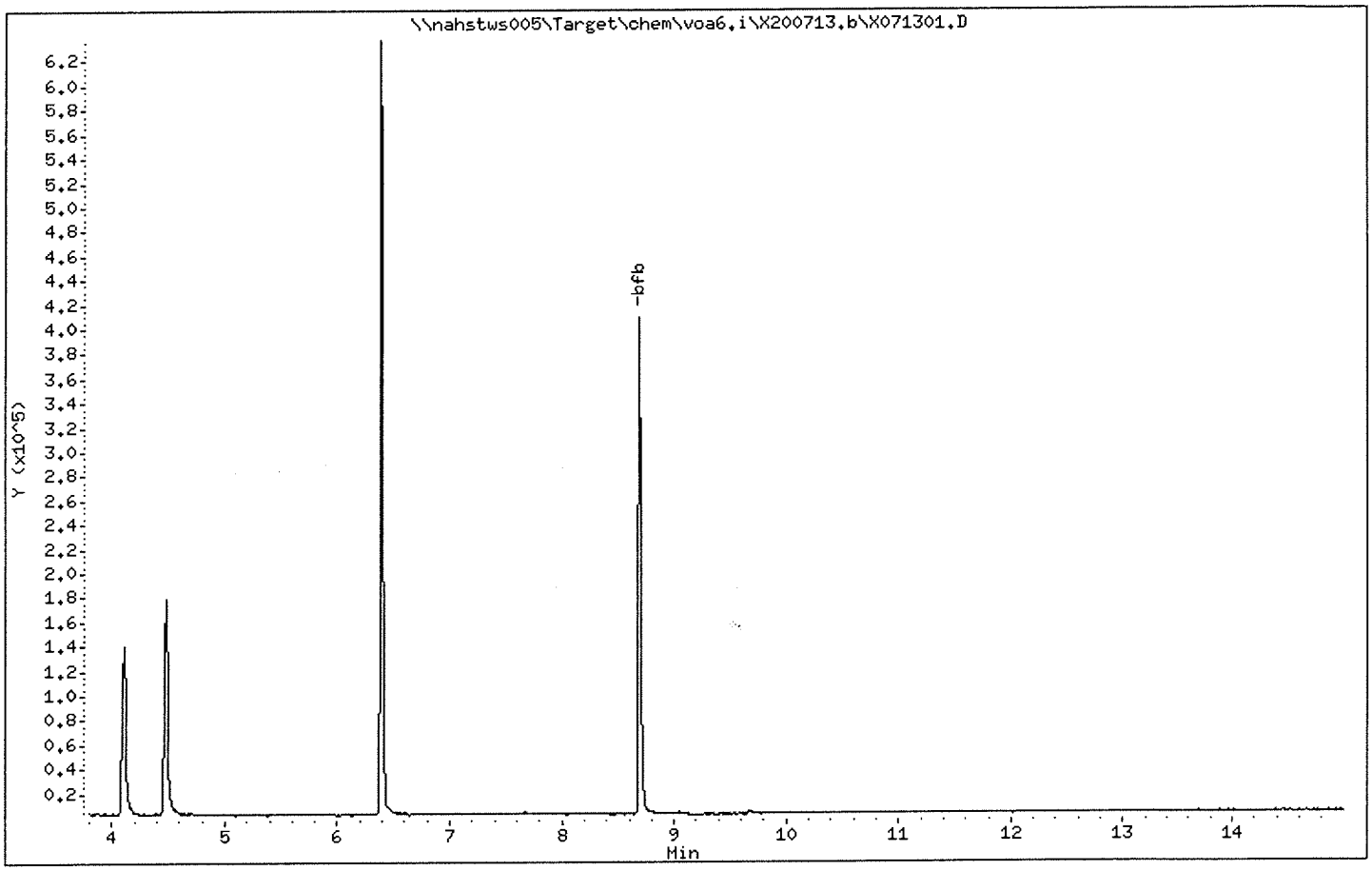
Sample Info: BFB;BFB;3;;BFB

Volume Injected (uL): 2.0

Operator: PC

Column phase: DB624

Column diameter: 0.25



Data File: \\nahstws005\Target\chem\voa6.i\X200713.b\X071301.D

Date : 13-JUL-2020 10:03

Client ID: BFB

Instrument: voa6.i

Sample Info: BFB;BFB;3;;BFB

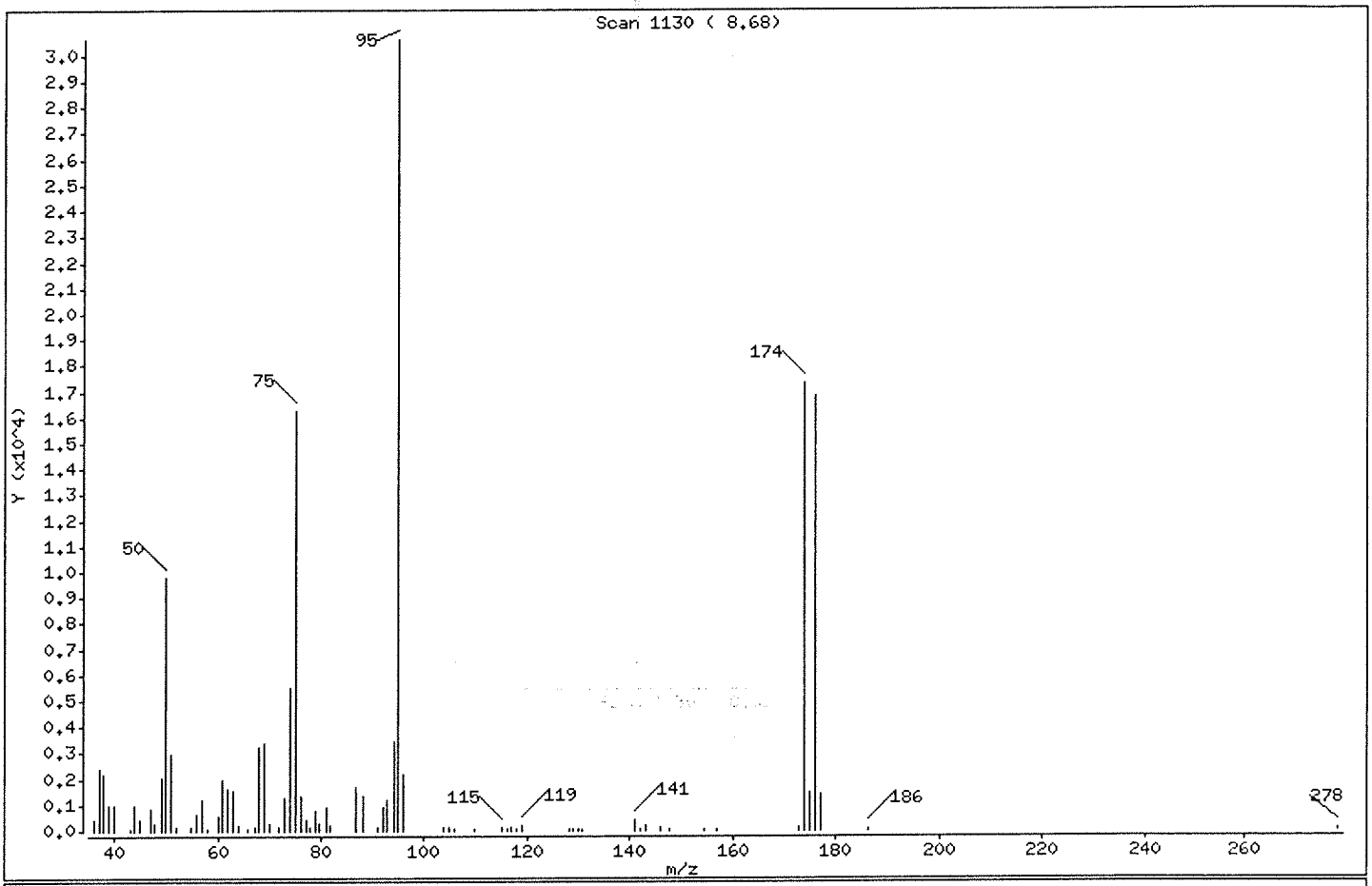
Volume Injected (uL): 2.0

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	32.02
75	30.00 - 60.00% of mass 95	53.18
96	5.00 - 9.00% of mass 95	7.17
173	Less than 2.00% of mass 174	0.46 (0.82)
174	Greater than 50.00% of mass 95	56.48
175	5.00 - 9.00% of mass 174	4.82 (8.53)
176	95.00 - 101.00% of mass 174	54.89 (97.18)
177	5.00 - 9.00% of mass 176	4.71 (8.58)

Data File: \\nahstws005\Target\chem\voa6.i\X200713.b\X071301.D

Date : 13-JUL-2020 10:03

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: X071301.D
Spectrum: Scan 1130 (8.68)
Location of Maximum: 95.00
Number of points: 74

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	444	61.00	1942	81.90	205	128.90	99
37.00	2396	62.00	1633	86.90	1699	129.80	104
38.00	2186	62.90	1549	88.00	1344	130.80	64
39.00	986	64.10	217	90.80	174	140.80	443
39.90	954	65.80	50	92.00	885	141.90	67
43.10	89	67.10	114	92.90	1223	142.90	214
44.00	1013	68.00	3245	94.00	3447	145.90	124
45.00	398	68.90	3410	95.00	30624	147.70	70
46.90	833	70.10	279	96.10	2195	154.50	62
47.90	275	72.00	165	103.90	114	156.80	77
49.00	2032	73.00	1257	104.90	127	172.80	142
50.00	9806	74.00	5481	106.00	69	173.90	17296
51.00	2987	75.00	16285	109.90	62	174.90	1476
52.10	147	76.00	1357	115.00	175	175.90	16808
54.90	158	77.10	416	116.10	95	176.90	1442
55.90	654	78.00	140	116.80	127	186.20	58
57.00	1205	78.90	796	118.00	91	278.10	84
58.00	51	79.80	299	118.90	184		
60.00	554	80.90	893	128.10	76		

Data File: \\nahstws005\Target\chem\voa6.i\X200713.b\X071302.D Page 1
Report Date: 21-Aug-2020 15:22

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X200713.b\X071302.D
Lab Smp Id: VSTD000.25 Client Smp ID: VSTD000.25
Inj Date : 13-JUL-2020 10:27
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\X200713.b\8260W.m
Meth Date : 21-Aug-2020 15:22 voa6.i Quant Type: ISTD
Cal Date : 13-JUL-2020 14:30 Cal File: X071311.D
Als bottle: 2 Calibration Sample, Level: 1
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI-Hou11.sub
Target Version: 4.14
Processing Host: NAHSTW7056

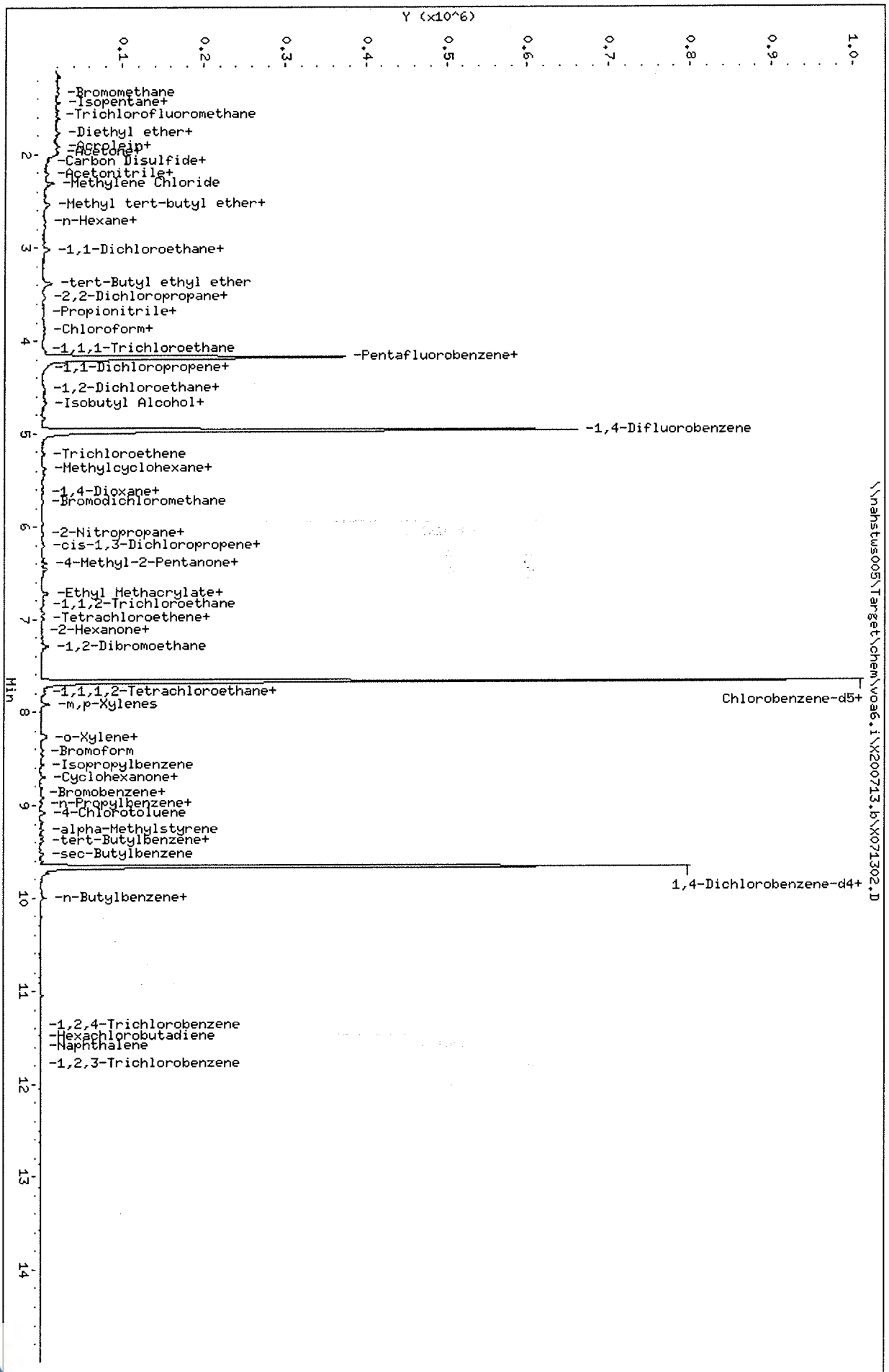
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	296835	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	485993	50.0000	
* 47 Chlorobenzene-d5	117	7.670	7.670	(1.000)	428377	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	186637	50.0000	
$ 30 Dibromofluoromethane	113	4.110	4.110	(0.981)	1222	0.25000	0.28
$ 35 1,2-Dichloroethane-d4	65	4.490	4.490	(1.072)	1683	0.25000	0.71(TM)
$ 48 Toluene-d8	98	6.395	6.395	(0.834)	4004	0.25000	0.35(T)
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	1769	0.25000	(M)
53 1,1,2-Trichloroethane	83	6.847	6.847	(0.893)	640	0.25000	0.24(a)
11 1,1-Dichloroethene	96	1.919	1.919	(0.458)	706	0.25000	0.27(a)
33 1,2-Dichloroethane	62	4.576	4.576	(0.921)	1688	0.25000	0.29(a)
27 cis-1,2-Dichloroethene	96	3.537	3.537	(0.844)	887	0.25000	0.23(M)
17 Methylene Chloride	84	2.305	2.305	(0.550)	2897	0.25000	(aM)
38 Trichloroethene	130	5.221	5.221	(1.050)	1101	0.25000	0.31
5 Vinyl Chloride	62	1.145	1.145	(0.273)	1137	0.25000	0.23

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\X200713.b\X071302.D
Date : 13-JUL-2020 10:27
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\X200713.b\X071303.D Page 1
Report Date: 21-Aug-2020 15:22

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X200713.b\X071303.D
Lab Smp Id: VSTD000.5 Client Smp ID: VSTD000.5
Inj Date : 13-JUL-2020 10:55
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\X200713.b\8260W.m
Meth Date : 21-Aug-2020 15:22 voa6.i Quant Type: ISTD
Cal Date : 13-JUL-2020 10:27 Cal File: X071302.D
Als bottle: 3 Calibration Sample, Level: 2
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI-Hou11.sub
Target Version: 4.14
Processing Host: NAHSTW7056

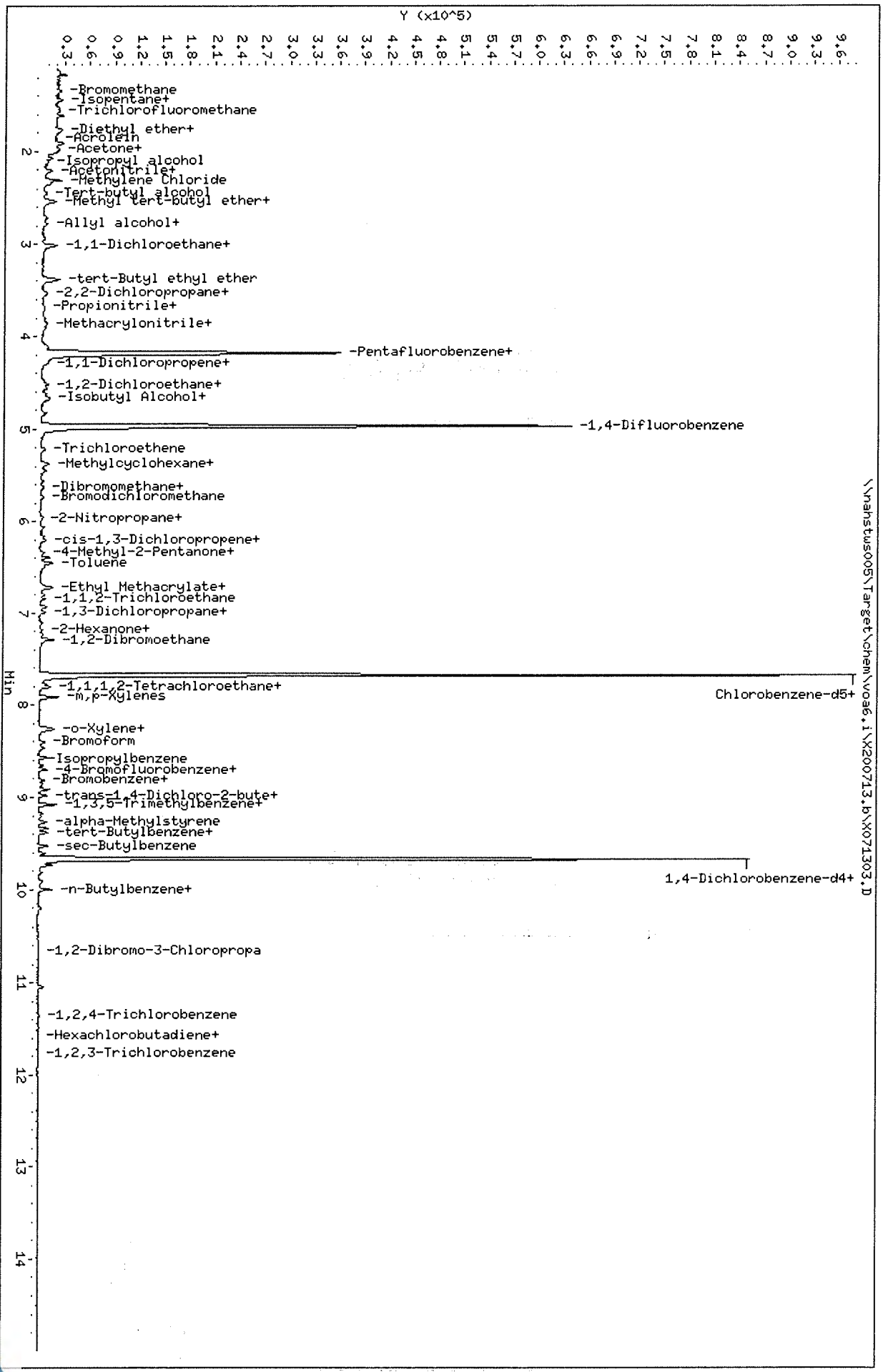
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	286110	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	463555	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	412015	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	194722	50.0000	
$ 30 Dibromofluoromethane	113	4.111	4.111	(0.981)	2011	0.50000	0.54
$ 35 1,2-Dichloroethane-d4	65	4.483	4.483	(1.070)	2548	0.50000	0.92(T)
$ 48 Toluene-d8	98	6.396	6.396	(0.834)	6156	0.50000	0.57
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	3265	0.50000	0.29
53 1,1,2-Trichloroethane	83	6.847	6.847	(0.893)	1313	0.50000	0.52(a)
11 1,1-Dichloroethene	96	1.919	1.919	(0.458)	1452	0.50000	0.58(aM)
33 1,2-Dichloroethane	62	4.576	4.576	(0.921)	2874	0.50000	0.52(a)
27 cis-1,2-Dichloroethene	96	3.545	3.545	(0.846)	1921	0.50000	0.52
17 Methylene Chloride	84	2.305	2.305	(0.550)	4271	0.50000	(a)
38 Trichloroethene	130	5.214	5.214	(1.049)	1810	0.50000	0.54
5 Vinyl Chloride	62	1.145	1.145	(0.273)	2528	0.50000	0.53

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.

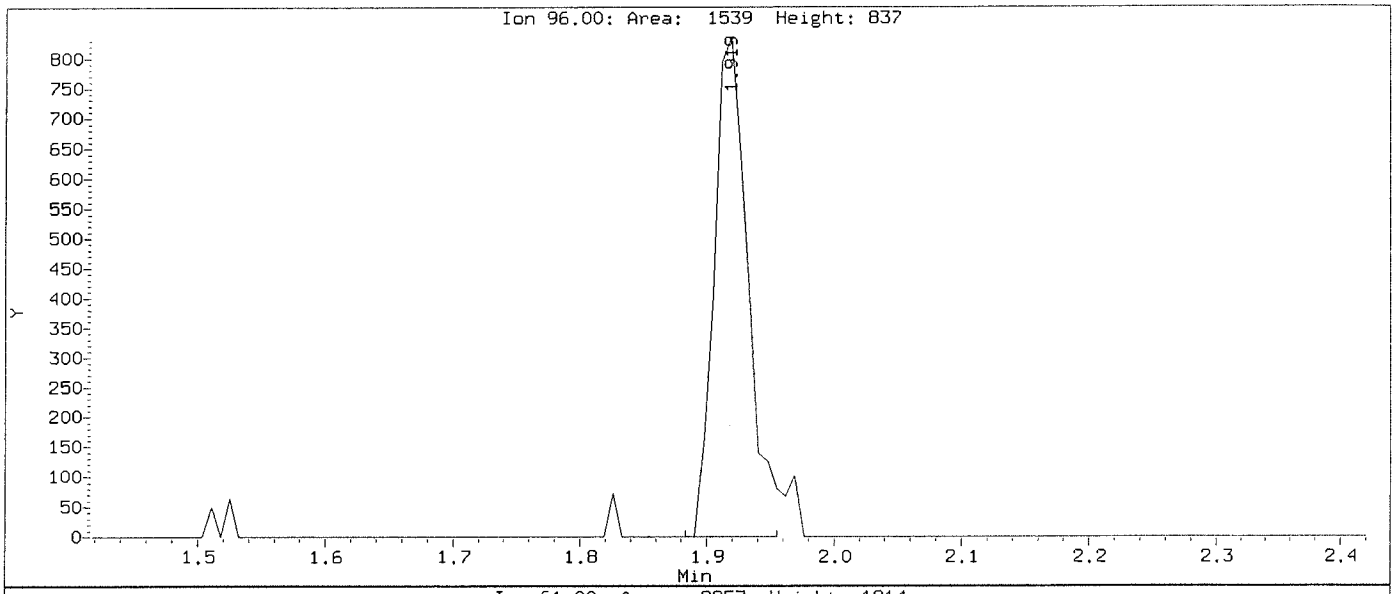


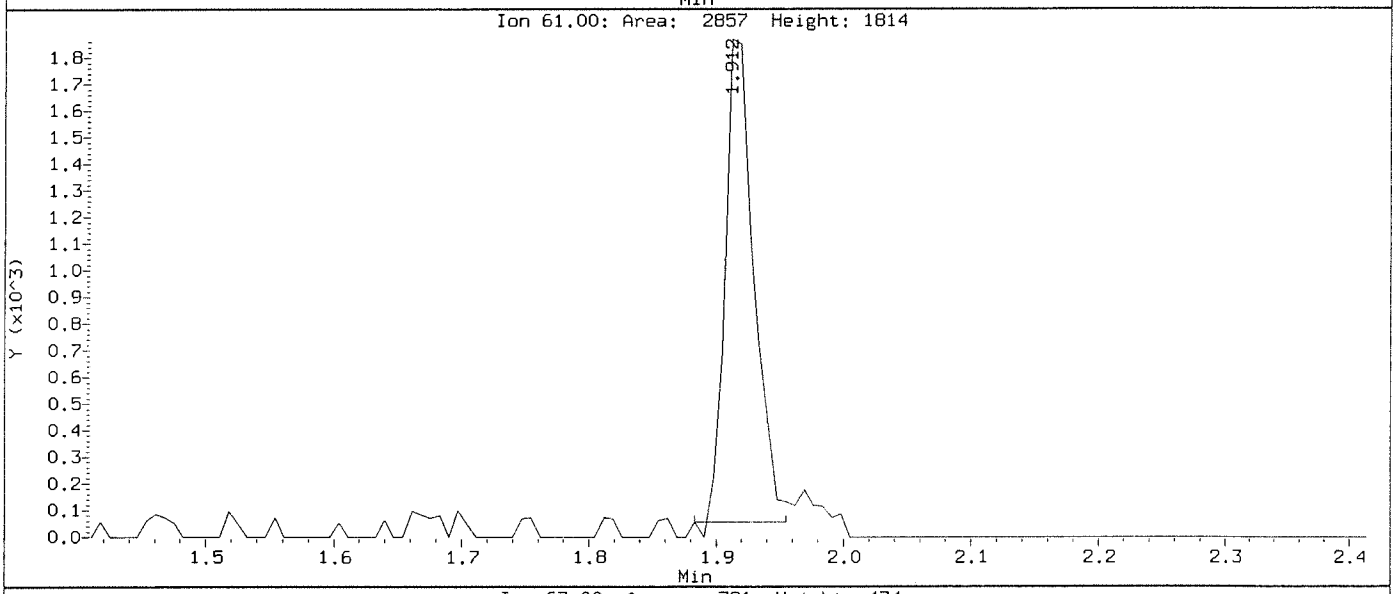
Data File: \\nahstws005\Target\chem\voa6.i\X200713.b\X071303.D
Date : 13-JUL-2020 10:55
Client ID: VSTD000.5
Sample Info: VSTD000.5;VSTD000.5;1;2;
Purge Volume: 5.0
Column phase: DB624

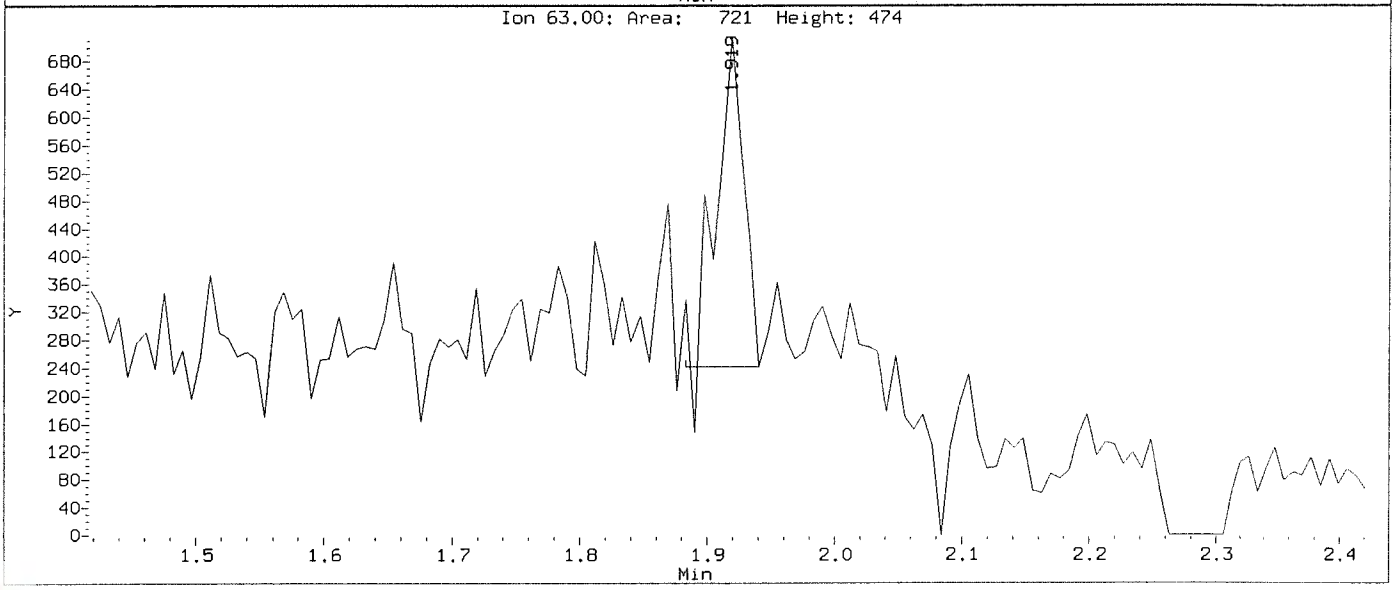
Instrument: voa6.i
Operator: PC
Column diameter: 0.18

Data File: \\nahstws005\Target\chem\voa6.i\X200713.b\Before2\X071303.D
Injection Date: 13-JUL-2020 10:55
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: 1,1-Dichloroethene
CAS Number: 75-35-4

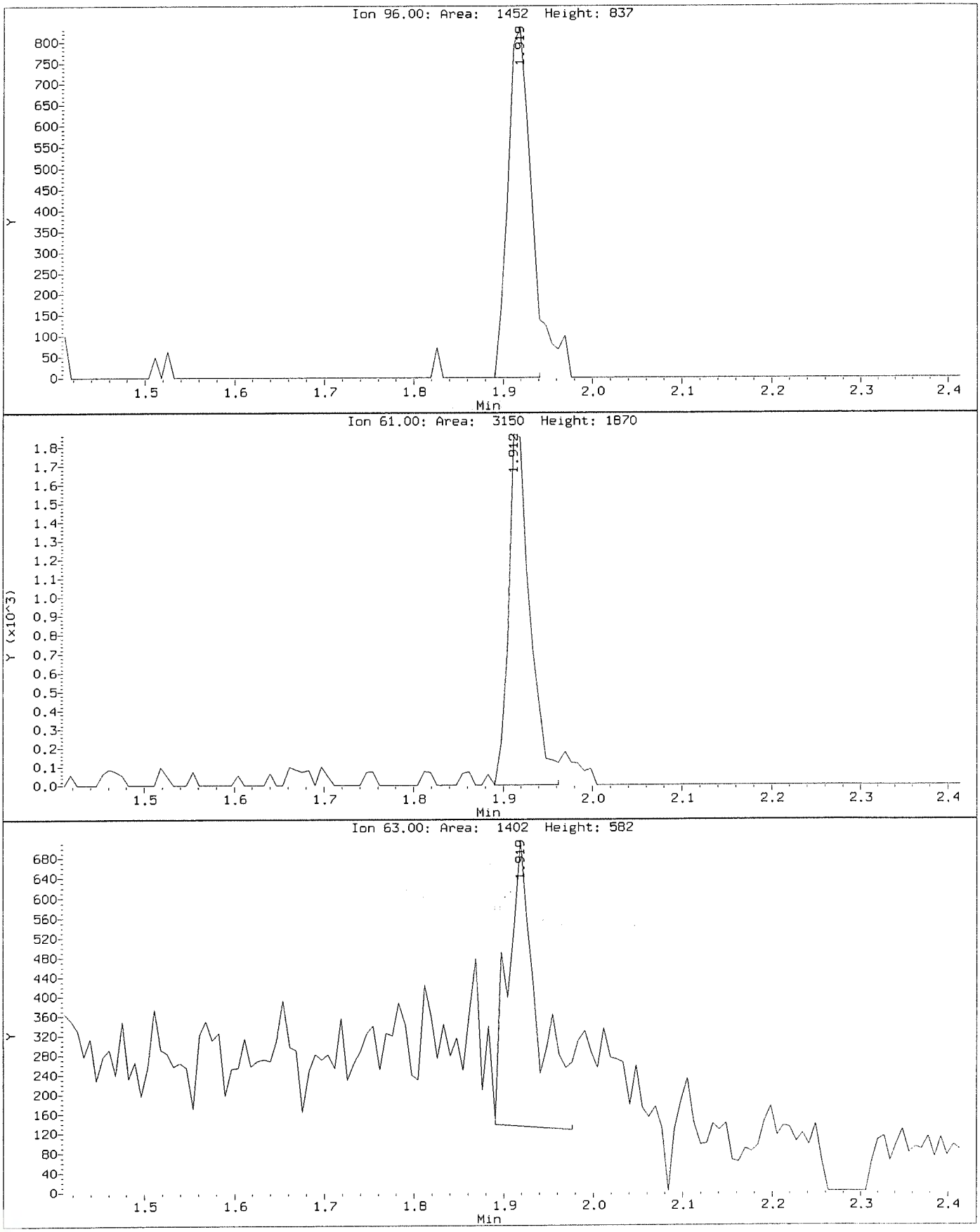






Data File: \\nahstws005\Target\chem\voa6.i\X200713.b\X071303.D
Injection Date: 13-JUL-2020 10:55
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: 1,1-Dichloroethene
CAS Number: 75-35-4



ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X200713.b\X071304.D
Lab Smp Id: VSTD001 Client Smp ID: VSTD001
Inj Date : 13-JUL-2020 11:42
Operator : PC Inst ID: voa6.i
Smp Info : VSTD001;VSTD001;1;3;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200713.b\8260W.m
Meth Date : 21-Aug-2020 15:22 voa6.i Quant Type: ISTD
Cal Date : 13-JUL-2020 10:55 Cal File: X071303.D
Als bottle: 5 Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI-Hou11.sub
Target Version: 4.14
Processing Host: NAHSTW7056

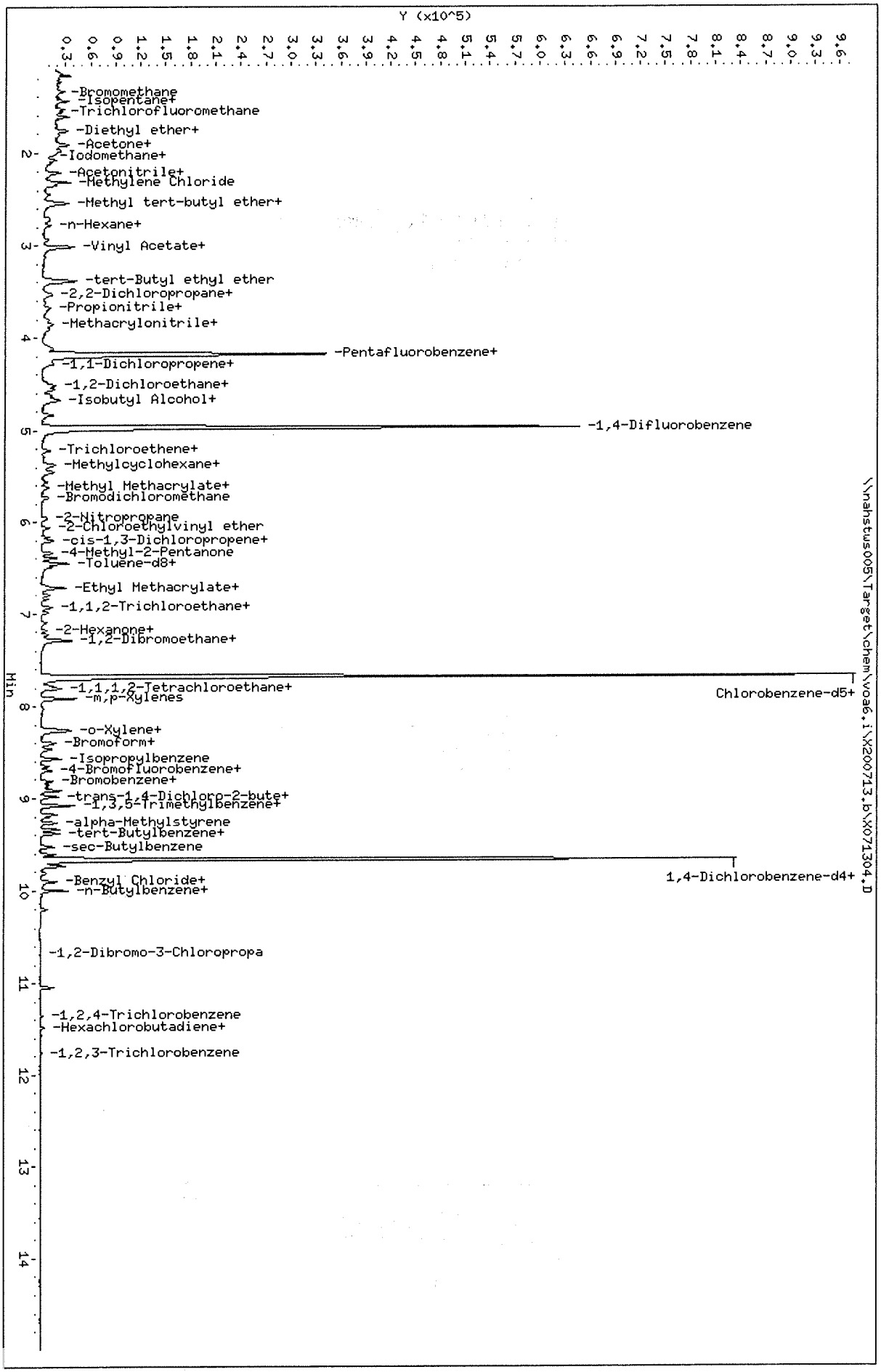
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

		QUANT SIG					AMOUNTS	
Compounds		MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT (ug/l)	ON-COL (ug/l)
*	1 Pentafluorobenzene	168	4.189	4.189	(1.000)	272342	50.0000	
*	36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	461217	50.0000	
*	47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	414030	50.0000	
*	70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	193083	50.0000	
$	30 Dibromofluoromethane	113	4.111	4.111	(0.981)	3129	1.00000	0.95
$	35 1,2-Dichloroethane-d4	65	4.490	4.490	(1.072)	4323	1.00000	1.38
$	48 Toluene-d8	98	6.396	6.396	(0.834)	10651	1.00000	0.98
$	69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	4513	1.00000	0.60
	53 1,1,2-Trichloroethane	83	6.847	6.847	(0.893)	1966	1.00000	0.77(a)
	11 1,1-Dichloroethene	96	1.919	1.919	(0.458)	2381	1.00000	0.99(a)
	33 1,2-Dichloroethane	62	4.569	4.569	(0.919)	5434	1.00000	0.99(a)
	27 cis-1,2-Dichloroethene	96	3.537	3.537	(0.844)	3447	1.00000	0.98
	17 Methylene Chloride	84	2.313	2.313	(0.552)	5799	1.00000	0.47(a)
	38 Trichloroethene	130	5.214	5.214	(1.049)	3283	1.00000	0.98
	5 Vinyl Chloride	62	1.138	1.138	(0.272)	4654	1.00000	1.03

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).



Data File: \\nahstus005\Target\chem\voa6.i\X200713.b\X071304.D
Date : 13-JUL-2020 11:42
Client ID: VSTD001
Sample Info: VSTD001;VSTD001;1;3;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X200713.b\X071305.D
Lab Smp Id: VSTD002 Client Smp ID: VSTD002
Inj Date : 13-JUL-2020 12:06
Operator : PC Inst ID: voa6.i
Smp Info : VSTD002;VSTD002;1;4;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200713.b\8260W.m
Meth Date : 21-Aug-2020 15:22 voa6.i Quant Type: ISTD
Cal Date : 13-JUL-2020 11:42 Cal File: X071304.D
Als bottle: 6 Calibration Sample, Level: 4
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI-Hou11.sub
Target Version: 4.14
Processing Host: NAHSTW7056

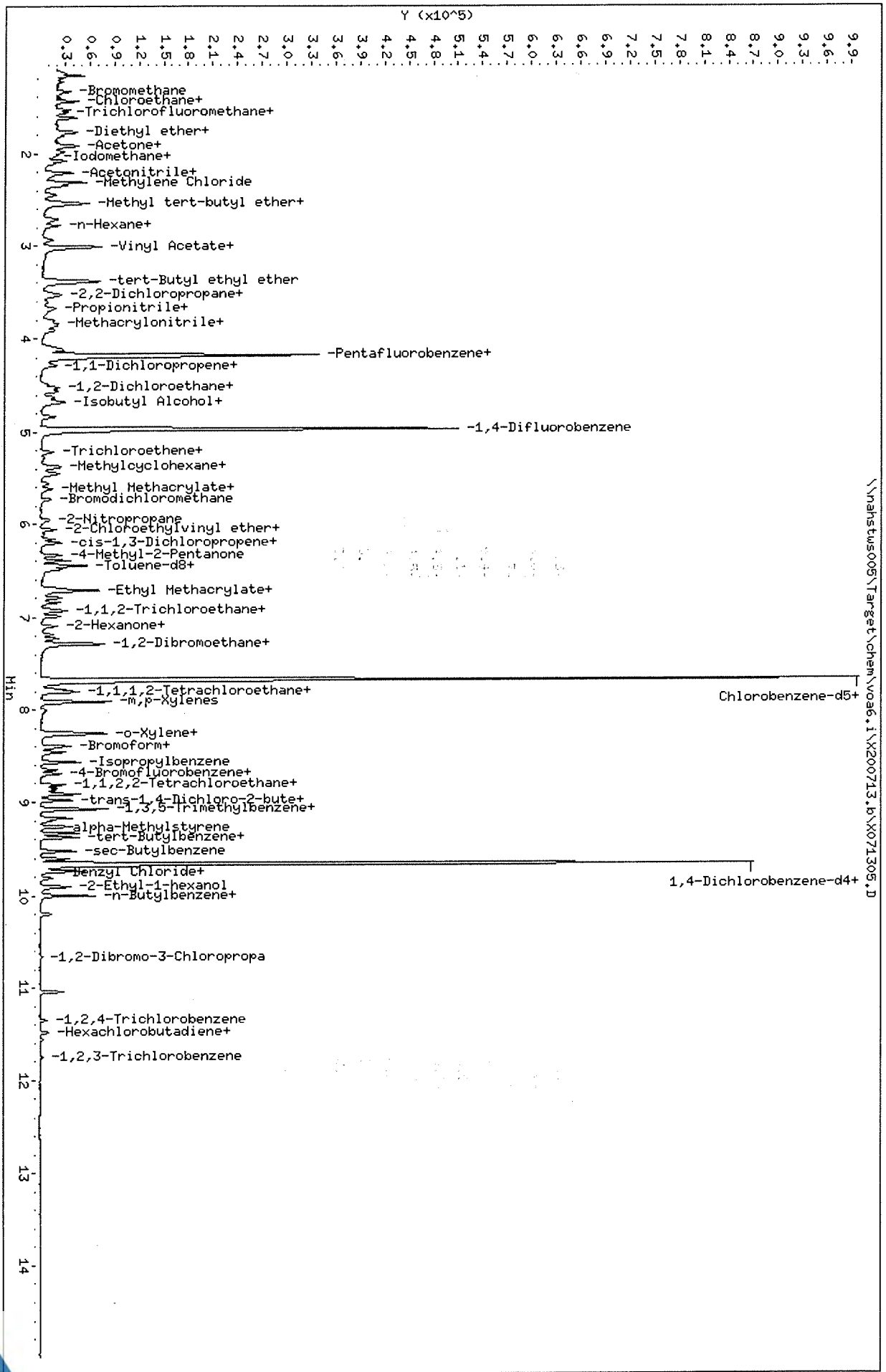
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	241171	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	361641	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	414402	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	191002	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	5716	2.00000	2.04
$ 35 1,2-Dichloroethane-d4	65	4.483	4.483	(1.072)	6078	2.00000	1.99
$ 48 Toluene-d8	98	6.396	6.396	(0.834)	20027	2.00000	1.84
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	7984	2.00000	1.47
53 1,1,2-Trichloroethane	83	6.847	6.847	(0.893)	4901	2.00000	1.93(a)
11 1,1-Dichloroethene	96	1.919	1.919	(0.459)	4557	2.00000	2.15(a)
33 1,2-Dichloroethane	62	4.569	4.569	(0.919)	8907	2.00000	2.06(a)
27 cis-1,2-Dichloroethene	96	3.538	3.538	(0.846)	6846	2.00000	2.21
17 Methylene Chloride	84	2.306	2.306	(0.551)	8593	2.00000	1.73(a)
38 Trichloroethene	130	5.214	5.214	(1.049)	5153	2.00000	1.97
5 Vinyl Chloride	62	1.145	1.145	(0.274)	8298	2.00000	2.09

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).



Data File: \\nahstws005\Target\chem\voa6.i\X200713.b\X071305.D
Date : 13-JUL-2020 12:06
Client ID: VSTD002
Sample Info: VSTD002;VSTD002;1;4;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X200713.b\X071306.D
Lab Smp Id: VSTD005 Client Smp ID: VSTD005
Inj Date : 13-JUL-2020 12:30
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\X200713.b\8260W.m
Meth Date : 21-Aug-2020 15:22 voa6.i Quant Type: ISTD
Cal Date : 13-JUL-2020 12:06 Cal File: X071305.D
Als bottle: 7 Calibration Sample, Level: 5
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI-Hou11.sub
Target Version: 4.14
Processing Host: NAHSTW7056

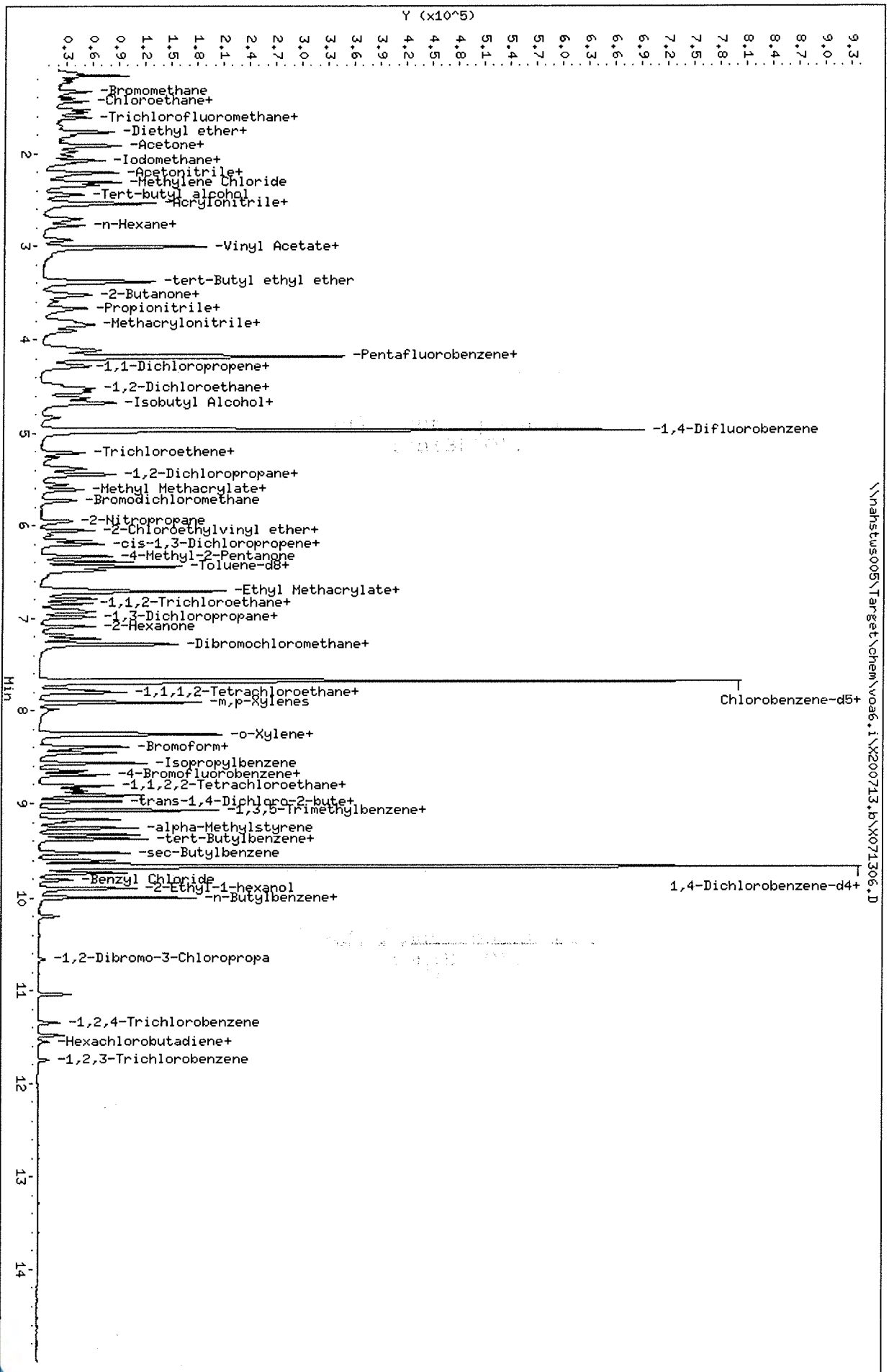
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	273643	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	442506	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	340884	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	193290	50.0000	
$ 30 Dibromofluoromethane	113	4.111	4.111	(0.981)	15802	5.00000	5.10
$ 35 1,2-Dichloroethane-d4	65	4.483	4.483	(1.070)	19086	5.00000	4.92
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	55374	5.00000	6.20
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	21438	5.00000	6.03
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	13282	5.00000	6.36
11 1,1-Dichloroethene	96	1.919	1.919	(0.458)	11848	5.00000	4.94(a)
33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	22279	5.00000	4.23(a)
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.843)	16456	5.00000	4.68
17 Methylene Chloride	84	2.305	2.305	(0.550)	18680	5.00000	4.58(a)
38 Trichloroethene	130	5.214	5.214	(1.049)	15147	5.00000	4.75
5 Vinyl Chloride	62	1.138	1.138	(0.272)	21041	5.00000	4.67

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).



Data File: \\nahstws005\Target\chem\voa6.i\X200713.b\X071306.D
Date : 13-JUL-2020 12:30
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

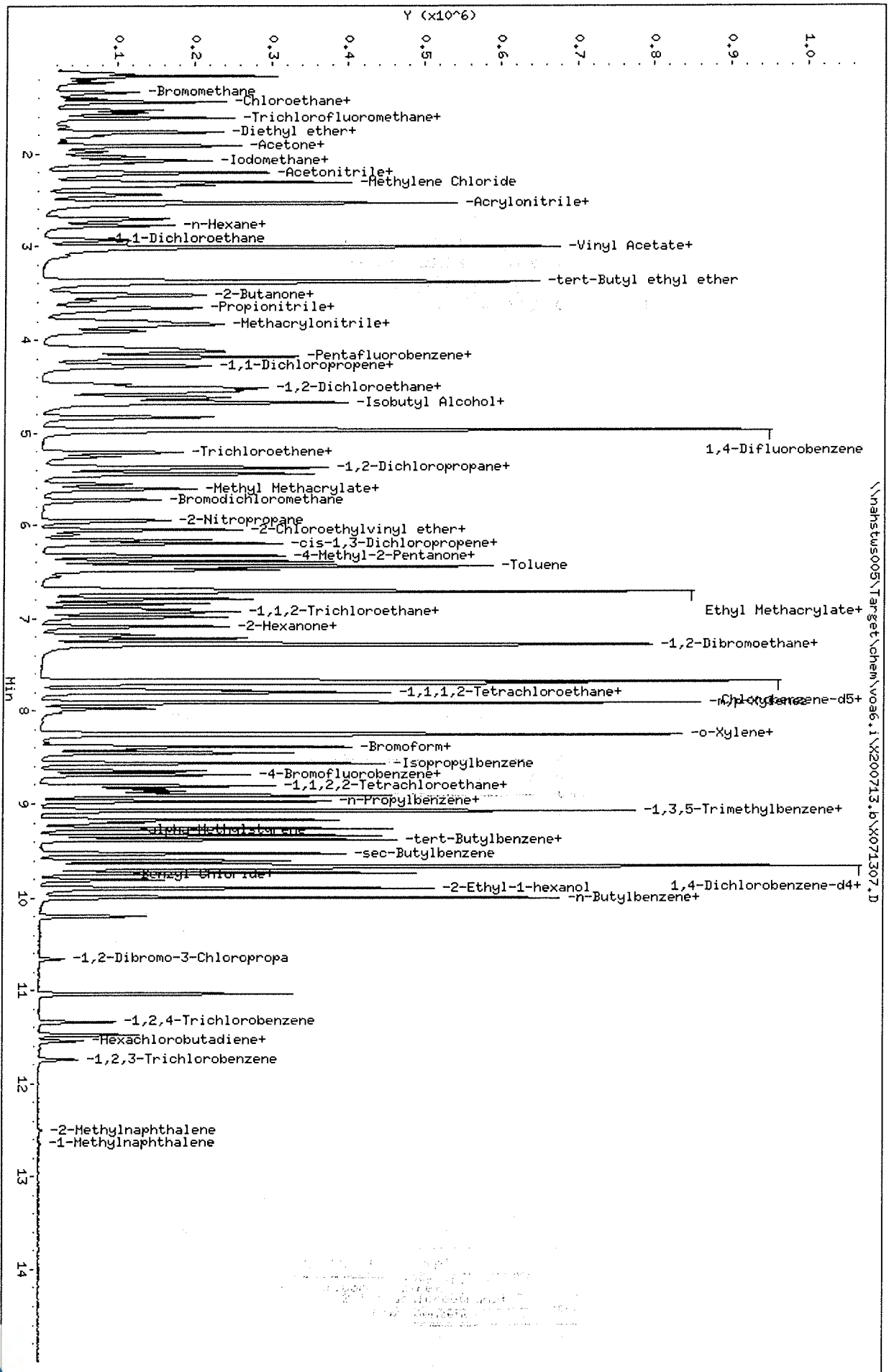
ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X200713.b\X071307.D
Lab Smp Id: VSTD020 Client Smp ID: VSTD020
Inj Date : 13-JUL-2020 12:54
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\X200713.b\8260W.m
Meth Date : 21-Aug-2020 15:22 voa6.i Quant Type: ISTD
Cal Date : 13-JUL-2020 12:30 Cal File: X071306.D
Als bottle: 8 Calibration Sample, Level: 6
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI-Hou11.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
*	1 Pentafluorobenzene	168	4.189	4.189	(1.000)	253573	50.0000	
*	36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	421442	50.0000	
*	47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	382758	50.0000	
*	70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	186382	50.0000	
$	30 Dibromofluoromethane	113	4.103	4.103	(0.979)	57060	20.0000	20.14
$	35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	78060	20.0000	20.57
$	48 Toluene-d8	98	6.388	6.388	(0.833)	195468	20.0000	19.49
$	69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	75648	20.0000	20.10
	53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	48065	20.0000	20.50
	11 1,1-Dichloroethene	96	1.919	1.919	(0.458)	40964	20.0000	18.46
	33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	101682	20.0000	20.27
	27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.843)	61658	20.0000	18.95
	17 Methylene Chloride	84	2.306	2.306	(0.550)	58274	20.0000	18.69
	38 Trichloroethene	130	5.214	5.214	(1.049)	59096	20.0000	19.48
	5 Vinyl Chloride	62	1.145	1.145	(0.273)	74208	20.0000	17.79



Data File: \\nahstws005\Target\chem\voa6.i\X200713.b\X071307.D
Date : 13-JUL-2020 12:54
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\X200713.b\X071308.D Page 1
Report Date: 21-Aug-2020 15:22

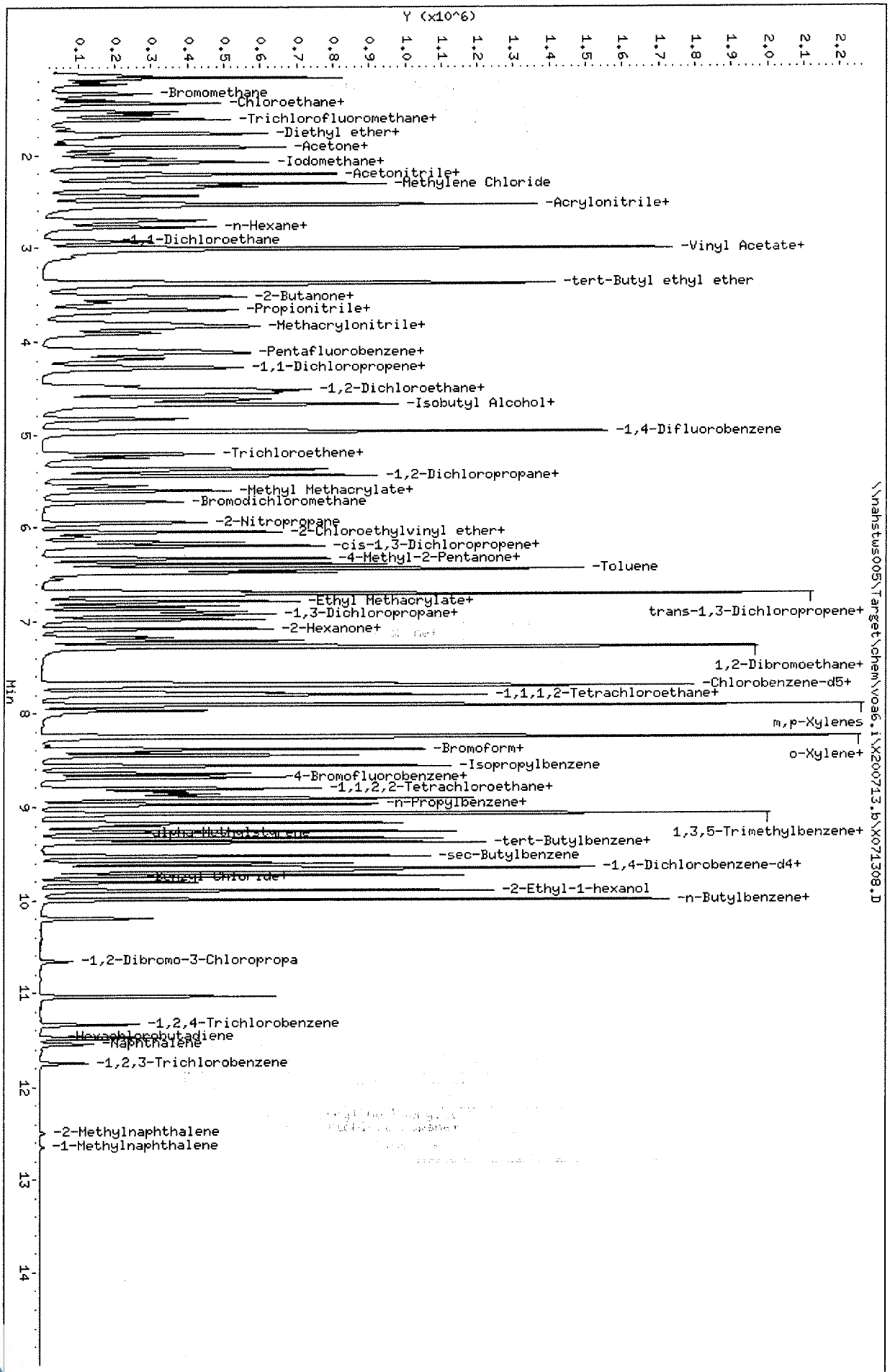
ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X200713.b\X071308.D
Lab Smp Id: VSTD050 Client Smp ID: VSTD050
Inj Date : 13-JUL-2020 13:18
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\X200713.b\8260W.m
Meth Date : 21-Aug-2020 15:22 voa6.i Quant Type: ISTD
Cal Date : 13-JUL-2020 12:54 Cal File: X071307.D
Als bottle: 9 Calibration Sample, Level: 7
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI-Hou11.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	250164	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	416710	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	383548	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	184191	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.979)	137160	50.0000	49.20
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	186102	50.0000	49.24
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	479221	50.0000	47.69
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	186024	50.0000	50.12
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	118016	50.0000	50.25
11 1,1-Dichloroethene	96	1.919	1.919	(0.458)	111538	50.0000	50.96
33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	250459	50.0000	50.51
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.843)	158287	50.0000	49.32
17 Methylene Chloride	84	2.306	2.306	(0.550)	153830	50.0000	52.34
38 Trichloroethene	130	5.214	5.214	(1.049)	149525	50.0000	49.85
5 Vinyl Chloride	62	1.145	1.145	(0.273)	201301	50.0000	48.93



Data File: \\nahstws005\Target\chem\voa6.i\X200713.b\X071308.D
Date : 13-JUL-2020 13:18
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\X200713.b\X071309.D Page 1
Report Date: 21-Aug-2020 15:22

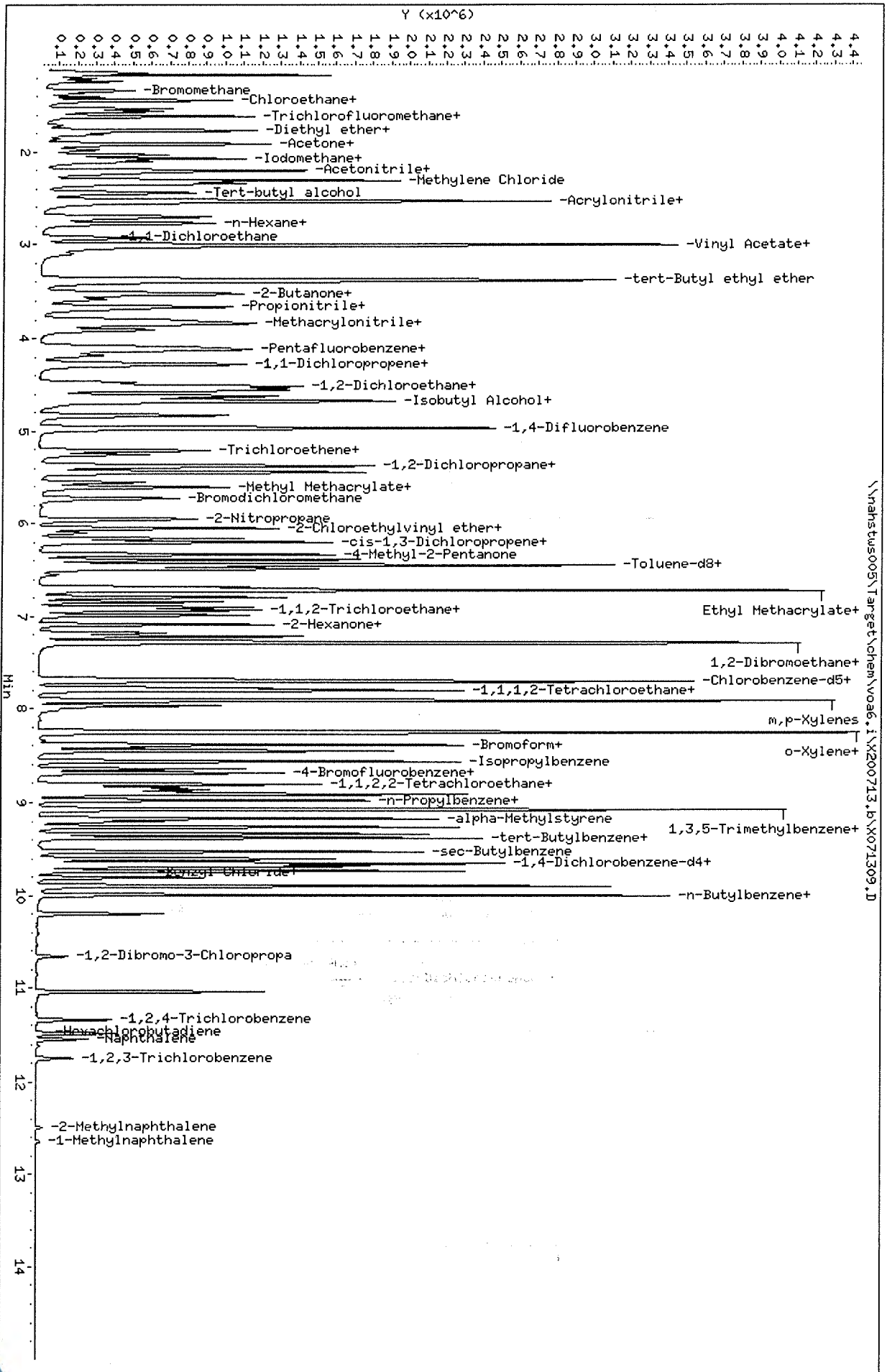
ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X200713.b\X071309.D
Lab Smp Id: VSTD100 Client Smp ID: VSTD100
Inj Date : 13-JUL-2020 13:42
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\X200713.b\8260W.m
Meth Date : 21-Aug-2020 15:22 voa6.i Quant Type: ISTD
Cal Date : 13-JUL-2020 13:18 Cal File: X071308.D
Als bottle: 10 Calibration Sample, Level: 8
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI-Hou11.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
*	1 Pentafluorobenzene	168	4.189	4.189	(1.000)	241410	50.0000	
*	36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	394471	50.0000	
*	47 Chlorobenzene-d5	117	7.670	7.670	(1.000)	367611	50.0000	
*	70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	175701	50.0000	
$	30 Dibromofluoromethane	113	4.103	4.103	(0.979)	266517	100.000	99.15
$	35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	358725	100.000	98.02
$	48 Toluene-d8	98	6.388	6.388	(0.833)	894200	100.000	92.86
$	69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	353354	100.000	99.86
	53 1,1,2-Trichloroethane	83	6.847	6.847	(0.893)	221967	100.000	98.61
	11 1,1-Dichloroethene	96	1.919	1.919	(0.458)	199334	100.000	94.38
	33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	486248	100.000	103.59
	27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.843)	306783	100.000	99.06
	17 Methylene Chloride	84	2.305	2.305	(0.550)	277730	100.000	99.13
	38 Trichloroethene	130	5.214	5.214	(1.049)	283882	100.000	99.98
	5 Vinyl Chloride	62	1.145	1.145	(0.273)	383986	100.000	96.72



Data File: \\nahstws005\Target\chem\voa6.i\X200713.b\X071309.D
Date : 13-JUL-2020 13:42
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

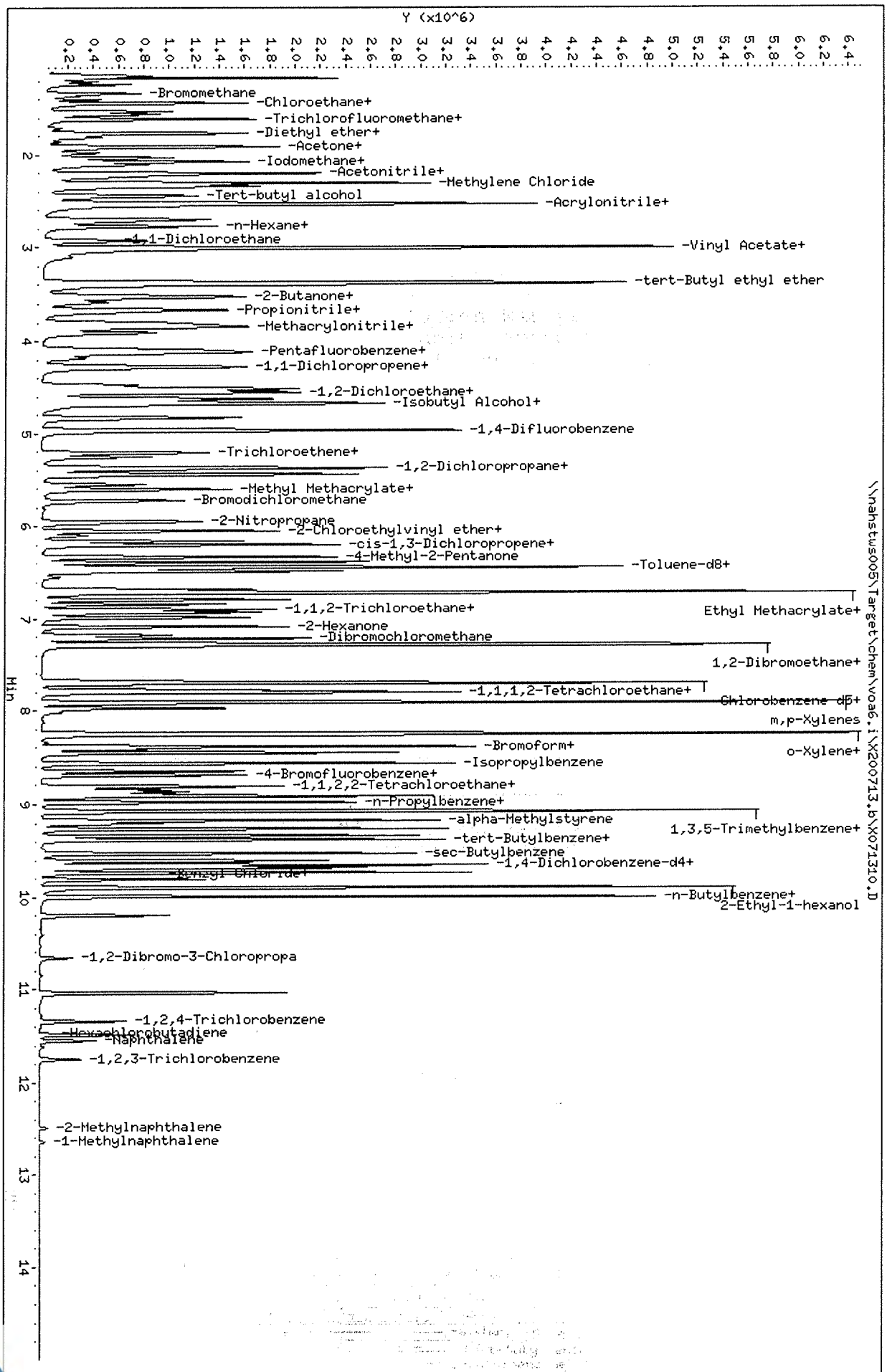
ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X200713.b\X071310.D
Lab Smp Id: VSTD150 Client Smp ID: VSTD150
Inj Date : 13-JUL-2020 14:06
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\X200713.b\8260W.m
Meth Date : 21-Aug-2020 15:22 voa6.i Quant Type: ISTD
Cal Date : 13-JUL-2020 13:42 Cal File: X071309.D
Als bottle: 11 Calibration Sample, Level: 9
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI-Hou11.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	230193	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	377089	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	359232	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	167954	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.979)	392708	150.000	153.26
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	528876	150.000	151.37
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	1315908	150.000	139.84
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	442637	150.000	128.16
53 1,1,2-Trichloroethane	83	6.847	6.847	(0.893)	325485	150.000	147.97
11 1,1-Dichloroethene	96	1.912	1.912	(0.456)	292253	150.000	145.12
33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	681533	150.000	151.88
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.843)	447986	150.000	151.71
17 Methylene Chloride	84	2.305	2.305	(0.550)	426028	150.000	160.31
38 Trichloroethene	130	5.207	5.207	(1.048)	414098	150.000	152.57
5 Vinyl Chloride	62	1.145	1.145	(0.273)	590934	150.000	156.11



Data File: \\nahstws005\Target\chem\voa6.i\X200713.b\X071310.D
Date : 13-JUL-2020 14:06
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\X200713.b\X071311.D
Lab Smp Id: VSTD200 Client Smp ID: VSTD200
Inj Date : 13-JUL-2020 14:30
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\X200713.b\8260W.m
Meth Date : 21-Aug-2020 15:22 voa6.i Quant Type: ISTD
Cal Date : 13-JUL-2020 14:06 Cal File: X071310.D
Als bottle: 12 Calibration Sample, Level: 10
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI-Hou11.sub
Target Version: 4.14
Processing Host: NAHSTW7056

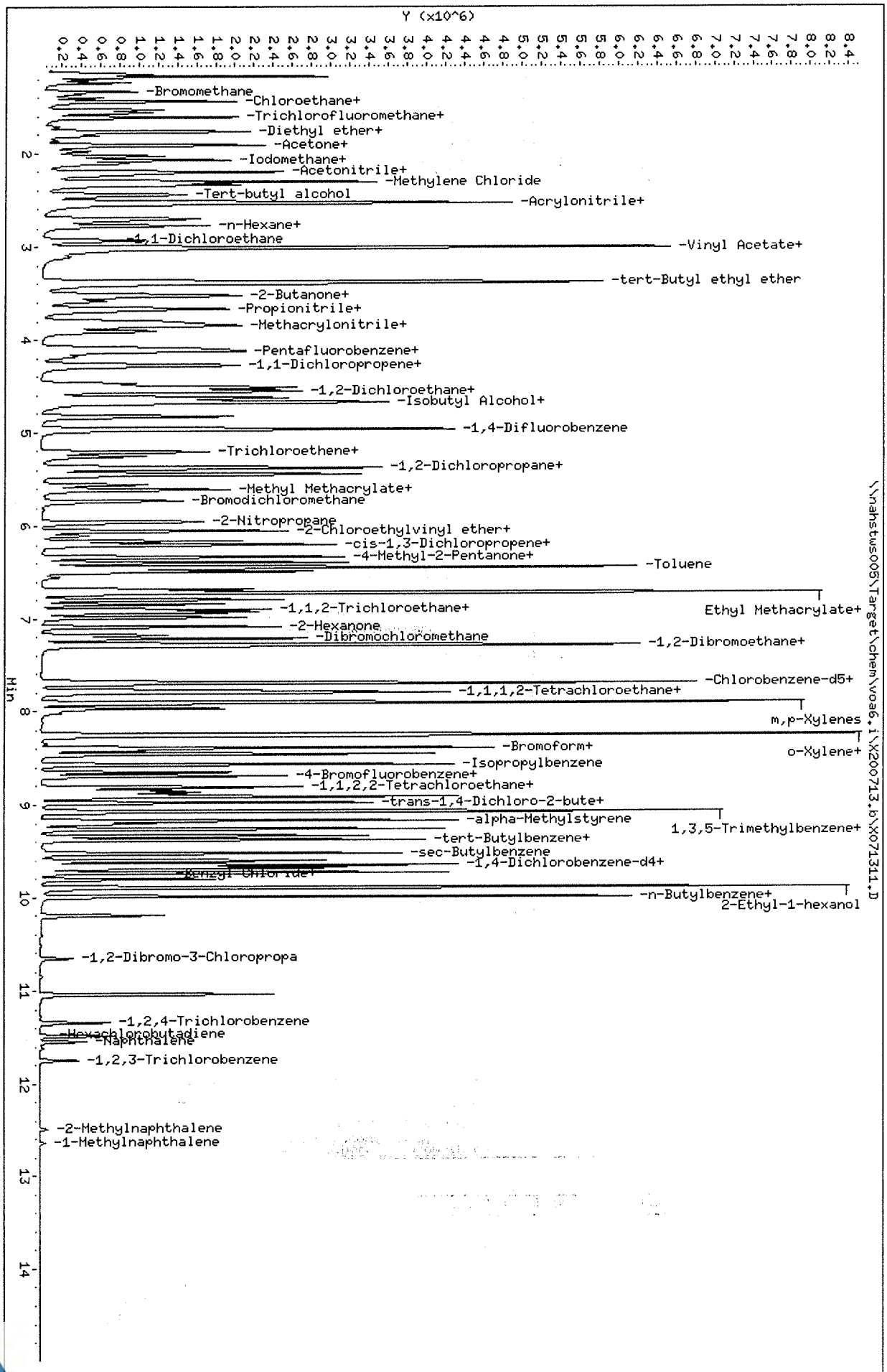
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	226606	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	377615	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	350855	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	165433	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.979)	499552	200.000	198.07
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	688409	200.000	200.04(A)
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	1699318	200.000	184.90
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	662646	200.000	196.73
53 1,1,2-Trichloroethane	83	6.847	6.847	(0.893)	404715	200.000	188.39
11 1,1-Dichloroethene	96	1.912	1.912	(0.456)	363508	200.000	183.36
33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	911285	200.000	202.81(A)
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.843)	573367	200.000	197.24
17 Methylene Chloride	84	2.306	2.306	(0.550)	499769	200.000	191.30
38 Trichloroethene	130	5.207	5.207	(1.048)	541719	200.000	199.32
5 Vinyl Chloride	62	1.138	1.138	(0.272)	766186	200.000	205.61(A)

QC Flag Legend

A - Target compound detected but, quantitated amount exceeded maximum amount.



Data File: \\nahstws005\Target\chem\voa6.i\X200713.b\X071311.D
Date : 13-JUL-2020 14:30
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

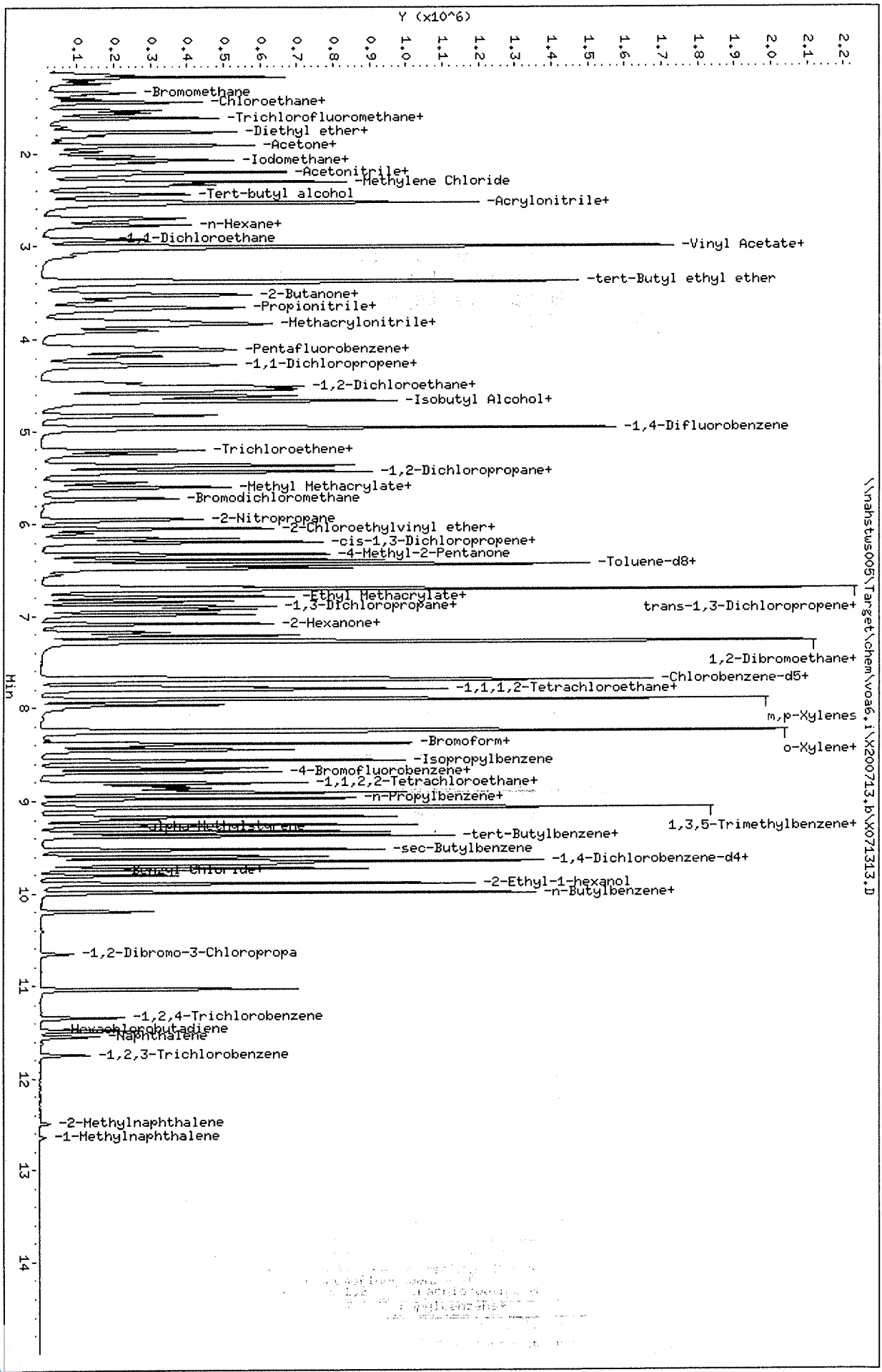
ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X200713.b\X071313.D
Lab Smp Id: ICV Client Smp ID: ICV
Inj Date : 13-JUL-2020 15:42
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\X200713.b\8260W.m
Meth Date : 21-Aug-2020 15:22 voa6.i Quant Type: ISTD
Cal Date : 13-JUL-2020 14:30 Cal File: X071311.D
Als bottle: 15 QC Sample: METHSPIKE
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI-Hou11.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	247155	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	407373	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	373467	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.669	(1.000)	159419	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.979)	141230	51.2819	51.28
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	190337	50.9658	50.96
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	473220	48.3739	48.37
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	178443	49.3711	49.37
53 1,1,2-Trichloroethane	83	6.840	6.847	(0.892)	114924	50.2570	50.25
11 1,1-Dichloroethene	96	1.919	1.912	(0.458)	95261	44.0570	44.05
33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	249342	51.4385	51.43
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.843)	155775	49.1327	49.13
17 Methylene Chloride	84	2.305	2.306	(0.550)	127302	43.6183	43.61
38 Trichloroethene	130	5.214	5.207	(1.049)	141901	48.3975	48.39
5 Vinyl Chloride	62	1.145	1.138	(0.273)	169254	41.6454	41.64



Data File: \\nahstws005\Target\chem\voa6.i\X200713.b\X071313.D
Date : 13-JUL-2020 15:42
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

FORM 2
WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20071328

	CLIENT SAMPLE NO.	SMC1 #	SMC2 (DCE)#	SMC3 (TOL)#	OTHER #	TOT OUT
01	VLCSW-200730	100	116	90	94	0
02	VBLKW-200730	101	108	107	100	0
03	HS20071328-20	99	106	106	101	0
04	HS20071328-01	96	104	103	85	0
05	HS20071328-05	101	108	97	123	0
06	HS20071328-01	126	124	81	88	0
07	HS20071328-01	101	114	102	104	0
08	HS20071328-05	102	97	113	81	0
09	HS20071328-06	99	109	104	100	0
10	HS20071328-07	100	108	104	98	0
11	HS20071328-18	100	108	103	97	0
12	HS20071328-02	101	107	106	99	0
13	HS20071328-03	100	107	106	100	0
14	HS20071328-04	101	108	105	100	0
15	HS20071328-09	102	107	106	100	0
16	HS20071328-10	100	106	105	99	0
17	HS20071328-17	100	104	107	100	0
18						
19						
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24						
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26						
27						
28						

		QC LIMITS
SMC1	= Dibromofluoromethane	(0-130)
SMC2 (DCE)	= 1,2-Dichloroethane-d4	(0-130)
SMC3 (TOL)	= Toluene-d8	(0-130)
OTHER	= 4-Bromofluorobenzene	(0-130)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D System Monitoring Compound diluted out

FORM 4
VOLATILE METHOD BLANK SUMMARY

CLIENT SAMPLE NO.

VBLKW-200730

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20071328

Lab File ID: X073007 Lab Sample ID: VBLKW-200730

Date Analyzed: 07/30/20 Time Analyzed: 1313

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-200730	VLCSW-200730	X073005	1225
02	HS20071328-2	HS20071328-20	X073008	1337
03	HS20071328-0	HS20071328-01	X073009	1401
04	HS20071328-0	HS20071328-05	X073012	1513
05	HS20071328-0	HS20071328-01M	X073016	1649
06	HS20071328-0	HS20071328-01M	X073017	1713
07	HS20071328-0	HS20071328-05	X073018	1737
08	HS20071328-0	HS20071328-06	X073019	1801
09	HS20071328-0	HS20071328-07	X073020	1825
10	HS20071328-1	HS20071328-18	X073021	1849
11	HS20071328-0	HS20071328-02	X073022	1914
12	HS20071328-0	HS20071328-03	X073023	1938
13	HS20071328-0	HS20071328-04	X073024	2002
14	HS20071328-0	HS20071328-09	X073025	2026
15	HS20071328-1	HS20071328-10	X073026	2050
16	HS20071328-1	HS20071328-17	X073028	2138
17				
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COMMENTS:

FORM 5
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20071328

Lab File ID: X073001 BFB Injection Date: 07/30/20

Instrument ID: VOA6 BFB Injection Time: 1049

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	28.1
75	30.0 - 60.0% of mass 95	54.3
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.4
173	Less than 2.0% of mass 174	0.8 (1.0)1
174	Greater than 50.0% of mass 95	76.6
175	5.0 - 9.0% of mass 174	6.0 (7.8)1
176	95.0 - 101.0% of mass 174	76.1 (99.4)1
177	5.0 - 9.0% of mass 176	4.6 (6.1)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	X073002	07/30/20	1113
02	VLCSW-200730	VLCSW-200730	X073005	07/30/20	1225
03	VBLKW-200730	VBLKW-200730	X073007	07/30/20	1313
04	HS20071328-2	HS20071328-20	X073008	07/30/20	1337
05	HS20071328-0	HS20071328-01	X073009	07/30/20	1401
06	HS20071328-0	HS20071328-05	X073012	07/30/20	1513
07	HS20071328-0	HS20071328-01M	X073016	07/30/20	1649
08	HS20071328-0	HS20071328-01M	X073017	07/30/20	1713
09	HS20071328-0	HS20071328-05	X073018	07/30/20	1737
10	HS20071328-0	HS20071328-06	X073019	07/30/20	1801
11	HS20071328-0	HS20071328-07	X073020	07/30/20	1825
12	HS20071328-1	HS20071328-18	X073021	07/30/20	1849
13	HS20071328-0	HS20071328-02	X073022	07/30/20	1914
14	HS20071328-0	HS20071328-03	X073023	07/30/20	1938
15	HS20071328-0	HS20071328-04	X073024	07/30/20	2002
16	HS20071328-0	HS20071328-09	X073025	07/30/20	2026
17	HS20071328-1	HS20071328-10	X073026	07/30/20	2050
18	HS20071328-1	HS20071328-17	X073028	07/30/20	2138
19	CCV-END	CCV-END	X073029	07/30/20	2202
20					
21					
22					

FORM V VOA

FORM 7B
VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20071328

Instrument ID: VOA6 Calibration Date: 07/30/20 Time: 1113

Lab File ID: X073002 Init. Calib. Date(s): 07/13/20 07/13/20

Init. Calib. Times: 1027 1430

GC Column: DB624 ID: 0.18 (mm)

COMPOUND	RRF or AMOUNT	RRF50.000 or AMOUNT	CCAL RRF50.000	MIN RRF	%D or %DRIFT	MAX %D or %DRIFT	CURV TYPE
Vinyl Chloride	0.8220000	0.8166989	0.8166989	0.1	0.64	20.00	AVRG
Methylene Chloride	56.232262	50.000000	0.6594440	0.1	-12.46	20.00	LINR
1,1-Dichloroethene	0.4370000	0.4736245	0.4736245	0.1	-8.38	20.00	AVRG
1,2-Dichloroethane	0.5950000	0.6681019	0.6681019	0.1	-12.29	20.00	AVRG
cis-1,2-Dichloroethene	0.6410000	0.6494157	0.6494157	0.1	-1.31	20.00	AVRG
1,1,2-Trichloroethane	0.3060000	0.3055056	0.3055056	0.1	0.16	20.00	AVRG
Trichloroethene	0.3600000	0.3313959	0.3313959	0.2	7.94	20.00	AVRG
Dibromofluoromethane	47.167544	50.000000	0.5256509	0.1	5.66	20.00	LINR
1,2-Dichloroethane-d4	52.683271	50.000000	0.7962370	0.1	-5.37	20.00	LINR
Toluene-d8	1.3100000	1.1423504	1.1423504	0.1	12.80	20.00	AVRG
4-Bromofluorobenzene	46.508968	50.000000	0.4504001	0.1	6.98	20.00	LINR

FORM VII VOA

FORM 7B
VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20071328

Instrument ID: VOA6 Calibration Date: 07/30/20 Time: 2202

Lab File ID: X073029 Init. Calib. Date(s): 07/13/20 07/13/20

Init. Calib. Times: 1027 1430

GC Column: DB624 ID: 0.18 (mm)

COMPOUND	RRF or AMOUNT	RRF50.000 or AMOUNT	CCAL RRF50.000	MIN RRF	%D or %DRIFT	MAX %D or %DRIFT	CURV TYPE
Vinyl Chloride	0.8220000	0.8965646	0.8965646	0.1	-9.07	50.00	AVRG
Methylene Chloride	63.244202	50.000000	0.7397002	0.1	-26.49	50.00	LINR
1,1-Dichloroethene	0.4370000	0.5331213	0.5331213	0.1	-22.00	50.00	AVRG
1,2-Dichloroethane	0.5950000	0.6475442	0.6475442	0.1	-8.83	50.00	AVRG
cis-1,2-Dichloroethene	0.6410000	0.6968987	0.6968987	0.1	-8.72	50.00	AVRG
1,1,2-Trichloroethane	0.3060000	0.3083130	0.3083130	0.1	-0.76	50.00	AVRG
Trichloroethene	0.3600000	0.3208286	0.3208286	0.2	10.88	50.00	AVRG
Dibromofluoromethane	52.343539	50.000000	0.5832334	0.1	-4.69	50.00	LINR
1,2-Dichloroethane-d4	56.045652	50.000000	0.8473841	0.1	-12.09	50.00	LINR
Toluene-d8	1.3100000	1.1601291	1.1601291	0.1	11.44	50.00	AVRG
4-Bromofluorobenzene	46.679997	50.000000	0.4520375	0.1	6.64	50.00	LINR

FORM VII VOA

FORM 8
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20071328

Lab File ID (Standard): X073002 Date Analyzed: 07/30/20

Instrument ID: VOA6 Time Analyzed: 1113

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	197342	4.19	340481	4.97	314063	7.67
	UPPER LIMIT	394684	4.69	680962	5.47	628126	8.17
	LOWER LIMIT	98671	3.69	170241	4.47	157032	7.17
	CLIENT SAMPLE NO.						
01	VLCSW-200730	188786	4.19	331248	4.97	306126	7.67
02	VBLKW-200730	200198	4.19	330190	4.97	284746	7.67
03	HS20071328-20	208300	4.19	345576	4.97	294853	7.67
04	HS20071328-01	271247	4.19	459054	4.97	400509	7.67
05	HS20071328-05	197566	4.19	330090	4.97	310239	7.67
06	HS20071328-01	197246	4.19	418230	4.97	356871	7.67
07	HS20071328-01	181219	4.19	304778	4.97	273442	7.67
08	HS20071328-05	253656	4.19	321876	4.97	355051	7.67
09	HS20071328-06	197400	4.19	328164	4.97	292002	7.67
10	HS20071328-07	190417	4.19	320492	4.97	283549	7.67
11	HS20071328-18	188441	4.19	316427	4.97	279619	7.67
12	HS20071328-02	186331	4.19	313651	4.97	269863	7.67
13	HS20071328-03	188424	4.19	316424	4.97	276230	7.67
14	HS20071328-04	177223	4.19	305721	4.97	264696	7.67
15	HS20071328-09	174817	4.19	298415	4.97	256846	7.67
16	HS20071328-10	177670	4.19	297342	4.97	258109	7.67
17	HS20071328-17	180737	4.19	307269	4.97	261621	7.67
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.: HS20071328

Lab File ID (Standard): X073002 Date Analyzed: 07/30/20

Instrument ID: VOA6 Time Analyzed: 1113

GC Column: DB624 ID: 0.18 (mm) Heated Purge: (Y/N) N

		IS4 (DCB) AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	140949	9.66				
	UPPER LIMIT	281898	10.16				
	LOWER LIMIT	70475	9.16				
	CLIENT SAMPLE NO.						
01	VLCSW-200730	133066	9.67				
02	VBLKW-200730	118856	9.67				
03	HS20071328-20	125281	9.67				
04	HS20071328-01	173528	9.67				
05	HS20071328-05	154627	9.66				
06	HS20071328-01	125184	9.66				
07	HS20071328-01	134682	9.67				
08	HS20071328-05	107535	9.67				
09	HS20071328-06	124164	9.67				
10	HS20071328-07	115297	9.67				
11	HS20071328-18	112299	9.67				
12	HS20071328-02	108723	9.67				
13	HS20071328-03	117745	9.67				
14	HS20071328-04	110840	9.67				
15	HS20071328-09	107497	9.66				
16	HS20071328-10	107297	9.67				
17	HS20071328-17	108938	9.67				
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.

MSVOA06 -Logbook

Batch: 41268 **Analyst:** Presenta Cabascango

Date: 07-30-2020 **Reviewer:**

Method: 8260 **Laboratory:** Houston

Comments:

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	pH
1	BFB	TUNE	07-30-2020 10:49 am	1.00	50 mL	50 mL	X073001.D	Liquid	Y	NA
	Auto find/ purged									
2	CCV	CCV	07-30-2020 11:13 am	1.00	50 mL	50 mL	X073002.D	Liquid	Y	NA
	10 uL cal std/50 mL DI									
3	BLANK	SAMP	07-30-2020 11:37 am	1.00	50 mL	50 mL	X073003.D	Liquid	Y	NA
4	CCB	SAMP	07-30-2020 12:01 pm	1.00	50 mL	50 mL	X073004.D	Liquid	Y	NA
5	VLCSW-200730	LCS	07-30-2020 12:25 pm	1.00	50 mL	50 mL	X073005.D	Liquid	Y	NA
	4.0 uL cal std/50 mL DI									
6	BLANK	SAMP	07-30-2020 12:49 pm	1.00	50 mL	50 mL	X073006.D	Liquid	Y	NA
7	VBLKW-200730	MBLK	07-30-2020 01:13 pm	1.00	50 mL	50 mL	X073007.D	Liquid	Y	NA
8	HS20071328-20	SAMP	07-30-2020 01:37 pm	1.00	50 mL	50 mL	X073008.D	Liquid	Y	<2
9	HS20071328-01	SAMP	07-30-2020 02:01 pm	1.00	50 mL	50 mL	X073009.D	Liquid	Y	<2
10	HS20071147-10	SAMP	07-30-2020 02:25 pm	1.00	50 mL	50 mL	X073010.D	Liquid	Y	<2
11	HS20071147-11	SAMP	07-30-2020 02:49 pm	1.00	50 mL	50 mL	X073011.D	Liquid	Y	<2
12	HS20071328-05	SAMP	07-30-2020 03:13 pm	1.00	50 mL	50 mL	X073012.D	Liquid	Y	<2
13	HS20071328-06n/r	SAMP	07-30-2020 03:37 pm	5.00	10 mL	50 mL	X073013.D	Liquid	Y	<2
14	HS20071328-07n/r	SAMP	07-30-2020 04:01 pm	5.00	10 mL	50 mL	X073014.D	Liquid	Y	<2
15	HS20071328-08n/r	SAMP	07-30-2020 04:25 pm	20.00	2.5 mL	50 mL	X073015.D	Liquid	Y	<2
16	HS20071328-01MS	MS	07-30-2020 04:49 pm	1.00	50 mL	50 mL	X073016.D	Liquid	Y	<2
	3.5 uL cal std/40 mL samp									
17	HS20071328-01MSD	MSD	07-30-2020 05:13 pm	1.00	50 mL	50 mL	X073017.D	Liquid	Y	<2
	3.5 uL cal std/40 mL samp									
18	HS20071328-05	SAMP	07-30-2020 05:37 pm	5.00	10 mL	50 mL	X073018.D	Liquid	Y	<2
19	HS20071328-06	SAMP	07-30-2020 06:01 pm	25.00	2 mL	50 mL	X073019.D	Liquid	Y	<2
20	HS20071328-07	SAMP	07-30-2020 06:25 pm	25.00	2 mL	50 mL	X073020.D	Liquid	Y	<2
21	HS20071328-18	SAMP	07-30-2020 06:49 pm	1.00	50 mL	50 mL	X073021.D	Liquid	Y	<2
22	HS20071328-02	SAMP	07-30-2020 07:14 pm	1.00	50 mL	50 mL	X073022.D	Liquid	Y	<2
23	HS20071328-03	SAMP	07-30-2020 07:38 pm	1.00	50 mL	50 mL	X073023.D	Liquid	Y	<2
24	HS20071328-04	SAMP	07-30-2020 08:02 pm	1.00	50 mL	50 mL	X073024.D	Liquid	Y	<2
25	HS20071328-09	SAMP	07-30-2020 08:26 pm	1.00	50 mL	50 mL	X073025.D	Liquid	Y	<2
26	HS20071328-10	SAMP	07-30-2020 08:50 pm	1.00	50 mL	50 mL	X073026.D	Liquid	Y	<2
27	HS20071328-11n/r	SAMP	07-30-2020 09:14 pm	25.00	2 mL	50 mL	X073027.D	Liquid	Y	<2
28	HS20071328-17	SAMP	07-30-2020 09:38 pm	1.00	50 mL	50 mL	X073028.D	Liquid	Y	<2
29	CCV-END	CCV	07-30-2020 10:02 pm	1.00	50 mL	50 mL	X073029.D	Liquid	Y	na
	10 uL cal std/50 mL DI									
30	BFB	TUNE	07-30-2020 10:26 pm	1.00	50 mL	50 mL	Y073001.D	Liquid	Y	na
	Auto find/ purged									
31	CCV	CCV	07-30-2020 10:50 pm	1.00	50 mL	50 mL	Y073002.D	Liquid	Y	na
	10 uL cal std/50 mL DI									
32	CCV	CCV	07-30-2020 11:13 pm	1.00	50 mL	50 mL	Y073003a.D	Liquid	Y	na
	10 uL cal std/50 mL DI									
33	CCB	SAMP	07-30-2020 11:37 pm	1.00	50 mL	50 mL	Y073004.D	Liquid	Y	na
34	VLCSW-200730	LCS	07-31-2020 12:01 am	1.00	50 mL	50 mL	Y073005.D	Liquid	Y	na
	4.0 uL cal std/50 mL DI									
35	BLANK	SAMP	07-31-2020 12:25 am	1.00	50 mL	50 mL	Y073006.D	Liquid	Y	na
36	VBLKW-200730	MBLK	07-31-2020 12:50 am	1.00	50 mL	50 mL	Y073007.D	Liquid	Y	na

MSVOA06 -Logbook

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	pH
37	HS20071359-01	SAMP	07-31-2020 01:14 am	1.00	50 mL	50 mL	Y073008.D	Liquid	Y	<2
38	HS20071329-06	SAMP	07-31-2020 01:38 am	5.00	10 mL	50 mL	Y073009.D	Liquid	Y	<2
39	HS20071329-06	SAMP	07-31-2020 02:02 am	50.00	1 mL	50 mL	Y073010.D	Liquid	Y	<2
40	HS20071329-11	SAMP	07-31-2020 02:26 am	5.00	10 mL	50 mL	Y073011.D	Liquid	Y	<2
41	HS20071329-11	SAMP	07-31-2020 02:50 am	50.00	1 mL	50 mL	Y073012.D	Liquid	Y	<2
42	HS20071329-08	SAMP	07-31-2020 03:14 am	100.0(	500 µL	50 mL	Y073013.D	Liquid	Y	<2
43	HS20071330-01	SAMP	07-31-2020 03:38 am	100.0(	500 µL	50 mL	Y073014.D	Liquid	Y	<2
44	HS20071359-01MS	MS	07-31-2020 04:02 am	1.00	50 mL	50 mL	Y073015.D	Liquid	Y	<2
	3.5 uL cal std/40 mL samp									
45	HS20071359-01MSD	MSD	07-31-2020 04:26 am	1.00	50 mL	50 mL	Y073016.D	Liquid	Y	<2
	3.5 uL cal std/40 mL samp									
46	HS20071330-01	SAMP	07-31-2020 04:50 am	1000.0	50 µL	50 mL	Y073017.D	Liquid	Y	<2
47	HS20071329-13	SAMP	07-31-2020 05:14 am	1.00	50 mL	50 mL	Y073018.D	Liquid	Y	<2
48	HS20071329-14	SAMP	07-31-2020 05:38 am	1.00	50 mL	50 mL	Y073019.D	Liquid	Y	<2

Chemical	Value
SURR SPK ID	31106-38-06
IS ID	31106-38-06
CAL STD ID	31106-40-01/02
BFB ID	31106-38-06
pH Paper	634-64-11

Data File: \\nahstws005\Target\chem\voa6.i\X200730.b\X073001.D Page 1

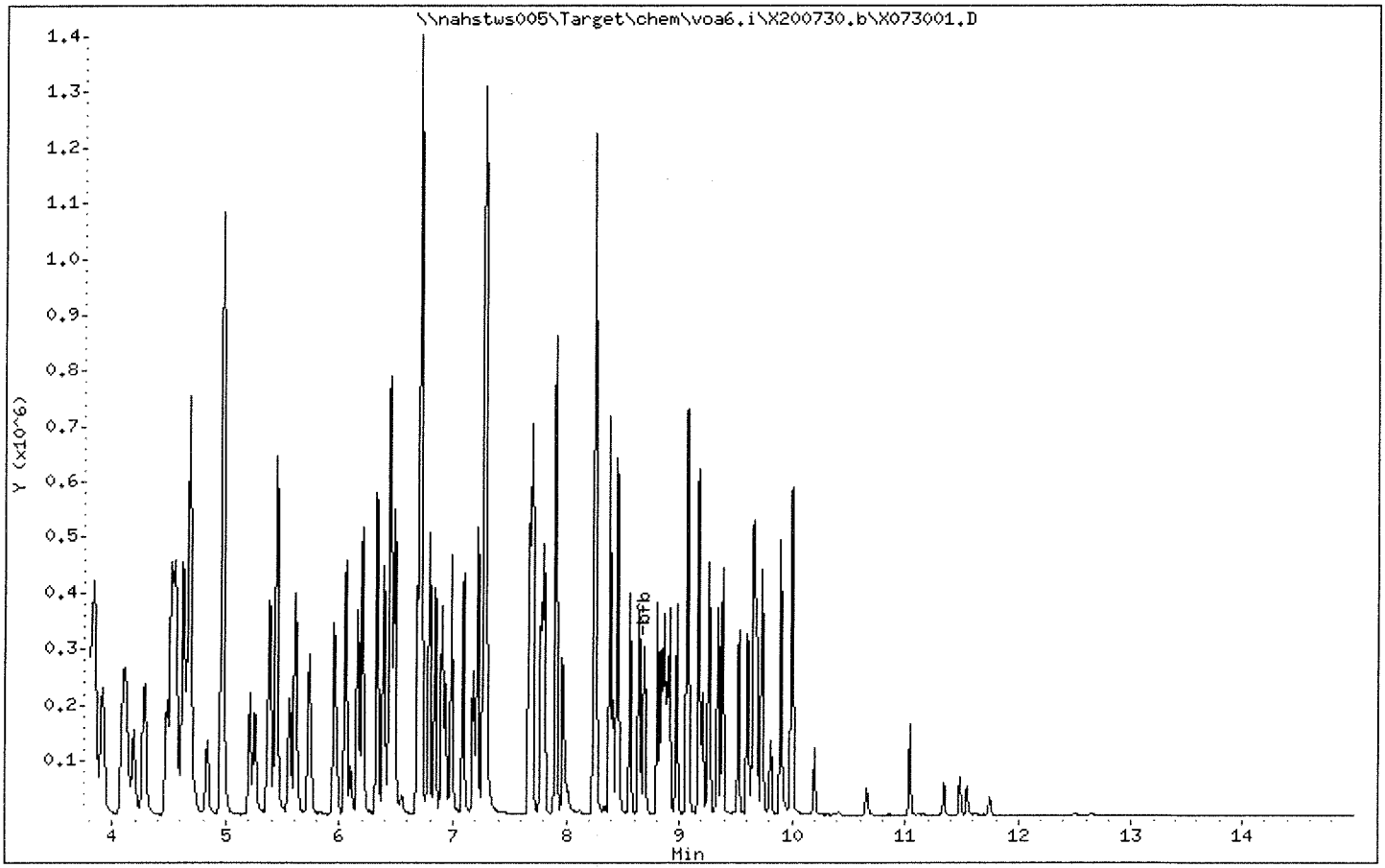
Date : 30-JUL-2020 10:49

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\X200730.b\X073001.D

Date : 30-JUL-2020 10:49

Client ID: BFB

Instrument: voa6.i

Sample Info: BFB;BFB;3;;BFB

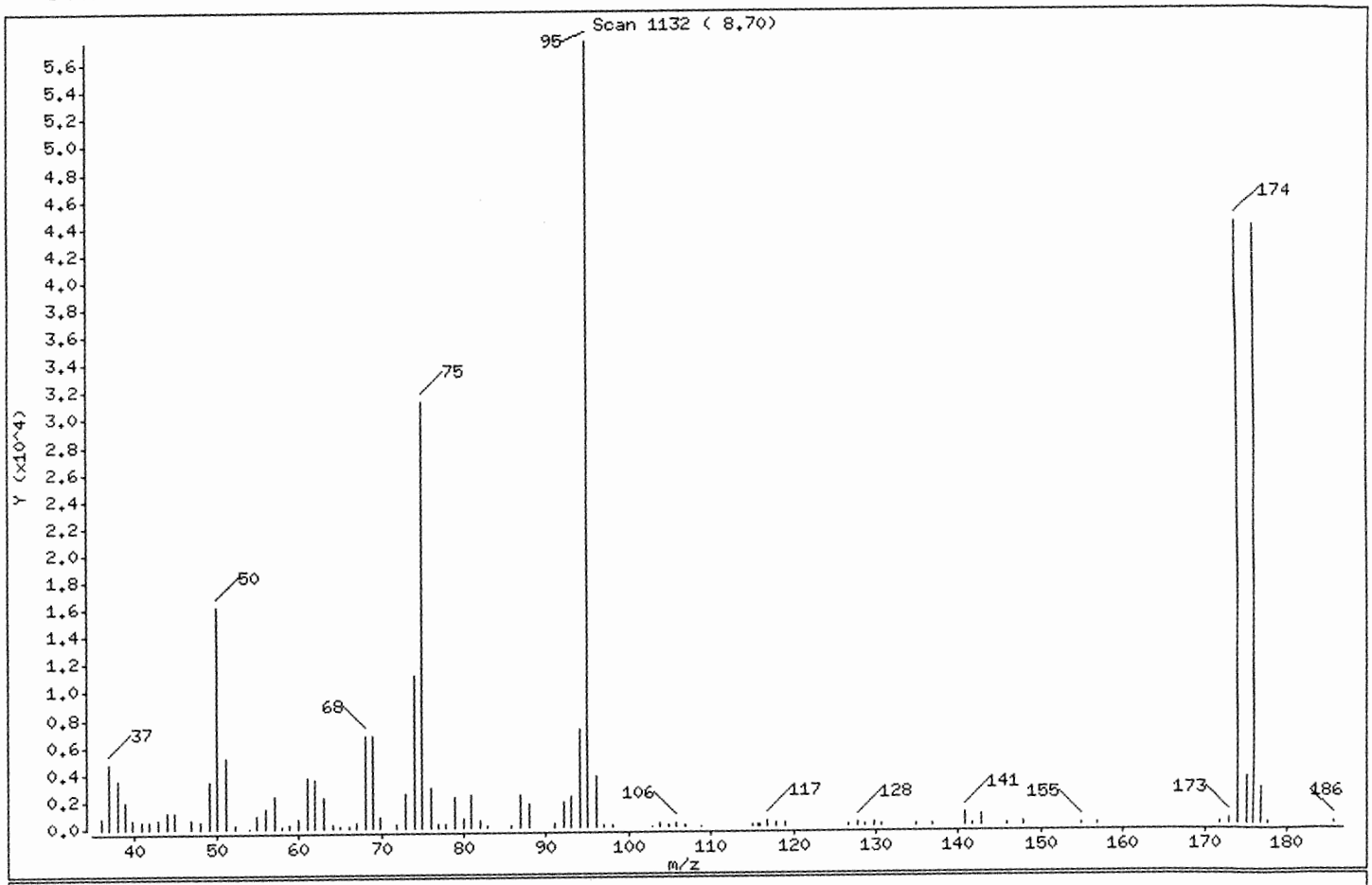
Volume Injected (uL): 2.0

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	28.08
75	30.00 - 60.00% of mass 95	54.32
96	5.00 - 9.00% of mass 95	6.40
173	Less than 2.00% of mass 174	0.80 (1.04)
174	Greater than 50.00% of mass 95	76.57
175	5.00 - 9.00% of mass 174	5.96 (7.79)
176	95.00 - 101.00% of mass 174	76.10 (99.38)
177	5.00 - 9.00% of mass 176	4.63 (6.08)

Data File: \\nahstws005\Target\chem\voa6.i\X200730.b\X073001.D

Date : 30-JUL-2020 10:49

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: X073001.D
Spectrum: Scan 1132 (8.70)
Location of Maximum: 95.00
Number of points: 90

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	857	61.00	3710	86.90	2387	127.90	304
37.00	4708	62.00	3596	88.00	1754	128.70	96
38.00	3592	63.00	2303	90.90	289	129.80	260
39.00	2014	64.00	311	92.00	1827	130.70	126
39.90	670	64.90	101	93.00	2278	134.80	115
41.00	519	66.00	81	94.00	7176	136.80	122
41.90	518	67.00	372	95.00	57600	140.90	876
42.90	624	68.00	6737	96.00	3688	141.80	107
44.00	1135	69.00	6714	96.90	75	142.90	790
45.00	1202	69.90	756	98.00	148	145.90	100
47.00	709	71.90	320	102.80	52	147.80	212
47.90	486	73.00	2523	103.80	287	154.90	183
49.00	3476	74.00	11156	104.90	166	157.00	133
50.00	16175	75.00	31288	105.80	293	171.60	76
51.00	5181	76.00	2953	106.90	131	172.90	458
52.20	217	76.90	287	108.80	52	173.90	44104
53.90	50	77.80	300	115.00	131	174.90	3435
54.90	861	78.80	2265	115.70	194	175.90	43832
56.00	1505	79.90	647	115.90	196	176.90	2667
57.00	2413	80.90	2446	116.90	397	177.90	102
57.90	157	81.90	543	117.90	224	185.90	97
58.80	302	82.90	148	118.90	301		
59.90	660	85.80	80	126.80	68		

Data File: \\nahstws005\Target\chem\voa6.i\X200730.b\X073002.D Page 1
Report Date: 21-Aug-2020 17:19

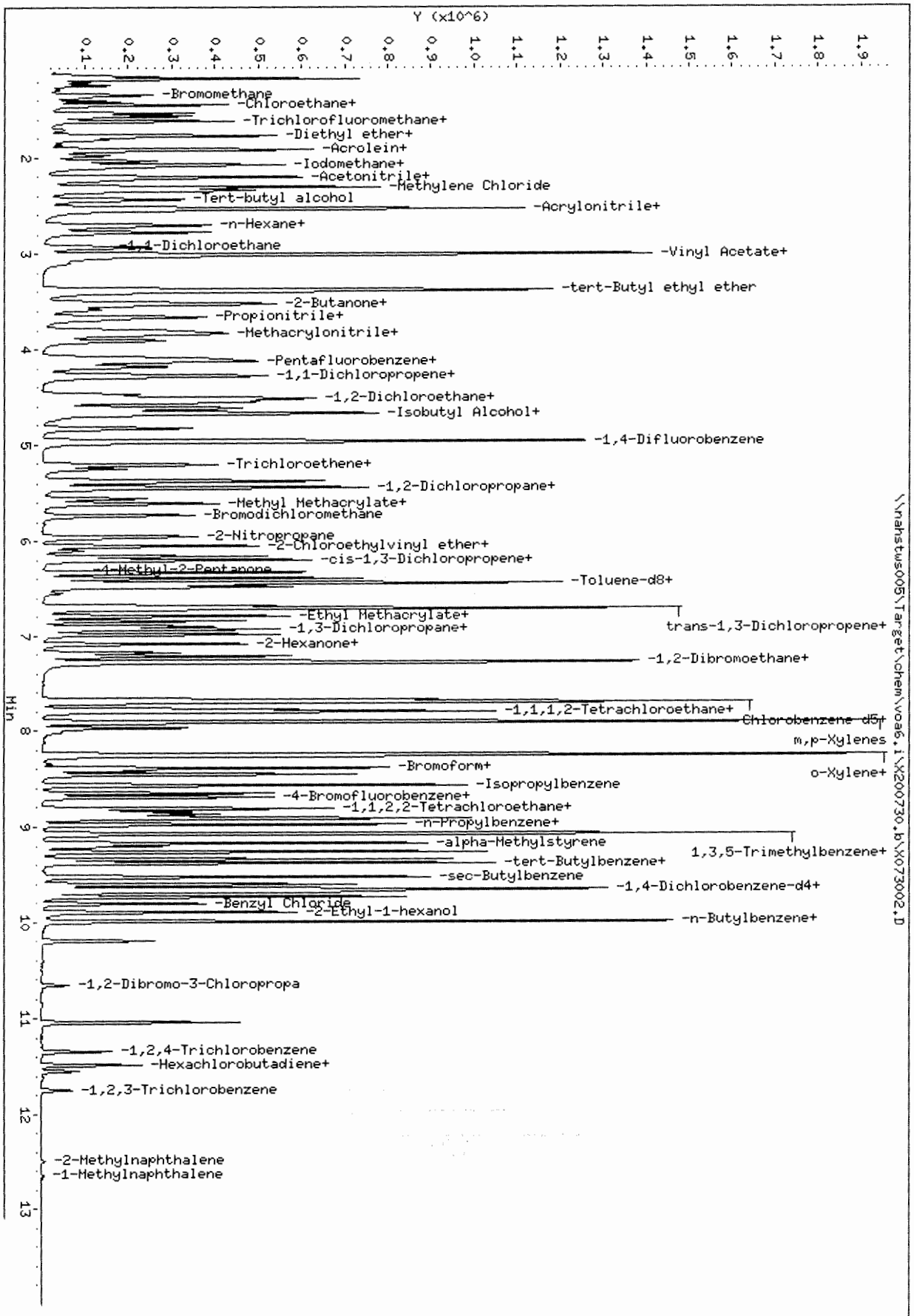
ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X200730.b\X073002.D
Lab Smp Id: CCV Client Smp ID: CCV
Inj Date : 30-JUL-2020 11:13
Operator : PC Inst ID: voa6.i
Smp Info : CCV;CCV;2;;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200730.b\8260W.m
Meth Date : 21-Aug-2020 17:19 voa6.i Quant Type: ISTD
Cal Date : 13-JUL-2020 13:18 Cal File: X071308.D
Als bottle: 2 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI-Hou11.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	197342	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	340481	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	314063	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	140949	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.979)	103733	50.0000	47.16
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	157131	50.0000	52.68
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	358770	50.0000	43.61
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	141454	50.0000	46.50
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	95948	50.0000	49.89
11 1,1-Dichloroethene	96	1.919	1.919	(0.458)	93466	50.0000	54.13
33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	227476	50.0000	56.14
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.843)	128157	50.0000	50.62
17 Methylene Chloride	84	2.306	2.306	(0.550)	130136	50.0000	56.23
38 Trichloroethene	130	5.214	5.214	(1.049)	112834	50.0000	46.04
5 Vinyl Chloride	62	1.145	1.145	(0.273)	161169	50.0000	49.66



Data File: \\nahstws005\Target\chem\voa6,i\X200730,b\X073002,D
Date : 30-JUL-2020 11:13
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\X200730.b\X073005.D Page 1
Report Date: 21-Aug-2020 17:19

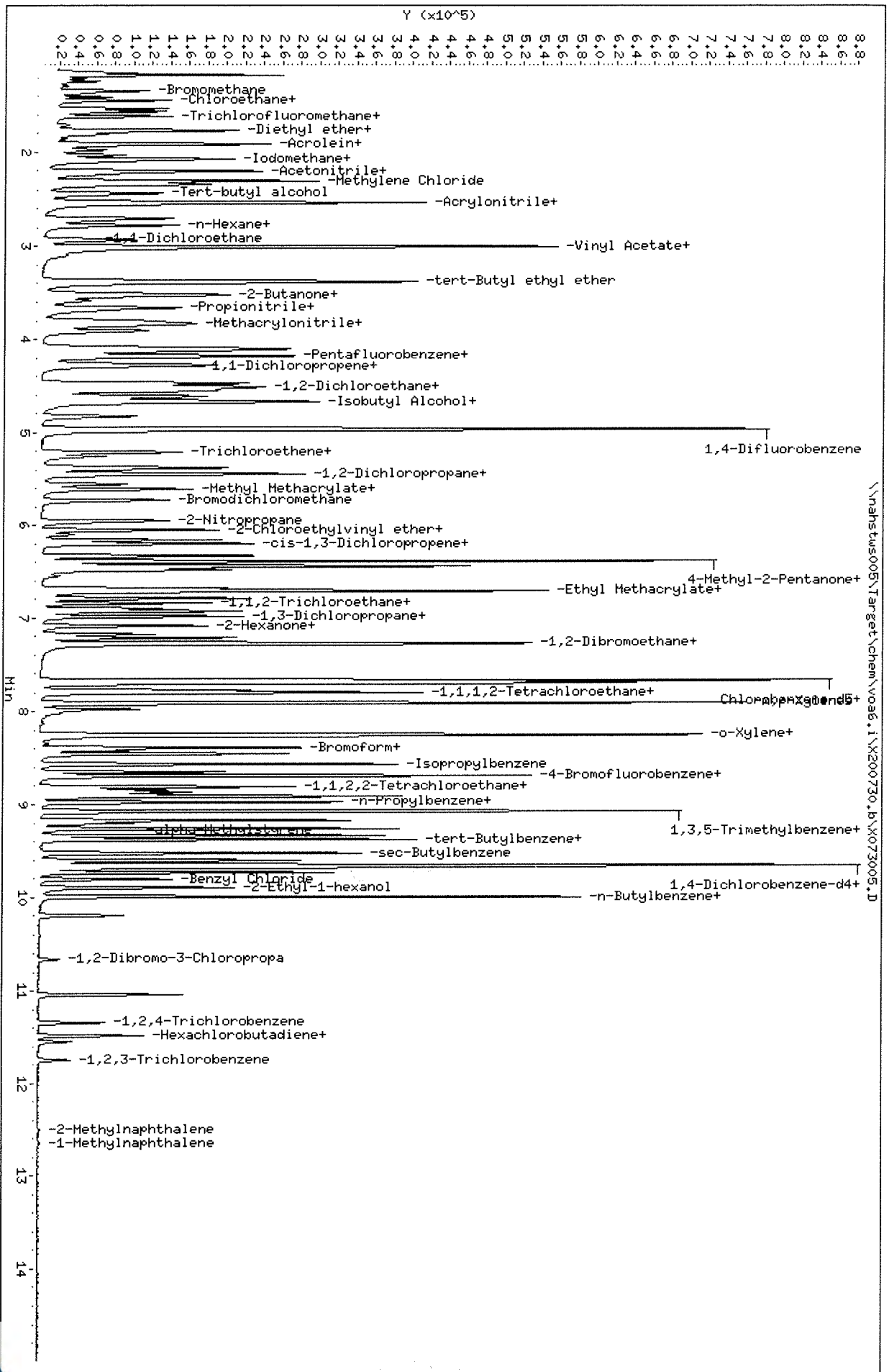
ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X200730.b\X073005.D
Lab Smp Id: VLCSW-200730 Client Smp ID: VLCSW-200730
Inj Date : 30-JUL-2020 12:25
Operator : PC Inst ID: voa6.i
Smp Info : VLCSW-200730;VLCSW-200730;3;;LCS
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200730.b\8260W.m
Meth Date : 21-Aug-2020 17:19 voa6.i Quant Type: ISTD
Cal Date : 13-JUL-2020 13:18 Cal File: X071308.D
Als bottle: 5 QC Sample: LCS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI-Hou11.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
*	1 Pentafluorobenzene	168	4.189	4.189	(1.000)	188786	50.0000	
*	36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	331248	50.0000	
*	47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	306126	50.0000	
*	70 1,4-Dichlorobenzene-d4	152	9.669	9.662	(1.000)	133066	50.0000	
$	30 Dibromofluoromethane	113	4.103	4.103	(0.979)	105514	50.1570	50.15
$	35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	165041	57.8100	57.81
$	48 Toluene-d8	98	6.388	6.388	(0.833)	360250	44.9266	44.92
$	69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	138624	46.7631	46.76
	53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	38501	20.5404	20.54
	11 1,1-Dichloroethene	96	1.919	1.919	(0.458)	35417	21.4442	21.44
	33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	89932	22.8163	22.81
	27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.843)	50276	20.7603	20.76
	17 Methylene Chloride	84	2.305	2.306	(0.550)	60676	26.6976	26.69
	38 Trichloroethene	130	5.214	5.214	(1.049)	43314	18.1679	18.16
	5 Vinyl Chloride	62	1.145	1.145	(0.273)	59905	19.2971	19.29



Data File: \\nahstws005\Target\chem\voa6,i\X200730,b\X073005,D
Date : 30-JUL-2020 12:25
Client ID: VLCSW-200730
Sample Info: VLCSW-200730;VLCSW-200730;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\X200730.b\X073007.D
Lab Smp Id: VBLKW-200730 Client Smp ID: VBLKW-200730
Inj Date : 30-JUL-2020 13:13
Operator : PC Inst ID: voa6.i
Smp Info : VBLKW-200730;VBLKW-200730;3;;BLANK
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200730.b\8260W.m
Meth Date : 21-Aug-2020 17:19 voa6.i Quant Type: ISTD
Cal Date : 13-JUL-2020 13:18 Cal File: X071308.D
Als bottle: 7 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI-Hou11.sub
Target Version: 4.14
Processing Host: NAHSTW7056

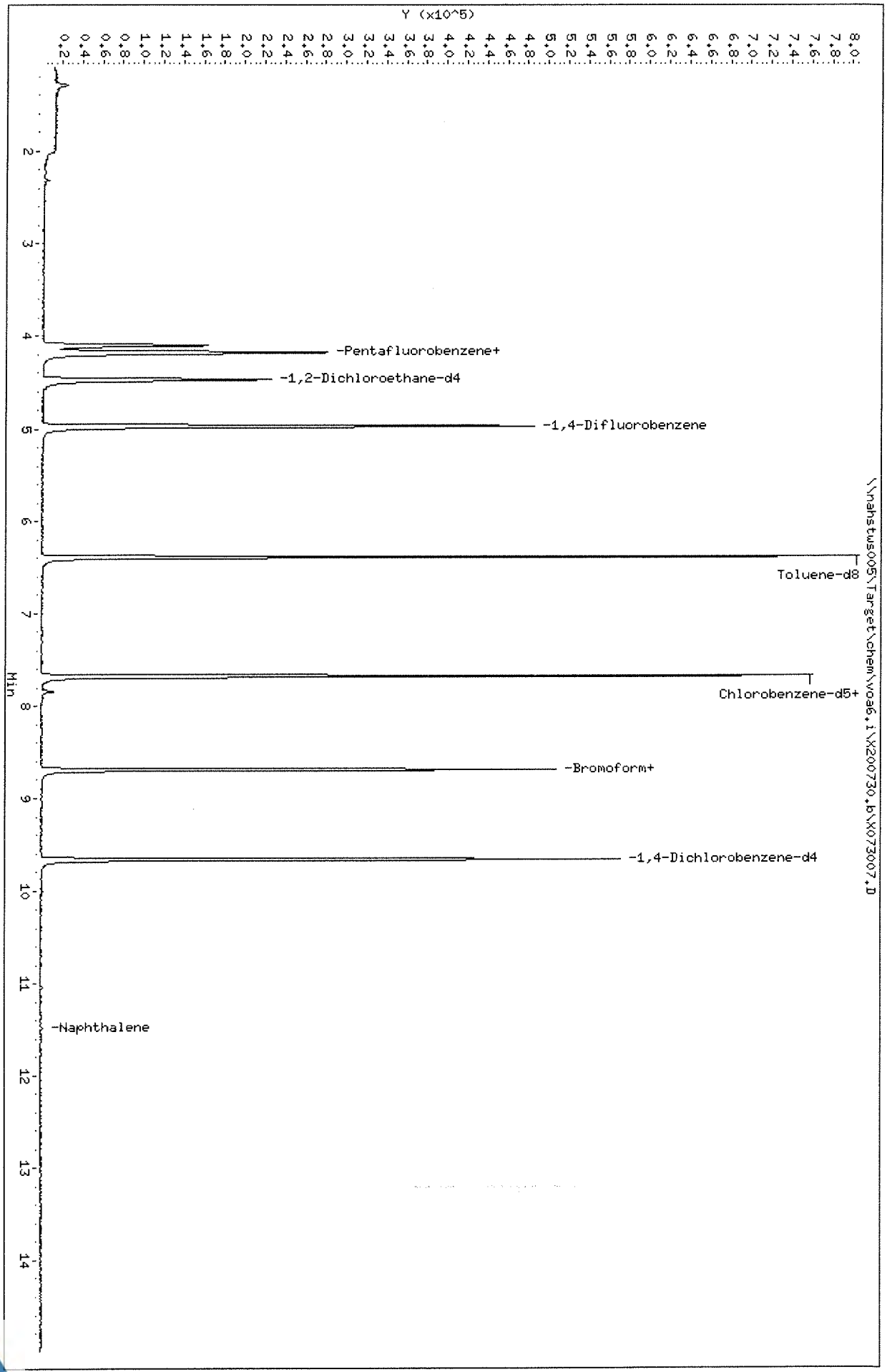
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	200198	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	330190	50.0000	
* 47 Chlorobenzene-d5	117	7.670	7.671	(1.000)	284746	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.662	(1.000)	118856	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.979)	112257	50.3207	50.32
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	162761	53.7853	53.78
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	398696	53.4545	53.45
$ 69 4-Bromofluorobenzene	95	8.688	8.695	(1.133)	137999	50.0853	50.08

Data File: \\nahstws005\Target\chem\voa6.i\X200730.b\X073007.D
Date : 30-JUL-2020 13:13
Client ID: VBLKW-200730
Sample Info: VBLKW-200730;VBLKW-200730;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\X200730.b\X073008.D Page 1
Report Date: 26-Aug-2020 09:16

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X200730.b\X073008.D
Lab Smp Id: HS20071328-20 Client Smp ID: HS20071328-20
Inj Date : 30-JUL-2020 13:37
Operator : PC Inst ID: voa6.i
Smp Info : HS20071328-20;HS20071328-20;;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200730.b\8260W.m
Meth Date : 26-Aug-2020 09:13 dev.giga Quant Type: ISTD
Cal Date : 13-JUL-2020 13:18 Cal File: X071308.D
Als bottle: 8
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI-Hou11.sub
Target Version: 4.14
Processing Host: NAHSTW7056

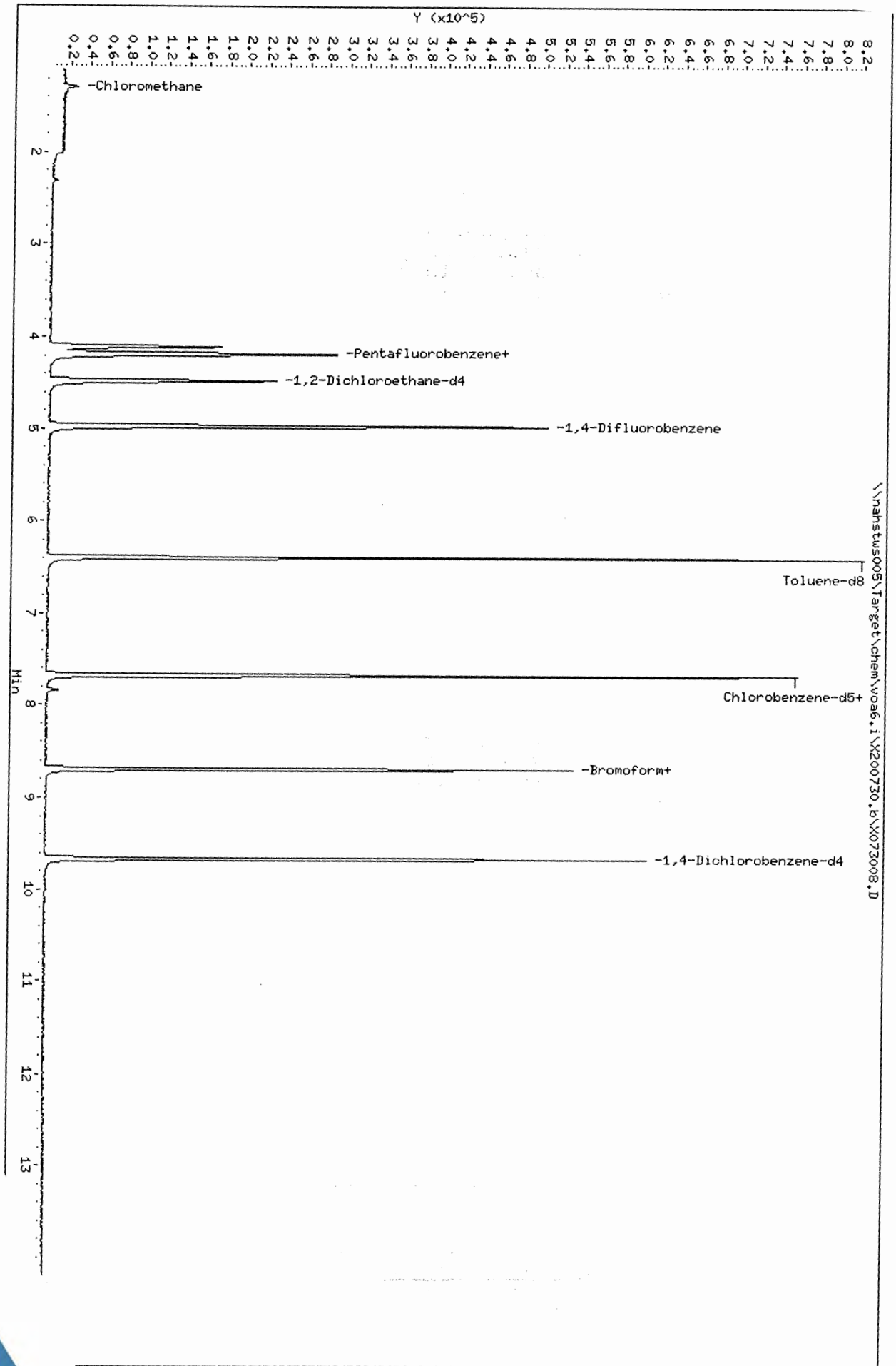
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	208300	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	345576	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	294853	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.662	(1.000)	125281	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.979)	115209	49.6342	49.63
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	166253	52.8085	52.80
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	409027	52.9598	52.95
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	144050	50.4936	50.49

Data File: \\nahstws005\Target\chem\voa6.i\X200730.b\X073008.D
Date : 30-JUL-2020 13:37
Client ID: HS20071328-20
Sample Info: HS20071328-20;HS20071328-20;;;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18



Data File: \\nahstws005\Target\chem\voa6.i\X200730.b\X073009.D
Report Date: 26-Aug-2020 09:16

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X200730.b\X073009.D
Lab Smp Id: HS20071328-01 Client Smp ID: HS20071328-01
Inj Date : 30-JUL-2020 14:01
Operator : PC Inst ID: voa6.i
Smp Info : HS20071328-01;HS20071328-01;;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200730.b\8260W.m
Meth Date : 26-Aug-2020 09:13 dev.giga Quant Type: ISTD
Cal Date : 13-JUL-2020 13:18 Cal File: X071308.D
Als bottle: 9
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI-Hou11.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	271247	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	459054	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	400509	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.662	(1.000)	173528	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.979)	145384	48.0964	48.09
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	214263	52.2679	52.26
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	540387	51.5101	51.51
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	165265	42.5646	42.56(M)

QC Flag Legend

M - Compound response manually integrated.

Data File: \\nahstws005\Target\chem\voa6.i\X200730.b\X073008.D

Date : 30-JUL-2020 13:37

Client ID: HS20071328-20

Instrument: voa6.i

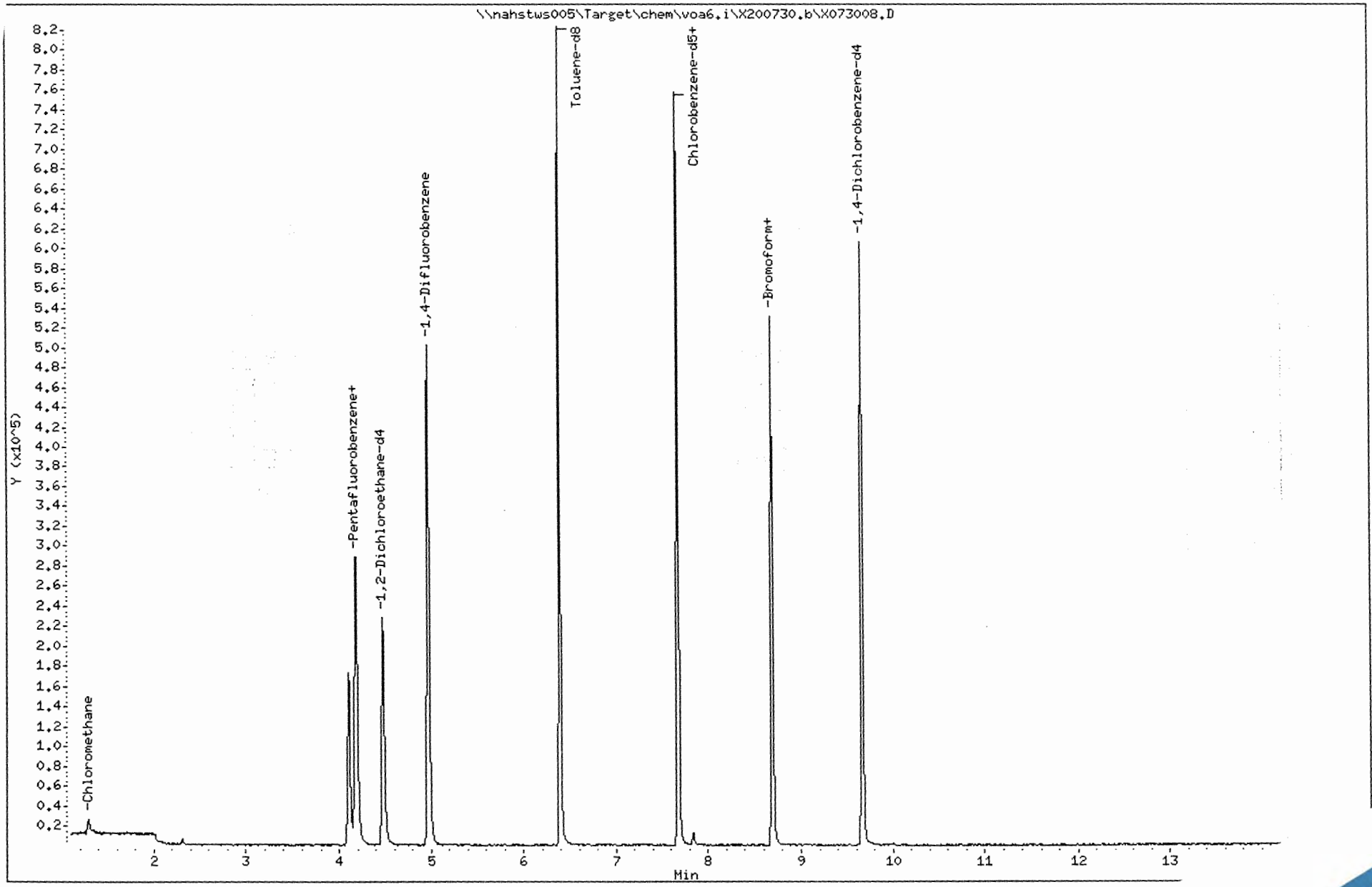
Sample Info: HS20071328-20;HS20071328-20;;;

Purge Volume: 5.0

Operator: PC

Column phase: DB624

Column diameter: 0.18



Data File: \\nahstws005\Target\chem\voa6.i\...
Report Date: 26-Aug-2020 09:16

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X200730.b\X073012.D
Lab Smp Id: HS20071328-05 Client Smp ID: HS20071328-05
Inj Date : 30-JUL-2020 15:13
Operator : PC Inst ID: voa6.i
Smp Info : HS20071328-05;HS20071328-05;;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200730.b\8260W.m
Meth Date : 26-Aug-2020 09:13 dev.giga Quant Type: ISTD
Cal Date : 13-JUL-2020 13:18 Cal File: X071308.D
Als bottle: 12
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI-Hou11.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	197566	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	330090	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	310239	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	154627	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.979)	110977	50.4098	50.40
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	162011	54.2477	54.24
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	395395	48.6558	48.65
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	184060	61.4334	61.43
11 1,1-Dichloroethene	96	1.919	1.919	(0.458)	1323	0.76545	0.76(a)
33 1,2-Dichloroethane	62	4.569	4.562	(0.919)	3022	0.76939	0.76(a)
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.843)	594265	234.482	234.48(A)
38 Trichloroethene	130	5.214	5.214	(1.049)	84687	35.6463	35.64
5 Vinyl Chloride	62	1.145	1.145	(0.273)	1333	0.41031	0.41

QC Flag Legend

- Target compound detected but, quantitated amount Below Limit Of Quantitation(BLOQ).
- Target compound detected but, quantitated amount exceeded maximum amount.

Data File: \\nahstws005\Target\chem\voa6.i\X200730.b\X073012.D

Date : 30-JUL-2020 15:13

Client ID: HS20071328-05

Instrument: voa6.i

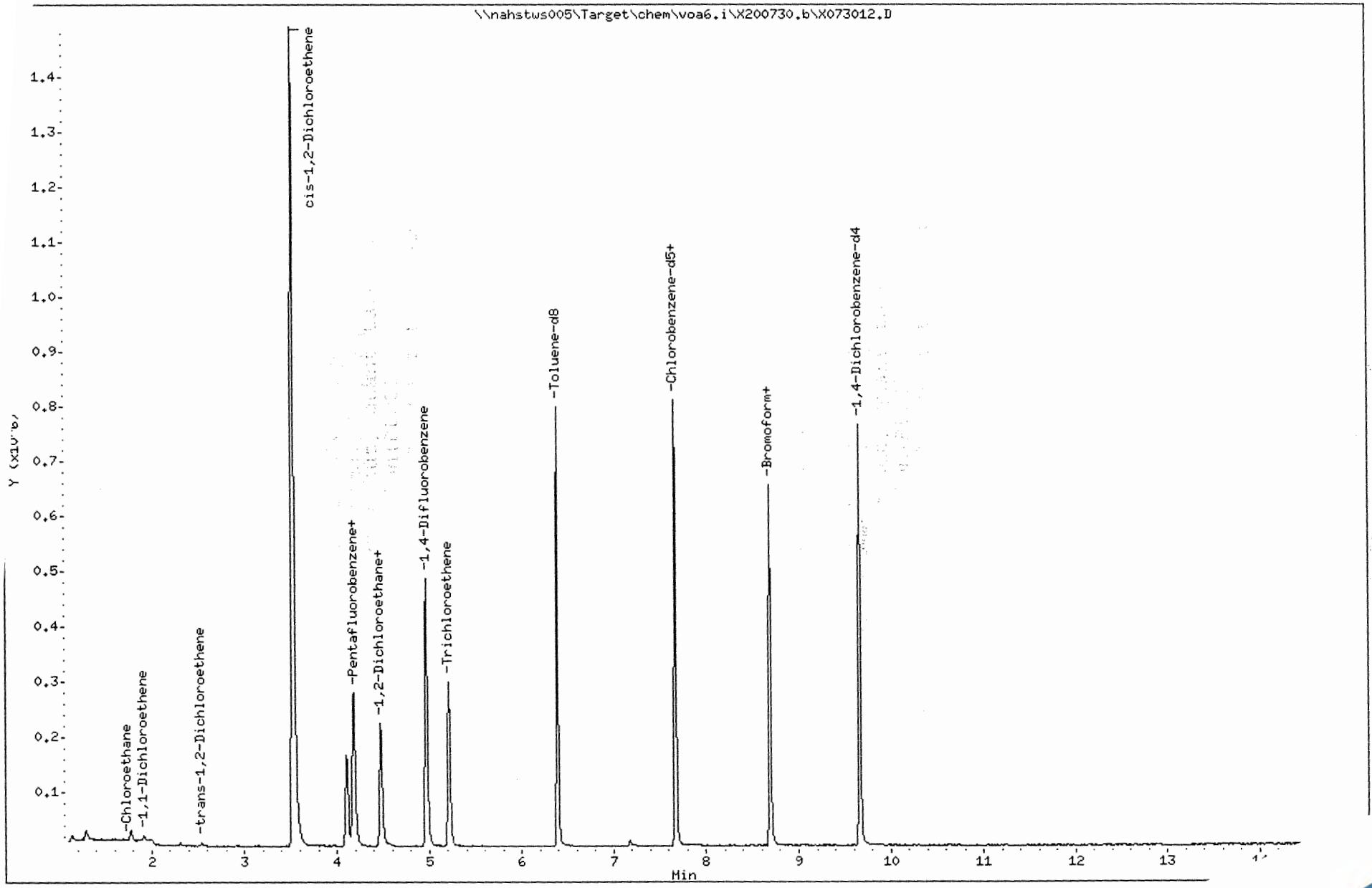
Sample Info: HS20071328-05;HS20071328-05;;;

Purge Volume: 5.0

Operator: PC

Column phase: DB624

Column diameter: 0.18



Data File: \\nahstws005\Target\chem\voa6.i\X200730.b\X073012.D

Date : 30-JUL-2020 15:13

Client ID: HS20071328-05

Instrument: voa6.i

Sample Info: HS20071328-05;HS20071328-05;;;

Purge Volume: 5.0

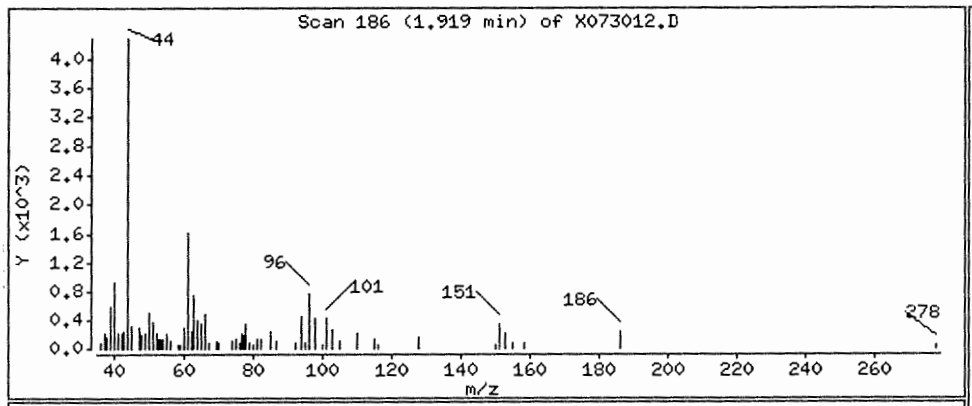
Operator: PC

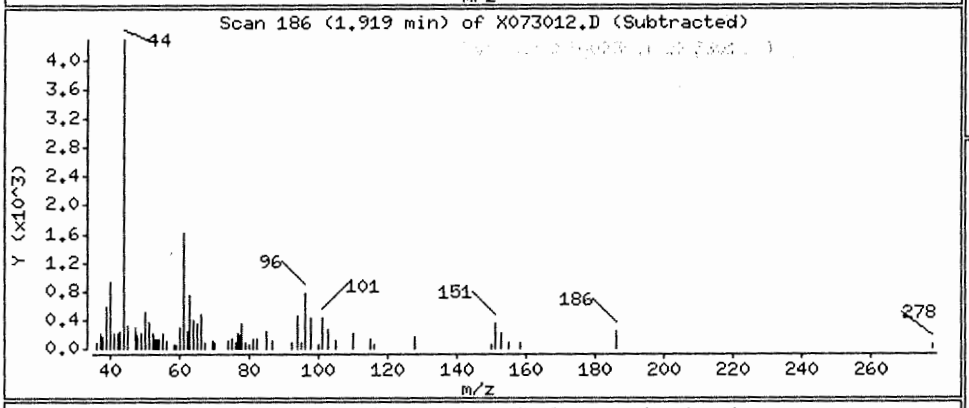
Column phase: DB624

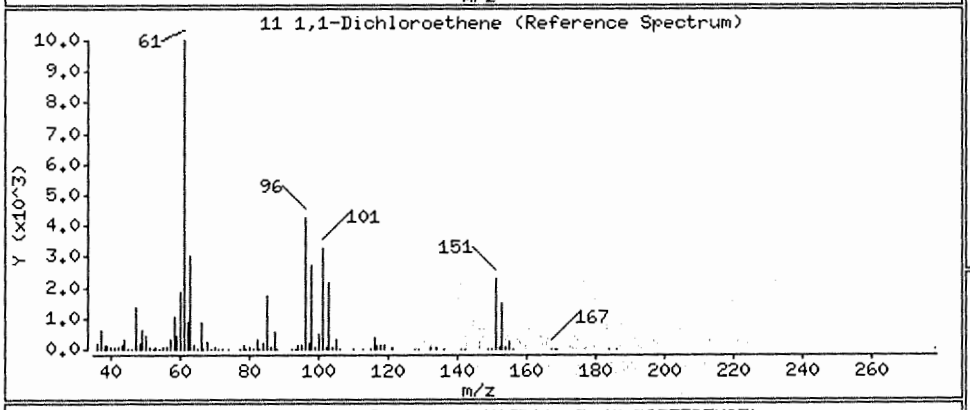
Column diameter: 0.18

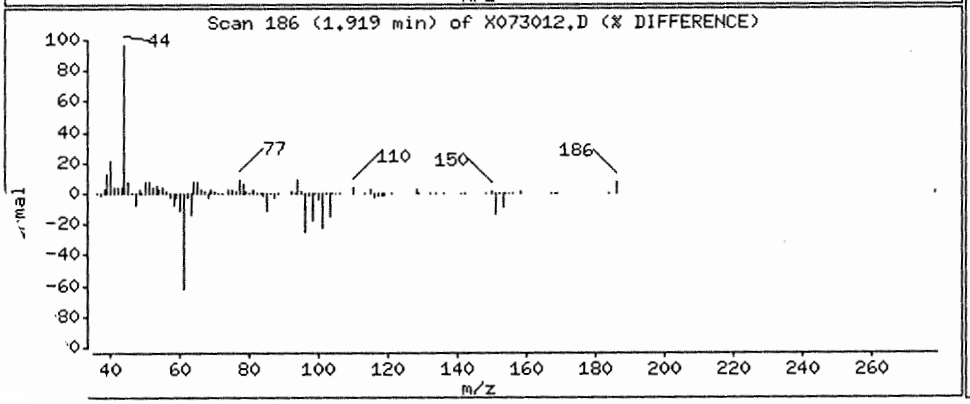
11 1,1-Dichloroethene

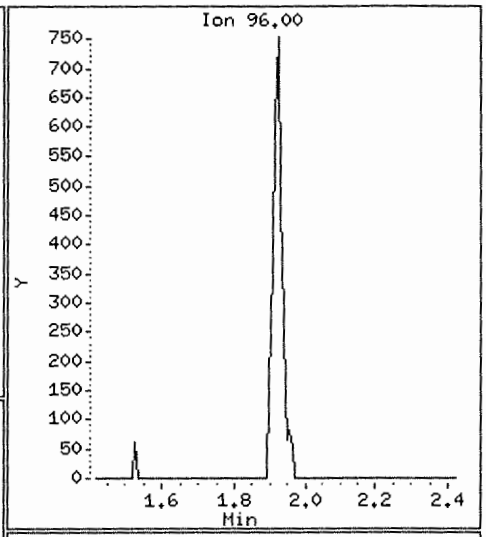
Concentration: 0.76 ug/l

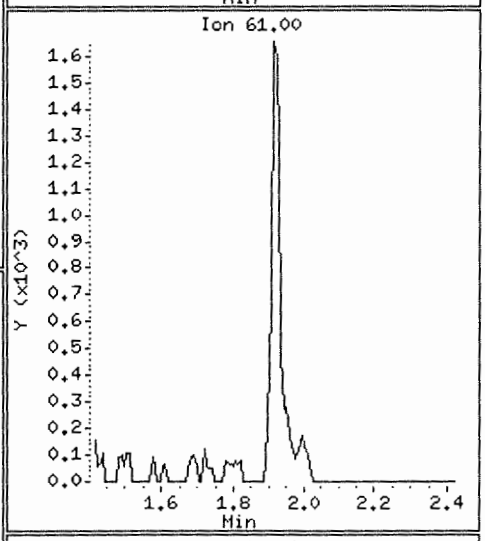


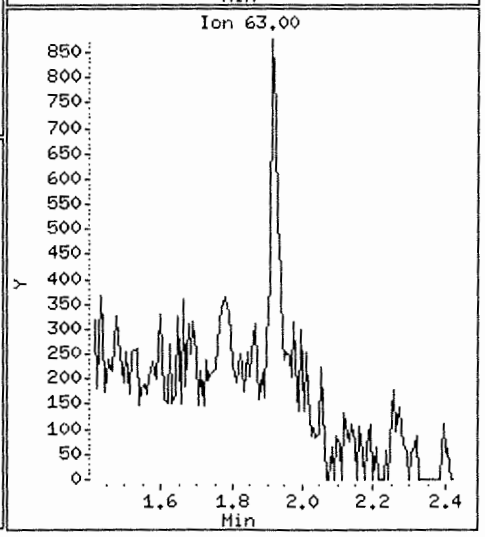












Data File: \\nahstws005\Target\chem\voa6.i\X200730.b\X073012.D

Date : 30-JUL-2020 15:13

Client ID: HS20071328-05

Instrument: voa6.i

Sample Info: HS20071328-05;HS20071328-05;;;

Purge Volume: 5.0

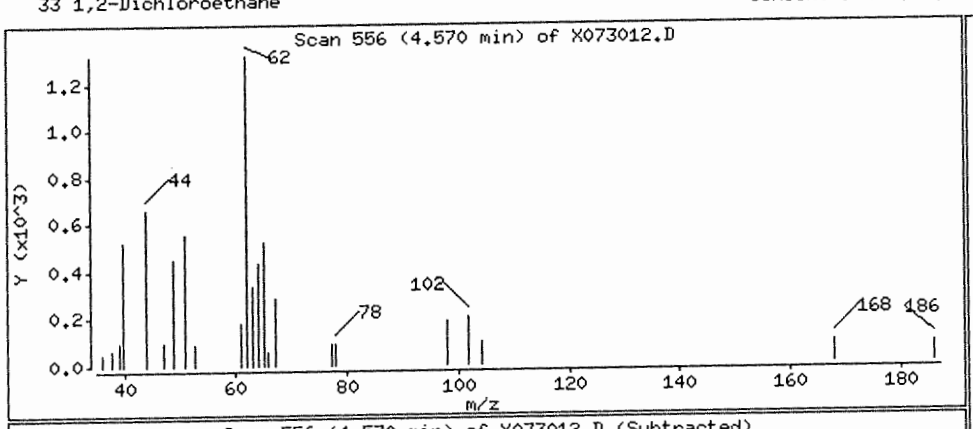
Operator: PC

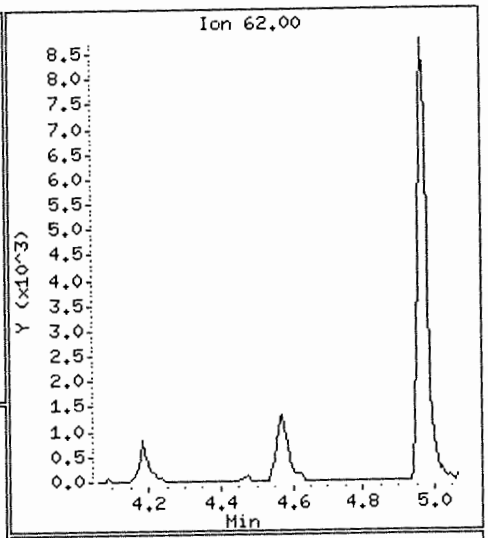
Column phase: DB624

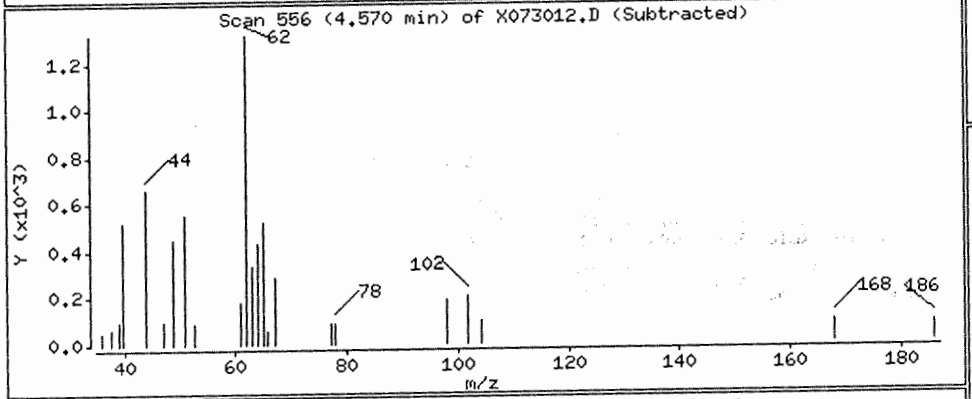
Column diameter: 0.18

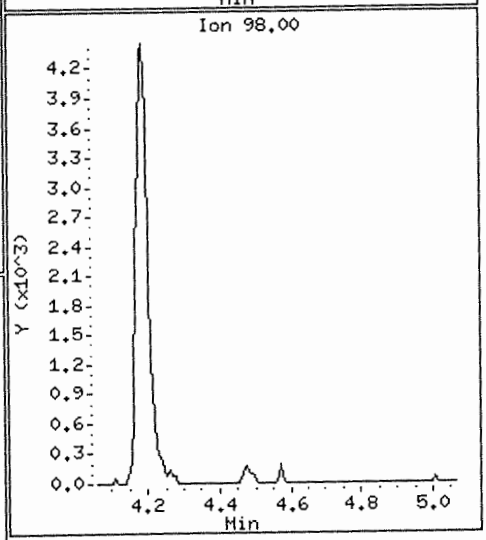
33 1,2-Dichloroethane

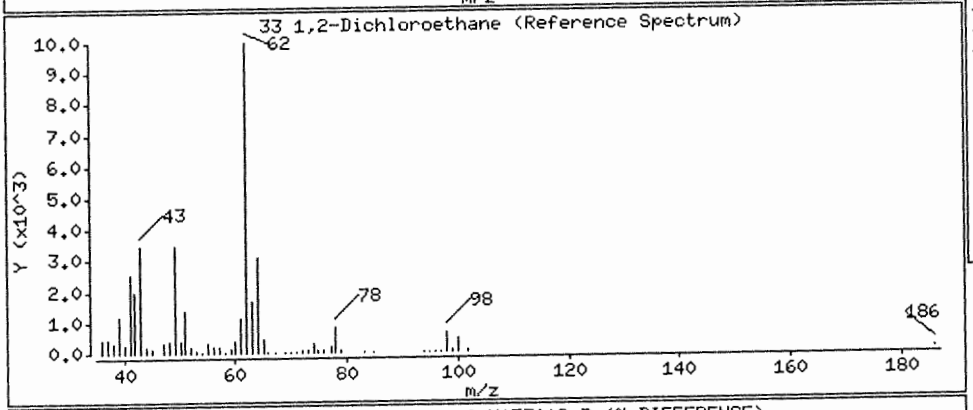
Concentration: 0.76 ug/l

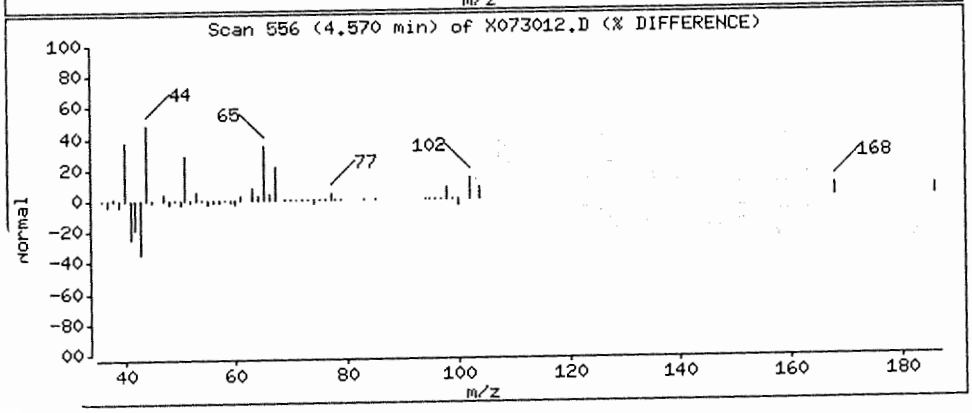












Data File: \\nahstws005\Target\chem\voa6.i\X200730.b\X073012.D

Date : 30-JUL-2020 15:13

Client ID: HS20071328-05

Instrument: voa6.i

Sample Info: HS20071328-05;HS20071328-05;;;

Purge Volume: 5.0

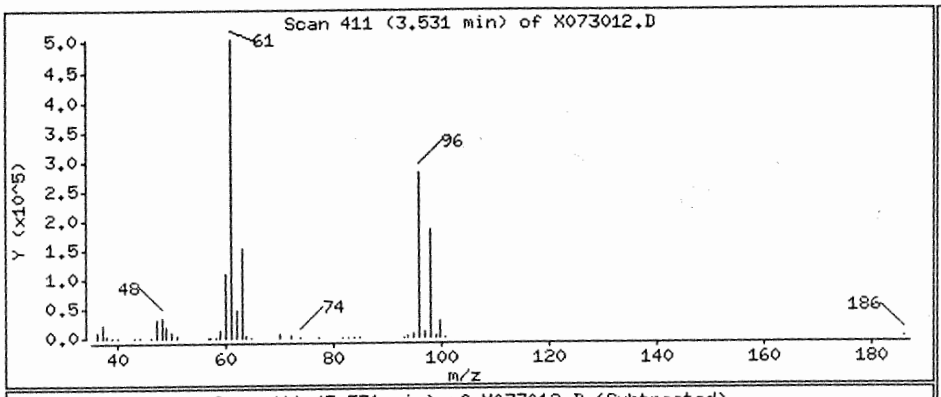
Operator: PC

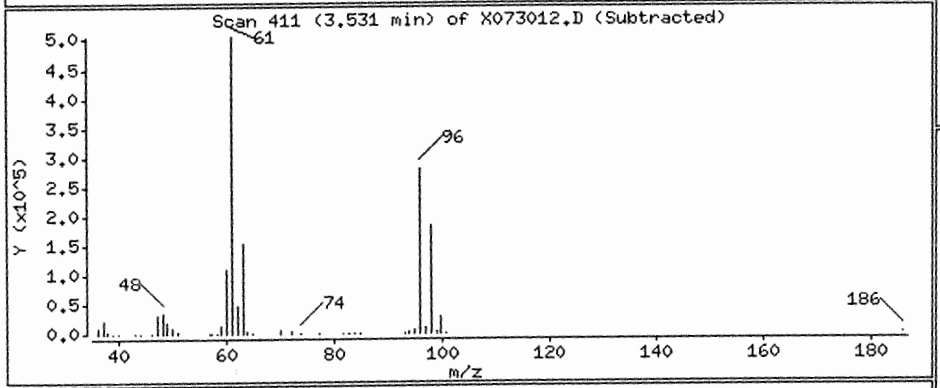
Column phase: DB624

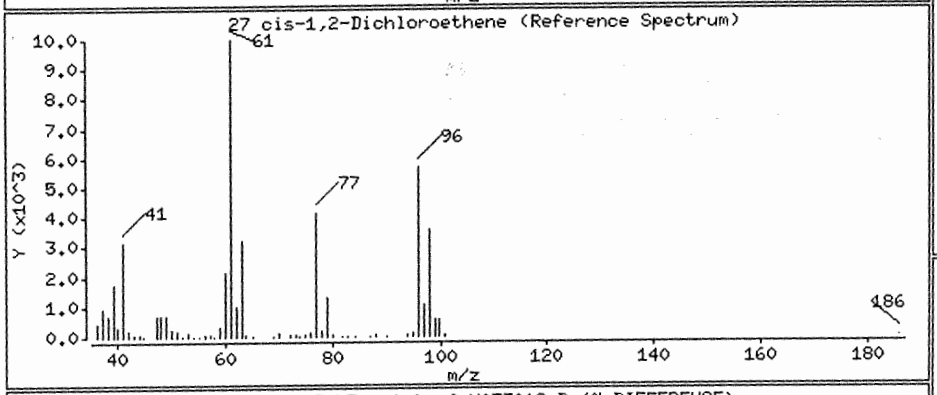
Column diameter: 0.18

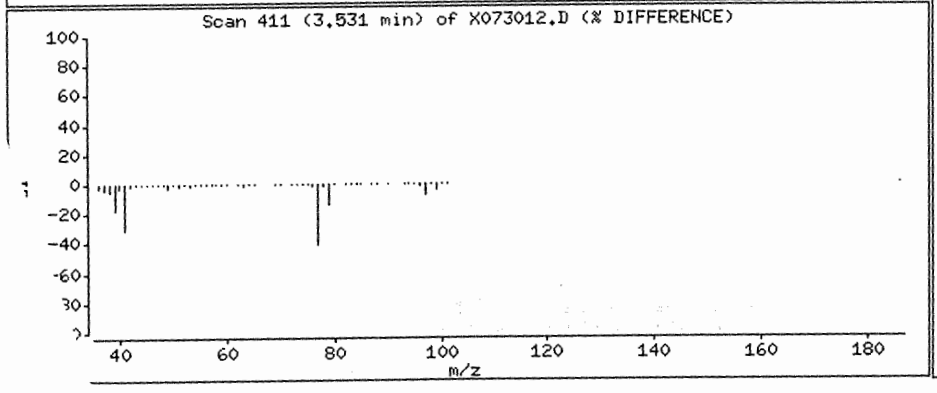
27 cis-1,2-Dichloroethene

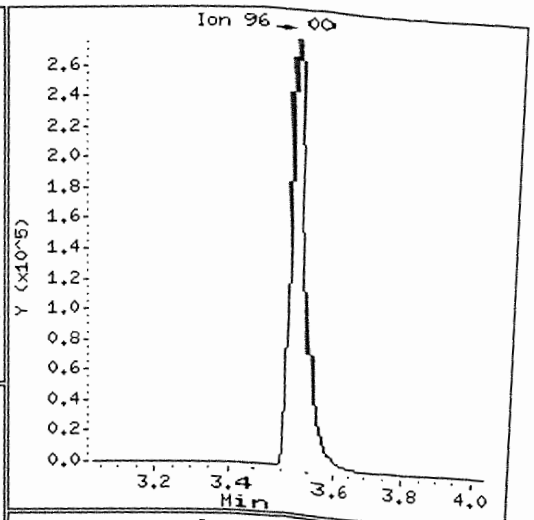
Concentration: 234.48 ug/l

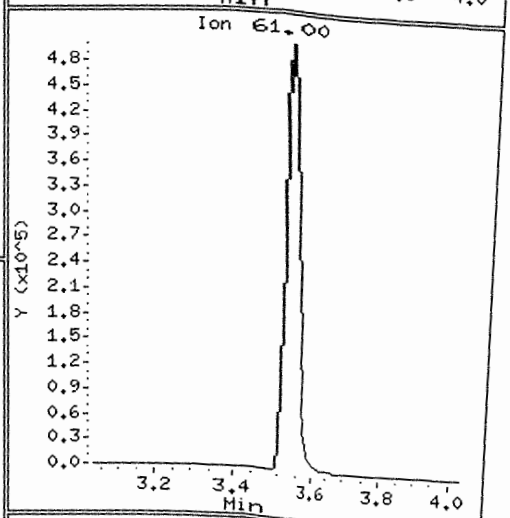


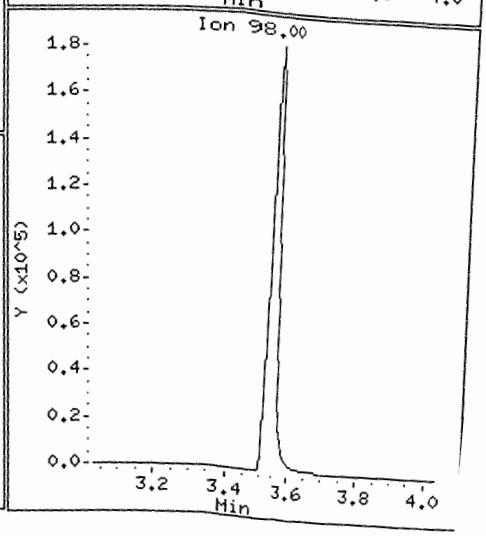












Data File: \\nahstws005\Target\chem\voa6.i\X200730.b\X073012.D

Date : 30-JUL-2020 15:13

Client ID: HS20071328-05

Instrument: voa6.i

Sample Info: HS20071328-05;HS20071328-05;;;

Operator: PC

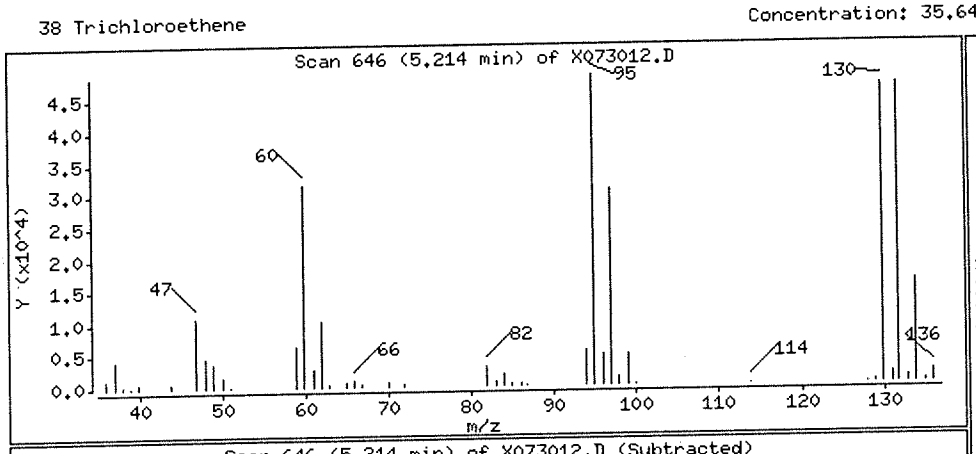
Purge Volume: 5.0

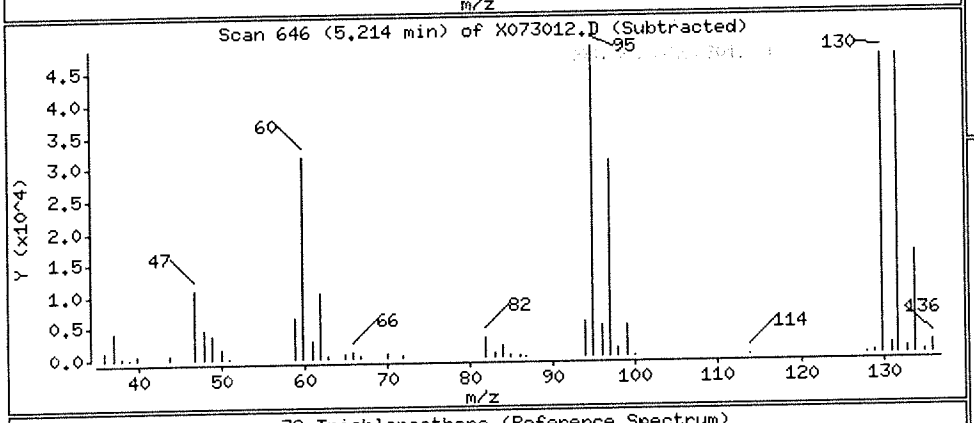
Column diameter: 0.18

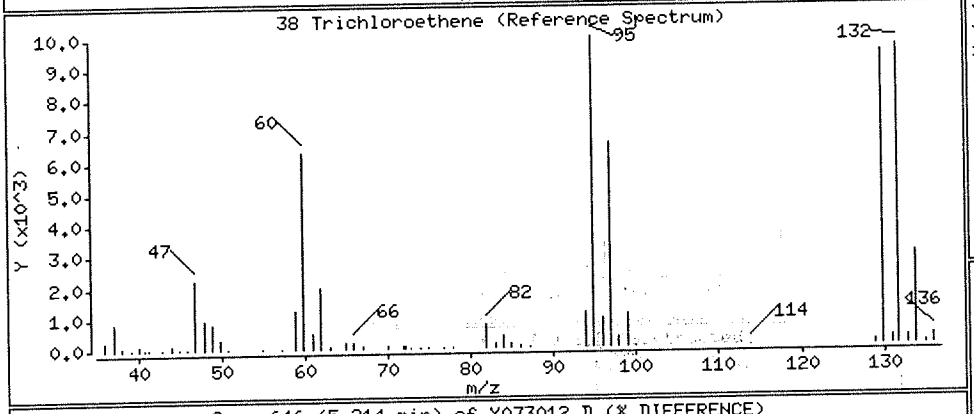
Column phase: DB624

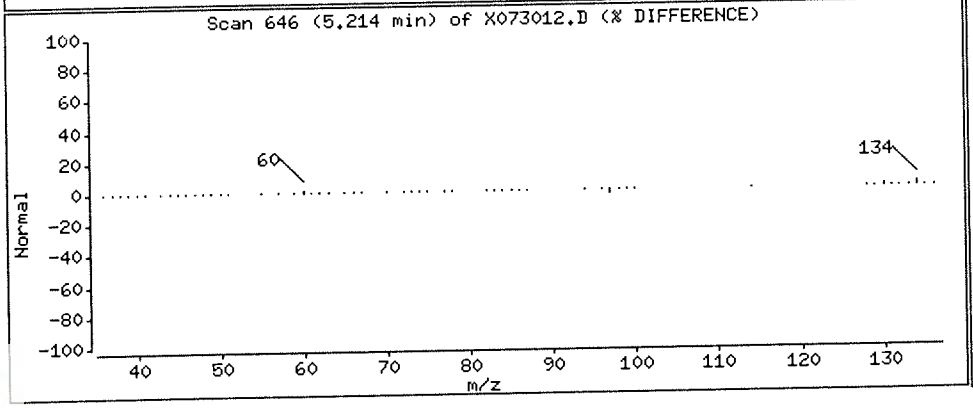
Concentration: 35.64 ug/l

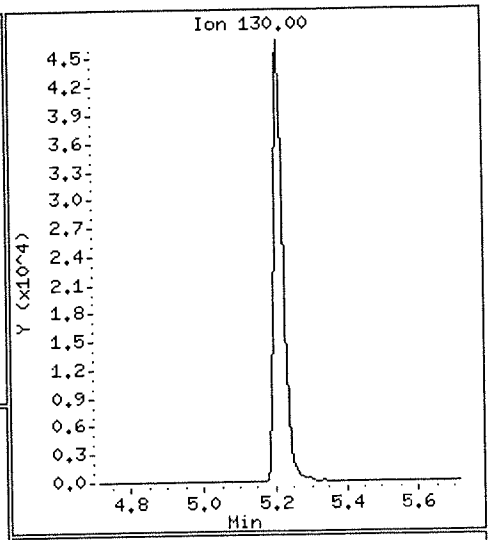
38 Trichloroethene

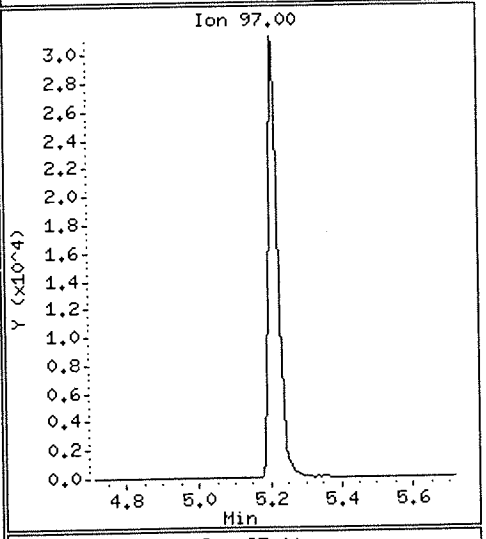


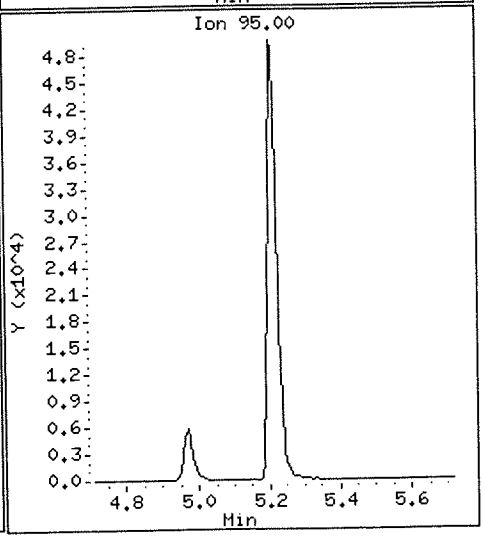












Data File: \\nahstws005\Target\chem\voa6.i\X200730.b\X073012.D

Date : 30-JUL-2020 15:13

Client ID: HS20071328-05

Instrument: voa6.i

Sample Info: HS20071328-05;HS20071328-05;;;

Purge Volume: 5.0

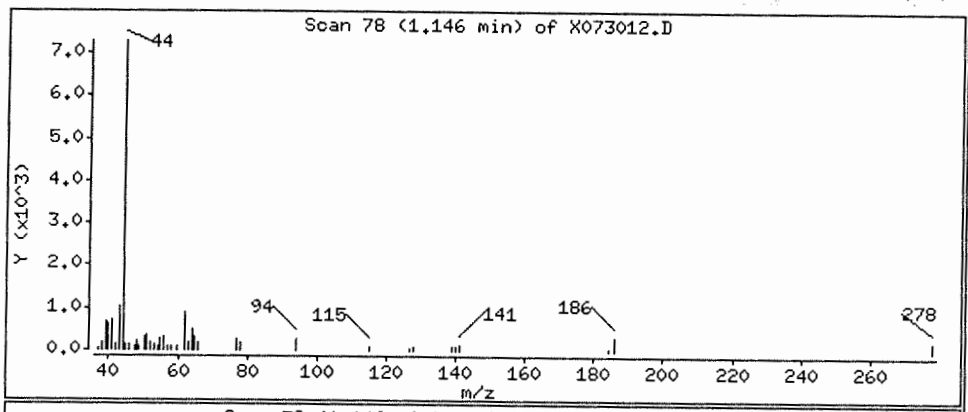
Operator: PC

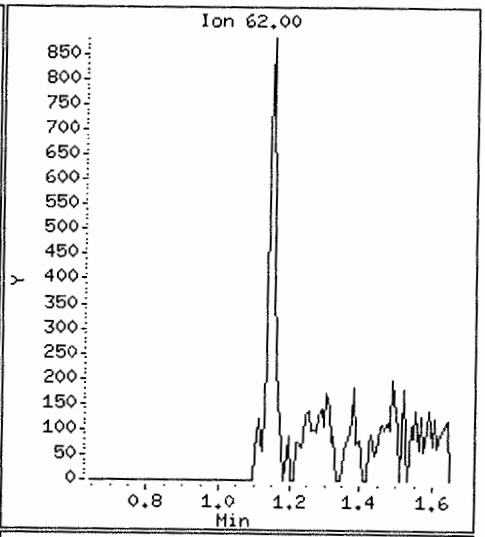
Column phase: DB624

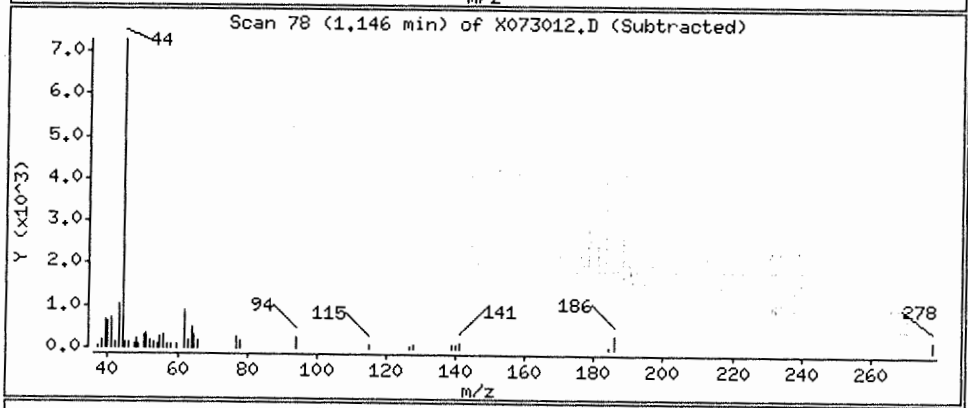
Column diameter: 0.18

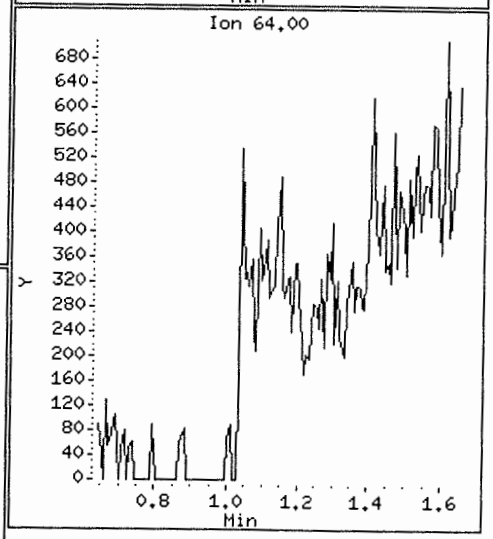
5 Vinyl Chloride

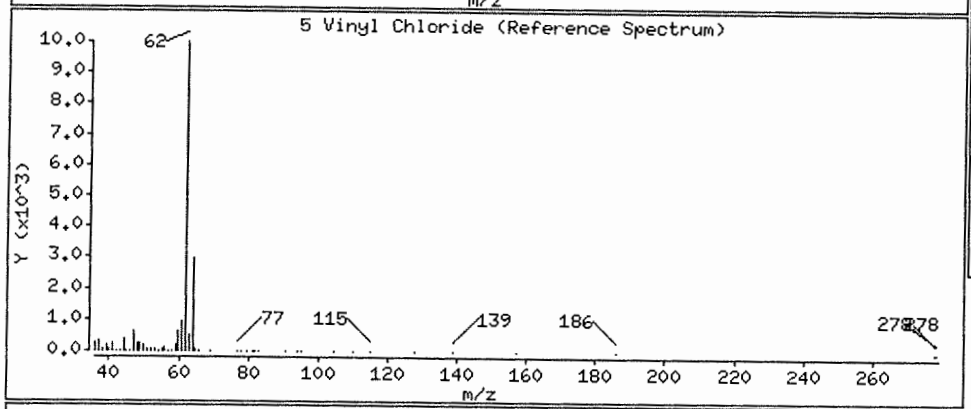
Concentration: 0.41 ug/l

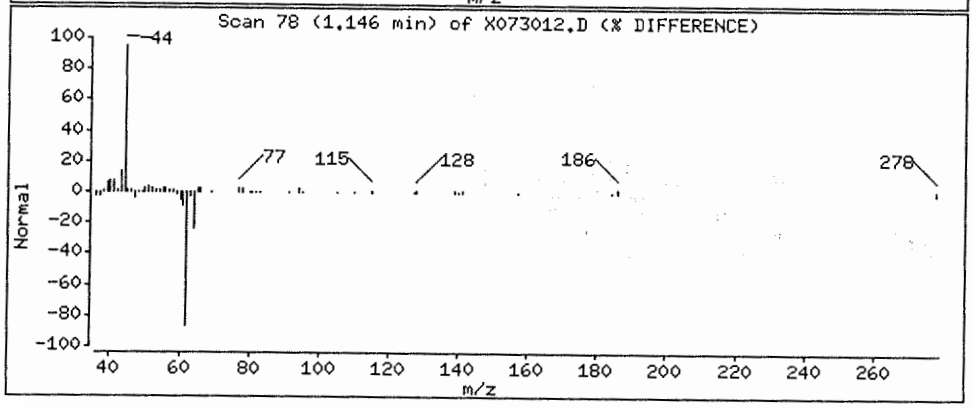












Data File: \\nahstws005\Target\chem\voa6.i\X200730.b\X073016.D Page 1
Report Date: 21-Aug-2020 17:19

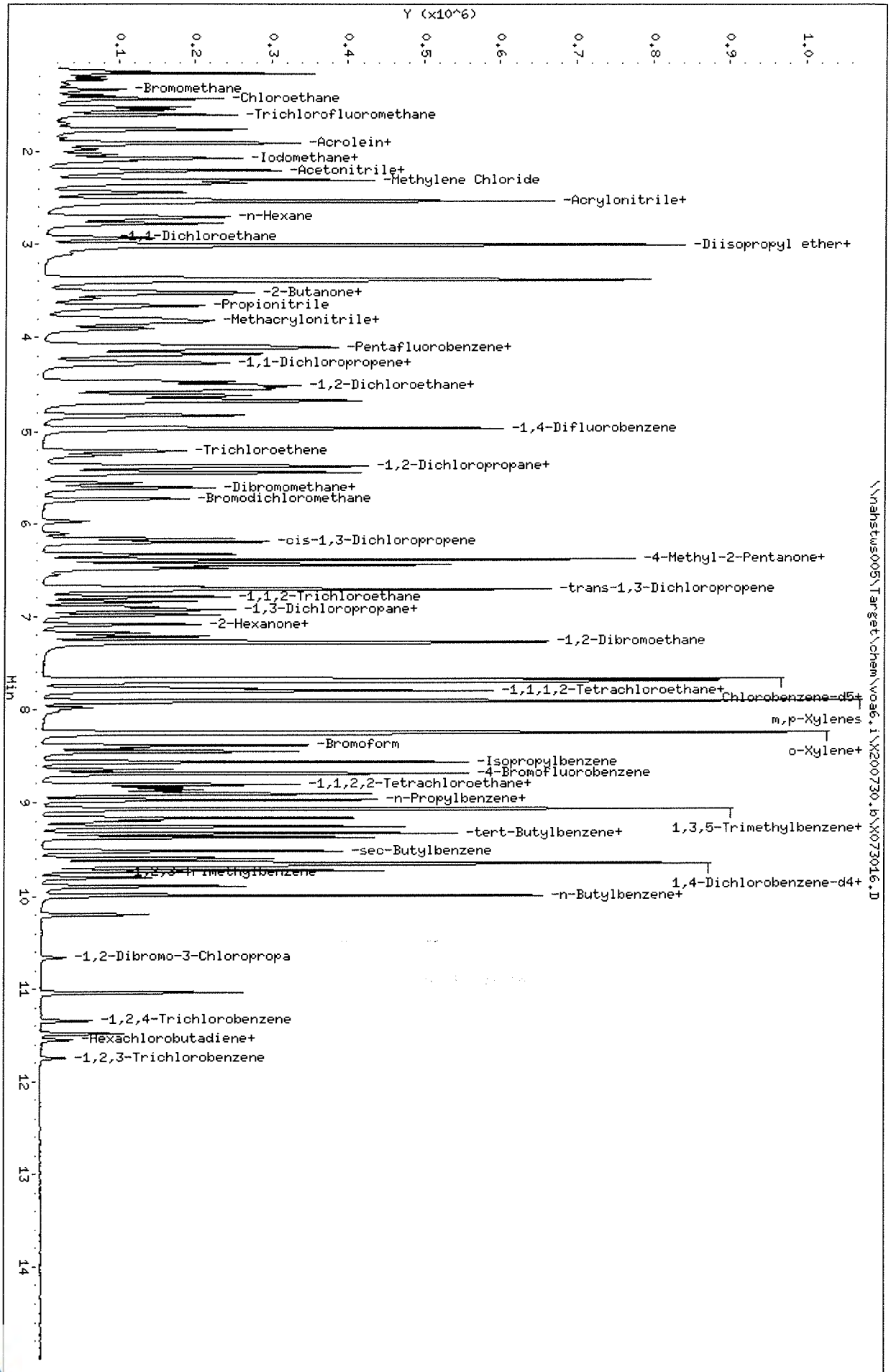
ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X200730.b\X073016.D
Lab Smp Id: HS20071328-01MS Client Smp ID: HS20071328-01MS
Inj Date : 30-JUL-2020 16:49
Operator : PC Inst ID: voa6.i
Smp Info : HS20071328-01MS;HS20071328-01MS;3;;MS
Misc Info : HS18090001;WATER;0;1;
Comment   :
Method   : \\nahstws005\Target\chem\voa6.i\X200730.b\8260W.m
Meth Date : 21-Aug-2020 17:19 voa6.i Quant Type: ISTD
Cal Date : 13-JUL-2020 13:18 Cal File: X071308.D
Als bottle: 16 QC Sample: MS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI-Hou11.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
*	1 Pentafluorobenzene	168	4.189	4.189	(1.000)	197246	50.0000	
*	36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	418230	50.0000	
*	47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	356871	50.0000	
*	70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	125184	50.0000	
$	30 Dibromofluoromethane	113	4.103	4.103	(0.979)	138142	62.8713	62.87
$	35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	185406	62.1324	62.13
$	48 Toluene-d8	98	6.388	6.388	(0.833)	377319	40.3643	40.36
$	69 4-Bromofluorobenzene	95	8.688	8.695	(1.133)	151481	43.8005	43.80
	53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	41988	19.2155	19.21
	11 1,1-Dichloroethene	96	1.919	1.919	(0.458)	46525	26.9617	26.96
	33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	121551	24.4246	24.42
	27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.843)	69860	27.6097	27.60
	17 Methylene Chloride	84	2.305	2.306	(0.550)	62338	26.2294	26.22
	38 Trichloroethene	130	5.214	5.214	(1.049)	53827	17.8819	17.88
	5 Vinyl Chloride	62	1.145	1.145	(0.273)	81241	25.0475	25.04



Data File: \\nahstws005\Target\chem\voa6.i\X200730.b\X073016.D
Date : 30-JUL-2020 16:49
Client ID: HS20071328-01HS
Sample Info: HS20071328-01HS;HS20071328-01HS;3;;HS
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

Data File: \\nahstws005\Target\chem\voa6.i\X200730.b\X073017.D Page 1
Report Date: 21-Aug-2020 17:19

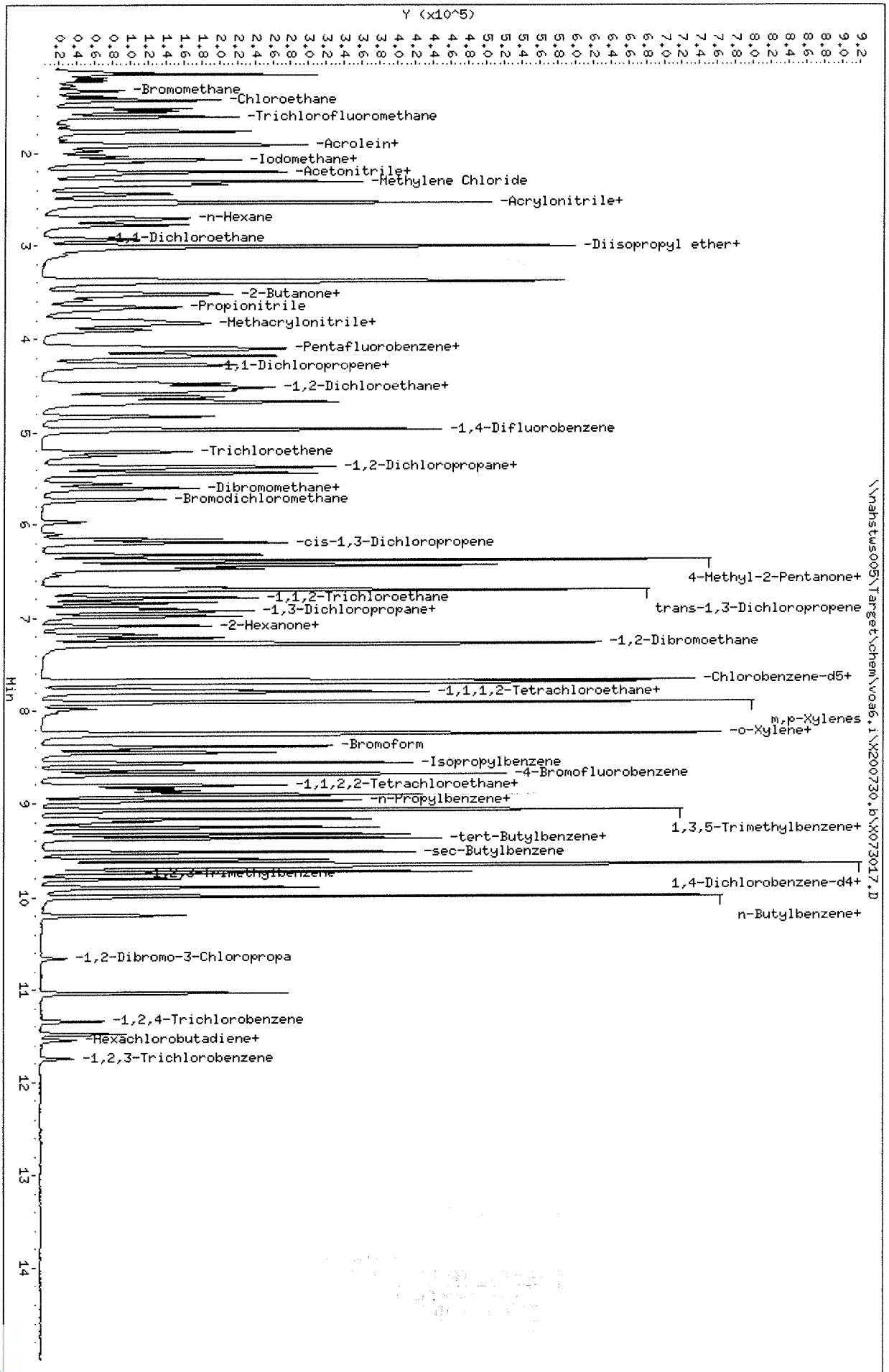
ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X200730.b\X073017.D
Lab Smp Id: HS20071328-01MSD Client Smp ID: HS20071328-01MSD
Inj Date : 30-JUL-2020 17:13
Operator : PC Inst ID: voa6.i
Smp Info : HS20071328-01MSD;HS20071328-01MSD;3;;MSD
Misc Info : HS18090001;WATER;0;1;
Comment   :
Method   : \\nahstws005\Target\chem\voa6.i\X200730.b\8260W.m
Meth Date : 21-Aug-2020 17:19 voa6.i Quant Type: ISTD
Cal Date : 13-JUL-2020 13:18 Cal File: X071308.D
Als bottle: 16 QC Sample: MSD
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI-Hou11.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
*	1 Pentafluorobenzene	168	4.189	4.189	(1.000)	181219	50.0000	
*	36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	304778	50.0000	
*	47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	273442	50.0000	
*	70 1,4-Dichlorobenzene-d4	152	9.669	9.662	(1.000)	134682	50.0000	
$	30 Dibromofluoromethane	113	4.103	4.103	(0.979)	101775	50.4001	50.40
$	35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	155618	56.7915	56.79
$	48 Toluene-d8	98	6.388	6.388	(0.833)	364406	50.8769	50.87
$	69 4-Bromofluorobenzene	95	8.688	8.695	(1.133)	137064	51.8208	51.82
	53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	40597	24.2475	24.24
	11 1,1-Dichloroethene	96	1.919	1.919	(0.458)	40090	25.2872	25.28
	33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	95271	26.2701	26.27
	27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.843)	54594	23.4846	23.48
	17 Methylene Chloride	84	2.305	2.306	(0.550)	53458	24.3902	24.39
	38 Trichloroethene	130	5.214	5.214	(1.049)	47251	21.5406	21.54
	5 Vinyl Chloride	62	1.145	1.145	(0.273)	71230	23.9033	23.90



Data File: \\nahstws005\Target\chem\voa6.i\X200730.b\X073017.D
Date : 30-JUL-2020 17:13
Client ID: HS20071328-01MSD
Sample Info: HS20071328-01MSD;HS20071328-01MSD;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\X200730.b\X073018.D
Lab Smp Id: HS20071328-05 Client Smp ID: HS20071328-05
Inj Date : 30-JUL-2020 17:37
Operator : PC Inst ID: voa6.i
Smp Info : HS20071328-05;HS20071328-05;;;
Misc Info : HS18090001;WATER;0;5;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200730.b\8260W.m
Meth Date : 26-Aug-2020 09:13 dev.giga Quant Type: ISTD
Cal Date : 13-JUL-2020 13:18 Cal File: X071308.D
Als bottle: 17
Dil Factor: 5.00000
Integrator: HP RTE Compound Sublist: CBI-Hou11.sub
Target Version: 4.14
Processing Host: NAHSTW7056

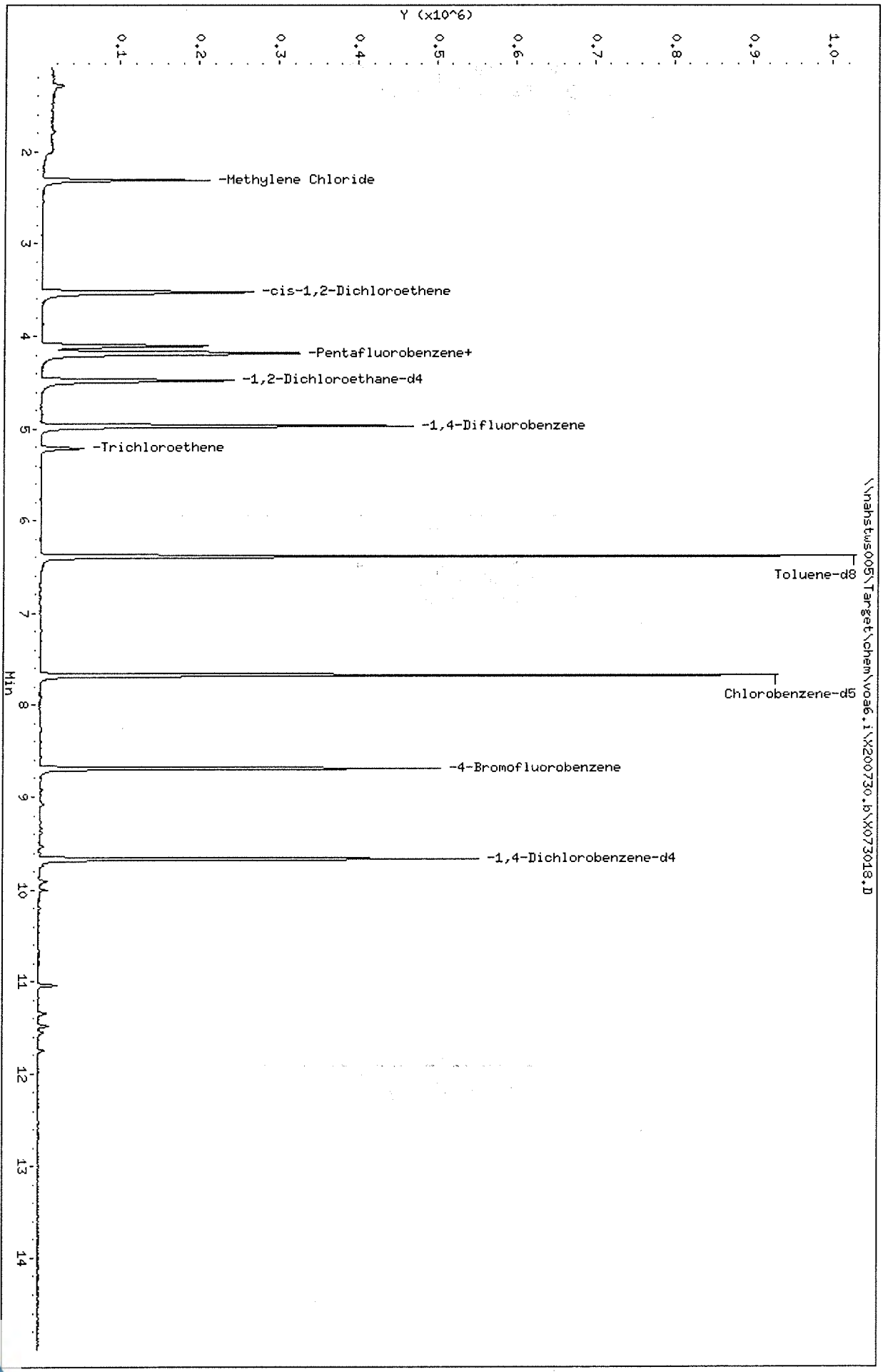
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

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	4.189	4.189	(1.000)	253656	50.0000	
*	36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	321876	50.0000	
*	47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	355051	50.0000	
*	70 1,4-Dichlorobenzene-d4	152	9.669	9.662	(1.000)	107535	50.0000	
$	30 Dibromofluoromethane	113	4.103	4.103	(0.979)	144022	50.9549	50.95
$	35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	185422	48.3945	48.39
$	48 Toluene-d8	98	6.388	6.388	(0.833)	525830	56.5398	56.53
$	69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	139893	40.6188	40.61
	27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.843)	109757	33.7310	168.65
	17 Methylene Chloride	84	2.305	2.305	(0.550)	70699	22.9686	114.84
	38 Trichloroethene	130	5.214	5.214	(1.049)	14768	6.37474	31.87

Data File: \\nahstws005\Target\chem\voa6.i\X200730.b\X073018.D
Date : 30-JUL-2020 17:37
Client ID: HS200713328-05
Sample Info: HS200713328-05;HS200713328-05;;;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18



Data File: \\nahstws005\Target\chem\voa6.i\X200730.b\X073018.D

Date : 30-JUL-2020 17:37

Client ID: HS20071328-05

Instrument: voa6.i

Sample Info: HS20071328-05;HS20071328-05;;;

Purge Volume: 5.0

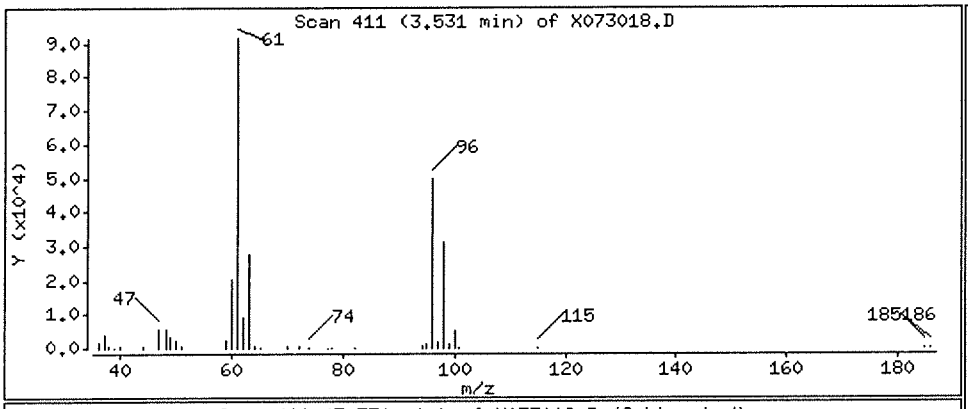
Operator: PC

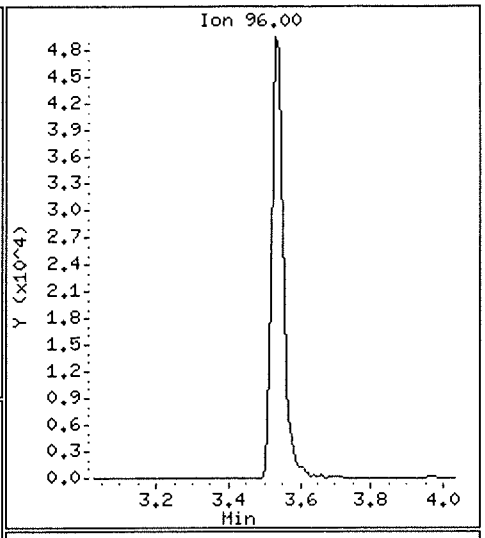
Column phase: DB624

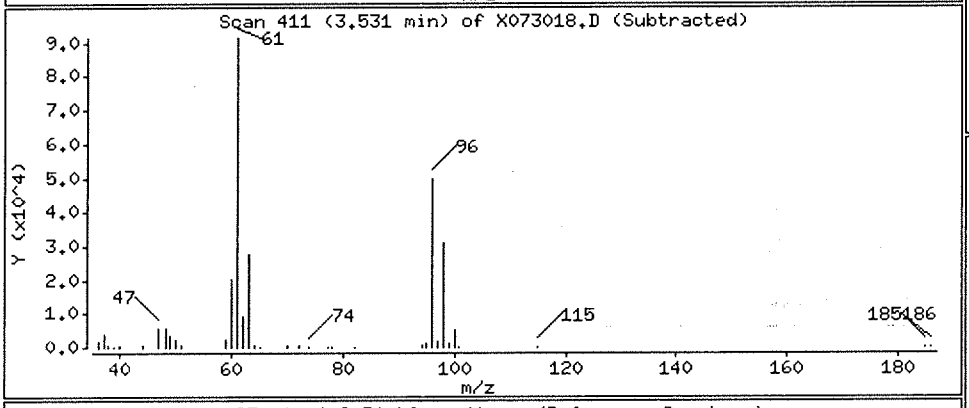
Column diameter: 0.18

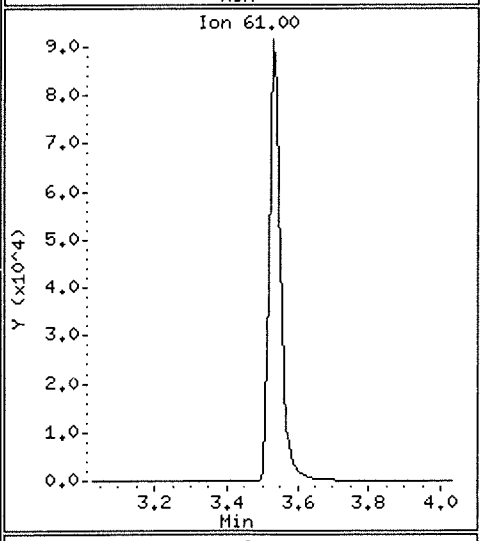
27 cis-1,2-Dichloroethene

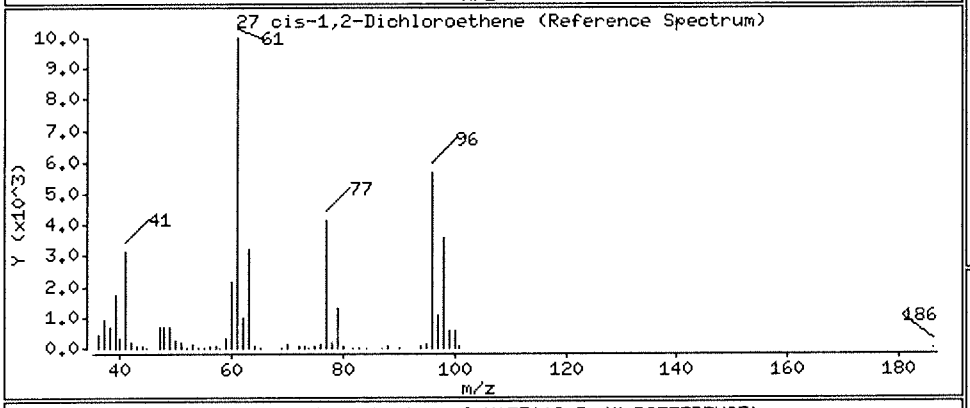
Concentration: 168.65 ug/l

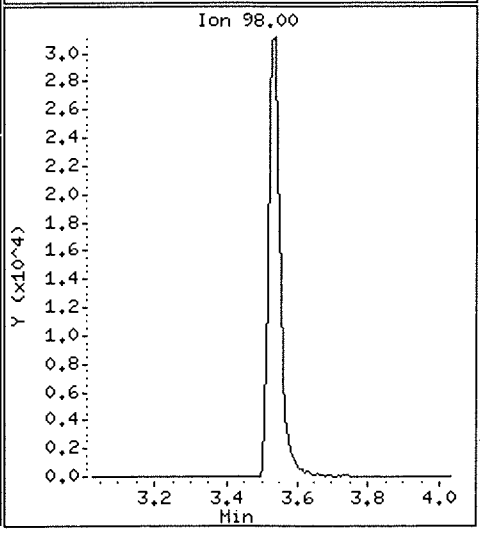


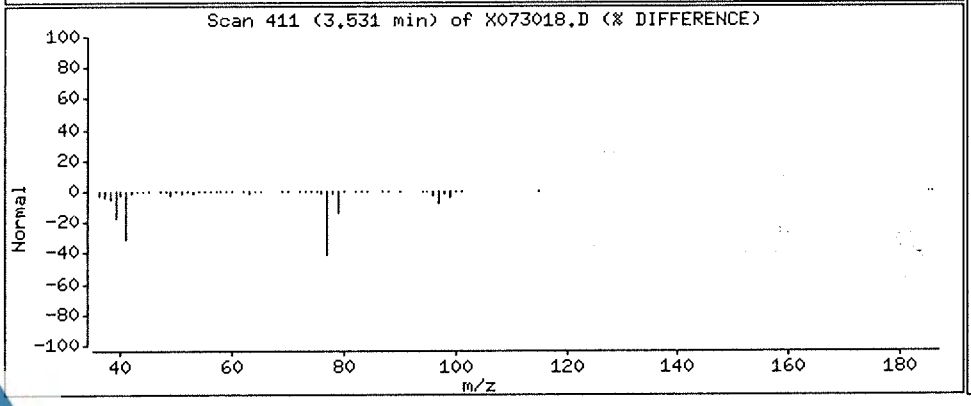












Data File: \\nahstws005\Target\chem\voa6.i\X200730.b\X073018.D

Date : 30-JUL-2020 17:37

Client ID: HS20071328-05

Instrument: voa6.i

Sample Info: HS20071328-05;HS20071328-05;;;

Purge Volume: 5.0

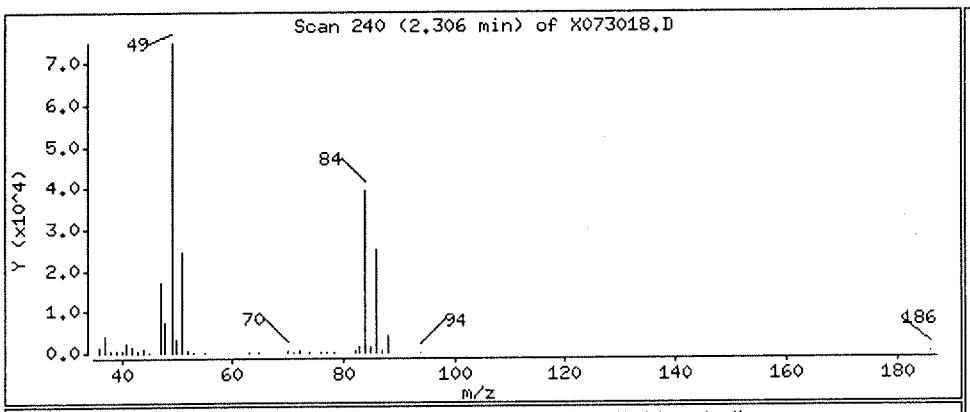
Operator: PC

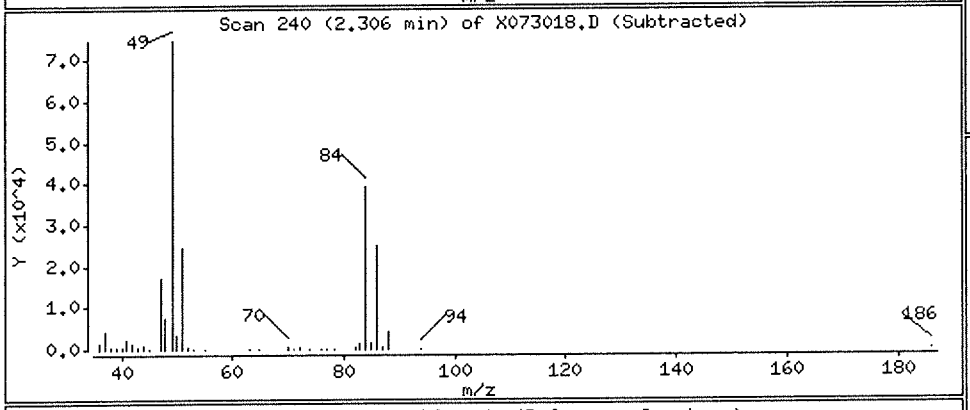
Column phase: DB624

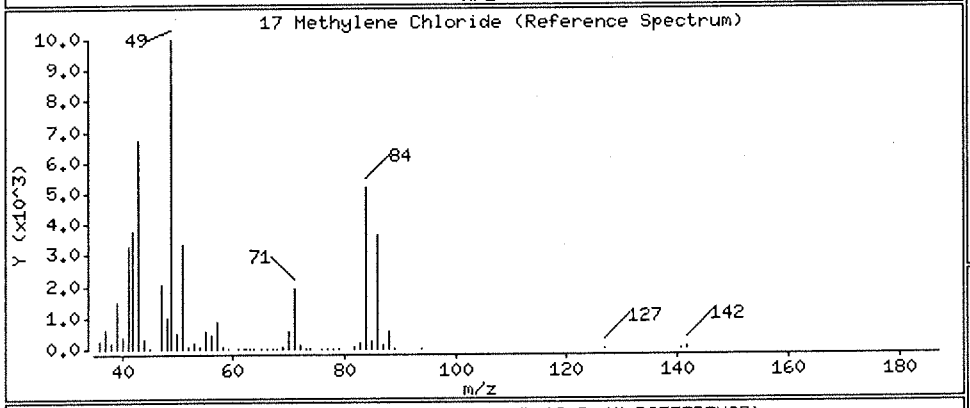
Column diameter: 0.18

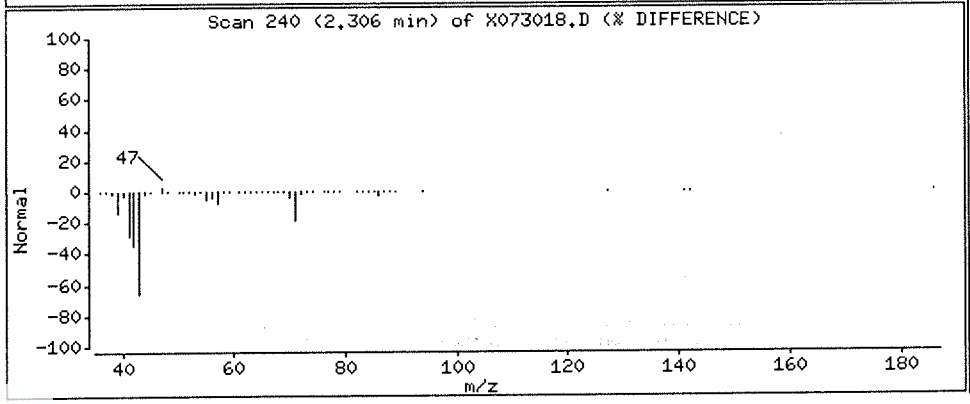
17 Methylene Chloride

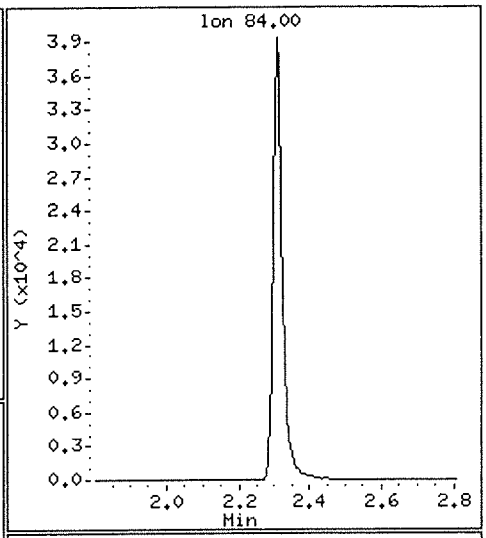
Concentration: 114.84 ug/l

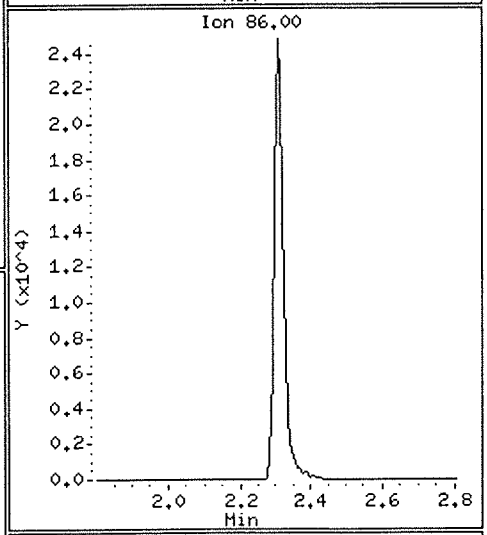


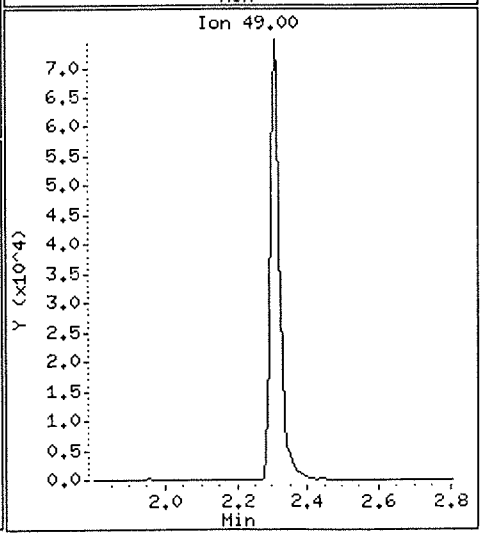












Data File: \\nahstws005\Target\chem\voa6.i\X200730.b\X073018.D

Date : 30-JUL-2020 17:37

Client ID: HS20071328-05

Instrument: voa6.i

Sample Info: HS20071328-05;HS20071328-05;;;

Purge Volume: 5.0

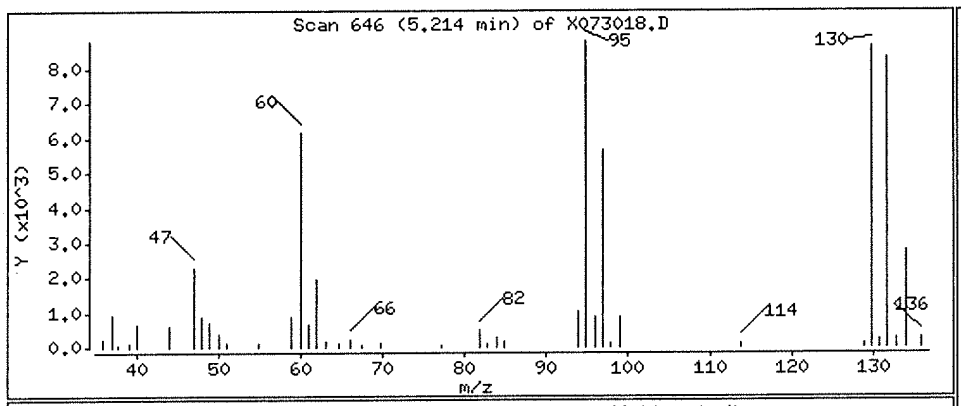
Operator: PC

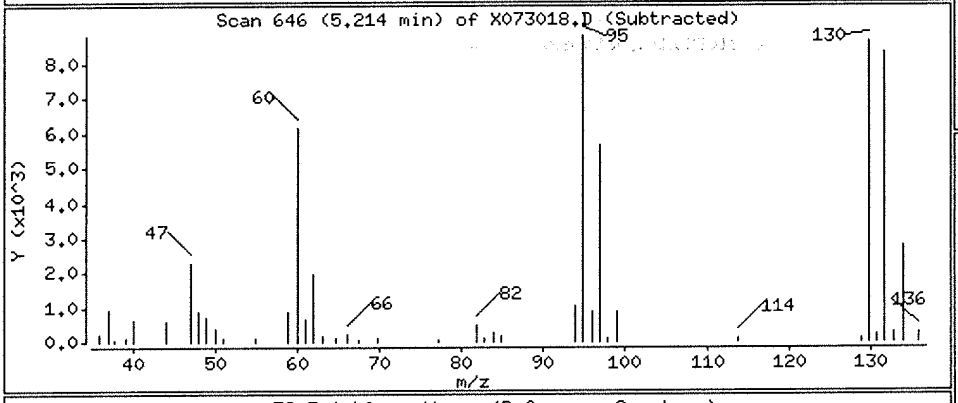
Column phase: DB624

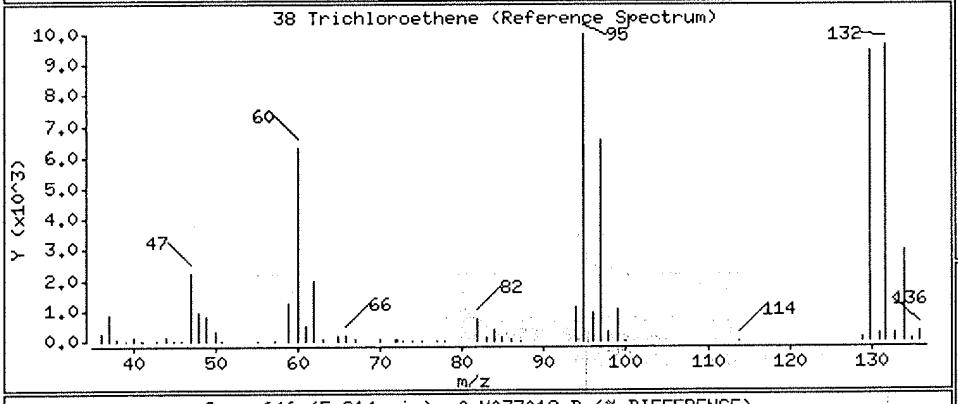
Column diameter: 0.18

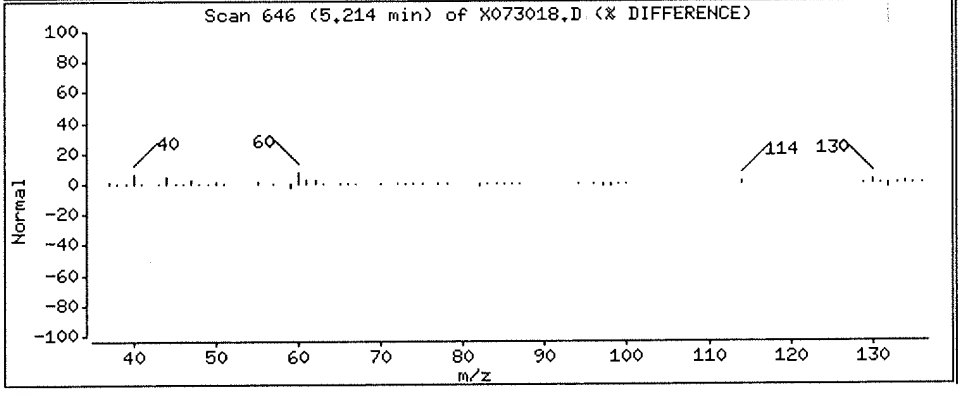
38 Trichloroethene

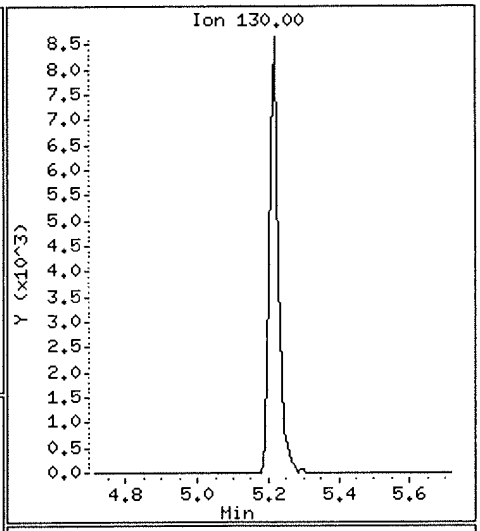
Concentration: 31.87 ug/l

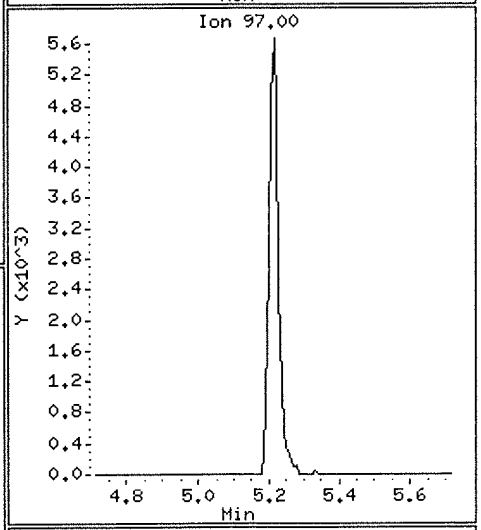


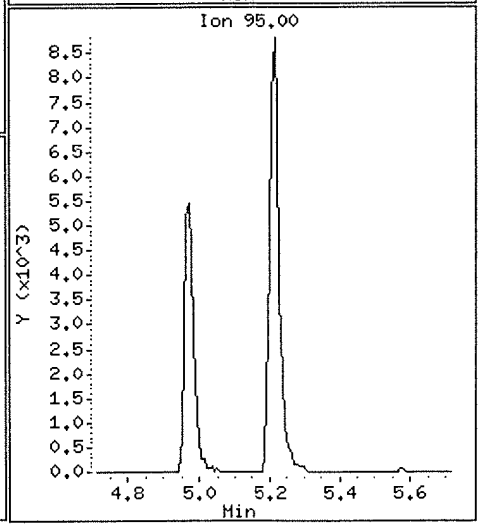












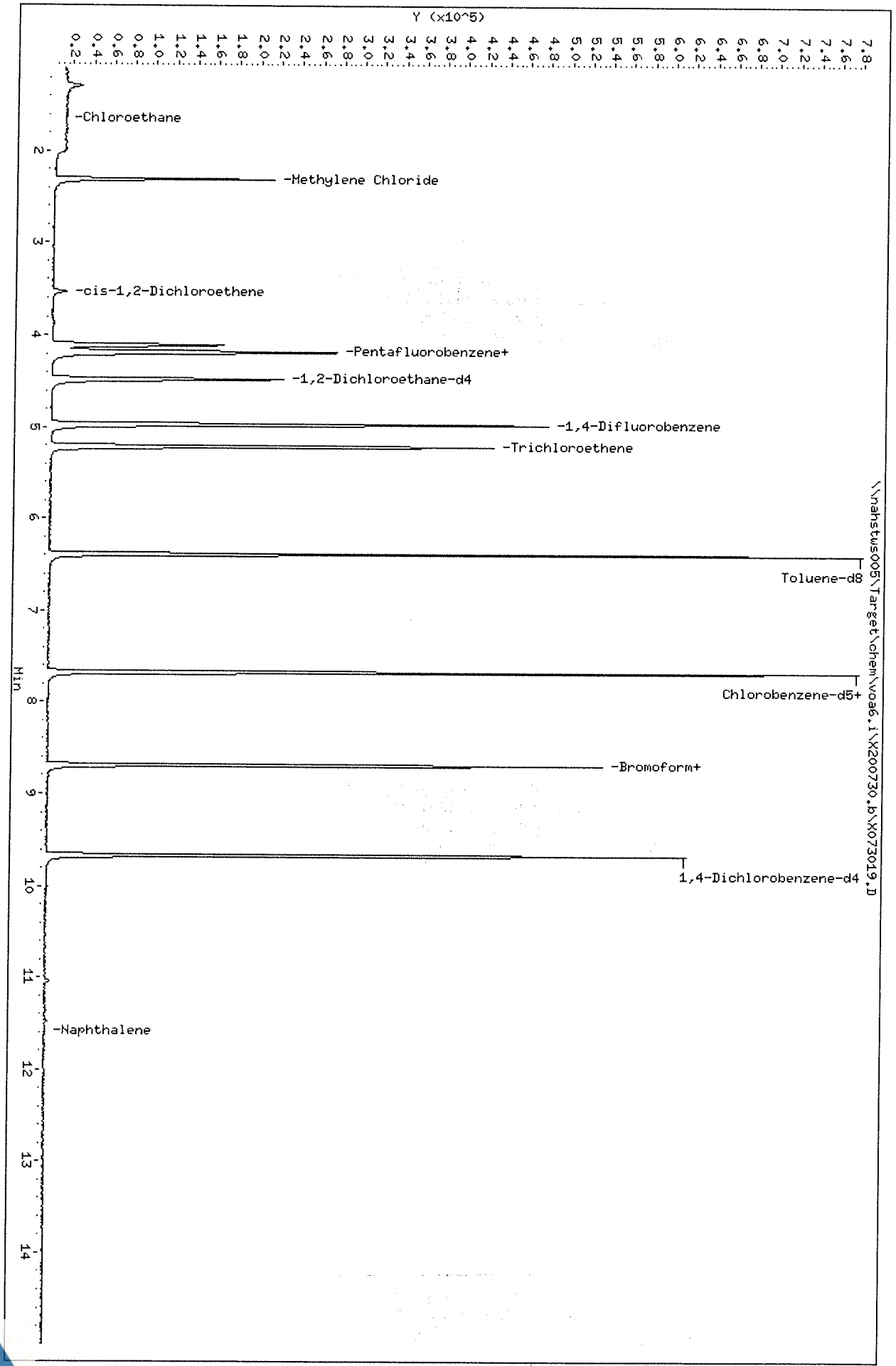
ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X200730.b\X073019.D
Lab Smp Id: HS20071328-06 Client Smp ID: HS20071328-06
Inj Date : 30-JUL-2020 18:01
Operator : PC Inst ID: voa6.i
Smp Info : HS20071328-06;HS20071328-06;;;
Misc Info : HS18090001;WATER;0;25;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200730.b\8260W.m
Meth Date : 26-Aug-2020 09:13 dev.giga Quant Type: ISTD
Cal Date : 13-JUL-2020 13:18 Cal File: X071308.D
Als bottle: 18
Dil Factor: 25.00000
Integrator: HP RTE Compound Sublist: CBI-Hou11.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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	4.189	4.189	(1.000)	197400	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	328164	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	292002	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.662	(1.000)	124164	50.0000	
$ 30 Dibromofluoromethane	113	4.104	4.103	(0.979)	108898	49.5056	49.50
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	162207	54.3583	54.35
$ 48 Toluene-d8	98	6.389	6.388	(0.833)	396808	51.8794	51.87
$ 69 4-Bromofluorobenzene	95	8.688	8.695	(1.133)	141094	49.9345	49.93
27 cis-1,2-Dichloroethene	96	3.538	3.530	(0.844)	5778	2.28177	57.04
17 Methylene Chloride	84	2.306	2.305	(0.550)	71454	30.2426	756.06
38 Trichloroethene	130	5.214	5.214	(1.049)	119826	50.7329	1268.32



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Date : 30-JUL-2020 18:01
Client ID: HS200713328-06
Sample Info: HS200713328-06;HS200713328-06;;;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

Data File: \\nahstws005\Target\chem\voa6.i\X200730.b\X073019.D

Date : 30-JUL-2020 18:01

Client ID: HS20071328-06

Instrument: voa6.i

Sample Info: HS20071328-06;HS20071328-06;;;

Purge Volume: 5.0

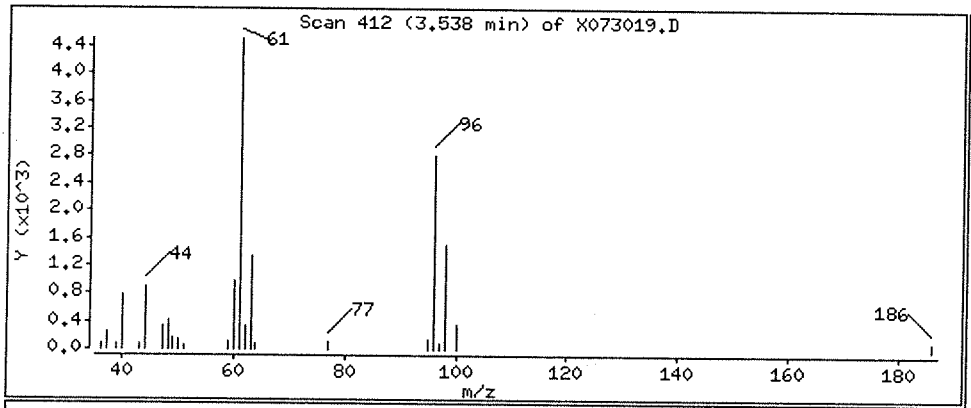
Operator: PC

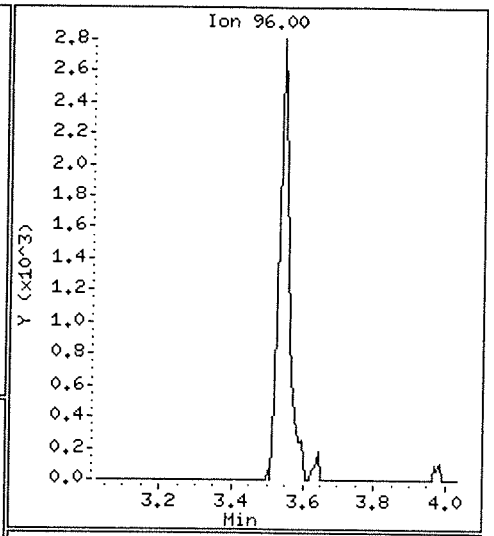
Column phase: DB624

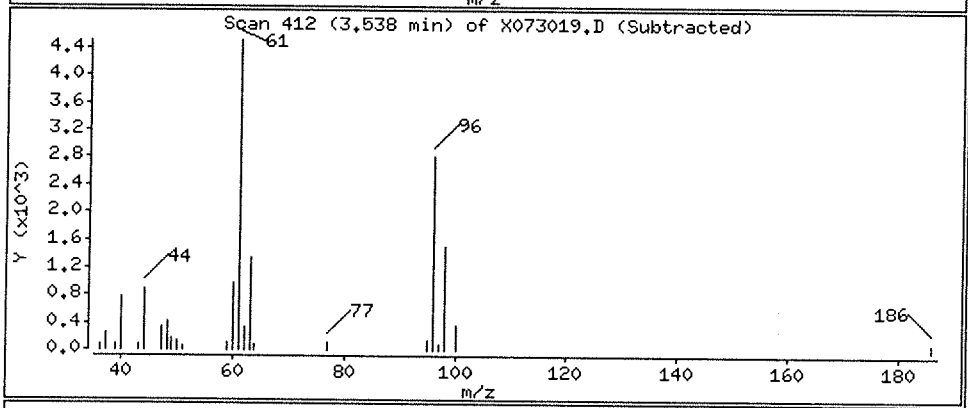
Column diameter: 0.18

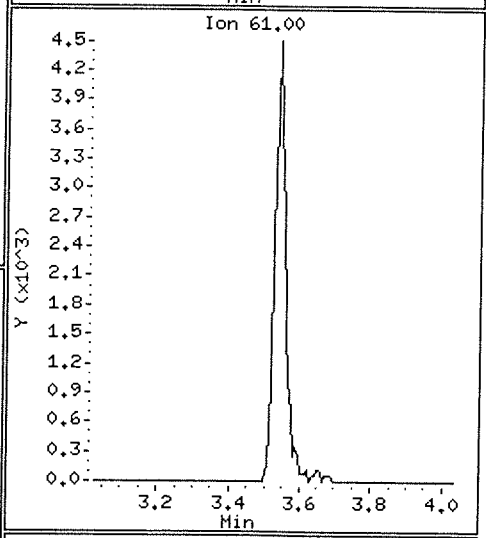
27 cis-1,2-Dichloroethene

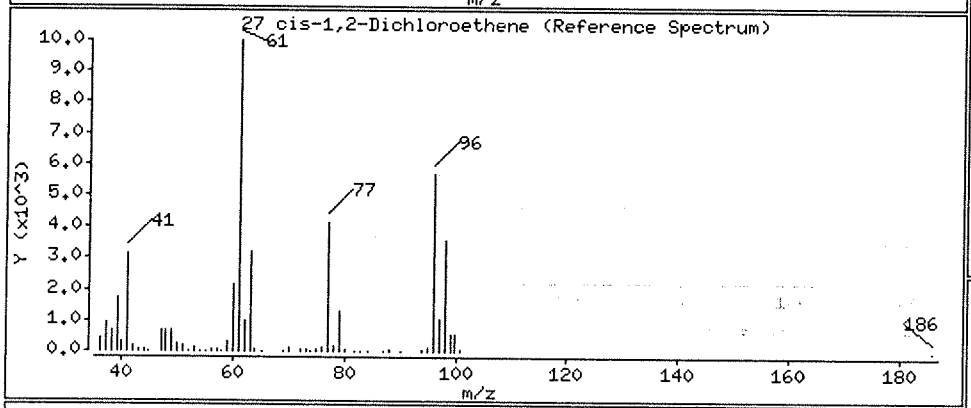
Concentration: 57.04 ug/l

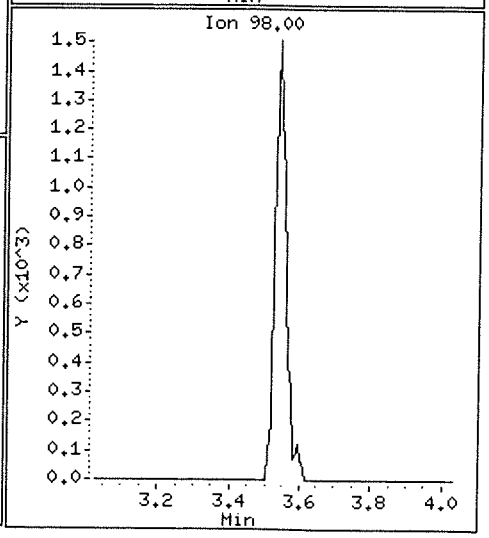


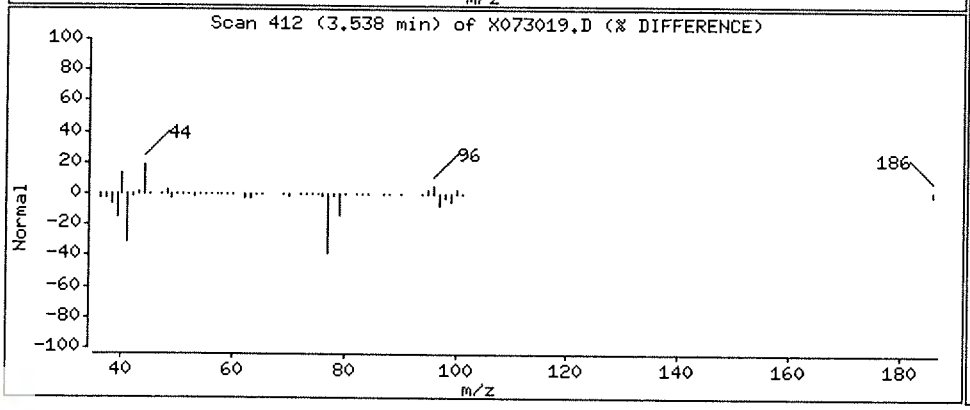












Data File: \\nahstws005\Target\chem\voa6.i\X200730.b\X073019.D

Date : 30-JUL-2020 18:01

Client ID: HS20071328-06

Instrument: voa6.i

Sample Info: HS20071328-06;HS20071328-06;;;

Purge Volume: 5.0

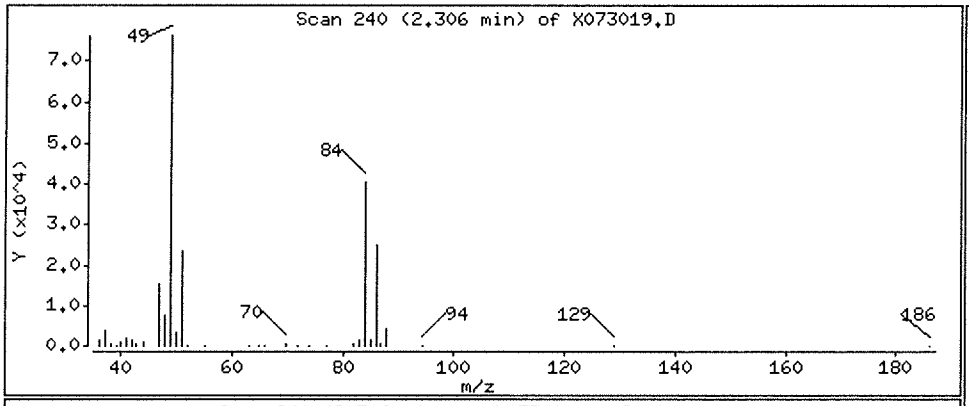
Operator: PC

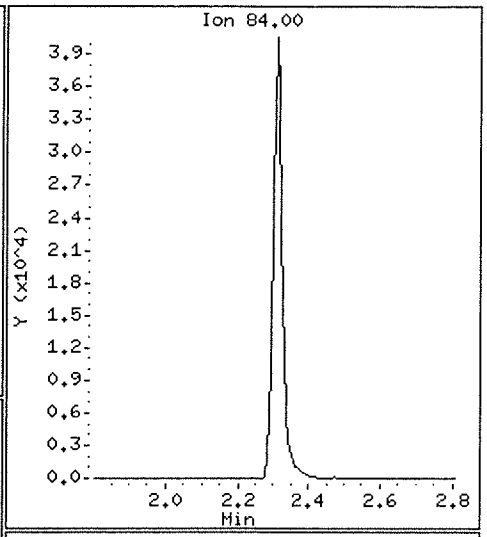
Column phase: DB624

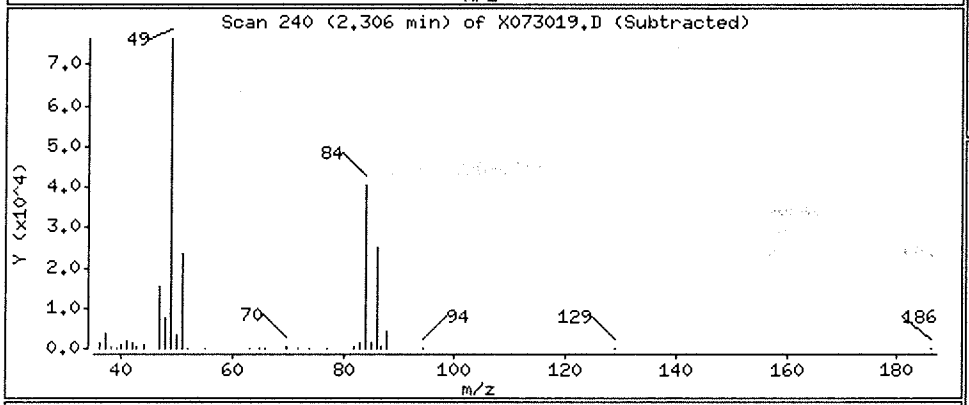
Column diameter: 0.18

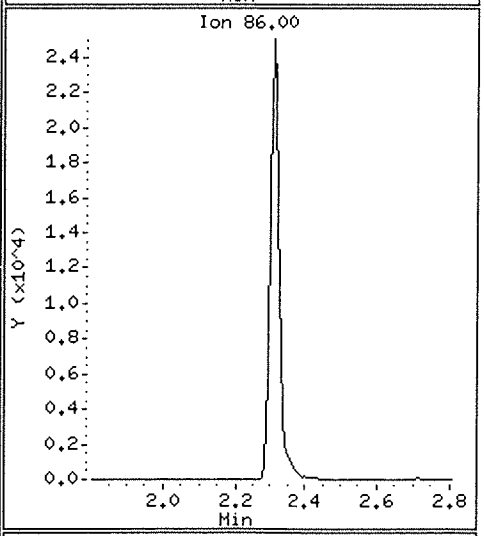
17 Methylene Chloride

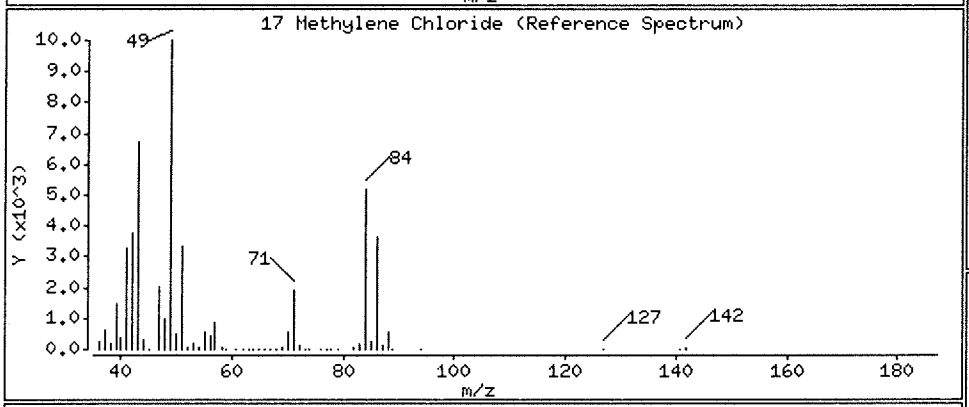
Concentration: 756.06 ug/l

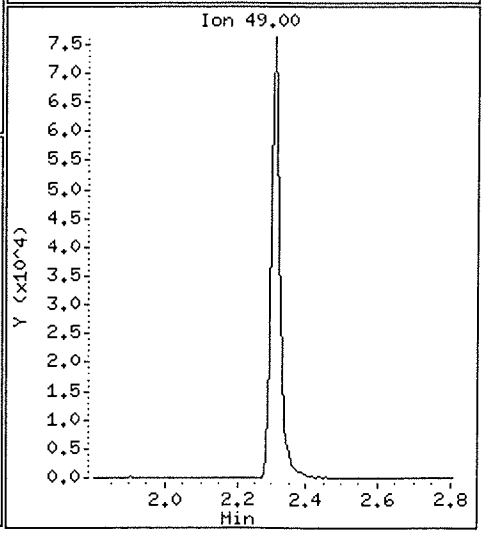


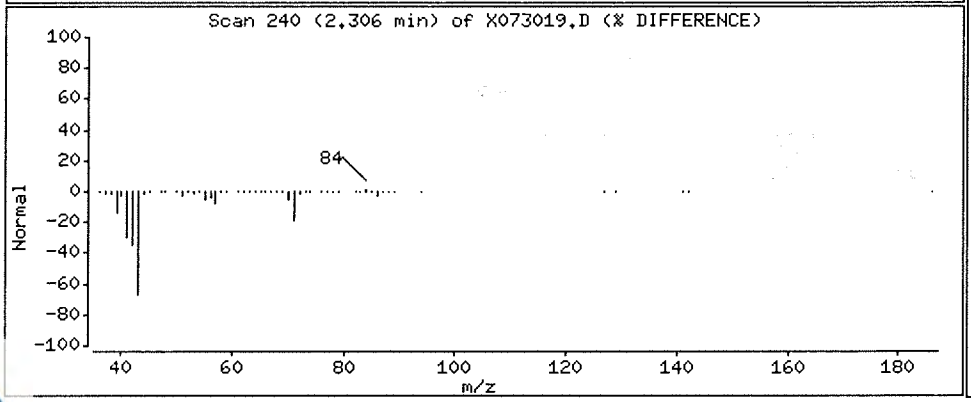












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Date : 30-JUL-2020 18:01

Client ID: HS20071328-06

Instrument: voa6.i

Sample Info: HS20071328-06;HS20071328-06;;;

Purge Volume: 5.0

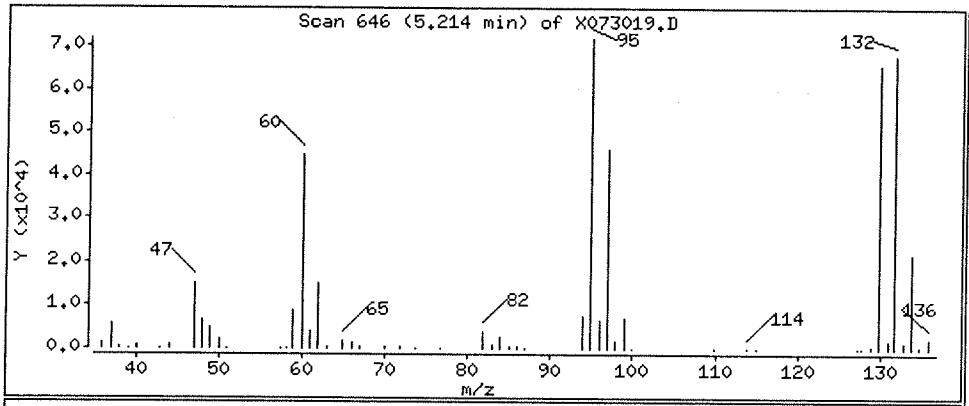
Operator: PC

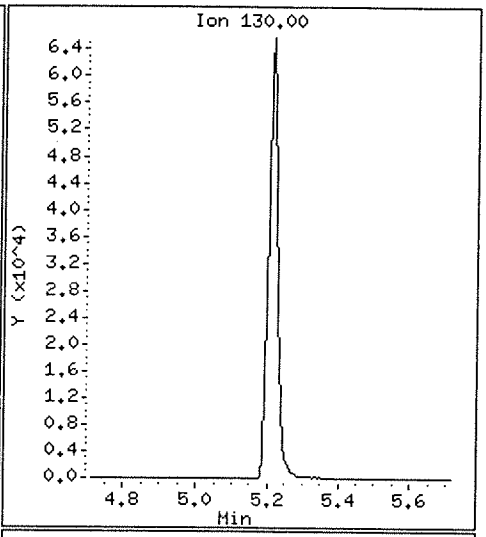
Column phase: DB624

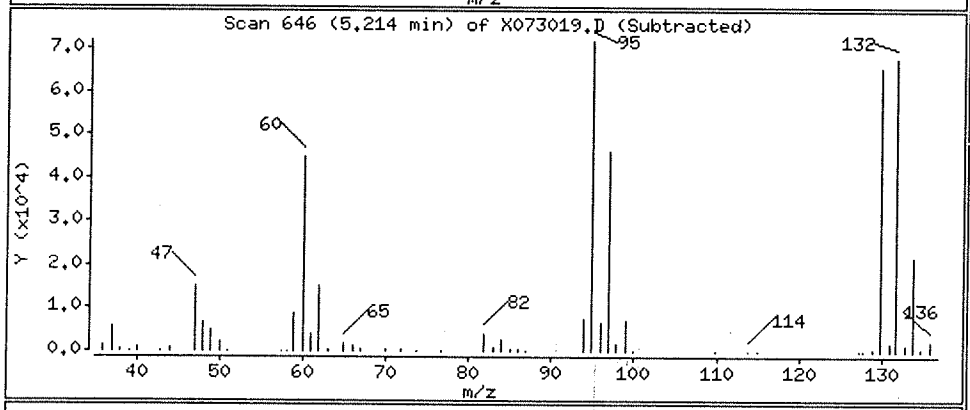
Column diameter: 0.18

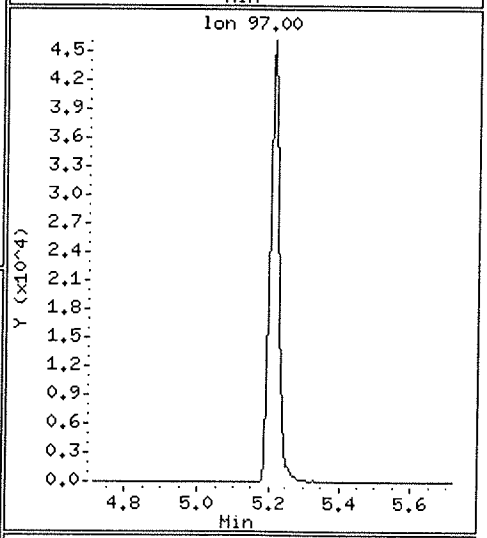
38 Trichloroethene

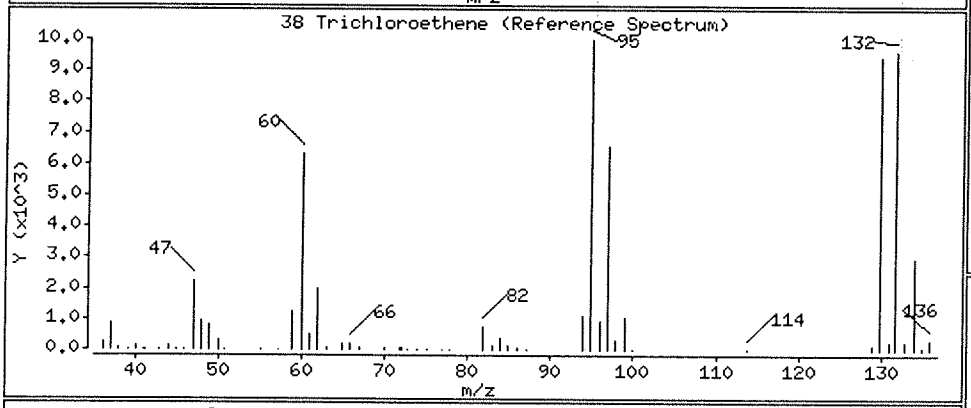
Concentration: 1268.32 ug/l

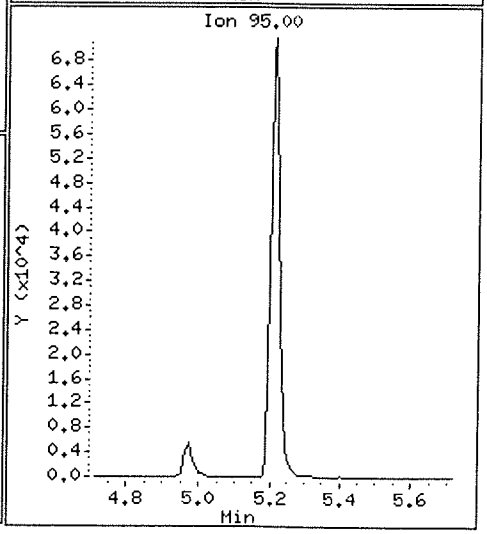


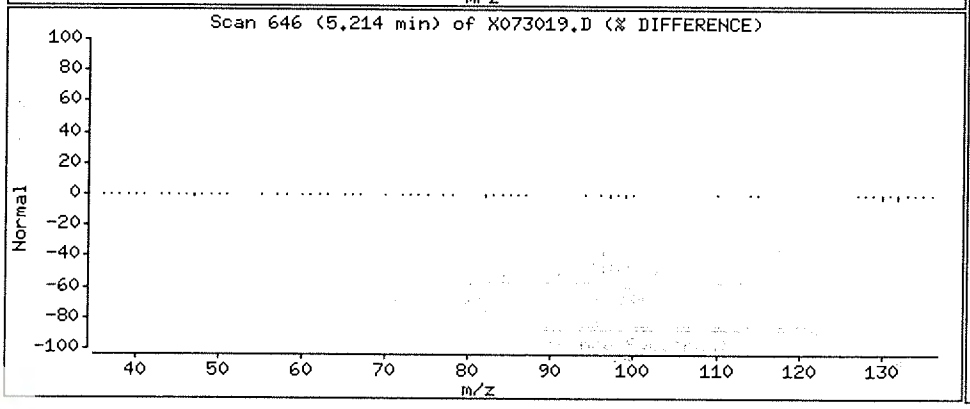












Data File: \\nahstws005\Target\chem\voa6.i\X200730.b\X073020.D Page 1
Report Date: 26-Aug-2020 09:16

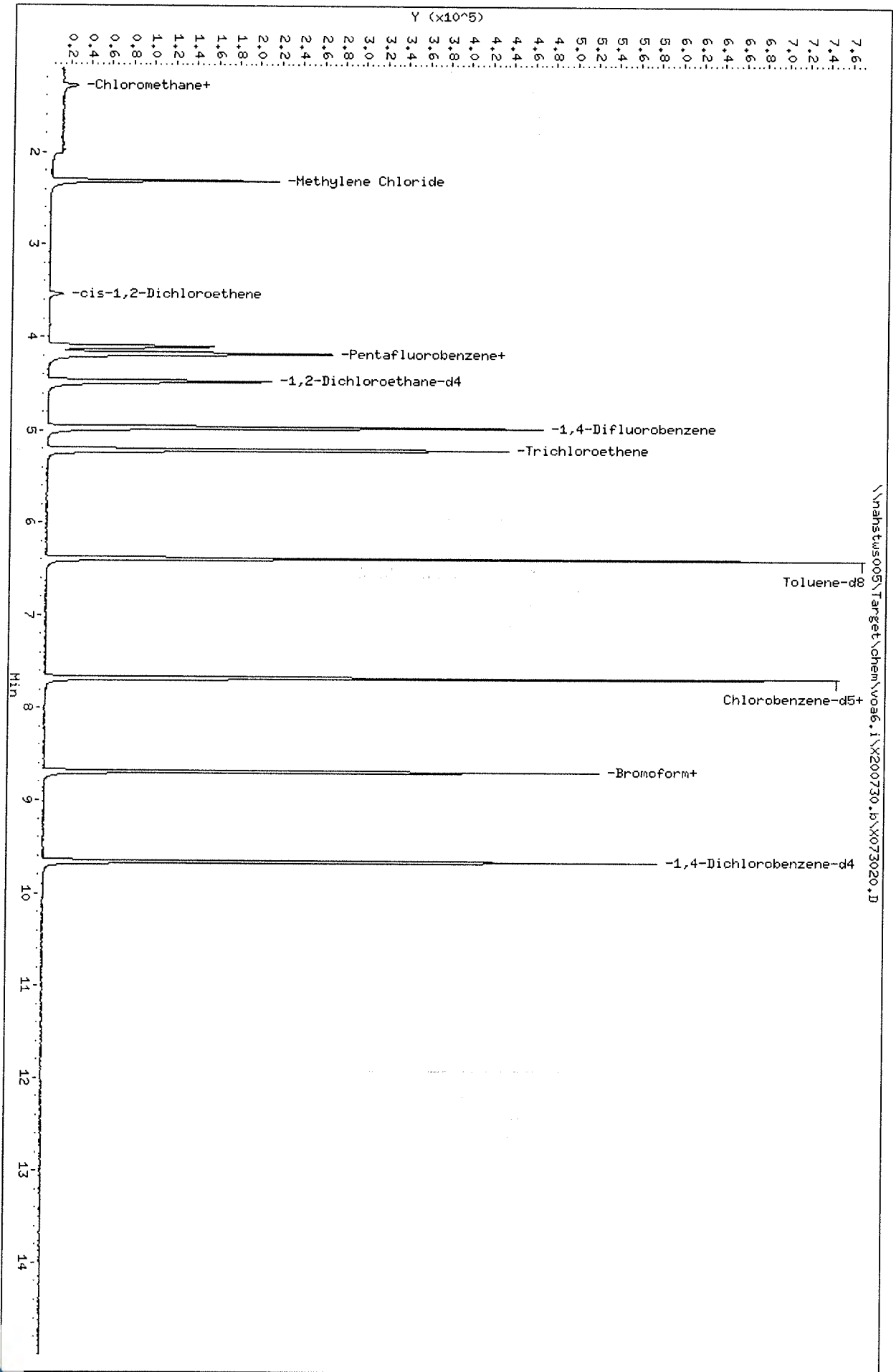
ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X200730.b\X073020.D
Lab Smp Id: HS20071328-07 Client Smp ID: HS20071328-07
Inj Date : 30-JUL-2020 18:25
Operator : PC Inst ID: voa6.i
Smp Info : HS20071328-07;HS20071328-07;;;
Misc Info : HS18090001;WATER;0;25;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200730.b\8260W.m
Meth Date : 26-Aug-2020 09:13 dev.giga Quant Type: ISTD
Cal Date : 13-JUL-2020 13:18 Cal File: X071308.D
Als bottle: 19
Dil Factor: 25.00000
Integrator: HP RTE Compound Sublist: CBI-Hou11.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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	4.189	4.189	(1.000)	190417	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	320492	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	283549	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.662	(1.000)	115297	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.979)	105588	49.7616	49.76
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	155809	54.1305	54.13
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	385946	51.9635	51.96
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	134651	49.0657	49.06
27 cis-1,2-Dichloroethene	96	3.538	3.530	(0.844)	5441	2.22749	55.68
17 Methylene Chloride	84	2.306	2.305	(0.550)	73122	32.1677	804.19
38 Trichloroethene	130	5.214	5.214	(1.049)	122060	52.9158	1322.89



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Date : 30-JUL-2020 18:25
Client ID: HS20071328-07
Sample Info: HS20071328-07;HS20071328-07;;;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

Data File: \\nahstws005\Target\chem\voa6.i\X200730.b\X073020.D

Date : 30-JUL-2020 18:25

Client ID: HS20071328-07

Instrument: voa6.i

Sample Info: HS20071328-07;HS20071328-07;;;

Purge Volume: 5.0

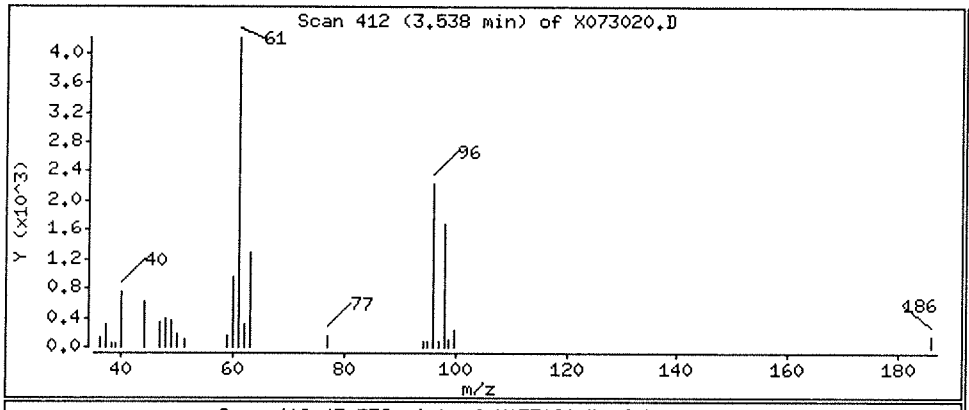
Operator: PC

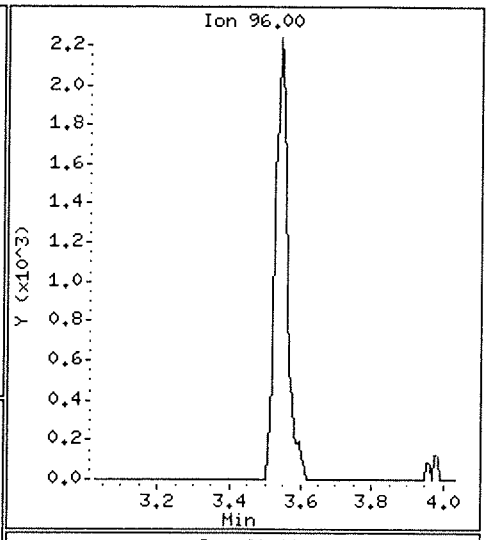
Column phase: DB624

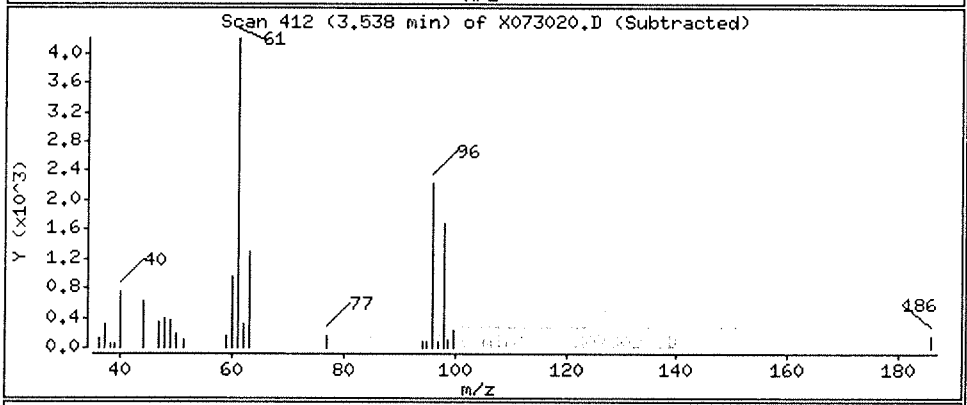
Column diameter: 0.18

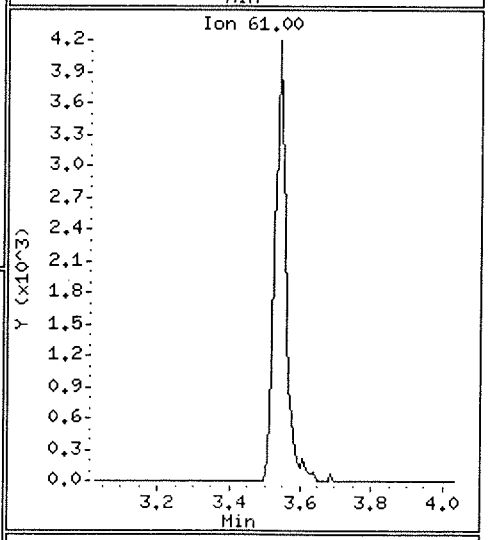
27 cis-1,2-Dichloroethene

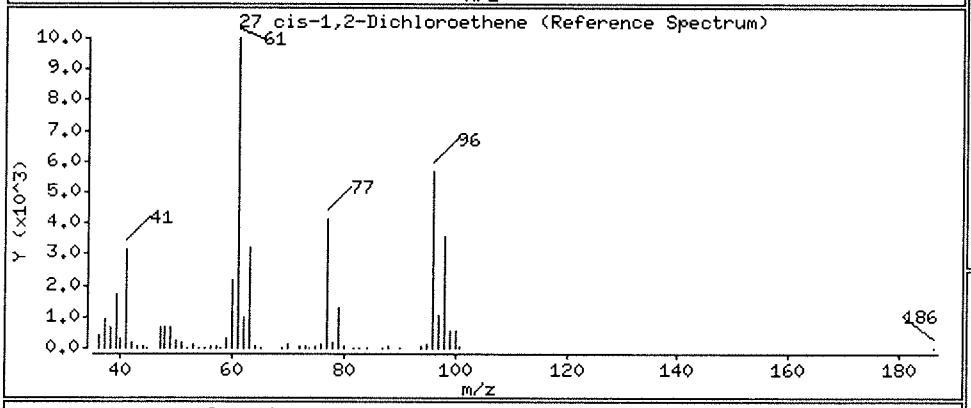
Concentration: 55.68 ug/l

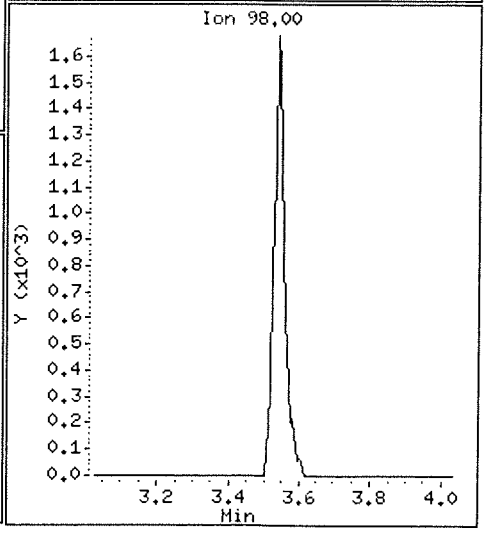


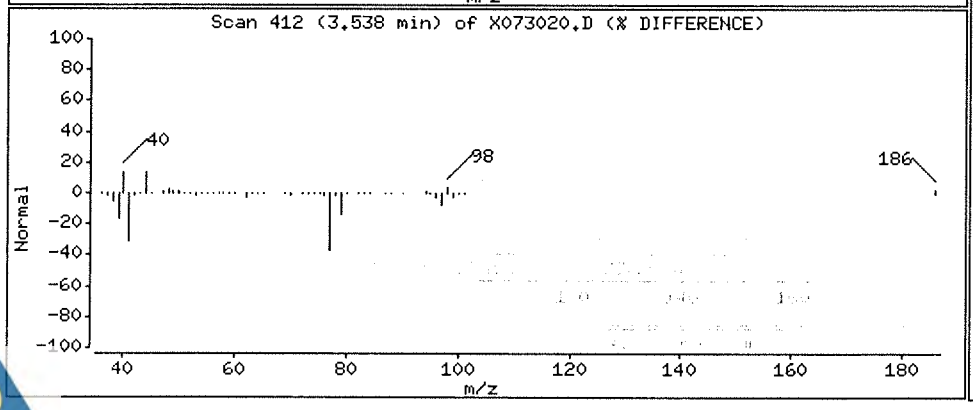












Data File: \\nahstws005\Target\chem\voa6.i\X200730.b\X073020.D

Date : 30-JUL-2020 18:25

Client ID: HS20071328-07

Instrument: voa6.i

Sample Info: HS20071328-07;HS20071328-07;;;

Purge Volume: 5.0

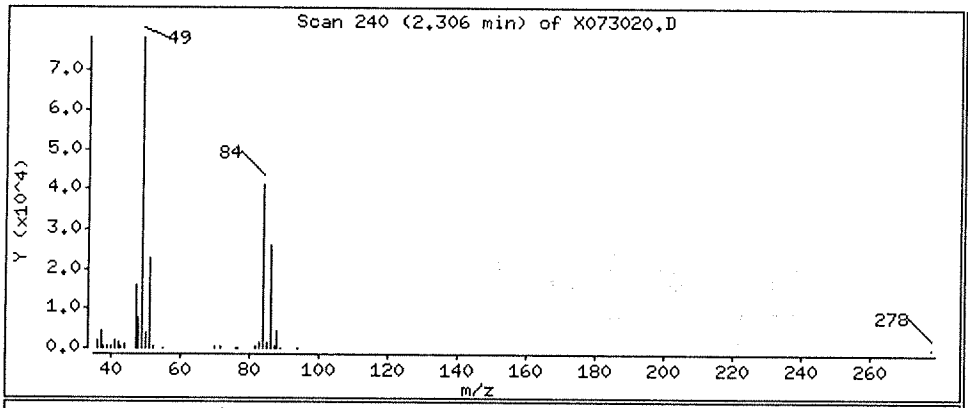
Operator: PC

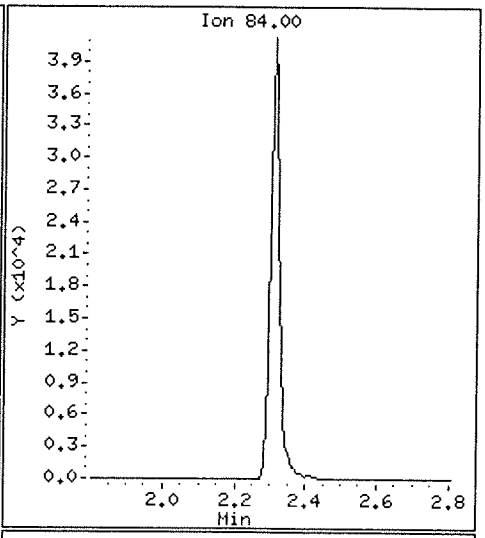
Column phase: DB624

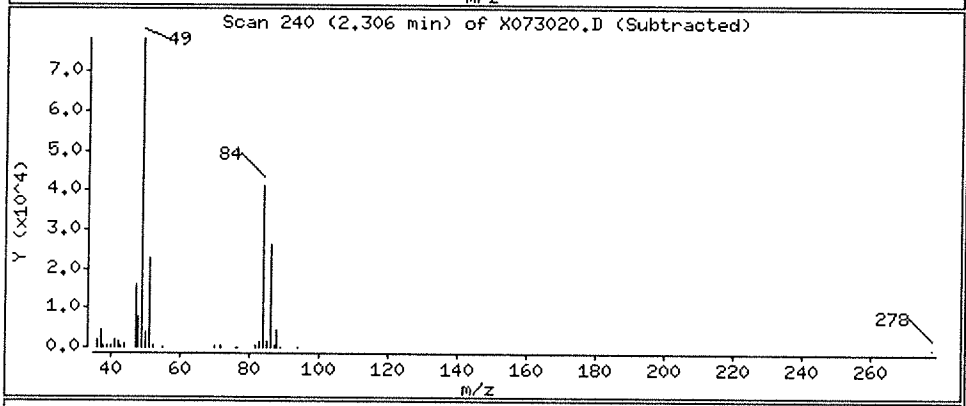
Column diameter: 0.18

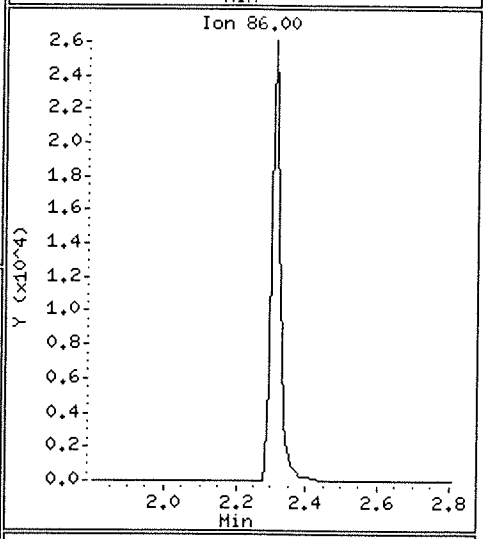
17 Methylene Chloride

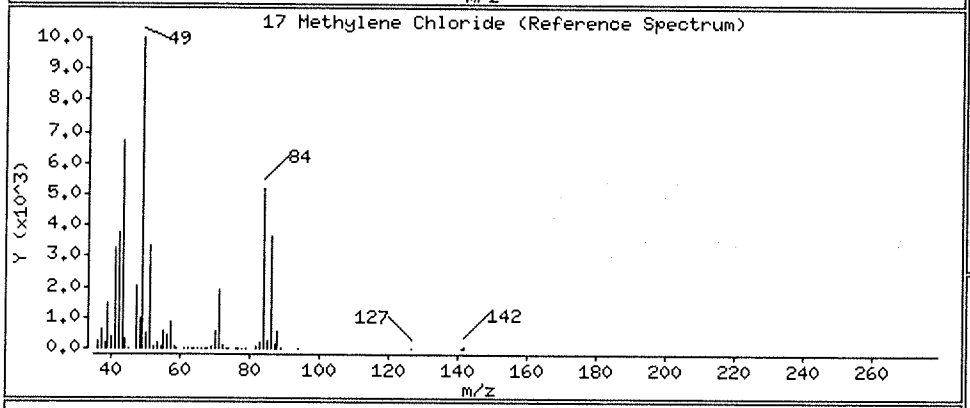
Concentration: 804.19 ug/l

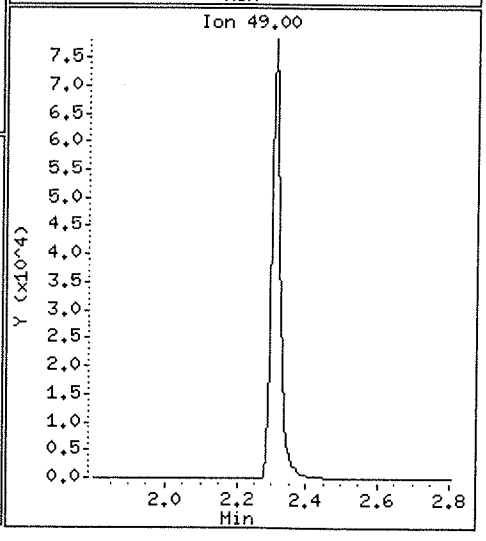


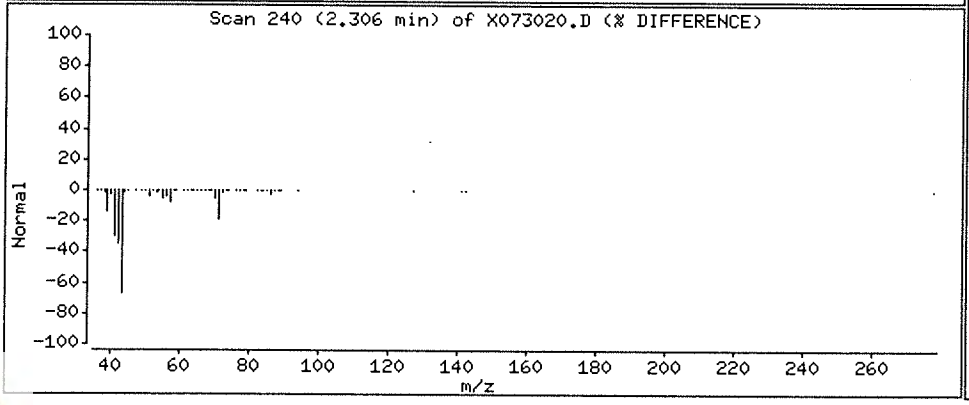












Data File: \\nahstws005\Target\chem\voa6.i\X200730.b\X073020.D

Date : 30-JUL-2020 18:25

Client ID: HS20071328-07

Instrument: voa6.i

Sample Info: HS20071328-07;HS20071328-07;;;

Purge Volume: 5.0

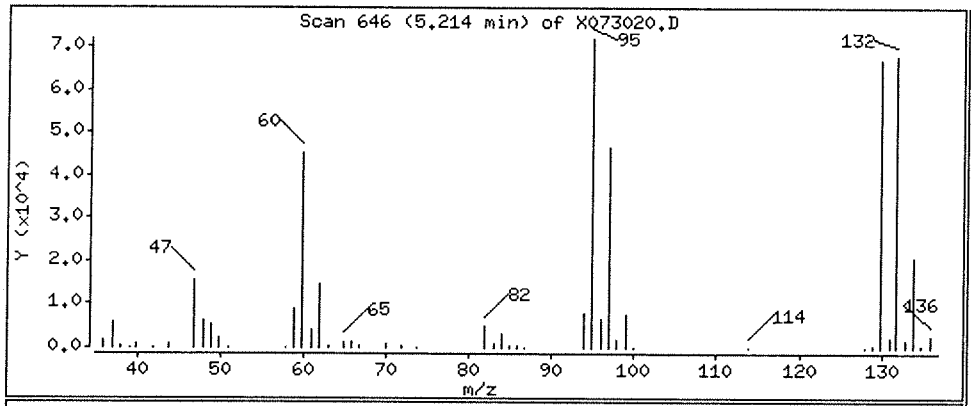
Operator: PC

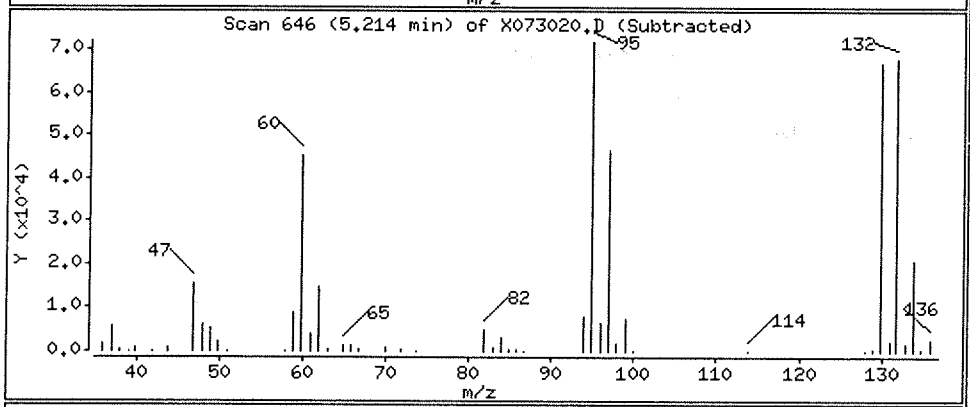
Column phase: DB624

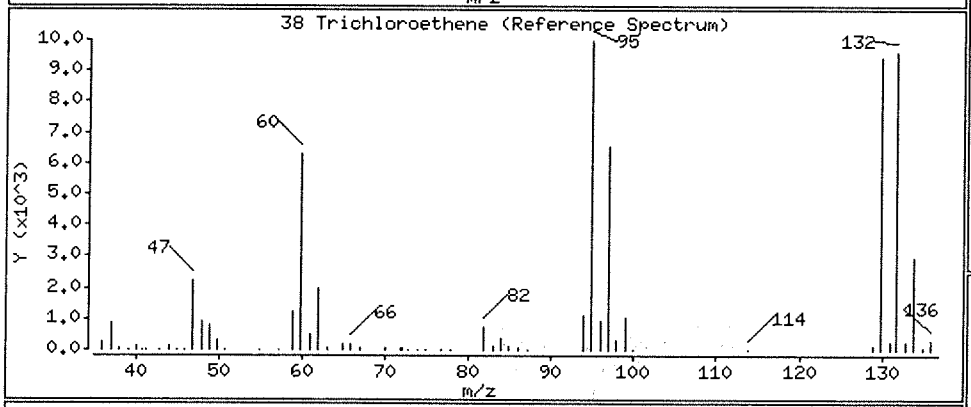
Column diameter: 0.18

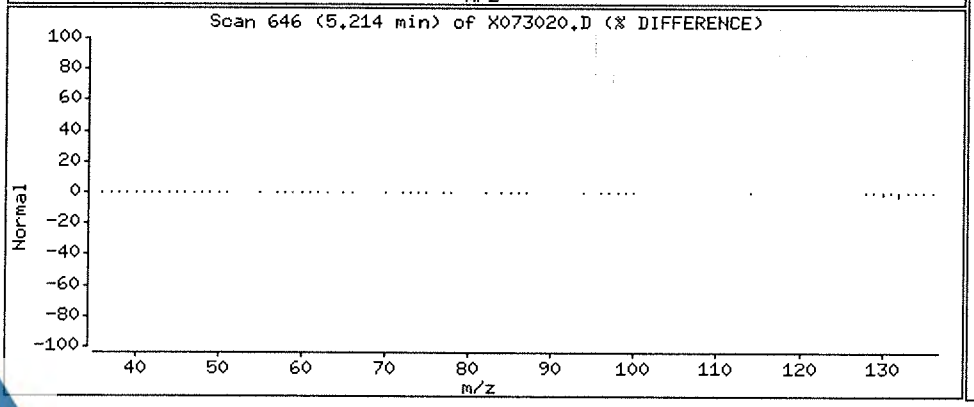
38 Trichloroethene

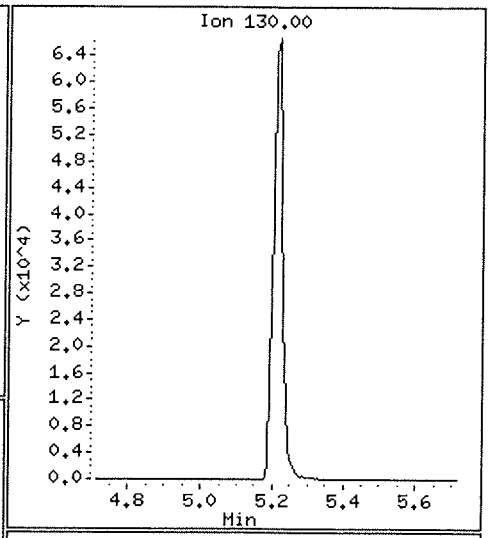
Concentration: 1322.89 ug/l

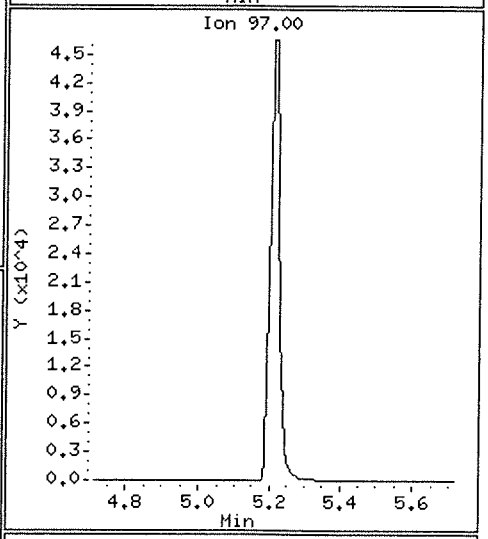


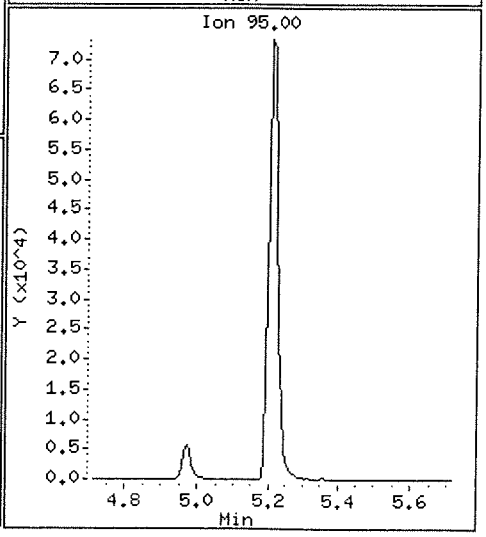












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Data file : \\nahstws005\Target\chem\voa6.i\X200730.b\X073021.D
Lab Smp Id: HS20071328-18 Client Smp ID: HS20071328-18
Inj Date : 30-JUL-2020 18:49
Operator : PC Inst ID: voa6.i
Smp Info : HS20071328-18;HS20071328-18;;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200730.b\8260W.m
Meth Date : 26-Aug-2020 09:13 dev.giga Quant Type: ISTD
Cal Date : 13-JUL-2020 13:18 Cal File: X071308.D
Als bottle: 20
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI-Hou11.sub
Target Version: 4.14
Processing Host: NAHSTW7056

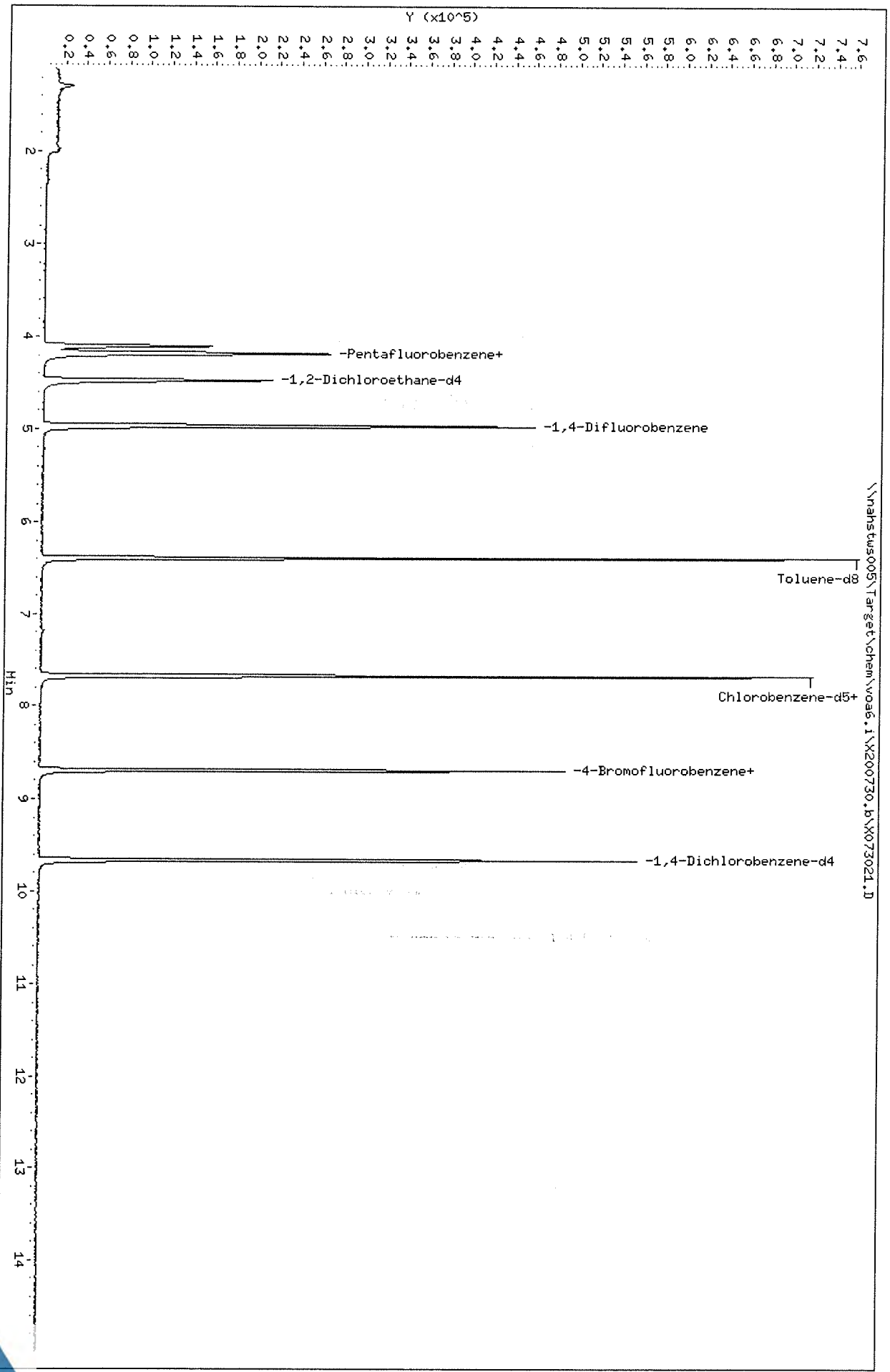
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	188441	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	316427	50.0000	
* 47 Chlorobenzene-d5	117	7.670	7.671	(1.000)	279619	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.662	(1.000)	112299	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.979)	105147	50.0739	50.07
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	154565	54.2606	54.26
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	377693	51.5670	51.56
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	130749	48.3052	48.30

Data File: \\nahstws005\Target\chem\voa6.i\X200730.b\X073021.D
Date : 30-JUL-2020 18:49
Client ID: HS20071328-18
Sample Info: HS20071328-18;HS20071328-18;;;
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\X200730.b\X073022.D
Lab Smp Id: HS20071328-02 Client Smp ID: HS20071328-02
Inj Date : 30-JUL-2020 19:14
Operator : PC Inst ID: voa6.i
Smp Info : HS20071328-02;HS20071328-02;;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200730.b\8260W.m
Meth Date : 26-Aug-2020 09:13 dev.giga Quant Type: ISTD
Cal Date : 13-JUL-2020 13:18 Cal File: X071308.D
Als bottle: 21
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI-Hou11.sub
Target Version: 4.14
Processing Host: NAHSTW7056

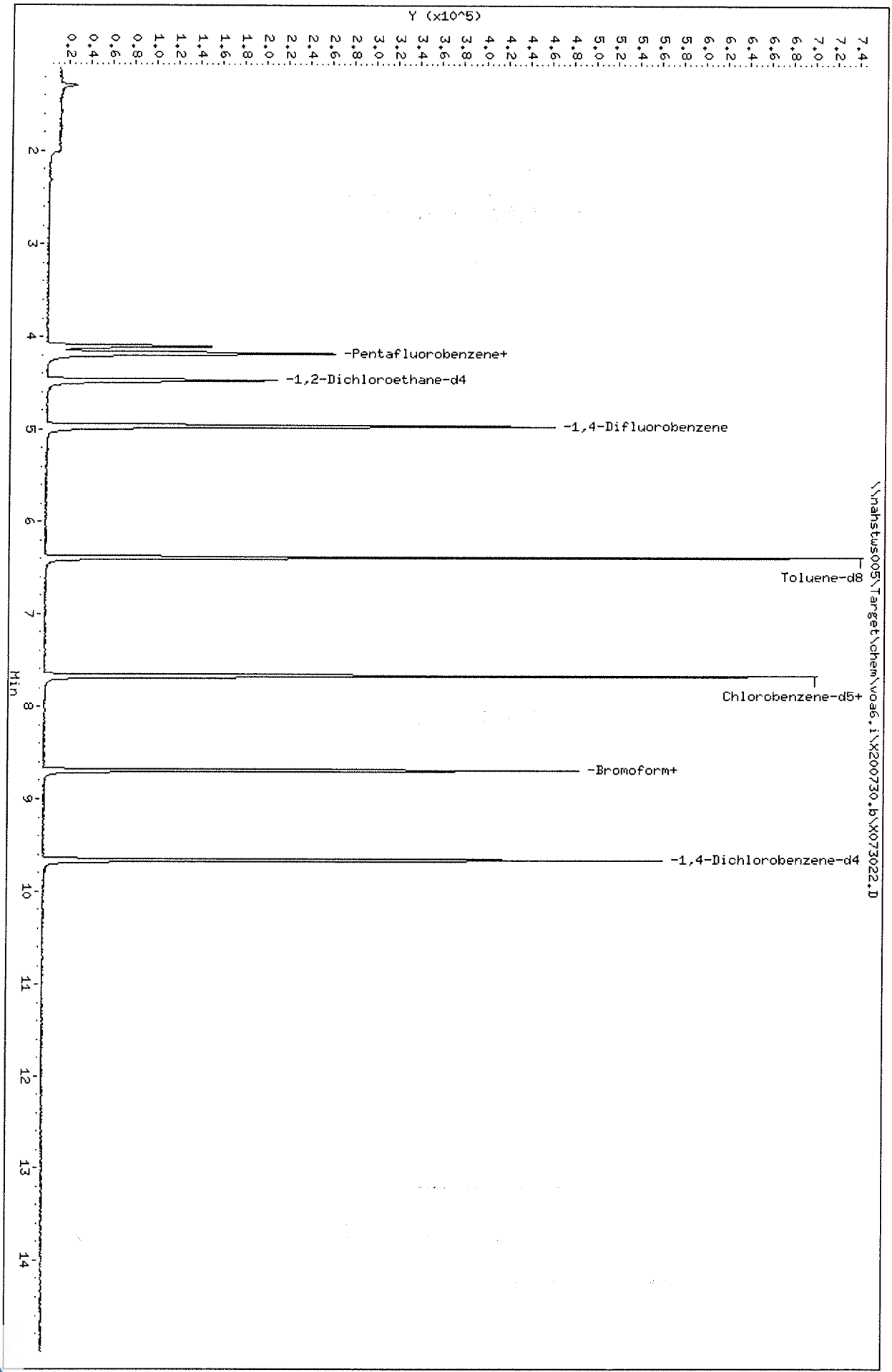
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	186331	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	313651	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	269863	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.662	(1.000)	108723	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.979)	104756	50.4532	50.45
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	150446	53.4179	53.41
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	375376	53.1035	53.10
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	129093	49.4299	49.42

Data File: \\nahstws005\Target\chem\voa6.i\X200730.b\X073022.D
Date : 30-JUL-2020 19:14
Client ID: HS20071328-02
Sample Info: HS20071328-02;HS20071328-02;;;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18



Data File: \\nahstws005\Target\chem\voa6.i\X200730.b\X073023.D Page 1
Report Date: 26-Aug-2020 09:17

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X200730.b\X073023.D
Lab Smp Id: HS20071328-03 Client Smp ID: HS20071328-03
Inj Date : 30-JUL-2020 19:38
Operator : PC Inst ID: voa6.i
Smp Info : HS20071328-03;HS20071328-03;;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200730.b\8260W.m
Meth Date : 26-Aug-2020 09:13 dev.giga Quant Type: ISTD
Cal Date : 13-JUL-2020 13:18 Cal File: X071308.D
Als bottle: 22
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI-Hou11.sub
Target Version: 4.14
Processing Host: NAHSTW7056

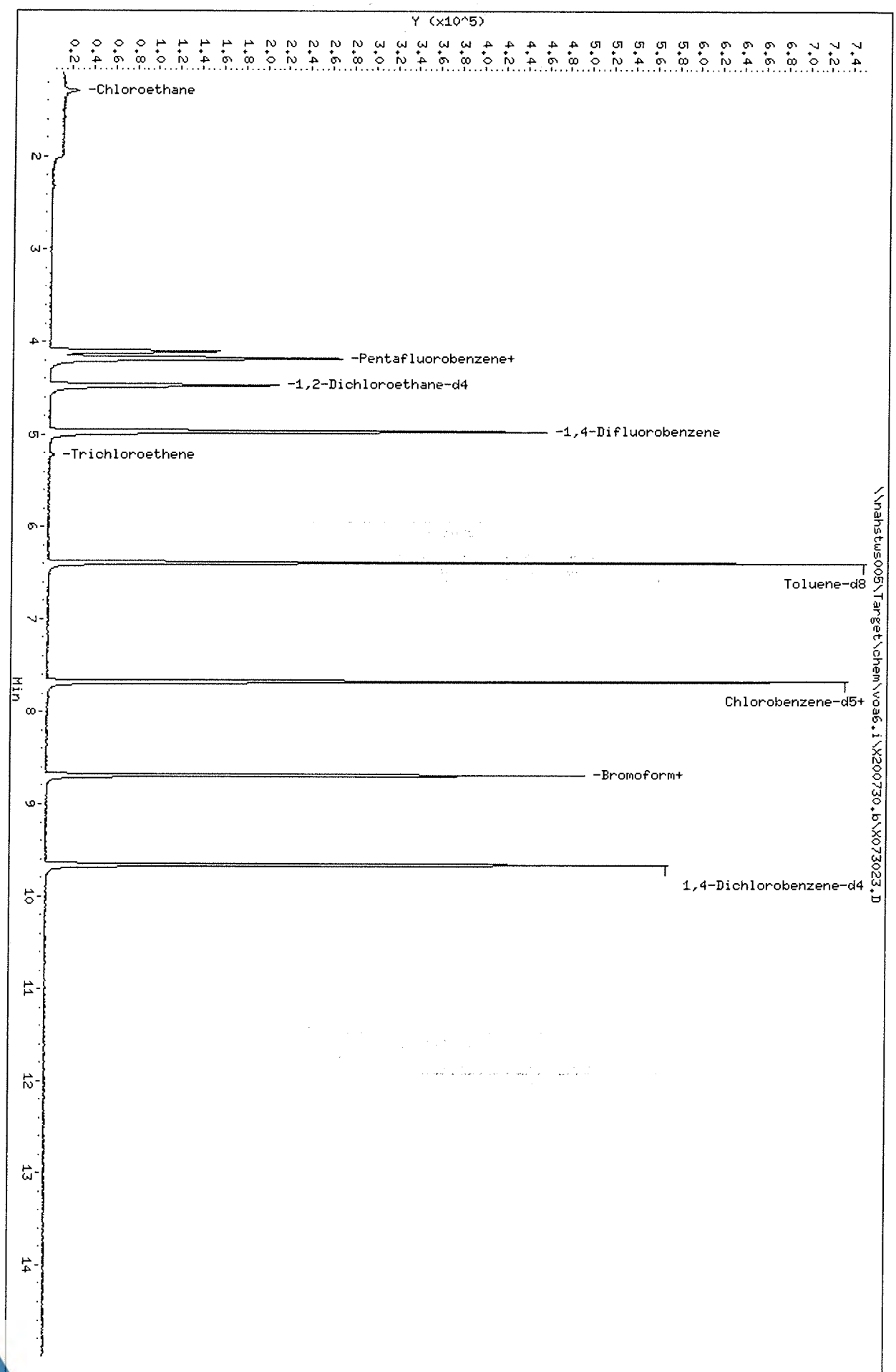
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	188424	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	316424	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	276230	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.662	(1.000)	117745	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.979)	104947	49.9830	49.98
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	152085	53.4002	53.40
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	382003	52.7954	52.79
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	133302	49.8698	49.86
38 Trichloroethene	130	5.214	5.214	(1.049)	1306	0.57346	0.57

Data File: \\nahstws005\Target\chem\voa6.i\X200730.b\X073023.D
Date : 30-JUL-2020 19:38
Client ID: HS20071328-03
Sample Info: HS20071328-03;HS20071328-03;;;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18



Data File: \\nahstws005\Target\chem\voa6.i\X200730.b\X073023.D

Date : 30-JUL-2020 19:38

Client ID: HS20071328-03

Instrument: voa6.i

Sample Info: HS20071328-03;HS20071328-03;;;

Purge Volume: 5.0

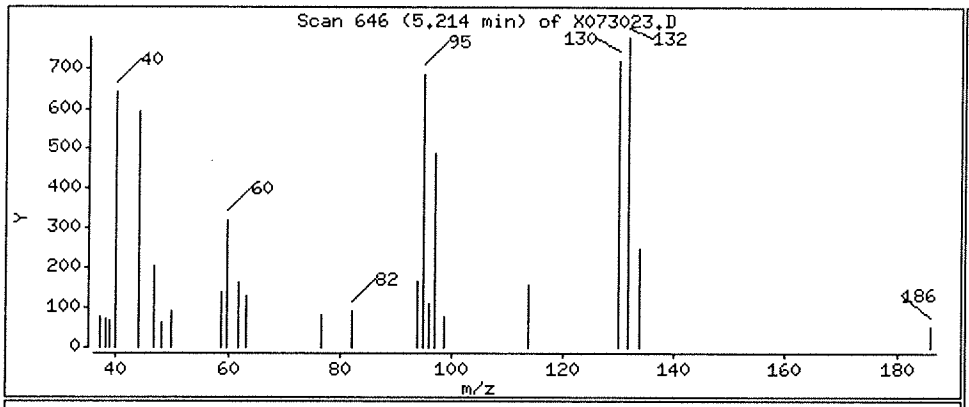
Operator: PC

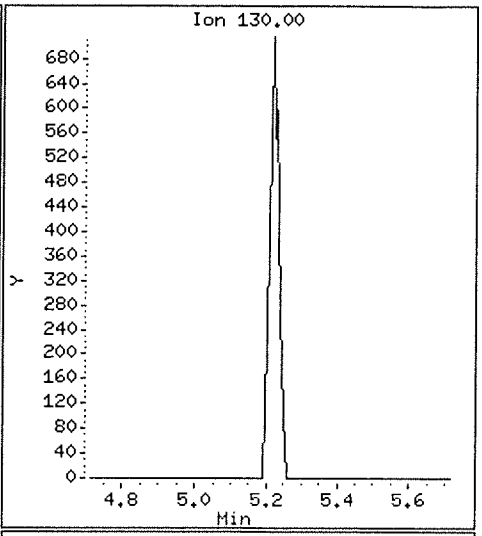
Column phase: DB624

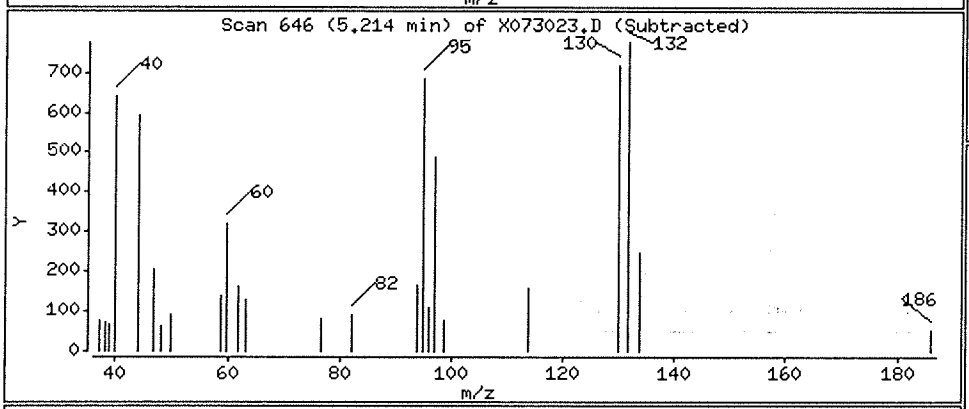
Column diameter: 0.18

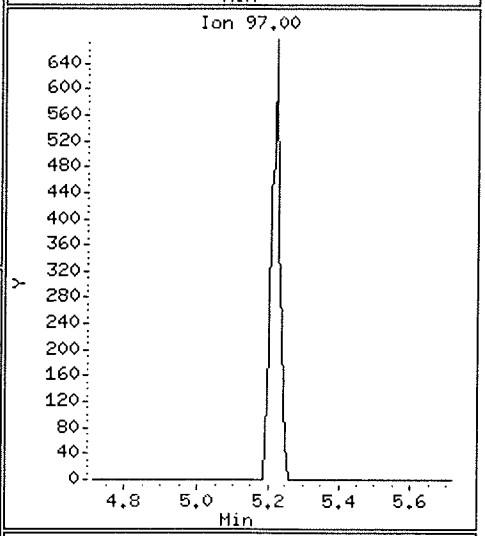
38 Trichloroethene

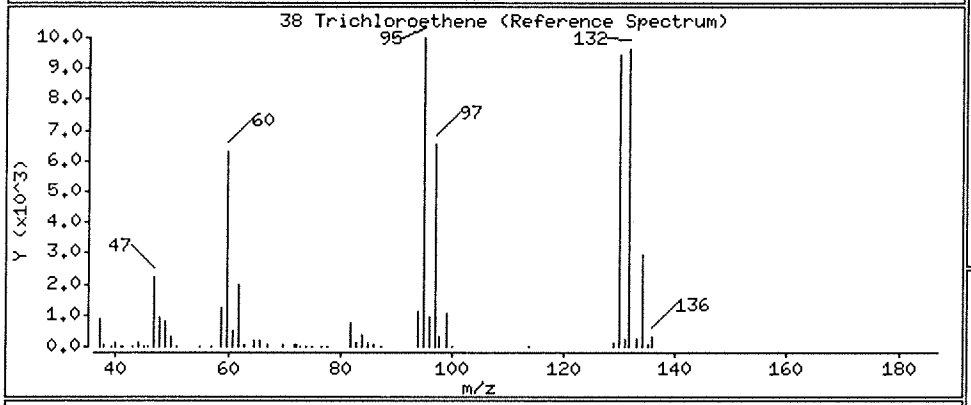
Concentration: 0.57 ug/l

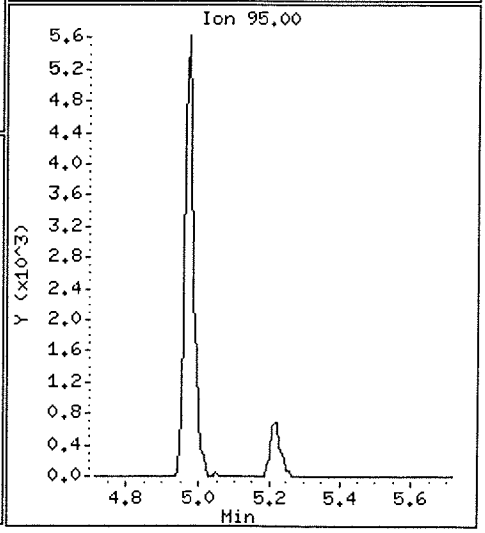


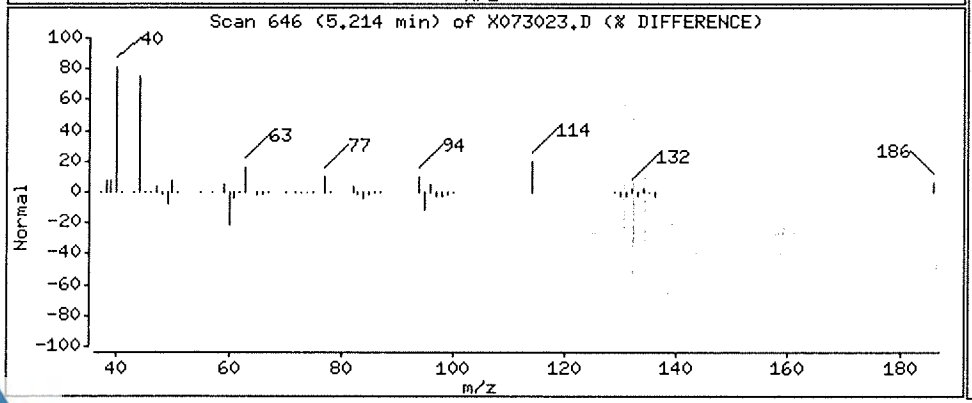












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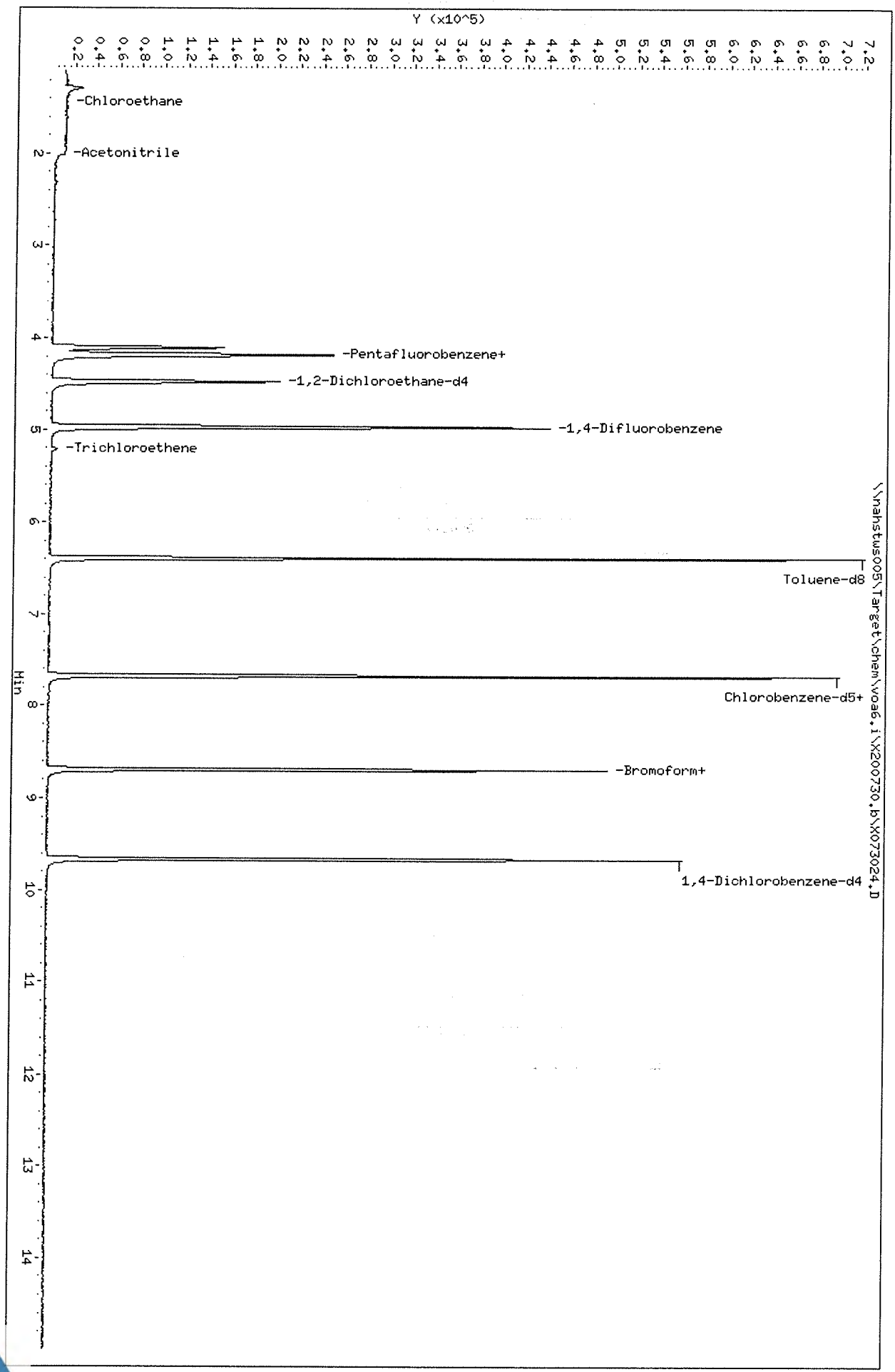
Data file : \\nahstws005\Target\chem\voa6.i\X200730.b\X073024.D
Lab Smp Id: HS20071328-04 Client Smp ID: HS20071328-04
Inj Date : 30-JUL-2020 20:02
Operator : PC Inst ID: voa6.i
Smp Info : HS20071328-04;HS20071328-04;;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200730.b\8260W.m
Meth Date : 26-Aug-2020 09:13 dev.giga Quant Type: ISTD
Cal Date : 13-JUL-2020 13:18 Cal File: X071308.D
Als bottle: 23
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI-Hou11.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	177223	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	305721	50.0000	
* 47 Chlorobenzene-d5	117	7.670	7.671	(1.000)	264696	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.662	(1.000)	110840	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.979)	99943	50.6092	50.60
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	144373	53.8931	53.89
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	365115	52.6602	52.66
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	127651	49.8363	49.83
38 Trichloroethene	130	5.213	5.214	(1.049)	1454	0.66080	0.66



Data File: \\nahstws005\Target\chem\voa6.i\X200730.b\X073024.D
Date : 30-JUL-2020 20:02
Client ID: HS20071328-04
Sample Info: HS20071328-04;HS20071328-04;;;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

Data File: \\nahstws005\Target\chem\voa6.i\X200730.b\X073024.D

Date : 30-JUL-2020 20:02

Client ID: HS20071328-04

Instrument: voa6.i

Sample Info: HS20071328-04;HS20071328-04;;;

Purge Volume: 5.0

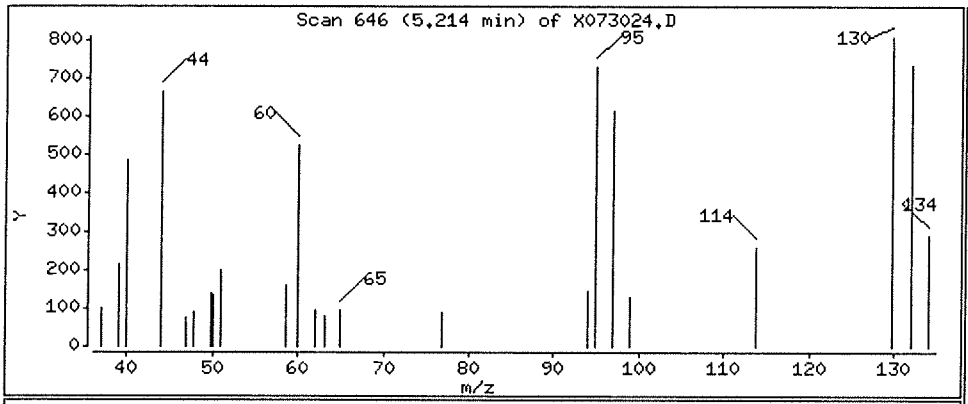
Operator: PC

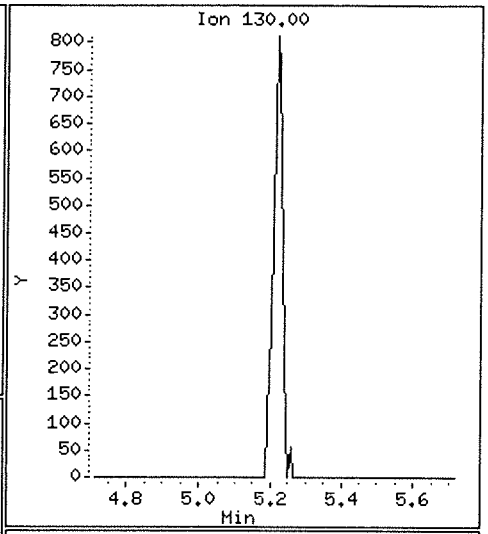
Column phase: DB624

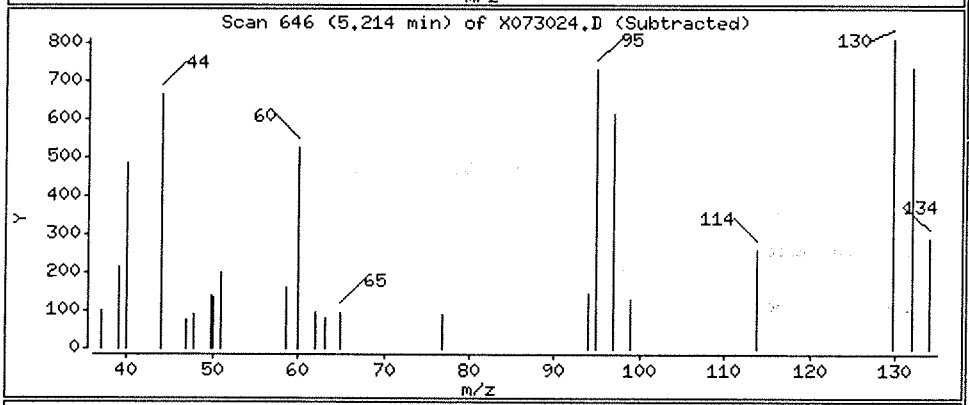
Column diameter: 0.18

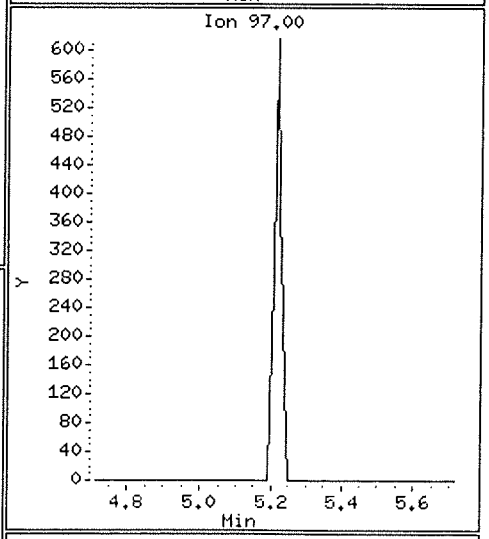
38 Trichloroethene

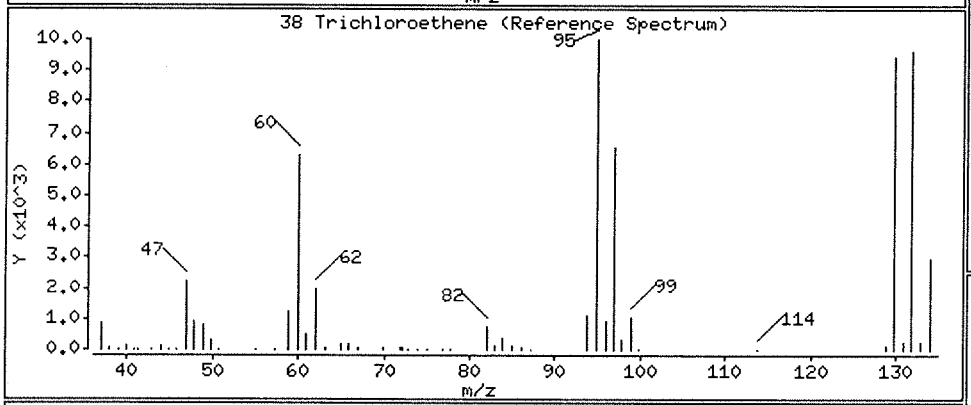
Concentration: 0.66 ug/l

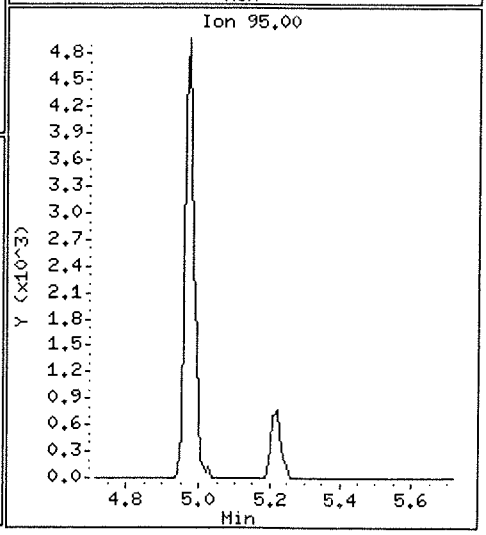


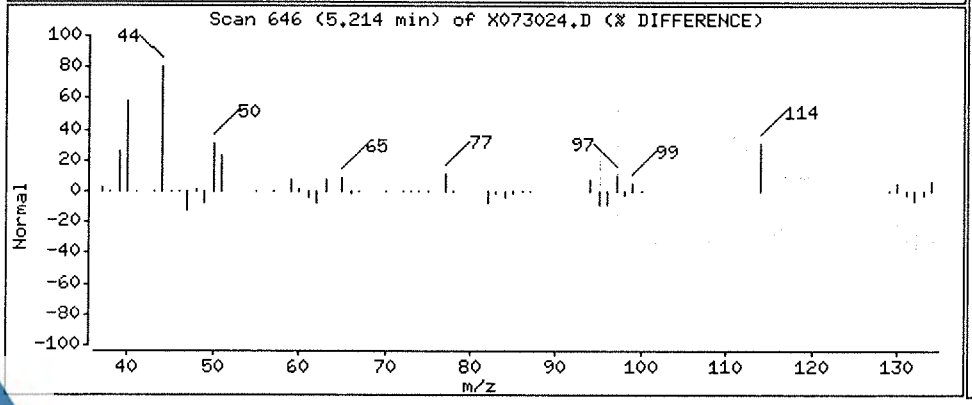












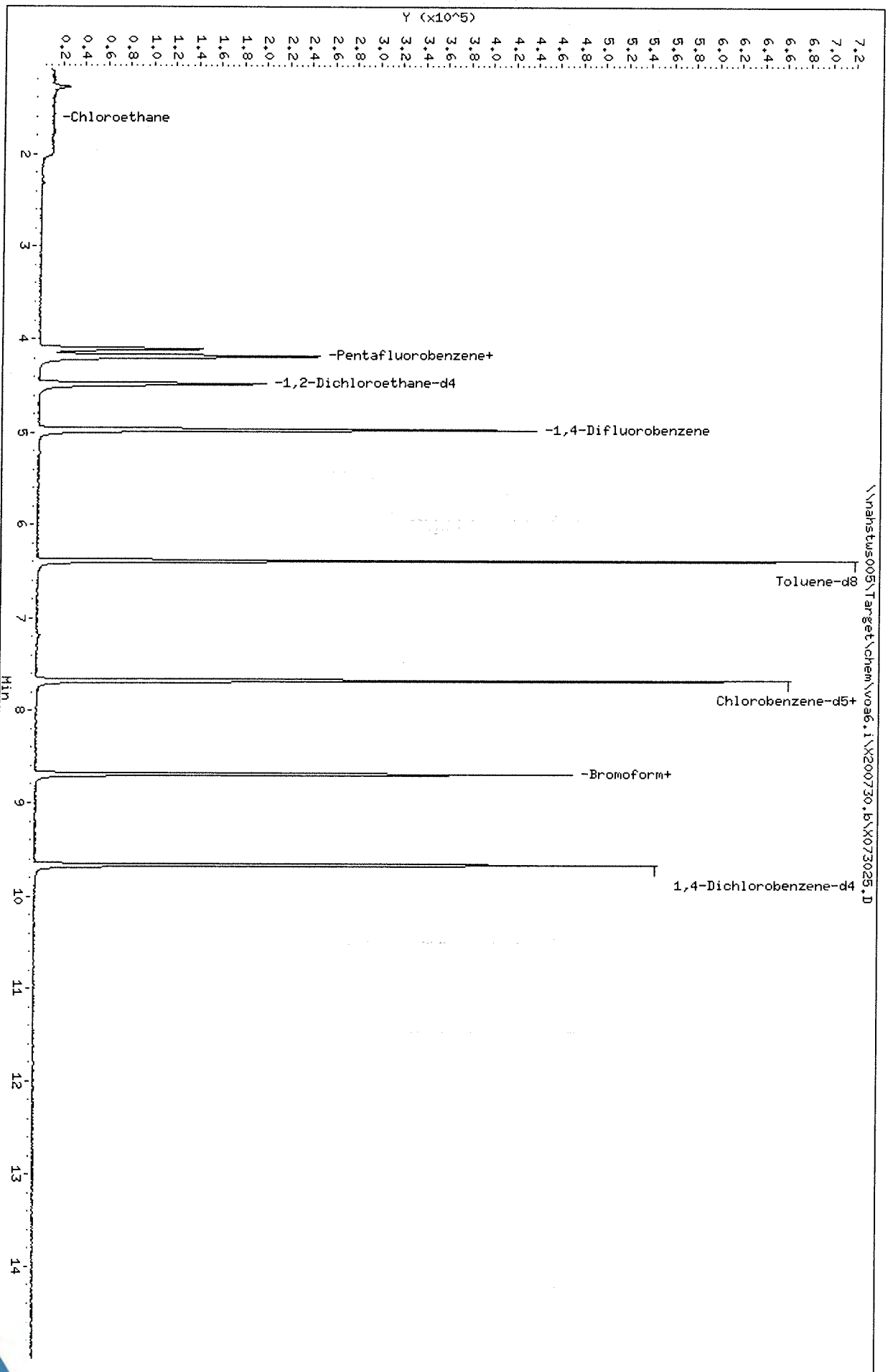
ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X200730.b\X073025.D
Lab Smp Id: HS20071328-09 Client Smp ID: HS20071328-09
Inj Date : 30-JUL-2020 20:26
Operator : PC Inst ID: voa6.i
Smp Info : HS20071328-09;HS20071328-09;;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200730.b\8260W.m
Meth Date : 26-Aug-2020 09:13 dev.giga Quant Type: ISTD
Cal Date : 13-JUL-2020 13:18 Cal File: X071308.D
Als bottle: 24
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI-Hou11.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	174817	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	298415	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	256846	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	107497	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.979)	98973	50.8081	50.80
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	141462	53.5355	53.53
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	358439	53.2773	53.27
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	124788	50.2115	50.21



Data File: \\nahstws005\Target\chem\voa6.i\X200730.b\X073025.D
Date : 30-JUL-2020 20:26
Client ID: HS20071328-09
Sample Info: HS20071328-09;HS20071328-09;;;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

Data File: \\nahstws005\Target\chem\voa6.i\X200730.b\X073026.D Page 1
Report Date: 26-Aug-2020 09:17

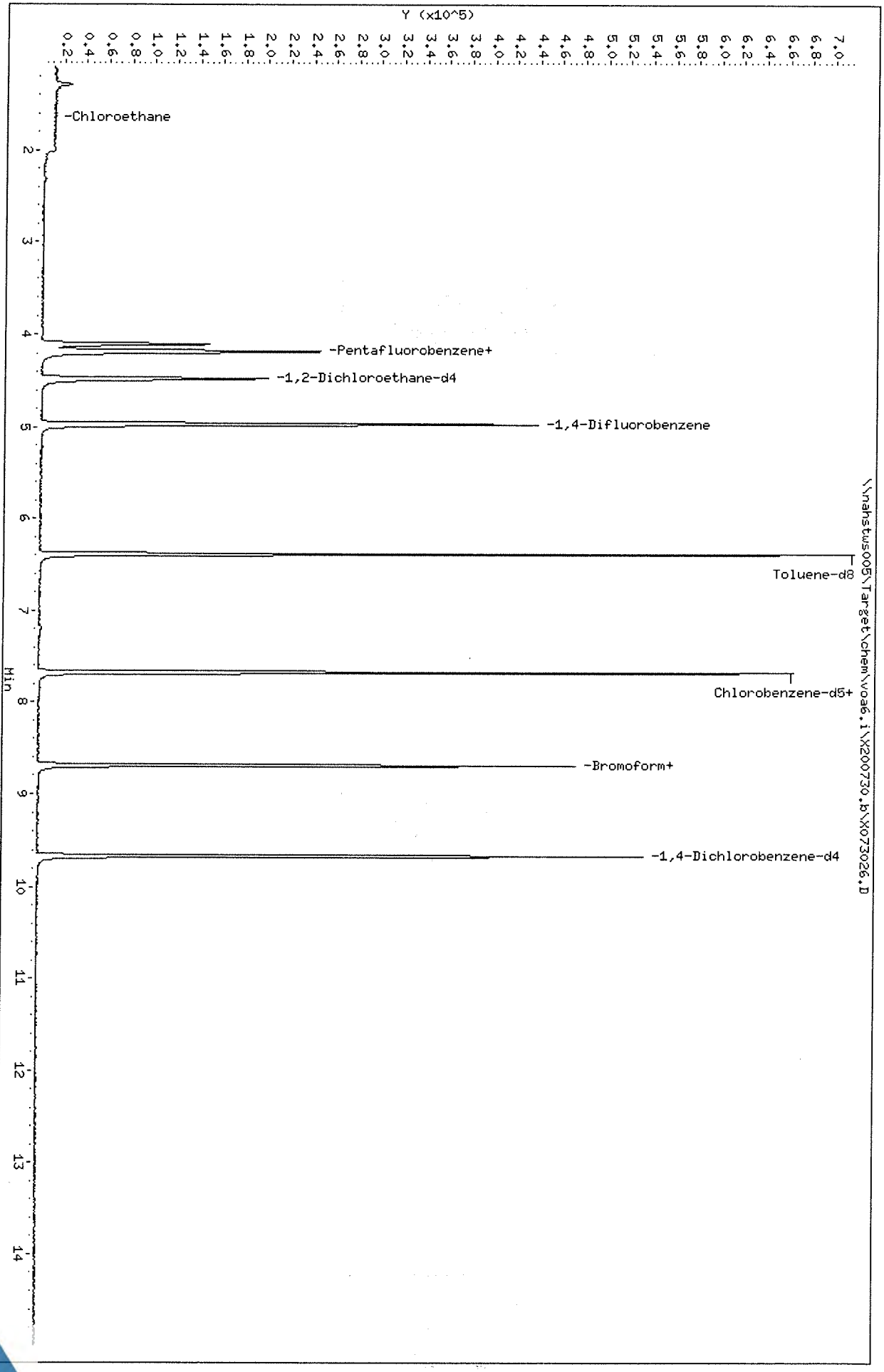
ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X200730.b\X073026.D
Lab Smp Id: HS20071328-10 Client Smp ID: HS20071328-10
Inj Date : 30-JUL-2020 20:50
Operator : PC Inst ID: voa6.i
Smp Info : HS20071328-10;HS20071328-10;;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200730.b\8260W.m
Meth Date : 26-Aug-2020 09:13 dev.giga Quant Type: ISTD
Cal Date : 13-JUL-2020 13:18 Cal File: X071308.D
Als bottle: 25
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI-Hou11.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	177670	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	297342	50.0000	
* 47 Chlorobenzene-d5	117	7.670	7.671	(1.000)	258109	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.662	(1.000)	107297	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.979)	98634	49.8194	49.81
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	141840	52.8211	52.82
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	356311	52.7019	52.70
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	124171	49.7135	49.71



Data File: \\nahstws005\Target\chem\voa6.i\X200730.b\X073026.D
Date : 30-JUL-2020 20:50
Client ID: HS20071328-10
Sample Info: HS20071328-10;HS20071328-10;;;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

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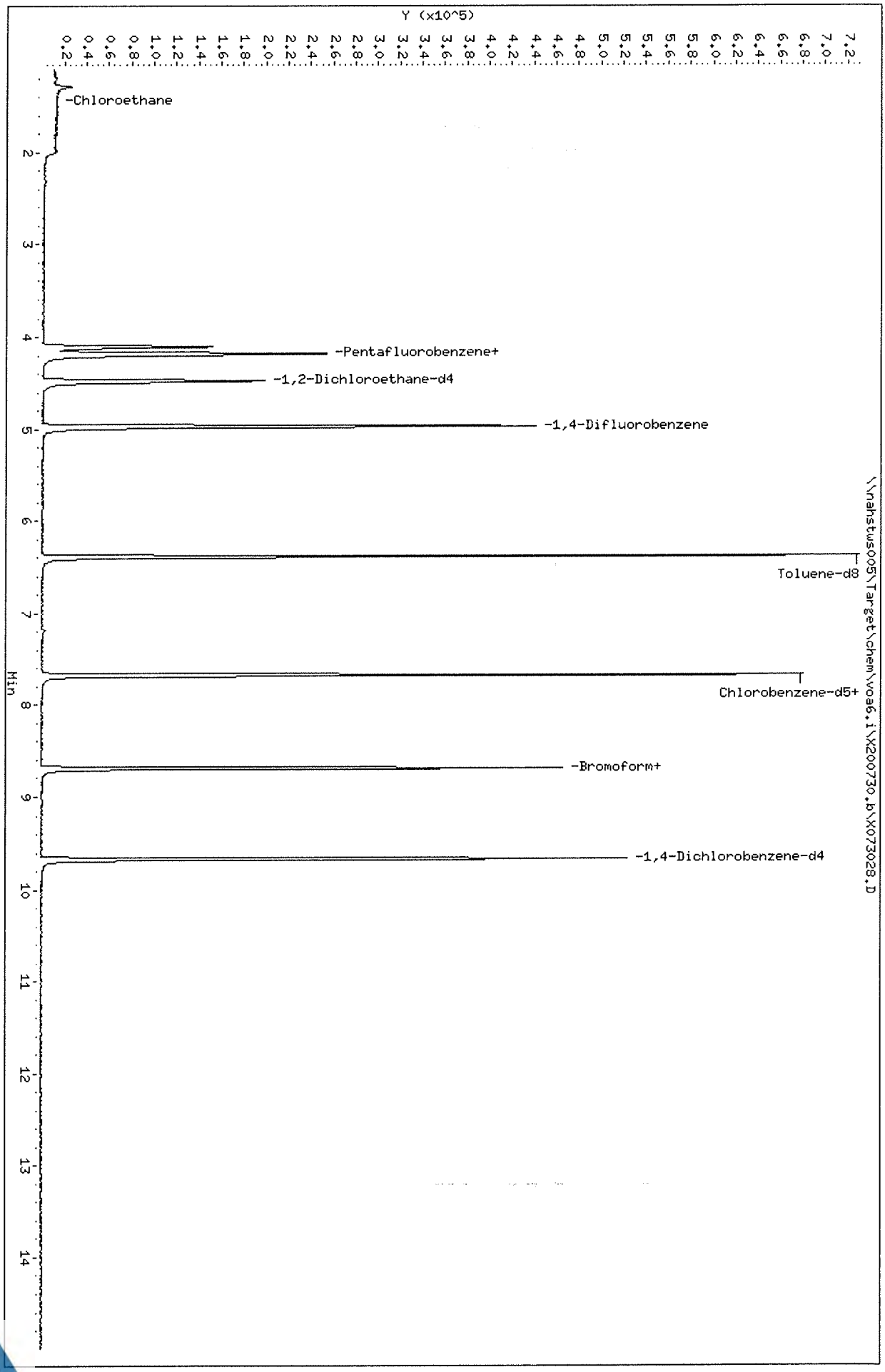
Data file : \\nahstws005\Target\chem\voa6.i\X200730.b\X073028.D
Lab Smp Id: HS20071328-17 Client Smp ID: HS20071328-17
Inj Date : 30-JUL-2020 21:38
Operator : PC Inst ID: voa6.i
Smp Info : HS20071328-17;HS20071328-17;;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200730.b\8260W.m
Meth Date : 26-Aug-2020 09:13 dev.giga Quant Type: ISTD
Cal Date : 13-JUL-2020 13:18 Cal File: X071308.D
Als bottle: 27
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI-Houl1.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	180737	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	307269	50.0000	
* 47 Chlorobenzene-d5	117	7.670	7.671	(1.000)	261621	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.662	(1.000)	108938	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.979)	100816	50.0578	50.05
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	142616	52.2128	52.21
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	366884	53.5373	53.53
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	126490	49.9648	49.96



Data File: \\nahstws005\Target\chem\voa6.i\X200730.b\X073028.D
Date : 30-JUL-2020 21:38
Client ID: HS200713Z8-17
Sample Info: HS200713Z8-17;HS200713Z8-17;;;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

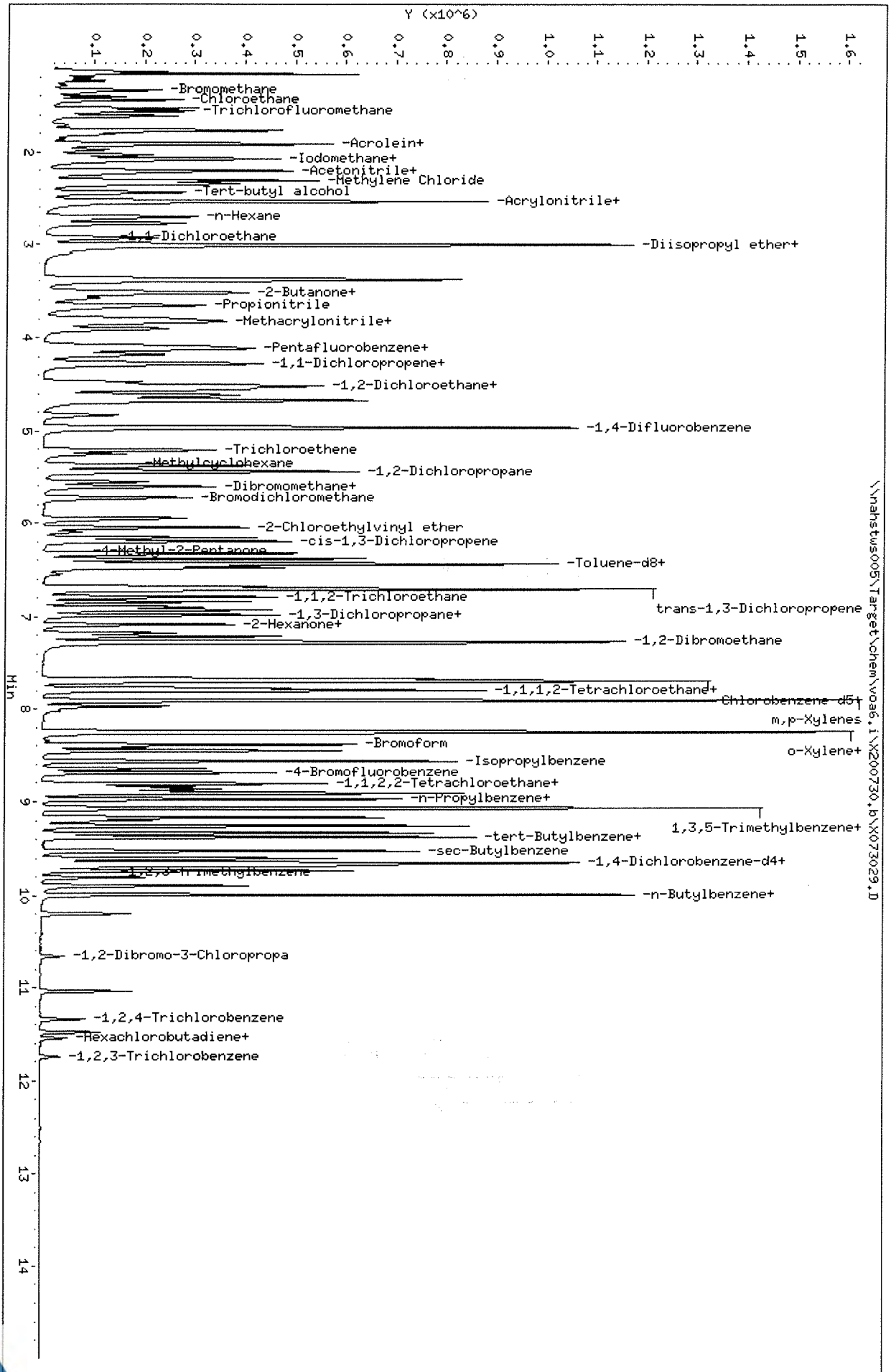
ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X200730.b\X073029.D
Lab Smp Id: CCV-END Client Smp ID: CCV-END
Inj Date : 30-JUL-2020 22:02
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\X200730.b\8260W.m
Meth Date : 21-Aug-2020 17:19 voa6.i Quant Type: ISTD
Cal Date : 13-JUL-2020 13:18 Cal File: X071308.D
Als bottle: 28 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI-Hou11.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
*	1 Pentafluorobenzene	168	4.189	4.189	(1.000)	160999	50.0000	
*	36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	297433	50.0000	
*	47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	272911	50.0000	
*	70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	119075	50.0000	
$	30 Dibromofluoromethane	113	4.103	4.103	(0.979)	93900	50.0000	52.34
$	35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	136428	50.0000	56.04
$	48 Toluene-d8	98	6.388	6.388	(0.833)	316612	50.0000	44.29
$	69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	123366	50.0000	46.68
	53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	84142	50.0000	50.35
	11 1,1-Dichloroethene	96	1.919	1.919	(0.458)	85832	50.0000	60.93
	33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	192601	50.0000	54.41
	27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.843)	112200	50.0000	54.32
	17 Methylene Chloride	84	2.305	2.305	(0.550)	119091	50.0000	63.24
	38 Trichloroethene	130	5.214	5.214	(1.049)	95425	50.0000	44.57
	5 Vinyl Chloride	62	1.145	1.145	(0.273)	144346	50.0000	54.52



Data File: \\nahstws005\Target\chem\voa6.i\X200730.b\X073029.D
Date : 30-JUL-2020 22:02
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: 41322 **Analyst:** Presenta Cabascango

Date: 08-03-2020 **Reviewer:**

Method: 8260 **Laboratory:** Houston

Comments:

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	pH
1	BFB	TUNE	08-03-2020 11:16 am	1.00	50 mL	50 mL	X080301.D	Liquid	Y	NA
	Auto find/ purged									
2	VSTD000.25	ICAL1	08-03-2020 11:40 am	1.00	50 mL	50 mL	X080302.D	Liquid	Y	NA
	0.10 uL cal std/100 mL DI									
3	VSTD000.5	ICAL2	08-03-2020 12:04 pm	1.00	50 mL	50 mL	X080303.D	Liquid	Y	NA
	0.10 uL cal std/50 mL DI									
4	VSTD001	ICAL3	08-03-2020 12:52 pm	1.00	50 mL	50 mL	X080304.D	Liquid	Y	NA
	0.20 uL cal std/50 mL DI									
5	VSTD002	ICAL4	08-03-2020 01:16 pm	1.00	50 mL	50 mL	X080305.D	Liquid	Y	NA
	0.40 uL cal std/50 mL DI									
6	VSTD005	ICAL5	08-03-2020 01:40 pm	1.00	50 mL	50 mL	X080306.D	Liquid	Y	NA
	1.0 uL cal std/50 mL DI									
7	VSTD020	ICAL6	08-03-2020 02:04 pm	1.00	50 mL	50 mL	X080307.D	Liquid	Y	NA
	4.0 uL cal std/50 mL DI									
8	VSTD050	ICAL7	08-03-2020 02:28 pm	1.00	50 mL	50 mL	X080308.D	Liquid	Y	NA
	10 uL cal std/50 mL DI									
9	VSTD100	ICAL8	08-03-2020 02:52 pm	1.00	50 mL	50 mL	X080309.D	Liquid	Y	NA
	20 uL cal std/50 mL DI									
10	VSTD150	ICAL9	08-03-2020 03:16 pm	1.00	50 mL	50 mL	X080310.D	Liquid	Y	NA
	30 uL cal std/50 mL DI									
11	VSTD200	ICAL	08-03-2020 03:40 pm	1.00	50 mL	50 mL	X080311.D	Liquid	Y	NA
	40 uL cal std/50 mL DI									
12	BLANK	SAMP	08-03-2020 04:04 pm	1.00	50 mL	50 mL	X080312.D	Liquid	Y	NA
13	BLANK	SAMP	08-03-2020 04:28 pm	1.00	50 mL	50 mL	X080313.D	Liquid	Y	NA
14	ICV	CCV	08-03-2020 04:51 pm	1.00	50 mL	50 mL	X080314.D	Liquid	Y	NA
	10 uL ical std/50 mL DI									
15	BLANK	SAMP	08-03-2020 05:16 pm	1.00	50 mL	50 mL	X080315.D	Liquid	Y	NA
16	VLCSW-200803	LCS	08-03-2020 05:39 pm	1.00	50 mL	50 mL	X080316.D	Liquid	Y	NA
	4.0 uL cal std/50 mL DI									
17	BLANK	SAMP	08-03-2020 06:04 pm	1.00	50 mL	50 mL	X080317.D	Liquid	Y	NA
18	BLANK	SAMP	08-03-2020 06:28 pm	1.00	50 mL	50 mL	X080318.D	Liquid	Y	NA
19	VBLKW-200803	MBLK	08-03-2020 06:52 pm	1.00	50 mL	50 mL	X080319.D	Liquid	Y	NA
20	HS20070575-13	SAMP	08-03-2020 07:16 pm	1.00	50 mL	50 mL	X080320.D	Liquid	Y	NA
21	HS20070575-14	SAMP	08-03-2020 07:40 pm	1.00	50 mL	50 mL	X080321.D	Liquid	Y	NA
22	HS20070575-15	SAMP	08-03-2020 08:03 pm	1.00	50 mL	50 mL	X080322.D	Liquid	Y	NA
23	HS20070575-16	SAMP	08-03-2020 08:27 pm	1.00	50 mL	50 mL	X080323.D	Liquid	Y	NA
24	HS20070984-02	SAMP	08-03-2020 08:51 pm	1.00	50 mL	50 mL	X080324.D	Liquid	Y	<2
25	HS20070984-01	SAMP	08-03-2020 09:15 pm	1.00	50 mL	50 mL	X080325.D	Liquid	Y	<2
26	HS20070984-01MS	MS	08-03-2020 09:39 pm	1.00	50 mL	50 mL	X080326.D	Liquid	Y	<2
	3.5 uL cal std/40 mL samp									
27	HS20070984-01MSD	MSD	08-03-2020 10:04 pm	1.00	50 mL	50 mL	X080327.D	Liquid	Y	<2
	3.5 uL cal std/40 mL samp									
28	CCV-END	CCV	08-03-2020 10:27 pm	1.00	50 mL	50 mL	X080328.D	Liquid	Y	NA
	10 uL cal std/50 mL DI									

Chemical	Value
SURR SPK ID	31106-38-06
IS ID	31106-38-06
CAL STD ID	31106-41-01/02
BFB ID	31106-38-06
pH Paper	634-64-10

FORM 3
WATER VOLATILE METHOD SPIKE RECOVERY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20071328

Matrix Spike - Sample No.: ICV

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE AMOUNT ()	% REC #	QC. LIMITS REC.
Vinyl Chloride	50.00	50.76	102	80-120
Methylene Chloride	50.00	49.00	98	80-120
1,1-Dichloroethene	50.00	51.26	102	80-120
1,2-Dichloroethane	50.00	48.99	98	80-120
cis-1,2-Dichloroethene	50.00	48.89	98	80-120
1,1,2-Trichloroethane	50.00	47.70	95	80-120
Trichloroethene	50.00	50.56	101	80-120

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

COMMENTS: _____

FORM 5
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20071328

Lab File ID: X080301 BFB Injection Date: 08/03/20

Instrument ID: VOA6 BFB Injection Time: 1116

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	24.4
75	30.0 - 60.0% of mass 95	50.1
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	7.4
173	Less than 2.0% of mass 174	0.4 (0.6)1
174	Greater than 50.0% of mass 95	67.3
175	5.0 - 9.0% of mass 174	5.2 (7.8)1
176	95.0 - 101.0% of mass 174	64.3 (95.6)1
177	5.0 - 9.0% of mass 176	4.7 (7.2)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD000.25	VSTD000.25	X080302	08/03/20	1140
02	VSTD000.5	VSTD000.5	X080303	08/03/20	1204
03	VSTD001	VSTD001	X080304	08/03/20	1252
04	VSTD002	VSTD002	X080305	08/03/20	1316
05	VSTD005	VSTD005	X080306	08/03/20	1340
06	VSTD020	VSTD020	X080307	08/03/20	1404
07	VSTD050	VSTD050	X080308	08/03/20	1428
08	VSTD100	VSTD100	X080309	08/03/20	1452
09	VSTD150	VSTD150	X080310	08/03/20	1516
10	VSTD200	VSTD200	X080311	08/03/20	1540
11	ICV	ICV	X080314	08/03/20	1651
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.: HS20071328

Instrument ID: VOA6 Calibration Date(s): 08/03/20 08/03/20

Column: DB624 ID: 0.18 (mm) Calibration Time(s): 1140 1540

LAB FILE ID: RF0.25: X080302 RF0.5: X080303 RF1: X080304
RF2: X080305 RF5: X080306 RF20: X080307

COMPOUND	RF0.25	RF0.5	RF1	RF2	RF5	RF20
Vinyl Chloride		0.723	0.546	0.596	0.557	0.633
Methylene Chloride		13006	14851	20318	36047	113086
1,1-Dichloroethene		0.394	0.380	0.377	0.362	0.406
1,2-Dichloroethane		0.539	0.434	0.491	0.490	0.473
cis-1,2-Dichloroethene		0.641	0.522	0.524	0.547	0.541
1,1,2-Trichloroethane		0.347	0.256	0.311	0.288	0.272
Trichloroethene		0.395	0.297	0.346	0.339	0.352
Dibromofluoromethane		0.528	0.509	0.451	0.514	0.476
1,2-Dichloroethane-d4		0.669	0.575	0.501	0.605	0.564
Toluene-d8		1.258	1.357	1.124	1.218	1.201
4-Bromofluorobenzene		0.521	0.535	0.447	0.454	0.451

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS2007132

Instrument ID: VOA6 Calibration Date(s): 08/03/20 08/03/20

Column: DB624 ID: 0.18 (mm) Calibration Time(s): 1140 1540

LAB FILE ID: RF50: X080308 RF100: X080309 RF150: X080310
RF200: X080311

COMPOUND	RF50	RF100	RF150	RF200
Vinyl Chloride	0.647	0.674	0.698	0.718
Methylene Chloride	256910	487953	693942	915440
1,1-Dichloroethene	0.398	0.410	0.417	0.422
1,2-Dichloroethane	0.471	0.484	0.487	0.487
cis-1,2-Dichloroethene	0.529	0.542	0.551	0.556
1,1,2-Trichloroethane	0.268	0.271	0.272	0.274
Trichloroethene	0.353	0.369	0.366	0.371
Dibromofluoromethane	0.468	0.486	0.491	0.494
1,2-Dichloroethane-d4	0.554	0.583	0.594	0.593
Toluene-d8	1.182	1.197	1.182	1.196
4-Bromofluorobenzene	0.446	0.454	0.449	0.453

FORM VI VOA

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS2007132

Instrument ID: VOA6 Calibration Date(s): 08/03/20 08/03/20

Column: DB624 ID: 0.18 (mm) Calibration Time(s): 1140 1540

COMPOUND	CURVE	COEFFICENTS A0	COEFFICENTS A1	%RSD OR R^2	MAX %RSD OR R^2
Vinyl Chloride	AVRG		0.64360842	10.284	15.000
Methylene Chloride	LINR	-2.76e-002	1.99382468	0.9998680	0.9900000
1,1-Dichloroethene	AVRG		0.39616599	5.052	15.000
1,2-Dichloroethane	AVRG		0.48410523	5.599	15.000
cis-1,2-Dichloroethene	AVRG		0.55037038	6.534	15.000
1,1,2-Trichloroethane	AVRG		0.28450466	9.857	15.000
Trichloroethene	AVRG		0.35435187	7.661	15.000
Dibromofluoromethane	AVRG		0.49101450	4.895	15.000
1,2-Dichloroethane-d4	AVRG		0.58201048	7.676	15.000
Toluene-d8	AVRG		1.21277844	5.331	15.000
4-Bromofluorobenzene	AVRG		0.46785309	7.389	15.000

FORM VI VOA

File: \\nahstws005\Target\chem\voa6.i\X200803.b\X080301.D

.e : 03-AUG-2020 11:16

.ient ID: BFB

Instrument: voa6.i

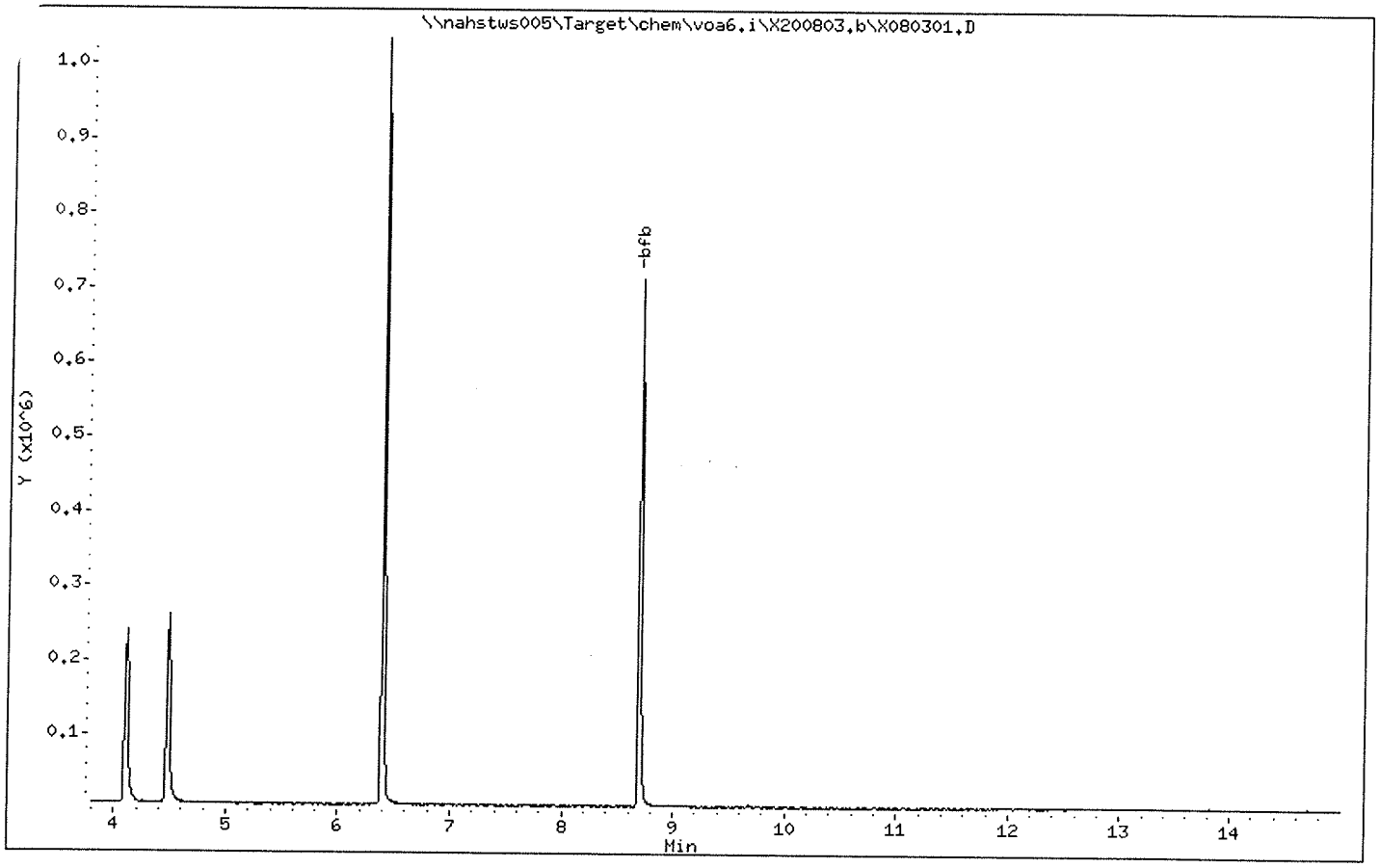
Sample Info: BFB;BFB;3;;BFB

Volume Injected (uL): 2.0

Operator: PC

Column phase: DB624

Column diameter: 0.25



a File: \\nahstws005\Target\chem\voa6.i\X200803.b\X080301.D

te : 03-AUG-2020 11:16

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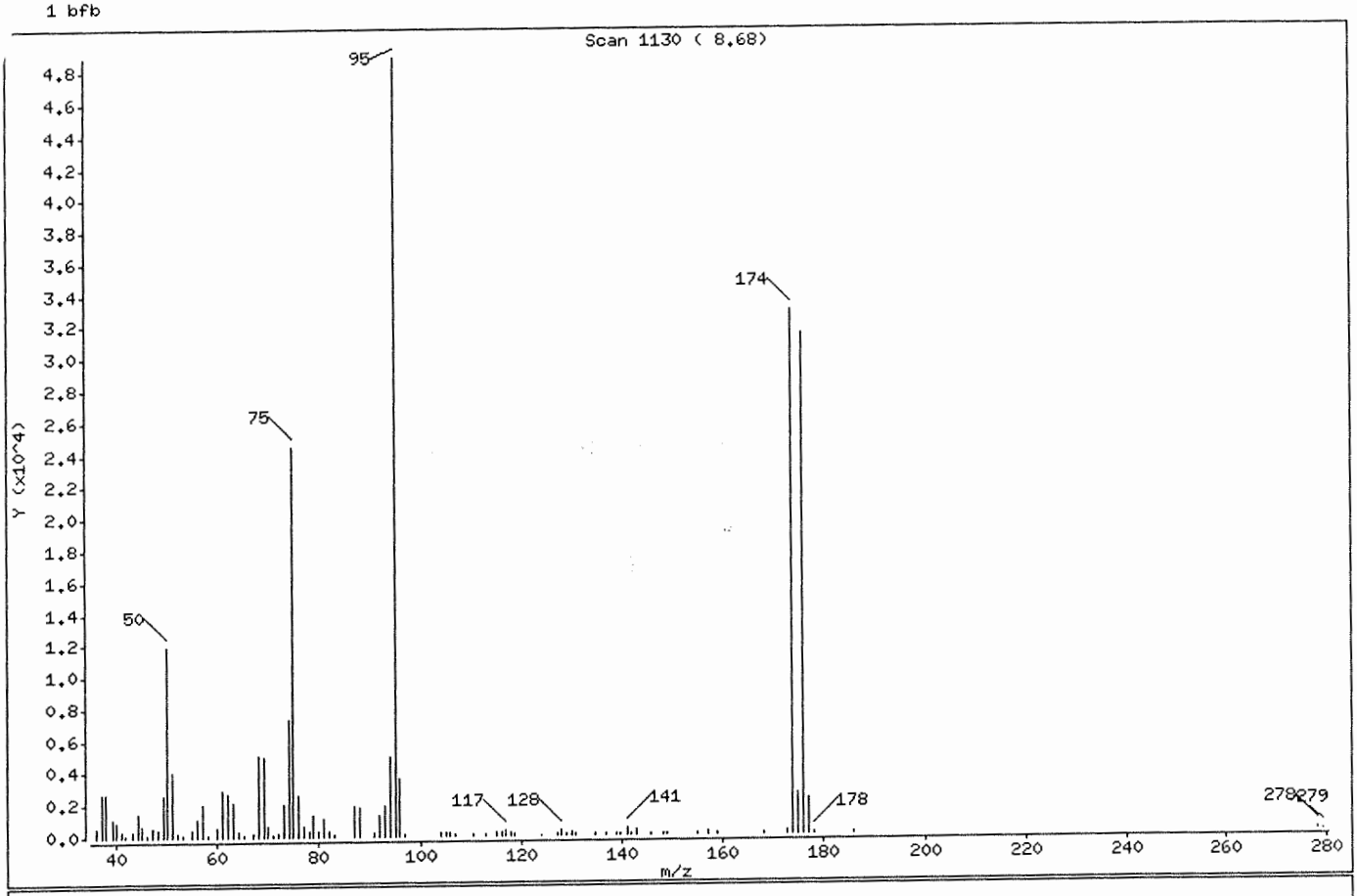
1 bfb



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	24.40
75	30.00 - 60.00% of mass 95	50.11
96	5.00 - 9.00% of mass 95	7.35
173	Less than 2.00% of mass 174	0.43 (0.63)
174	Greater than 50.00% of mass 95	67.28
175	5.00 - 9.00% of mass 174	5.25 (7.80)
176	95.00 - 101.00% of mass 174	64.32 (95.60)
177	5.00 - 9.00% of mass 176	4.66 (7.25)

Data File: \\nahstws005\Target\chem\voa6.i\X200803.b\X080301.D

Date : 03-AUG-2020 11:16

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: X080301.D
Spectrum: Scan 1130 (8.68)
Location of Maximum: 95.00
Number of points: 94

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	531	62.00	2722	92.00	1357	136.80	58
37.00	2708	63.00	2090	93.00	1937	139.00	114
38.00	2689	64.10	333	94.00	5003	139.80	109
39.10	1102	65.10	152	95.00	48920	141.00	492
39.90	914	67.00	172	96.00	3597	141.70	68
41.00	390	68.00	5065	97.10	159	142.90	325
41.80	147	69.00	4934	104.10	247	145.60	116
43.10	318	70.00	640	105.00	192	148.00	163
44.10	1442	71.10	132	105.90	238	149.00	64
44.90	624	71.90	198	107.00	73	155.00	128
46.10	63	73.00	2073	110.60	59	156.90	179
47.00	559	74.00	7325	113.00	90	159.00	102
48.00	397	75.00	24512	114.90	227	168.00	114
49.10	2563	76.00	2607	116.00	174	172.90	208
50.00	11935	76.90	632	116.80	351	173.90	32912
51.00	4006	78.00	348	117.80	175	174.90	2566
52.10	210	78.90	1387	118.70	154	175.90	31464
53.00	122	79.90	370	123.90	56	176.90	2280
55.00	461	80.90	1139	127.10	81	178.00	150
56.10	1076	81.90	296	127.90	291	186.00	89
57.00	2018	82.90	133	128.80	113	277.90	149
58.20	143	87.00	1966	129.90	205	279.20	55
60.00	526	87.90	1834	130.90	98		
61.00	2907	91.00	222	134.80	63		

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X200803.b\X080302.D
Lab Smp Id: VSTD000.25 Client Smp ID: VSTD000.25
Inj Date : 03-AUG-2020 11:40
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\X200803.b\8260W.m
Meth Date : 26-Aug-2020 09:02 voa6.i Quant Type: ISTD
Cal Date : 03-AUG-2020 15:40 Cal File: X080311.D
Als bottle: 2 Calibration Sample, Level: 1
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI-Hou11.sub
Target Version: 4.14
Processing Host: NAHSTW7056

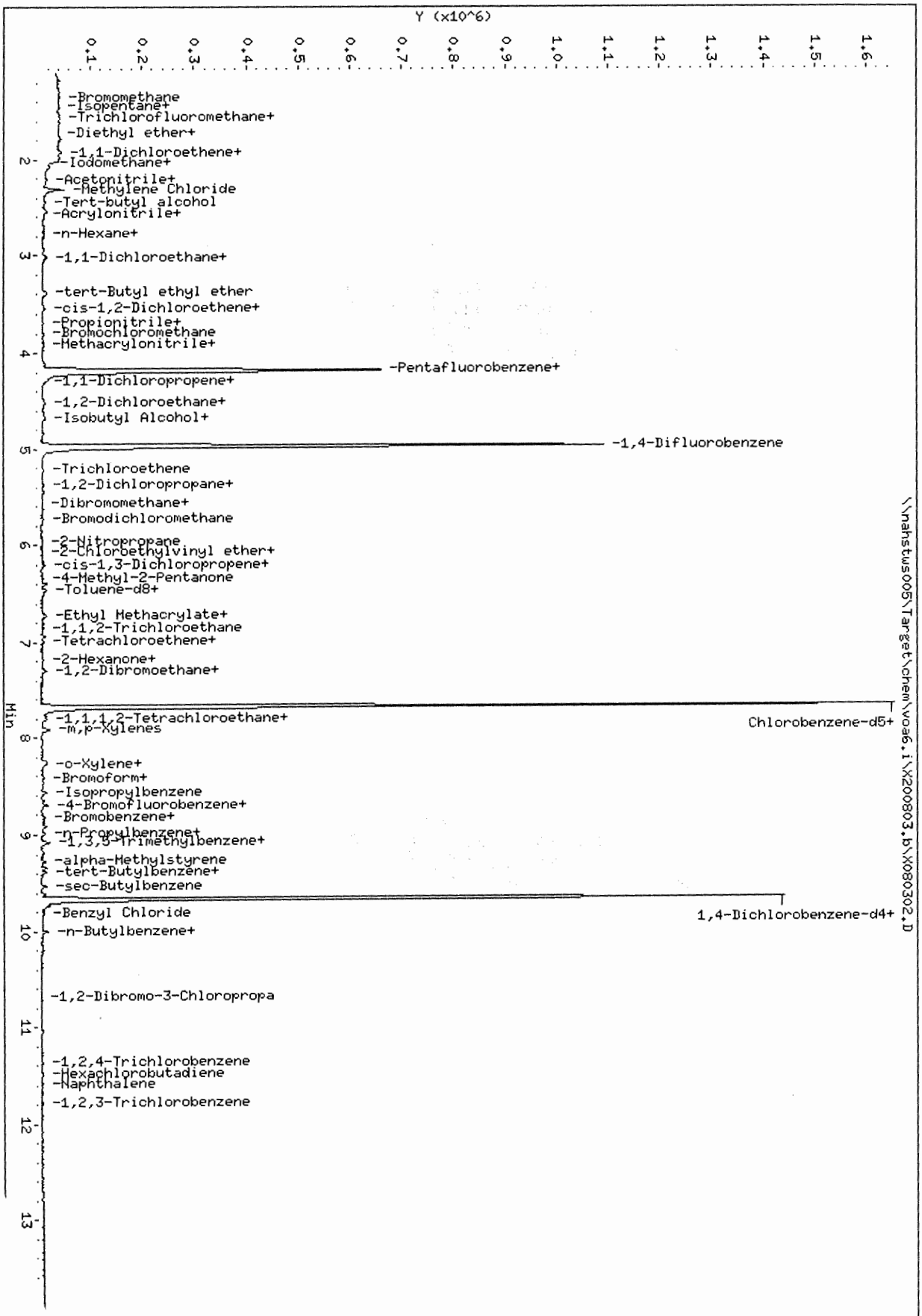
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	572408	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	867920	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	763638	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	355732	50.0000	
$ 30 Dibromofluoromethane	113	4.111	4.111	(0.981)	1662	0.25000	0.29
$ 35 1,2-Dichloroethane-d4	65	4.490	4.490	(1.072)	2175	0.25000	0.32(T)
$ 48 Toluene-d8	98	6.396	6.396	(0.834)	6945	0.25000	0.37
$ 69 4-Bromofluorobenzene	95	8.702	8.702	(1.134)	3200	0.25000	0.44(M)
53 1,1,2-Trichloroethane	83	6.854	6.854	(0.894)	1511	0.25000	0.34(aM)
11 1,1-Dichloroethene	96	1.919	1.919	(0.458)	1378	0.25000	0.30(a)
33 1,2-Dichloroethane	62	4.569	4.569	(0.919)	2225	0.25000	0.26(a)
27 cis-1,2-Dichloroethene	96	3.545	3.545	(0.846)	1634	0.25000	0.25
17 Methylene Chloride	84	2.313	2.313	(0.552)	13192	0.25000	0.91(aM)
38 Trichloroethene	130	5.214	5.214	(1.049)	1542	0.25000	0.25
5 Vinyl Chloride	62	1.145	1.145	(0.273)	1889	0.25000	0.25

Flag Legend

Target compound detected outside RT window.
Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
Compound response manually integrated.



Data File: \\nahstws005\Target\chem\voa6.i\X200803.b\X080302.D
Date : 03-AUG-2020 11:40
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\X200803.b\X080303.D Page 1
Report Date: 26-Aug-2020 09:02

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X200803.b\X080303.D
Lab Smp Id: VSTD000.5 Client Smp ID: VSTD000.5
Inj Date : 03-AUG-2020 12:04
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\X200803.b\8260W.m
Meth Date : 26-Aug-2020 09:02 voa6.i Quant Type: ISTD
Cal Date : 03-AUG-2020 11:40 Cal File: X080302.D
Als bottle: 3 Calibration Sample, Level: 2
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI-Hou11.sub
Target Version: 4.14
Processing Host: NAHSTW7056

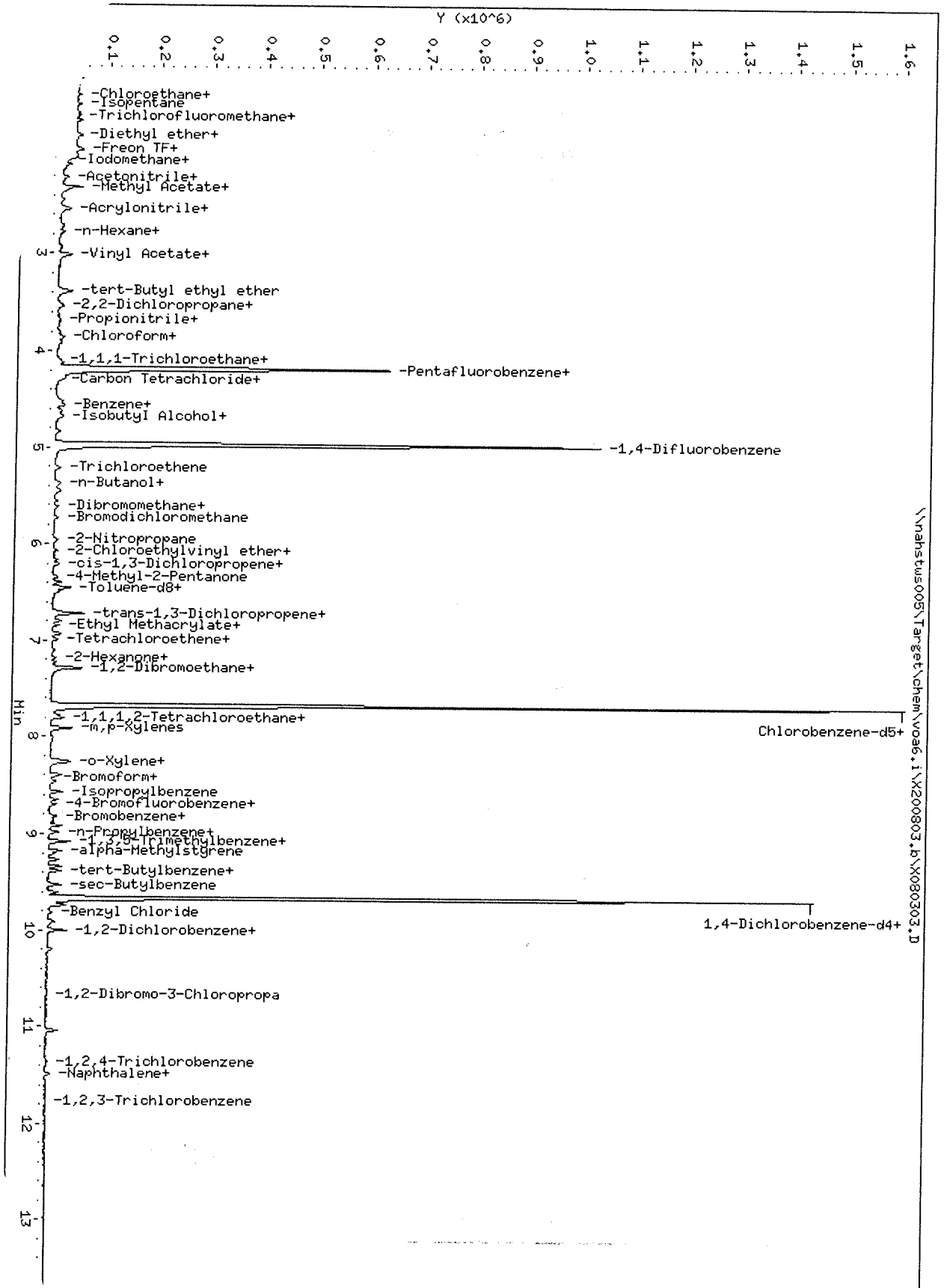
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
*	1 Pentafluorobenzene	168	4.189	4.189	(1.000)	544079	50.0000	
*	36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	825062	50.0000	
*	47 Chlorobenzene-d5	117	7.670	7.670	(1.000)	734728	50.0000	
*	70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	351808	50.0000	
$	30 Dibromofluoromethane	113	4.110	4.110	(0.981)	2875	0.50000	0.53
$	35 1,2-Dichloroethane-d4	65	4.490	4.490	(1.072)	3638	0.50000	0.57(M)
$	48 Toluene-d8	98	6.395	6.395	(0.834)	9247	0.50000	0.51
$	69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	3831	0.50000	0.55
	53 1,1,2-Trichloroethane	83	6.847	6.847	(0.893)	2550	0.50000	0.60(aM)
	11 1,1-Dichloroethene	96	1.919	1.919	(0.458)	2144	0.50000	0.49(aM)
	33 1,2-Dichloroethane	62	4.569	4.569	(0.919)	4445	0.50000	0.55(aM)
	27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.843)	3487	0.50000	0.58(M)
	17 Methylene Chloride	84	2.305	2.305	(0.550)	13006	0.50000	1.00(aM)
	38 Trichloroethene	130	5.214	5.214	(1.049)	3262	0.50000	0.55
	5 Vinyl Chloride	62	1.145	1.145	(0.273)	3935	0.50000	0.56

' Flag Legend

Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
Compound response manually integrated.



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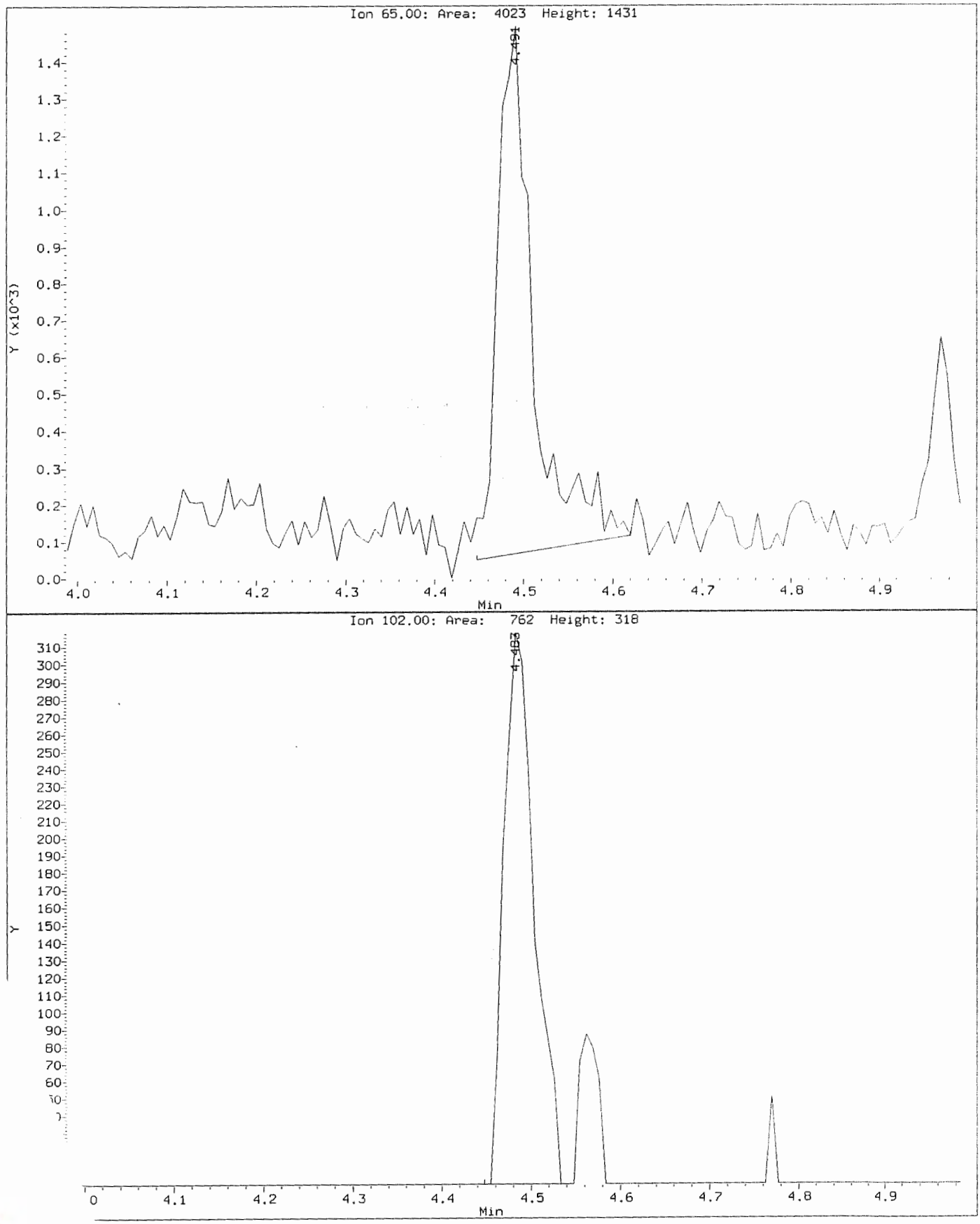
Date : 03-AUG-2020 12:04
Client ID: VSTD000.5
Sample Info: VSTD000.5;VSTD000.5;1;2;;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

Data File: \\nahstws005\Target\chem\voa6.i\X200803.b\Before\X080303.D
Injection Date: 03-AUG-2020 12:04
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: 1,2-Dichloroethane-d4
CAS Number: 17060-07-0



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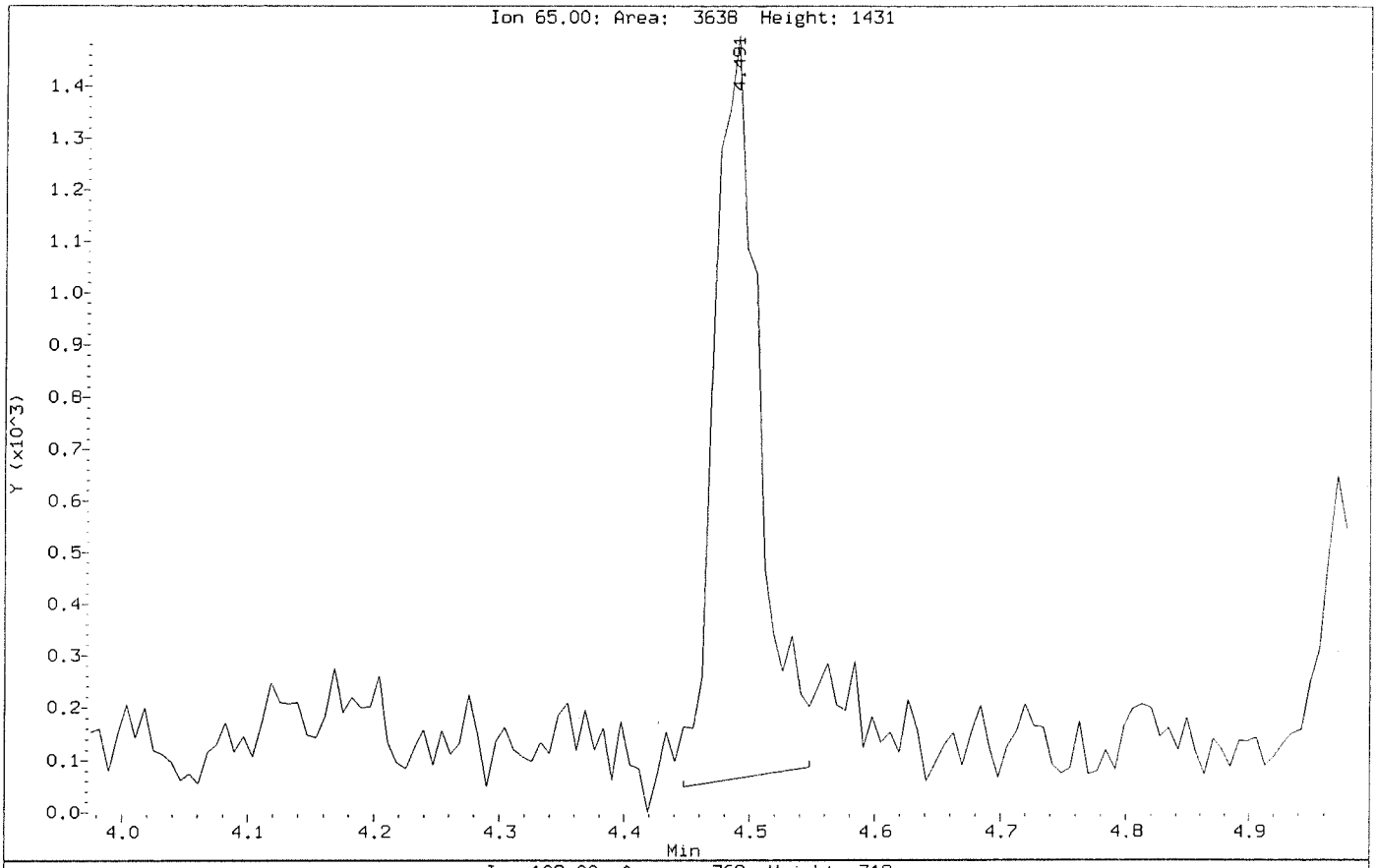
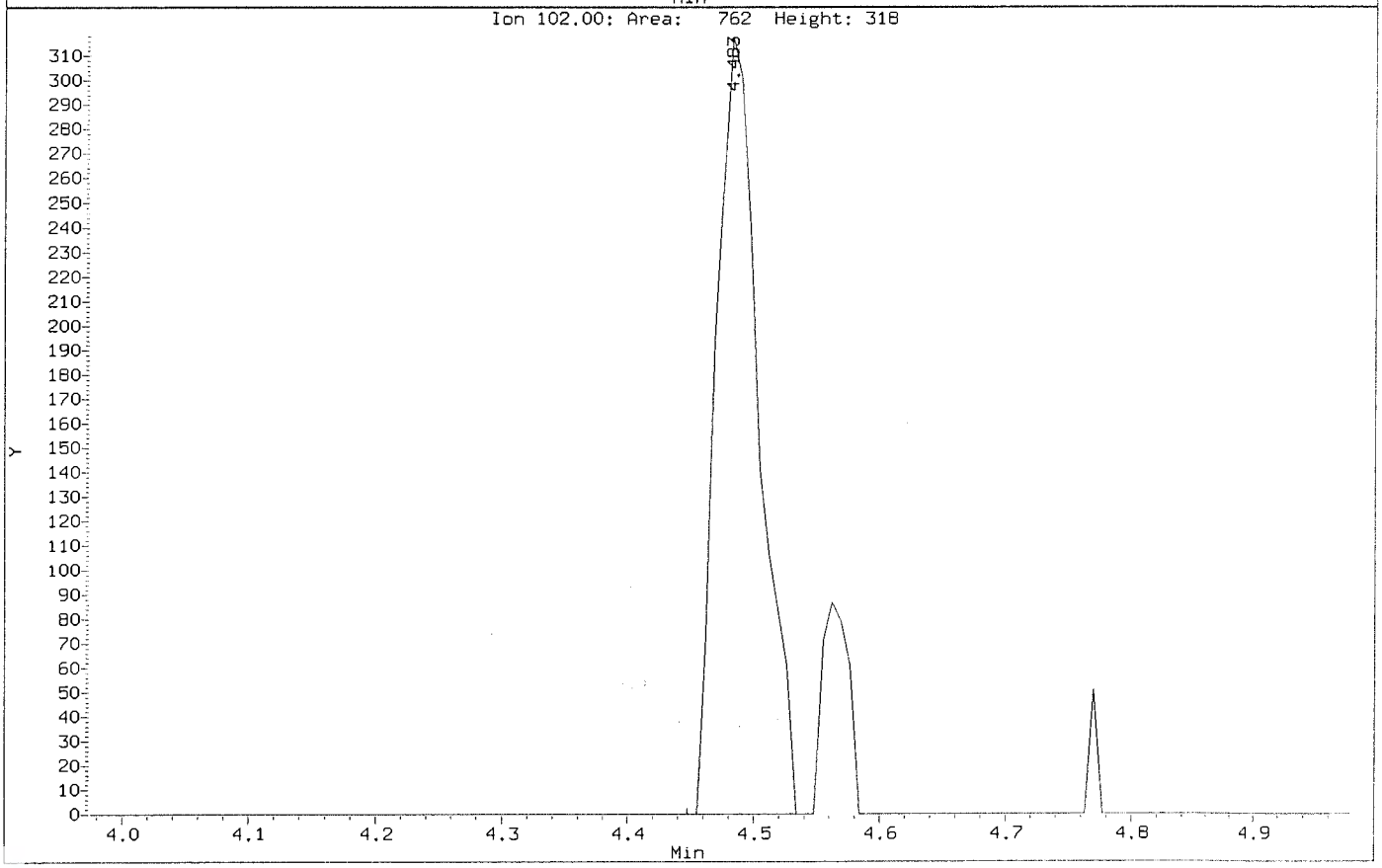
Injection Date: 03-AUG-2020 12:04
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: 1,2-Dichloroethane-d4
CAS Number: 17060-07-0





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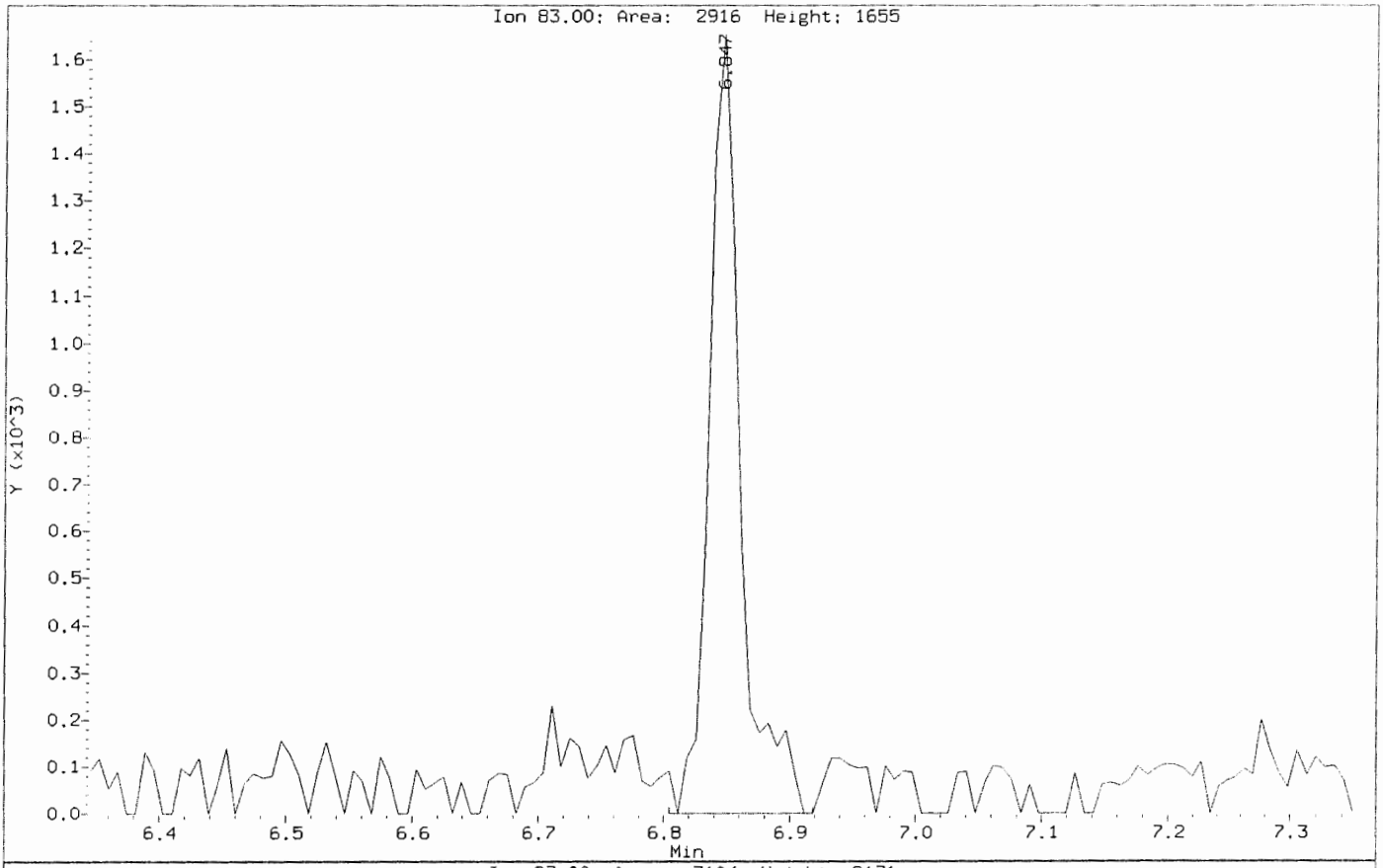
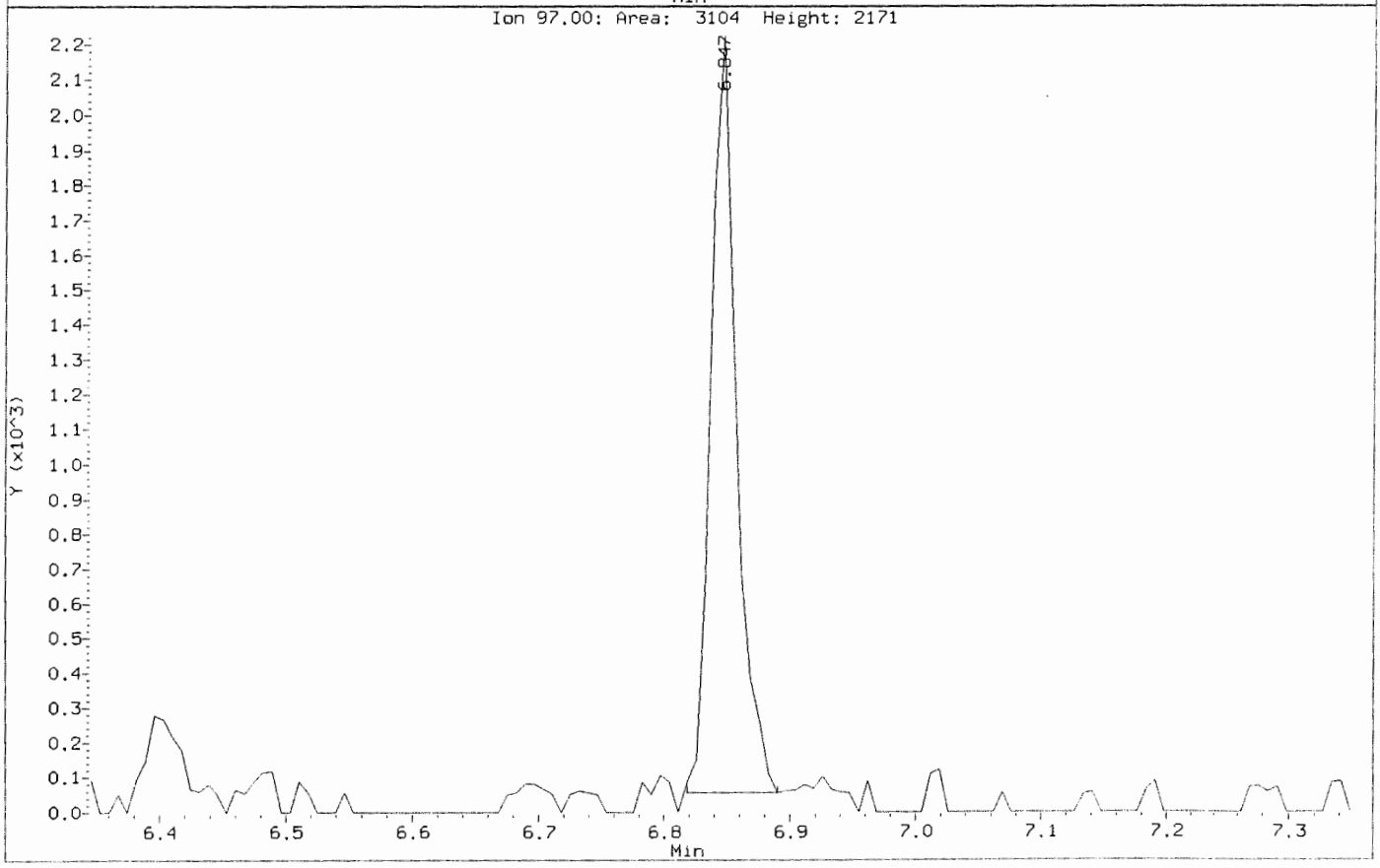
Injection Date: 03-AUG-2020 12:04
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: 1,1,2-Trichloroethane
CAS Number: 79-00-5





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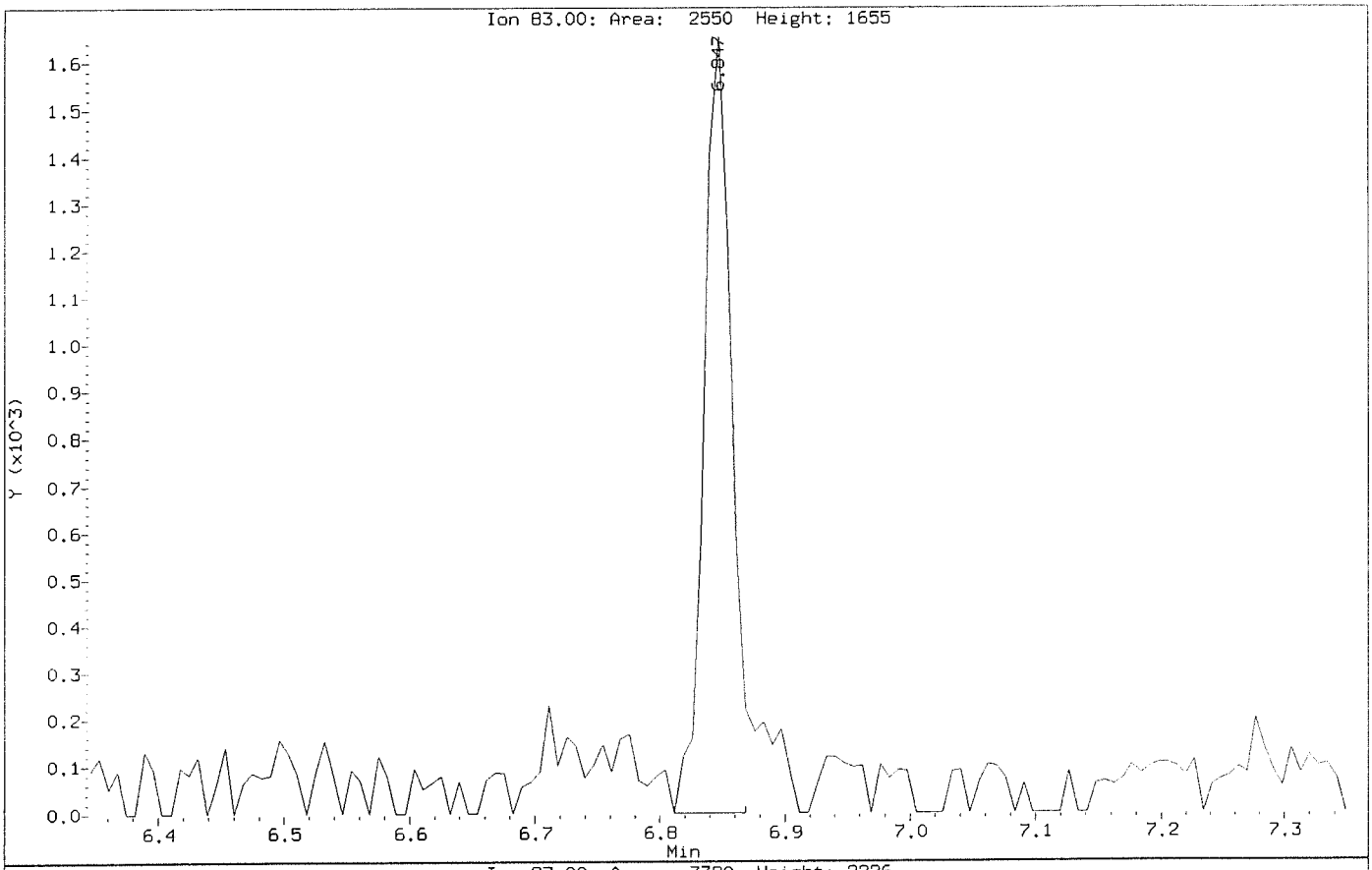
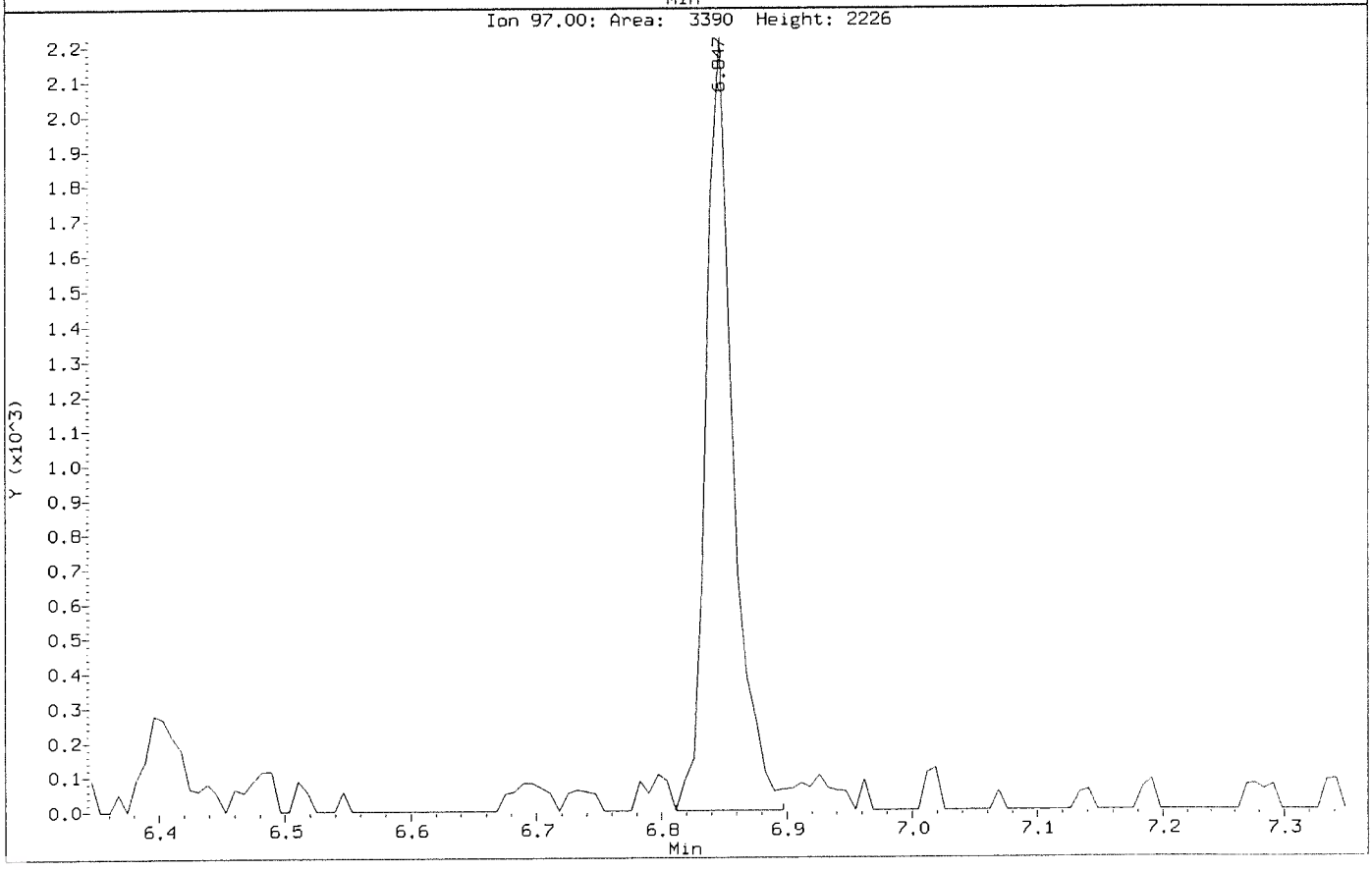
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: 1,1,2-Trichloroethane
CAS Number: 79-00-5





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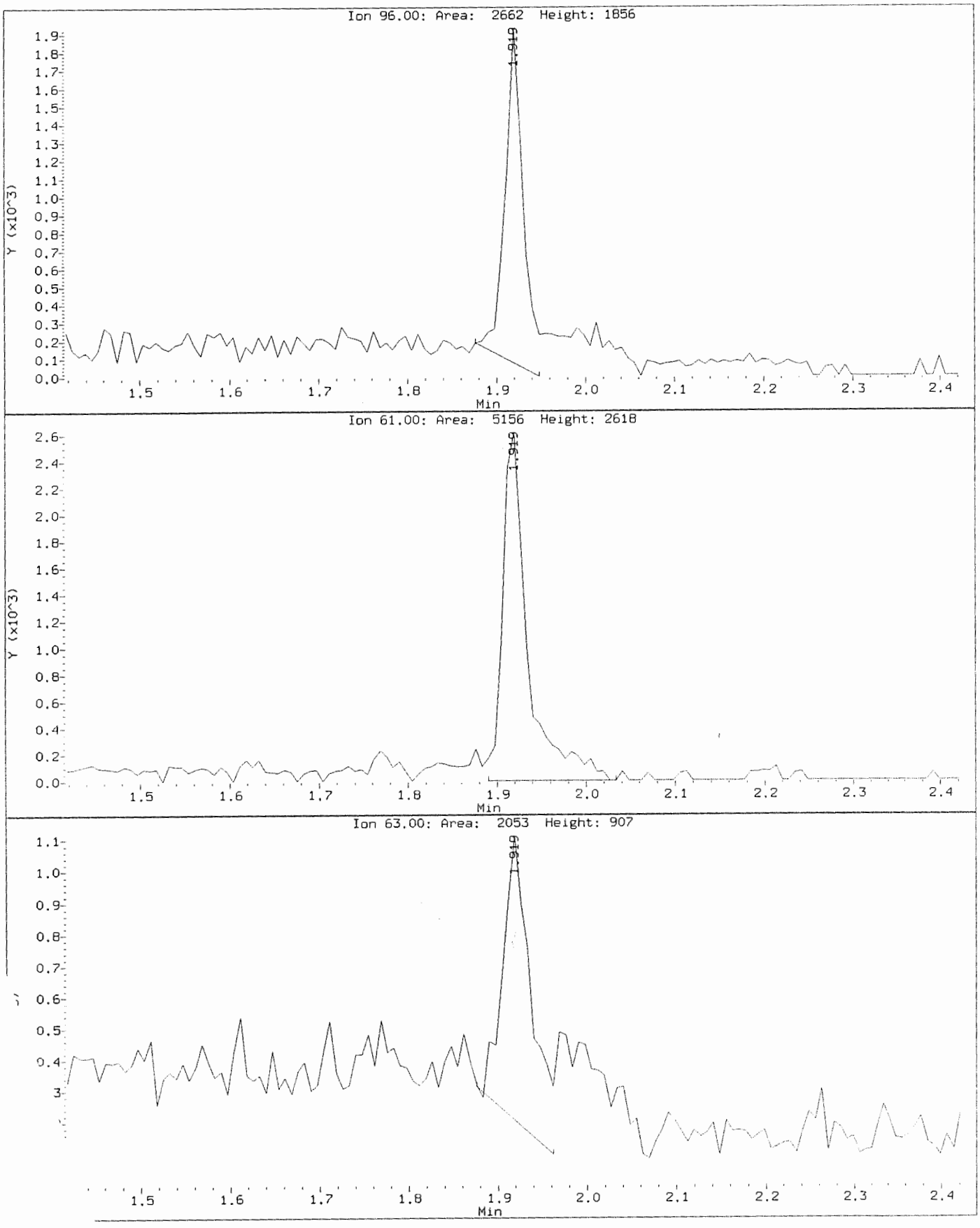
Injection Date: 03-AUG-2020 12:04
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: 1,1-Dichloroethene
CAS Number: 75-35-4



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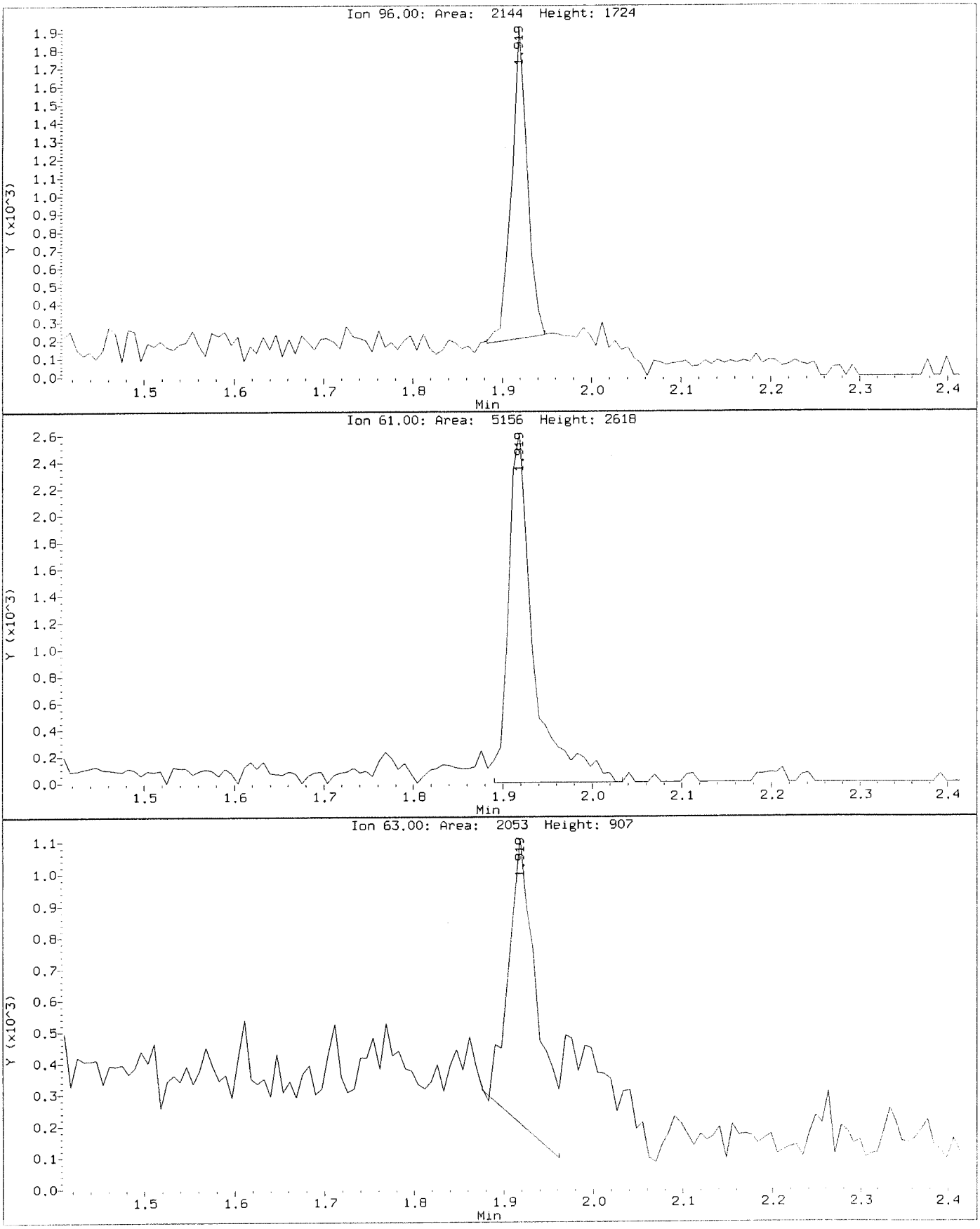
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: 1,1-Dichloroethene
CAS Number: 75-35-4



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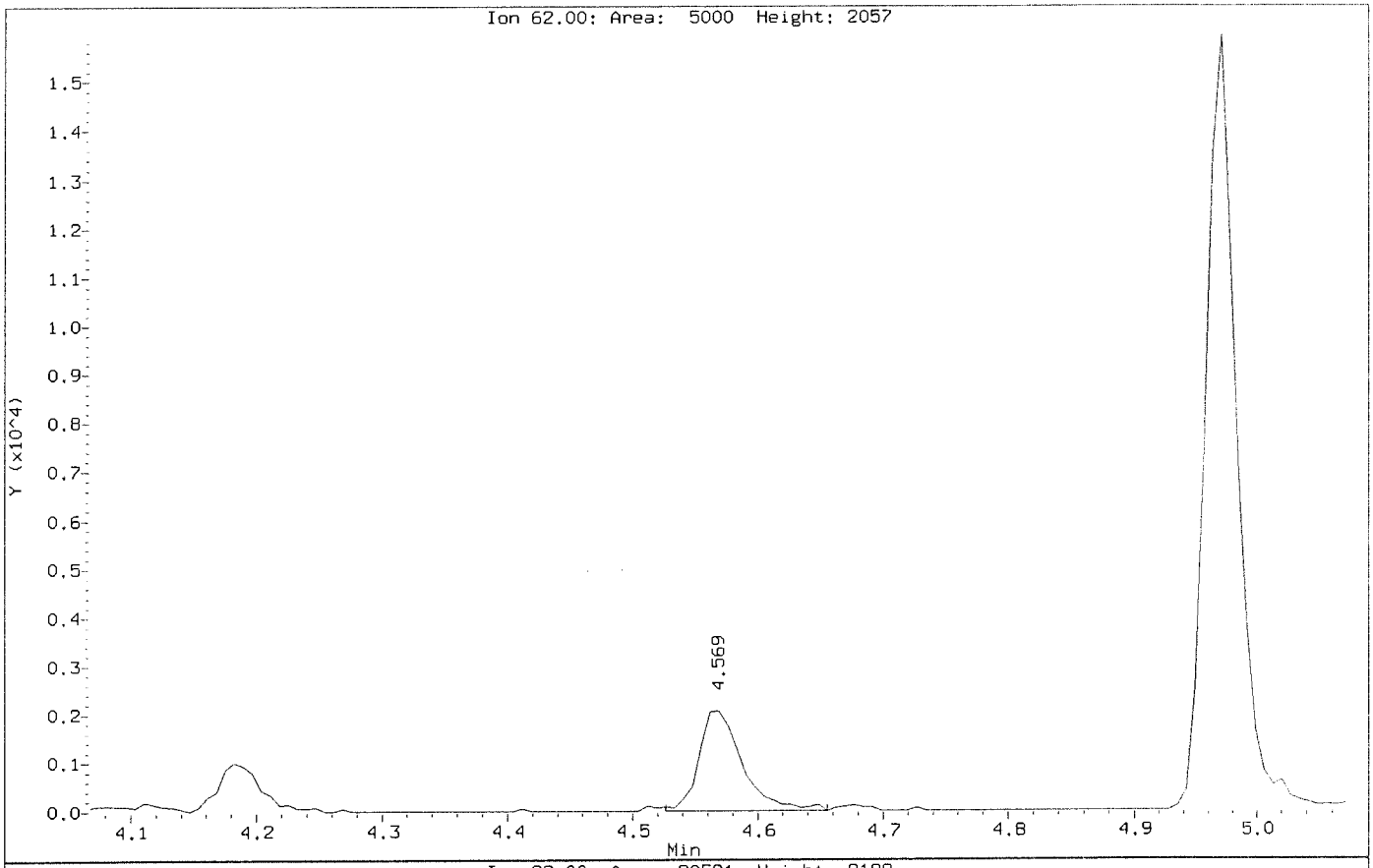
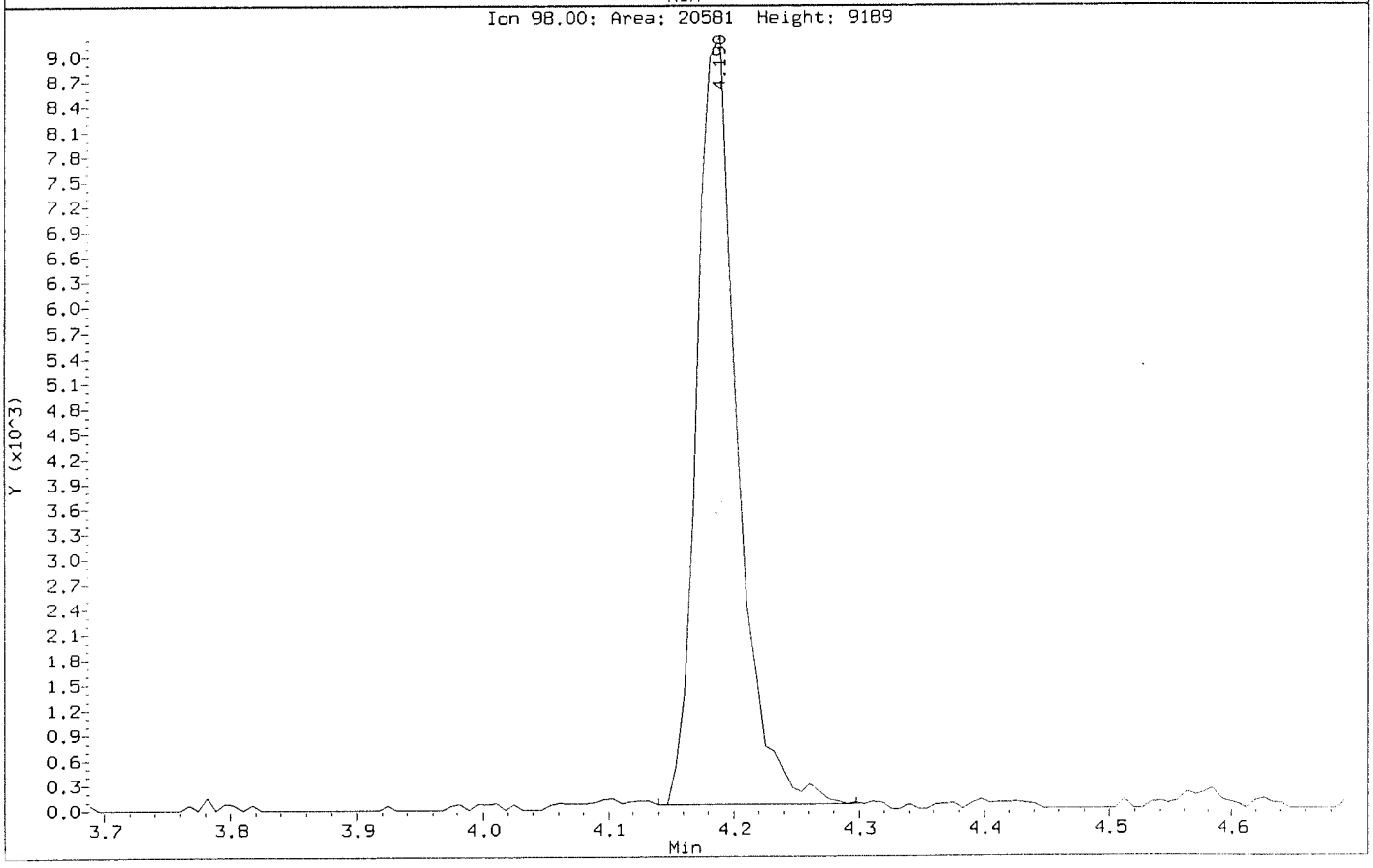
Injection Date: 03-AUG-2020 12:04
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: 1,2-Dichloroethane
CAS Number: 107-06-2





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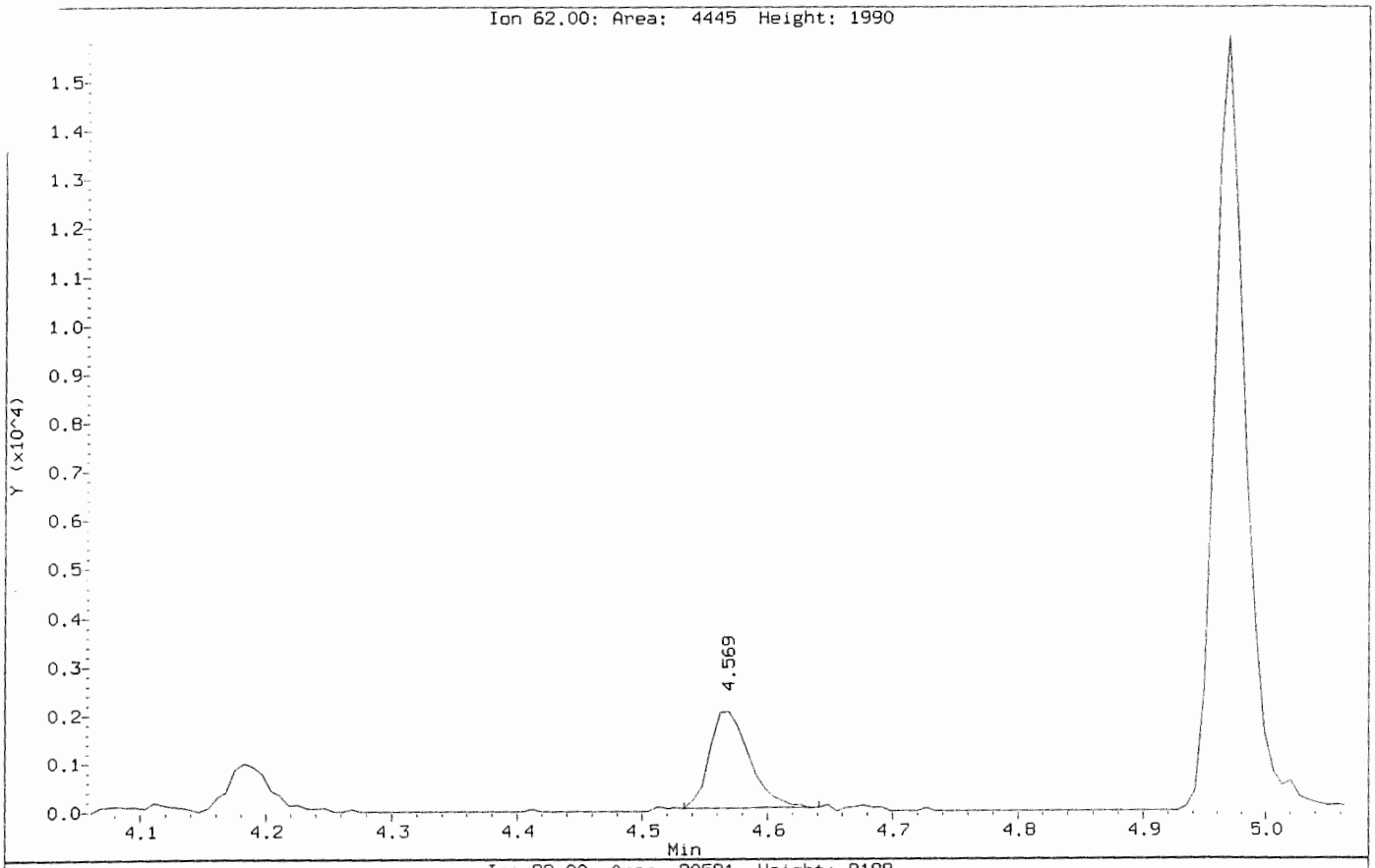
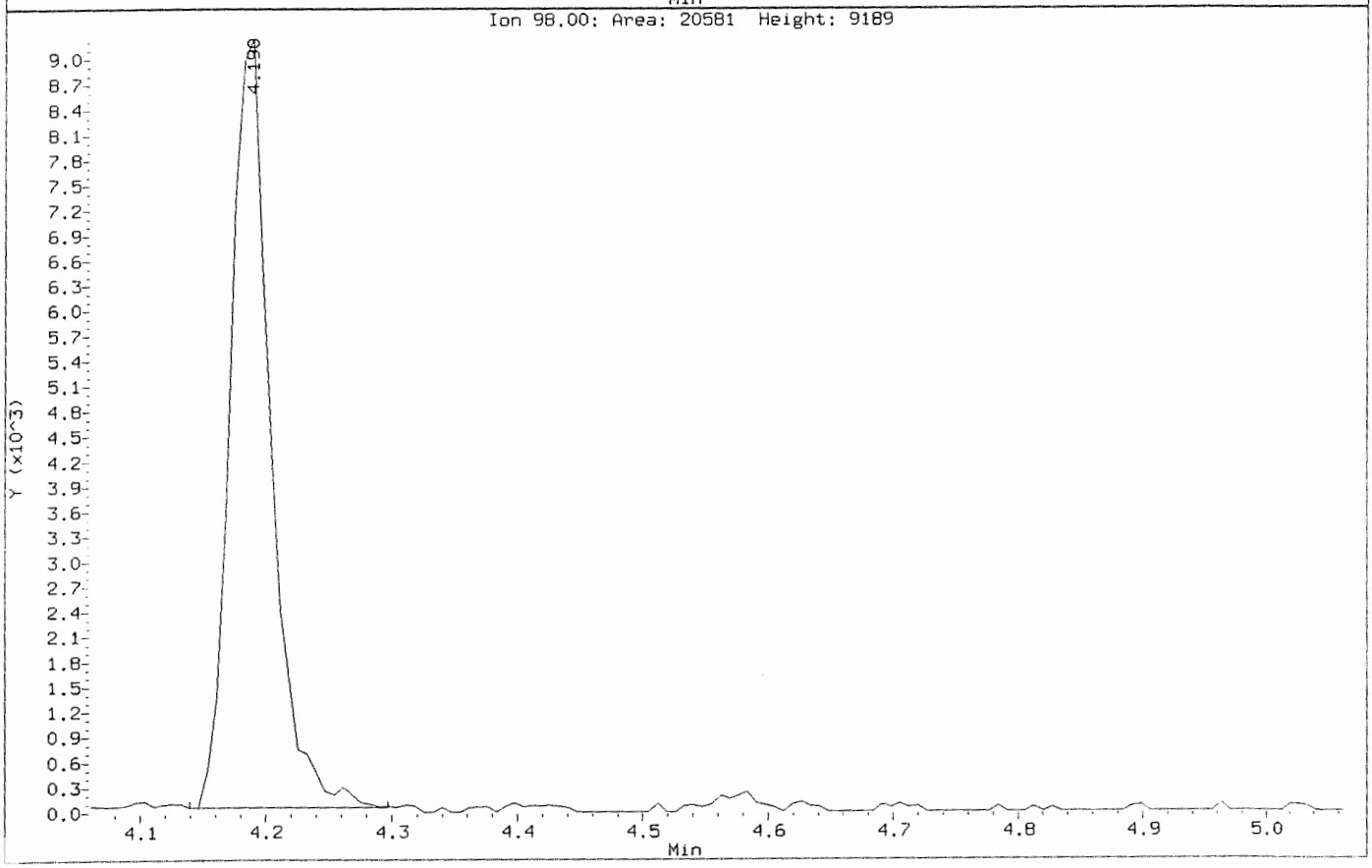
n Date: 03-AUG-2020 12:04
ent: voa6.i
Sample ID: VSTD000.5

nd: 1,2-Dichloroethane
umber: 107-06-2





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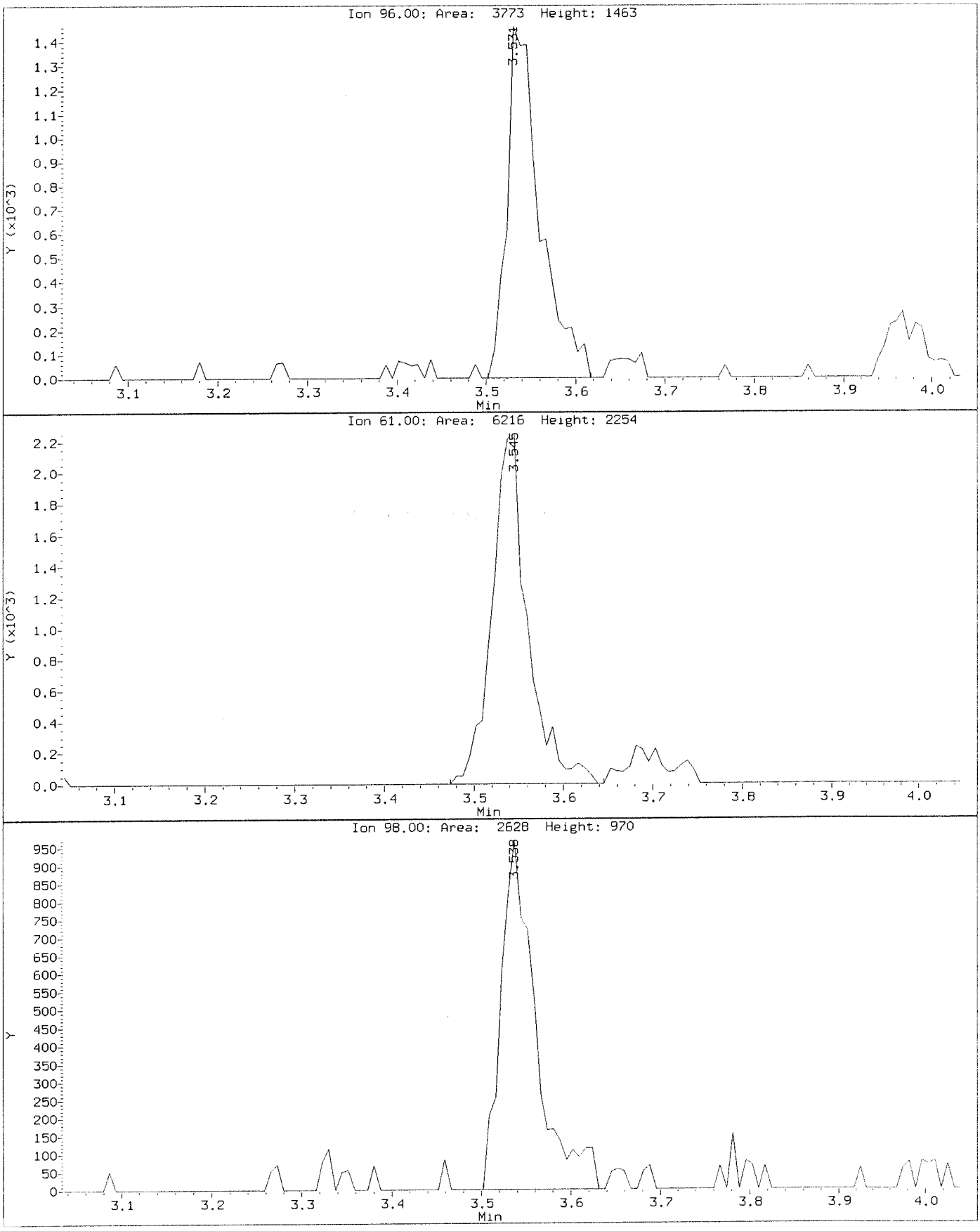
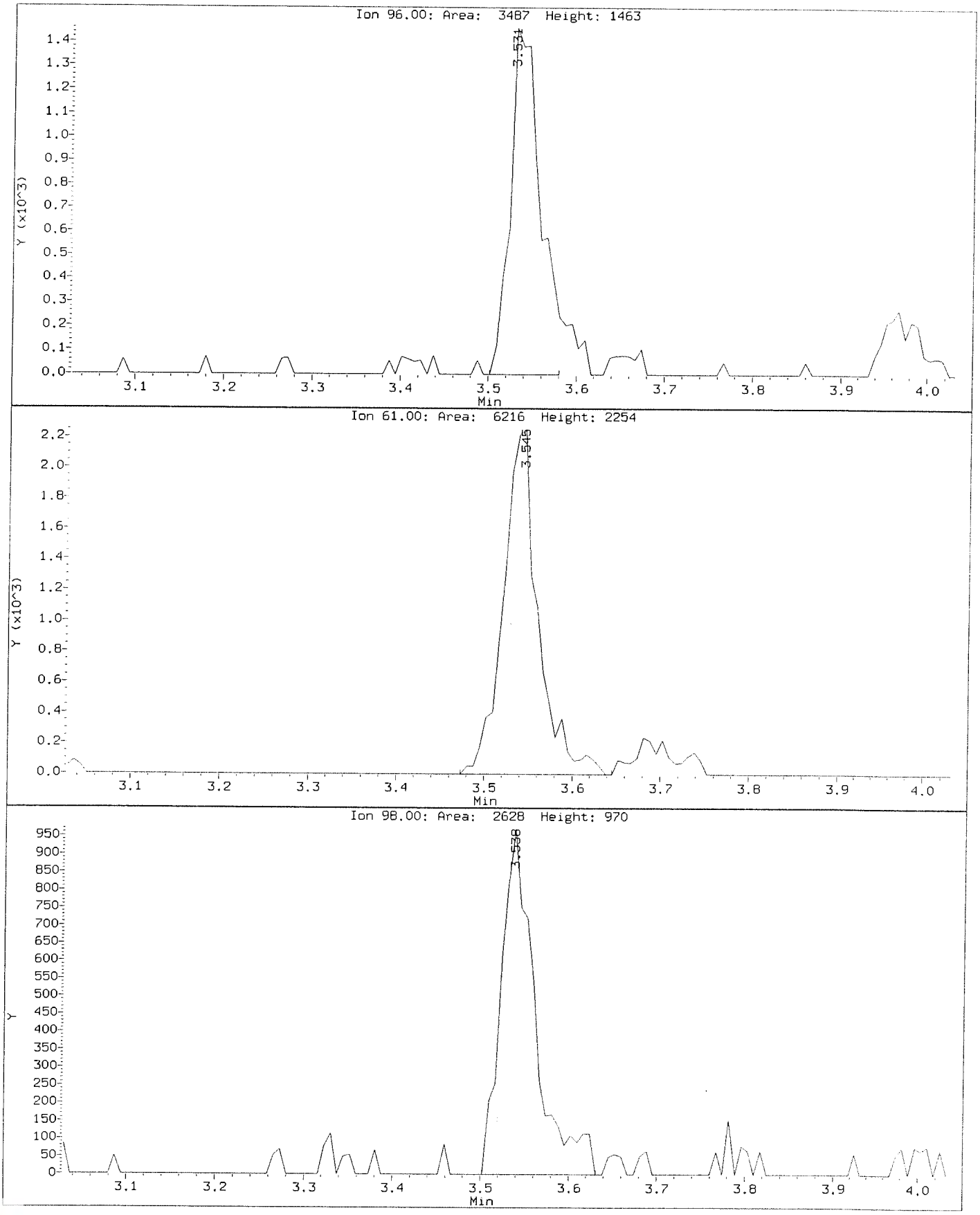
Injection Date: 03-AUG-2020 12:04
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: cis-1,2-Dichloroethene
CAS Number: 156-59-2



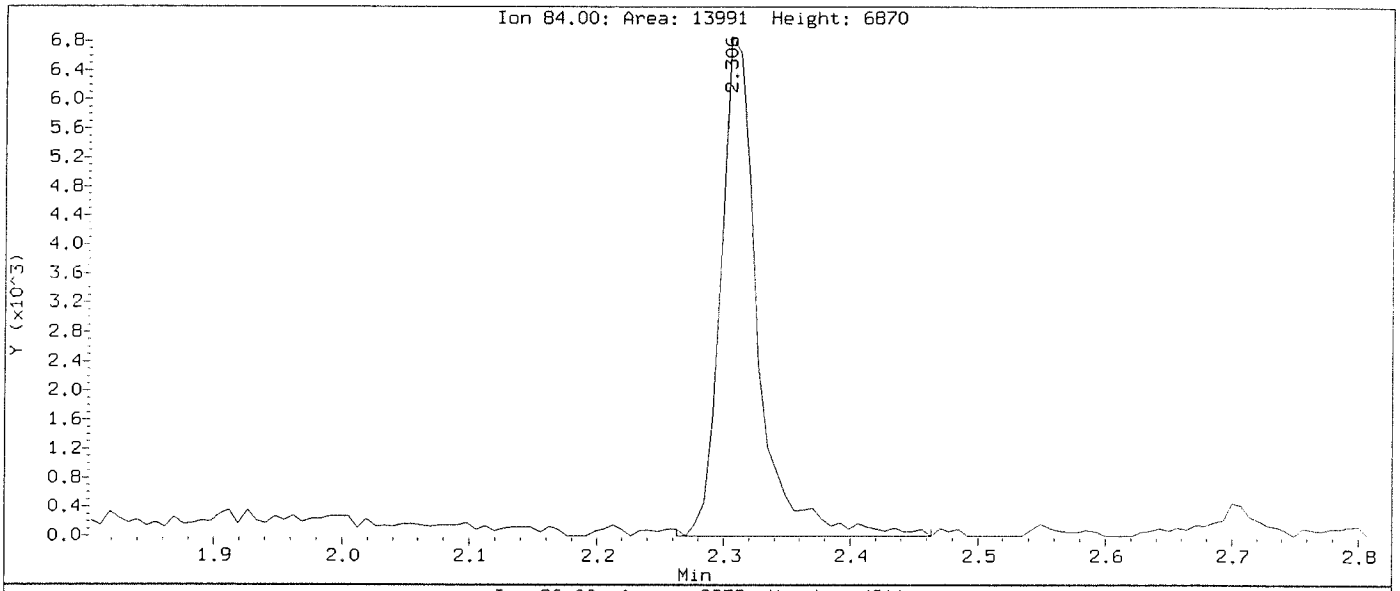
Data File: \\nahstws005\Target\chem\voa6.i\X200803.b\X080303.D
Injection Date: 03-AUG-2020 12:04
Instrument: voa6.i
Client Sample ID: VSTD000.5

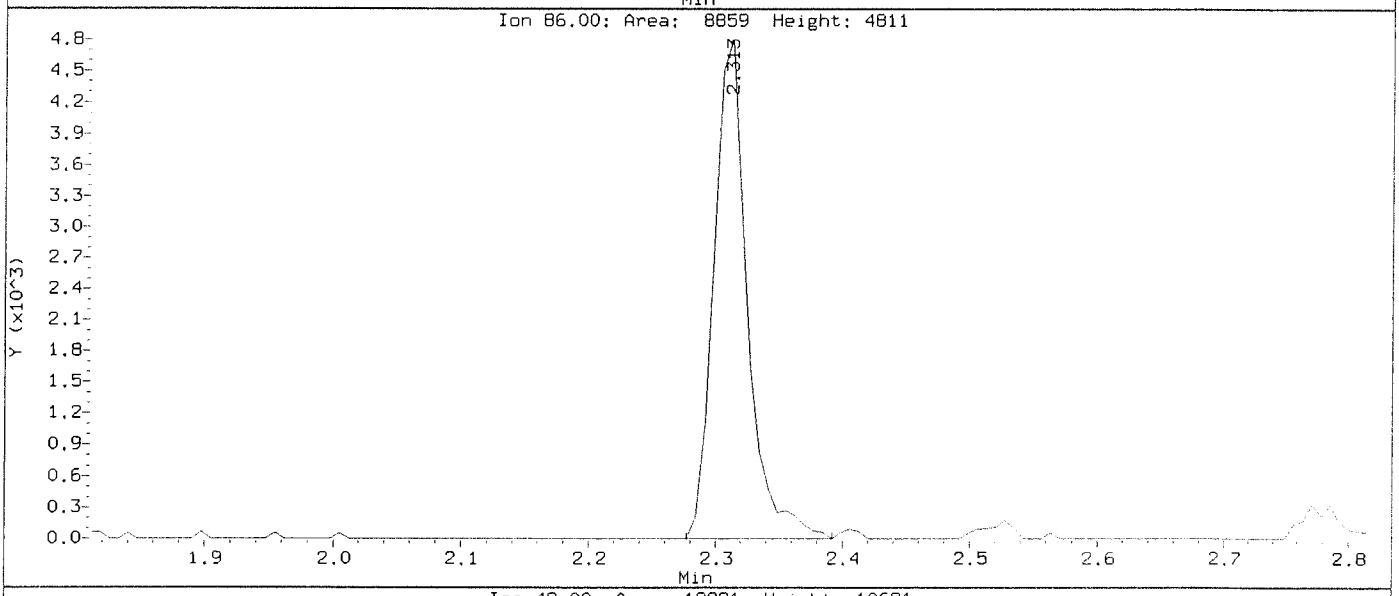
Compound: cis-1,2-Dichloroethene
CAS Number: 156-59-2

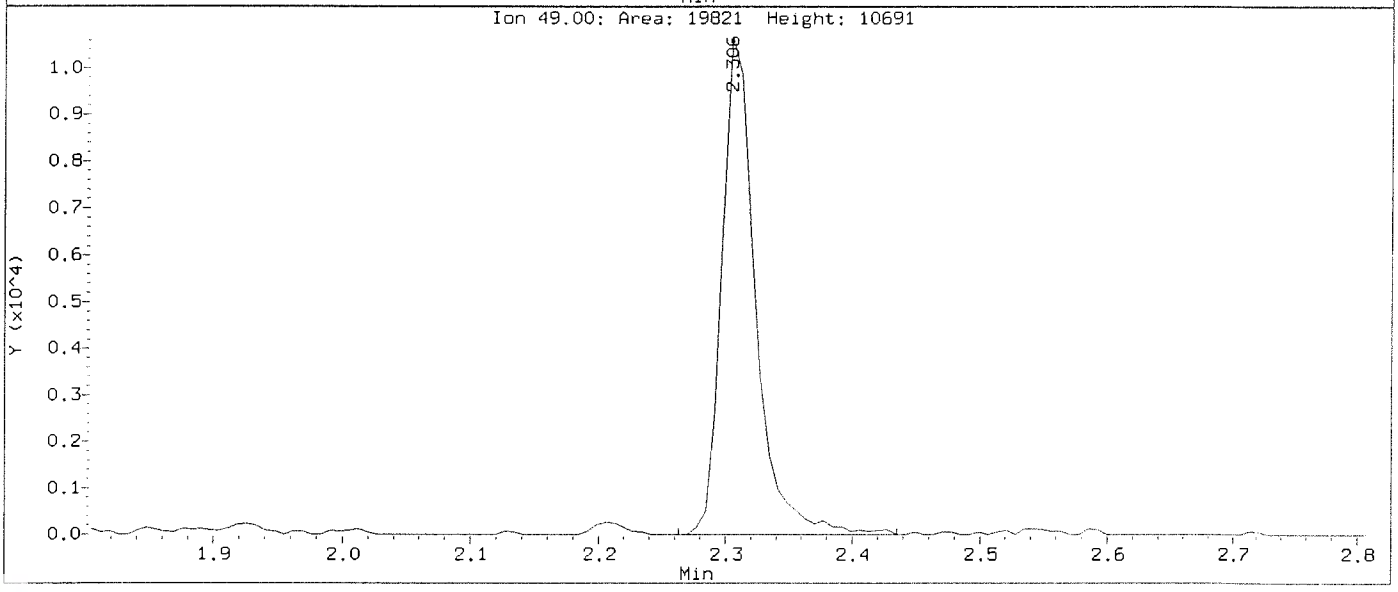


Data File: \\nahstws005\Target\chem\voa6.i\X200803.b\Before\X0B0303.D
Injection Date: 03-AUG-2020 12:04
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: Methylene Chloride
CAS Number: 75-09-2

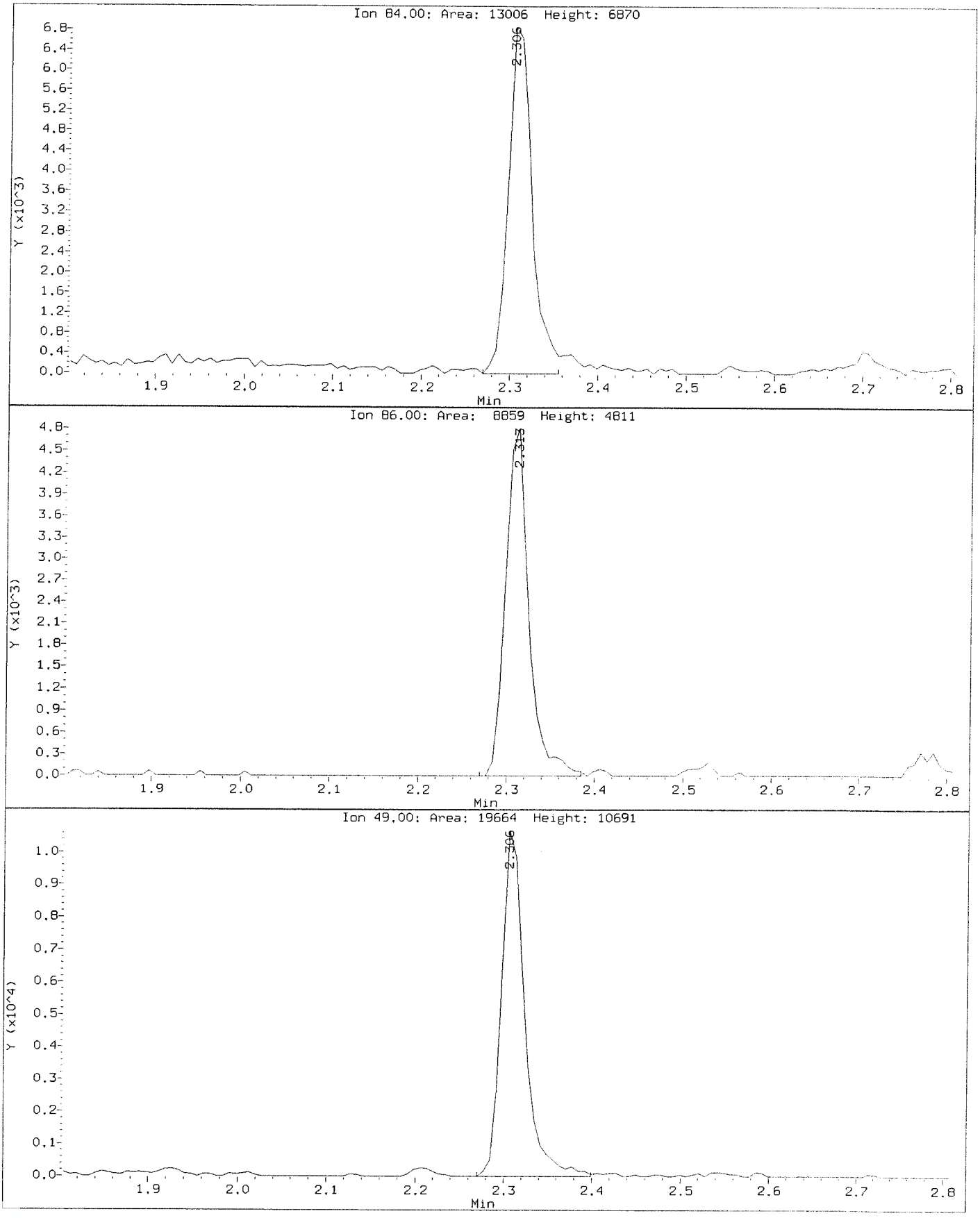






Data File: \\nahstws005\Target\chem\voa6.i\X200803.b\X080303.D
Injection Date: 03-AUG-2020 12:04
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: Methylene Chloride
CAS Number: 75-09-2



ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X200803.b\X080304.D
Lab Smp Id: VSTD001 Client Smp ID: VSTD001
Inj Date : 03-AUG-2020 12:52
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\X200803.b\8260W.m
Meth Date : 26-Aug-2020 09:02 voa6.i Quant Type: ISTD
Cal Date : 03-AUG-2020 12:04 Cal File: X080303.D
Als bottle: 5 Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI-Hou11.sub
Target Version: 4.14
Processing Host: NAHSTW7056

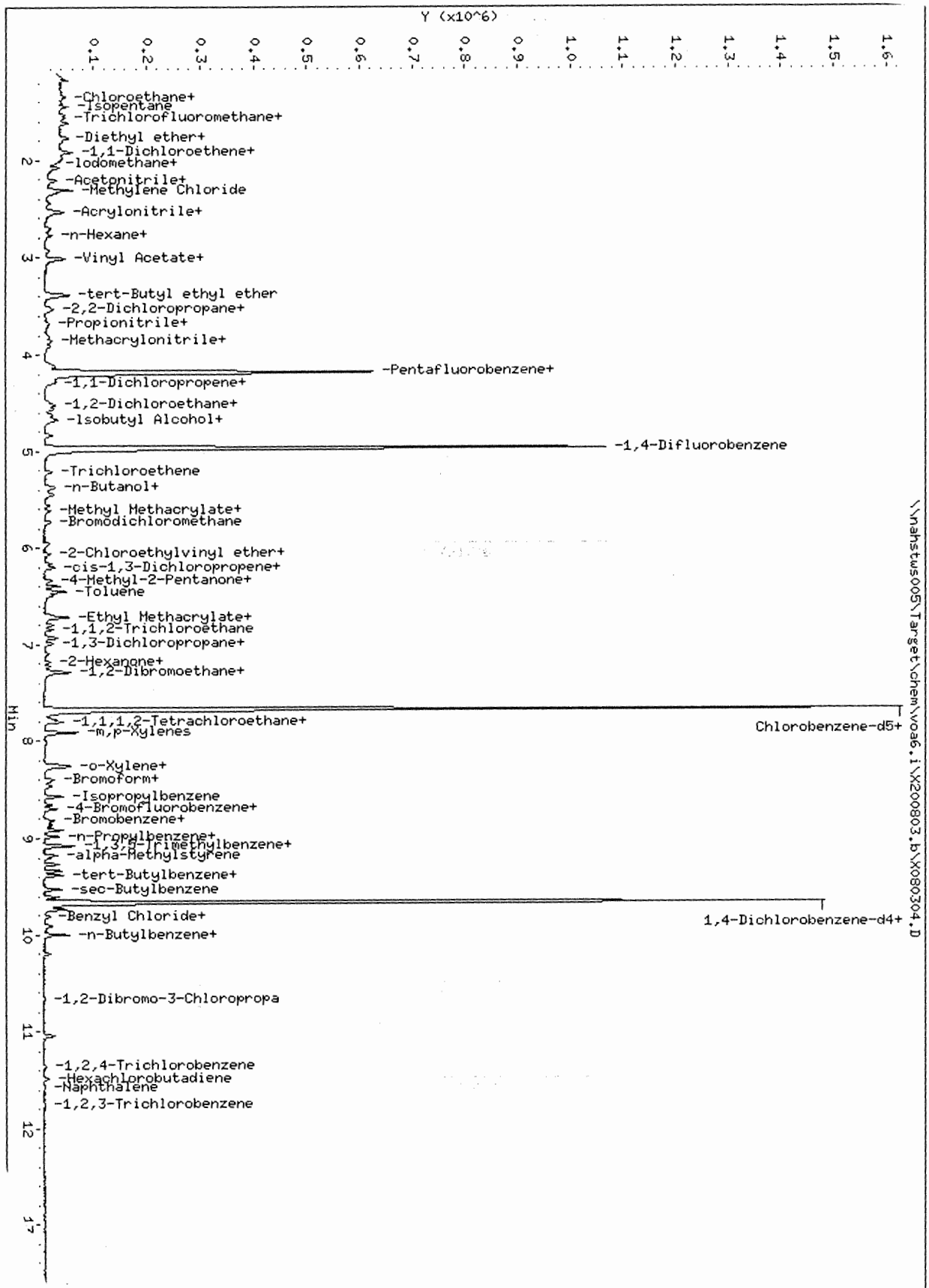
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	539031	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	824218	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	742459	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	360447	50.0000	
$ 30 Dibromofluoromethane	113	4.111	4.111	(0.981)	5491	1.00000	1.03
$ 35 1,2-Dichloroethane-d4	65	4.483	4.483	(1.070)	6204	1.00000	0.98
$ 48 Toluene-d8	98	6.396	6.396	(0.834)	20151	1.00000	1.11
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	7948	1.00000	1.14
53 1,1,2-Trichloroethane	83	6.847	6.847	(0.893)	3800	1.00000	0.89(a)
11 1,1-Dichloroethene	96	1.919	1.919	(0.458)	4098	1.00000	0.95(a)
33 1,2-Dichloroethane	62	4.569	4.569	(0.919)	7158	1.00000	0.89(a)
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.843)	5626	1.00000	0.94
17 Methylene Chloride	84	2.306	2.306	(0.550)	14851	1.00000	1.36(a)
38 Trichloroethene	130	5.214	5.214	(1.049)	4900	1.00000	0.83
5 Vinyl Chloride	62	1.145	1.145	(0.273)	5889	1.00000	0.84

Flag Legend

Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).



Data File: \\nahstws005\Target\chem\voa6.i\X200803.b\X080304.D
Date : 03-AUG-2020 12:52
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

\\nahstws005\Target\chem\voa6.i\X200803.b\X080304.D

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X200803.b\X080305.D
Lab Smp Id: VSTD002 Client Smp ID: VSTD002
Inj Date : 03-AUG-2020 13:16
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\X200803.b\8260W.m
Meth Date : 26-Aug-2020 09:02 voa6.i Quant Type: ISTD
Cal Date : 03-AUG-2020 12:52 Cal File: X080304.D
Als bottle: 6 Calibration Sample, Level: 4
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI-Hou11.sub
Target Version: 4.14
Processing Host: NAHSTW7056

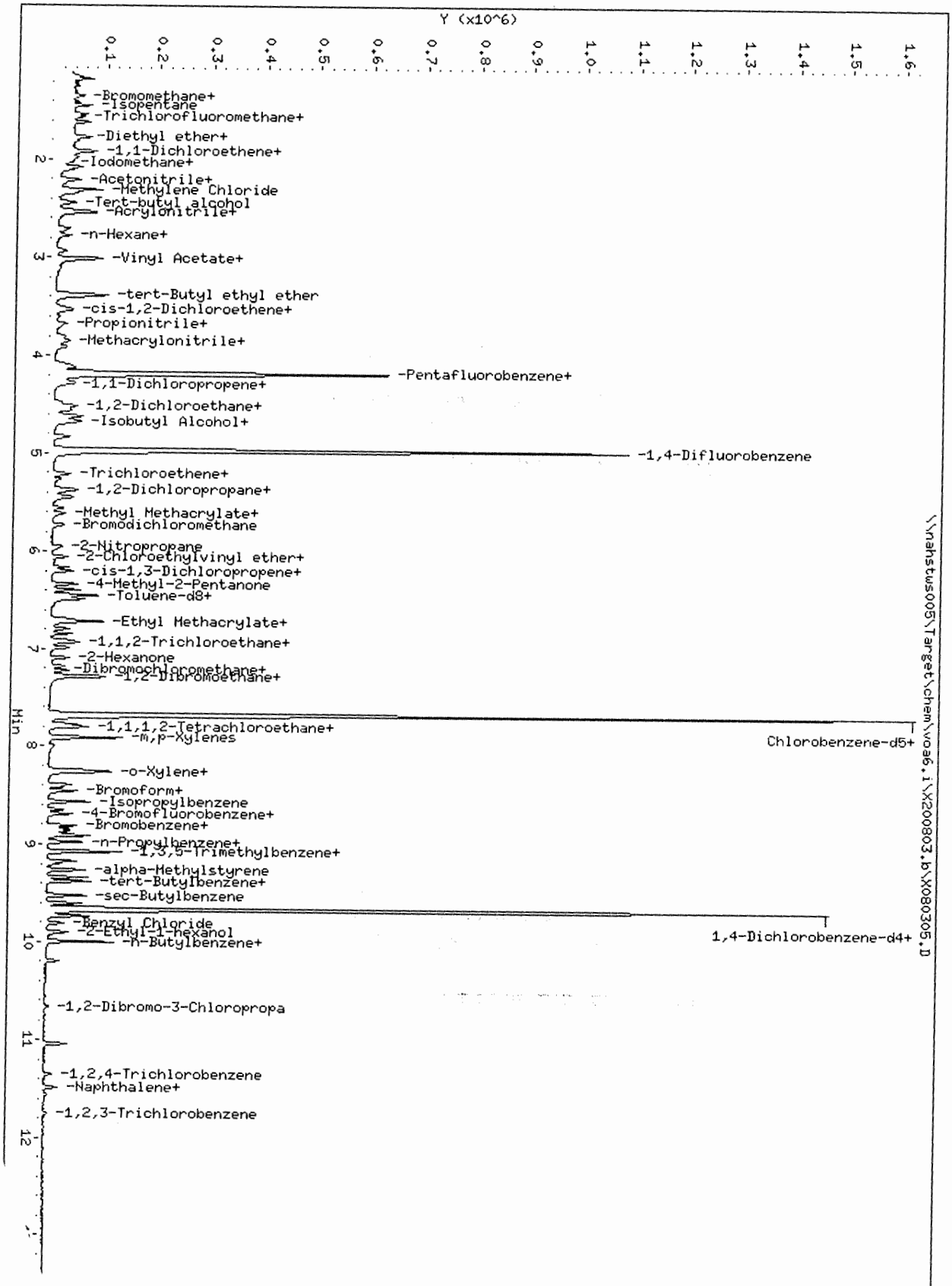
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.190	4.190	(1.000)	543911	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	829677	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	750905	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	351595	50.0000	
$ 30 Dibromofluoromethane	113	4.111	4.111	(0.981)	9821	2.00000	1.83
$ 35 1,2-Dichloroethane-d4	65	4.483	4.483	(1.070)	10904	2.00000	1.72
$ 48 Toluene-d8	98	6.396	6.396	(0.834)	33751	2.00000	1.85
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	13431	2.00000	1.91
53 1,1,2-Trichloroethane	83	6.847	6.847	(0.893)	9338	2.00000	2.18(a)
11 1,1-Dichloroethene	96	1.919	1.919	(0.458)	8194	2.00000	1.90(a)
33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	16305	2.00000	2.02(a)
27 cis-1,2-Dichloroethene	96	3.531	3.531	(0.843)	11409	2.00000	1.90
17 Methylene Chloride	84	2.306	2.306	(0.550)	20318	2.00000	2.34(a)
38 Trichloroethene	130	5.214	5.214	(1.049)	11482	2.00000	1.95
5 Vinyl Chloride	62	1.145	1.145	(0.273)	12969	2.00000	1.85

QC Flag Legend

a - Target compound detected but, quantitated amount Below Limit Of Quantitation(BLOQ).



Data File: \\nahstws005\Target\chem\voa6.i\X200803.b\X080305.D
Date : 03-AUG-2020 13:16
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

ALS Laboratory Group

ata file : \\nahstws005\Target\chem\voa6.i\X200803.b\X080306.D
ab Smp Id: VSTD005 Client Smp ID: VSTD005
Inj Date : 03-AUG-2020 13:40
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\X200803.b\8260W.m
Meth Date : 26-Aug-2020 09:02 voa6.i Quant Type: ISTD
Cal Date : 03-AUG-2020 13:16 Cal File: X080305.D
Als bottle: 7 Calibration Sample, Level: 5
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI-Houl1.sub
Target Version: 4.14
Processing Host: NAHSTW7056

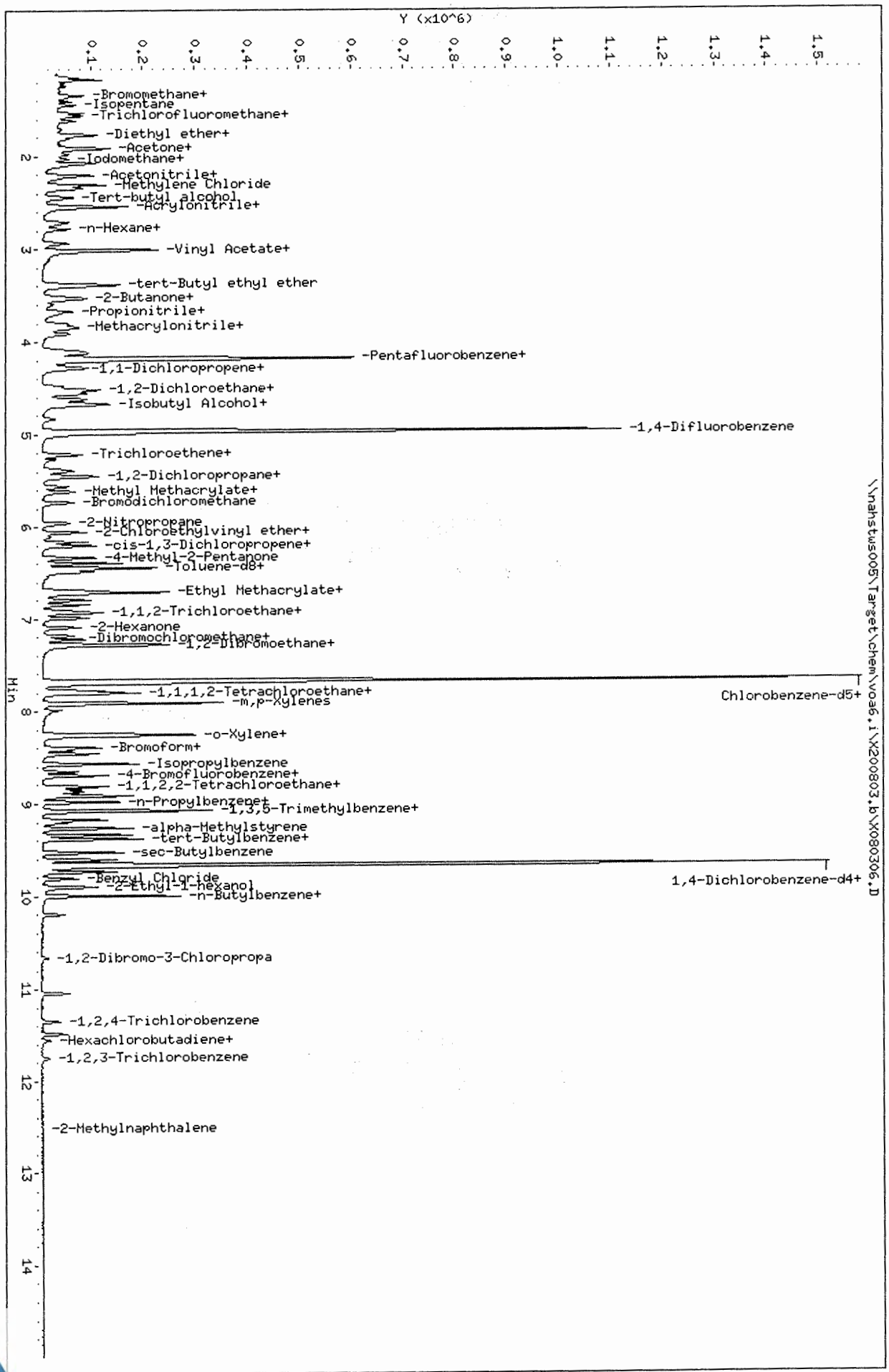
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	516466	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	799737	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	721427	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	341252	50.0000	
$ 30 Dibromofluoromethane	113	4.111	4.111	(0.981)	26560	5.00000	5.23
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	31226	5.00000	5.19
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	87842	5.00000	5.01
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	32773	5.00000	4.85
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	20819	5.00000	5.07
11 1,1-Dichloroethene	96	1.919	1.919	(0.458)	18682	5.00000	4.56(a)
33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	39206	5.00000	5.06
27 cis-1,2-Dichloroethene	96	3.538	3.538	(0.844)	28232	5.00000	4.96
17 Methylene Chloride	84	2.306	2.306	(0.550)	36047	5.00000	5.57
38 Trichloroethene	130	5.214	5.214	(1.049)	27117	5.00000	4.78
5 Vinyl Chloride	62	1.145	1.145	(0.273)	28782	5.00000	4.32

Flag Legend

Target compound detected but, quantitated amount Below Limit Of Quantitation(BLOQ).



Data File: \\nahstws005\Target\chem\voa6.i\X200803.b\X080306.D
Date : 03-AUG-2020 13:40
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

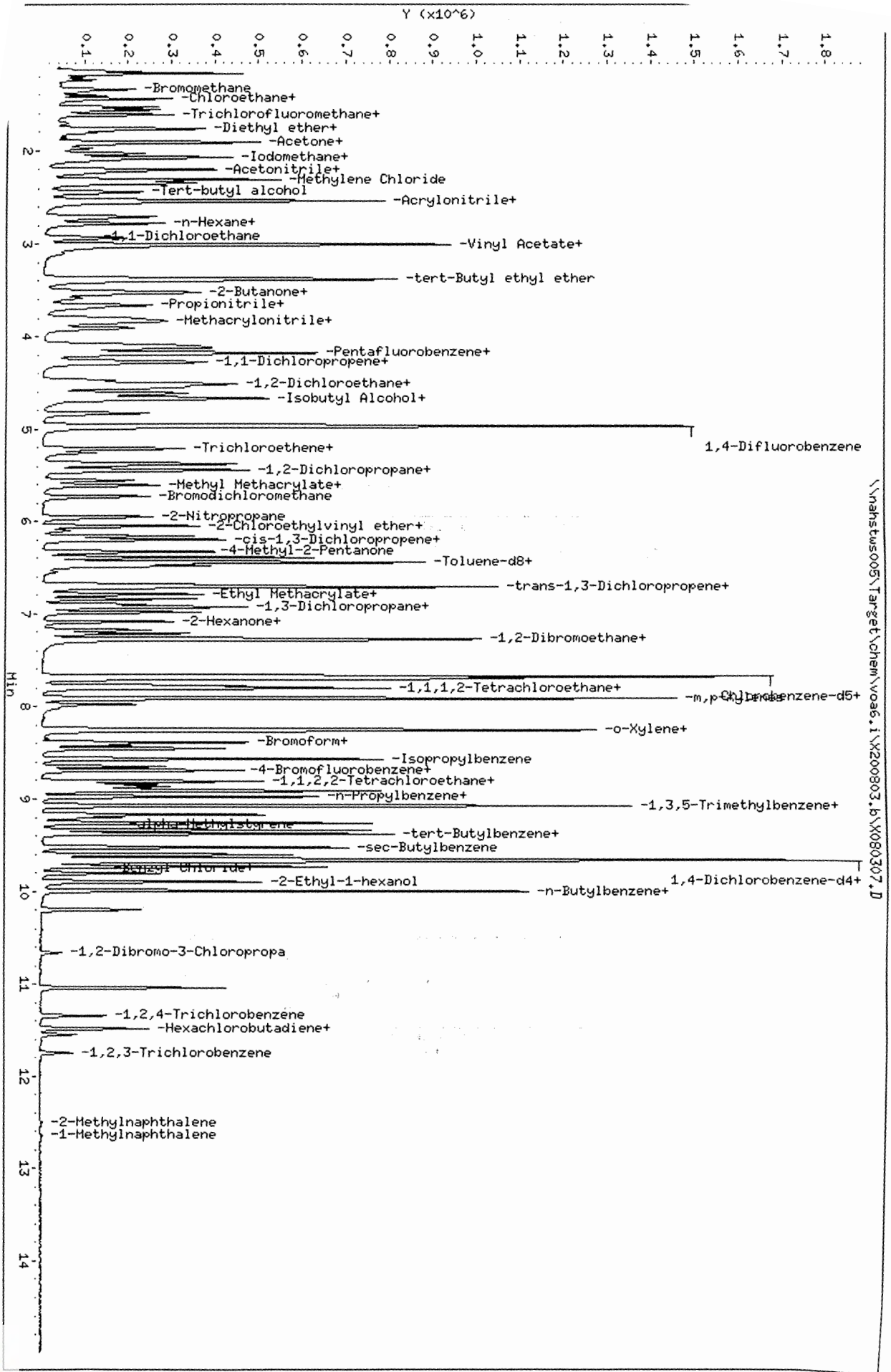
ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X200803.b\X080307.D
Lab Smp Id: VSTD020 Client Smp ID: VSTD020
Inj Date : 03-AUG-2020 14:04
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\X200803.b\8260W.m
Meth Date : 26-Aug-2020 09:02 voa6.i Quant Type: ISTD
Cal Date : 03-AUG-2020 13:40 Cal File: X080306.D
Als bottle: 8 Calibration Sample, Level: 6
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI-Houll.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
*	1 Pentafluorobenzene	168	4.189	4.189	(1.000)	527399	50.0000	
*	36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	802950	50.0000	
*	47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	728191	50.0000	
*	70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	344410	50.0000	
$	30 Dibromofluoromethane	113	4.103	4.103	(0.979)	100526	20.0000	19.40
$	35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	118997	20.0000	19.38
$	48 Toluene-d8	98	6.388	6.388	(0.833)	349779	20.0000	19.80
$	69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	131285	20.0000	19.26
	53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	79259	20.0000	19.12
	11 1,1-Dichloroethene	96	1.919	1.919	(0.458)	85725	20.0000	20.51
	33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	151794	20.0000	19.52
	27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.843)	114120	20.0000	19.65
	17 Methylene Chloride	84	2.306	2.306	(0.550)	113086	20.0000	19.99
	38 Trichloroethene	130	5.214	5.214	(1.049)	113040	20.0000	19.86
	5 Vinyl Chloride	62	1.145	1.145	(0.273)	133473	20.0000	19.66


Y (x10^6)
0.1 0.2 0.3 0.4 0.5 0.6 0.7 0.8 0.9 1.0 1.1 1.2 1.3 1.4 1.5 1.6 1.7 1.8
Min
2 3 4 5 6 7 8 9 10 11 12 13 14
-Bromomethane
-Chloroethane+
-Trichlorofluoromethane+
-Diethyl ether+
-Acetone+
-Iodomethane+
-Acetonitrile+
-Methylene Chloride
-Tert-butyl alcohol
-Acrylonitrile+
-n-Hexane+
-1,1-Dichloroethane
-Vinyl Acetate+
-tert-Butyl ethyl ether
-2-Butanone+
-Propionitrile+
-Methacrylonitrile+
-Pentafluorobenzene+
-1,1-Dichloropropene+
-1,2-Dichloroethane+
-Isobutyl Alcohol+
1,4-Difluorobenzene
-Trichloroethene+
-1,2-Dichloropropane+
-Methyl Methacrylate+
-Bromodichloromethane
-2-Nitropropane
-2-Chloroethylvinyl ether+
-cis-1,3-Dichloropropene+
-4-Methyl-2-Pentanone
-Toluene-d8+
-trans-1,3-Dichloropropene+
-Ethyl Methacrylate+
-1,3-Dichloropropane+
-2-Hexanone+
-1,2-Dibromoethane+
-1,1,1,2-Tetrachloroethane+
-m,p-Xylenes
Chlorobenzene-d5+
-o-Xylene+
-Bromoform+
-Isopropylbenzene
-4-Bromofluorobenzene+
-1,1,2,2-Tetrachloroethane+
-n-Propylbenzene+
-1,3,5-Trimethylbenzene+
-alpha-Methylstyrene
-tert-Butylbenzene+
-sec-Butylbenzene
-Benzyl Chloride+
-2-Ethyl-1-hexanol
1,4-Dichlorobenzene-d4+
-n-Butylbenzene+
-1,2-Dibromo-3-Chloropropa
-1,2,4-Trichlorobenzene
-Hexachlorobutadiene+
-1,2,3-Trichlorobenzene
-2-Methylnaphthalene
-1-Methylnaphthalene
\\nahstws005\Target\chem\voa6.i\X200803.b\X080307.D
Data File: \\nahstws005\Target\chem\voa6.i\X200803.b\X080307.D
Date : 03-AUG-2020 14:04
Client ID: VSTD020
Sample Info: VSTD020,VSTD020,1,1,6,,,
Purge Volume: 5.0
Column phase: DB624
Instrument: voa6.i
Operator: PC
Column diameter: 0.18

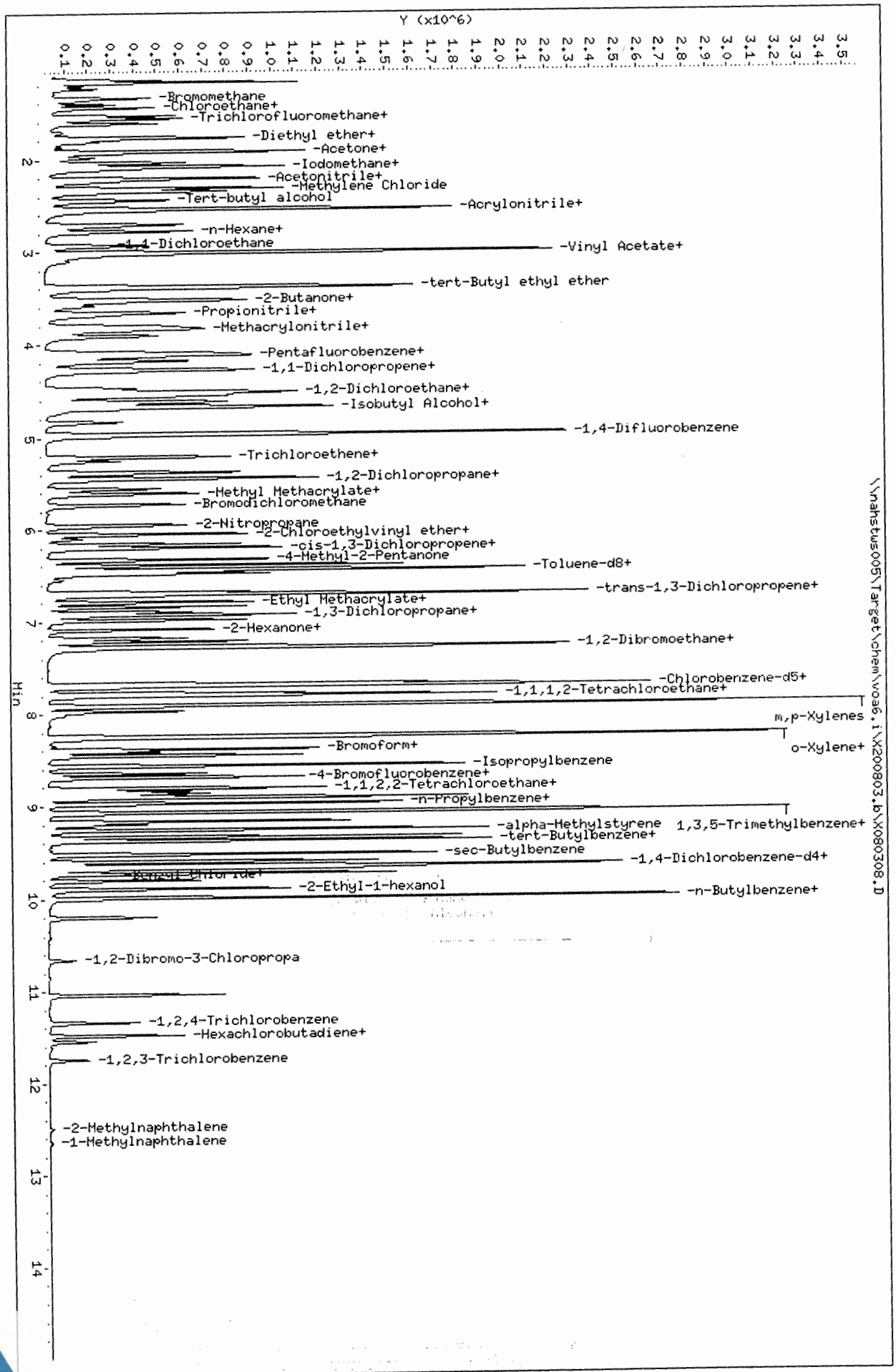
ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X200803.b\X080308.D
Lab Smp Id: VSTD050 Client Smp ID: VSTD050
Inj Date : 03-AUG-2020 14:28
Operator : PC Inst ID: voa6.i
Smp Info : VSTD050;VSTD050;1;7;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200803.b\8260W.m
Meth Date : 26-Aug-2020 09:02 voa6.i Quant Type: ISTD
Cal Date : 03-AUG-2020 14:04 Cal File: X080307.D
Als bottle: 9 Calibration Sample, Level: 7
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI-Hou11.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	511920	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	771177	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	702771	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	336517	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.979)	239584	50.0000	47.65
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	283572	50.0000	47.58
$ 48 Toluene-d8	98	6.389	6.389	(0.833)	830682	50.0000	48.73
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	313797	50.0000	47.71
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	188669	50.0000	47.18
11 1,1-Dichloroethene	96	1.919	1.919	(0.458)	203794	50.0000	50.24
33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	363525	50.0000	48.68
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.843)	270912	50.0000	48.07
17 Methylene Chloride	84	2.306	2.306	(0.550)	256910	50.0000	48.65
38 Trichloroethene	130	5.207	5.207	(1.048)	272294	50.0000	49.82
5 Vinyl Chloride	62	1.145	1.145	(0.273)	331269	50.0000	50.27



Data File: \\nahstws005\Target\chem\voa6.i\X200803.b\X080308.D
Date : 03-AUG-2020 14:28
Client ID: VSTD050
Sample Info: VSTD050;VSTD050r1;7;;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

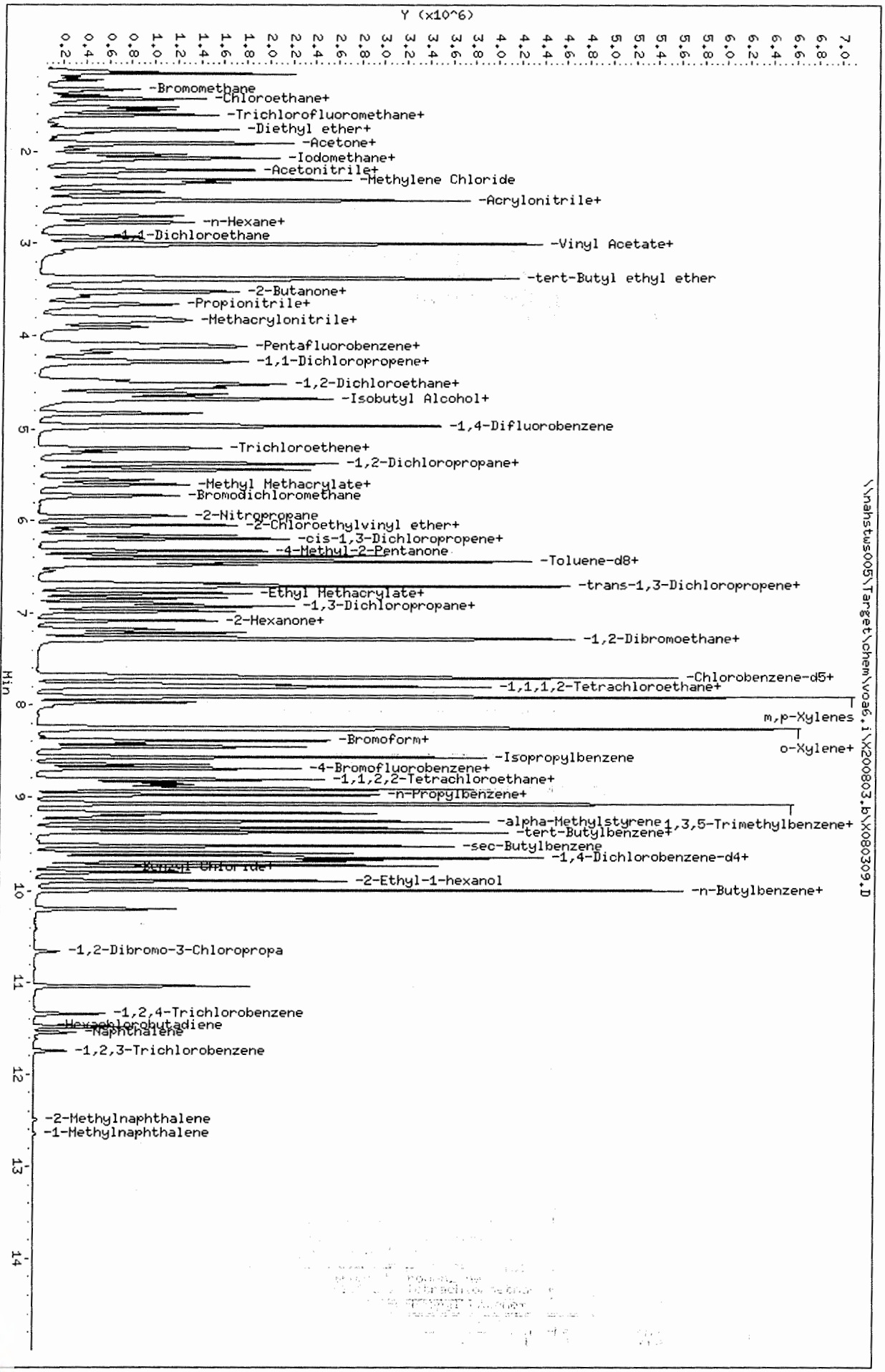
ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X200803.b\X080309.D
Lab Smp Id: VSTD100 Client Smp ID: VSTD100
Inj Date : 03-AUG-2020 14:52
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\X200803.b\8260W.m
Meth Date : 26-Aug-2020 09:02 voa6.i Quant Type: ISTD
Cal Date : 03-AUG-2020 14:28 Cal File: X080308.D
Als bottle: 10 Calibration Sample, Level: 8
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI-Hou11.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
*	1 Pentafluorobenzene	168	4.189	4.189	(1.000)	486833	50.0000	
*	36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	732825	50.0000	
*	47 Chlorobenzene-d5	117	7.670	7.670	(1.000)	684816	50.0000	
*	70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	323663	50.0000	
$	30 Dibromofluoromethane	113	4.103	4.103	(0.979)	473016	100.000	98.93
$	35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	567807	100.000	100.19
$	48 Toluene-d8	98	6.388	6.388	(0.833)	1639713	100.000	98.71
$	69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	621420	100.000	96.97
	53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	371422	100.000	95.31
	11 1,1-Dichloroethene	96	1.919	1.919	(0.458)	399194	100.000	103.48
	33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	709131	100.000	99.94
	27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.843)	527504	100.000	98.43
	17 Methylene Chloride	84	2.305	2.305	(0.550)	487953	100.000	98.54
	38 Trichloroethene	130	5.214	5.214	(1.049)	540855	100.000	104.13
	5 Vinyl Chloride	62	1.145	1.145	(0.273)	656263	100.000	104.72



Data File: \\nahstws005\Target\chem\voa6.i\X200803.b\X080309.D
Date : 03-AUG-2020 14:52
Client ID: VSTD100
Sample Info: VSTD100;VSTD100;1;8;;
Purge Volume: 5.0
Column phase: DB624

\\nahstws005\Target\chem\voa6.i\X200803.b\X080309.D

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

Data File: \\nahstws005\Target\chem\voa6.i\X200803.b\X080310.D Page 1
Report Date: 26-Aug-2020 09:02

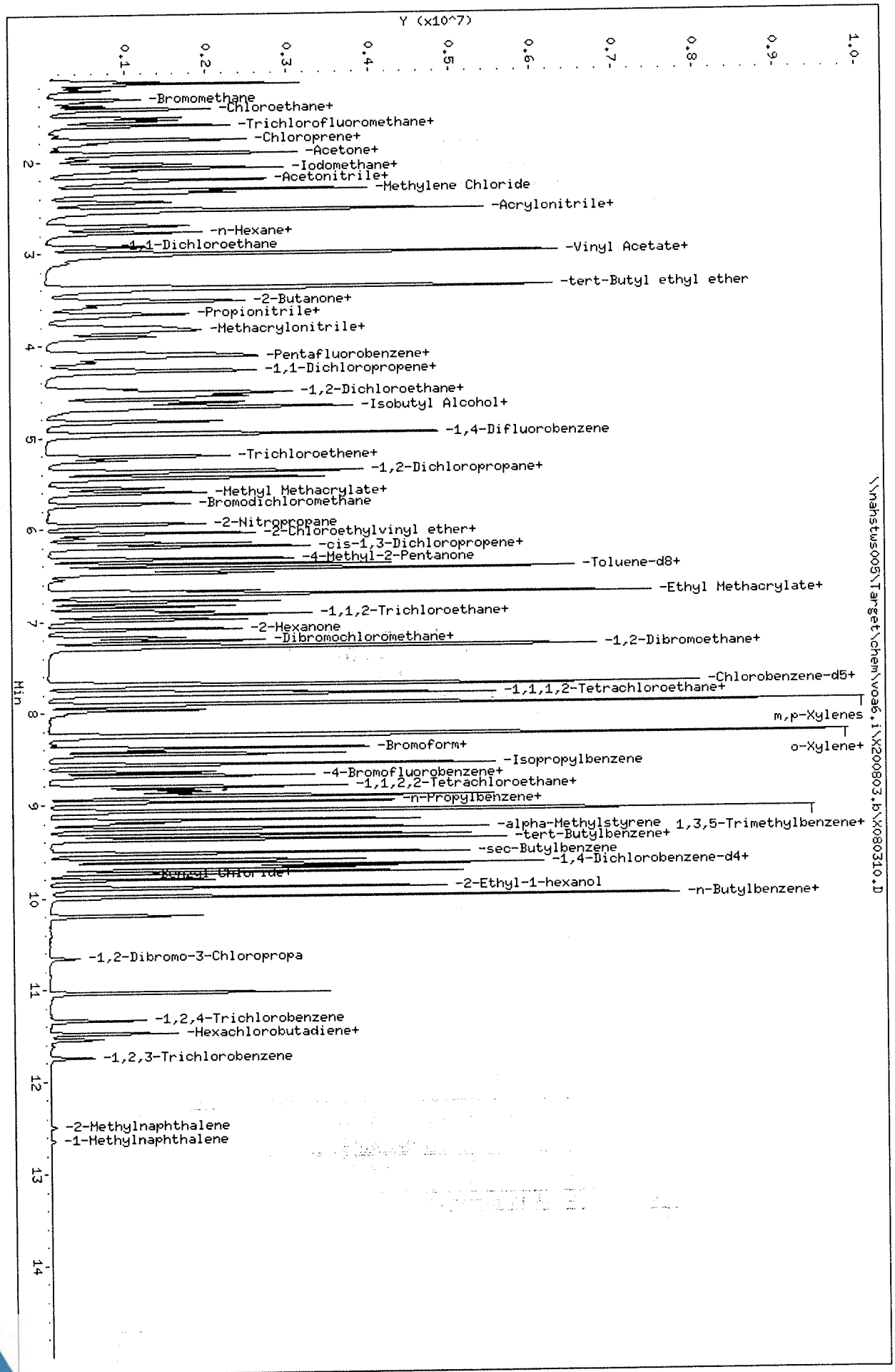
ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X200803.b\X080310.D
Lab Smp Id: VSTD150 Client Smp ID: VSTD150
Inj Date : 03-AUG-2020 15:16
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\X200803.b\8260W.m
Meth Date : 26-Aug-2020 09:02 voa6.i Quant Type: ISTD
Cal Date : 03-AUG-2020 14:52 Cal File: X080309.D
Als bottle: 11 Calibration Sample, Level: 9
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI-Hou11.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	457081	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	697946	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	658557	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	308838	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.979)	673356	150.000	150.01
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	814725	150.000	153.12
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	2334447	150.000	146.14
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	886803	150.000	143.91
53 1,1,2-Trichloroethane	83	6.847	6.847	(0.893)	538173	150.000	143.61
11 1,1-Dichloroethene	96	1.912	1.912	(0.456)	571714	150.000	157.86
33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	1020218	150.000	150.97
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.843)	755671	150.000	150.19
17 Methylene Chloride	84	2.306	2.306	(0.550)	693942	150.000	149.97
38 Trichloroethene	130	5.214	5.214	(1.049)	766453	150.000	154.95
5 Vinyl Chloride	62	1.145	1.145	(0.273)	956993	150.000	162.65



Data File: \\nahstws005\Target\chem\voa6.i\X200803.b\X080310.D
Date : 03-AUG-2020 15:16
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

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Data file : \\nahstws005\Target\chem\voa6.i\X200803.b\X080311.D
Lab Smp Id: VSTD200 Client Smp ID: VSTD200
Inj Date : 03-AUG-2020 15:40
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\X200803.b\8260W.m
Meth Date : 26-Aug-2020 09:02 voa6.i Quant Type: ISTD
Cal Date : 03-AUG-2020 15:16 Cal File: X080310.D
Als bottle: 12 Calibration Sample, Level: 10
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI-Hou11.sub
Target Version: 4.14
Processing Host: NAHSTW7056

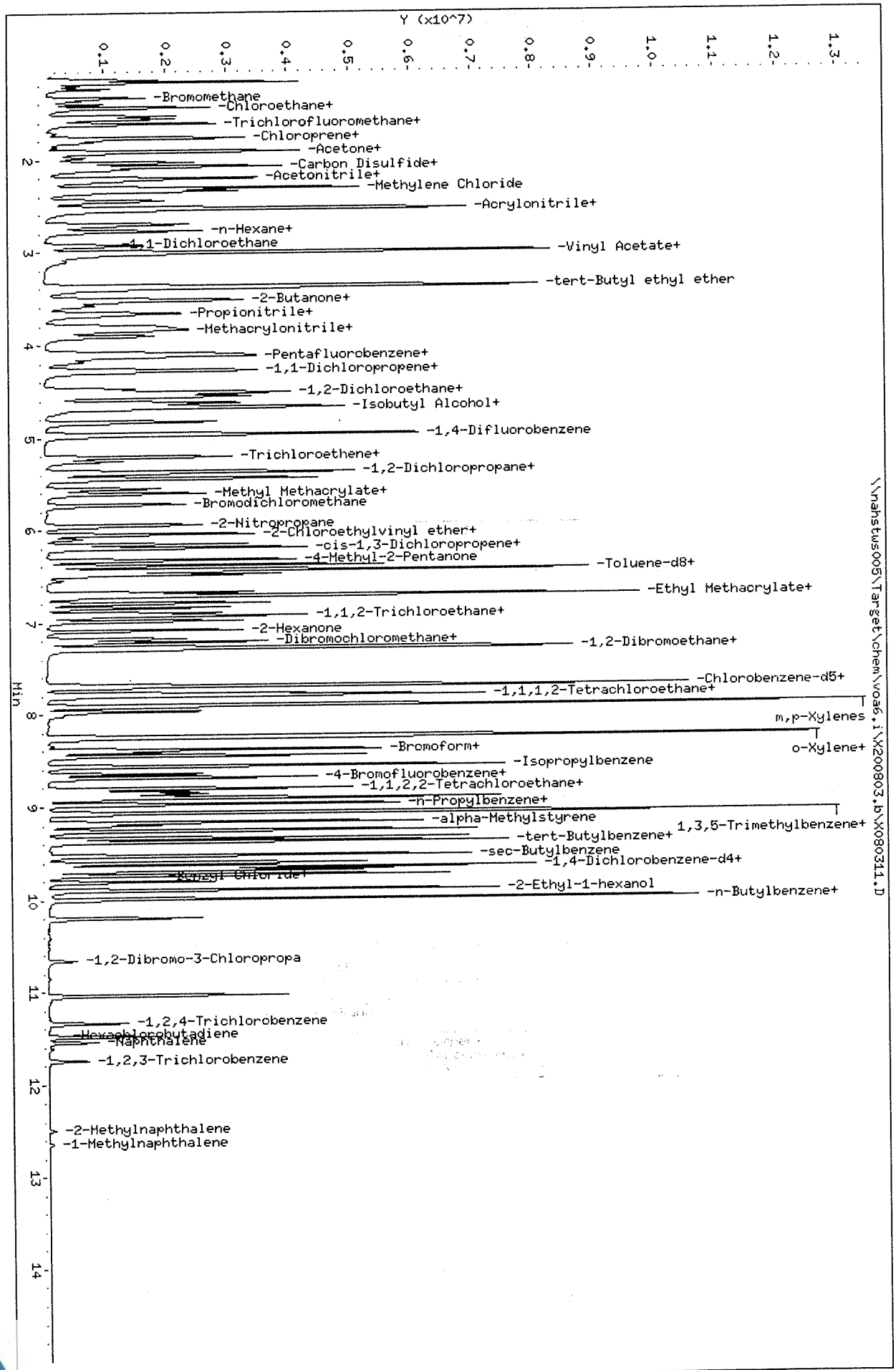
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	450865	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	691821	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	647390	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	303189	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.979)	891470	200.000	201.34(A)
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	1069168	200.000	203.72(A)
$ 48 Toluene-d8	98	6.389	6.389	(0.833)	3098306	200.000	197.30
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	1172448	200.000	193.54
53 1,1,2-Trichloroethane	83	6.847	6.847	(0.893)	709380	200.000	192.57
11 1,1-Dichloroethene	96	1.912	1.912	(0.456)	760300	200.000	212.82(A)
33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	1348617	200.000	201.33(A)
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.843)	1003656	200.000	202.23(A)
17 Methylene Chloride	84	2.306	2.306	(0.550)	915440	200.000	201.03(A)
38 Trichloroethene	130	5.207	5.207	(1.048)	1027730	200.000	209.61(A)
5 Vinyl Chloride	62	1.145	1.145	(0.273)	1294651	200.000	223.07(A)

QC Flag Legend

A - Target compound detected but, quantitated amount exceeded maximum amount.



Data File: \\nahstws005\Target\chem\voa6.i\X200803.b\X080311.D
Date : 03-AUG-2020 15:40
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\X200803.b\X080314.D Page 1
Report Date: 26-Aug-2020 09:02

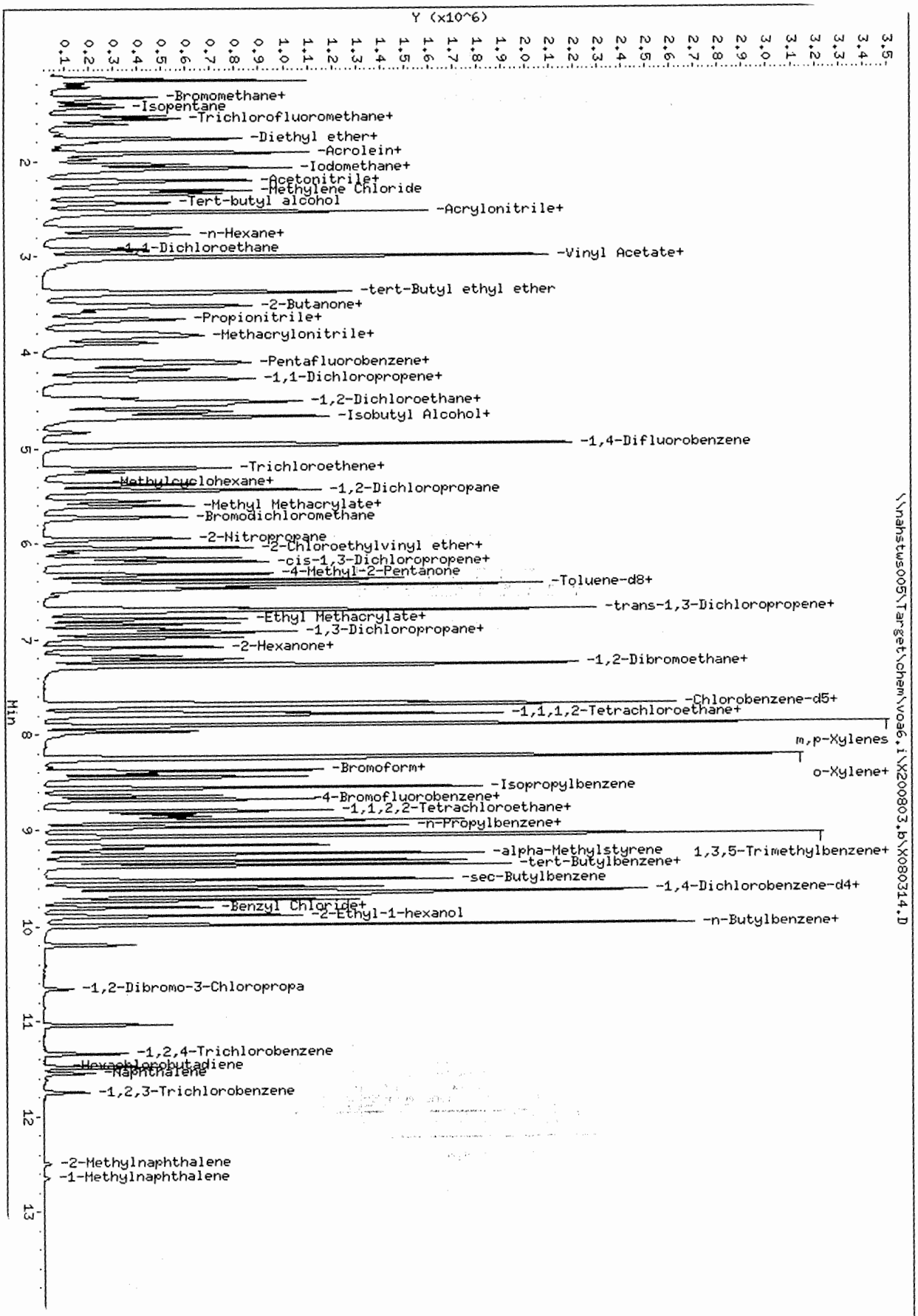
ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X200803.b\X080314.D
Lab Smp Id: ICV Client Smp ID: ICV
Inj Date : 03-AUG-2020 16:51
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\X200803.b\8260W.m
Meth Date : 26-Aug-2020 09:02 voa6.i Quant Type: ISTD
Cal Date : 03-AUG-2020 15:40 Cal File: X080311.D
Als bottle: 15 QC Sample: METHSPIKE
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI-Hou11.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
*	1 Pentafluorobenzene	168	4.189	4.189	(1.000)	487811	50.0000	
*	36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	737194	50.0000	
*	47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	676175	50.0000	
*	70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	325984	50.0000	
$	30 Dibromofluoromethane	113	4.103	4.103	(0.979)	235982	49.2610	49.26
$	35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	277053	48.7922	48.79
$	48 Toluene-d8	98	6.388	6.389	(0.833)	810392	49.4111	49.41
$	69 4-Bromofluorobenzene	95	8.688	8.695	(1.133)	309544	48.9242	48.92
	53 1,1,2-Trichloroethane	83	6.840	6.847	(0.892)	183527	47.7003	47.70
	11 1,1-Dichloroethene	96	1.919	1.912	(0.458)	198134	51.2626	51.26
	33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	349700	48.9941	48.99
	27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.843)	262524	48.8914	48.89
	17 Methylene Chloride	84	2.305	2.306	(0.550)	246540	49.0057	49.00
	38 Trichloroethene	130	5.214	5.207	(1.049)	264166	50.5627	50.56
	5 Vinyl Chloride	62	1.145	1.145	(0.273)	318745	50.7622	50.76



Data File: \\nahstws005\Target\chem\voa6.i\X200803.b\X080314.D
Date : 03-AUG-2020 16:51
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: 41324 **Analyst:** Presenta Cabascango

Date: 08-05-2020 **Reviewer:**

Method: 8260 **Laboratory:** Houston

Comments:

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	pH
1	BFB	TUNE	08-05-2020 01:14 pm	1.00	50 mL	50 mL	X080501.D	Liquid	Y	NA
	Auto find/ purged									
2	CCV	CCV	08-05-2020 01:38 pm	1.00	50 mL	50 mL	X080502a.D	Liquid	Y	NA
	10 uL cal std/50 mL DI									
3	CCV	CCV	08-05-2020 02:02 pm	1.00	50 mL	50 mL	X080503.D	Liquid	Y	NA
	10 uL cal std/50 mL DI									
4	CCB	SAMP	08-05-2020 02:41 pm	1.00	50 mL	50 mL	X080504.D	Liquid	Y	NA
5	VLCSW-200805	LCS	08-05-2020 03:05 pm	1.00	50 mL	50 mL	X080505.D	Liquid	Y	NA
	10 uL cal std/50 mL DI									
6	BLANK	SAMP	08-05-2020 03:29 pm	1.00	50 mL	50 mL	X080506.D	Liquid	Y	NA
7	VBLKM-200805	MBLK	08-05-2020 03:53 pm	50.00	1 mL	50 mL	X080507.D	Liquid	Y	NA
	ml									
8	VBLKW-200805	MBLK	08-05-2020 04:17 pm	1.00	50 mL	50 mL	X080508.D	Liquid	Y	NA
9	HS20071328-19	SAMP	08-05-2020 04:41 pm	1.00	50 mL	50 mL	X080509.D	Liquid	Y	<2
10	HS20071328-12	SAMP	08-05-2020 05:05 pm	500.0(	100 µL	50 mL	X080510.D	Liquid	Y	NA
	ml									
11	HS20071328-11	SAMP	08-05-2020 05:29 pm	25.00	2 mL	50 mL	X080511.D	Liquid	Y	<2
12	HS20071328-13	SAMP	08-05-2020 05:53 pm	50.00	1 mL	50 mL	X080512.D	Liquid	Y	<2
13	HS20071328-06	SAMP	08-05-2020 06:17 pm	5.00	10 mL	50 mL	X080513.D	Liquid	Y	<2
14	HS20071328-07	SAMP	08-05-2020 06:41 pm	5.00	10 mL	50 mL	X080514.D	Liquid	Y	<2
15	HS20071328-14	SAMP	08-05-2020 07:05 pm	25.00	2 mL	50 mL	X080515.D	Liquid	Y	<2
16	HS20071328-16	SAMP	08-05-2020 07:30 pm	25.00	2 mL	50 mL	X080516.D	Liquid	Y	<2
17	HS20071328-12MS	MS	08-05-2020 07:54 pm	500.0(	100 µL	50 mL	X080517.D	Liquid	Y	na
	3.5 uL cal std/40 mL samp									
18	HS20071328-12MSD	MSD	08-05-2020 08:18 pm	500.0(	100 µL	50 mL	X080518.D	Liquid	Y	na
	3.5 uL cal std/40 mL samp									
19	HS20071328-19MS	MS	08-05-2020 08:42 pm	1.00	50 mL	50 mL	X080519.D	Liquid	Y	<2
	3.5 uL cal std/40 mL samp									
20	HS20071328-19MSD	MSD	08-05-2020 09:06 pm	1.00	50 mL	50 mL	X080520.D	Liquid	Y	<2
	3.5 uL cal std/40 mL samp									
21	HS20071328-14	SAMP	08-05-2020 09:30 pm	500.0(	100 µL	50 mL	X080521.D	Liquid	Y	<2
22	HS20071328-16	SAMP	08-05-2020 09:54 pm	500.0(	100 µL	50 mL	X080522.D	Liquid	Y	<2
23	CCV-END	CCV	08-05-2020 10:18 pm	1.00	50 mL	50 mL	X080523.D	Liquid	Y	na
	10 uL cal std/50 mL DI									
24	HS20080142-01	SAMP	08-05-2020 10:42 pm	1000.0	50 µL	50 mL	X080524.D	Liquid	Y	<2
25	HS20080142-01	SAMP	08-05-2020 11:06 pm	100.0(	500 µL	50 mL	X080525.D	Liquid	Y	<2
26	HS20080109-01	SAMP	08-05-2020 11:30 pm	1.00	50 mL	50 mL	X080526.D	Liquid	Y	<2
27	HS20080075-01	SAMP	08-05-2020 11:54 pm	1.00	50 mL	50 mL	X080527.D	Liquid	Y	<2
28	HS20080085-01	SAMP	08-06-2020 12:18 am	1.00	50 mL	50 mL	X080528.D	Liquid	Y	<2
29	HS20080145-01	SAMP	08-06-2020 12:42 am	1.00	50 mL	50 mL	X080529.D	Liquid	Y	na
	neat samples									
30	HS20080145-02	SAMP	08-06-2020 01:06 am	1.00	50 mL	50 mL	X080530.D	Liquid	Y	na
31	BLANK	SAMP	08-06-2020 01:30 am	1.00	50 mL	50 mL	X080531.D	Liquid	Y	<2

Chemical	Value
SURR SPK ID	31106-38-06
IS ID	31106-38-06
CAL STD ID	31106-41-01/02
BFB ID	31106-38-06
pH Paper	634-64-10

FORM 2
WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20071328

	CLIENT SAMPLE NO.	SMC1 #	SMC2 (DCE)#	SMC3 (TOL)#	OTHER #	TOT OUT
01	VLCSW-200805	98	103	98	97	0
02	VBLKW-200805	93	93	107	96	0
03	HS20071328-19	93	92	107	98	0
04	HS20071328-11	95	94	106	97	0
05	HS20071328-13	94	93	106	98	0
06	HS20071328-06	94	93	106	97	0
07	HS20071328-07	94	92	106	97	0
08	HS20071328-14	94	93	105	100	0
09	HS20071328-16	94	93	104	99	0
10	HS20071328-19	94	93	104	98	0
11	HS20071328-19	94	92	106	96	0
12	HS20071328-14	94	92	106	97	0
13	HS20071328-16	94	92	106	97	0
14						
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		QC LIMITS
SMC1	= Dibromofluoromethane	(0-130)
SMC2 (DCE)	= 1,2-Dichloroethane-d4	(0-130)
SMC3 (TOL)	= Toluene-d8	(0-130)
OTHER	= 4-Bromofluorobenzene	(0-130)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D System Monitoring Compound diluted out

FORM 4
VOLATILE METHOD BLANK SUMMARY

CLIENT SAMPLE NO.

VBLKW-200805

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20071328

Lab File ID: X080508 Lab Sample ID: VBLKW-200805

Date Analyzed: 08/05/20 Time Analyzed: 1617

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-200805	VLCSW-200805	X080505	1505
02	HS20071328-1	HS20071328-19	X080509	1641
03	HS20071328-1	HS20071328-11	X080511	1729
04	HS20071328-1	HS20071328-13	X080512	1753
05	HS20071328-0	HS20071328-06	X080513	1817
06	HS20071328-0	HS20071328-07	X080514	1841
07	HS20071328-1	HS20071328-14	X080515	1905
08	HS20071328-1	HS20071328-16	X080516	1930
09	HS20071328-1	HS20071328-19M	X080519	2042
10	HS20071328-1	HS20071328-19M	X080520	2106
11	HS20071328-1	HS20071328-14	X080521	2130
12	HS20071328-1	HS20071328-16	X080522	2154
13				
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COMMENTS:

FORM 5
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20071328

Lab File ID: X080501 BFB Injection Date: 08/05/20

Instrument ID: VOA6 BFB Injection Time: 1314

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	26.6
75	30.0 - 60.0% of mass 95	51.3
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	7.9
173	Less than 2.0% of mass 174	0.5 (0.8)1
174	Greater than 50.0% of mass 95	67.6
175	5.0 - 9.0% of mass 174	5.3 (7.9)1
176	95.0 - 101.0% of mass 174	64.6 (95.5)1
177	5.0 - 9.0% of mass 176	4.9 (7.6)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	CCV	CCV	X080503	08/05/20	1402
02	VLCSW-200805	VLCSW-200805	X080505	08/05/20	1505
03	VBLKW-200805	VBLKW-200805	X080508	08/05/20	1617
04	HS20071328-1	HS20071328-19	X080509	08/05/20	1641
05	HS20071328-1	HS20071328-11	X080511	08/05/20	1729
06	HS20071328-1	HS20071328-13	X080512	08/05/20	1753
07	HS20071328-0	HS20071328-06	X080513	08/05/20	1817
08	HS20071328-0	HS20071328-07	X080514	08/05/20	1841
09	HS20071328-1	HS20071328-14	X080515	08/05/20	1905
10	HS20071328-1	HS20071328-16	X080516	08/05/20	1930
11	HS20071328-1	HS20071328-19M	X080519	08/05/20	2042
12	HS20071328-1	HS20071328-19M	X080520	08/05/20	2106
13	HS20071328-1	HS20071328-14	X080521	08/05/20	2130
14	HS20071328-1	HS20071328-16	X080522	08/05/20	2154
15	CCV-END	CCV-END	X080523	08/05/20	2218
16					
17					
18					
19					
20					
21					
22					

FORM 7B
VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20071328

Instrument ID: VOA6 Calibration Date: 08/05/20 Time: 1402

Lab File ID: X080503 Init. Calib. Date(s): 08/03/20 08/03/20

Init. Calib. Times: 1140 1540

GC Column: DB624 ID: 0.18 (mm)

COMPOUND	RRF or AMOUNT	RRF50.000 or AMOUNT	CCAL RRF50.000	MIN RRF	%D or %DRIFT	MAX %D or %DRIFT	CURV TYPE
Vinyl Chloride	0.6440000	0.6744489	0.6744489	0.1	-4.73	20.00	AVRG
Methylene Chloride	48.225887	50.000000	0.5274425	0.1	3.55	20.00	LINR
1,1-Dichloroethene	0.3960000	0.4167072	0.4167072	0.1	-5.23	20.00	AVRG
1,2-Dichloroethane	0.4840000	0.4717714	0.4717714	0.1	2.53	20.00	AVRG
cis-1,2-Dichloroethene	0.5500000	0.5633139	0.5633139	0.1	-2.42	20.00	AVRG
1,1,2-Trichloroethane	0.2840000	0.2666338	0.2666338	0.1	6.11	20.00	AVRG
Trichloroethene	0.3540000	0.3478824	0.3478824	0.2	1.73	20.00	AVRG
Dibromofluoromethane	0.4910000	0.5024546	0.5024546	0.1	-2.33	20.00	AVRG
1,2-Dichloroethane-d4	0.5820000	0.6018578	0.6018578	0.1	-3.41	20.00	AVRG
Toluene-d8	1.2130000	1.1986087	1.1986087	0.1	1.19	20.00	AVRG
4-Bromofluorobenzene	0.4680000	0.4542161	0.4542161	0.1	2.94	20.00	AVRG

FORM VII VOA

FORM 7B
VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20071328

Instrument ID: VOA6 Calibration Date: 08/05/20 Time: 2218

Lab File ID: X080523 Init. Calib. Date(s): 08/03/20 08/03/20

Init. Calib. Times: 1140 1540

GC Column: DB624 ID: 0.18 (mm)

COMPOUND	RRF or AMOUNT	RRF50.000 or AMOUNT	CCAL RRF50.000	MIN RRF	%D or %DRIFT	MAX %D or %DRIFT	CURV TYPE
Vinyl Chloride	0.6440000	0.6744489	0.6744489	0.1	-4.73	50.00	AVRG
Methylene Chloride	51.203128	50.000000	0.5274425	0.1	-2.41	50.00	LINR
1,1-Dichloroethene	0.3960000	0.4167072	0.4167072	0.1	-5.23	50.00	AVRG
1,2-Dichloroethane	0.4840000	0.4717714	0.4717714	0.1	2.53	50.00	AVRG
cis-1,2-Dichloroethene	0.5500000	0.5633139	0.5633139	0.1	-2.42	50.00	AVRG
1,1,2-Trichloroethane	0.2840000	0.2666338	0.2666338	0.1	6.11	50.00	AVRG
Trichloroethene	0.3540000	0.3478824	0.3478824	0.2	1.73	50.00	AVRG
Dibromofluoromethane	0.4910000	0.5024546	0.5024546	0.1	-2.33	50.00	AVRG
1,2-Dichloroethane-d4	0.5820000	0.6018578	0.6018578	0.1	-3.41	50.00	AVRG
Toluene-d8	1.2130000	1.1986087	1.1986087	0.1	1.19	50.00	AVRG
4-Bromofluorobenzene	0.4680000	0.4542161	0.4542161	0.1	2.94	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.: HS20071328

Lab File ID (Standard): X080503 Date Analyzed: 08/05/20

Instrument ID: VOA6 Time Analyzed: 1402

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	482636	4.19	741075	4.97	688034	7.67
	UPPER LIMIT	965272	4.69	1482150	5.47	1376068	8.17
	LOWER LIMIT	241318	3.69	370538	4.47	344017	7.17
	CLIENT SAMPLE NO.						
01	VLCSW-200805	492451	4.19	752445	4.97	681420	7.67
02	VBLKW-200805	511163	4.19	752490	4.97	651412	7.67
03	HS20071328-19	506515	4.19	748078	4.97	639414	7.67
04	HS20071328-11	510748	4.19	767050	4.97	671411	7.67
05	HS20071328-13	513028	4.19	757261	4.97	658969	7.67
06	HS20071328-06	512558	4.19	760378	4.97	647783	7.67
07	HS20071328-07	511599	4.19	756896	4.97	651173	7.67
08	HS20071328-14	510589	4.19	761075	4.97	651893	7.67
09	HS20071328-16	499741	4.19	751106	4.97	651472	7.67
10	HS20071328-19	482352	4.19	714556	4.97	636933	7.67
11	HS20071328-19	473438	4.19	698679	4.97	609144	7.67
12	HS20071328-14	500486	4.19	738282	4.97	632336	7.67
13	HS20071328-16	510720	4.19	757341	4.97	662066	7.67
14							
15							
16							
17							
18							
19							
20							

IS1 = Pentafluorobenzene
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene-d5

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = - 50% of internal standard area
RT UPPER LIMIT = + 0.50 minutes of internal standard RT
RT LOWER LIMIT = - 0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

FORM 8
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20071328

Lab File ID (Standard): X080503 Date Analyzed: 08/05/20

Instrument ID: VOA6 Time Analyzed: 1402

GC Column: DB624 ID: 0.18 (mm) Heated Purge: (Y/N) N

		IS4 (DCB) AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	328086	9.66				
	UPPER LIMIT	656172	10.16				
	LOWER LIMIT	164043	9.16				
	CLIENT SAMPLE NO.						
01	VLCSW-200805	333679	9.66				
02	VBLKW-200805	301455	9.67				
03	HS20071328-19	283129	9.67				
04	HS20071328-11	310919	9.67				
05	HS20071328-13	293702	9.67				
06	HS20071328-06	285693	9.67				
07	HS20071328-07	303614	9.67				
08	HS20071328-14	298716	9.67				
09	HS20071328-16	299659	9.67				
10	HS20071328-19	284814	9.66				
11	HS20071328-19	263353	9.66				
12	HS20071328-14	274350	9.67				
13	HS20071328-16	290493	9.67				
14							
15							
16							
17							
18							
19							
20							

IS4 (DCB) = 1,4-Dichlorobenzene-d4

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = - 50% of internal standard area
RT UPPER LIMIT = + 0.50 minutes of internal standard RT
RT LOWER LIMIT = - 0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

Data File: \\nahstws005\Target\chem\voa6.i\X200805.b\X080501.D

Date : 05-AUG-2020 13:14

Client ID: BFB

Instrument: voa6.i

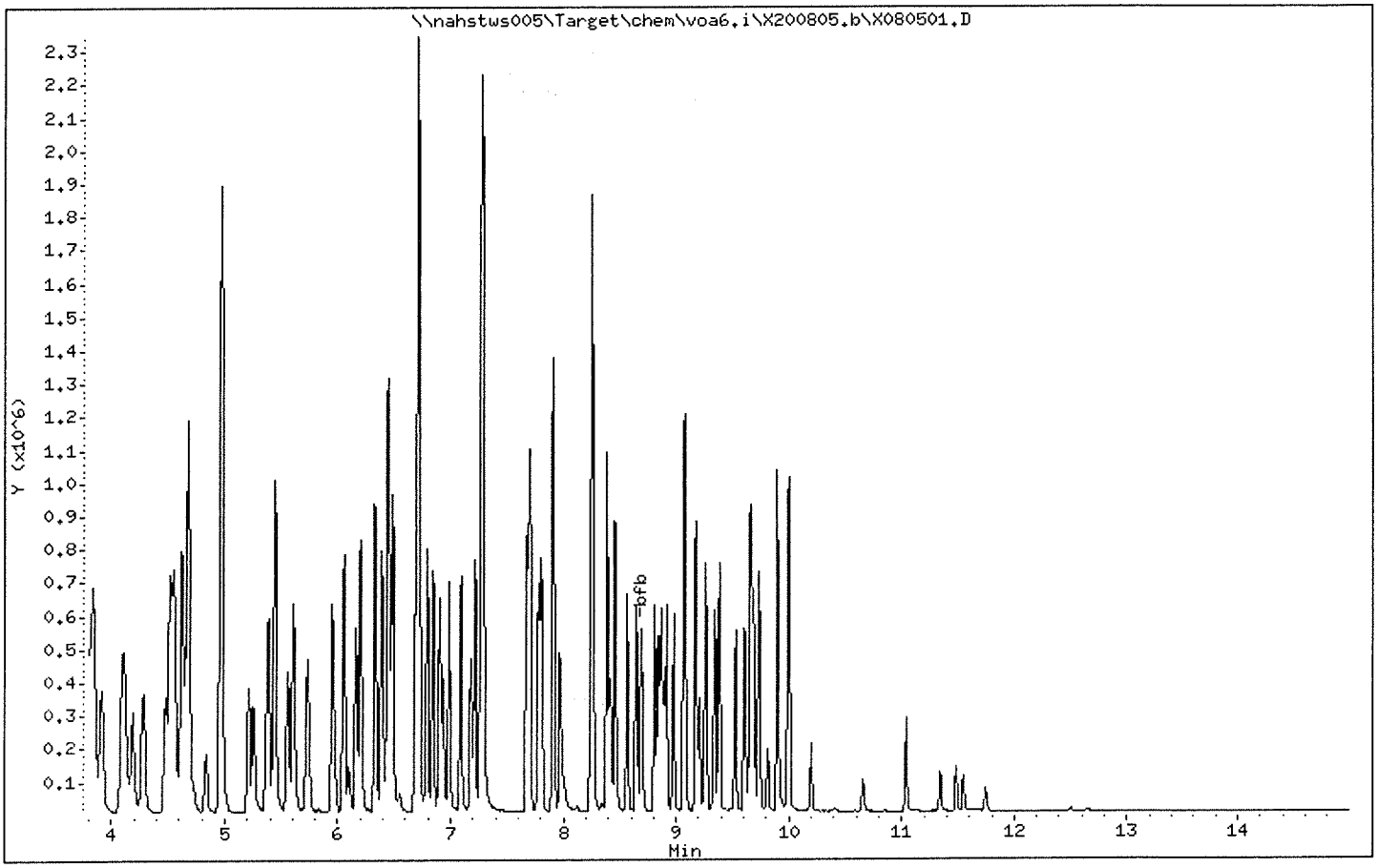
Sample Info: BFB;BFB;3;;BFB

Volume Injected (uL): 2.0

Operator: PC

Column phase: DB624

Column diameter: 0.25



Data File: \\nahstws005\Target\chem\voa6.i\X200805.b\X080501.D

Date : 05-AUG-2020 13:14

Client ID: BFB

Instrument: voa6.i

Sample Info: BFB;BFB;3;;BFB

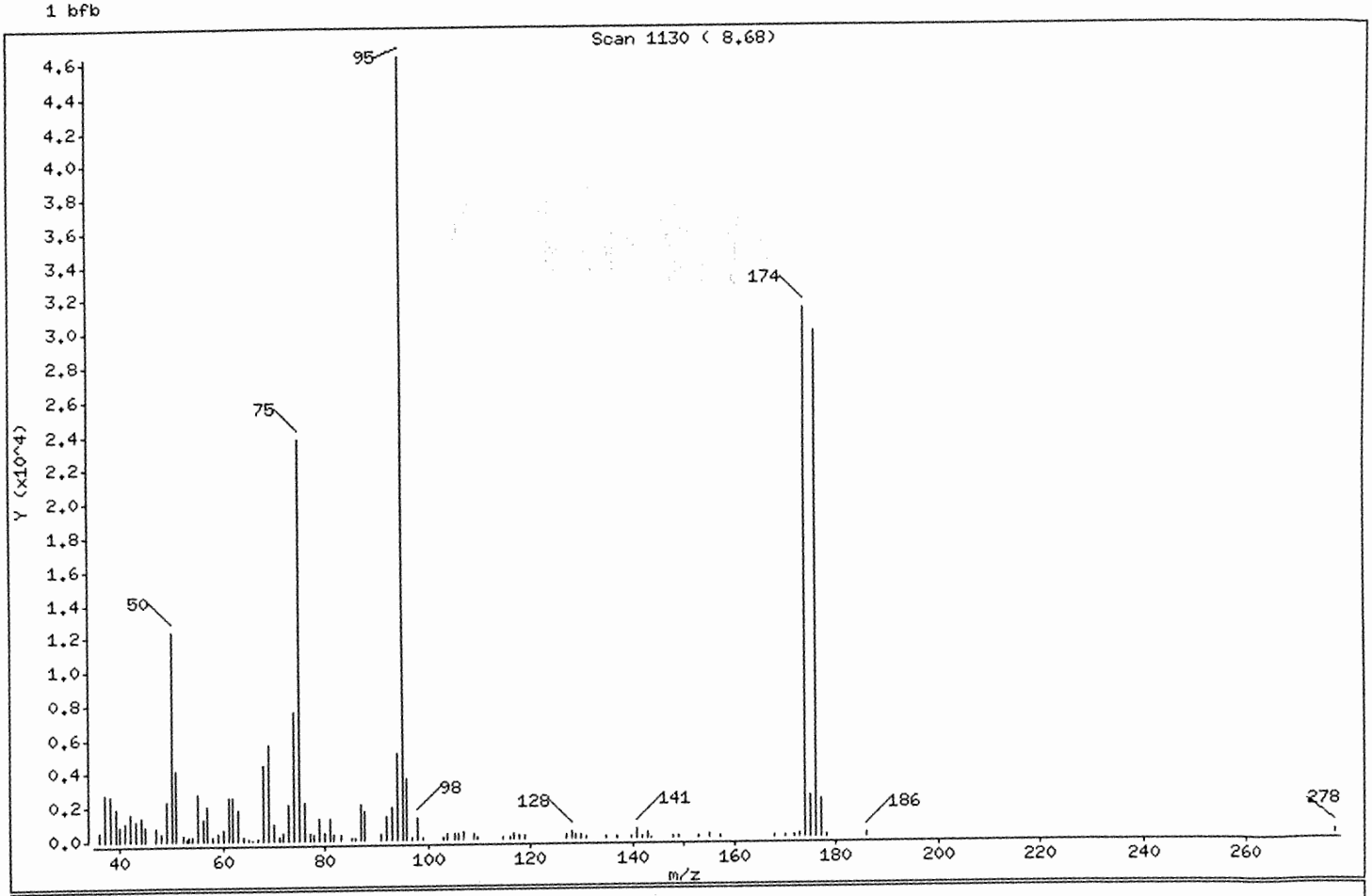
Volume Injected (uL): 2.0

Operator: PC

Column phase: DB624

Column diameter: 0.25

1 bfb



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	26.58
75	30.00 - 60.00% of mass 95	51.34
96	5.00 - 9.00% of mass 95	7.86
173	Less than 2.00% of mass 174	0.54 (0.80)
174	Greater than 50.00% of mass 95	67.59
175	5.00 - 9.00% of mass 174	5.31 (7.85)
176	95.00 - 101.00% of mass 174	64.55 (95.50)
177	5.00 - 9.00% of mass 176	4.90 (7.59)

Data File: \\nahstws005\Target\chem\voa6.i\X200805.b\X080501.D

Date : 05-AUG-2020 13:14

Client ID: BFB

Instrument: voa6.i

Sample Info: BFB;BFB;3;;BFB

Volume Injected (uL): 2.0

Operator: PC

Column phase: DB624

Column diameter: 0.25

Data File: X080501.D
Spectrum: Scan 1130 (8.68)
Location of Maximum: 95.00
Number of points: 101

m/z	Y	m/z	Y	m/z	Y	m/z	Y
35.90	566	62.00	2592	91.00	267	135.00	83
37.00	2735	63.00	1784	91.90	1338	136.90	81
38.00	2706	64.00	247	93.00	1921	139.90	108
39.00	1962	65.20	144	94.00	5091	140.90	585
40.00	835	65.90	52	95.00	46312	141.80	138
41.10	1100	66.90	159	96.00	3640	143.00	333
42.00	1618	68.00	4499	97.00	157	143.70	52
43.10	1137	69.00	5676	98.00	1260	147.90	69
44.00	1377	69.90	915	99.00	107	149.00	80
44.90	891	71.00	184	103.10	81	153.10	59
47.00	697	71.90	384	103.80	293	154.90	243
47.90	460	72.90	2174	104.90	271	157.20	67
49.00	2338	74.00	7576	105.80	304	167.90	59
50.00	12310	75.00	23776	106.90	378	170.00	58
51.00	4119	76.10	2279	108.80	282	171.80	135
52.10	332	77.00	472	109.80	69	172.90	251
52.80	159	77.90	328	114.80	115	173.90	31304
53.20	212	78.90	1262	115.90	157	174.90	2458
54.00	234	79.90	479	116.80	280	175.90	29896
55.00	2815	80.90	1226	118.00	256	176.90	2268
56.00	1292	81.80	353	118.80	168	178.00	155
57.00	2042	83.00	344	127.00	206	185.90	228
58.00	190	85.10	85	128.00	376	278.10	209
59.00	383	85.80	67	128.80	181		
59.90	586	86.90	2177	130.00	225		
61.00	2509	87.80	1705	130.90	96		

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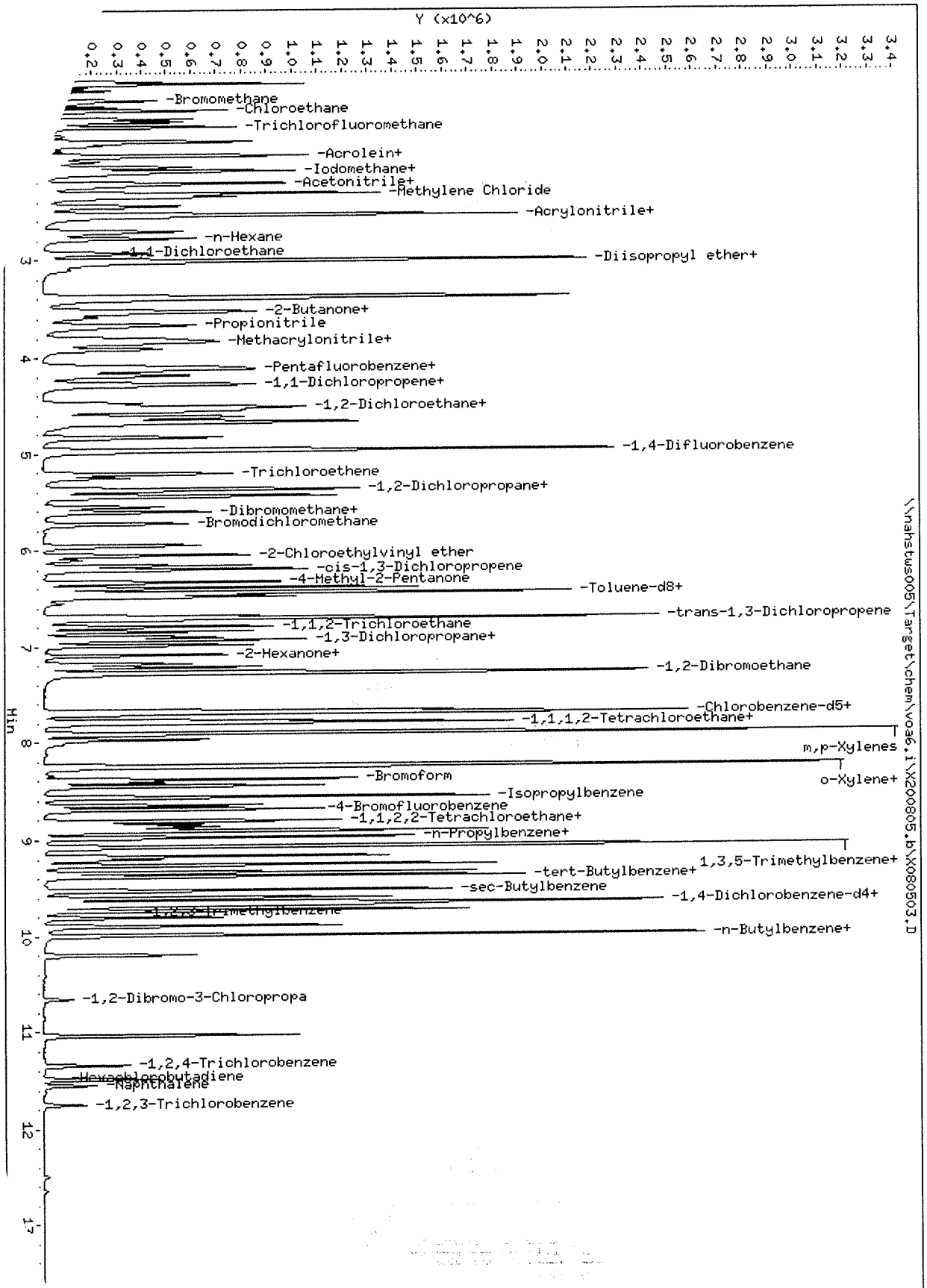
Data file : \\nahstws005\Target\chem\voa6.i\X200805.b\X080503.D
Lab Smp Id: CCV Client Smp ID: CCV
Inj Date : 05-AUG-2020 14:02
Operator : PC Inst ID: voa6.i
Smp Info : CCV;CCV;2;;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200805.b\8260W.m
Meth Date : 26-Aug-2020 09:39 voa6.i Quant Type: ISTD
Cal Date : 03-AUG-2020 14:28 Cal File: X080308.D
Als bottle: 3 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI-Hou11.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	482636	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	741075	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	688034	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	328086	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.979)	235594	50.0000	49.70
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	282786	50.0000	50.33
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	814216	50.0000	48.78
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	312347	50.0000	48.51
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	183994	50.0000	46.99
11 1,1-Dichloroethene	96	1.919	1.919	(0.458)	189594	50.0000	49.57
33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	354477	50.0000	49.40
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.843)	260349	50.0000	49.00
17 Methylene Chloride	84	2.306	2.306	(0.550)	240149	50.0000	48.22
38 Trichloroethene	130	5.214	5.214	(1.049)	256605	50.0000	48.85
5 Vinyl Chloride	62	1.145	1.145	(0.273)	308578	50.0000	49.66



Data File: \\nahstws005\Target\chem\voa6.i\X200805.b\X080503.D
Date : 05-AUG-2020 14:02
Client ID: CCV
Sample Info: CCV;CCV;2;;;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

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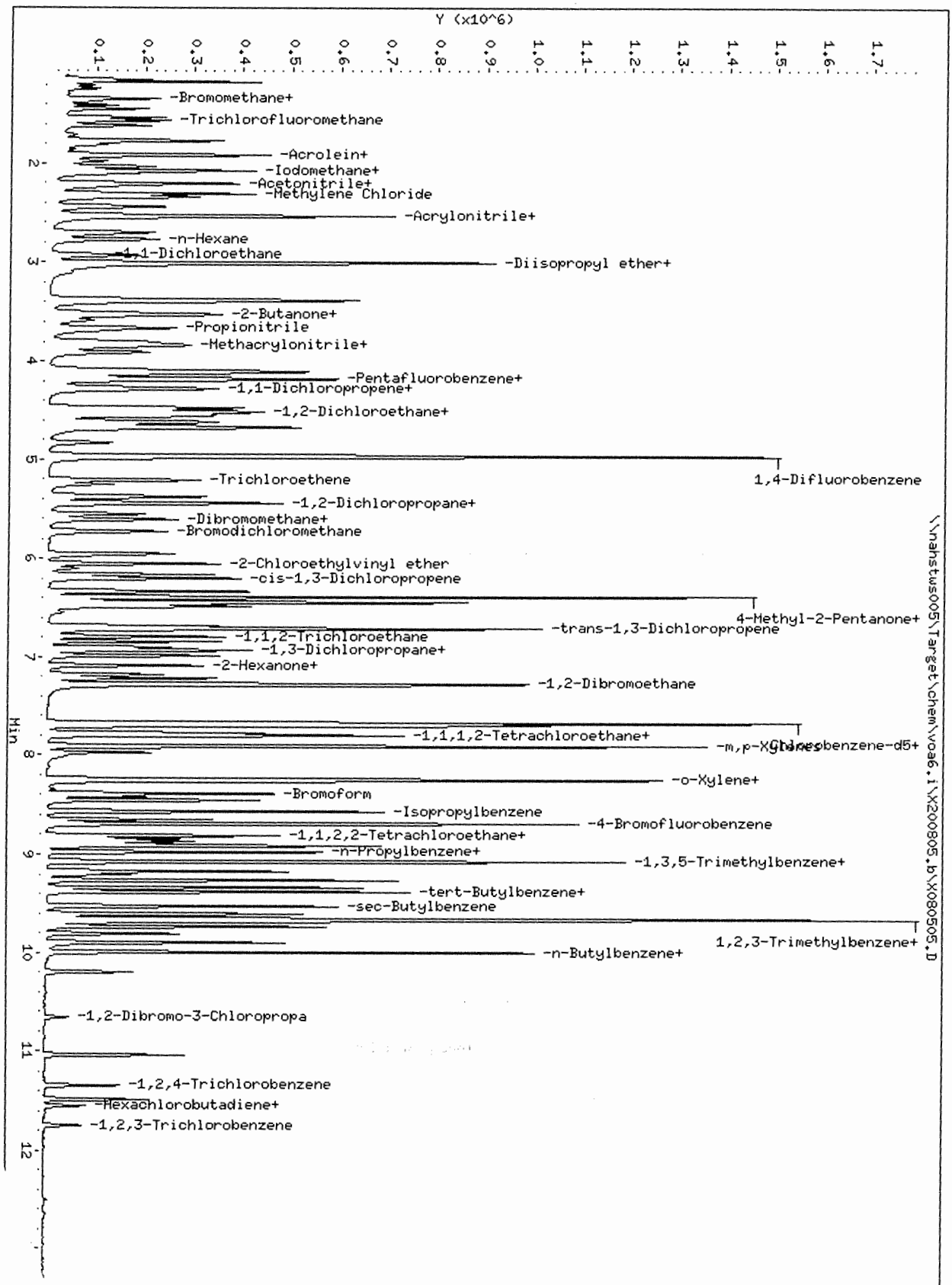
Data file : \\nahstws005\Target\chem\voa6.i\X200805.b\X080505.D
Lab Smp Id: VLCSW-200805 Client Smp ID: VLCSW-200805
Inj Date : 05-AUG-2020 15:05
Operator : PC Inst ID: voa6.i
Smp Info : VLCSW-200805;VLCSW-200805;3;;LCS
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200805.b\8260W.m
Meth Date : 26-Aug-2020 09:39 voa6.i Quant Type: ISTD
Cal Date : 03-AUG-2020 14:28 Cal File: X080308.D
Als bottle: 5 QC Sample: LCS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI-Hou11.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
*	1 Pentafluorobenzene	168	4.189	4.189	(1.000)	492451	50.0000	
*	36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	752445	50.0000	
*	47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	681420	50.0000	
*	70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	333679	50.0000	
$	30 Dibromofluoromethane	113	4.103	4.103	(0.979)	237655	49.1428	49.14
$	35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	295999	51.6376	51.63
$	48 Toluene-d8	98	6.388	6.388	(0.833)	810652	49.0465	49.04
$	69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	310775	48.7407	48.74
	53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	78118	20.1473	20.14
	11 1,1-Dichloroethene	96	1.919	1.919	(0.458)	80001	20.5034	20.50
	33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	148301	20.3563	20.35
	27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.843)	109218	20.1487	20.14
	17 Methylene Chloride	84	2.305	2.306	(0.550)	104859	19.8493	19.84
	38 Trichloroethene	130	5.214	5.214	(1.049)	107602	20.1781	20.17
	5 Vinyl Chloride	62	1.145	1.145	(0.273)	126680	19.9845	19.98



Data File: \\nahstws005\Target\chem\voa6.i\X200805.b\X080505.D
Date : 05-AUG-2020 15:05
Client ID: WLCSW-200805
Sample Info: WLCSW-200805;WLCSW-200805;3;;LCS
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

ata File: \\nahstws005\Target\chem\voa6.i\X200805.b\...
eport Date: 26-Aug-2020 09:39

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Data file : \\nahstws005\Target\chem\voa6.i\X200805.b\X080508.D
Lab Smp Id: VBLKW-200805 Client Smp ID: VBLKW-200805
Inj Date : 05-AUG-2020 16:17
Operator : PC Inst ID: voa6.i
Smp Info : VBLKW-200805;VBLKW-200805;3;;BLANK
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200805.b\8260W.m
Meth Date : 26-Aug-2020 09:39 voa6.i Quant Type: ISTD
Cal Date : 03-AUG-2020 14:28 Cal File: X080308.D
Als bottle: 8 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI-Houl1.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	511163	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	752490	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	651412	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.662	(1.000)	301455	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.979)	232702	46.3571	46.35
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	275518	46.3052	46.30
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	843015	53.3541	53.35
$ 69 4-Bromofluorobenzene	95	8.695	8.688	(1.134)	293980	48.2306	48.23

Data File: \\nahstws005\Target\chem\voa6.i\X200805.b\X080508.D

Date : 05-AUG-2020 16:17

Client ID: VBLKW-200805

Instrument: voa6.i

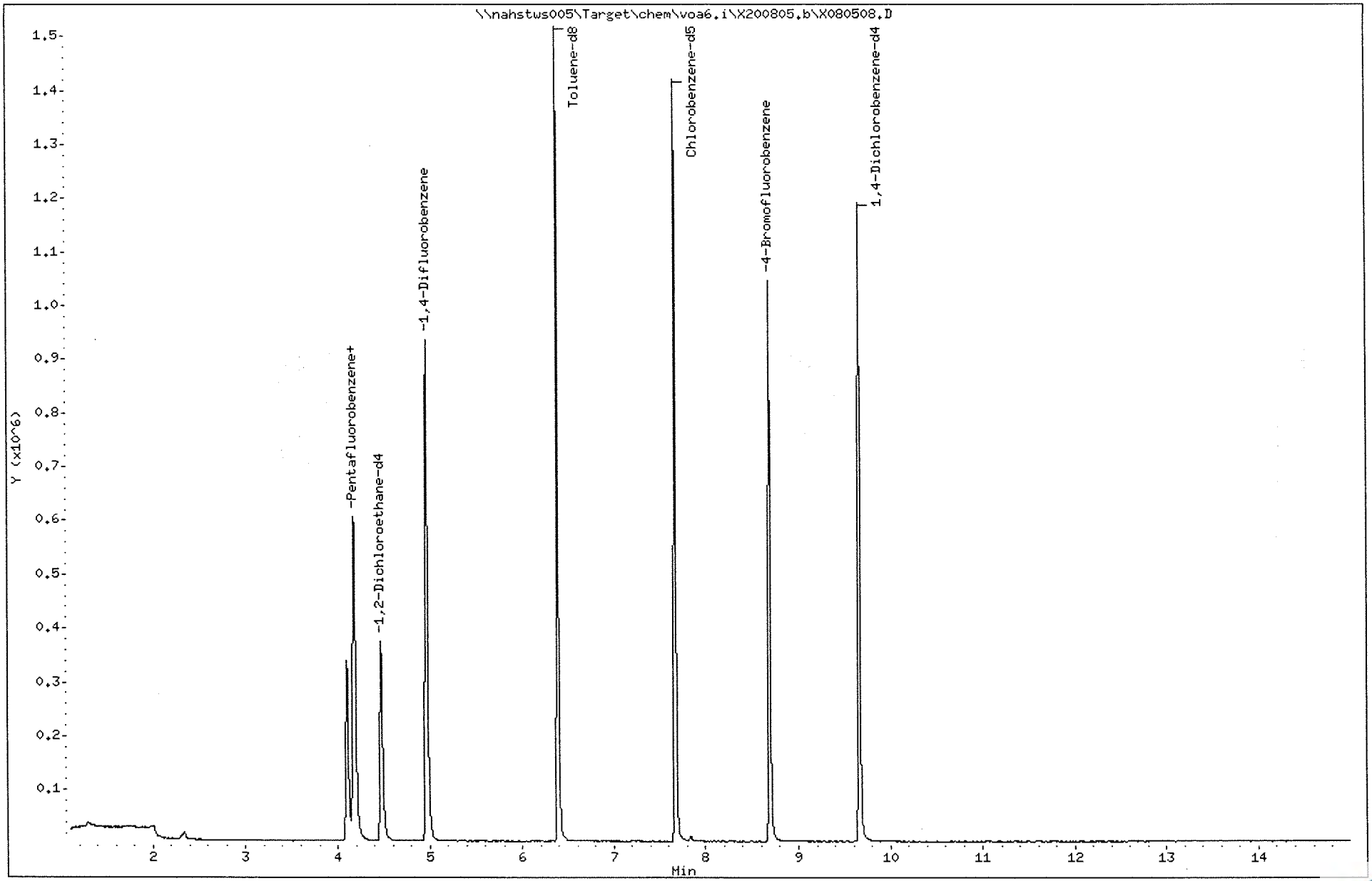
Sample Info: VBLKW-200805;VBLKW-200805;3;;BLANK

Purge Volume: 5.0

Operator: PC

Column phase: DB624

Column diameter: 0.18



Data File: \\nahstws005\Target\chem\voa6.i\X200805.b\X080509.D Page 1
Report Date: 26-Aug-2020 09:36

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Data file : \\nahstws005\Target\chem\voa6.i\X200805.b\X080509.D
Lab Smp Id: HS20071328-19 Client Smp ID: HS20071328-19
Inj Date : 05-AUG-2020 16:41
Operator : PC Inst ID: voa6.i
Smp Info : HS20071328-19;HS20071328-19;;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200805.b\8260W.m
Meth Date : 26-Aug-2020 09:33 dev.giga Quant Type: ISTD
Cal Date : 03-AUG-2020 14:28 Cal File: X080308.D
Als bottle: 9
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI-Hou11.sub
Target Version: 4.14
Processing Host: NAHSTW7056

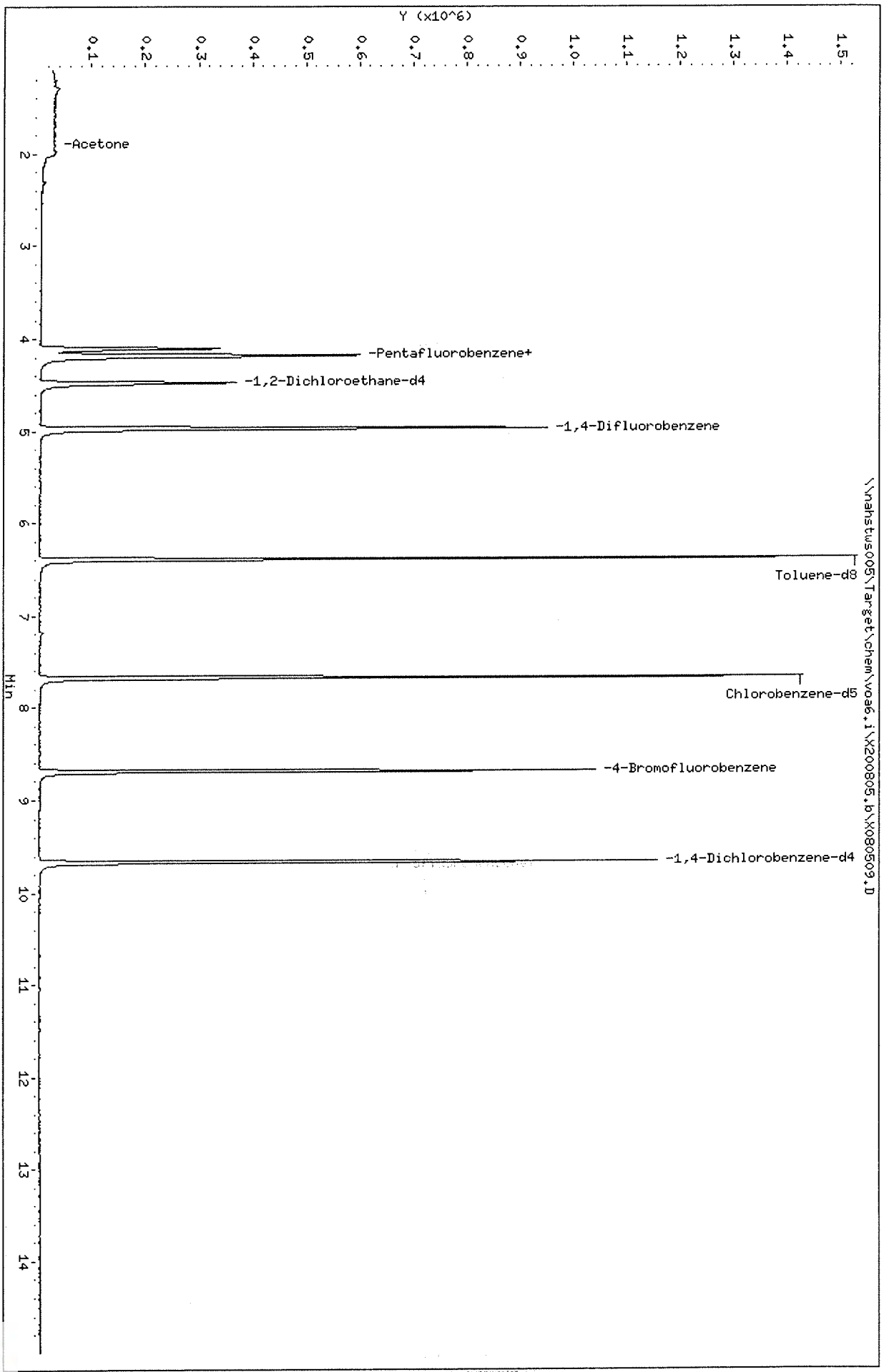
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	506515	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	748078	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	639414	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.662	(1.000)	283129	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.979)	232009	46.6432	46.64
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	271776	46.0954	46.09
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	832578	53.6823	53.68
$ 69 4-Bromofluorobenzene	95	8.695	8.688	(1.134)	293126	48.9929	48.99

Data File: \\nahstws005\Target\chem\voa6.i\X200805.b\X080509.D
Date : 05-AUG-2020 16:41
Client ID: HS20071328-19
Sample Info: HS20071328-19;HS20071328-19;;;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18



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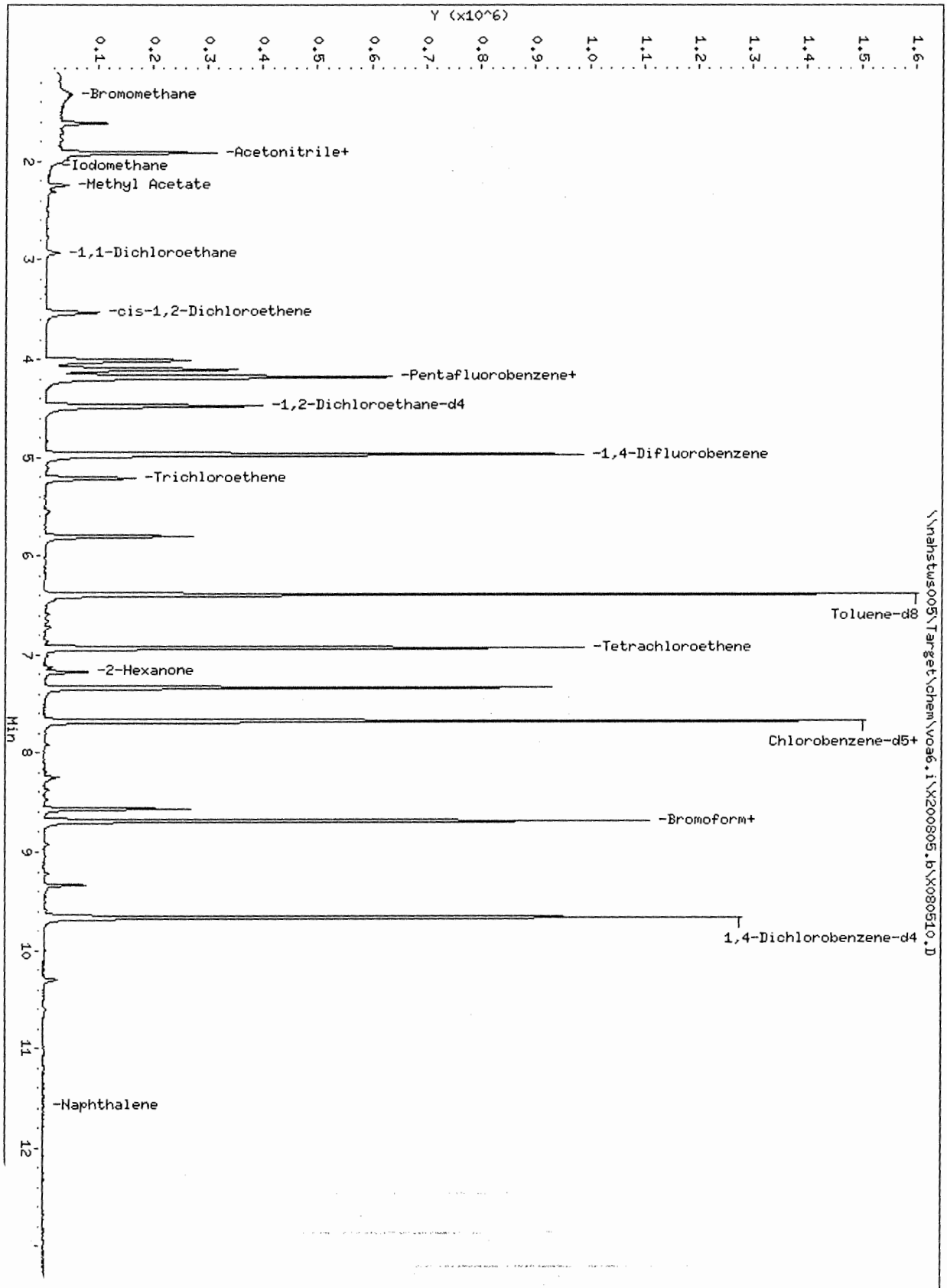
Data file : \\nahstws005\Target\chem\voa6.i\X200805.b\X080510.D
Lab Smp Id: HS20071328-12 Client Smp ID: HS20071328-12
Inj Date : 05-AUG-2020 17:05
Operator : PC Inst ID: voa6.i
Smp Info : HS20071328-12;HS20071328-12;;;
Misc Info : HS18090001;WATER;0;500;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200805.b\8260W.m
Meth Date : 26-Aug-2020 09:33 dev.giga Quant Type: ISTD
Cal Date : 03-AUG-2020 14:28 Cal File: X080308.D
Als bottle: 10
Dil Factor: 500.00000
Integrator: HP RTE Compound Sublist: CBI-Hou11.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	500.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	534057	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	804179	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	694397	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.662	(1.000)	306399	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.979)	245840	46.8749	46.87
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	293039	47.1386	47.13
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	883847	52.4756	52.47
$ 69 4-Bromofluorobenzene	95	8.695	8.688	(1.134)	314561	48.4125	48.41
11 1,1-Dichloroethene	96	1.911	1.919	(0.456)	88059	20.8103	10405.16
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.843)	49675	8.45017	4225.08
38 Trichloroethene	130	5.214	5.207	(1.049)	57991	10.1752	5087.60



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Sample Info: HS200713Z8-12;HS200713Z8-12;;;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

Data File: \\nahstws005\Target\chem\voa6.i\X200805.b\X080510.D

Date : 05-AUG-2020 17:05

Client ID: HS20071328-12

Instrument: voa6.i

Sample Info: HS20071328-12;HS20071328-12;;;

Operator: PC

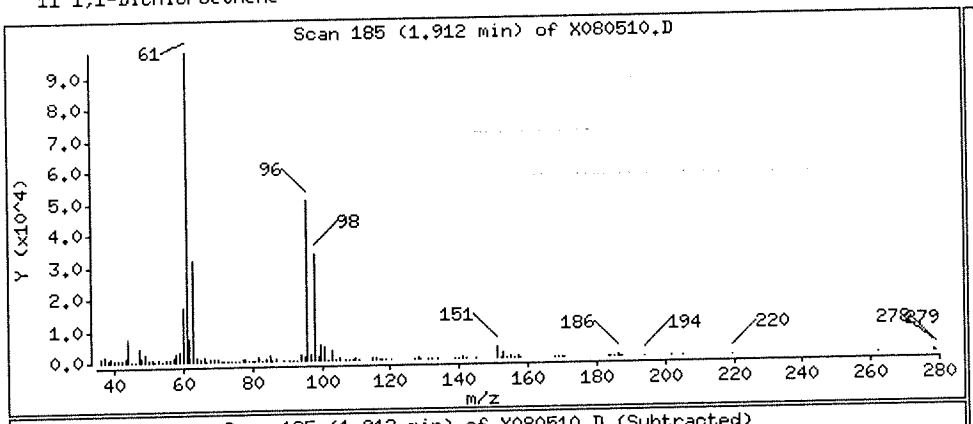
Purge Volume: 5.0

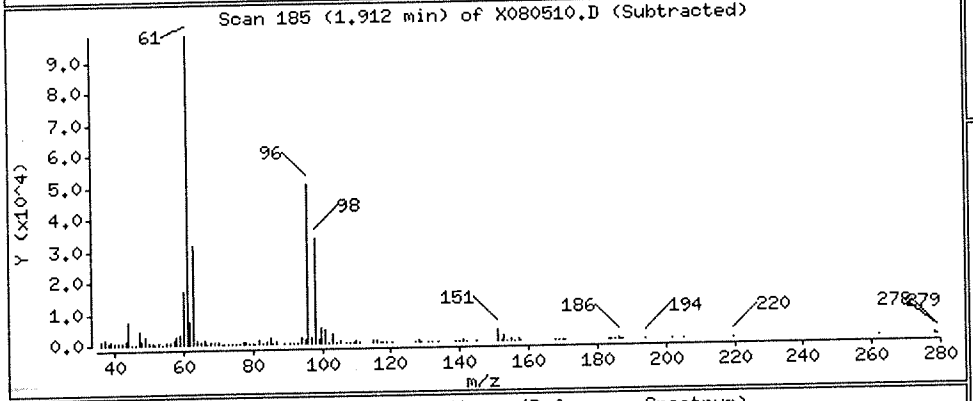
Column diameter: 0.18

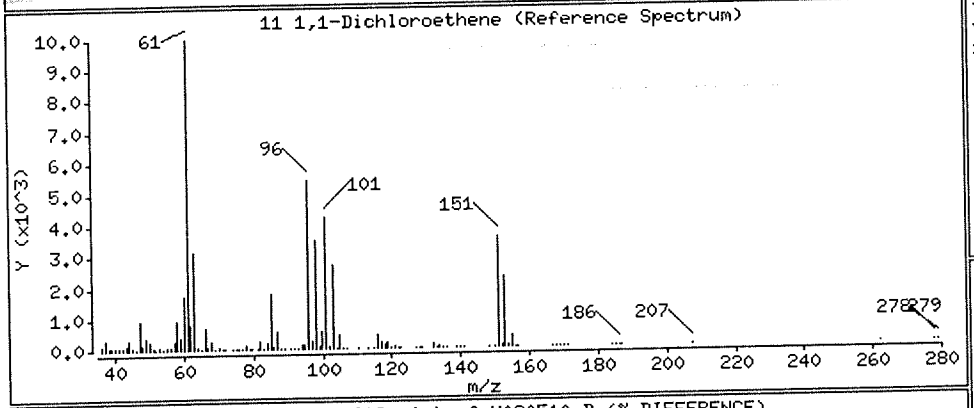
Column phase: DB624

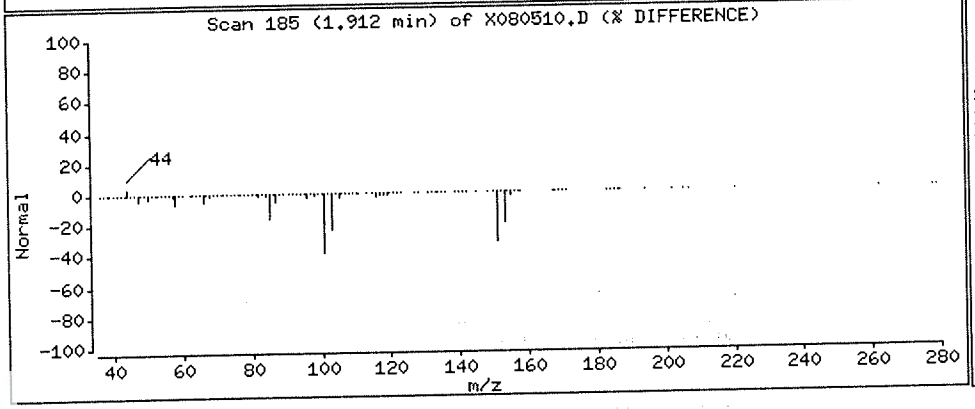
Concentration: 10405.16 ug/l

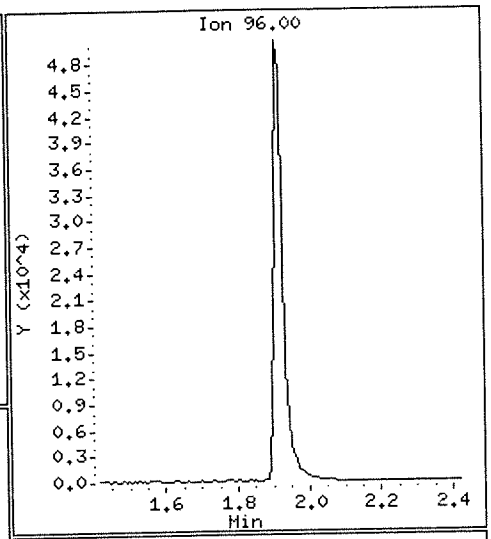
11 1,1-Dichloroethene

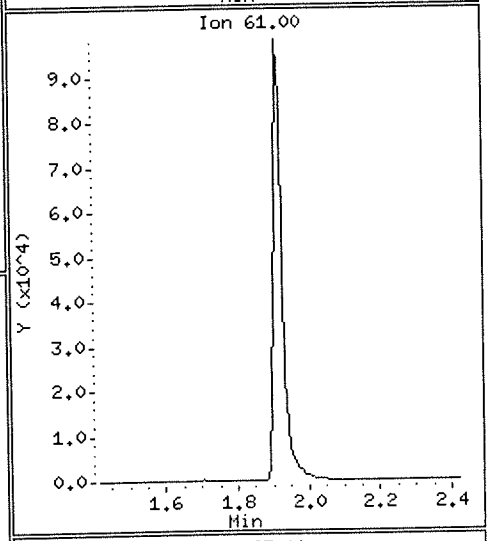


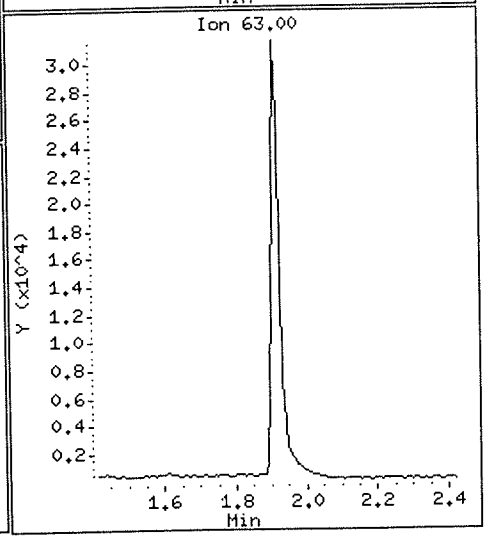












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Date : 05-AUG-2020 17:05

Client ID: HS20071328-12

Instrument: voa6.i

Sample Info: HS20071328-12;HS20071328-12;;;

Purge Volume: 5.0

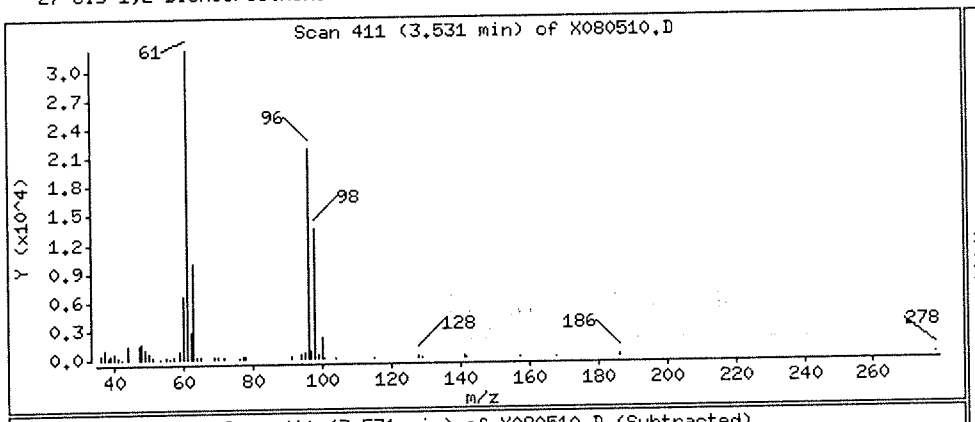
Operator: PC

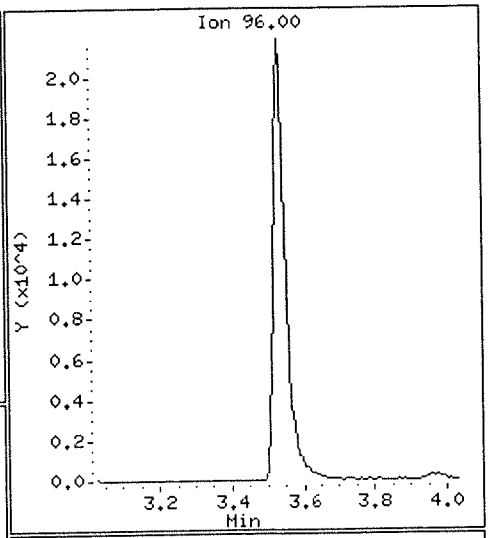
Column phase: DB624

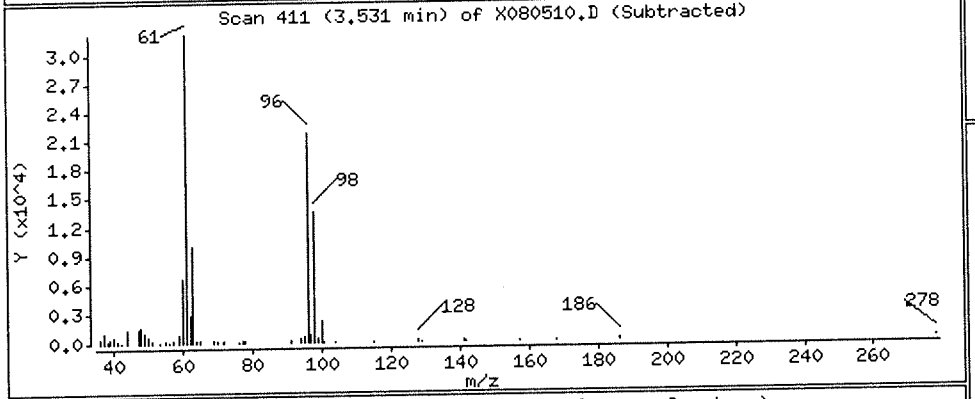
Column diameter: 0.18

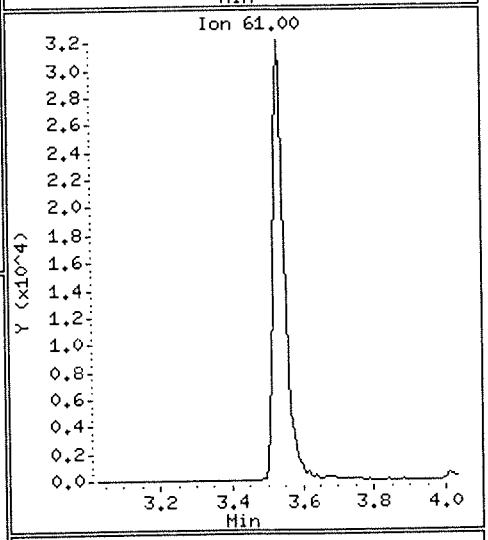
27 cis-1,2-Dichloroethene

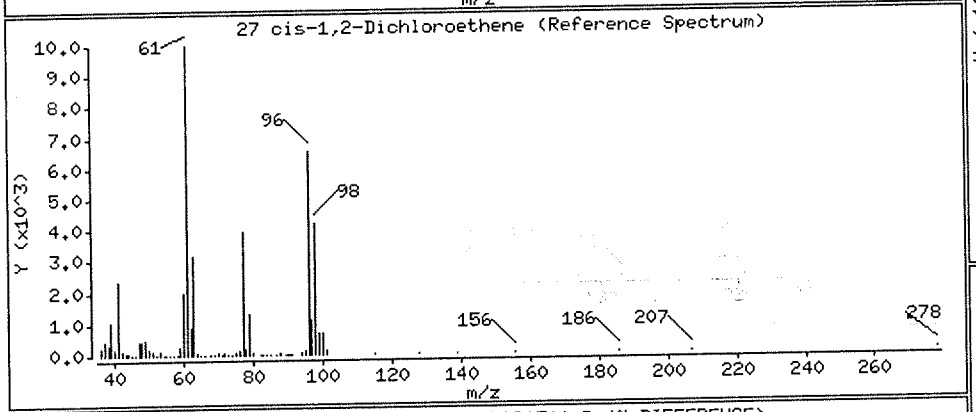
Concentration: 4225.08 ug/l

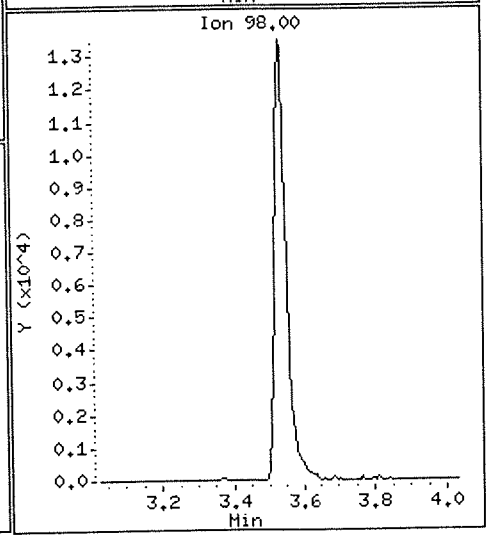


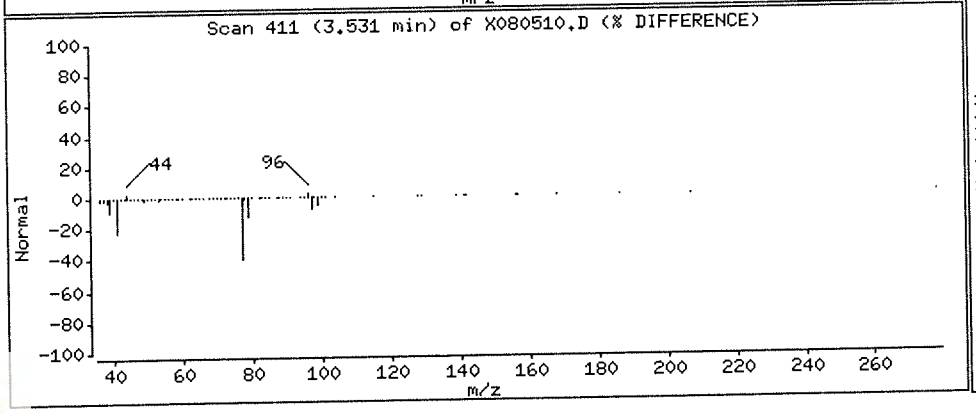












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Date : 05-AUG-2020 17:05

Client ID: HS20071328-12

Instrument: voa6.i

Sample Info: HS20071328-12;HS20071328-12;;;

Operator: PC

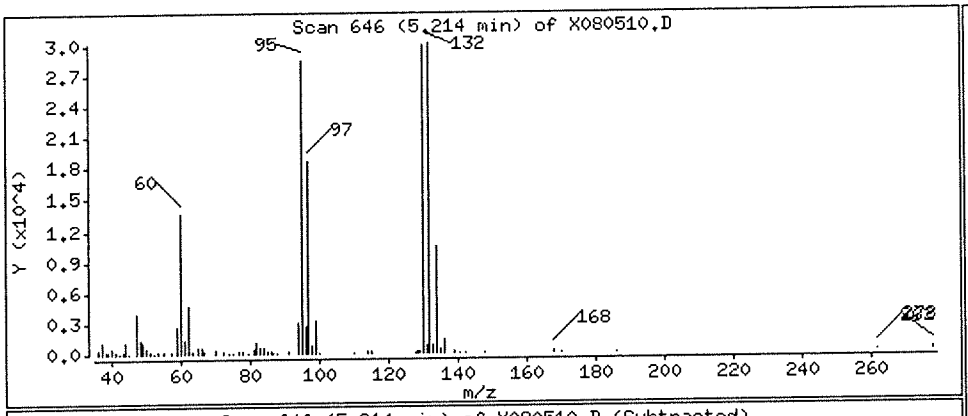
Purge Volume: 5.0

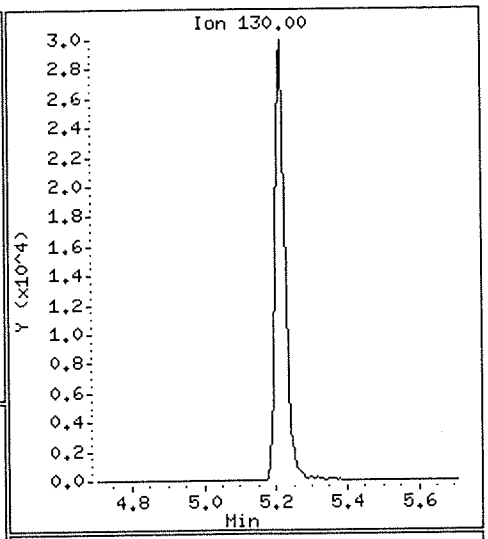
Column diameter: 0.18

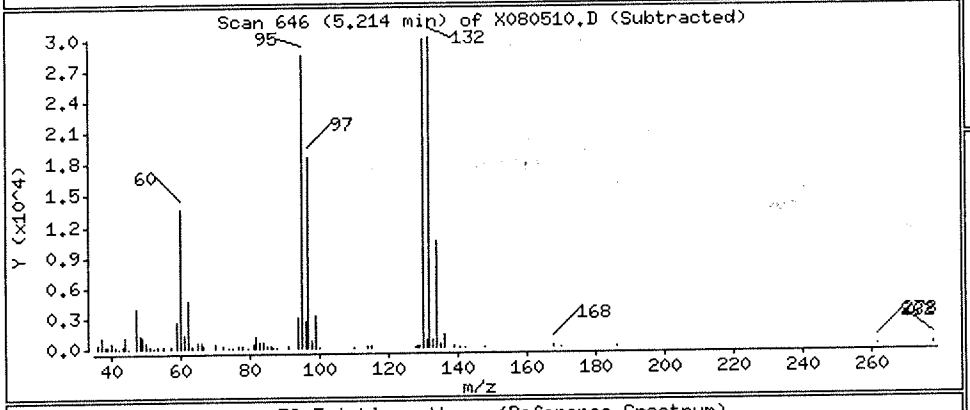
Column phase: DB624

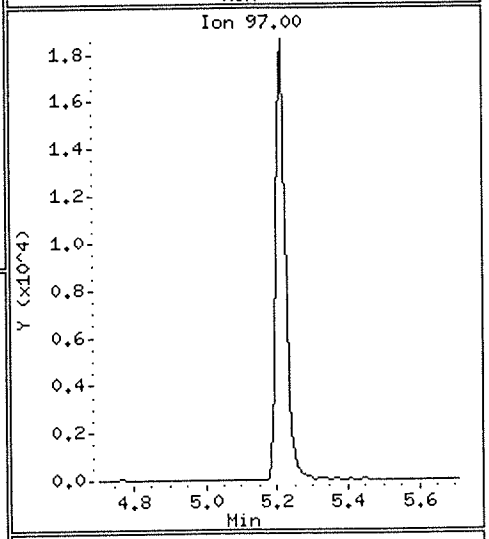
38 Trichloroethene

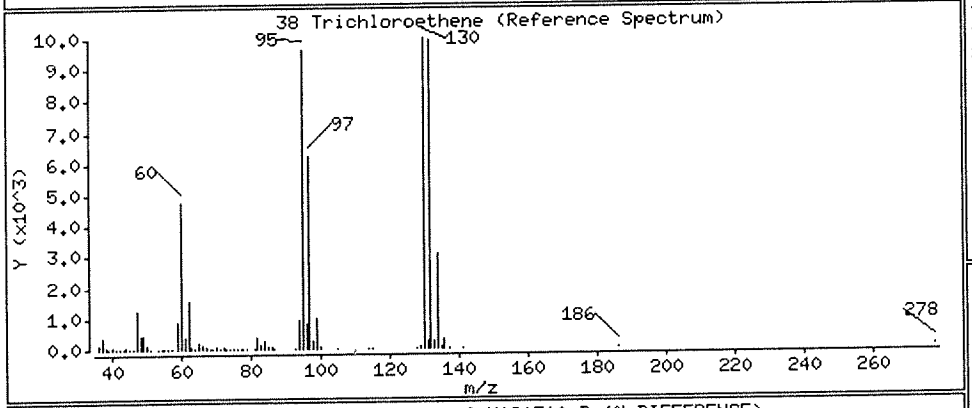
Concentration: 5087.60 ug/l

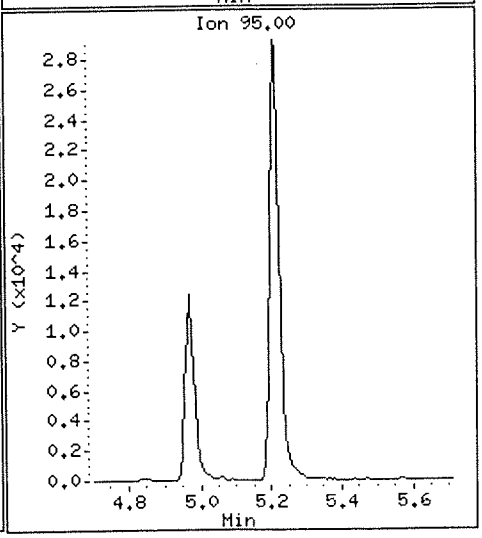


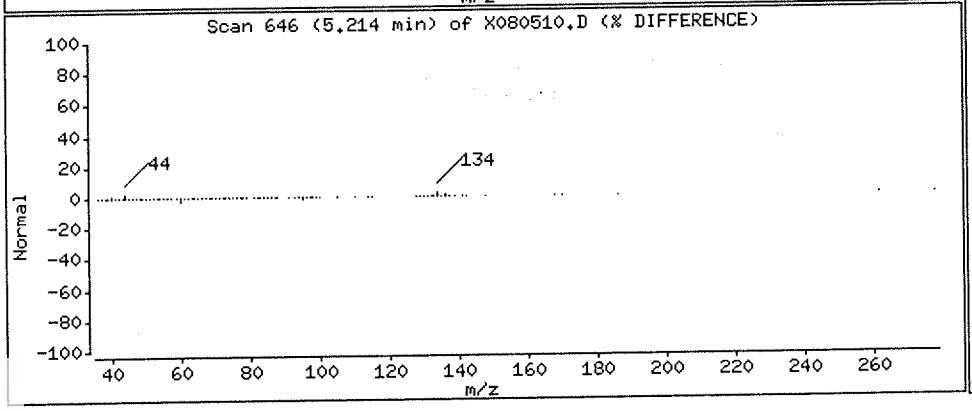












Data File: \\nahstws005\Target\chem\voa6.i\X200805.b\X080511.D Page 1
Report Date: 26-Aug-2020 09:36

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X200805.b\X080511.D
Lab Smp Id: HS20071328-11 Client Smp ID: HS20071328-11
Inj Date : 05-AUG-2020 17:29
Operator : PC Inst ID: voa6.i
Smp Info : HS20071328-11;HS20071328-11;;;
Misc Info : HS18090001;WATER;0;25;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200805.b\8260W.m
Meth Date : 26-Aug-2020 09:33 dev.giga Quant Type: ISTD
Cal Date : 03-AUG-2020 14:28 Cal File: X080308.D
Als bottle: 11
Dil Factor: 25.00000
Integrator: HP RTE Compound Sublist: CBI-Hou11.sub
Target Version: 4.14
Processing Host: NAHSTW7056

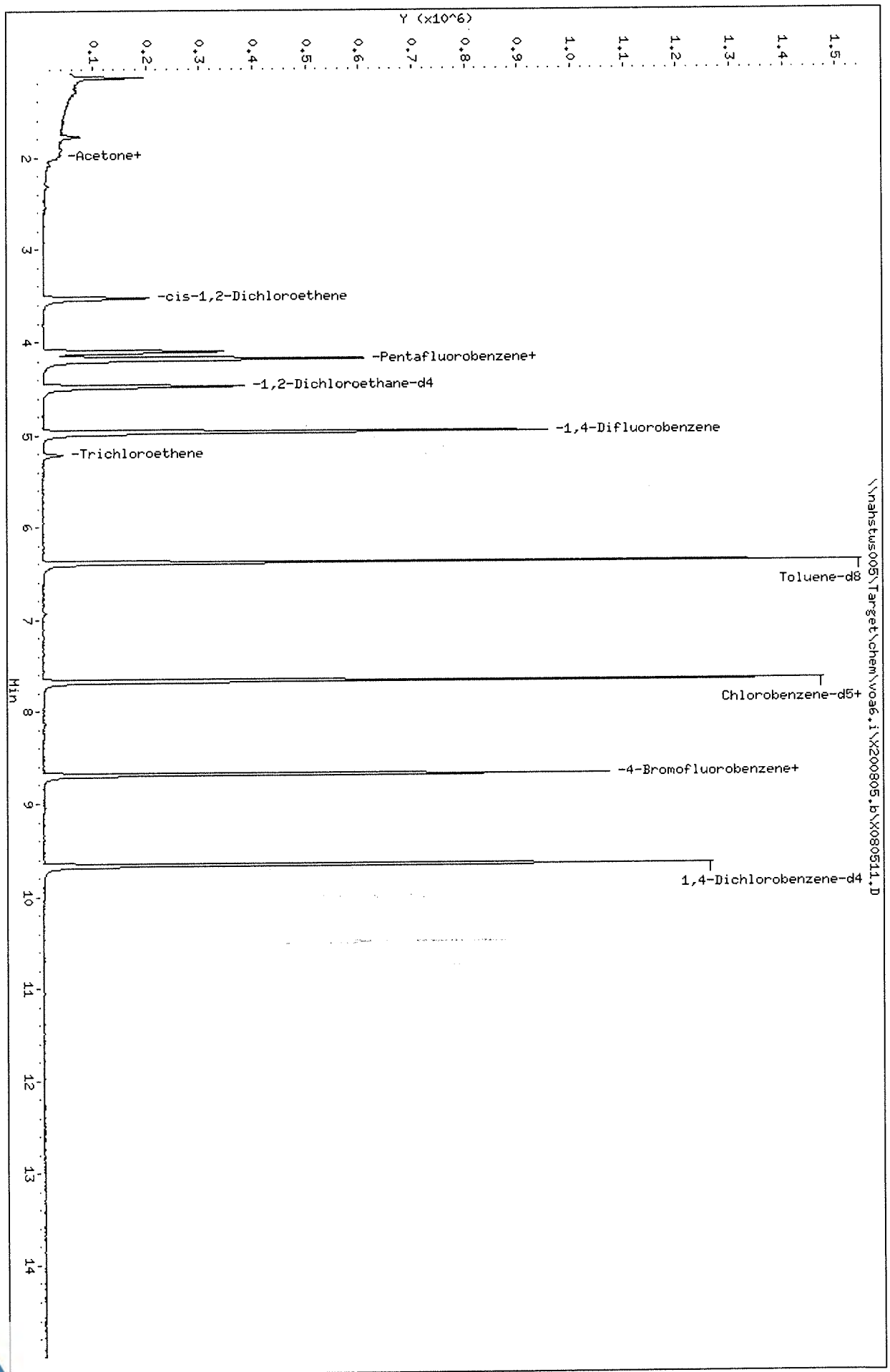
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

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	4.189	4.189	(1.000)	510748	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	767050	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	671411	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.662	(1.000)	310919	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.979)	238481	47.5470	47.54
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	280861	47.2415	47.24
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	859144	52.7553	52.75
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	303877	48.3693	48.36
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.843)	97919	17.4171	435.42
38 Trichloroethene	130	5.214	5.207	(1.049)	12959	2.38387	59.59

Data File: \\nahstws005\Target\chem\voa6.i\X200805.b\X080511.D
Date : 05-AUG-2020 17:29
Client ID: HS20071328-11
Sample Info: HS20071328-11;HS20071328-11;;;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18



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Date : 05-AUG-2020 17:29

Client ID: HS20071328-11

Instrument: voa6.i

Sample Info: HS20071328-11;HS20071328-11;;;

Purge Volume: 5.0

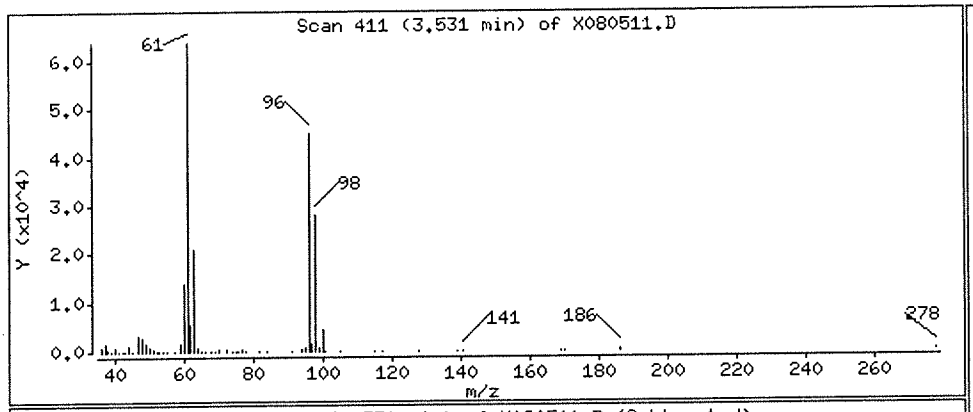
Operator: PC

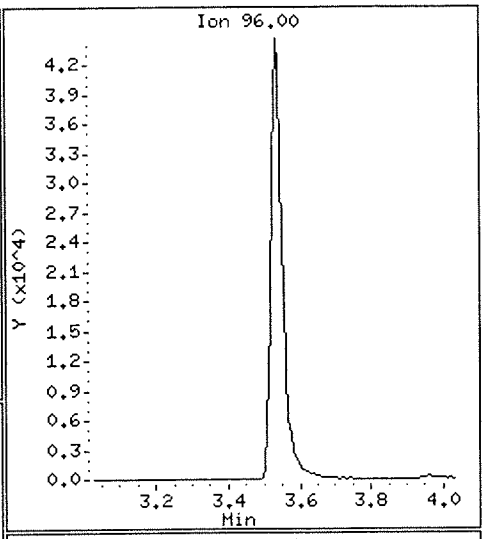
Column phase: DB624

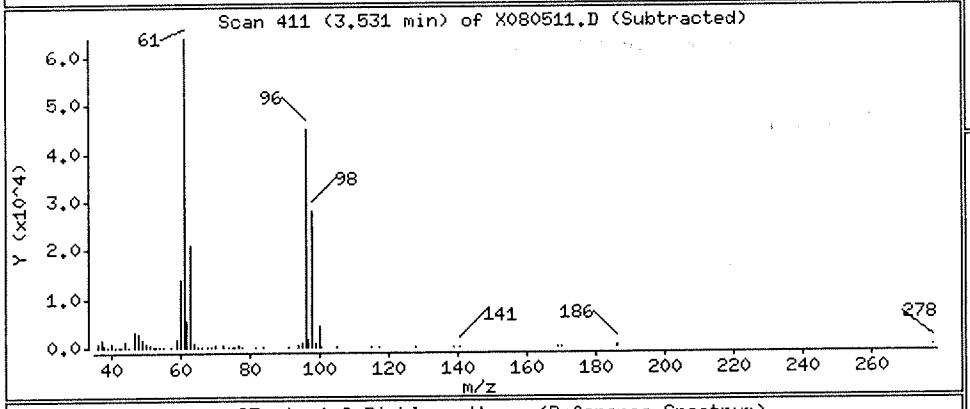
Column diameter: 0.18

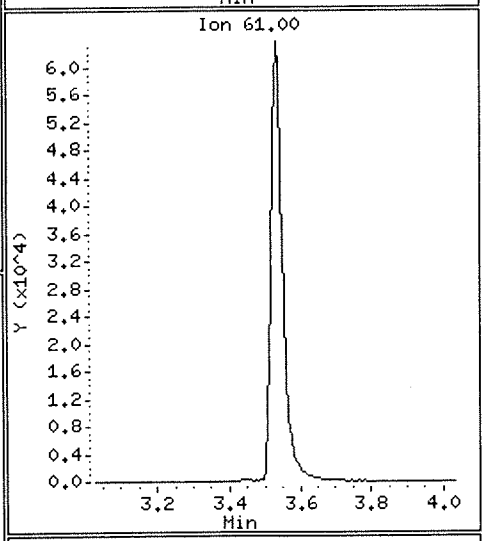
27 cis-1,2-Dichloroethene

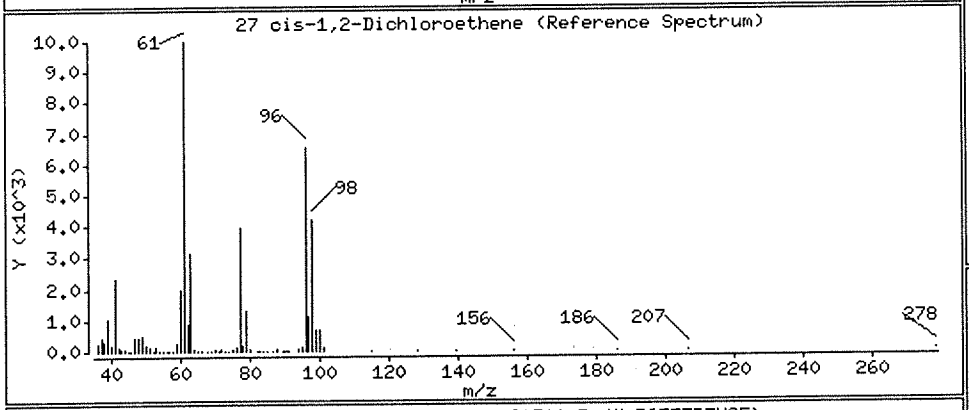
Concentration: 435.42 ug/l

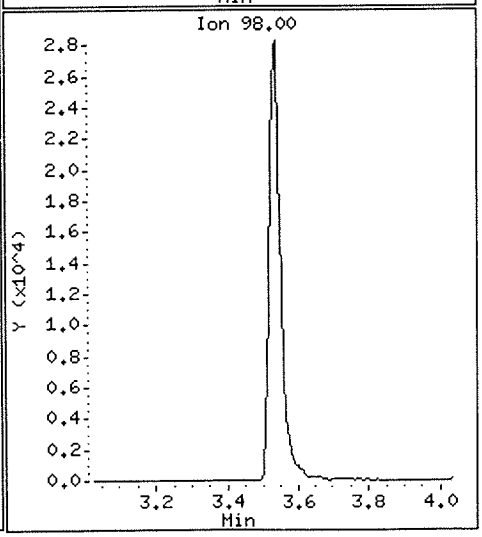


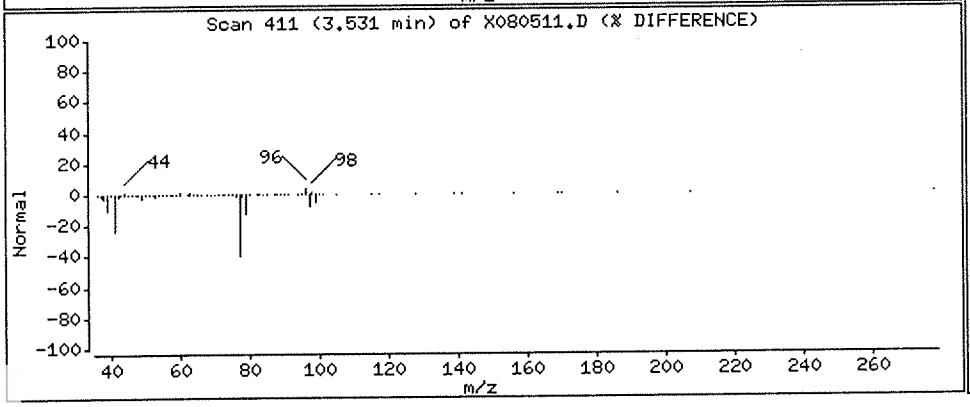












Data File: \\nahstws005\Target\chem\voa6.i\X200805.b\X080511.D

Date : 05-AUG-2020 17:29

Client ID: HS20071328-11

Instrument: voa6.i

Sample Info: HS20071328-11;HS20071328-11;;;

Purge Volume: 5.0

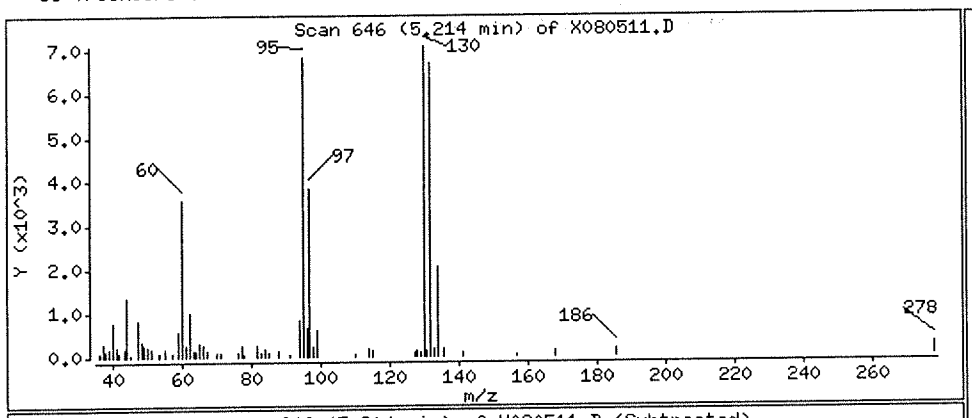
Operator: PC

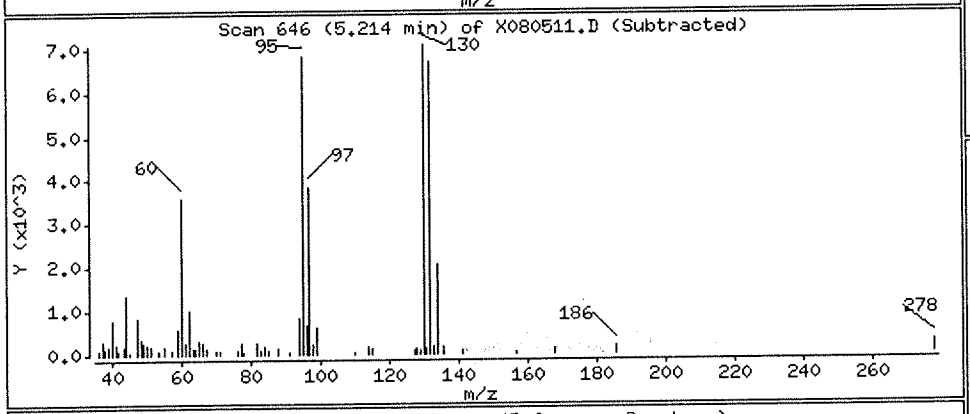
Column phase: DB624

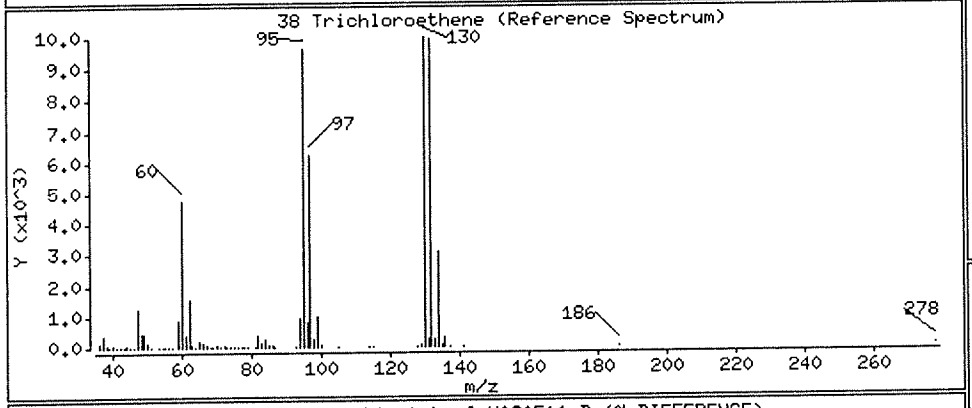
Column diameter: 0.18

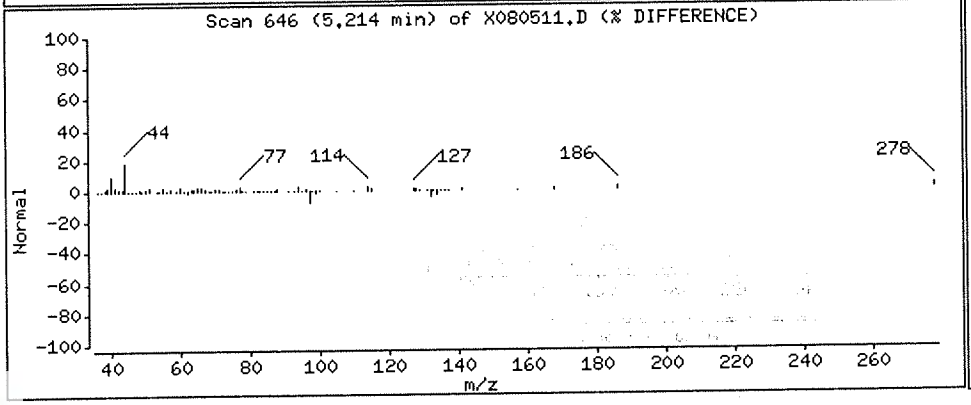
38 Trichloroethene

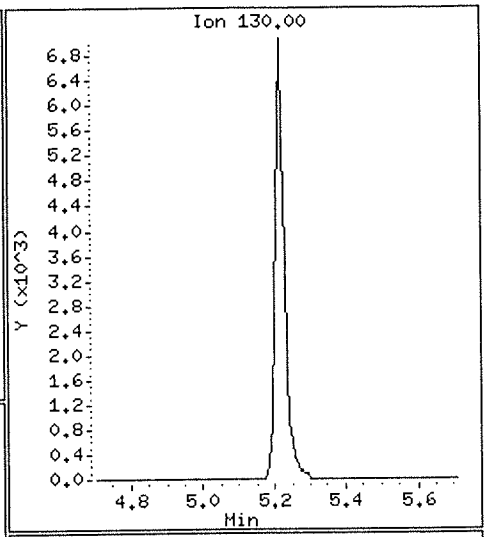
Concentration: 59.59 ug/l

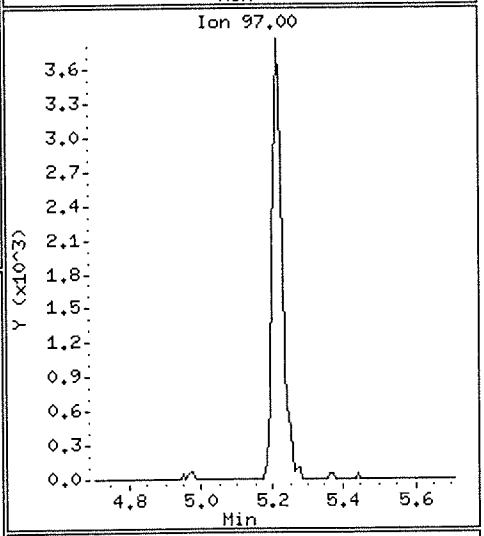


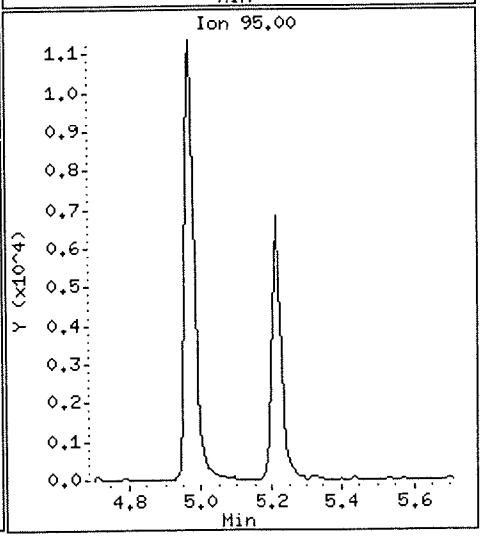












Data File: \\nahstws005\Target\chem\voa6.i\X200805.b\X080512.D Page 1
Report Date: 26-Aug-2020 09:36

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X200805.b\X080512.D
Lab Smp Id: HS20071328-13 Client Smp ID: HS20071328-13
Inj Date : 05-AUG-2020 17:53
Operator : PC Inst ID: voa6.i
Smp Info : HS20071328-13;HS20071328-13;;;
Misc Info : HS18090001;WATER;0;50;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200805.b\8260W.m
Meth Date : 26-Aug-2020 09:33 dev.giga Quant Type: ISTD
Cal Date : 03-AUG-2020 14:28 Cal File: X080308.D
Als bottle: 12
Dil Factor: 50.00000
Integrator: HP RTE Compound Sublist: CBI-Hou11.sub
Target Version: 4.14
Processing Host: NAHSTW7056

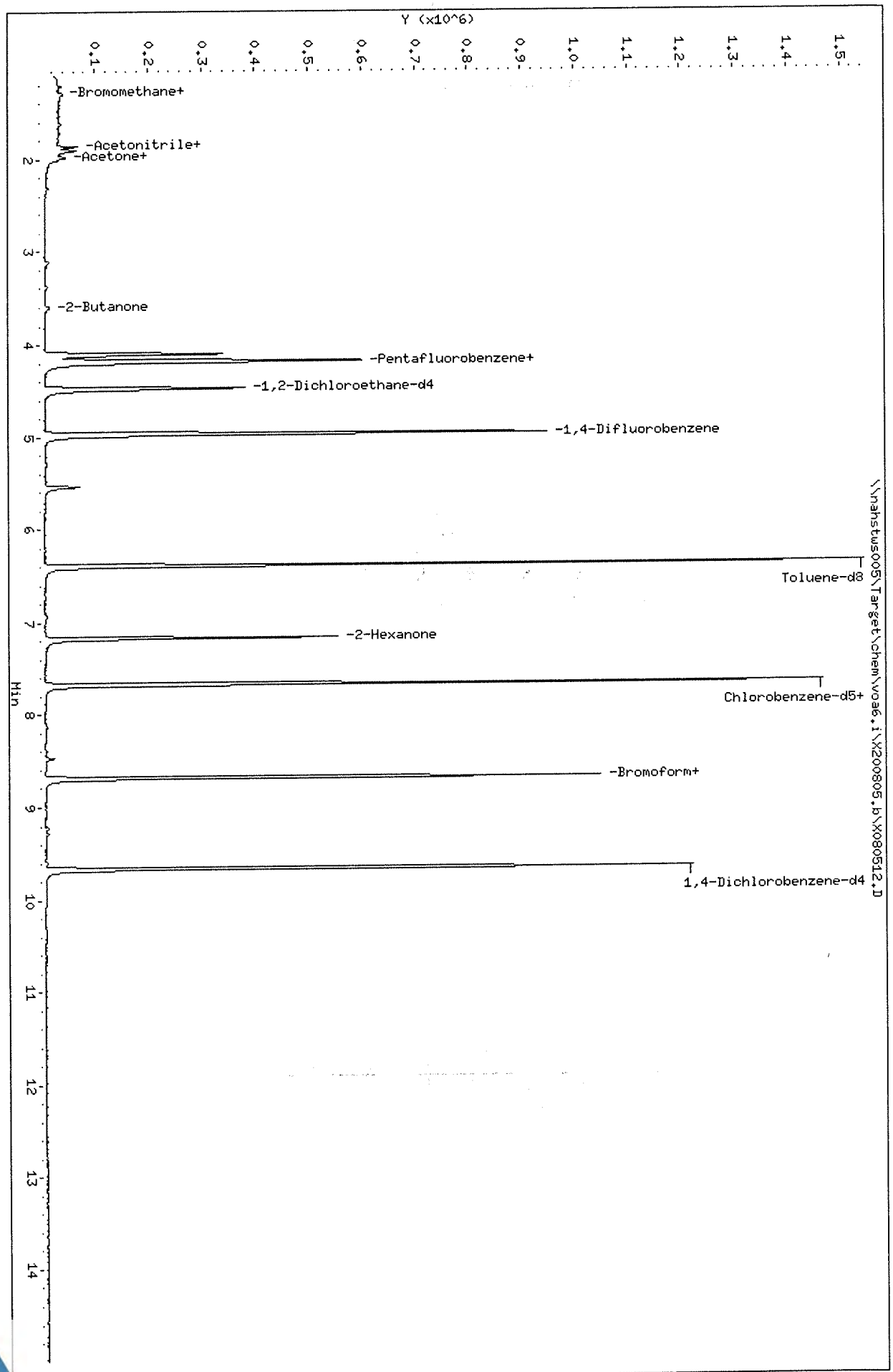
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

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	4.189	4.189	(1.000)	513028	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	757261	50.0000	
* 47 Chlorobenzene-d5	117	7.670	7.671	(1.000)	658969	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.662	(1.000)	293702	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.979)	235760	46.7956	46.79
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	277353	46.4441	46.44
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	849673	53.1588	53.15
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	302180	49.0074	49.00

Data File: \\nahstws005\Target\chem\voa6.i\X200805.b\X080512.D
Date : 05-AUG-2020 17:53
Client ID: HS20071328-13
Sample Info: HS20071328-13;HS20071328-13;;;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18



Data File: \\nahstws005\Target\chem\voa6.i\X200805.b\X080513.D Page 1
Report Date: 26-Aug-2020 09:36

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X200805.b\X080513.D
Lab Smp Id: HS20071328-06 Client Smp ID: HS20071328-06
Inj Date : 05-AUG-2020 18:17
Operator : PC Inst ID: voa6.i
Smp Info : HS20071328-06;HS20071328-06;;;
Misc Info : HS18090001;WATER;0;5;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200805.b\8260W.m
Meth Date : 26-Aug-2020 09:33 dev.giga Quant Type: ISTD
Cal Date : 03-AUG-2020 14:28 Cal File: X080308.D
Als bottle: 13
Dil Factor: 5.00000
Integrator: HP RTE Compound Sublist: CBI-Hou11.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

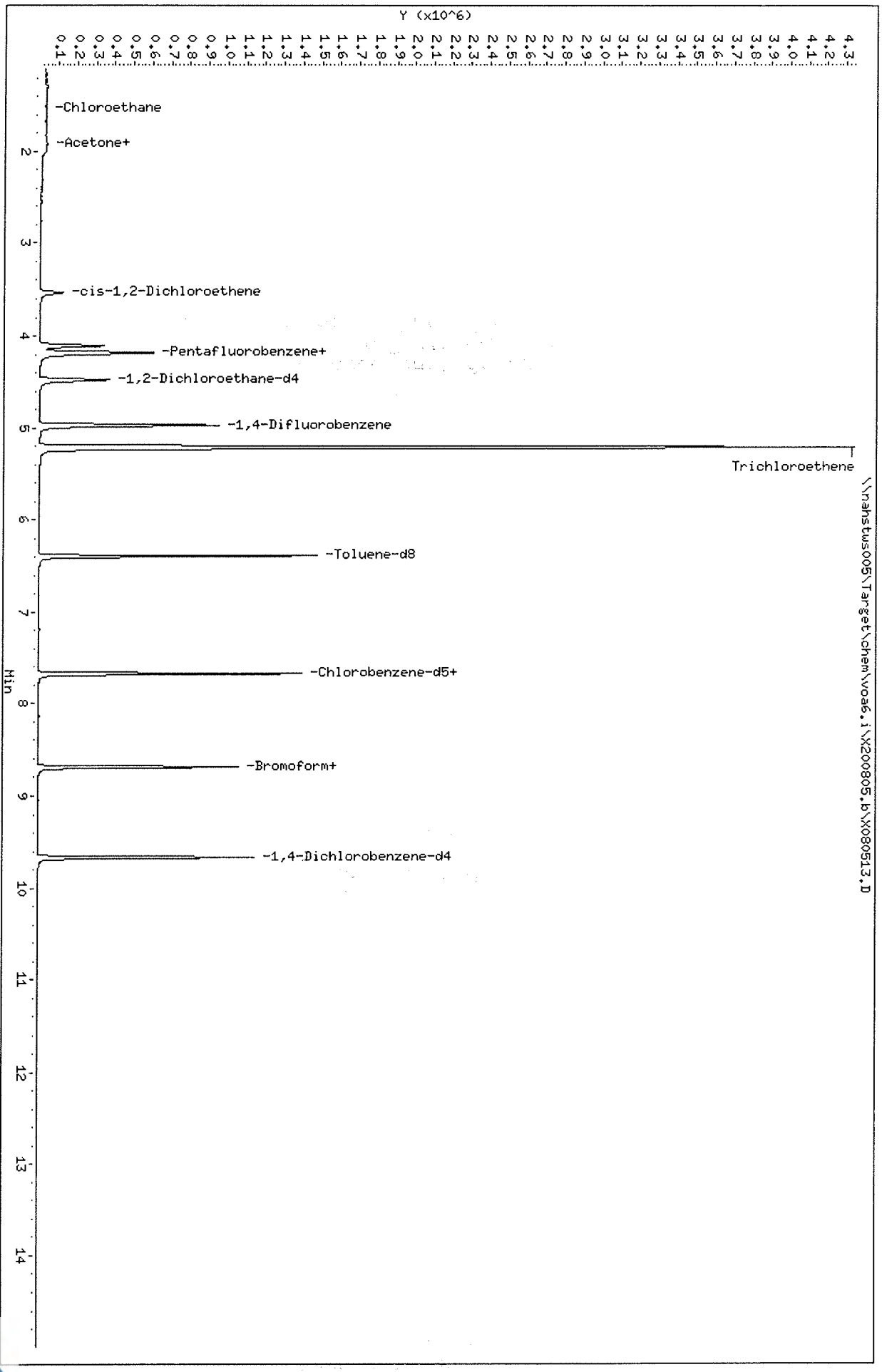
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	512558	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	760378	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	647783	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.662	(1.000)	285693	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.979)	236815	47.0481	47.04
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	278428	46.6669	46.66
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	834529	53.1129	53.11
$ 69 4-Bromofluorobenzene	95	8.695	8.688	(1.134)	294914	48.6549	48.65
11 1,1-Dichloroethene	96	1.911	1.919	(0.456)	2257	0.55575	2.77(a)
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.843)	60535	10.7295	53.64
38 Trichloroethene	130	5.206	5.207	(1.048)	1431472	265.637	1328.18(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\X200805.b\X080513.D
Date : 05-AUG-2020 18:17
Client ID: HS20071328-06
Sample Info: HS200713328-06;HS200713328-06;;;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18



Data File: \\nahstws005\Target\chem\voa6.i\X200805.b\X080513.D

Date : 05-AUG-2020 18:17

Client ID: HS20071328-06

Instrument: voa6.i

Sample Info: HS20071328-06;HS20071328-06;;;

Purge Volume: 5.0

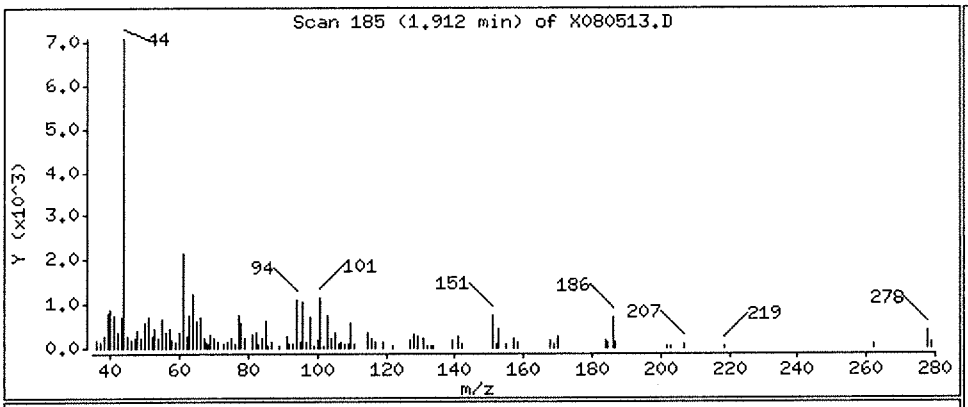
Operator: PC

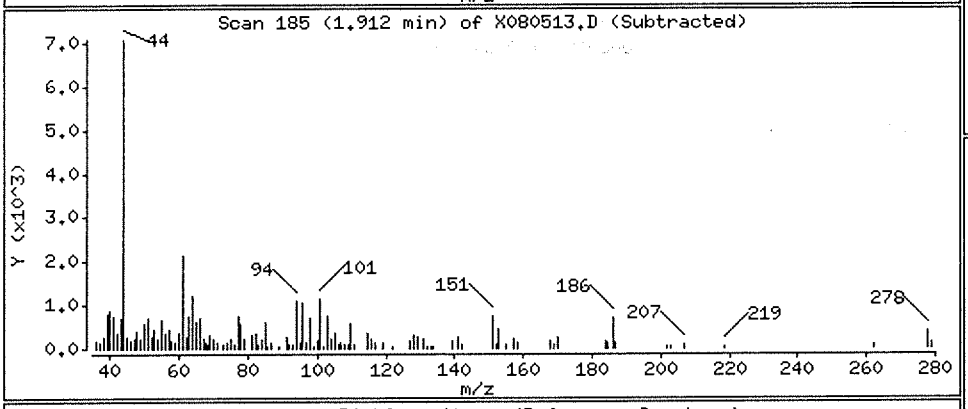
Column phase: DB624

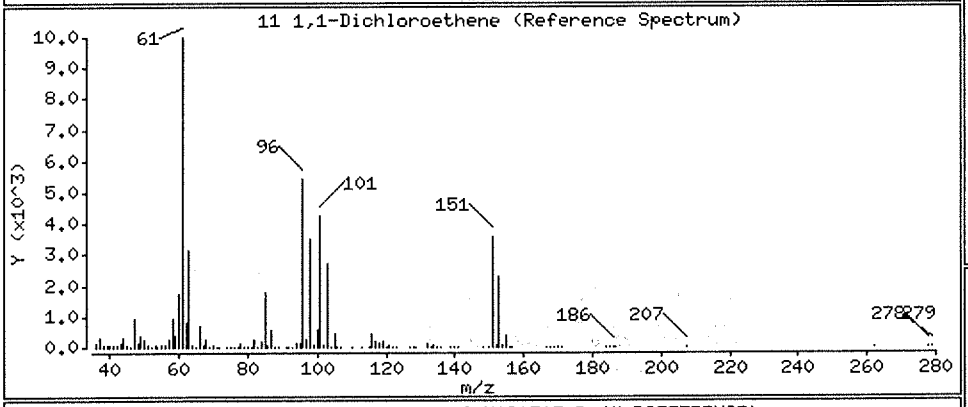
Column diameter: 0.18

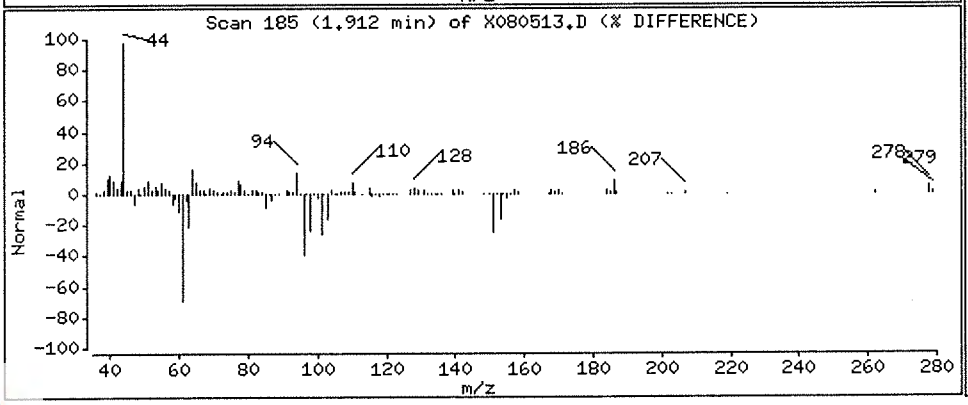
11 1,1-Dichloroethene

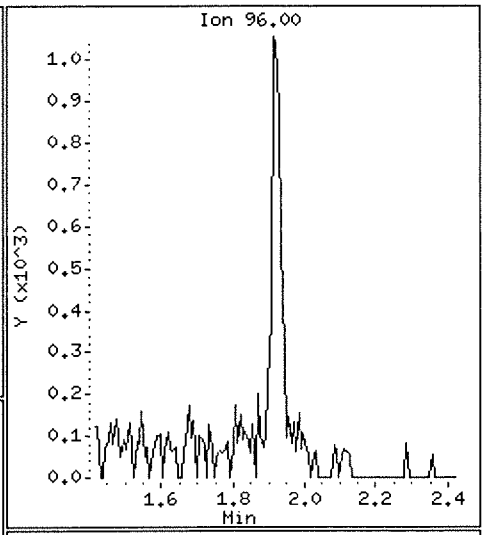
Concentration: 2.77 ug/l

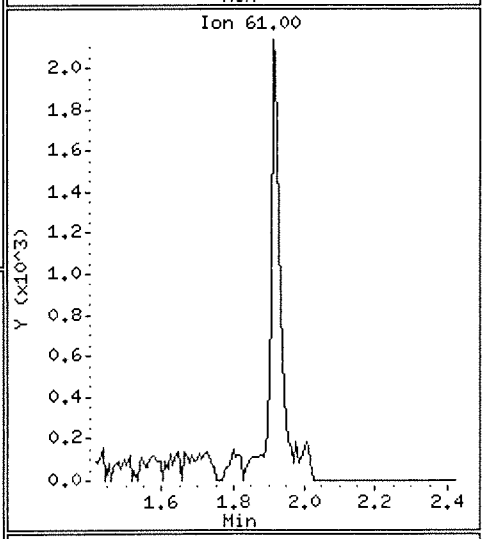


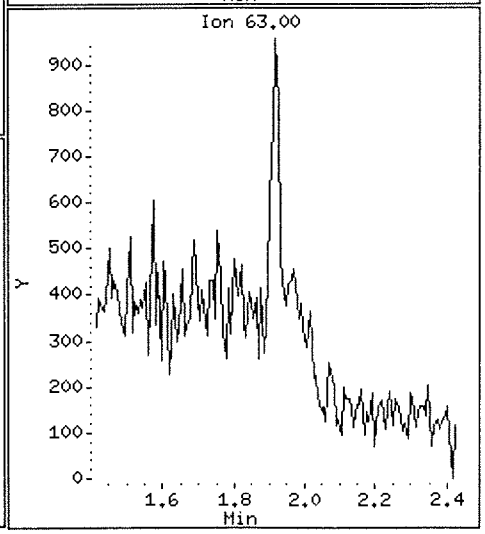












Data File: \\nahstws005\Target\chem\voa6.i\X200805.b\X080513.D

Date : 05-AUG-2020 18:17

Client ID: HS20071328-06

Instrument: voa6.i

Sample Info: HS20071328-06;HS20071328-06;;;

Purge Volume: 5.0

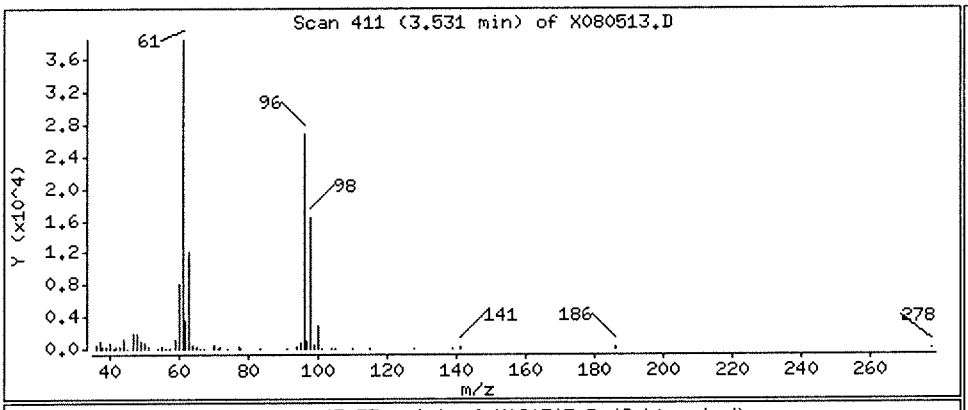
Operator: PC

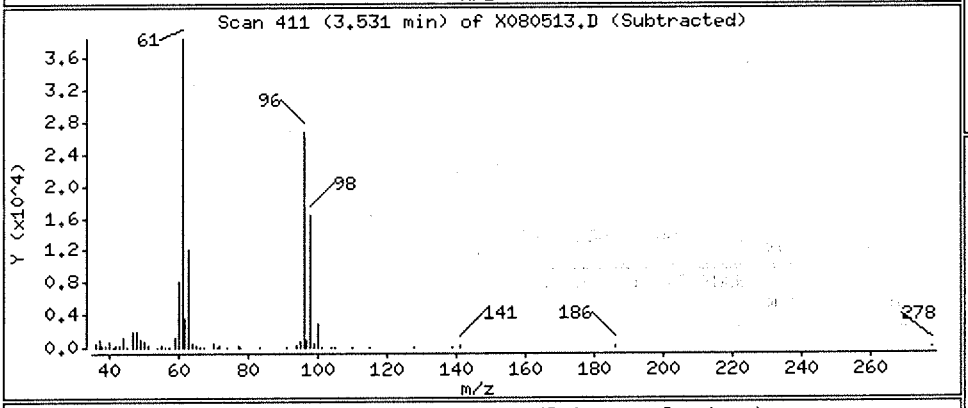
Column phase: DB624

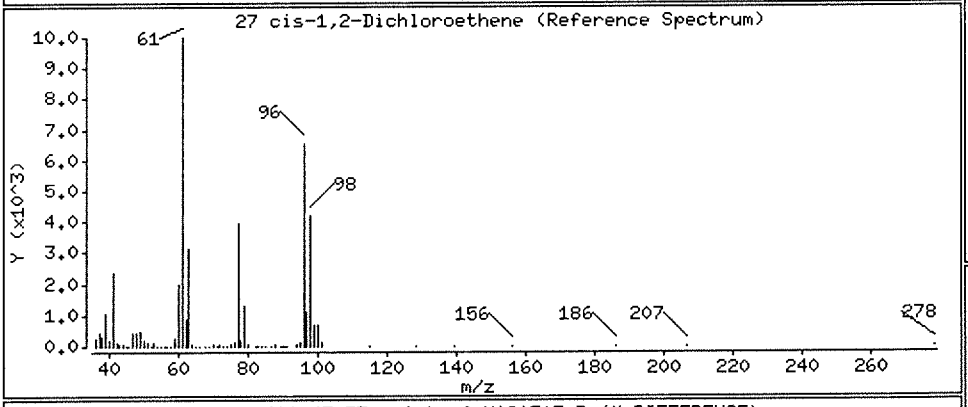
Column diameter: 0.18

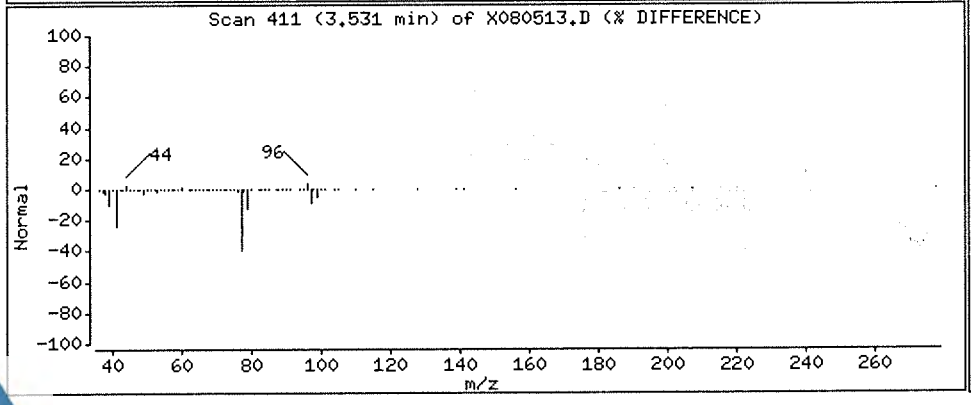
27 cis-1,2-Dichloroethene

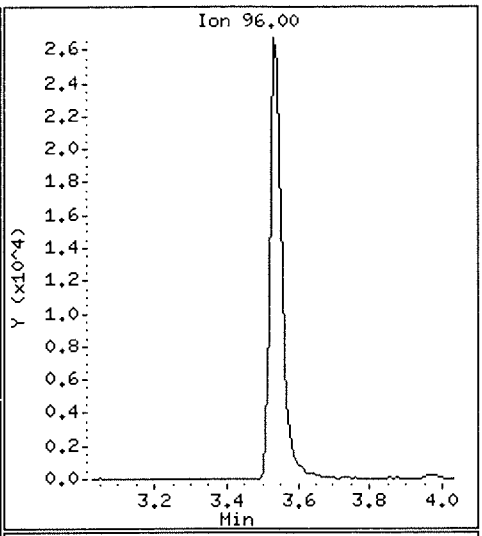
Concentration: 53.64 ug/l

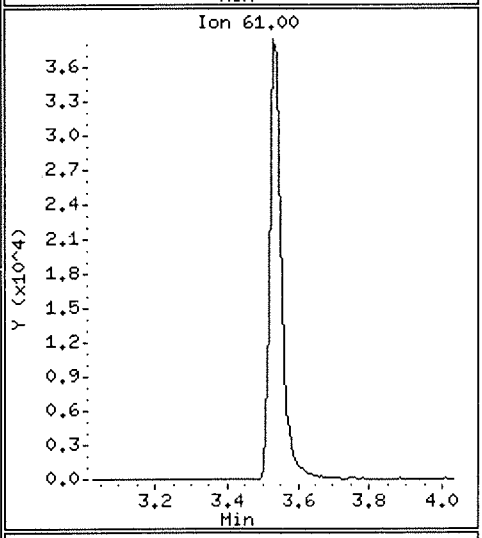


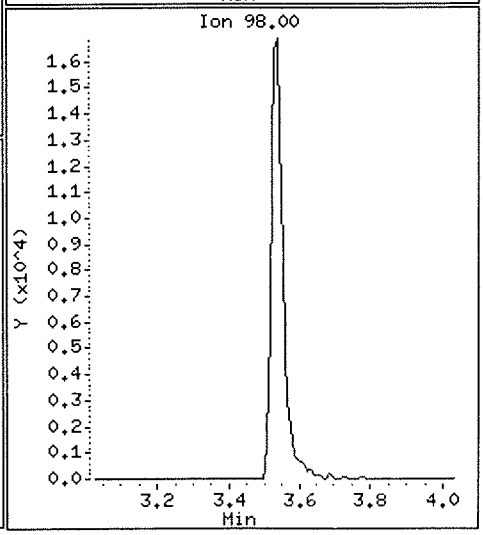












Data File: \\nahstws005\Target\chem\voa6.i\X200805.b\X080513.D Page 5

Date : 05-AUG-2020 18:17

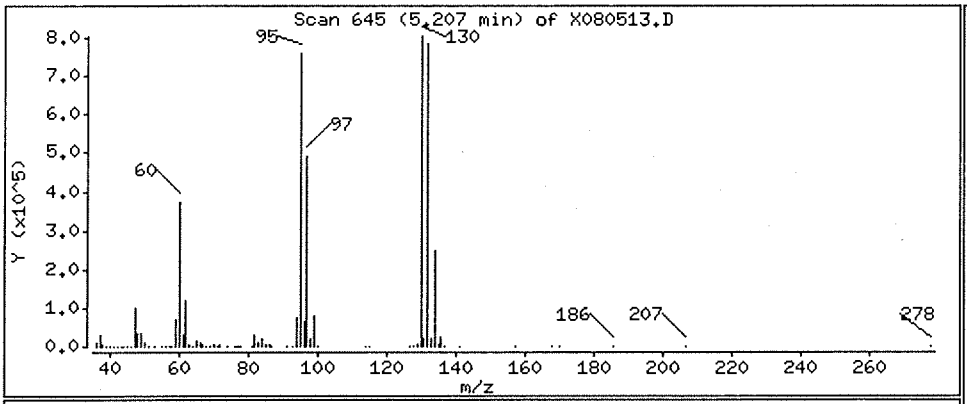
Client ID: HS20071328-06 Instrument: voa6.i

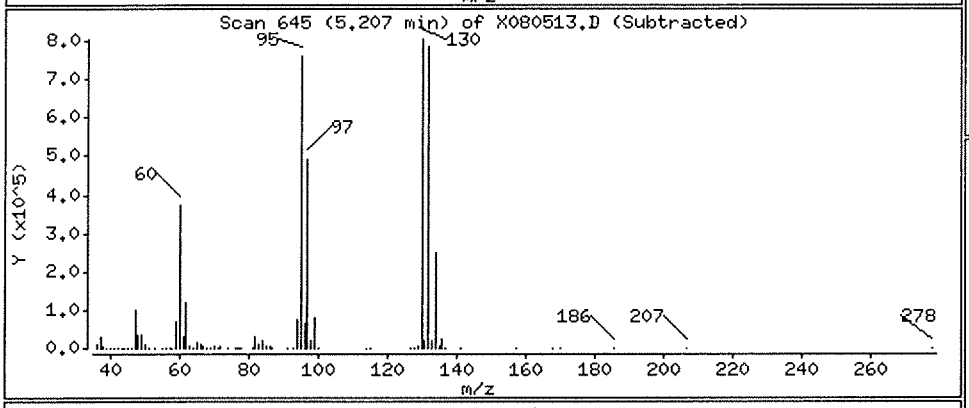
Sample Info: HS20071328-06;HS20071328-06;;;

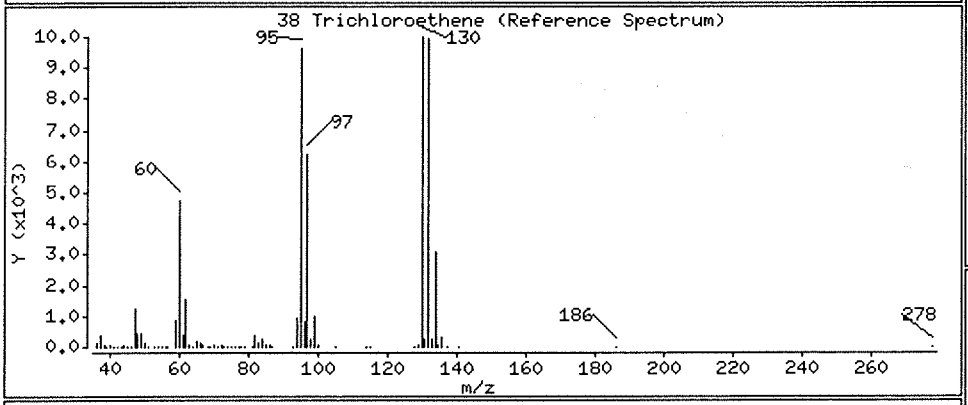
Purge Volume: 5.0 Operator: PC

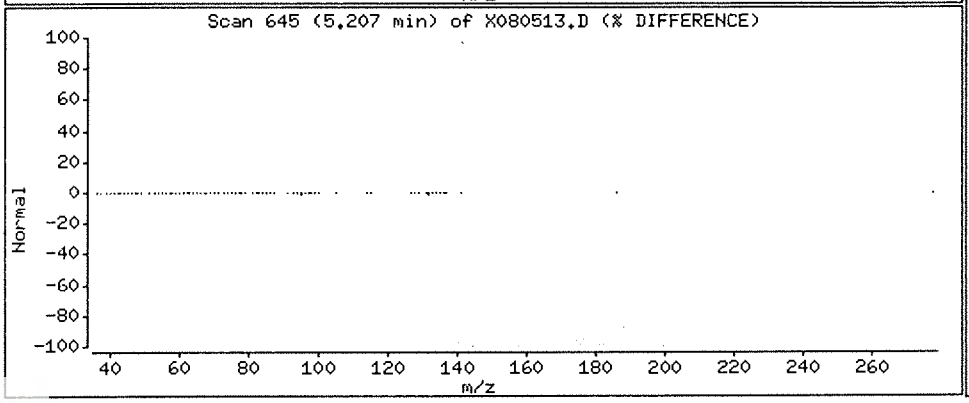
Column phase: DB624 Column diameter: 0.18

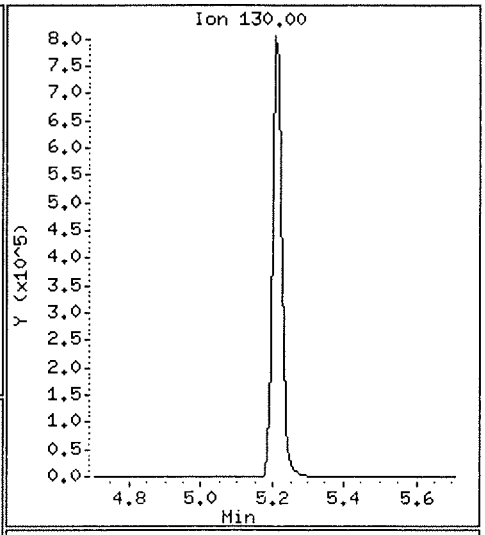
38 Trichloroethene Concentration: 1328.18 ug/l

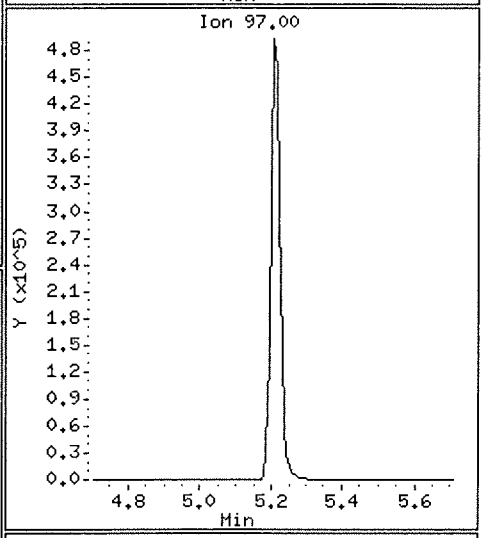


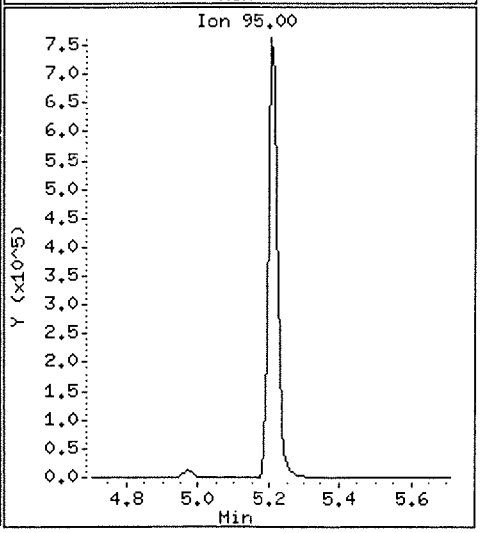












ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X200805.b\X080514.D
Lab Smp Id: HS20071328-07 Client Smp ID: HS20071328-07
Inj Date : 05-AUG-2020 18:41
Operator : PC Inst ID: voa6.i
Smp Info : HS20071328-07;HS20071328-07;;;
Misc Info : HS18090001;WATER;0;5;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200805.b\8260W.m
Meth Date : 26-Aug-2020 09:33 dev.giga Quant Type: ISTD
Cal Date : 03-AUG-2020 14:28 Cal File: X080308.D
Als bottle: 14
Dil Factor: 5.00000
Integrator: HP RTE Compound Sublist: CBI-Hou11.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

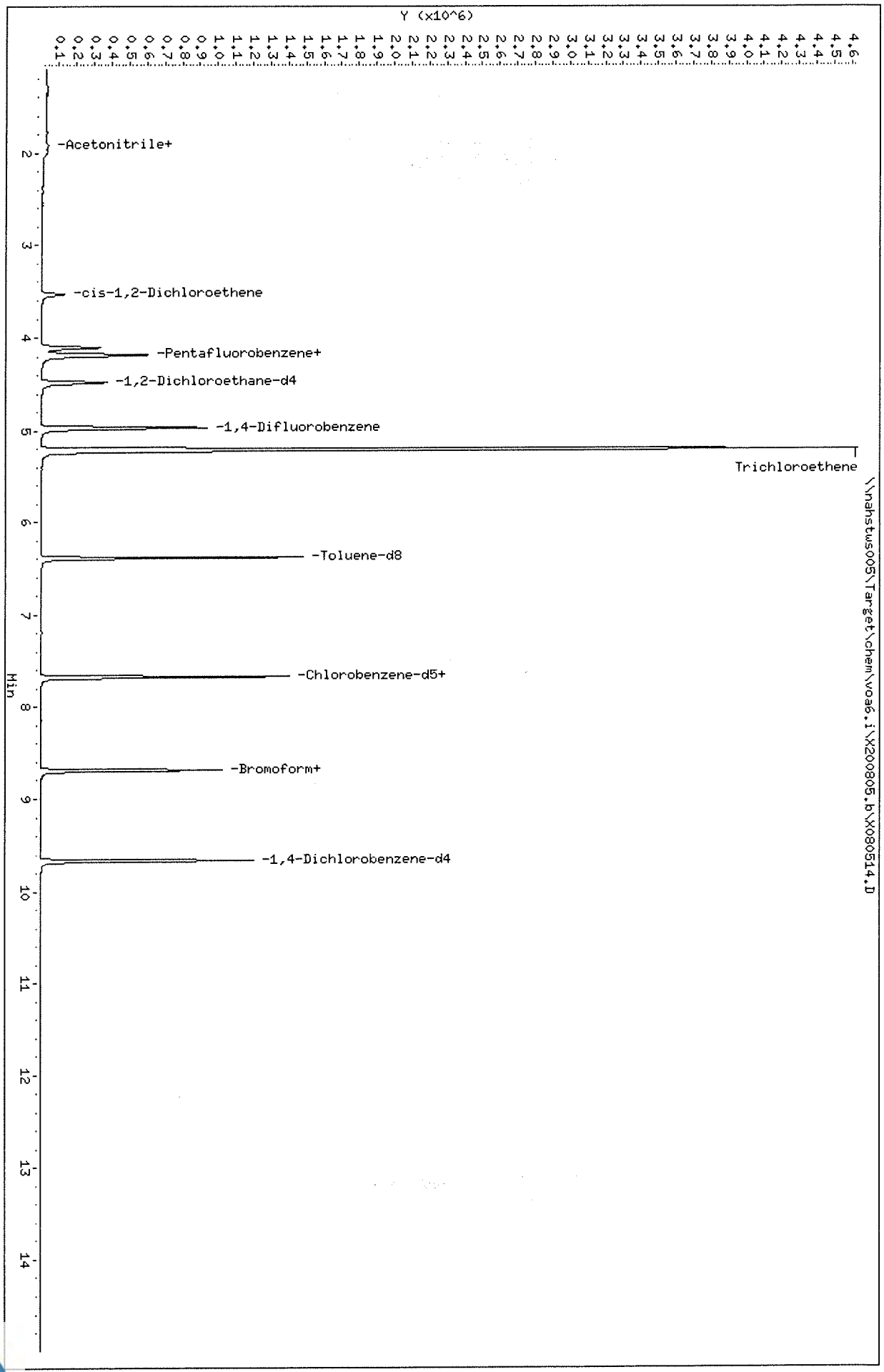
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	511599	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	756896	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	651173	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.662	(1.000)	303614	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.979)	235323	46.8393	46.83
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	275079	46.1920	46.19
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	836686	52.9730	52.97
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	296891	48.7260	48.72
11 1,1-Dichloroethene	96	1.919	1.919	(0.458)	2751	0.67866	3.39(aM)
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.843)	64389	11.4340	57.16
38 Trichloroethene	130	5.206	5.207	(1.048)	1522070	283.749	1418.74(A)

QC Flag Legend

a - Target compound detected but, quantitated amount Below Limit Of Quantitation(BLOQ).
A - Target compound detected but, quantitated amount exceeded maximum amount.
M - Compound response manually integrated.

Data File: \\nahstws005\Target\chem\voa6.i\X200805.b\X080514.D
Date : 05-AUG-2020 18:41
Client ID: HS20071328-07
Sample Info: HS20071328-07;HS20071328-07;;;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18



Data File: \\nahstws005\Target\chem\voa6.i\X200805.b\X080514.D

Date : 05-AUG-2020 18:41

Client ID: HS20071328-07

Instrument: voa6.i

Sample Info: HS20071328-07;HS20071328-07;;;

Purge Volume: 5.0

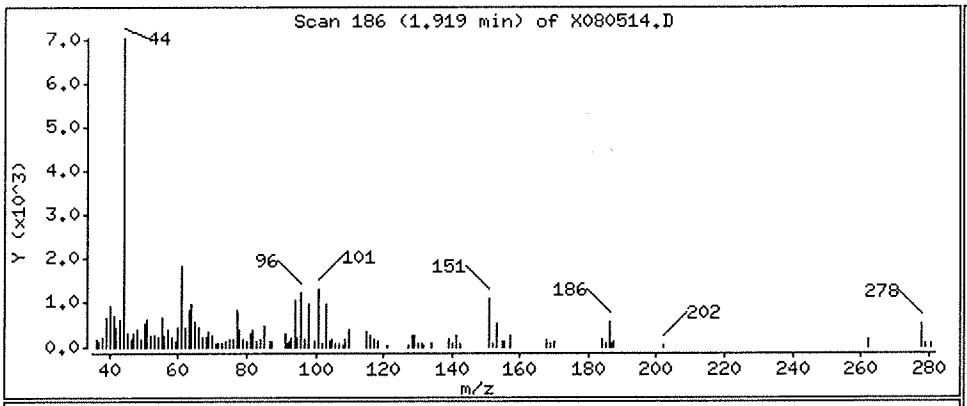
Operator: PC

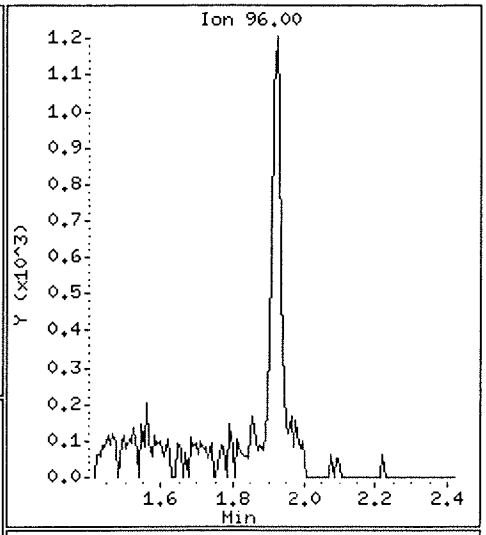
Column phase: DB624

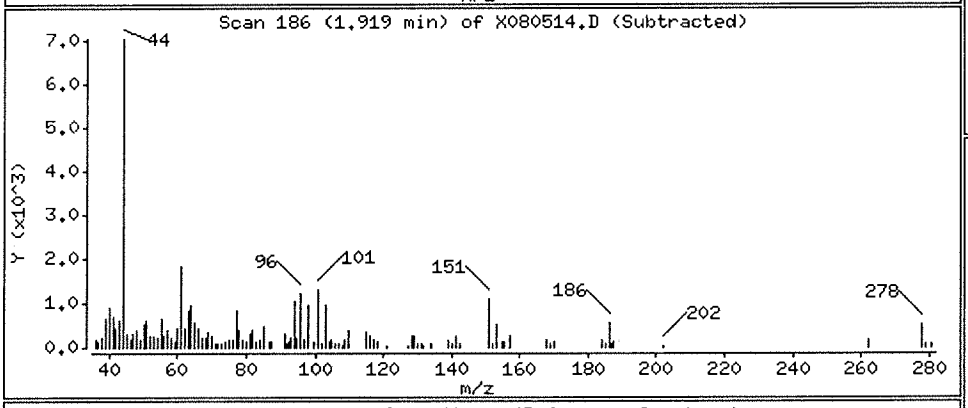
Column diameter: 0.18

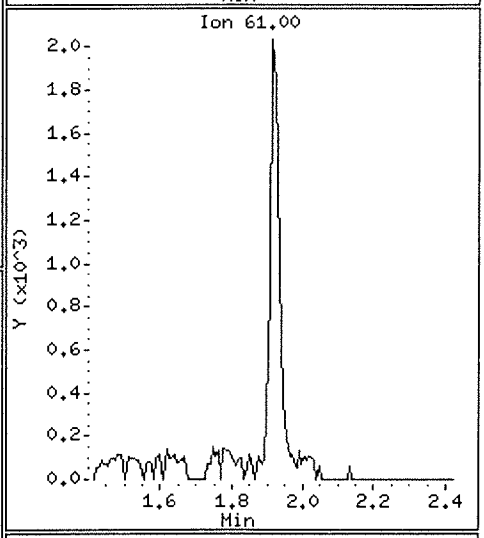
11 1,1-Dichloroethene

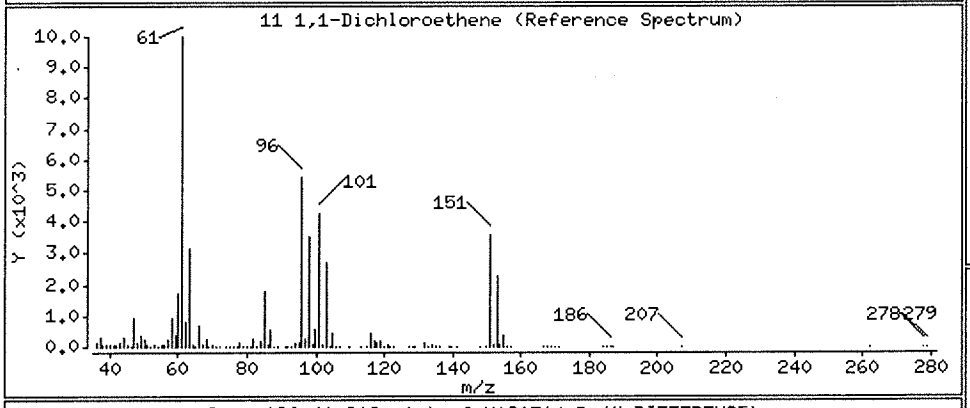
Concentration: 3.39 ug/l

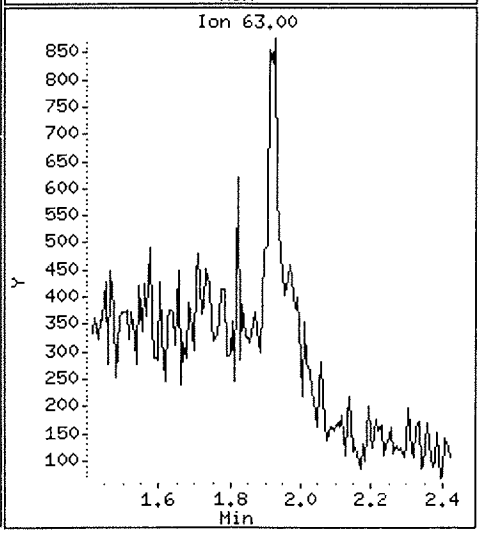


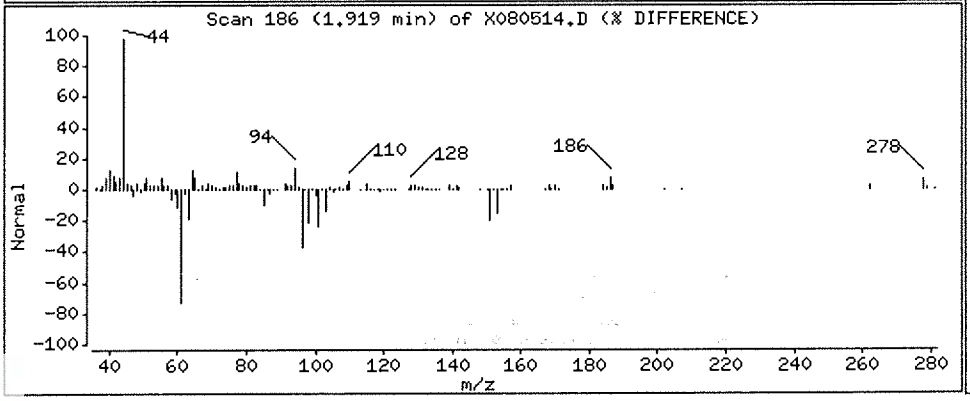












Data File: \\nahstws005\Target\chem\voa6.i\X200805.b\X080514.D Page 4

Date : 05-AUG-2020 18:41

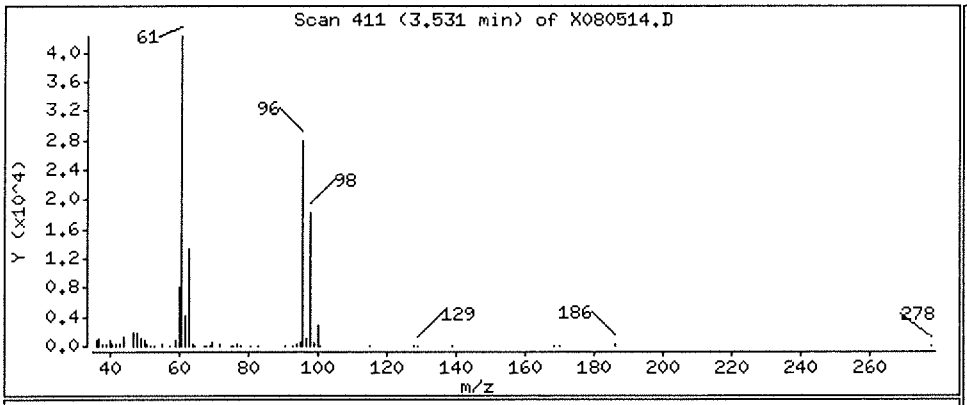
Client ID: HS20071328-07 Instrument: voa6.i

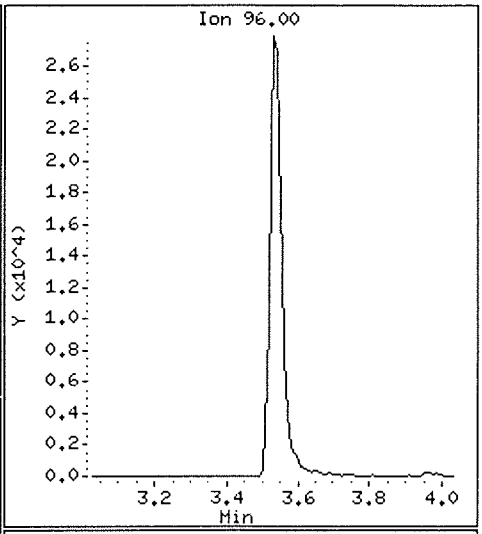
Sample Info: HS20071328-07;HS20071328-07;;;

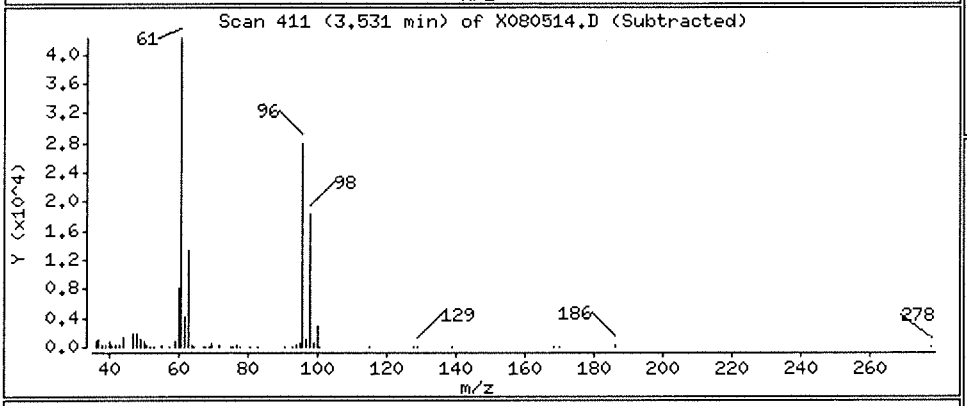
Purge Volume: 5.0 Operator: PC

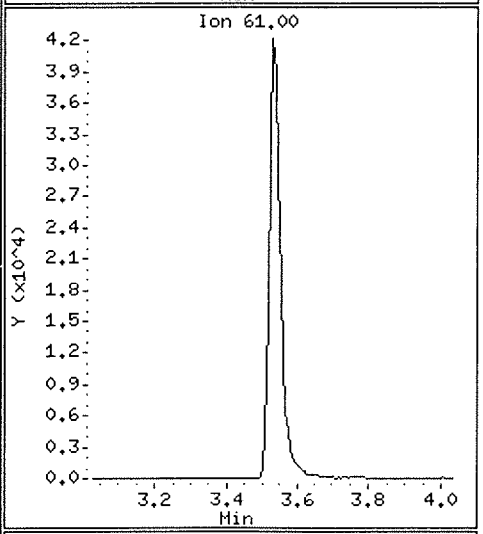
Column phase: DB624 Column diameter: 0.18

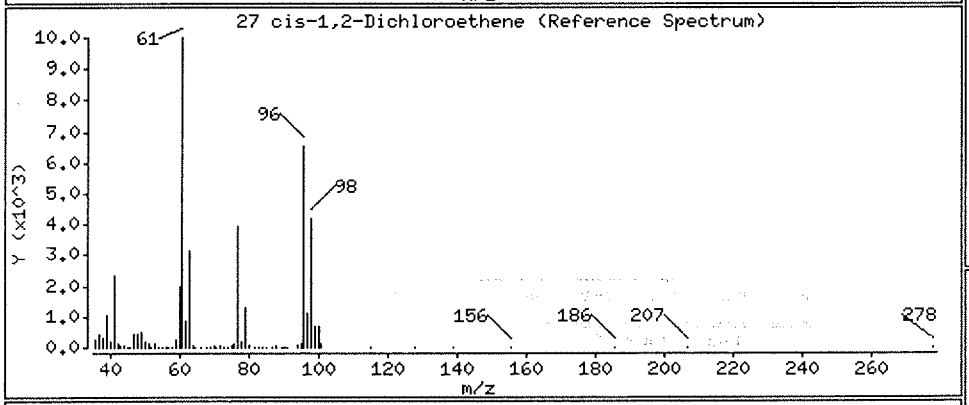
27 cis-1,2-Dichloroethene Concentration: 57.16 ug/l

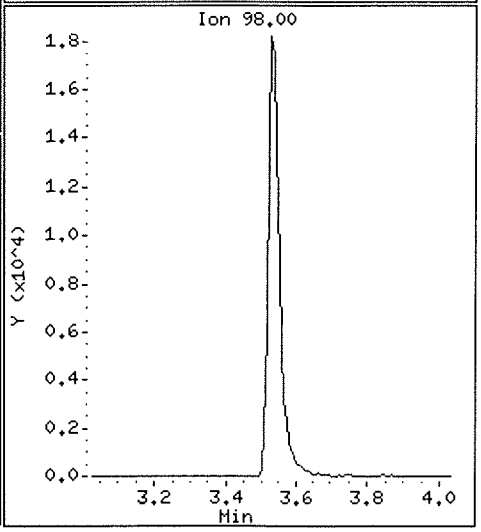


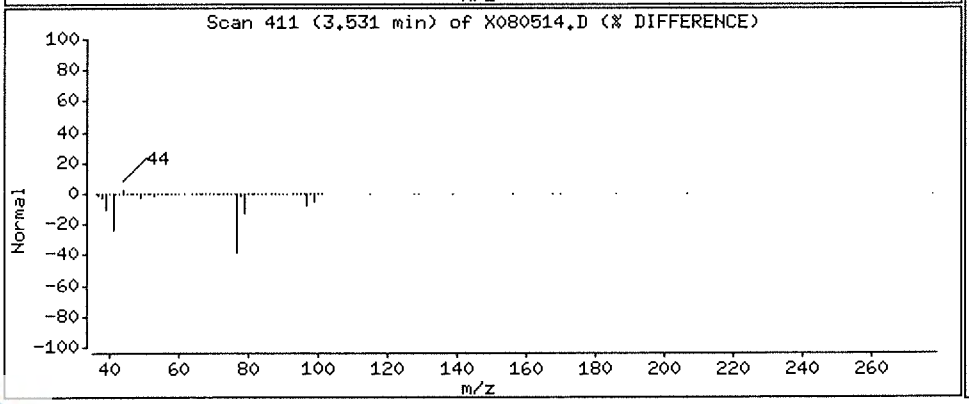












Data File: \\nahstws005\Target\chem\voa6.i\X200805.b\X080514.D

Date : 05-AUG-2020 18:41

Client ID: HS20071328-07

Instrument: voa6.i

Sample Info: HS20071328-07;HS20071328-07;;;

Purge Volume: 5.0

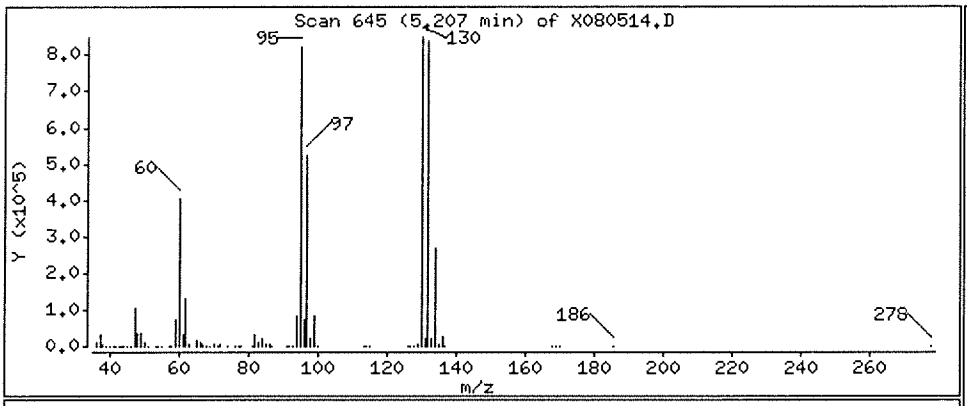
Operator: PC

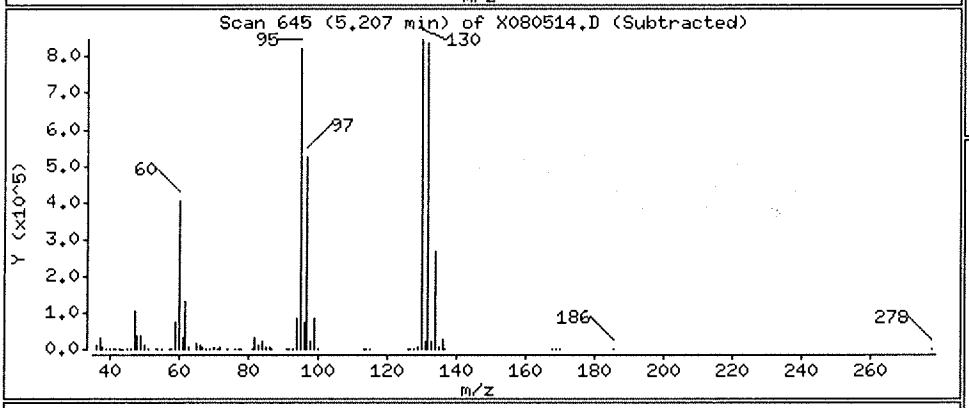
Column phase: DB624

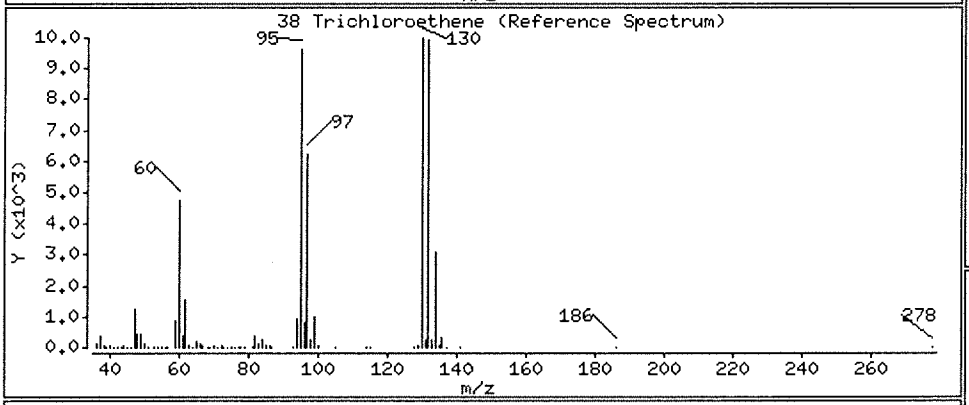
Column diameter: 0.18

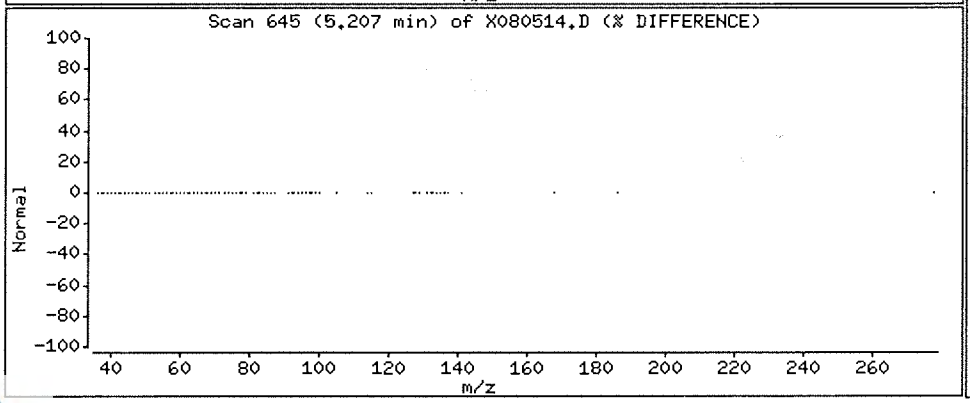
38 Trichloroethene

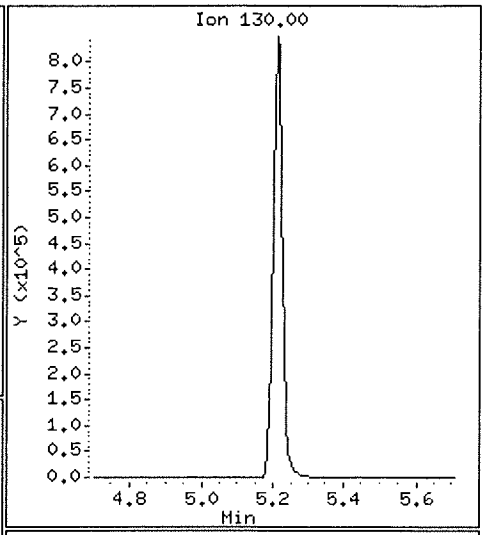
Concentration: 1418.74 ug/l

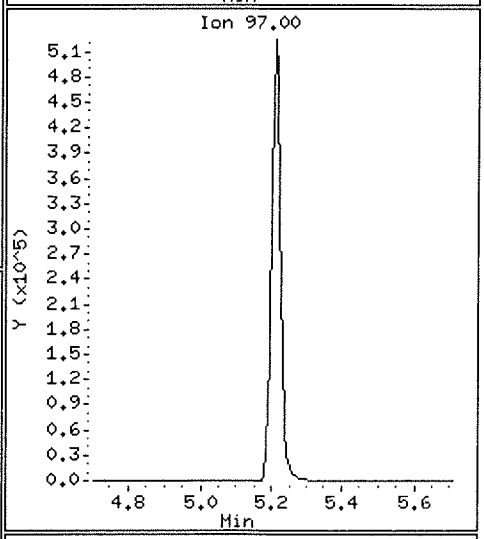


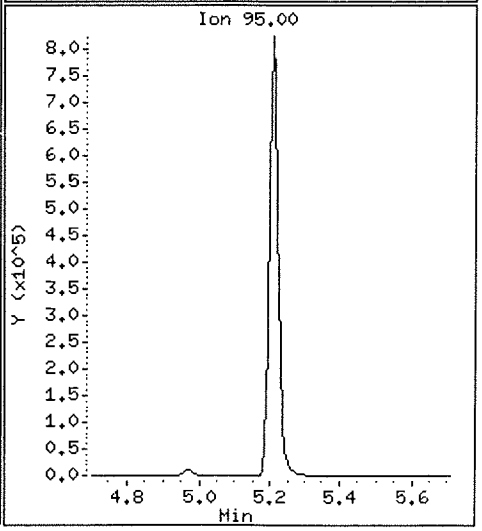












Data File: \\nahstws005\Target\chem\voa6.i\X200805.b\X080515.D Page 1
Report Date: 26-Aug-2020 09:36

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X200805.b\X080515.D
Lab Smp Id: HS20071328-14 Client Smp ID: HS20071328-14
Inj Date : 05-AUG-2020 19:05
Operator : PC Inst ID: voa6.i
Smp Info : HS20071328-14;HS20071328-14;;;
Misc Info : HS18090001;WATER;0;25;
Comment   :
Method   : \\nahstws005\Target\chem\voa6.i\X200805.b\8260W.m
Meth Date : 26-Aug-2020 09:33 dev.giga Quant Type: ISTD
Cal Date : 03-AUG-2020 14:28 Cal File: X080308.D
Als bottle: 15
Dil Factor: 25.00000
Integrator: HP RTE Compound Sublist: CBI-Hou11.sub
Target Version: 4.14
Processing Host: NAHSTW7056

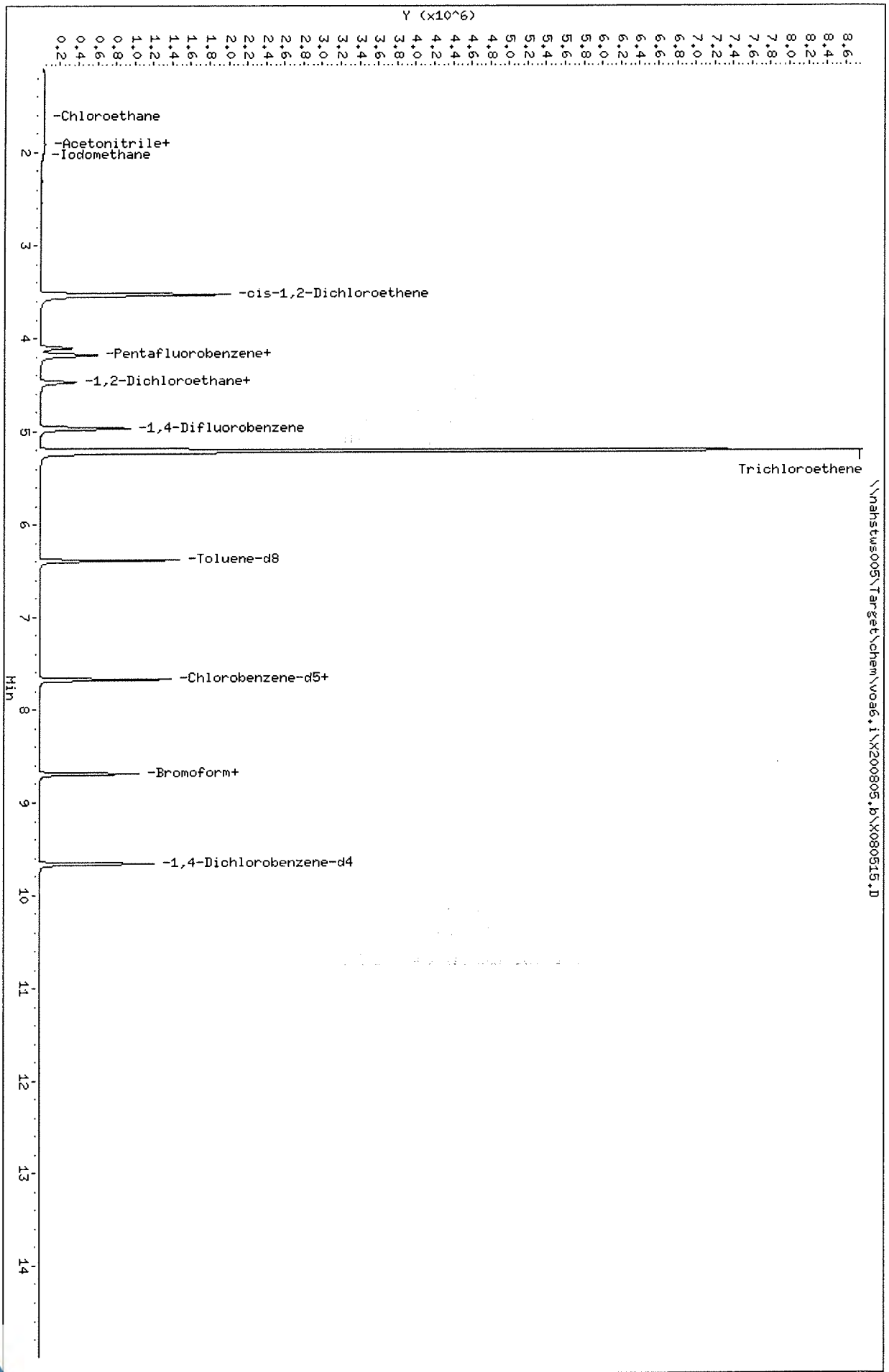
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

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	4.189	4.189	(1.000)	510589	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	761075	50.0000	
* 47 Chlorobenzene-d5	117	7.670	7.671	(1.000)	651893	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.662	(1.000)	298716	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.979)	234743	46.8163	46.81
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	277630	46.7126	46.71
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	829059	52.4321	52.43
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	304294	49.8859	49.88
11 1,1-Dichloroethene	96	1.919	1.919	(0.458)	3192	0.78901	19.72(a)
33 1,2-Dichloroethane	62	4.569	4.562	(0.919)	3884	0.52709	13.17(a)
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.843)	959342	170.693	4267.33
38 Trichloroethene	130	5.214	5.207	(1.049)	2951608	547.226	13680.64(A)
5 Vinyl Chloride	62	1.145	1.145	(0.273)	3921	0.59659	14.91

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\X200805.b\X080515.D
Date : 05-AUG-2020 19:05
Client ID: HS20071328-14
Sample Info: HS20071328-14;HS20071328-14;;;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

Data File: \\nahstws005\Target\chem\voa6.i\X200805.b\X080515.D

Date : 05-AUG-2020 19:05

Client ID: HS20071328-14

Instrument: voa6.i

Sample Info: HS20071328-14;HS20071328-14;;;

Purge Volume: 5.0

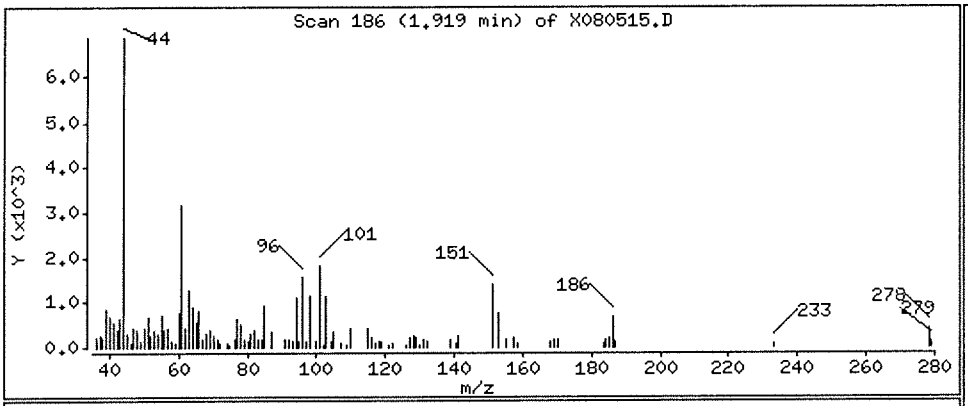
Operator: PC

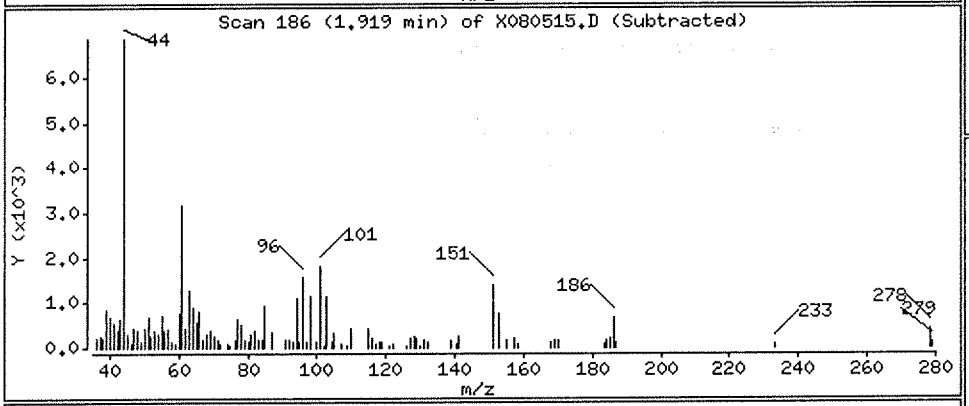
Column phase: DB624

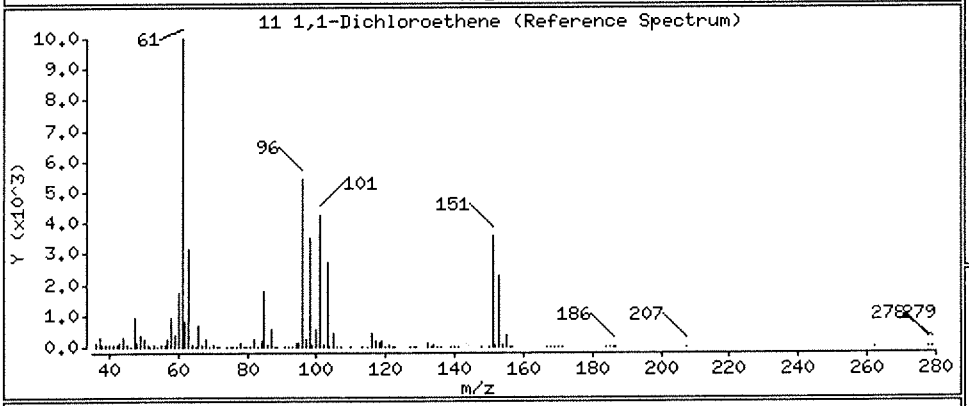
Column diameter: 0.18

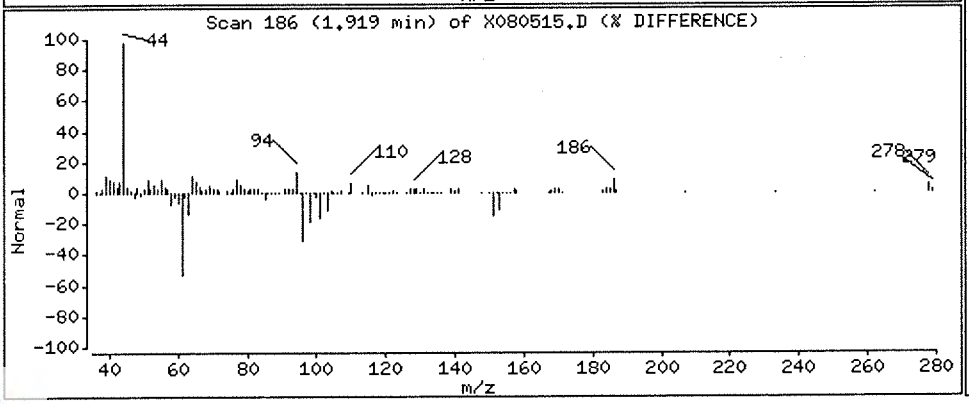
11 1,1-Dichloroethene

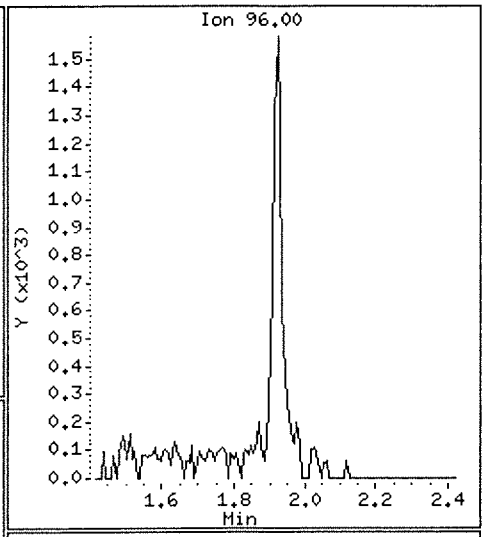
Concentration: 19.72 ug/l

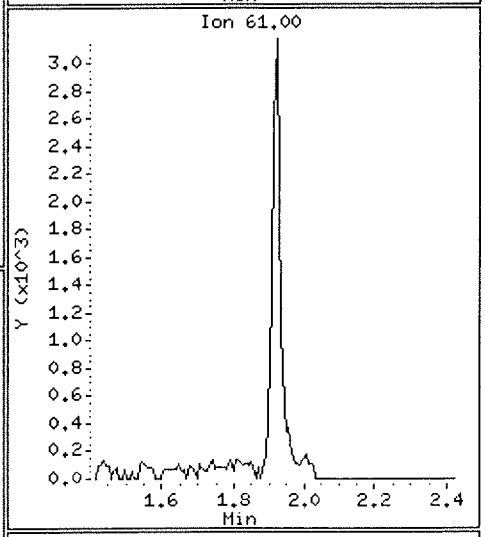


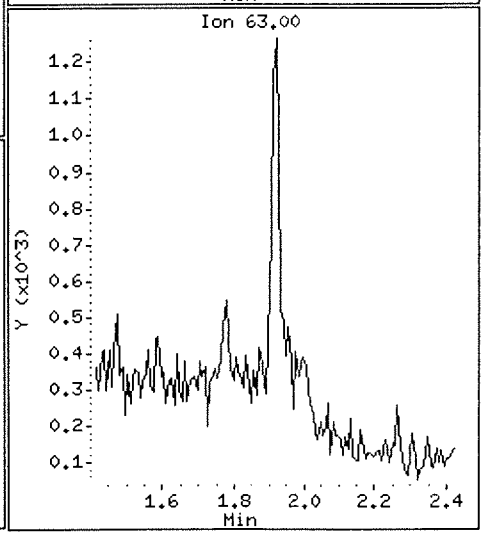












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Date : 05-AUG-2020 19:05

Client ID: HS20071328-14

Instrument: voa6.i

Sample Info: HS20071328-14;HS20071328-14;;;

Purge Volume: 5.0

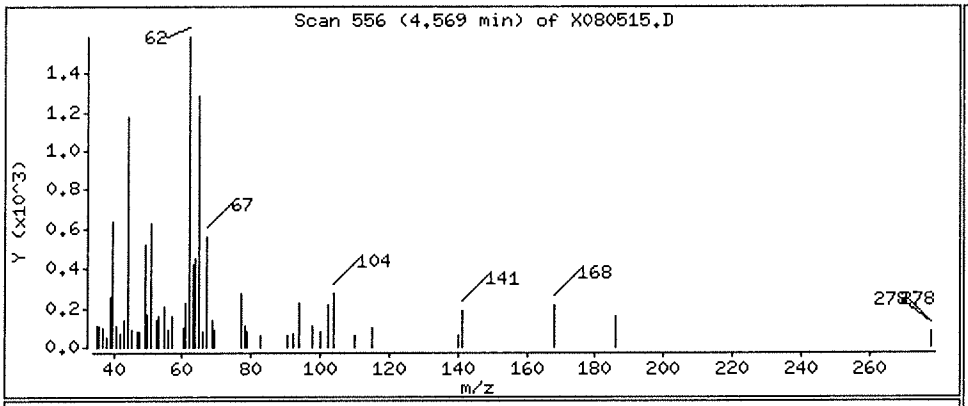
Operator: PC

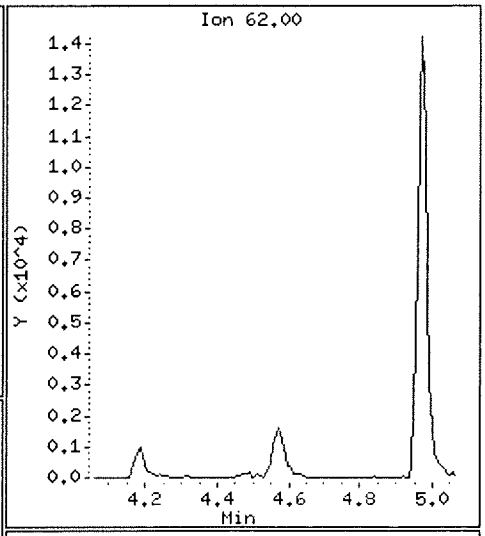
Column phase: DB624

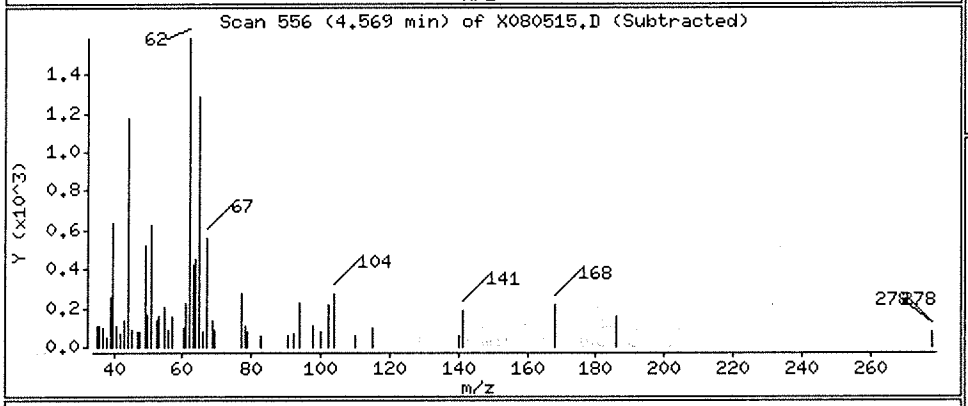
Column diameter: 0.18

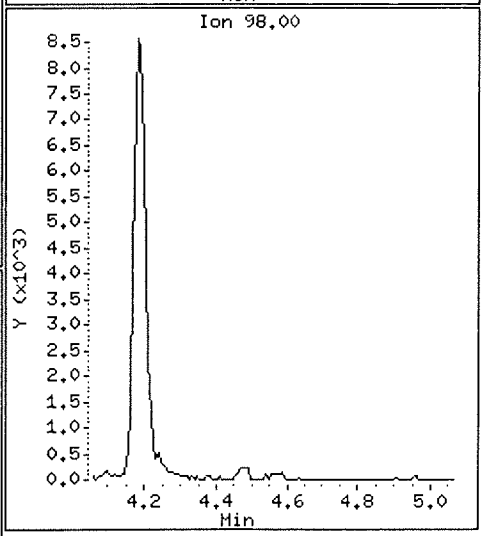
33 1,2-Dichloroethane

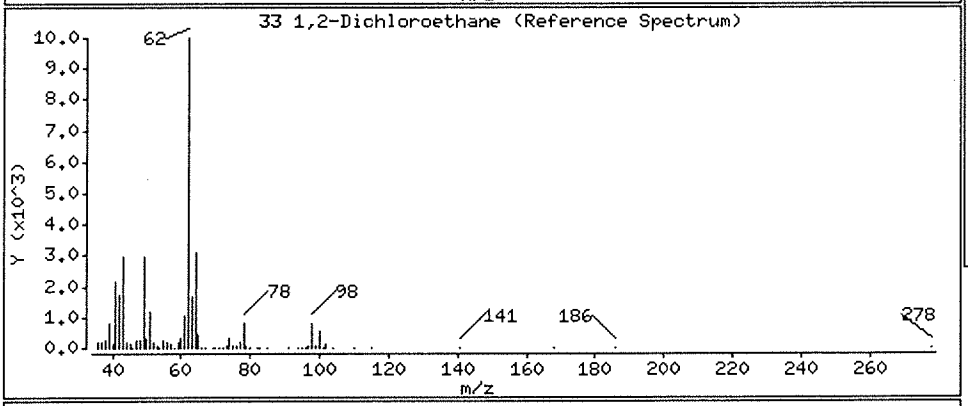
Concentration: 13.17 ug/l

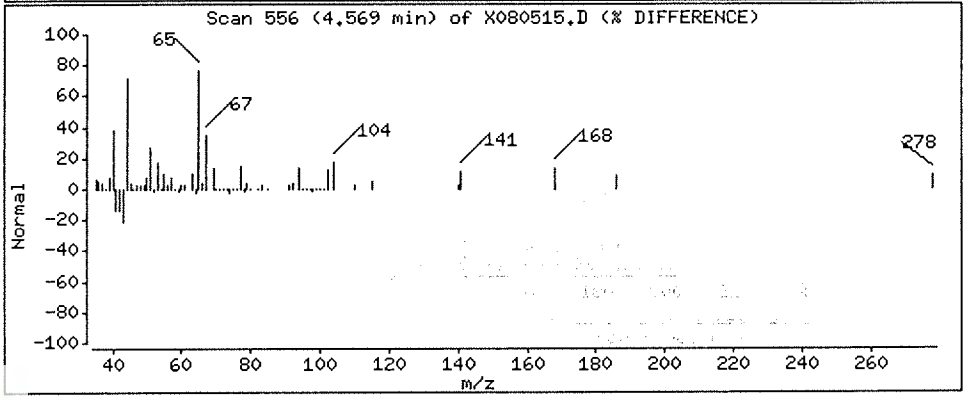












Data File: \\nahstws005\Target\chem\voa6.i\X200805.b\X080515.D

Date : 05-AUG-2020 19:05

Client ID: HS20071328-14

Instrument: voa6.i

Sample Info: HS20071328-14;HS20071328-14;;;

Purge Volume: 5.0

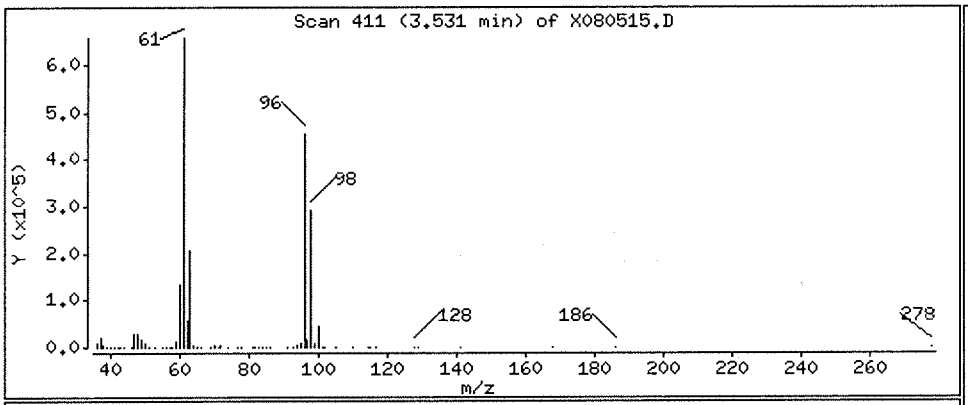
Operator: PC

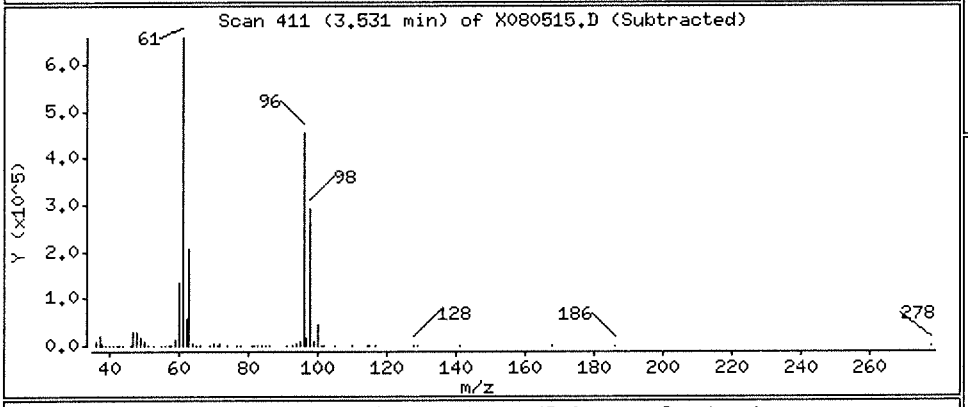
Column phase: DB624

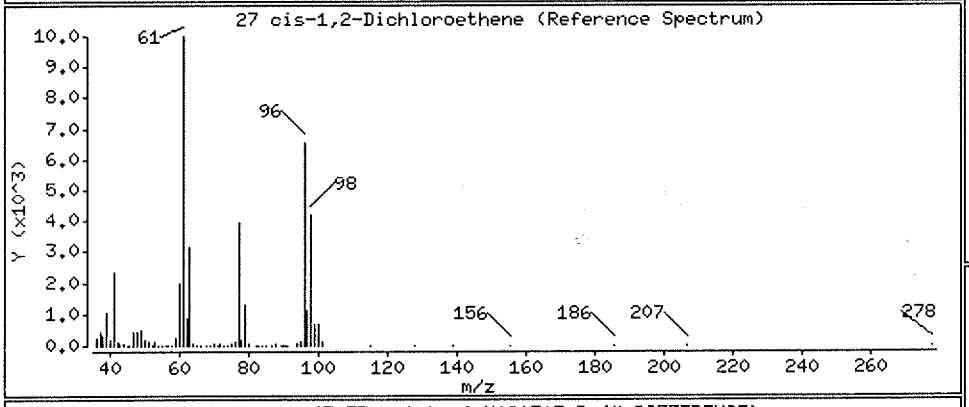
Column diameter: 0.18

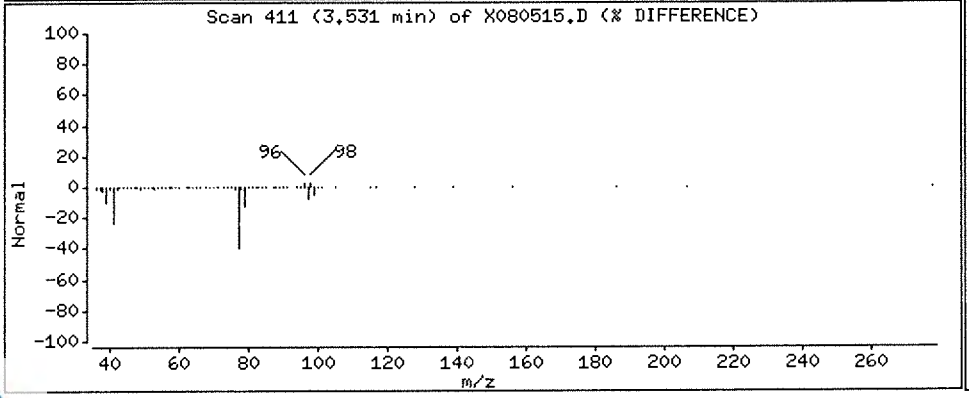
27 cis-1,2-Dichloroethene

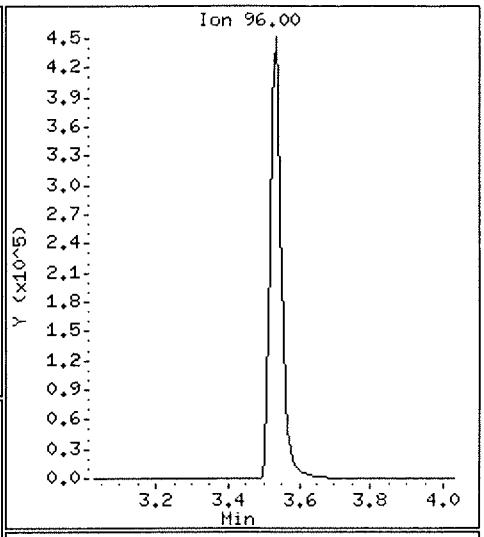
Concentration: 4267.33 ug/l

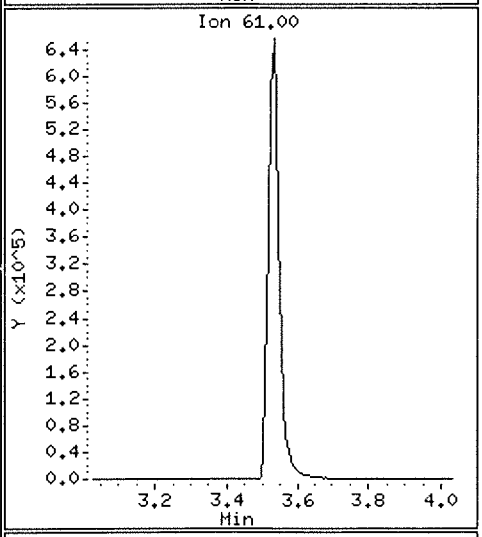


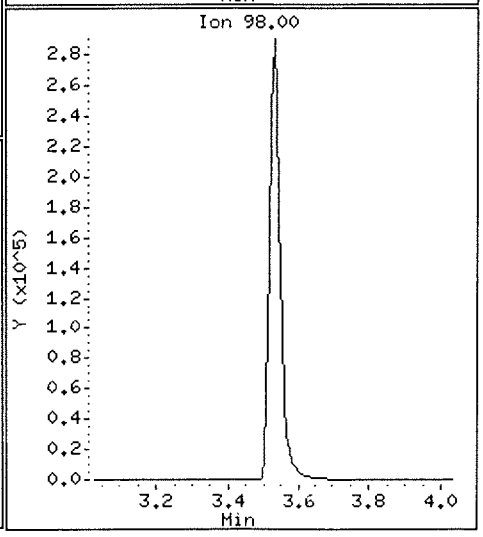












Data File: \\nahstws005\Target\chem\voa6.i\X200805.b\X080515.D

Date : 05-AUG-2020 19:05

Client ID: HS20071328-14

Instrument: voa6.i

Sample Info: HS20071328-14;HS20071328-14;;;

Purge Volume: 5.0

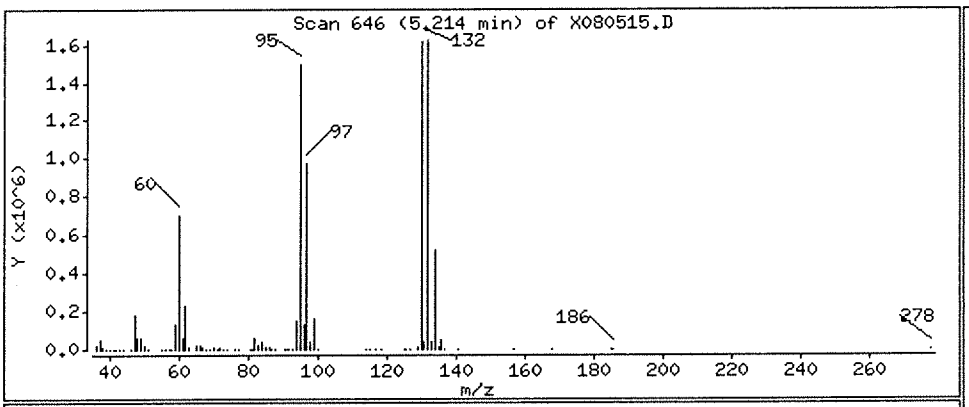
Operator: PC

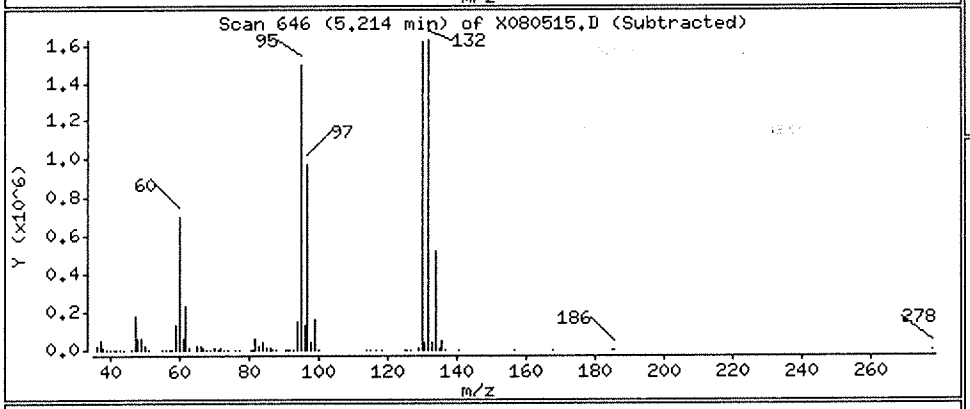
Column phase: DB624

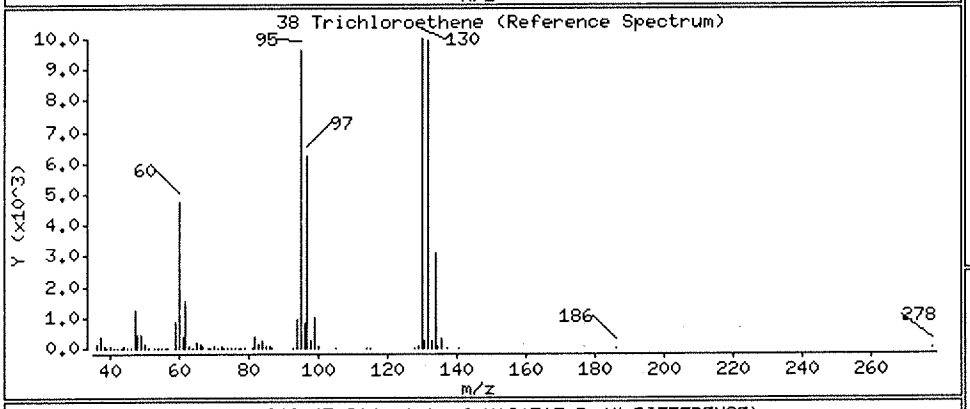
Column diameter: 0.18

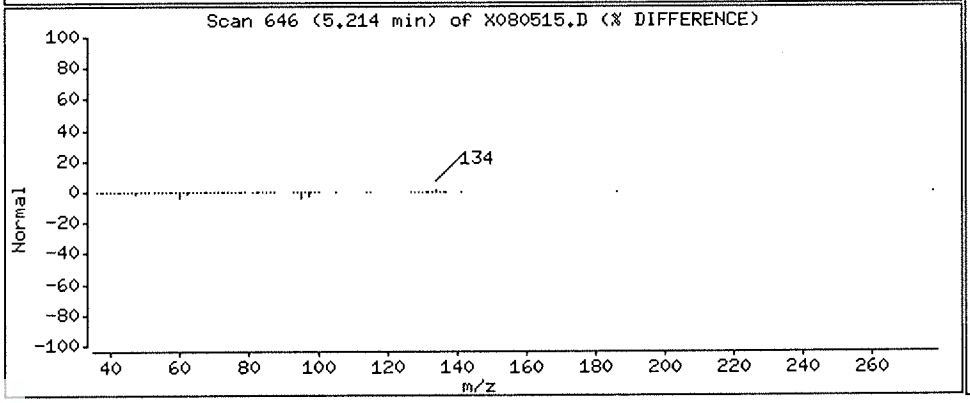
38 Trichloroethene

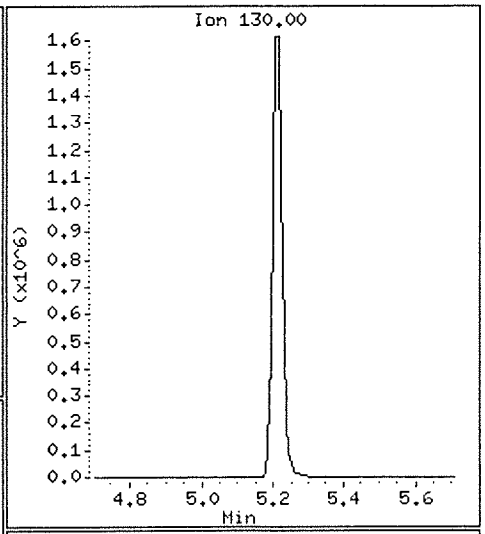
Concentration: 13680.64 ug/l

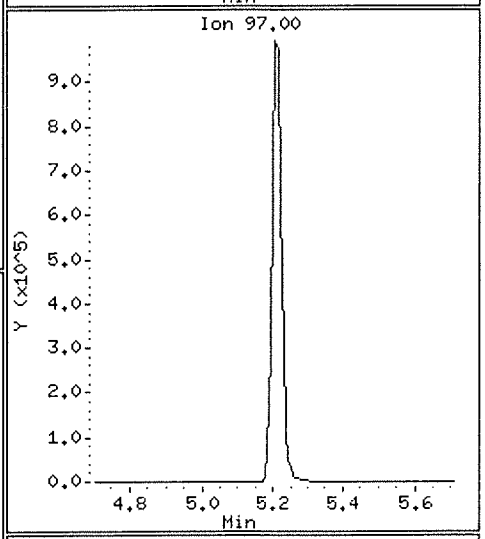


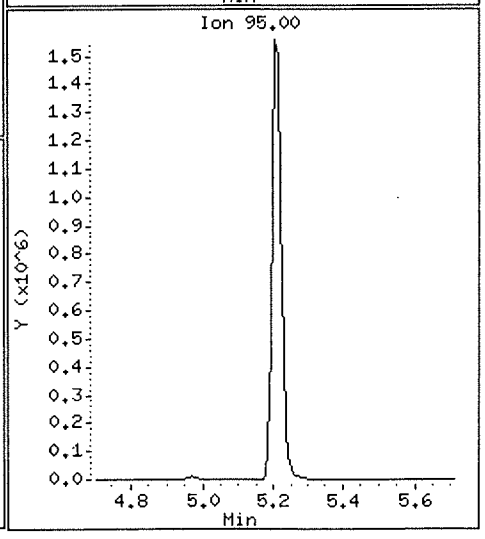












Data File: \\nahstws005\Target\chem\voa6.i\X200805.b\X080515.D

Date : 05-AUG-2020 19:05

Client ID: HS20071328-14

Instrument: voa6.i

Sample Info: HS20071328-14;HS20071328-14;;;

Purge Volume: 5.0

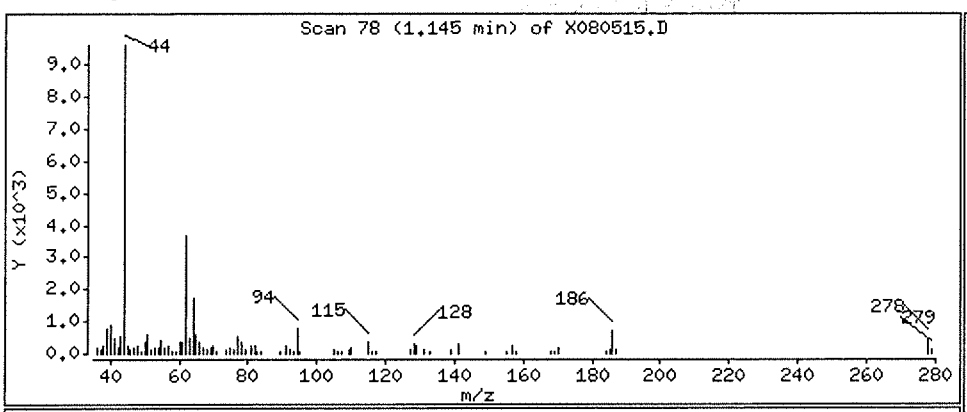
Operator: PC

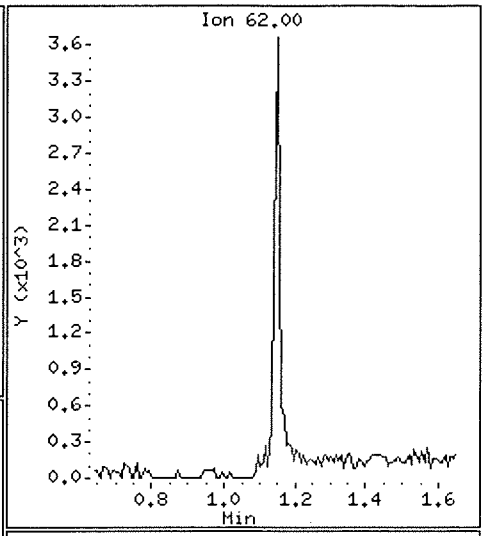
Column phase: DB624

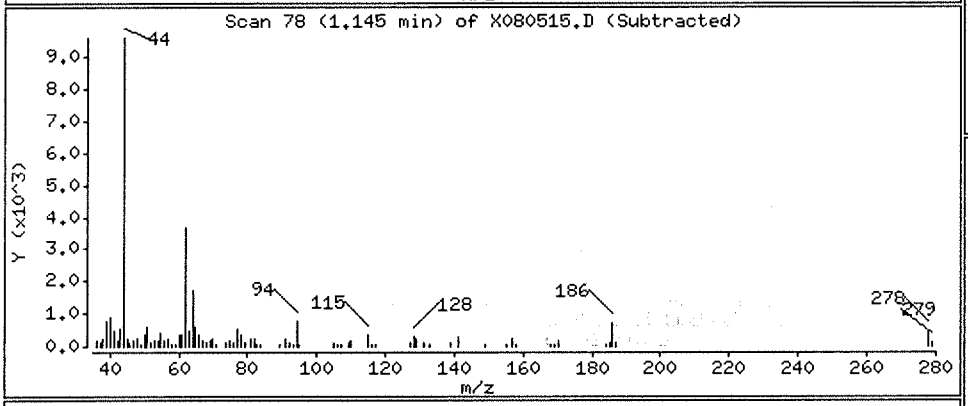
Column diameter: 0.18

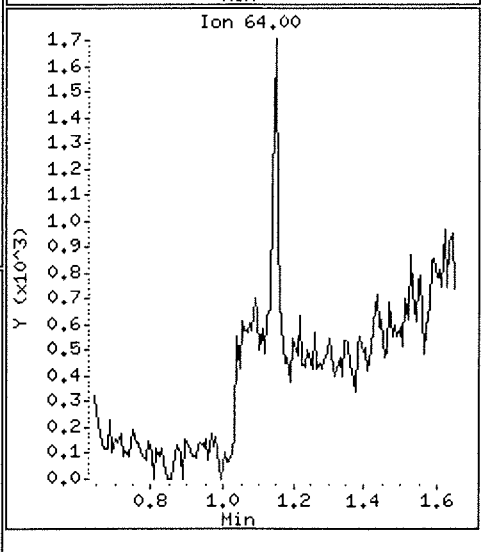
5 Vinyl Chloride

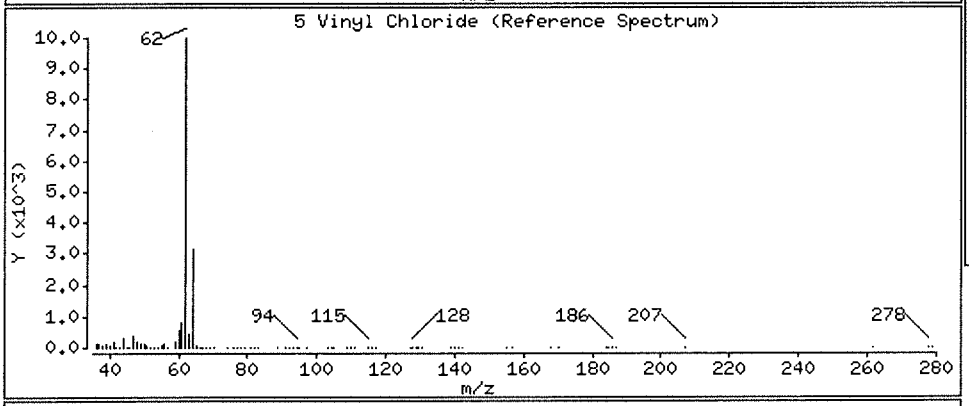
Concentration: 14.91 ug/l

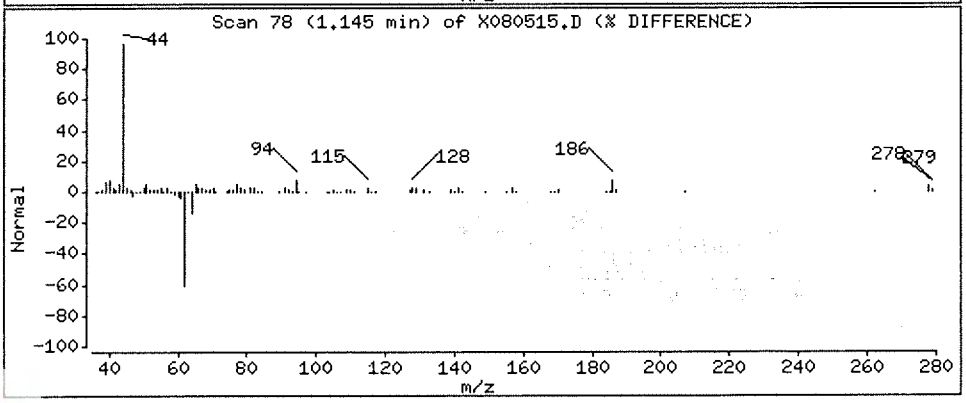












Data File: \\nahstws005\Target\chem\voa6.i\X200805.b\X080516.D Page 1
Report Date: 26-Aug-2020 09:36

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X200805.b\X080516.D
Lab Smp Id: HS20071328-16 Client Smp ID: HS20071328-16
Inj Date : 05-AUG-2020 19:30
Operator : PC Inst ID: voa6.i
Smp Info : HS20071328-16;HS20071328-16;;;
Misc Info : HS18090001;WATER;0;25;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200805.b\8260W.m
Meth Date : 26-Aug-2020 09:33 dev.giga Quant Type: ISTD
Cal Date : 03-AUG-2020 14:28 Cal File: X080308.D
Als bottle: 16
Dil Factor: 25.00000
Integrator: HP RTE Compound Sublist: CBI-Hou11.sub
Target Version: 4.14
Processing Host: NAHSTW7056

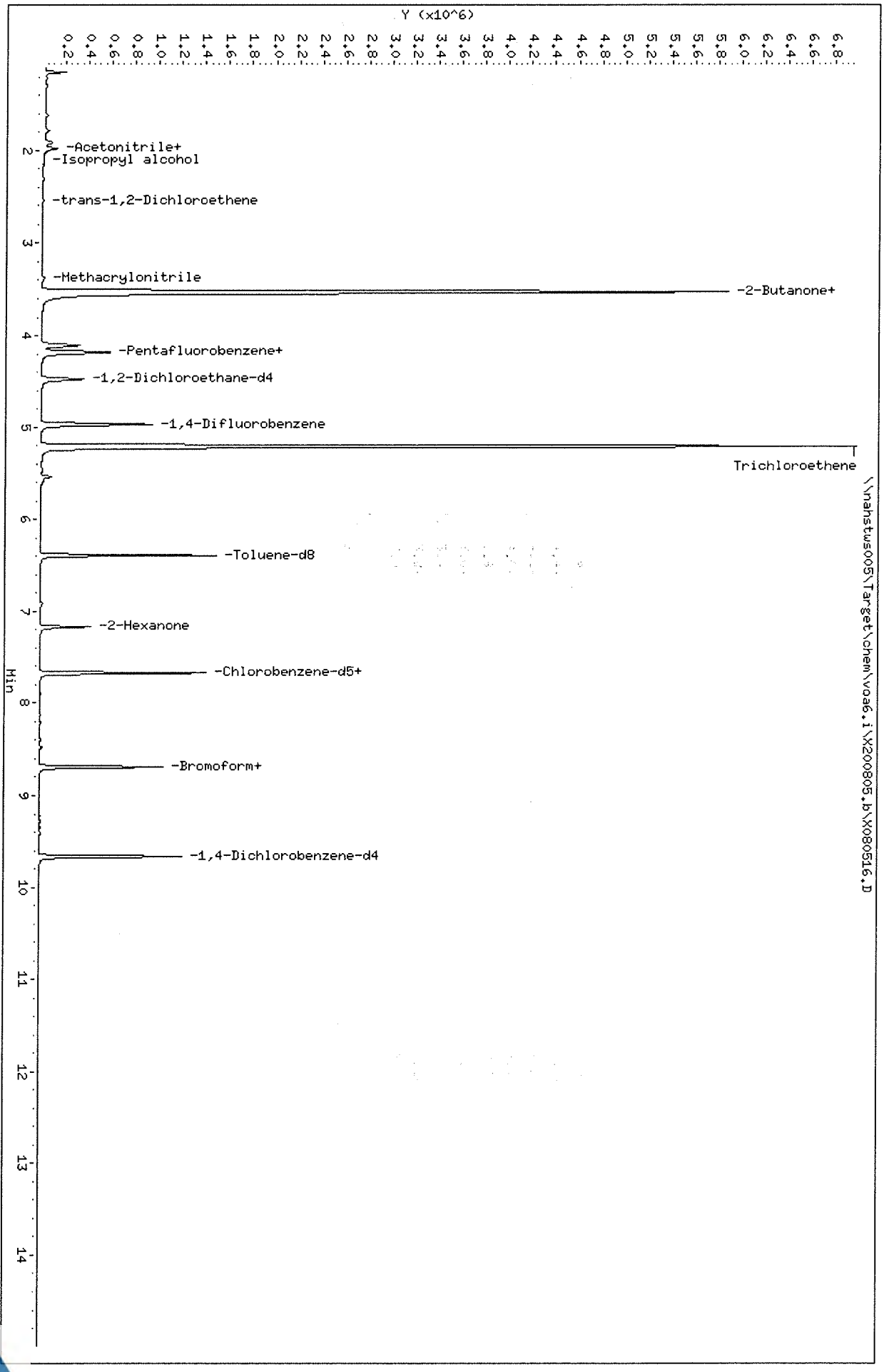
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

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	4.189	4.189	(1.000)	499741	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	751106	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	651472	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.662	(1.000)	299659	50.0000	
$ 30 Dibromofluoromethane	113	4.104	4.103	(0.979)	229610	46.7866	46.78
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	270568	46.5126	46.51
$ 48 Toluene-d8	98	6.389	6.388	(0.833)	824250	52.1617	52.16
$ 69 4-Bromofluorobenzene	95	8.695	8.688	(1.134)	301430	49.4483	49.44
11 1,1-Dichloroethene	96	1.919	1.919	(0.458)	8048	2.03252	50.81(a)
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.843)	2790053	507.204	12680.09(A)
38 Trichloroethene	130	5.207	5.207	(1.048)	2299713	432.024	10800.59(A)
5 Vinyl Chloride	62	1.145	1.145	(0.273)	117274	18.2308	455.76

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\X200805.b\X080516.D
Date : 05-AUG-2020 19:30
Client ID: HS20071328-16
Sample Info: HS20071328-16;HS20071328-16;;;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

Data File: \\nahstws005\Target\chem\voa6.i\X200805.b\X080516.D

Date : 05-AUG-2020 19:30

Client ID: HS20071328-16

Instrument: voa6.i

Sample Info: HS20071328-16;HS20071328-16;;;

Purge Volume: 5.0

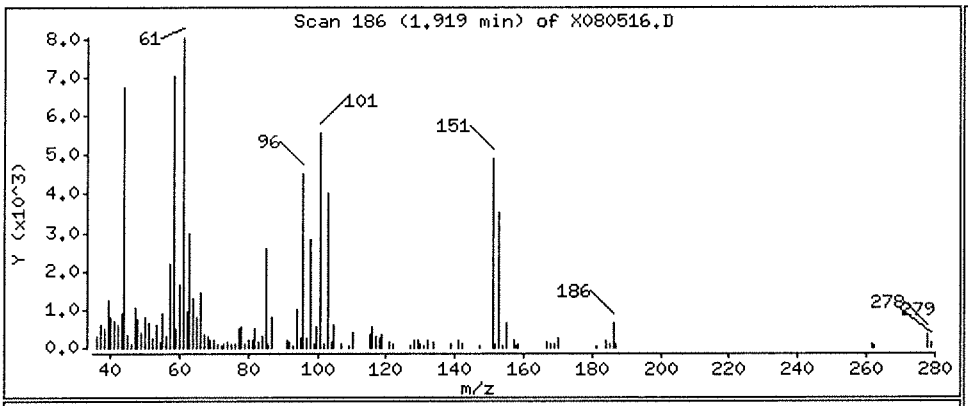
Operator: PC

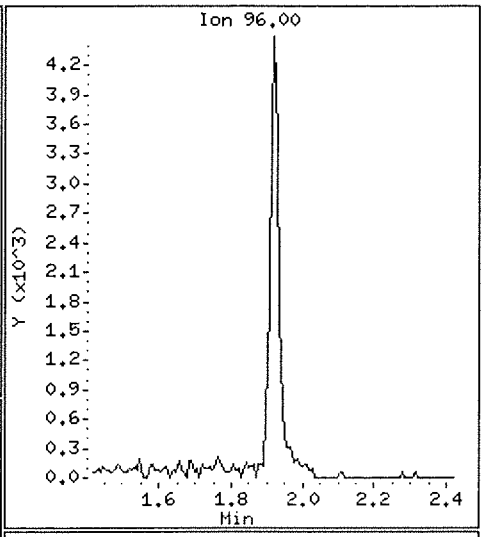
Column phase: DB624

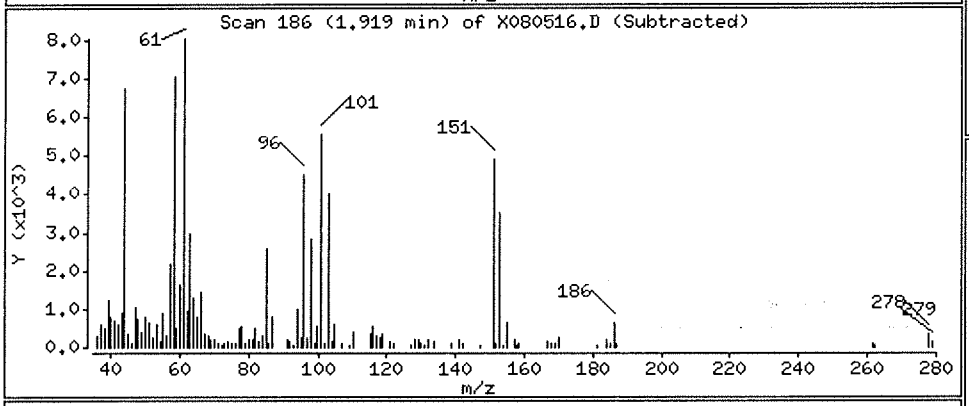
Column diameter: 0.18

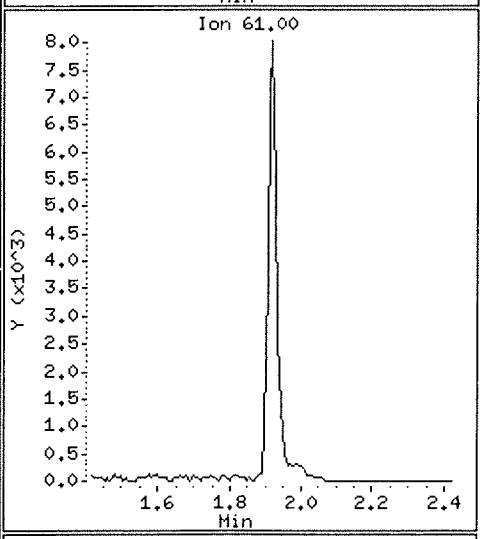
11 1,1-Dichloroethene

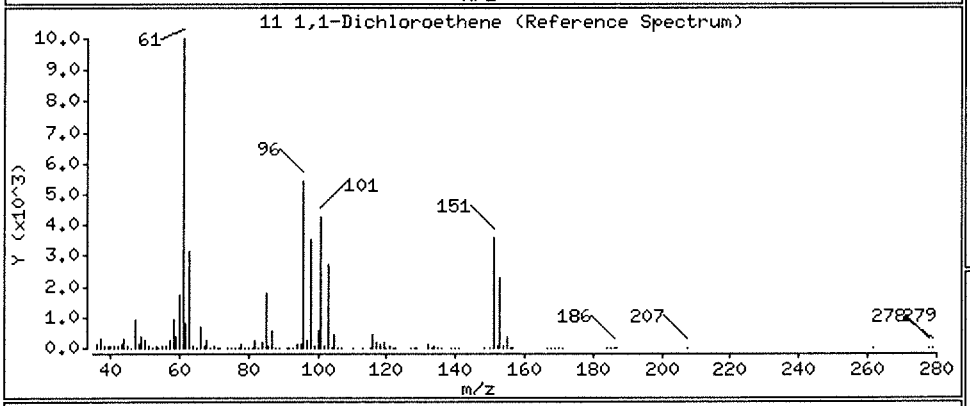
Concentration: 50.81 ug/l

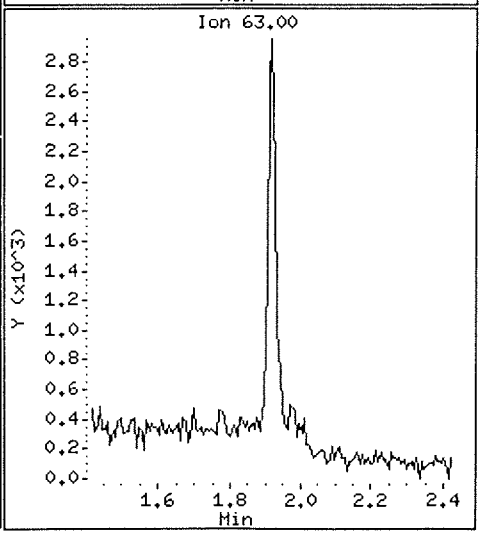


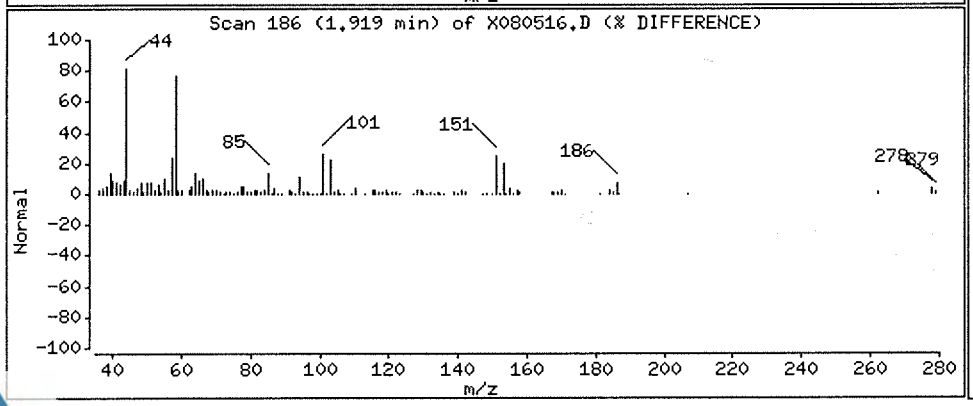












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Date : 05-AUG-2020 19:30

Client ID: HS20071328-16

Instrument: voa6.i

Sample Info: HS20071328-16;HS20071328-16;;;

Purge Volume: 5.0

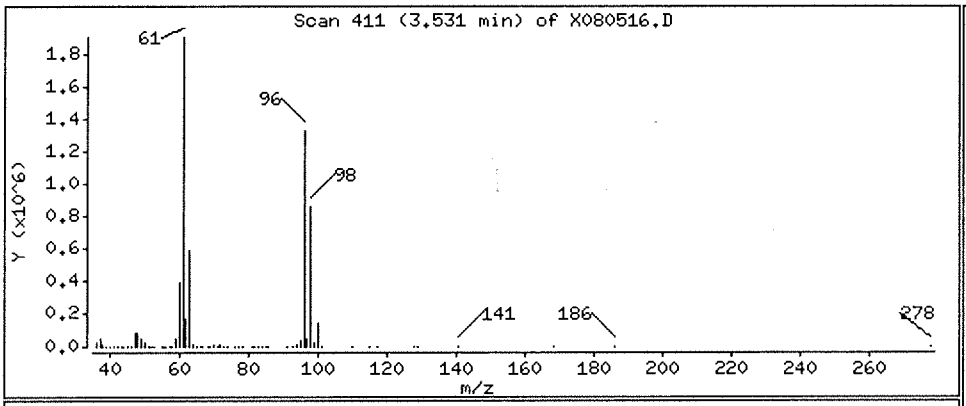
Operator: PC

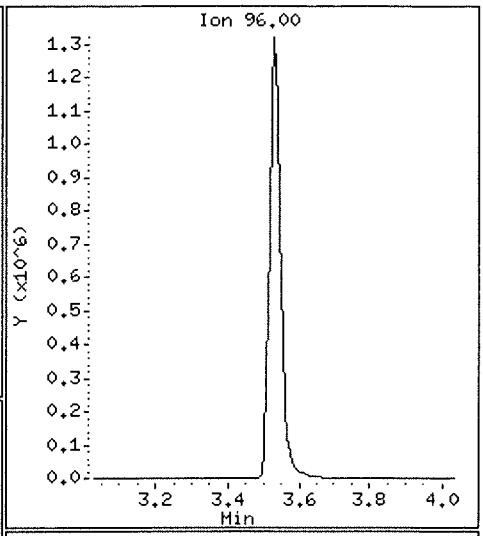
Column phase: DB624

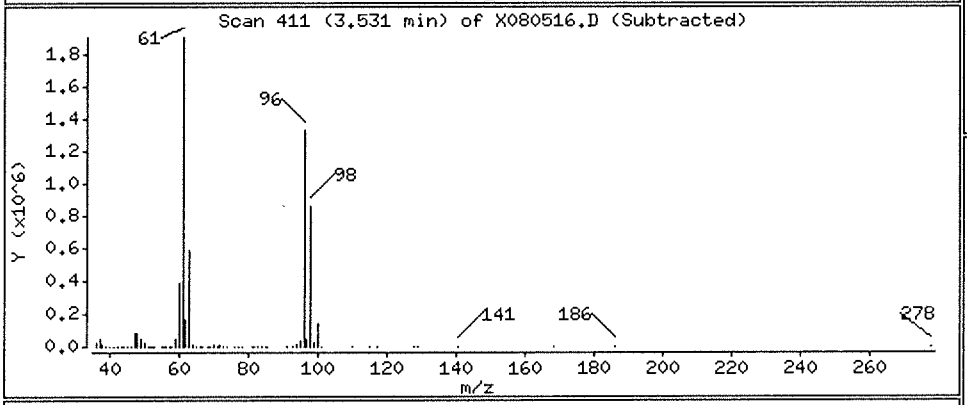
Column diameter: 0.18

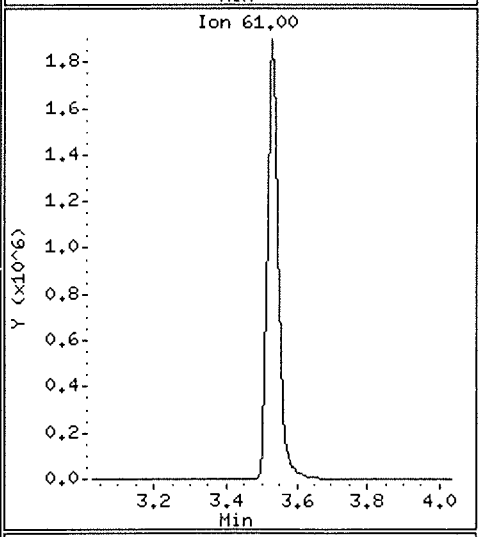
27 cis-1,2-Dichloroethene

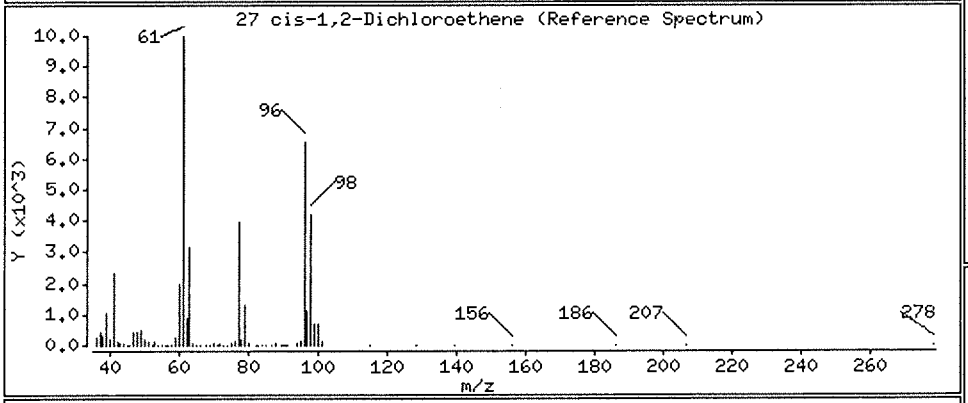
Concentration: 12680.09 ug/l

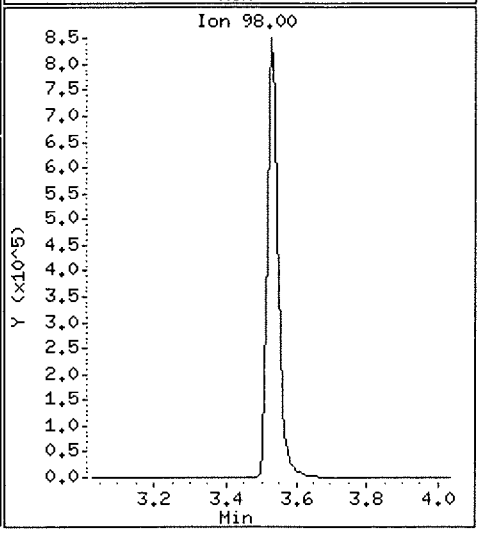


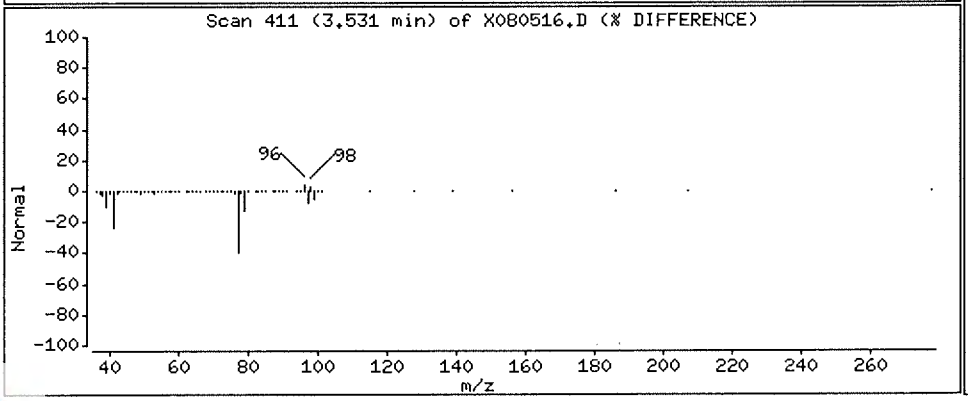












Data File: \\nahstws005\Target\chem\voa6.i\X200805.b\X080516.D Page 5

Date : 05-AUG-2020 19:30

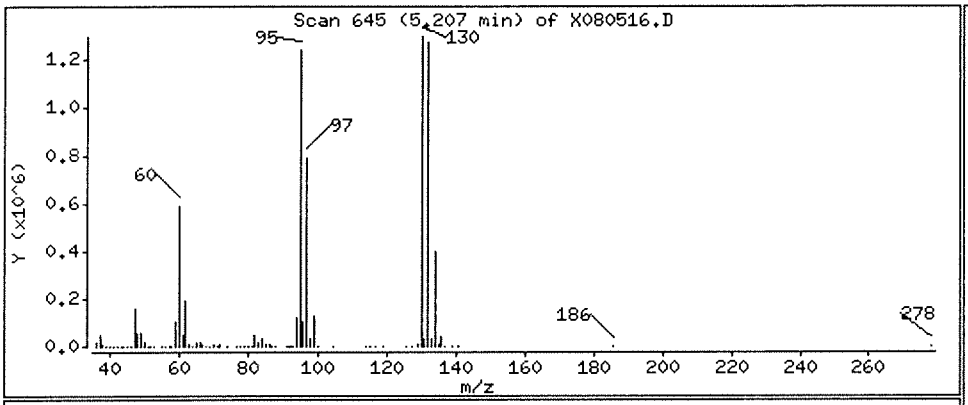
Client ID: HS20071328-16 Instrument: voa6.i

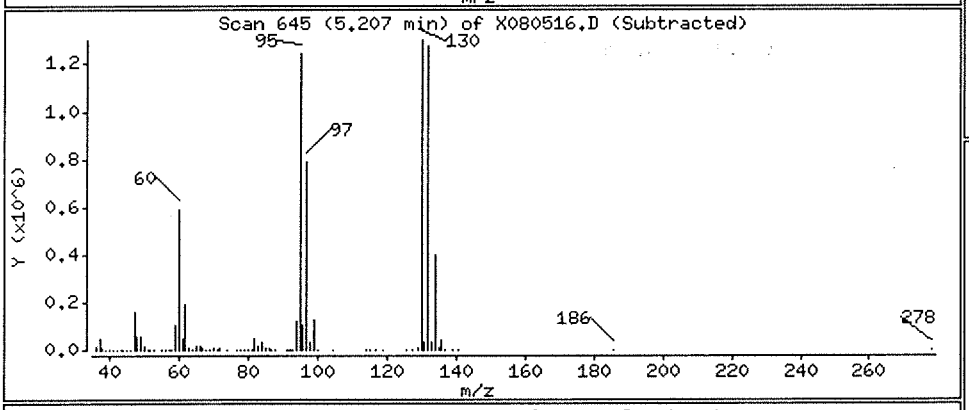
Sample Info: HS20071328-16;HS20071328-16;;;

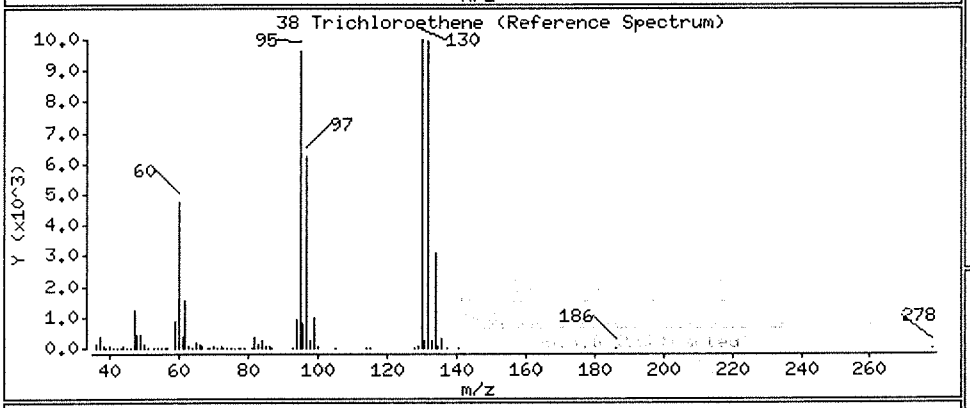
Purge Volume: 5.0 Operator: PC

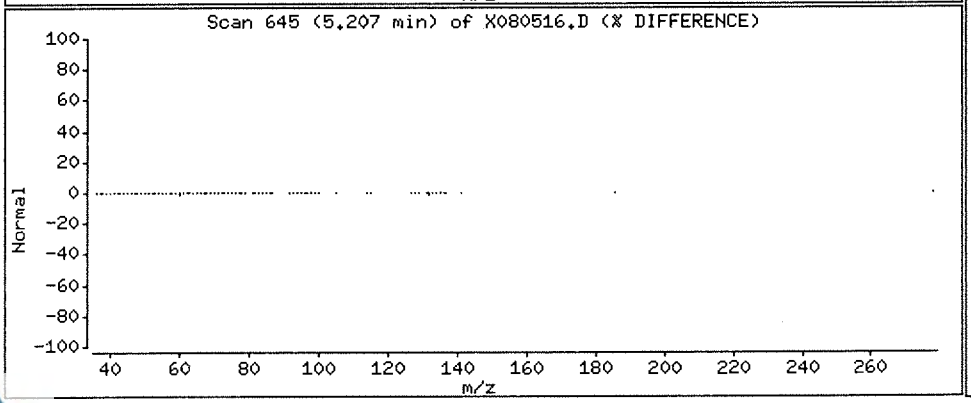
Column phase: DB624 Column diameter: 0.18

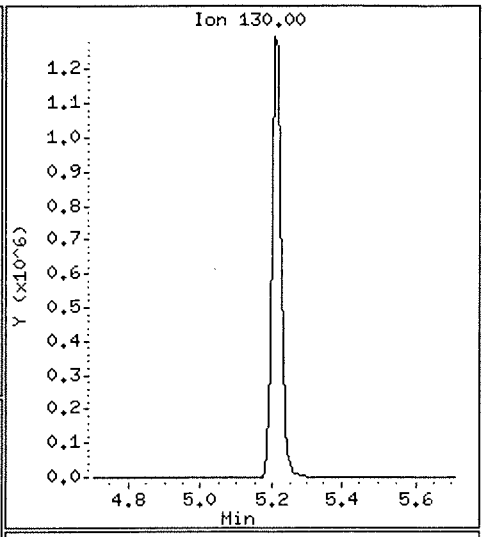
38 Trichloroethene Concentration: 10800.59 ug/l

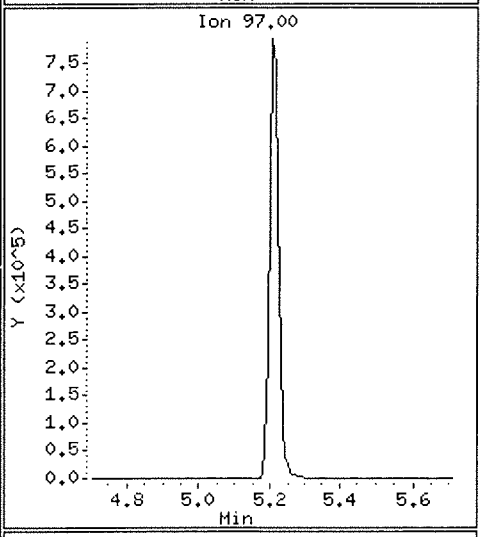


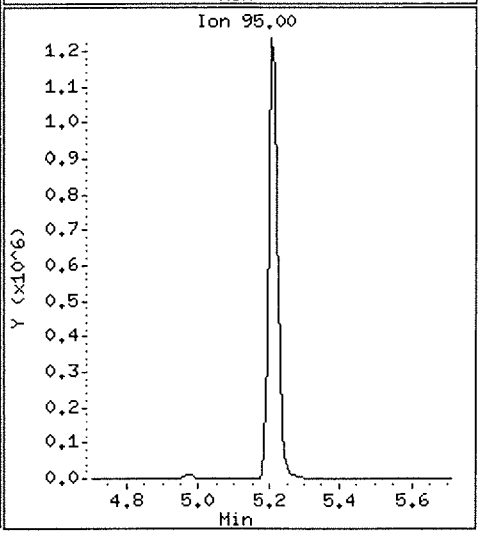












Data File: \\nahstws005\Target\chem\voa6.i\X200805.b\X080516.D

Date : 05-AUG-2020 19:30

Client ID: HS20071328-16

Instrument: voa6.i

Sample Info: HS20071328-16;HS20071328-16;;;

Purge Volume: 5.0

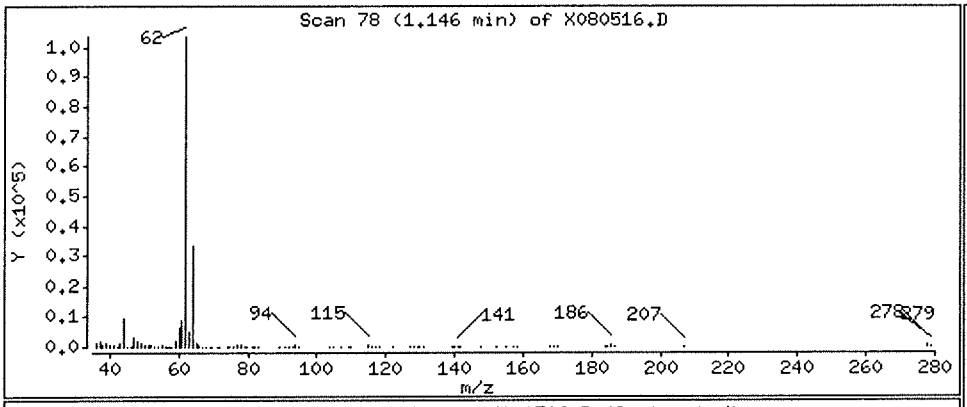
Operator: PC

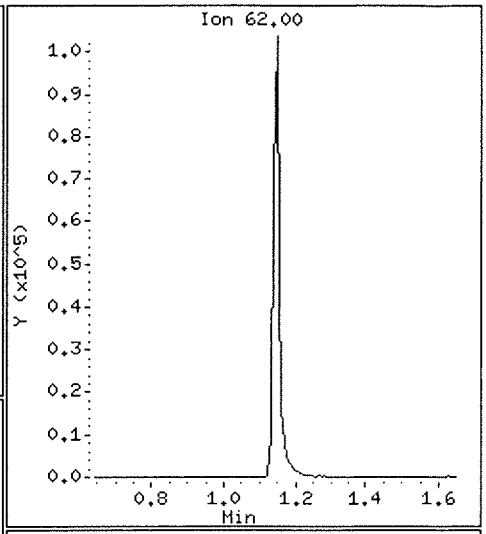
Column phase: DB624

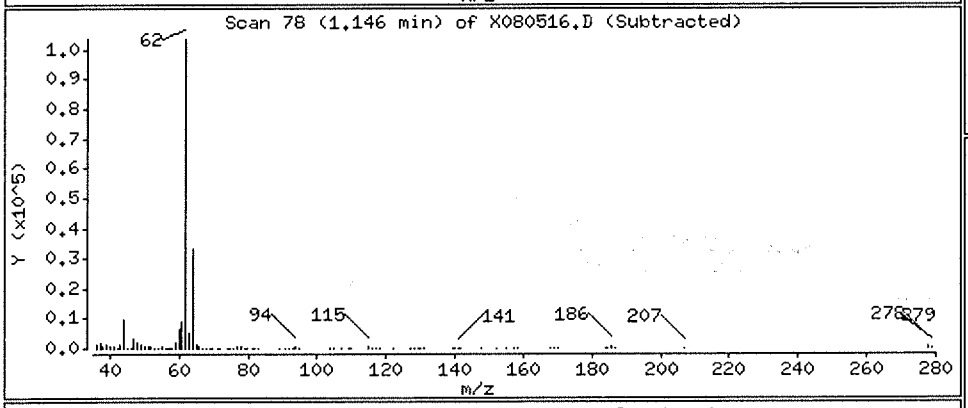
Column diameter: 0.18

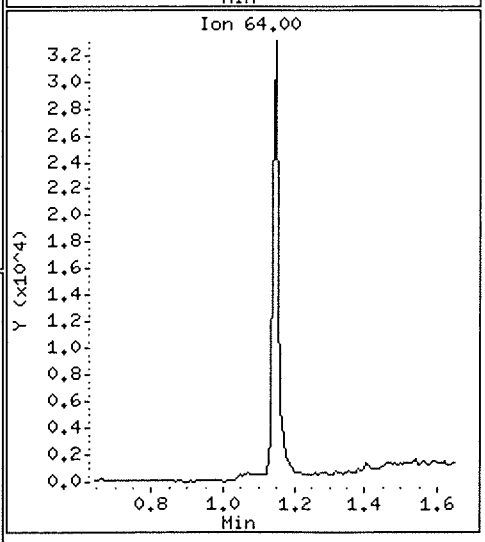
5 Vinyl Chloride

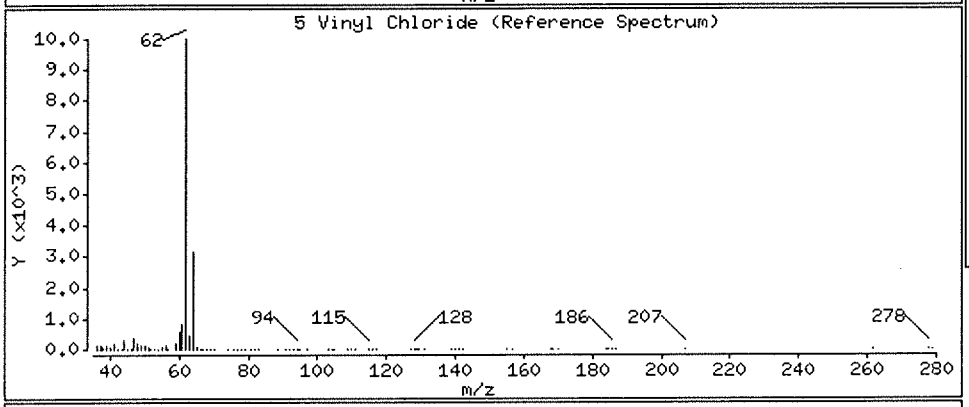
Concentration: 455.76 ug/l

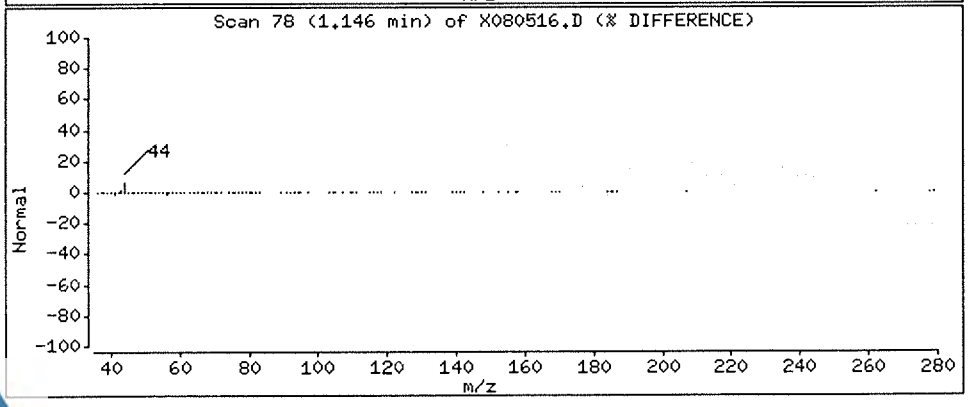












Data File: \\nahstws005\Target\chem\voa6.i\X200805.b\X080519.D Page 1
Report Date: 26-Aug-2020 09:39

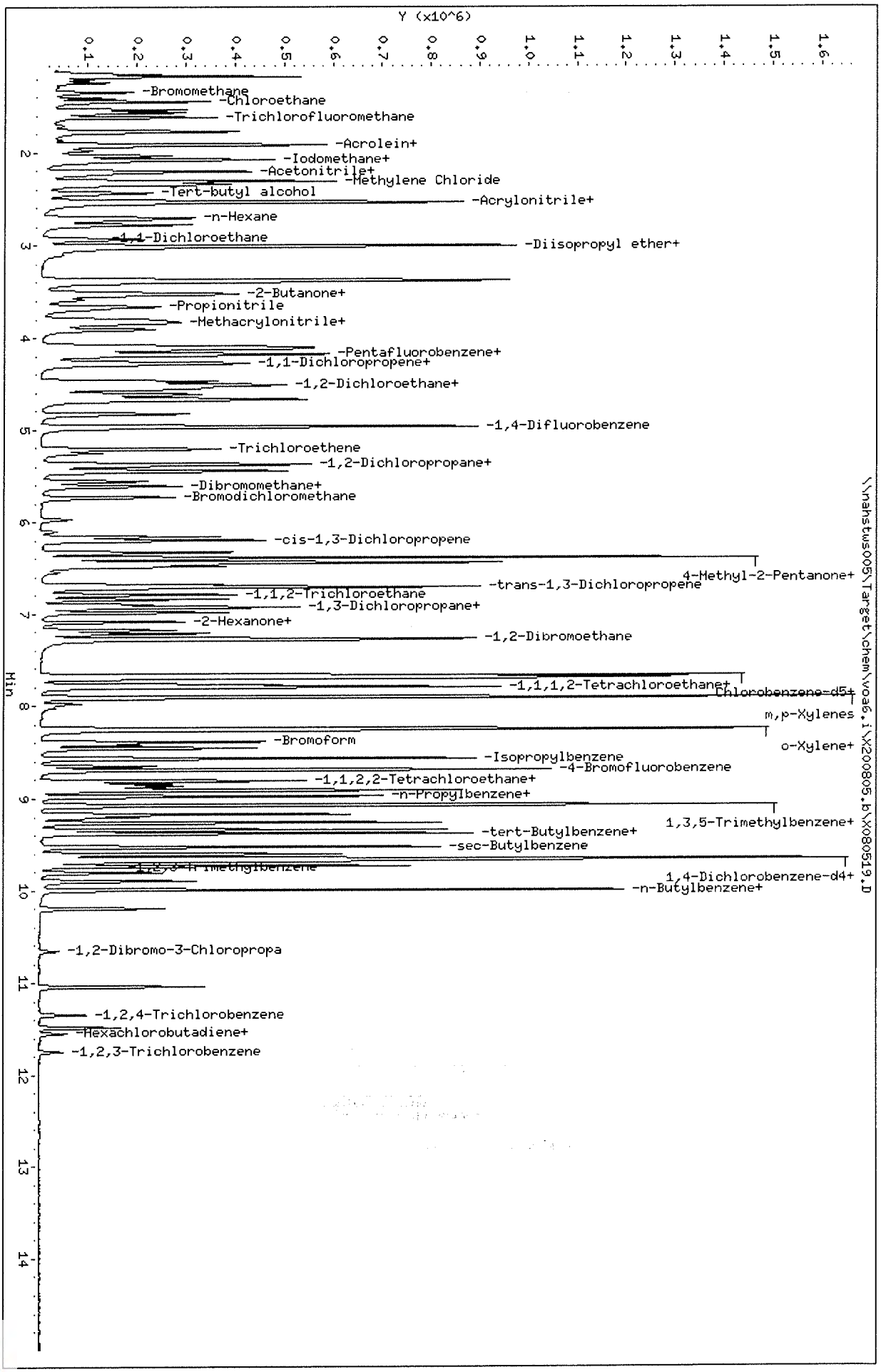
ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X200805.b\X080519.D
Lab Smp Id: HS20071328-19MS Client Smp ID: HS20071328-19MS
Inj Date : 05-AUG-2020 20:42
Operator : PC Inst ID: voa6.i
Smp Info : HS20071328-19MS;HS20071328-19MS;3;;MS
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200805.b\8260W.m
Meth Date : 26-Aug-2020 09:39 voa6.i Quant Type: ISTD
Cal Date : 03-AUG-2020 14:28 Cal File: X080308.D
Als bottle: 18 QC Sample: MS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI-Hou11.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	482352	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	714556	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	636933	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	284814	50.0000	
$ 30 Dibromofluoromethane	113	4.104	4.103	(0.979)	223642	47.2134	47.21
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	260479	46.3925	46.39
$ 48 Toluene-d8	98	6.389	6.388	(0.833)	802455	51.9416	51.94
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	292057	49.0043	49.00
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	83373	23.0045	23.00
11 1,1-Dichloroethene	96	1.919	1.919	(0.458)	98020	25.6474	25.64
33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	161826	23.3906	23.39
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.843)	124545	23.4573	23.45
17 Methylene Chloride	84	2.306	2.306	(0.550)	115780	22.5508	22.55
38 Trichloroethene	130	5.214	5.214	(1.049)	124937	24.6712	24.67
5 Vinyl Chloride	62	1.145	1.145	(0.273)	153087	24.6560	24.65



Data File: \\nahstws005\Target\chem\voa6.i\X200805.b\X080519.D
Date : 05-AUG-2020 20:42
Client ID: HS20071328-19MS
Sample Info: HS20071328-19MS;HS20071328-19MS;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\X200805.b\X080520.D
Report Date: 26-Aug-2020 09:39

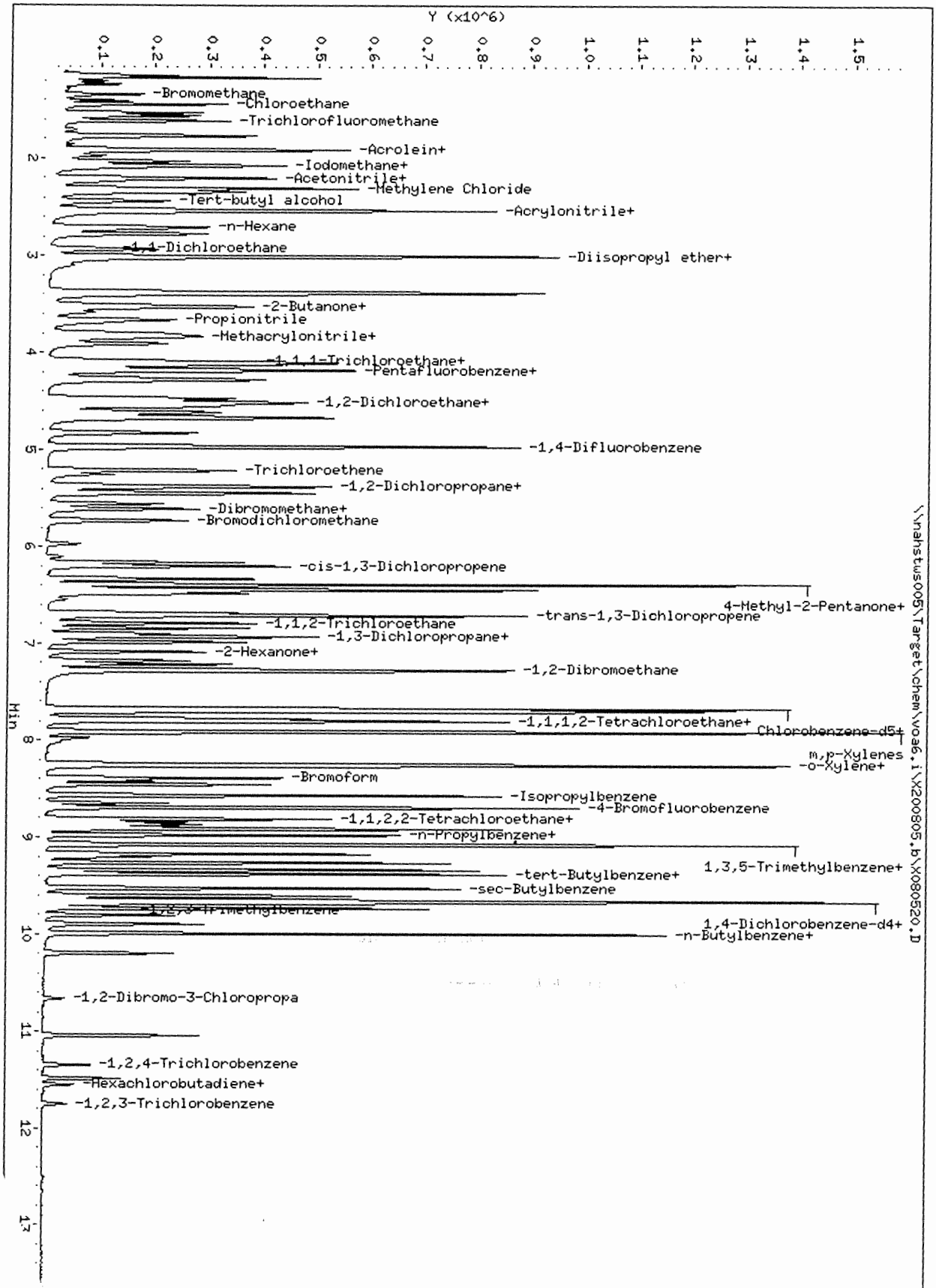
ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X200805.b\X080520.D
Lab Smp Id: HS20071328-19MSD Client Smp ID: HS20071328-19MSD
Inj Date : 05-AUG-2020 21:06
Operator : PC Inst ID: voa6.i
Smp Info : HS20071328-19MSD;HS20071328-19MSD;3;;MSD
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200805.b\8260W.m
Meth Date : 26-Aug-2020 09:39 voa6.i Quant Type: ISTD
Cal Date : 03-AUG-2020 14:28 Cal File: X080308.D
Als bottle: 18 QC Sample: MSD
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI-Houl1.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	473438	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	698679	50.0000	
* 47 Chlorobenzene-d5	117	7.670	7.671	(1.000)	609144	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	263353	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.979)	219024	47.1090	47.10
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	253072	45.9219	45.92
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	784799	53.1162	53.11
$ 69 4-Bromofluorobenzene	95	8.695	8.688	(1.134)	273957	48.0643	48.06
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	81301	23.4561	23.45
11 1,1-Dichloroethene	96	1.919	1.919	(0.458)	94033	25.0674	25.06
33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	161123	23.8183	23.81
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.843)	118925	22.8205	22.82
17 Methylene Chloride	84	2.305	2.306	(0.550)	112137	22.2343	22.23
38 Trichloroethene	130	5.214	5.214	(1.049)	120606	24.3572	24.35
5 Vinyl Chloride	62	1.145	1.145	(0.273)	144203	23.6624	23.66



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Date : 05-AUG-2020 21:06
Client ID: HS20071328-19HSD
Sample Info: HS20071328-19HSD;HS20071328-19HSD;3;;HSD
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

Data File: \\nahstws005\Target\chem\voa6.i\X200805.b\X080521.D Page 1
Report Date: 26-Aug-2020 09:36

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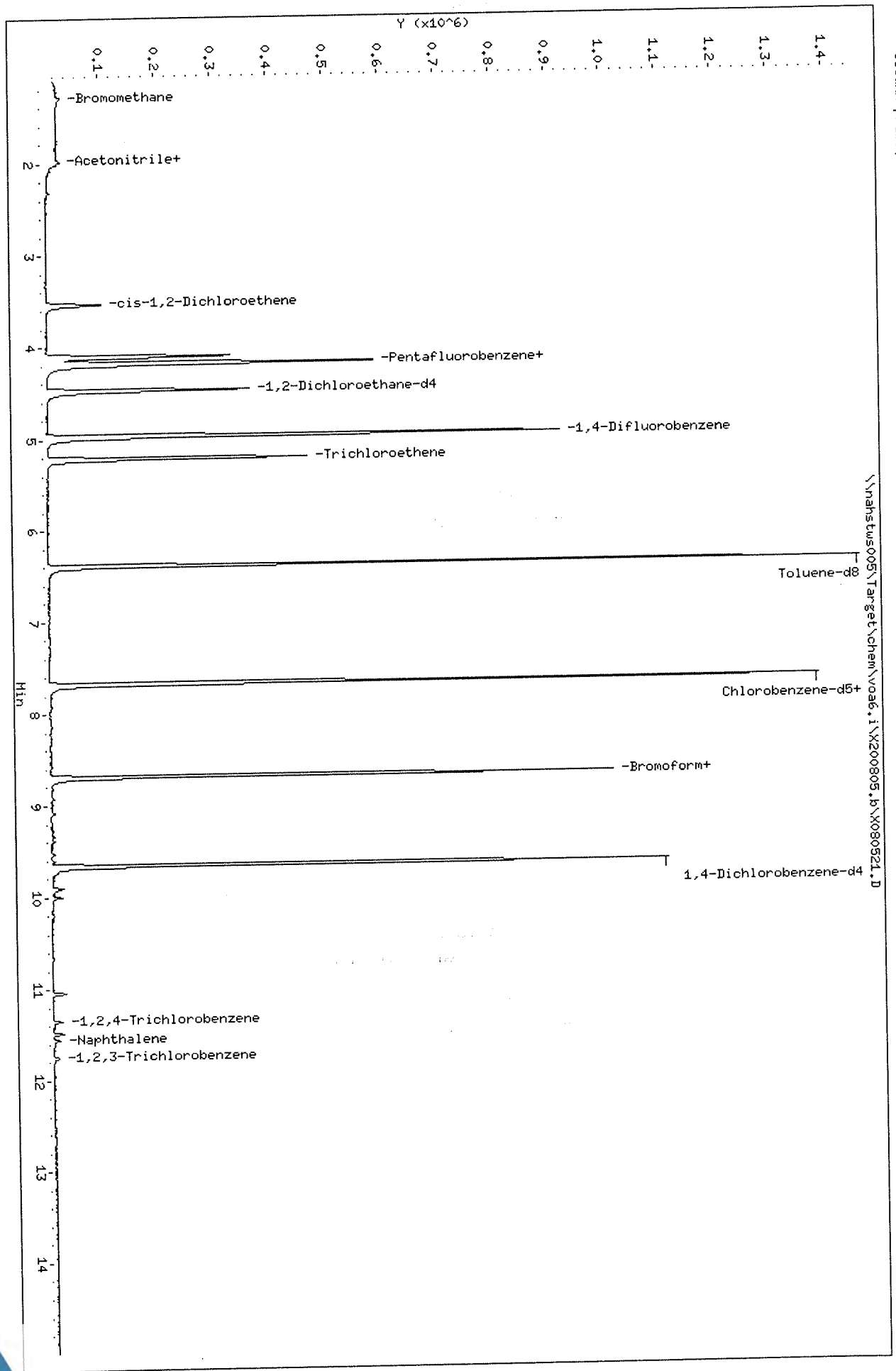
Data file : \\nahstws005\Target\chem\voa6.i\X200805.b\X080521.D
Lab Smp Id: HS20071328-14 Client Smp ID: HS20071328-14
Inj Date : 05-AUG-2020 21:30
Operator : PC Inst ID: voa6.i
Smp Info : HS20071328-14;HS20071328-14;;;
Misc Info : HS18090001;WATER;0;500;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200805.b\8260W.m
Meth Date : 26-Aug-2020 09:33 dev.giga Quant Type: ISTD
Cal Date : 03-AUG-2020 14:28 Cal File: X080308.D
Als bottle: 19
Dil Factor: 500.00000
Integrator: HP RTE Compound Sublist: CBI-Hou11.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	500.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	500486	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	738282	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	632336	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.662	(1.000)	274350	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.979)	230034	46.8032	46.80
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	266896	45.8131	45.81
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	816494	53.2346	53.23
$ 69 4-Bromofluorobenzene	95	8.695	8.688	(1.134)	287965	48.6690	48.66
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.843)	49751	9.03077	4515.38
38 Trichloroethene	130	5.214	5.207	(1.049)	159314	30.4486	15224.28



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Date : 05-AUG-2020 21:30
Client ID: HS20071328-14
Sample Info: HS20071328-14;HS20071328-14;;;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

Data File: \\nahstws005\Target\chem\voa6.i\X200805.b\X080521.D

Date : 05-AUG-2020 21:30

Client ID: HS20071328-14

Instrument: voa6.i

Sample Info: HS20071328-14;HS20071328-14;;;

Purge Volume: 5.0

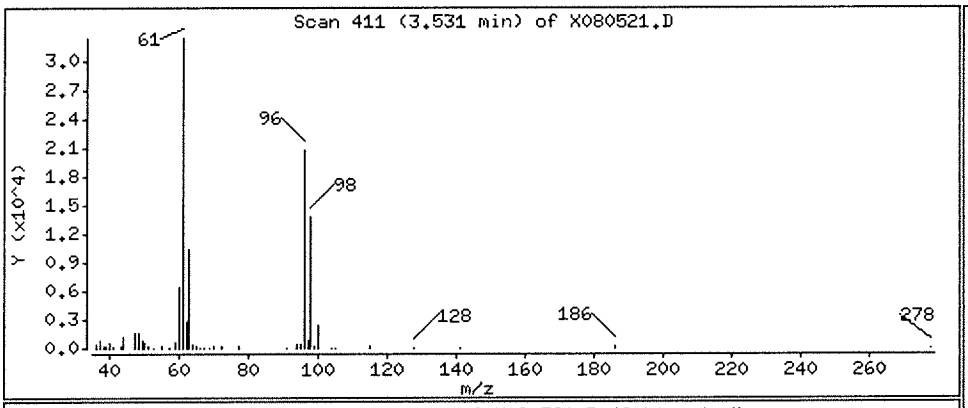
Operator: PC

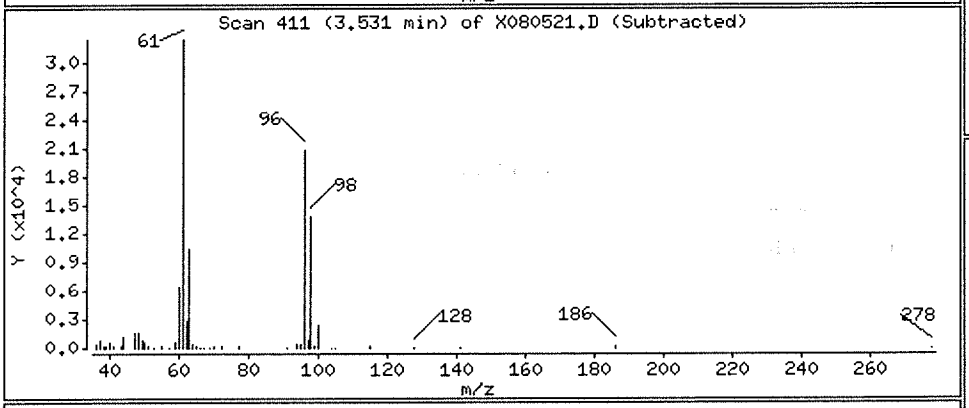
Column phase: DB624

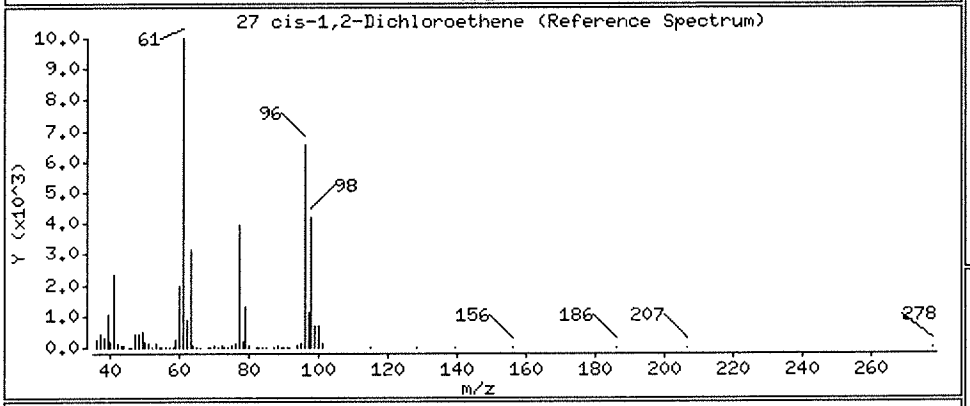
Column diameter: 0.18

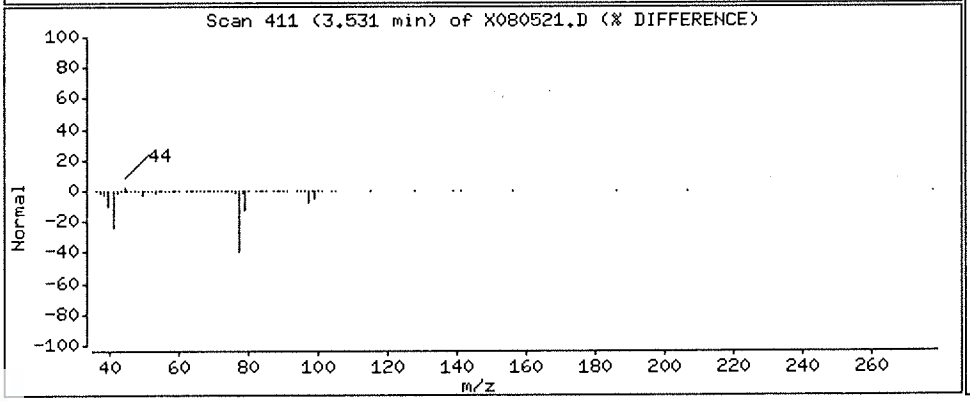
27 cis-1,2-Dichloroethene

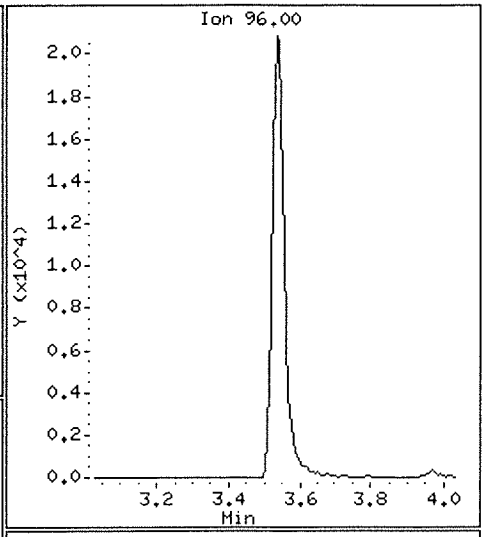
Concentration: 4515.38 ug/l

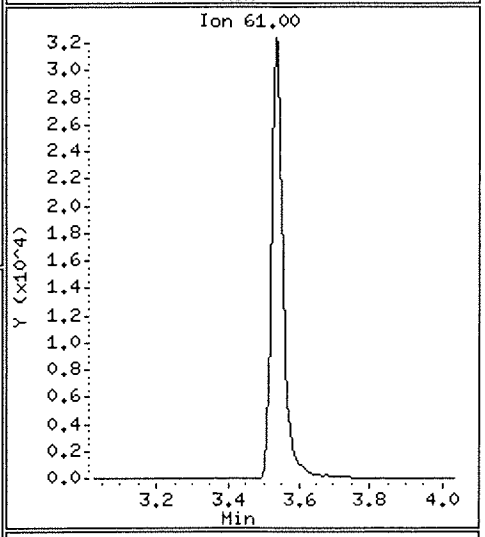


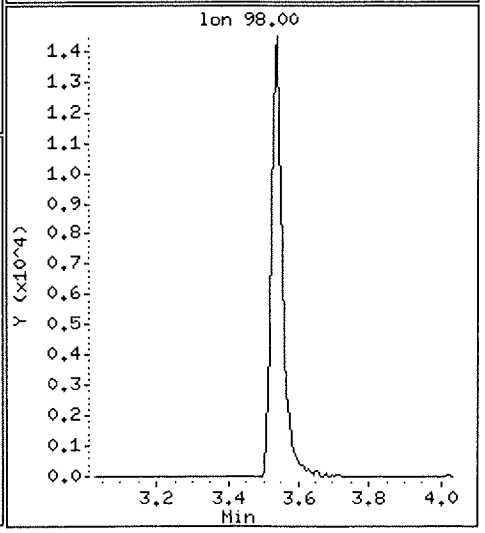












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Date : 05-AUG-2020 21:30

Client ID: HS20071328-14

Instrument: voa6.i

Sample Info: HS20071328-14;HS20071328-14;;;

Purge Volume: 5.0

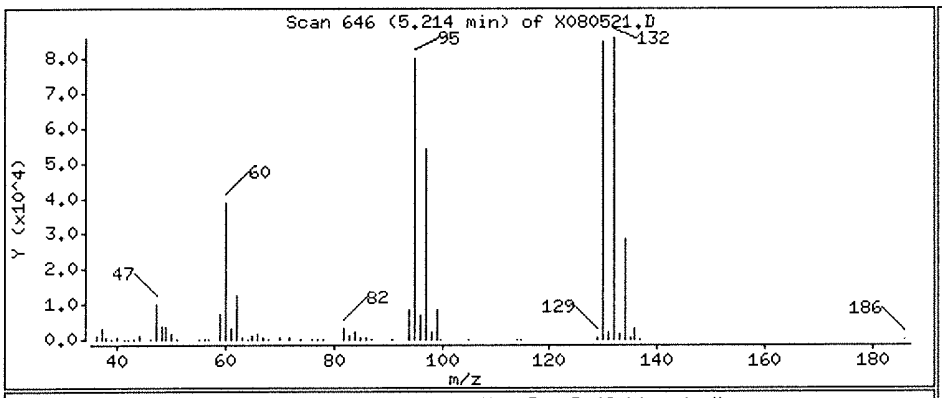
Operator: PC

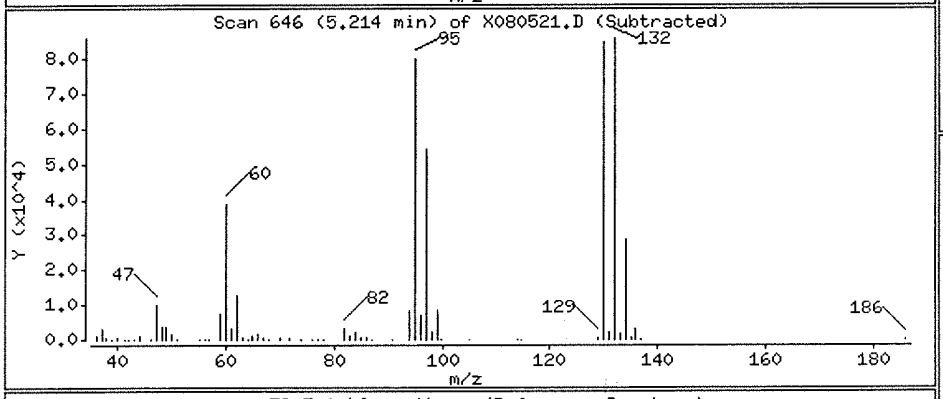
Column phase: DB624

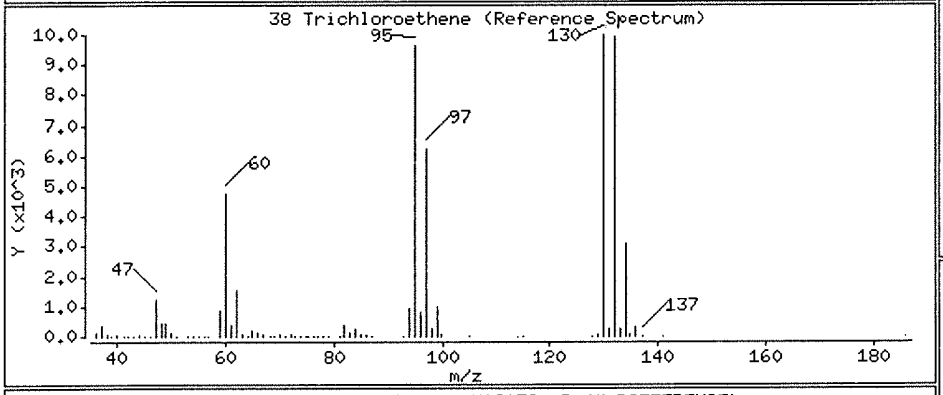
Column diameter: 0.18

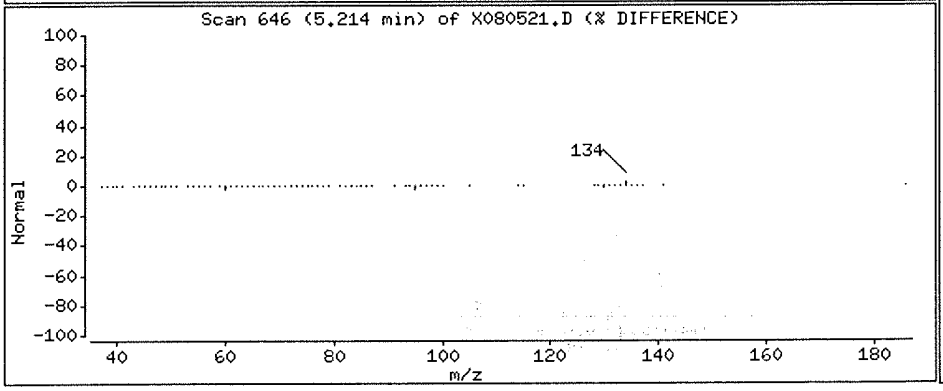
38 Trichloroethene

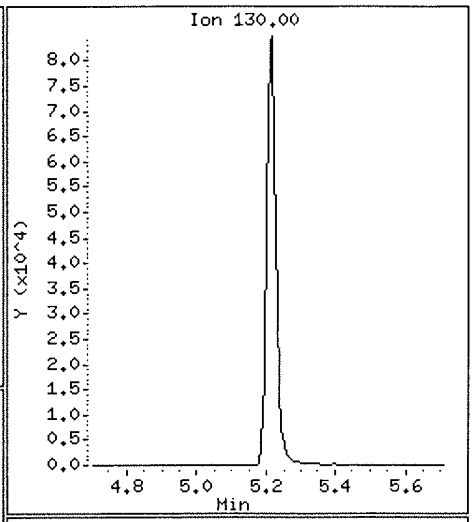
Concentration: 15224.28 ug/l

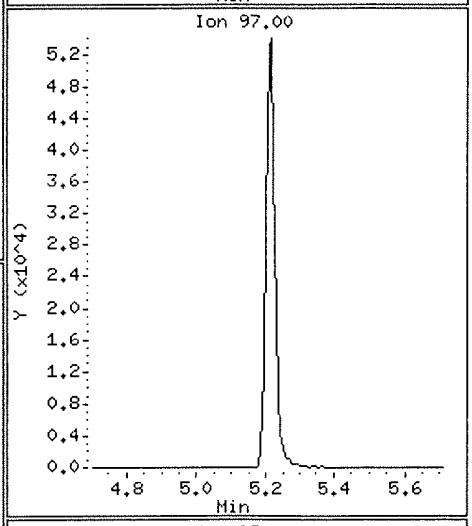


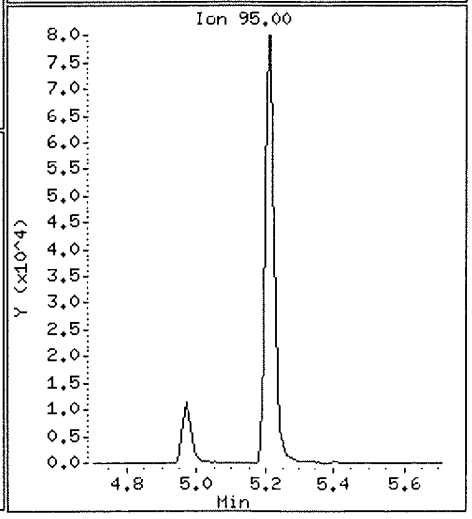












Data File: \\nahstws005\Target\chem\voa6.i\X200805.b\X080522.D Page 1
Report Date: 26-Aug-2020 09:36

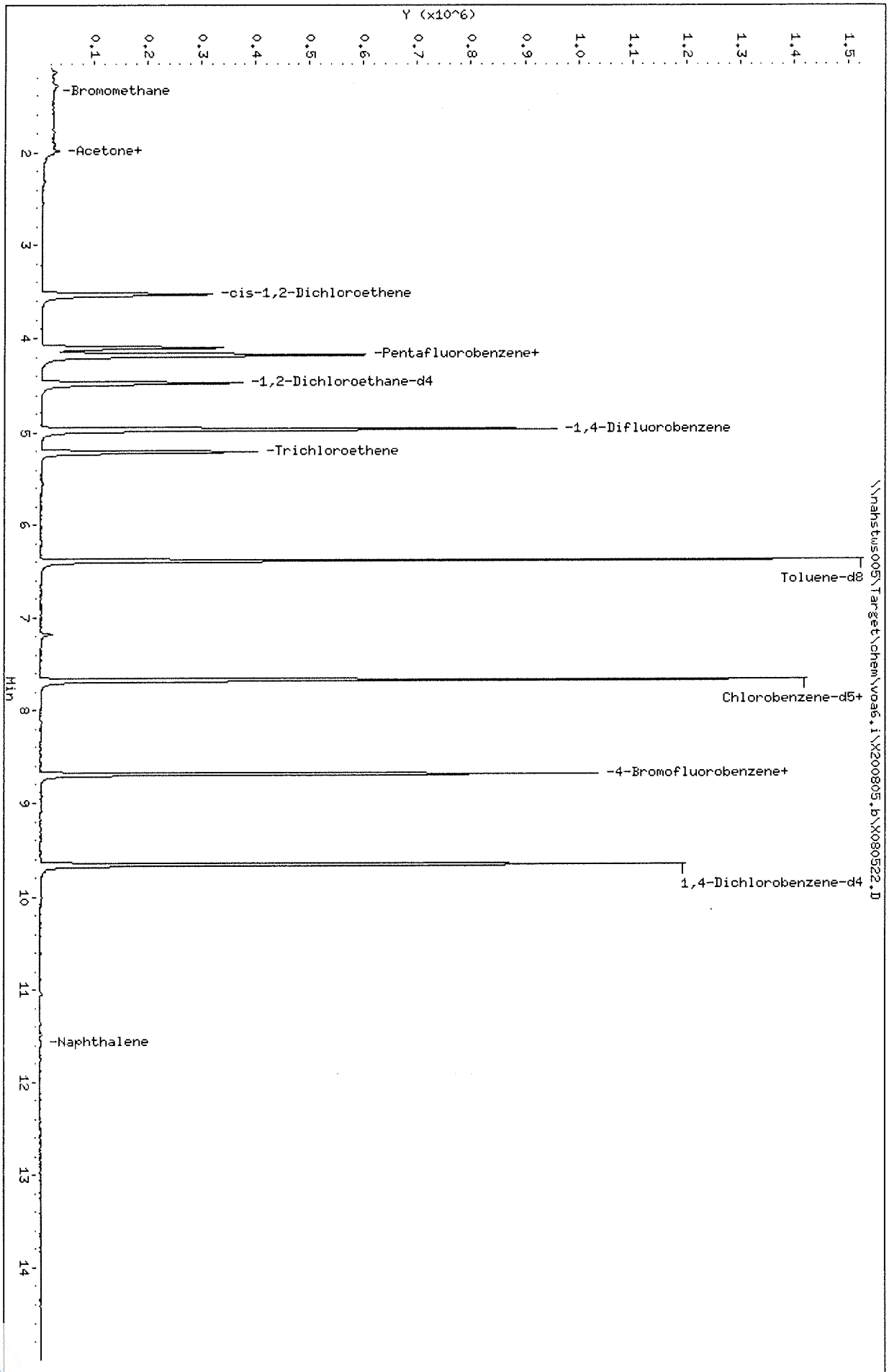
ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X200805.b\X080522.D
Lab Smp Id: HS20071328-16 Client Smp ID: HS20071328-16
Inj Date : 05-AUG-2020 21:54
Operator : PC Inst ID: voa6.i
Smp Info : HS20071328-16;HS20071328-16;;;
Misc Info : HS18090001;WATER;0;500;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200805.b\8260W.m
Meth Date : 26-Aug-2020 09:33 dev.giga Quant Type: ISTD
Cal Date : 03-AUG-2020 14:28 Cal File: X080308.D
Als bottle: 20
Dil Factor: 500.00000
Integrator: HP RTE Compound Sublist: CBI-Hou11.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	500.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	510720	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	757341	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	662066	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.662	(1.000)	290493	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.979)	236666	47.1877	47.18
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	272725	45.8756	45.87
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	852386	53.0791	53.07
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	299718	48.3807	48.38
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.843)	156890	27.9079	13953.95
38 Trichloroethene	130	5.214	5.207	(1.049)	136277	25.3902	12695.10
5 Vinyl Chloride	62	1.145	1.145	(0.273)	6691	1.01779	508.89



Data File: \\nahstws005\Target\chem\voa6.i\X200805.b\X080522.D
Date : 05-AUG-2020 21:54
Client ID: HS20071328-16
Sample Info: HS20071328-16;HS20071328-16;;;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

Data File: \\nahstws005\Target\chem\voa6.i\X200805.b\X080522.D

Date : 05-AUG-2020 21:54

Client ID: HS20071328-16

Instrument: voa6.i

Sample Info: HS20071328-16;HS20071328-16;;;

Purge Volume: 5.0

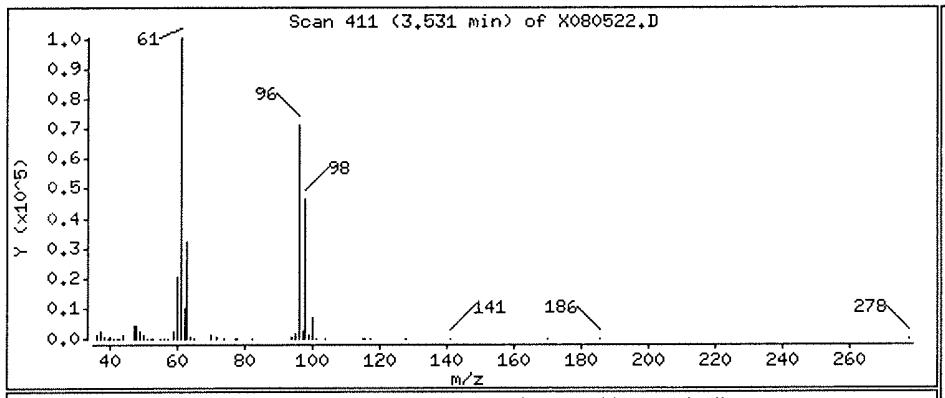
Operator: PC

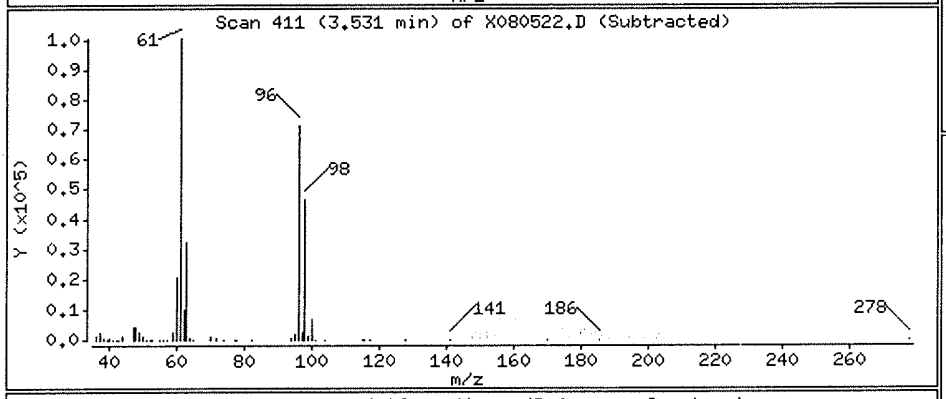
Column phase: DB624

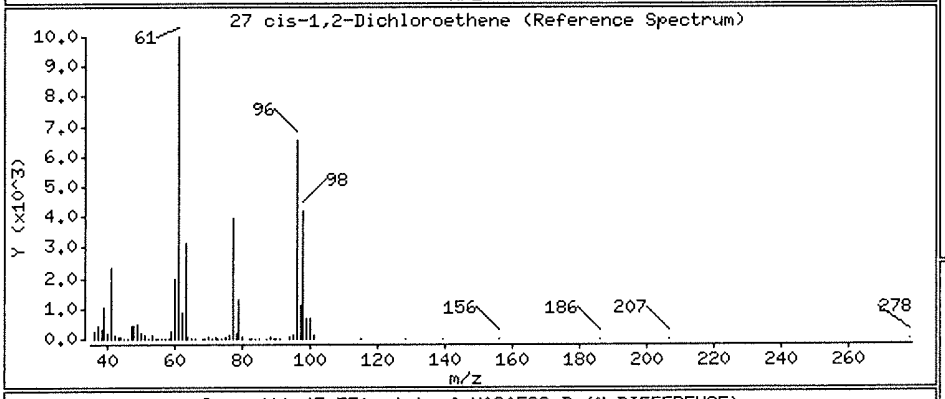
Column diameter: 0.18

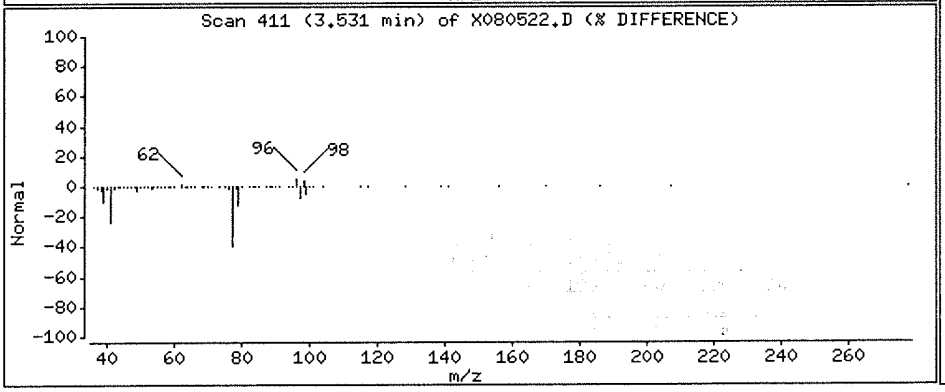
27 cis-1,2-Dichloroethene

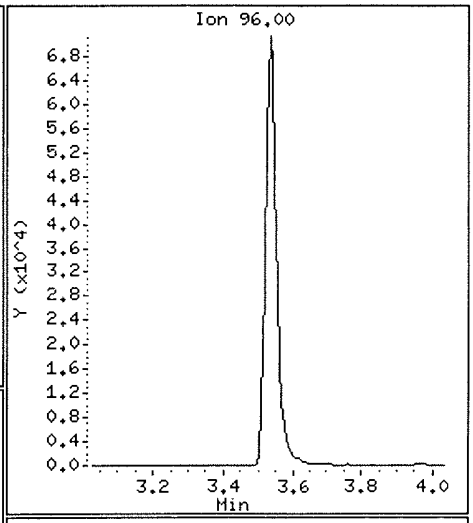
Concentration: 13953.95 ug/l

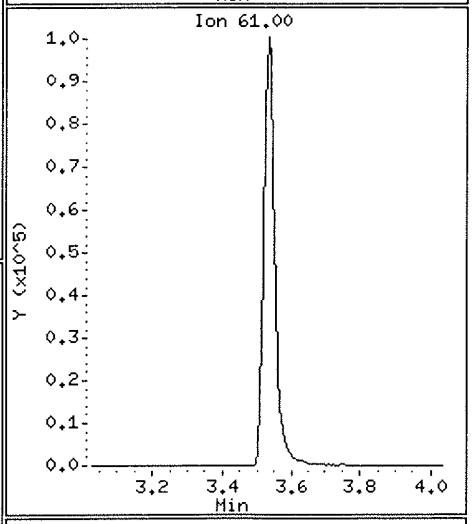


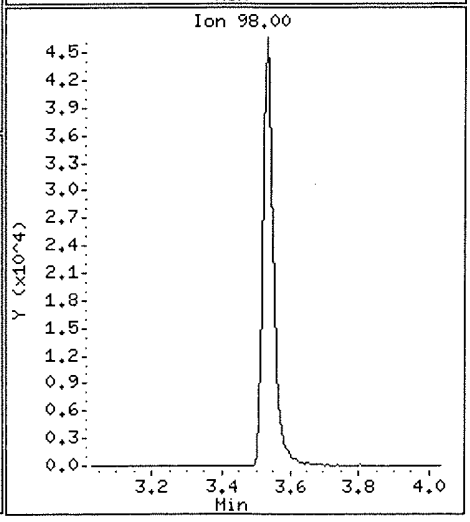












Data File: \\nahstws005\Target\chem\voa6.i\X200805.b\X080522.D

Date : 05-AUG-2020 21:54

Client ID: HS20071328-16

Instrument: voa6.i

Sample Info: HS20071328-16;HS20071328-16;;;

Purge Volume: 5.0

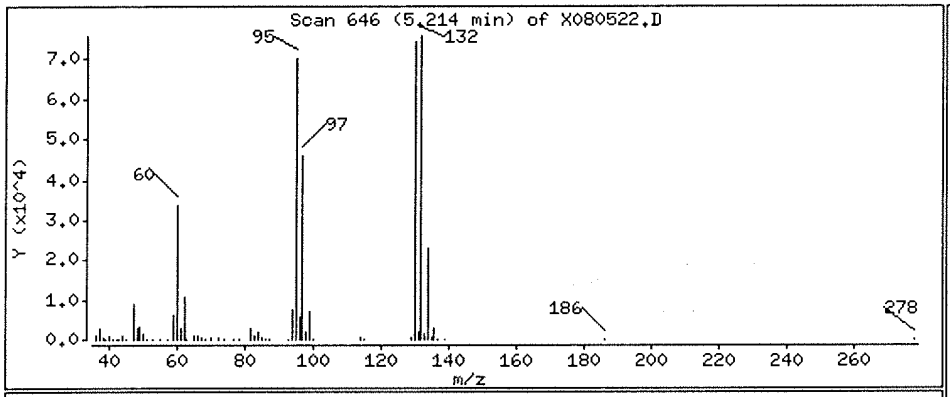
Operator: PC

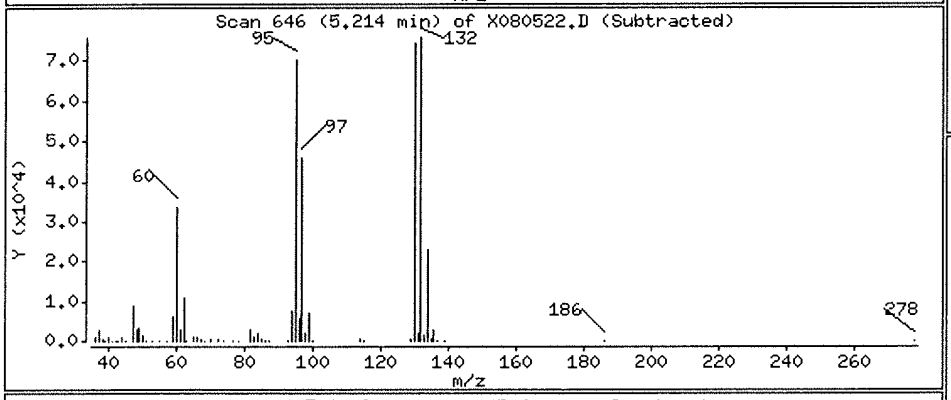
Column phase: DB624

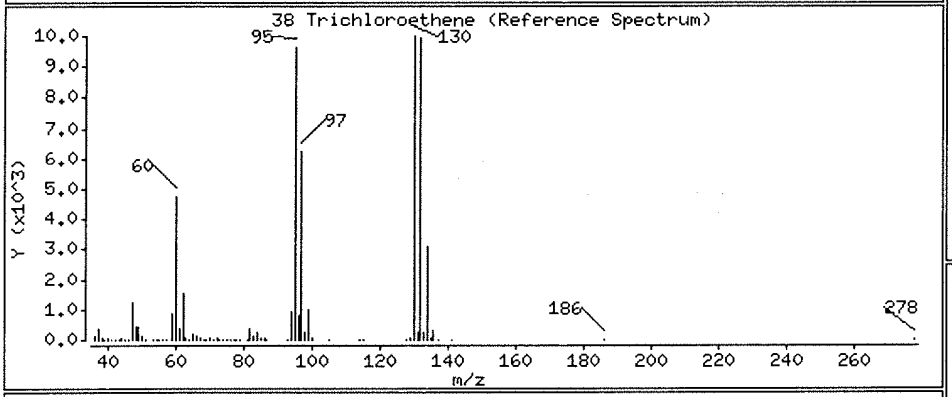
Column diameter: 0.18

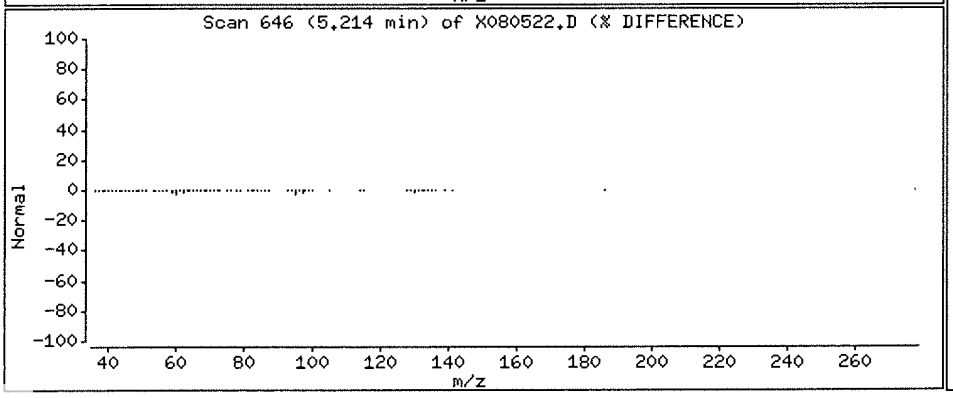
38 Trichloroethene

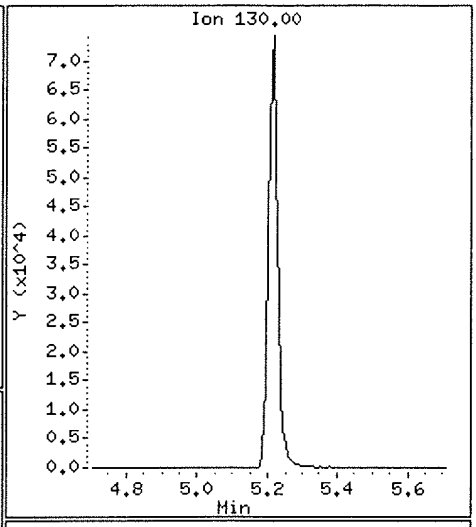
Concentration: 12695.10 ug/l

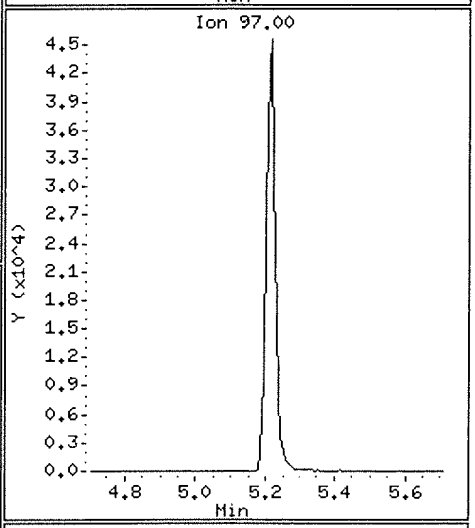


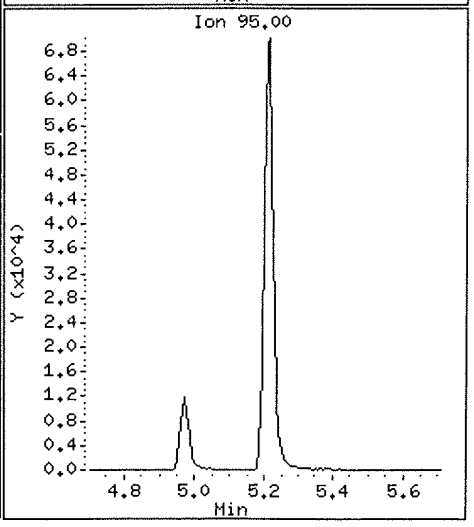












Data File: \\nahstws005\Target\chem\voa6.i\X200805.b\X080522.D

Date : 05-AUG-2020 21:54

Client ID: HS20071328-16

Instrument: voa6.i

Sample Info: HS20071328-16;HS20071328-16;;;

Purge Volume: 5.0

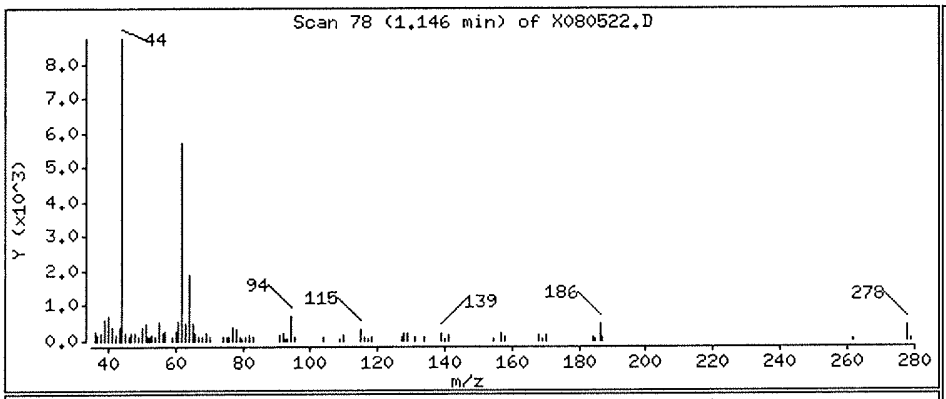
Operator: PC

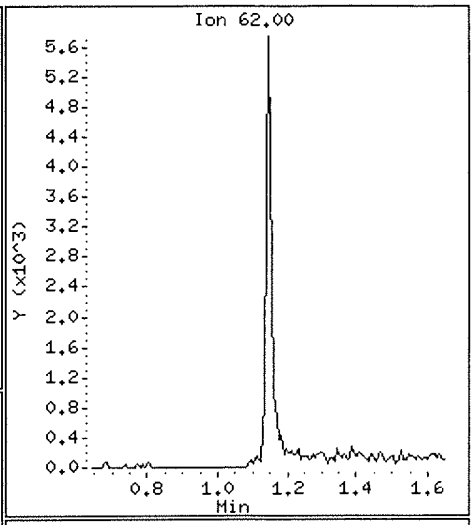
Column phase: DB624

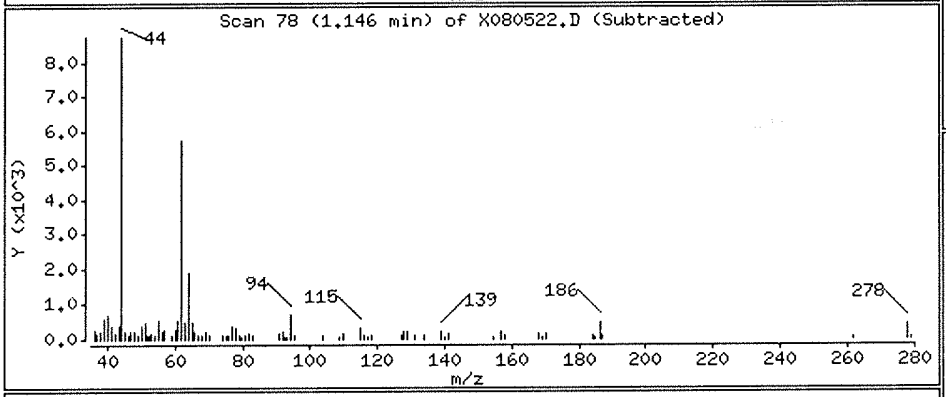
Column diameter: 0.18

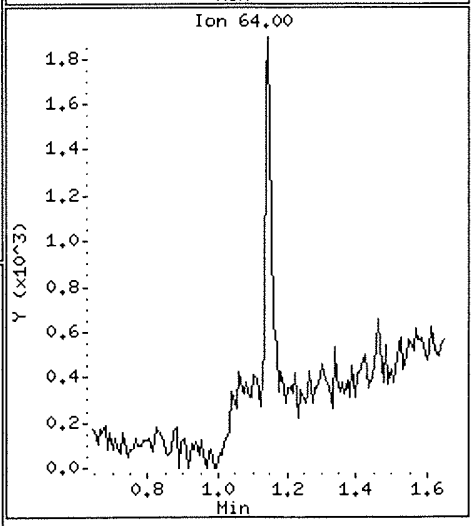
5 Vinyl Chloride

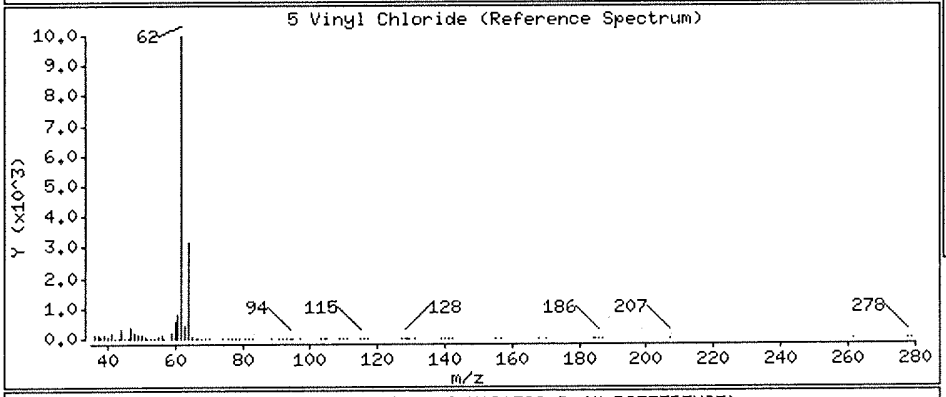
Concentration: 508.89 ug/l

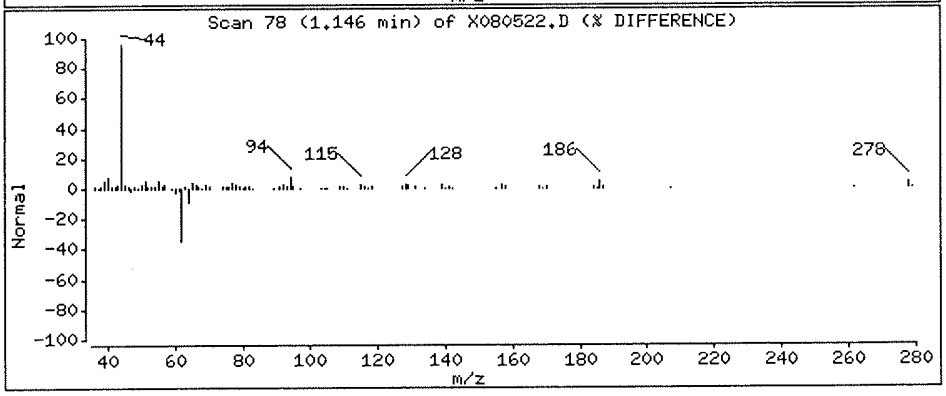












Data File: \\nahstws005\Target\chem\voa6.i\X200805.b\X080523.D Page 1
Report Date: 26-Aug-2020 09:39

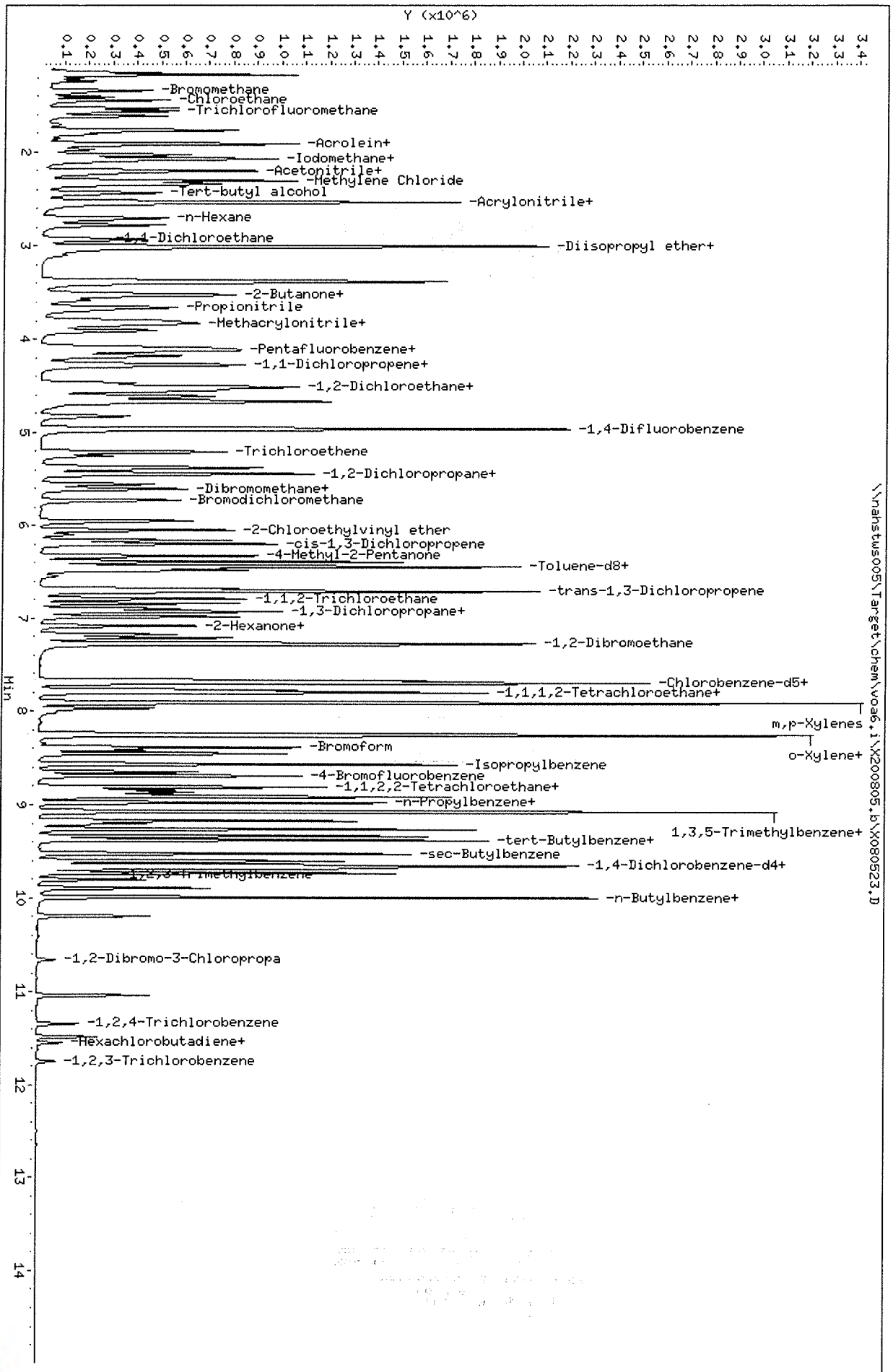
ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X200805.b\X080523.D
Lab Smp Id: CCV-END Client Smp ID: CCV-END
Inj Date : 05-AUG-2020 22:18
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\X200805.b\8260W.m
Meth Date : 26-Aug-2020 09:39 voa6.i Quant Type: ISTD
Cal Date : 03-AUG-2020 14:28 Cal File: X080308.D
Als bottle: 21 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI-Hou11.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	470347	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	741446	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	682543	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	306511	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.979)	236328	50.0000	51.16
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	283082	50.0000	51.70
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	818102	50.0000	49.41
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	310022	50.0000	48.54
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	181989	50.0000	46.85
11 1,1-Dichloroethene	96	1.919	1.919	(0.458)	195997	50.0000	52.59
33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	349793	50.0000	48.72
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.843)	264953	50.0000	51.17
17 Methylene Chloride	84	2.306	2.306	(0.550)	248081	50.0000	51.20
38 Trichloroethene	130	5.207	5.207	(1.048)	257936	50.0000	49.08
5 Vinyl Chloride	62	1.145	1.145	(0.273)	317225	50.0000	52.39



Data File: \\nahstws005\Target\chem\voa6.i\X200805.b\X080523.D
Date : 05-AUG-2020 22:18
Client ID: CCV-END
Sample Info: CCV-END;CCV-END;2;;;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

Data File: \\nahstws005\Target\chem\voa6.i\X200805.b\X080523.D Page 1
Report Date: 26-Aug-2020 09:42

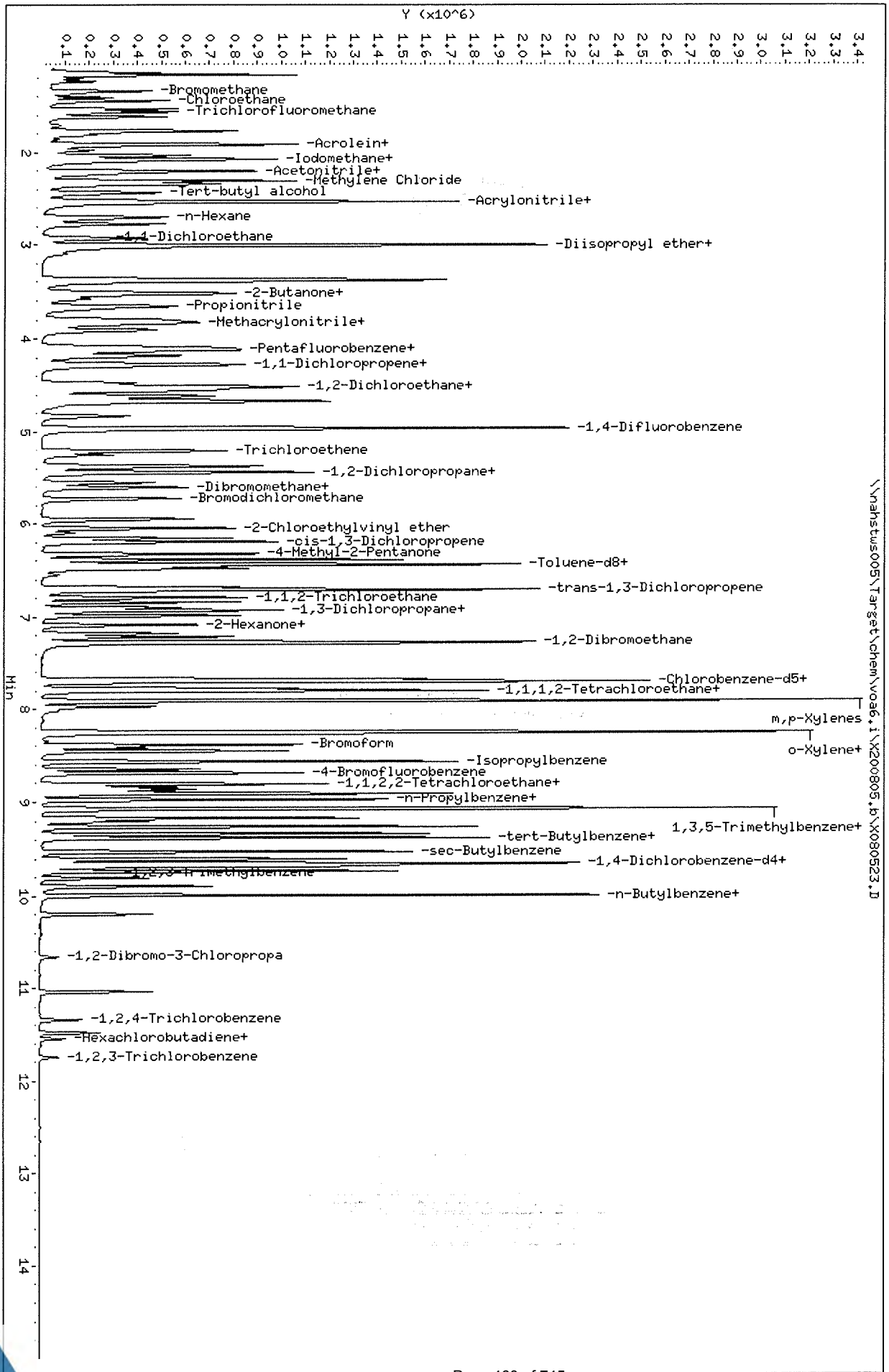
ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X200805.b\X080523.D
Lab Smp Id: CCV-END Client Smp ID: CCV-END
Inj Date : 05-AUG-2020 22:18
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\X200805.b\8260W.m
Meth Date : 26-Aug-2020 09:42 voa6.i Quant Type: ISTD
Cal Date : 03-AUG-2020 14:28 Cal File: X080308.D
Als bottle: 21 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI-Hou11.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
*	1 Pentafluorobenzene	168	4.189	4.189	(1.000)	470347	50.0000	
*	36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	741446	50.0000	
*	47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	682543	50.0000	
*	70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	306511	50.0000	
$	30 Dibromofluoromethane	113	4.103	4.103	(0.979)	236328	50.0000	51.16
$	35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	283082	50.0000	51.70
$	48 Toluene-d8	98	6.388	6.388	(0.833)	818102	50.0000	49.41
$	69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	310022	50.0000	48.54
	53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	181989	50.0000	46.85
	11 1,1-Dichloroethene	96	1.919	1.919	(0.458)	195997	50.0000	52.59
	33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	349793	50.0000	48.72
	27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.843)	264953	50.0000	51.17
	17 Methylene Chloride	84	2.306	2.306	(0.550)	248081	50.0000	51.20
	38 Trichloroethene	130	5.207	5.207	(1.048)	257936	50.0000	49.08
	5 Vinyl Chloride	62	1.145	1.145	(0.273)	317225	50.0000	52.39



Data File: \\nahstws005\Target\chem\voa6.i\X200805.b\X080523.D
Date : 05-AUG-2020 22:18
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: 41355 **Analyst:** Presenta Cabascango

Date: 08-06-2020 **Reviewer:**

Method: 8260 **Laboratory:** Houston

Comments:

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	pH
1	BFB	TUNE	08-06-2020 11:00 am	1.00	50 mL	50 mL	X080601.D	Liquid	Y	NA
	Auto find/ purged									
2	CCV	CCV	08-06-2020 11:24 am	1.00	50 mL	50 mL	X080602a.D	Liquid	Y	NA
	10 uL cal std/50 mL DI									
3	CCV	CCV	08-06-2020 11:48 am	1.00	50 mL	50 mL	X080603.D	Liquid	Y	NA
	10 uL cal std/50 mL DI									
4	VLCSW-200806	LCS	08-06-2020 12:12 pm	1.00	50 mL	50 mL	X080604.D	Liquid	Y	NA
	4.0 uL cal std/50 mL DI									
5	BLANK	SAMP	08-06-2020 12:36 pm	1.00	50 mL	50 mL	X080605.D	Liquid	Y	NA
6	BLANK	SAMP	08-06-2020 01:00 pm	1.00	50 mL	50 mL	X080606.D	Liquid	Y	NA
7	VBLKW-200806	MBLK	08-06-2020 01:24 pm	1.00	50 mL	50 mL	X080607.D	Liquid	Y	NA
8	HS20080128-01	SAMP	08-06-2020 01:48 pm	1.00	50 mL	50 mL	X080608.D	Liquid	Y	NA
	neat samples									
9	HS20080128-02	SAMP	08-06-2020 02:12 pm	1.00	50 mL	50 mL	X080609.D	Liquid	Y	NA
10	HS20080128-03	SAMP	08-06-2020 02:36 pm	1.00	50 mL	50 mL	X080610.D	Liquid	Y	NA
11	HS20080128-04	SAMP	08-06-2020 03:00 pm	1.00	50 mL	50 mL	X080611.D	Liquid	Y	NA
12	HS20080128-05	SAMP	08-06-2020 03:24 pm	1.00	50 mL	50 mL	X080612.D	Liquid	Y	NA
13	HS20080189-01	SAMP	08-06-2020 03:48 pm	1.00	50 mL	50 mL	X080613.D	Liquid	Y	NA
	neat samples									
14	HS20080189-02	SAMP	08-06-2020 04:12 pm	1.00	50 mL	50 mL	X080614.D	Liquid	Y	NA
15	HS20080189-03	SAMP	08-06-2020 04:36 pm	1.00	50 mL	50 mL	X080615.D	Liquid	Y	NA
16	HS20080189-04	SAMP	08-06-2020 05:00 pm	1.00	50 mL	50 mL	X080616.D	Liquid	Y	NA
17	HS20071328-08	SAMP	08-06-2020 05:24 pm	5.00	10 mL	50 mL	X080617.D	Liquid	Y	NA
18	HS20071328-15	SAMP	08-06-2020 05:48 pm	10.00	5 mL	50 mL	X080618.D	Liquid	Y	NA
19	HS20080189-02MS	MS	08-06-2020 06:12 pm	1.00	50 mL	50 mL	X080619.D	Liquid	Y	NA
	3.5 uL cal std/40 mL samp									
20	HS20080189-02MSD	MSD	08-06-2020 06:36 pm	1.00	50 mL	50 mL	X080620.D	Liquid	Y	NA
	3.5 uL cal std/40 mL samp									
21	HS20071328-08	SAMP	08-06-2020 07:00 pm	50.00	1 mL	50 mL	X080621.D	Liquid	Y	<2
22	HS20071328-15	SAMP	08-06-2020 07:24 pm	100.0(	500 µL	50 mL	X080622.D	Liquid	Y	<2
23	HS20080125-02n/r	SAMP	08-06-2020 07:48 pm	5.00	10 mL	50 mL	X080623.D	Liquid	Y	<2
24	HS20080125-02n/r	SAMP	08-06-2020 08:13 pm	25.00	2 mL	50 mL	X080624.D	Liquid	Y	<2
25	HS20080125-03n/r	SAMP	08-06-2020 08:37 pm	5.00	10 mL	50 mL	X080625.D	Liquid	Y	<2
26	HS20080125-03n/r	SAMP	08-06-2020 09:01 pm	25.00	2 mL	50 mL	X080626.D	Liquid	Y	<2
27	HS20080125-05n/r	SAMP	08-06-2020 09:25 pm	10.00	5 mL	50 mL	X080627.D	Liquid	Y	<2
28	HS20080125-05	SAMP	08-06-2020 09:49 pm	100.0(	500 µL	50 mL	X080628.D	Liquid	Y	<2
29	CCV-END	CCV	08-06-2020 10:13 pm	1.00	50 mL	50 mL	X080629.D	Liquid	Y	NA
	10 uL cal std/50 mL DI									
30	BLANK	SAMP	08-06-2020 10:37 pm	1.00	50 mL	50 mL	X080630.D	Liquid	Y	NA

MSVOA06 -Logbook

Chemical	Value
SURR SPK ID	31106-38-06
IS ID	31106-38-06
CAL STD ID	31106-41-01/02
BFB ID	31106-38-06
pH Paper	634-64-10

FORM 2
WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20071328

	CLIENT SAMPLE NO.	SMC1 #	SMC2 (DCE)#	SMC3 (TOL)#	OTHER #	TOT OUT
01	VLCSW-200806	96	100	98	97	0
02	VBLKW-200806	92	92	106	98	0
03	HS20071328-08	93	93	104	100	0
04	HS20071328-15	94	93	105	97	0
05	HS20080189-02	94	92	103	99	0
06	HS20080189-02	94	92	104	99	0
07	HS20071328-08	92	92	106	98	0
08	HS20071328-15	93	93	106	98	0
09						
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28						

		QC LIMITS
SMC1	= Dibromofluoromethane	(0-130)
SMC2 (DCE)	= 1,2-Dichloroethane-d4	(0-130)
SMC3 (TOL)	= Toluene-d8	(0-130)
OTHER	= 4-Bromofluorobenzene	(0-130)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D System Monitoring Compound diluted out

FORM 4
VOLATILE METHOD BLANK SUMMARY

CLIENT SAMPLE NO.

VBLKW-200806

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20071328

Lab File ID: X080607 Lab Sample ID: VBLKW-200806

Date Analyzed: 08/06/20 Time Analyzed: 1324

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-200806	VLCSW-200806	X080604	1212
02	HS20071328-0	HS20071328-08	X080617	1724
03	HS20071328-1	HS20071328-15	X080618	1748
04	HS20080189-0	HS20080189-02M	X080619	1812
05	HS20080189-0	HS20080189-02M	X080620	1836
06	HS20071328-0	HS20071328-08	X080621	1900
07	HS20071328-1	HS20071328-15	X080622	1924
08				
09				
10				
11				
12				
13				
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27				
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29				
30				

COMMENTS:

FORM 5
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20071328

Lab File ID: X080601 BFB Injection Date: 08/06/20

Instrument ID: VOA6 BFB Injection Time: 1100

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	24.2
75	30.0 - 60.0% of mass 95	50.8
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	0.5 (0.7)1
174	Greater than 50.0% of mass 95	64.2
175	5.0 - 9.0% of mass 174	5.1 (8.0)1
176	95.0 - 101.0% of mass 174	63.1 (98.2)1
177	5.0 - 9.0% of mass 176	4.4 (7.0)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	X080603	08/06/20	1148
02	VLCSW-200806	VLCSW-200806	X080604	08/06/20	1212
03	VBLKW-200806	VBLKW-200806	X080607	08/06/20	1324
04	HS20071328-0	HS20071328-08	X080617	08/06/20	1724
05	HS20071328-1	HS20071328-15	X080618	08/06/20	1748
06	HS20080189-0	HS20080189-02M	X080619	08/06/20	1812
07	HS20080189-0	HS20080189-02M	X080620	08/06/20	1836
08	HS20071328-0	HS20071328-08	X080621	08/06/20	1900
09	HS20071328-1	HS20071328-15	X080622	08/06/20	1924
10	CCV-END	CCV-END	X080629	08/06/20	2213
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

FORM 8
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20071328

Lab File ID (Standard): X080603 Date Analyzed: 08/06/20

Instrument ID: VOA6 Time Analyzed: 1148

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	480559	4.19	731957	4.97	670602	7.67
	UPPER LIMIT	961118	4.69	1463914	5.47	1341204	8.17
	LOWER LIMIT	240280	3.69	365979	4.47	335301	7.17
	CLIENT SAMPLE NO.						
01	VLCSW-200806	500312	4.19	754358	4.97	690644	7.67
02	VBLKW-200806	521760	4.19	765950	4.97	671783	7.67
03	HS20071328-08	521668	4.19	772782	4.97	660754	7.67
04	HS20071328-15	510855	4.19	754295	4.97	651096	7.67
05	HS20080189-02	492460	4.19	723449	4.97	650919	7.67
06	HS20080189-02	486557	4.19	715220	4.97	637631	7.67
07	HS20071328-08	505606	4.18	745565	4.97	648758	7.67
08	HS20071328-15	508987	4.18	753145	4.97	658346	7.67
09							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							

IS1 = Pentafluorobenzene
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene-d5

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = - 50% of internal standard area
RT UPPER LIMIT = + 0.50 minutes of internal standard RT
RT LOWER LIMIT = - 0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

FORM VIII VOA

Data File: \\nahstws005\Target\chem\voa6.i\X200806.b\X080601.D Page 1

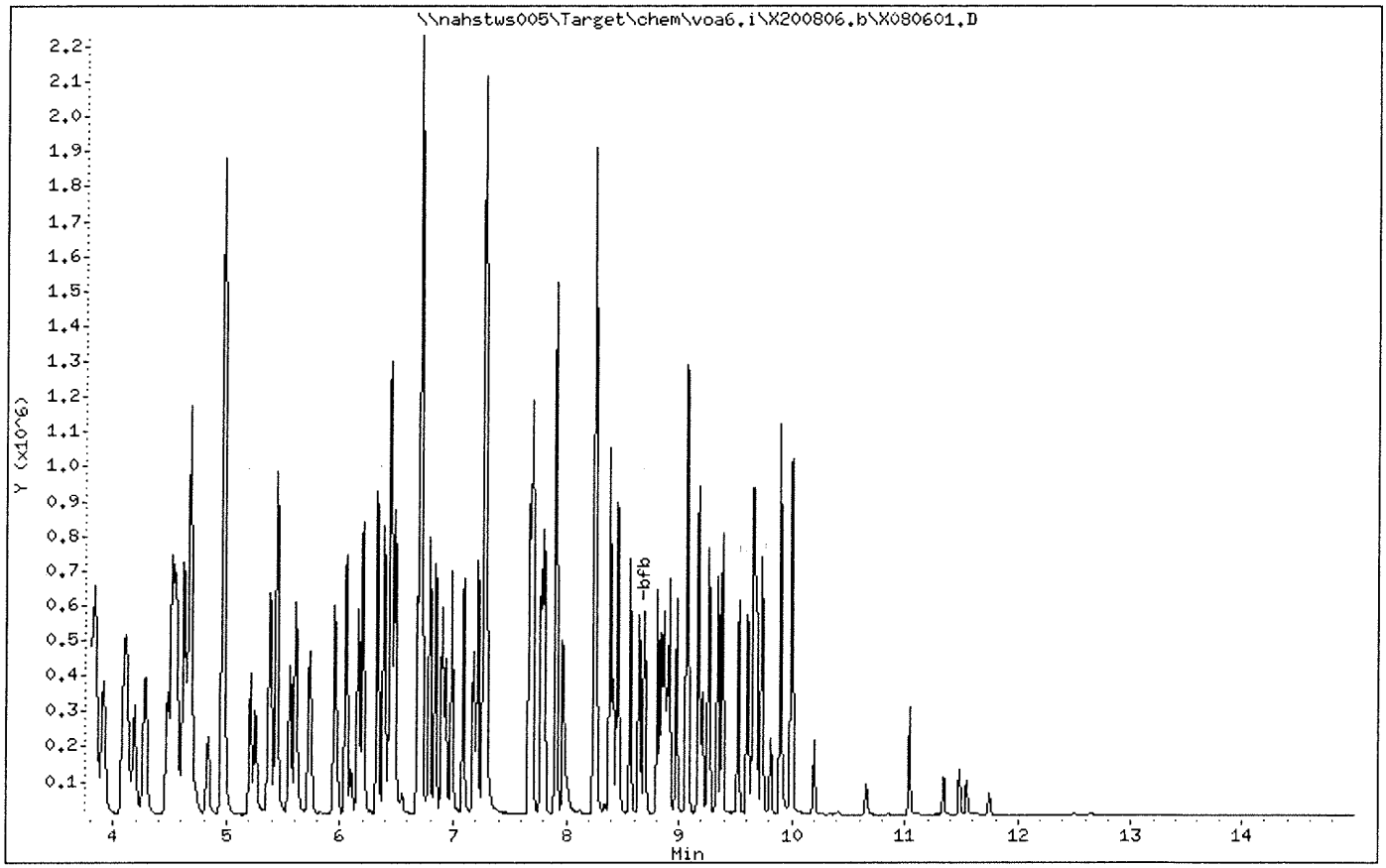
Date : 06-AUG-2020 11:00

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\X200806.b\X080601.D

Date : 06-AUG-2020 11:00

Client ID: BFB

Instrument: voa6.i

Sample Info: BFB;BFB;3;;BFB

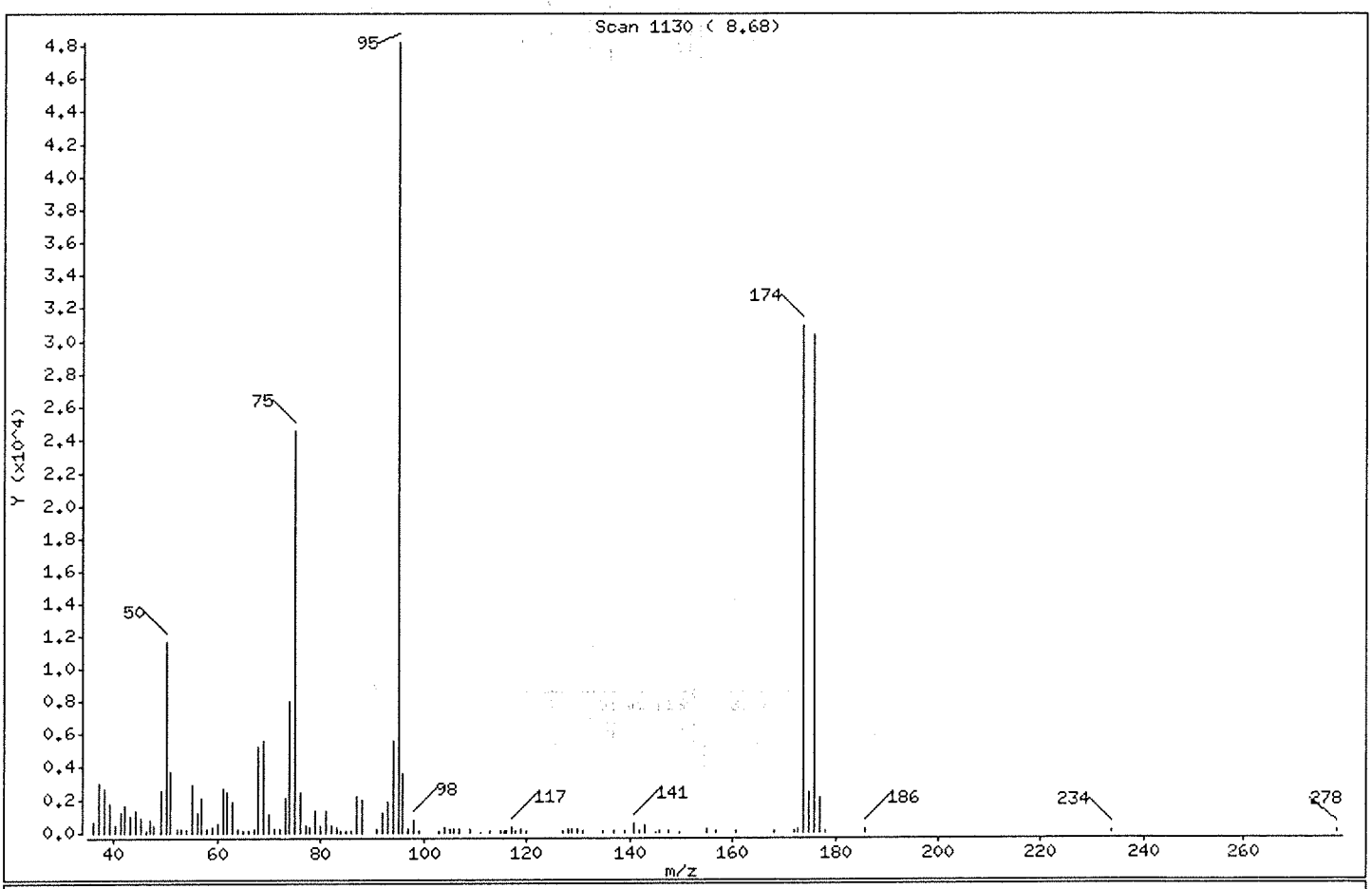
Volume Injected (uL): 2.0

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	24.19
75	30.00 - 60.00% of mass 95	50.79
96	5.00 - 9.00% of mass 95	7.29
173	Less than 2.00% of mass 174	0.47 (0.73)
174	Greater than 50.00% of mass 95	64.19
175	5.00 - 9.00% of mass 174	5.15 (8.02)
176	95.00 - 101.00% of mass 174	63.06 (98.24)
177	5.00 - 9.00% of mass 176	4.43 (7.02)

Data File: \\nahstws005\Target\chem\voa6.i\X200806.b\X080601.D

Date : 06-AUG-2020 11:00

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: X080601.D
Spectrum: Scan 1130 (8.68)
Location of Maximum: 95.00
Number of points: 106

m/z	Y	m/z	Y	m/z	Y	m/z	Y
35.90	713	63.00	1903	92.00	1210	130.90	109
37.00	3022	64.00	242	93.00	1845	134.80	83
38.00	2686	64.90	83	94.00	5523	136.80	89
39.00	1792	65.90	56	95.00	48248	139.00	63
40.10	444	67.00	171	96.00	3517	140.90	544
41.10	1223	68.00	5210	97.00	173	142.00	163
42.10	1645	69.00	5589	97.90	819	142.80	458
43.00	1017	70.00	1140	99.10	72	145.00	52
44.00	1368	71.00	177	103.00	79	145.80	118
45.00	939	72.00	262	103.90	281	147.70	72
46.10	88	73.00	2100	104.90	191	149.70	50
46.90	749	74.00	7963	105.80	196	154.90	193
47.80	398	75.00	24504	106.90	253	156.90	88
48.90	2504	76.00	2398	108.80	275	160.80	61
50.00	11670	77.00	412	110.90	53	168.00	80
51.00	3671	77.90	314	112.90	69	172.10	72
52.10	192	78.90	1365	114.90	127	172.80	227
52.90	198	79.80	393	115.70	127	173.90	30968
54.10	238	80.80	1333	116.10	115	174.90	2483
55.00	2839	81.90	473	117.00	287	175.90	30424
56.00	1258	83.00	284	117.80	135	176.90	2137
57.00	2148	83.90	63	118.90	230	177.90	81
58.00	220	85.00	96	120.00	66	185.80	169
58.90	383	85.90	56	126.90	126	233.80	90
59.90	515	87.00	2213	127.90	221	278.00	137
61.00	2610	87.90	1947	128.80	170		
62.00	2481	90.90	267	129.90	179		

Data File: \\nahstws005\Target\chem\voa6.i\X200806.b\X080603.D Page 1
Report Date: 26-Aug-2020 09:54

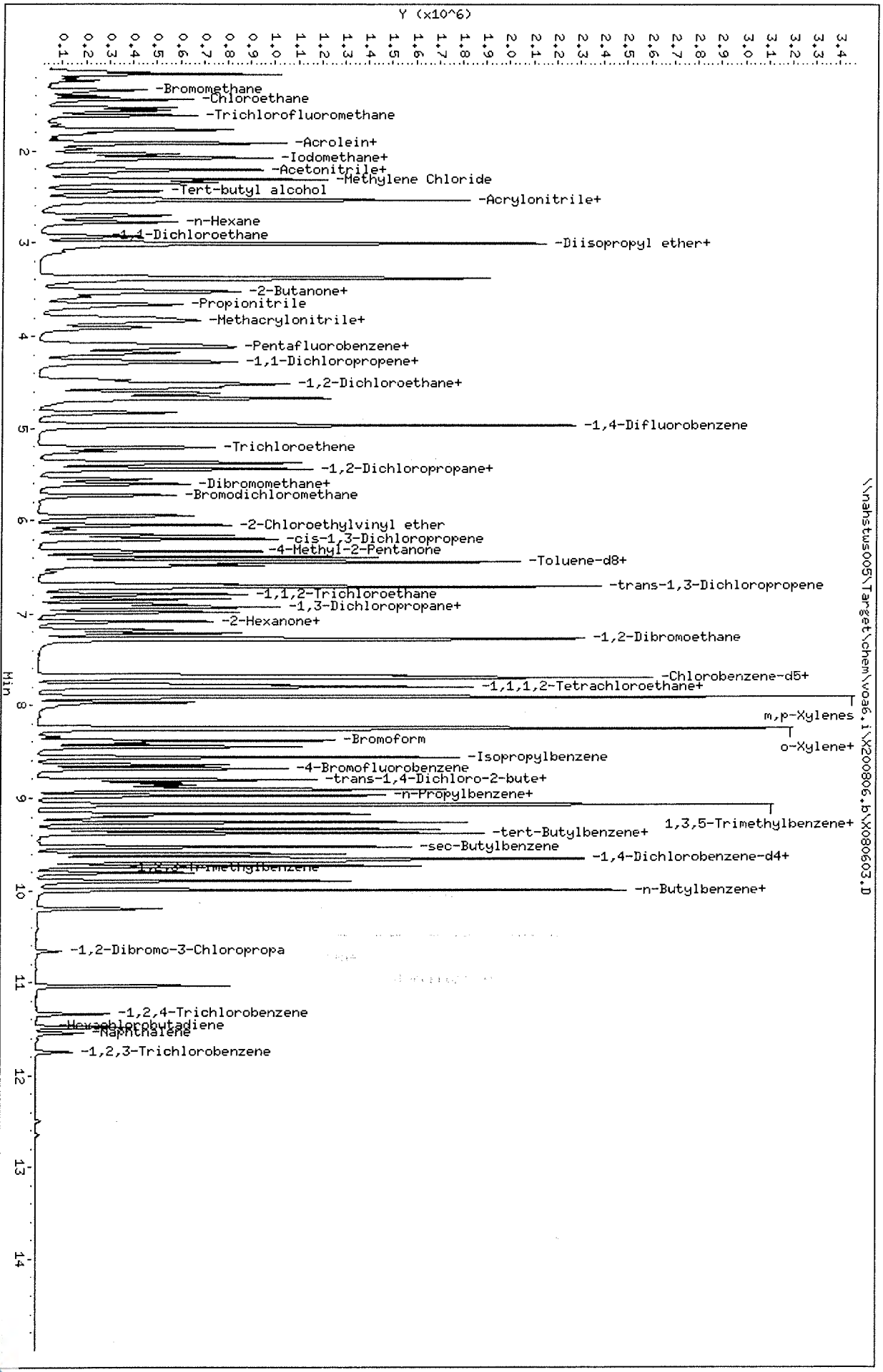
ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X200806.b\X080603.D
Lab Smp Id: CCV Client Smp ID: CCV
Inj Date : 06-AUG-2020 11:48
Operator : PC Inst ID: voa6.i
Smp Info : CCV;CCV;2;;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200806.b\8260W.m
Meth Date : 26-Aug-2020 09:54 voa6.i Quant Type: ISTD
Cal Date : 03-AUG-2020 14:28 Cal File: X080308.D
Als bottle: 3 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI-Hou11.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	480559	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	731957	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	670602	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	317748	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.979)	230210	50.0000	48.78
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	275230	50.0000	49.20
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	788845	50.0000	48.49
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	302223	50.0000	48.16
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	184873	50.0000	48.44
11 1,1-Dichloroethene	96	1.919	1.919	(0.458)	188901	50.0000	49.61
33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	349746	50.0000	49.35
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.843)	257210	50.0000	48.62
17 Methylene Chloride	84	2.306	2.306	(0.550)	242035	50.0000	48.83
38 Trichloroethene	130	5.207	5.207	(1.048)	255643	50.0000	49.28
5 Vinyl Chloride	62	1.145	1.145	(0.273)	302103	50.0000	48.83



Data File: \\nahstws005\Target\chem\voa6.i\X200806.b\X080603.D
Date : 06-AUG-2020 11:48
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\X200806.b\X080604.D Page 1
Report Date: 26-Aug-2020 09:54

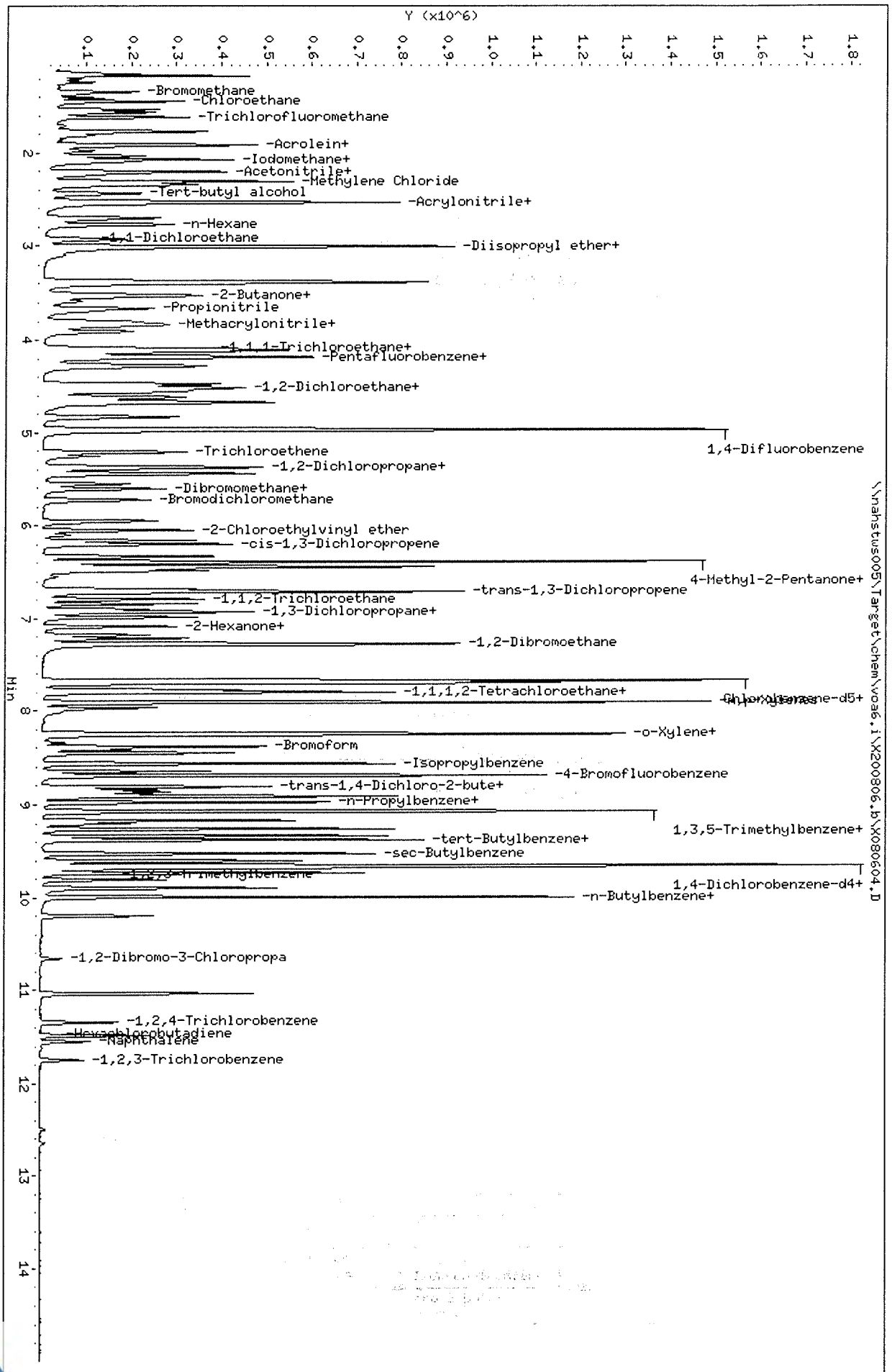
ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X200806.b\X080604.D
Lab Smp Id: VLCSW-200806 Client Smp ID: VLCSW-200806
Inj Date : 06-AUG-2020 12:12
Operator : PC Inst ID: voa6.i
Smp Info : VLCSW-200806;VLCSW-200806;3;;LCS
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200806.b\8260W.m
Meth Date : 26-Aug-2020 09:54 voa6.i Quant Type: ISTD
Cal Date : 03-AUG-2020 14:28 Cal File: X080308.D
Als bottle: 4 QC Sample: LCS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI-Hou11.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
*	1 Pentafluorobenzene	168	4.189	4.189	(1.000)	500312	50.0000	
*	36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	754358	50.0000	
*	47 Chlorobenzene-d5	117	7.670	7.671	(1.000)	690644	50.0000	
*	70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	330629	50.0000	
$	30 Dibromofluoromethane	113	4.103	4.103	(0.979)	237037	48.2448	48.24
$	35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	292430	50.2135	50.21
$	48 Toluene-d8	98	6.388	6.388	(0.833)	817636	48.8084	48.80
$	69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	314360	48.6445	48.64
	53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	76846	19.5545	19.55
	11 1,1-Dichloroethene	96	1.919	1.919	(0.458)	81721	20.6151	20.61
	33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	145268	19.8894	19.88
	27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.843)	109428	19.8702	19.87
	17 Methylene Chloride	84	2.305	2.306	(0.550)	104013	19.3472	19.34
	38 Trichloroethene	130	5.214	5.207	(1.049)	109748	20.5284	20.52
	5 Vinyl Chloride	62	1.145	1.145	(0.273)	128455	19.9461	19.94



Data File: \\nahstus005\Target\chem\voa6.i\X200806.b\X080604.D
Date : 06-AUG-2020 12:12
Client ID: VLCSW-200806
Sample Info: VLCSW-200806;VLCSW-200806;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\X200806.b\X080607.D Page 1
Report Date: 26-Aug-2020 09:54

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X200806.b\X080607.D
Lab Smp Id: VBLKW-200806 Client Smp ID: VBLKW-200806
Inj Date : 06-AUG-2020 13:24
Operator : PC Inst ID: voa6.i
Smp Info : VBLKW-200806;VBLKW-200806;3;;BLANK
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200806.b\8260W.m
Meth Date : 26-Aug-2020 09:54 voa6.i Quant Type: ISTD
Cal Date : 03-AUG-2020 14:28 Cal File: X080308.D
Als bottle: 7 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI-Hou11.sub
Target Version: 4.14
Processing Host: NAHSTW7056

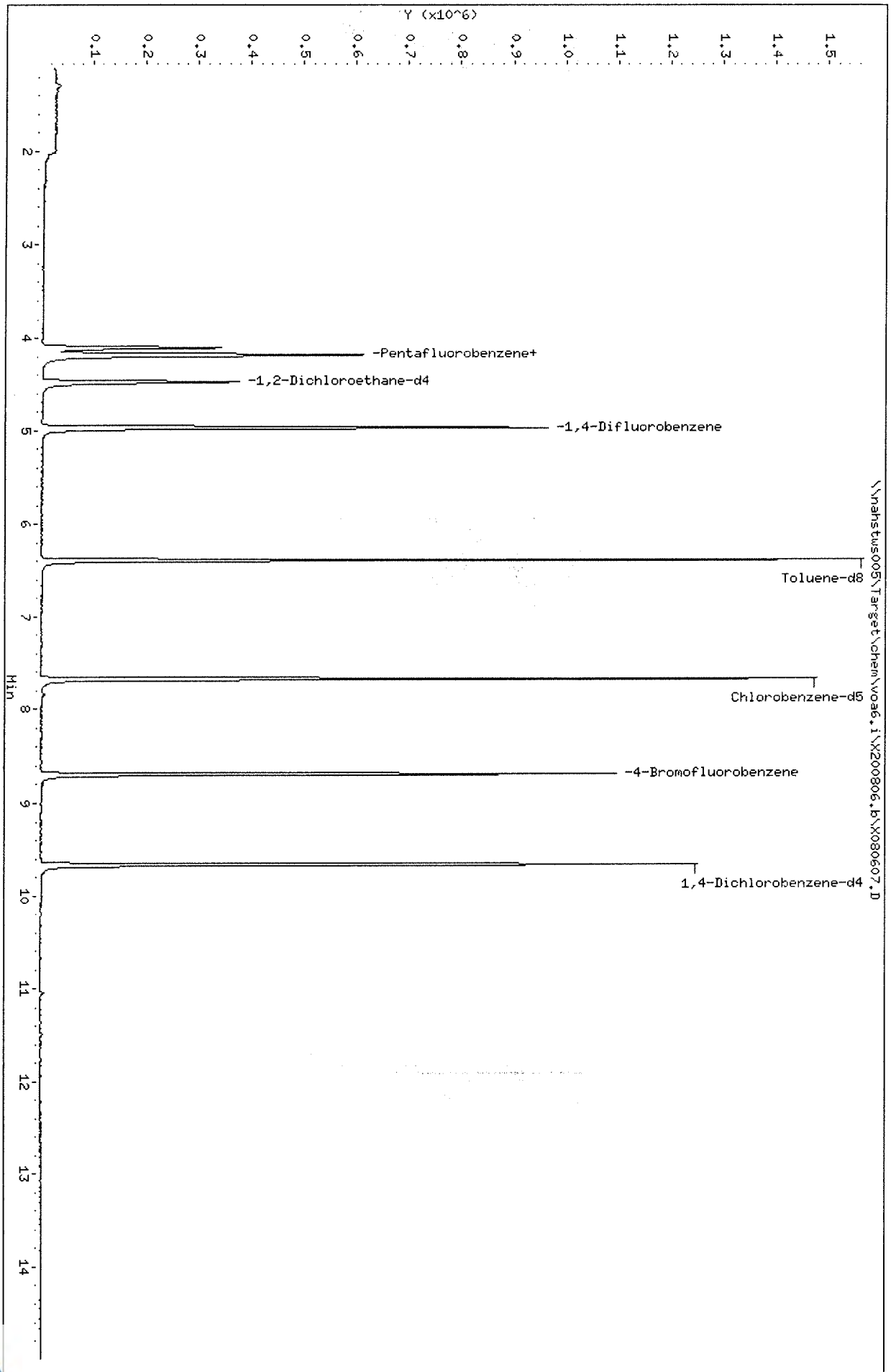
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	521760	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	765950	50.0000	
* 47 Chlorobenzene-d5	117	7.670	7.671	(1.000)	671783	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	313880	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.979)	237165	46.2866	46.28
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	280873	46.2465	46.24
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	861524	52.8721	52.87
$ 69 4-Bromofluorobenzene	95	8.695	8.688	(1.134)	308149	49.0221	49.02

Data File: \\nahstws005\Target\chem\voa6.i\X200806.b\X080607.D
Date : 06-AUG-2020 13:24
Client ID: VBLKW-200806
Sample Info: VBLKW-200806;VBLKW-200806;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\X200806.b\X080617.D Page 1
Report Date: 26-Aug-2020 09:51

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X200806.b\X080617.D
Lab Smp Id: HS20071328-08 Client Smp ID: HS20071328-08
Inj Date : 06-AUG-2020 17:24
Operator : PC Inst ID: voa6.i
Smp Info : HS20071328-08;HS20071328-08;;;
Misc Info : HS18090001;WATER;0;5;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200806.b\8260W.m
Meth Date : 26-Aug-2020 09:50 voa6.i Quant Type: ISTD
Cal Date : 03-AUG-2020 14:28 Cal File: X080308.D
Als bottle: 17
Dil Factor: 5.00000
Integrator: HP RTE Compound Sublist: CBI-Hou11.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

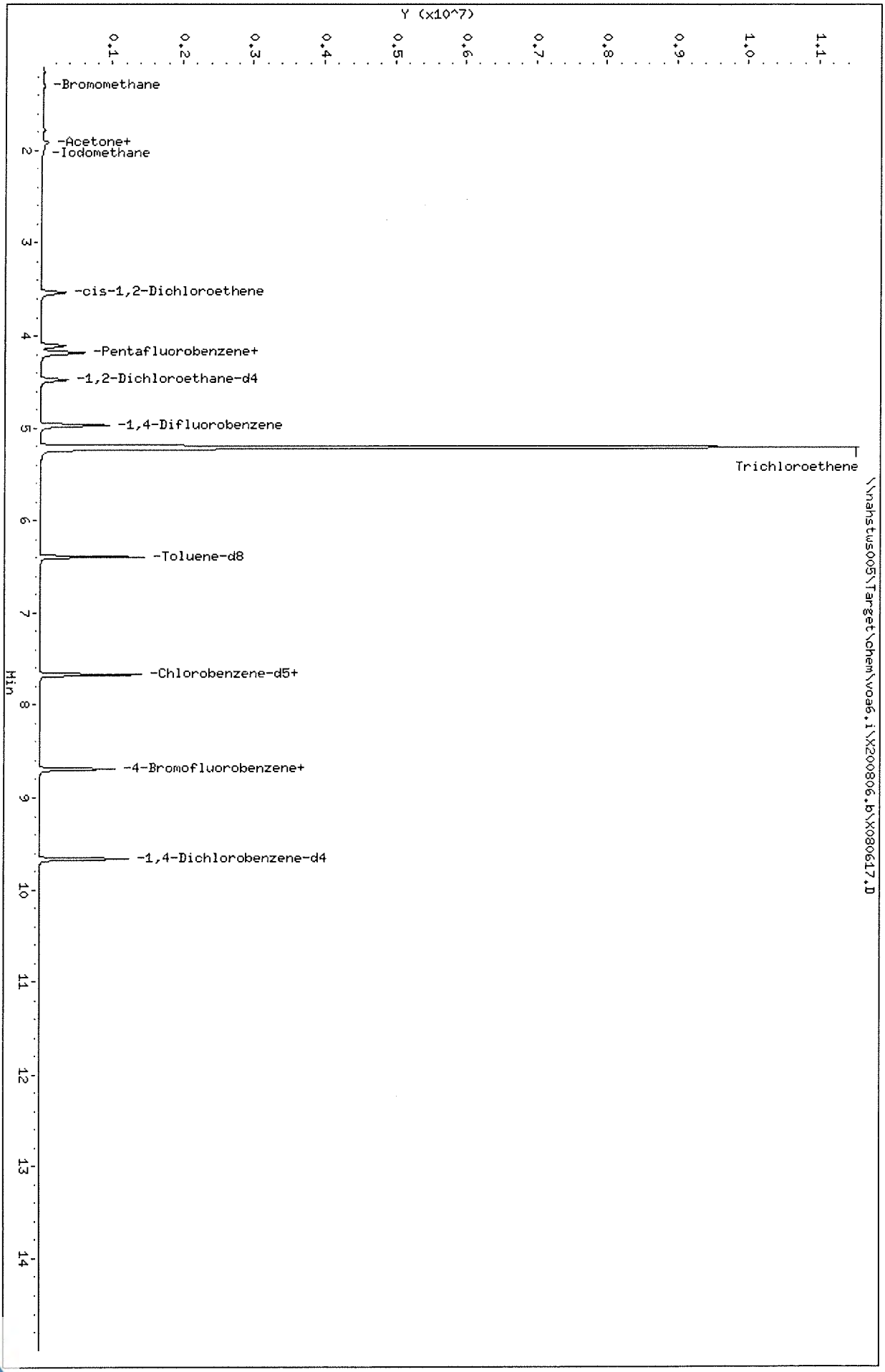
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	521668	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	772782	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	660754	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	320155	50.0000	
$ 30 Dibromofluoromethane	113	4.104	4.103	(0.979)	237945	46.4470	46.44
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	282921	46.5919	46.59
$ 48 Toluene-d8	98	6.389	6.388	(0.833)	830810	51.8383	51.83
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	309724	50.0951	50.09
11 1,1-Dichloroethene	96	1.919	1.919	(0.458)	2598	0.62855	3.14(a)
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.843)	171282	29.8286	149.14
38 Trichloroethene	130	5.214	5.207	(1.049)	3882026	708.821	3544.10(A)
5 Vinyl Chloride	62	1.145	1.145	(0.273)	7601	1.13194	5.65

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\X200806.b\X080617.D
Date : 06-AUG-2020 17:24
Client ID: HS200713Z8-08
Sample Info: HS200713Z8-08;HS200713Z8-08;;;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18



Data File: \\nahstws005\Target\chem\voa6.i\X200806.b\X080617.D

Date : 06-AUG-2020 17:24

Client ID: HS20071328-08

Instrument: voa6.i

Sample Info: HS20071328-08;HS20071328-08;;;

Purge Volume: 5.0

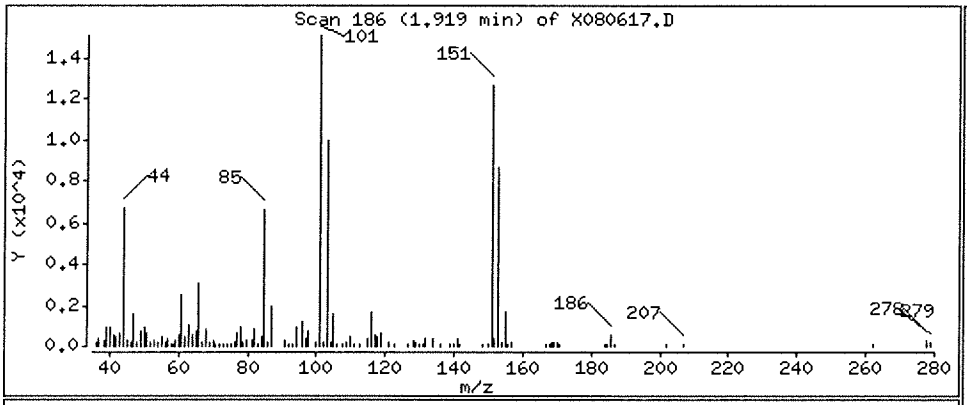
Operator: PC

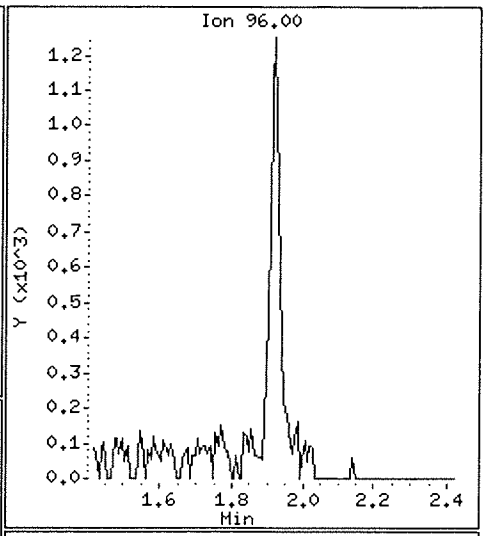
Column phase: DB624

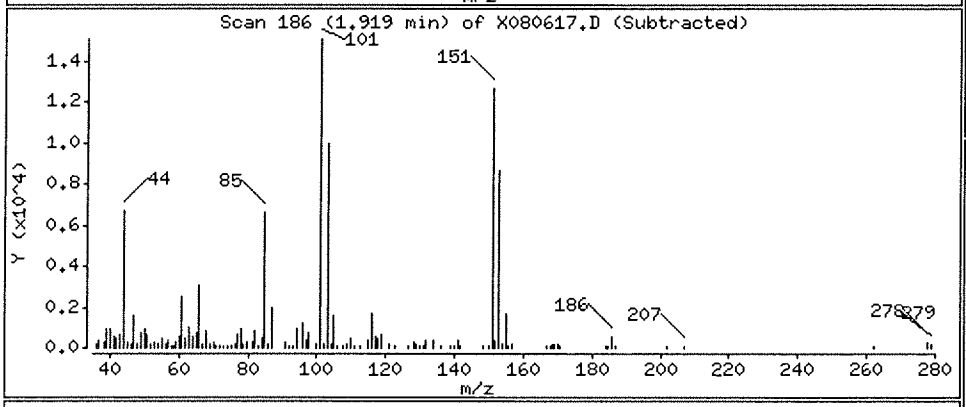
Column diameter: 0.18

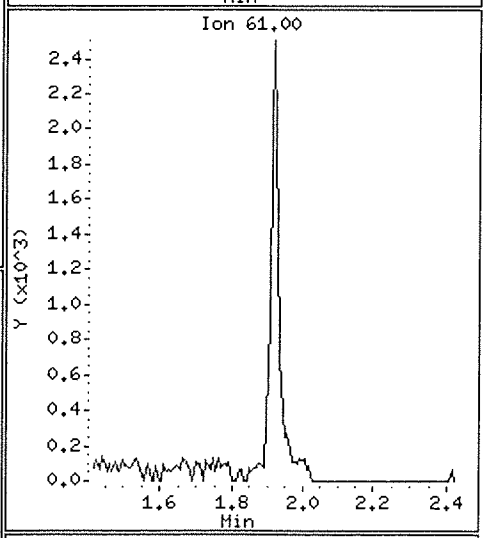
11 1,1-Dichloroethene

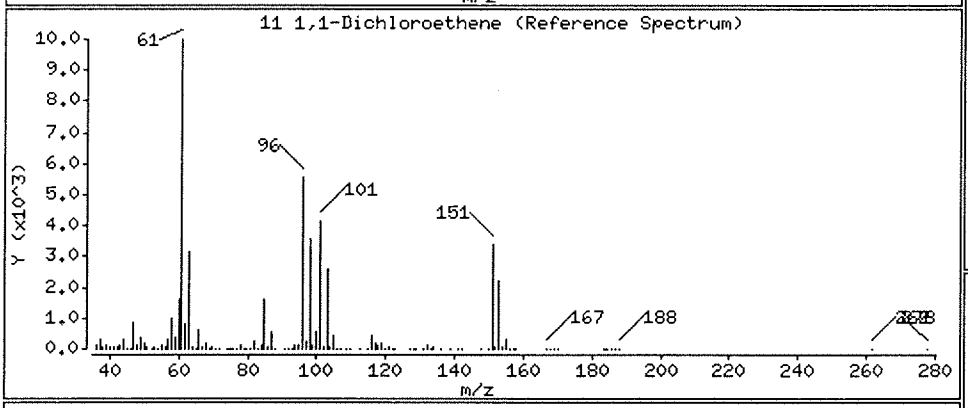
Concentration: 3.14 ug/l

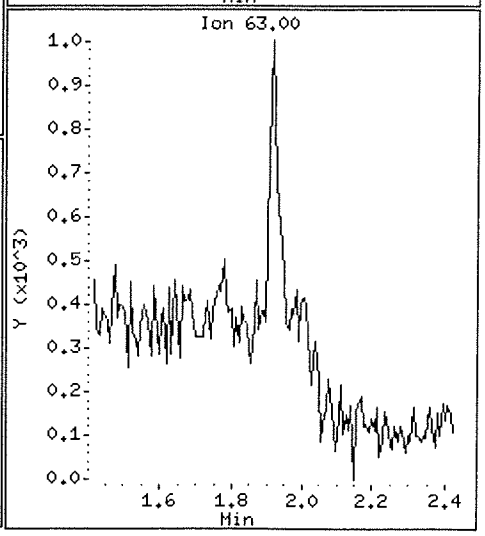


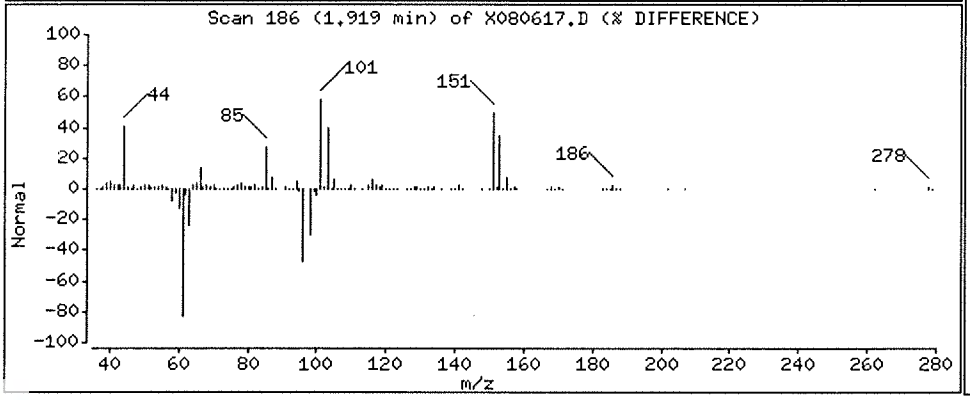












Data File: \\nahstws005\Target\chem\voa6.i\X200806.b\X080617.D Page 4

Date : 06-AUG-2020 17:24

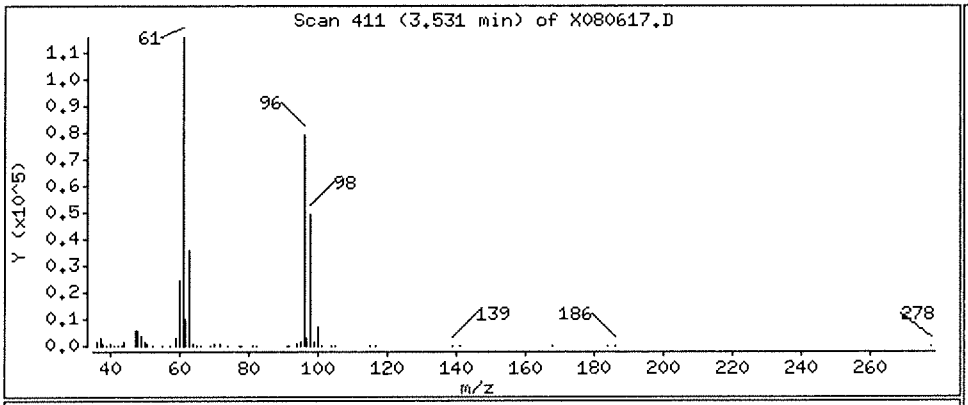
Client ID: HS20071328-08 Instrument: voa6.i

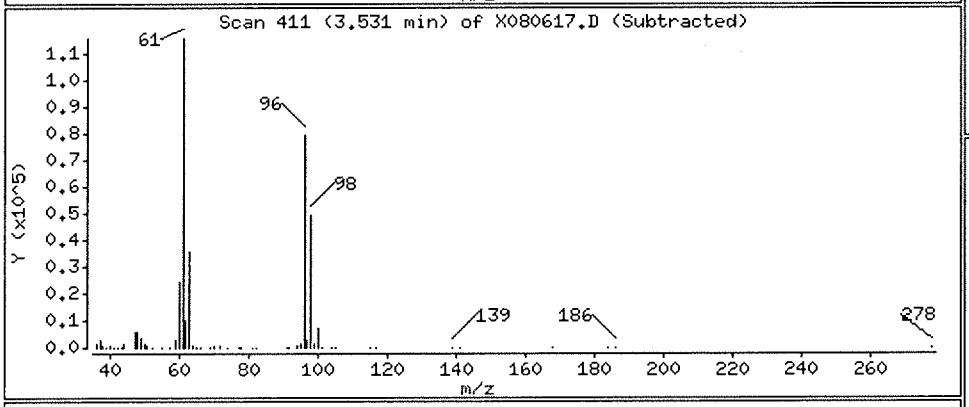
Sample Info: HS20071328-08;HS20071328-08;;;

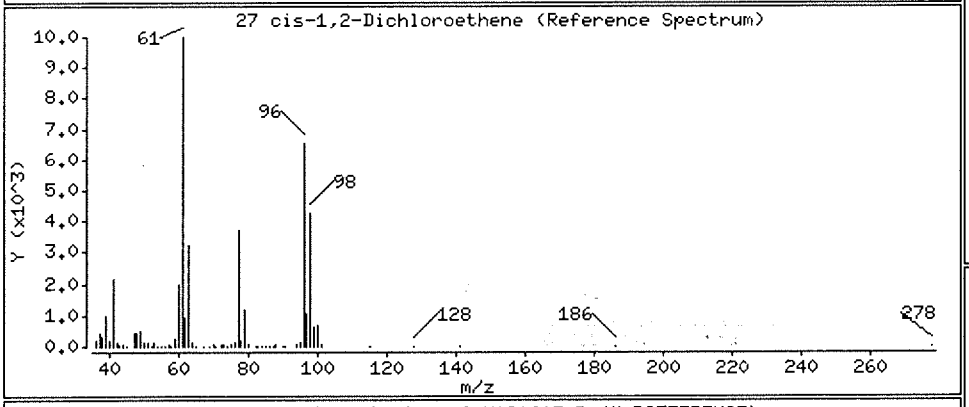
Purge Volume: 5.0 Operator: PC

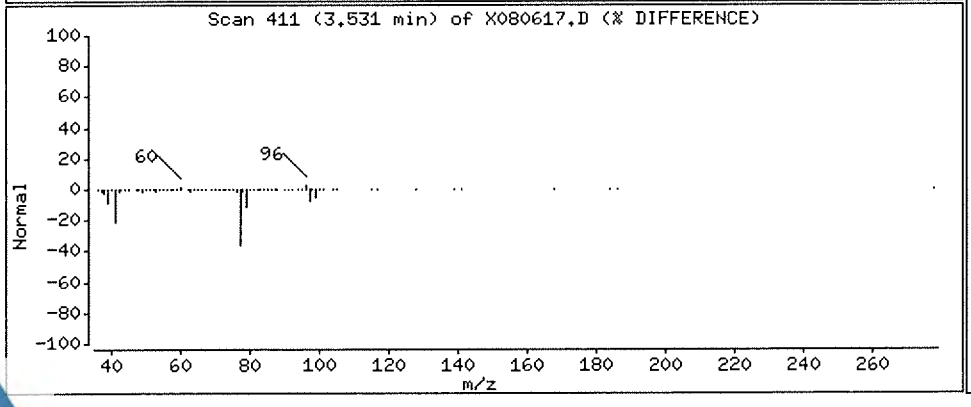
Column phase: DB624 Column diameter: 0.18

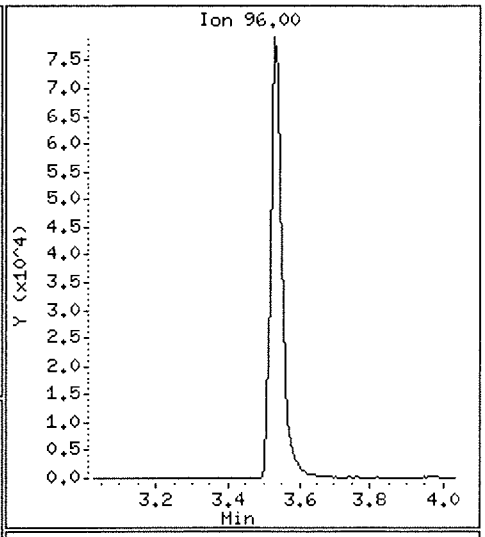
27 cis-1,2-Dichloroethene Concentration: 149.14 ug/l

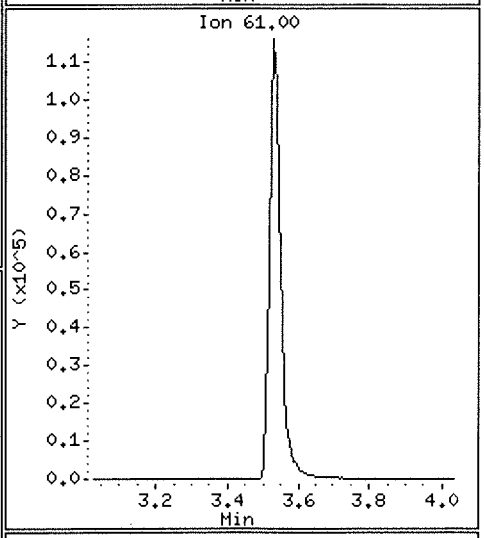


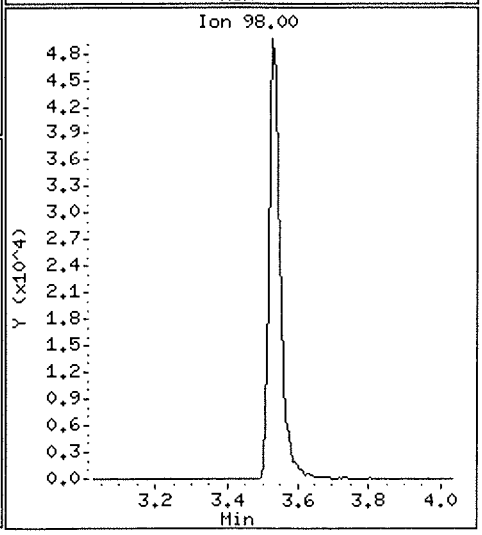












Data File: \\nahstws005\Target\chem\voa6.i\X200806.b\X080617.D

Date : 06-AUG-2020 17:24

Client ID: HS20071328-08

Instrument: voa6.i

Sample Info: HS20071328-08;HS20071328-08;;;

Purge Volume: 5.0

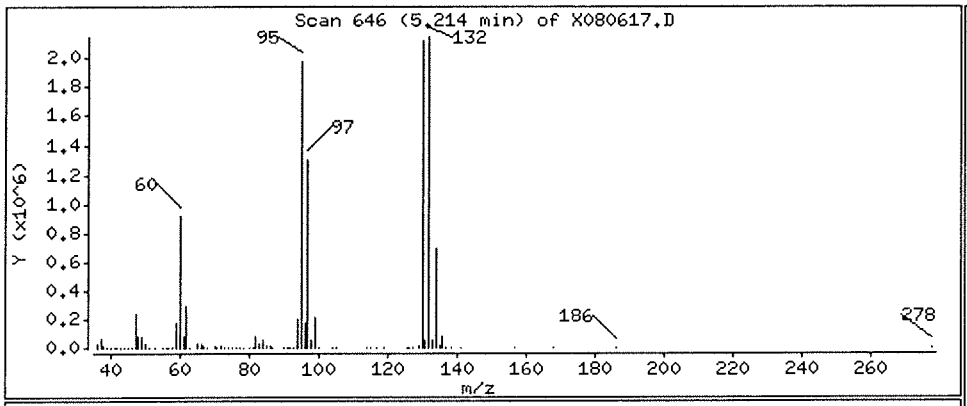
Operator: PC

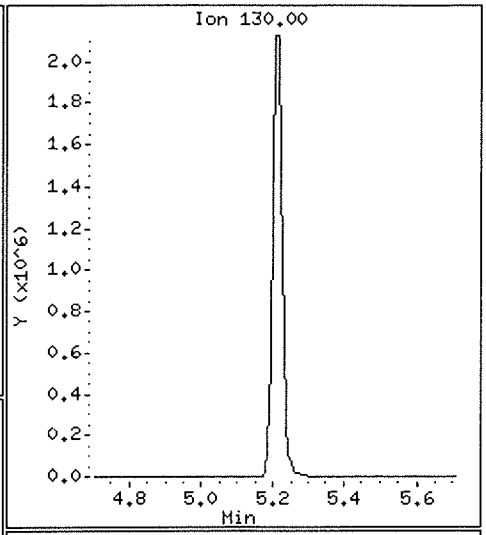
Column phase: DB624

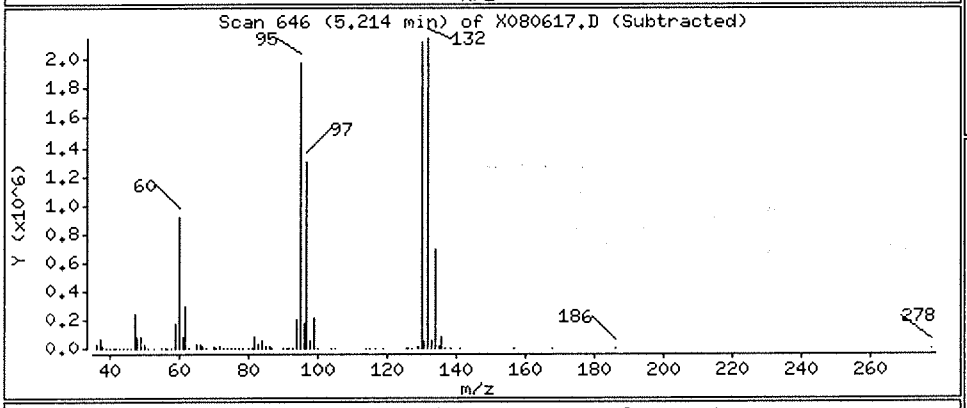
Column diameter: 0.18

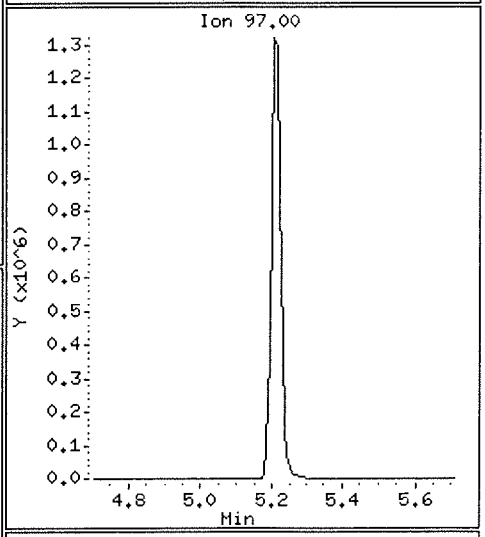
38 Trichloroethene

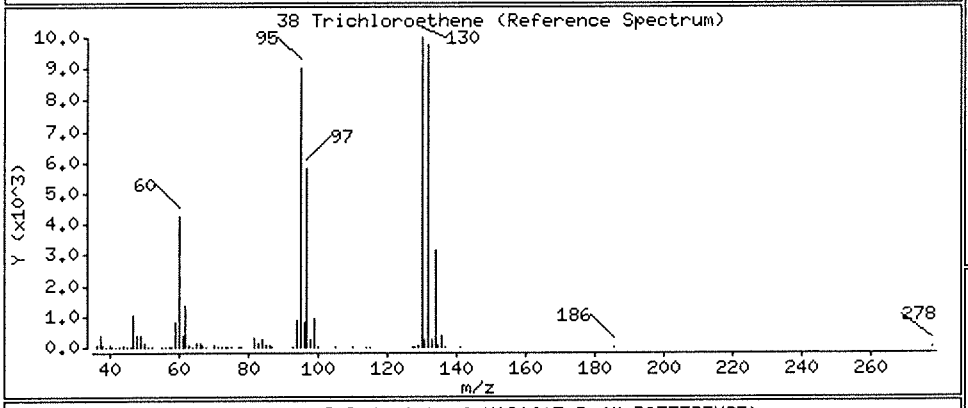
Concentration: 3544.10 ug/l

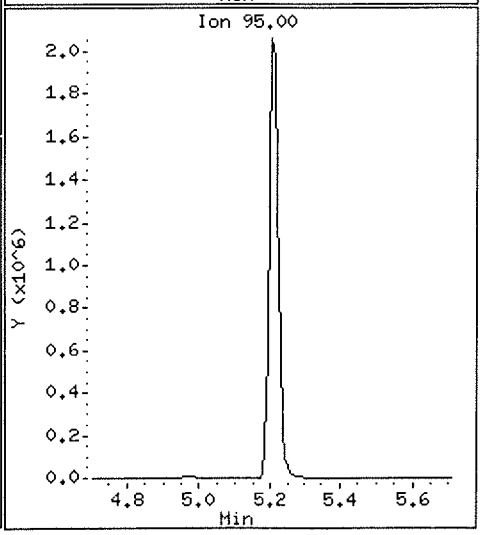


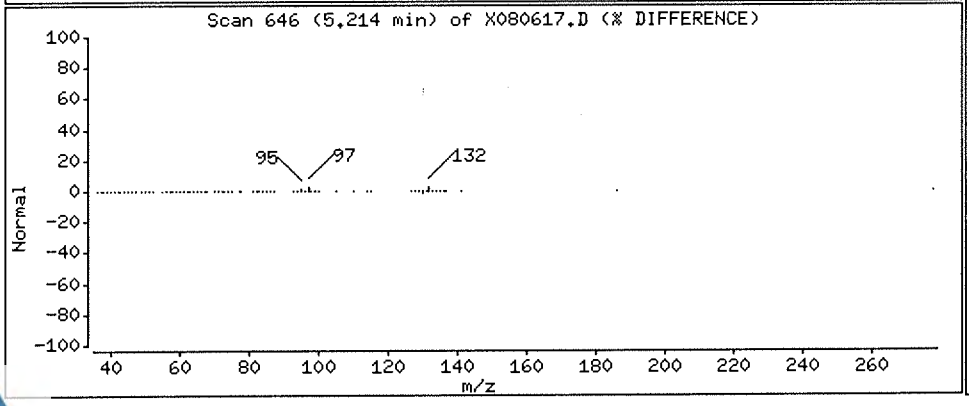












Data File: \\nahstws005\Target\chem\voa6.i\X200806.b\X080617.D

Date : 06-AUG-2020 17:24

Client ID: HS20071328-08

Instrument: voa6.i

Sample Info: HS20071328-08;HS20071328-08;;;

Purge Volume: 5.0

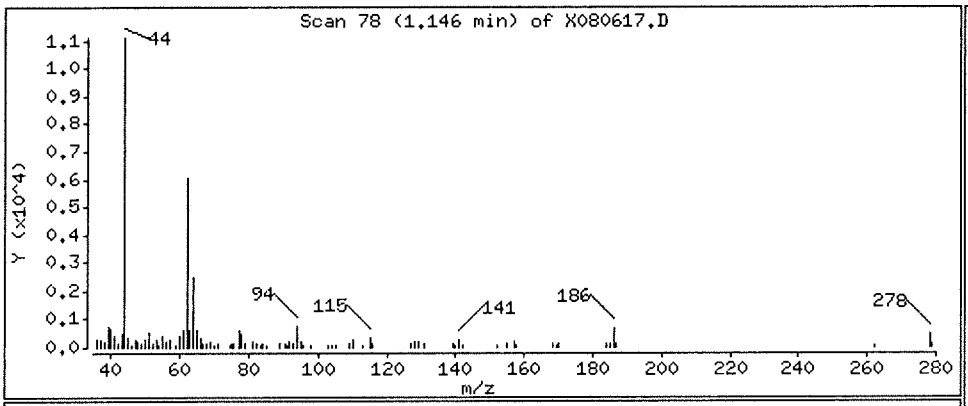
Operator: PC

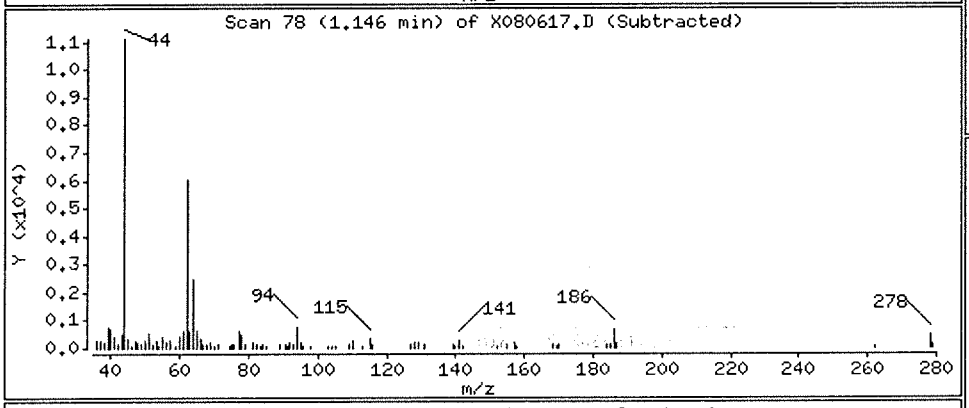
Column phase: DB624

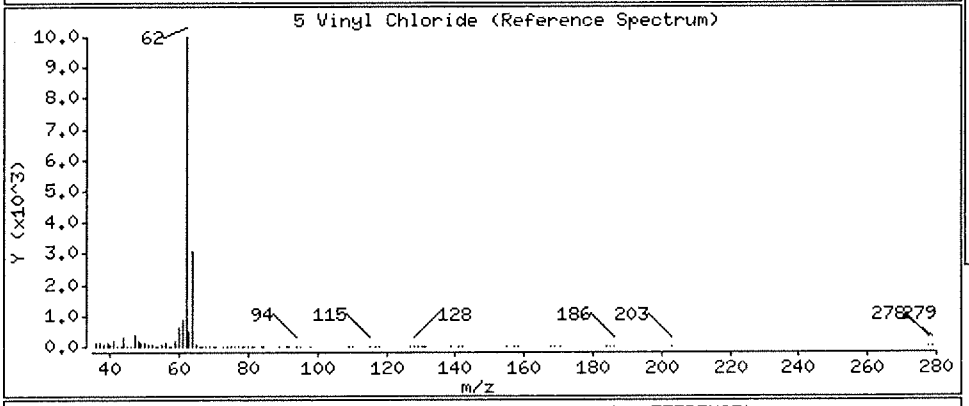
Column diameter: 0.18

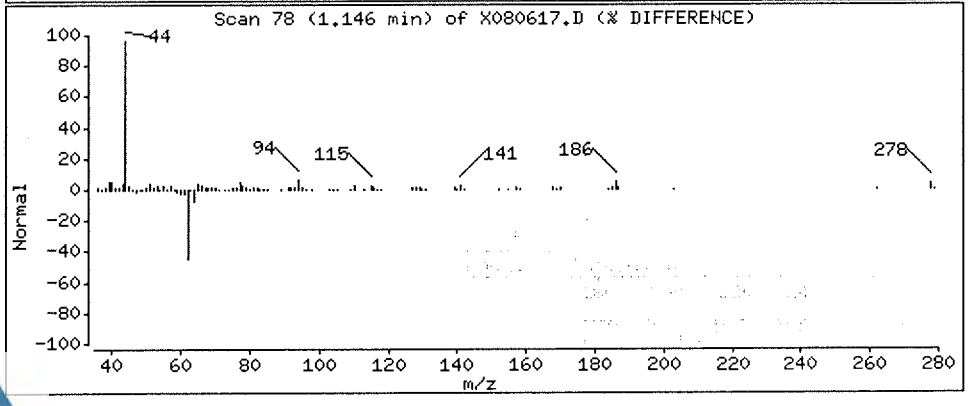
5 Vinyl Chloride

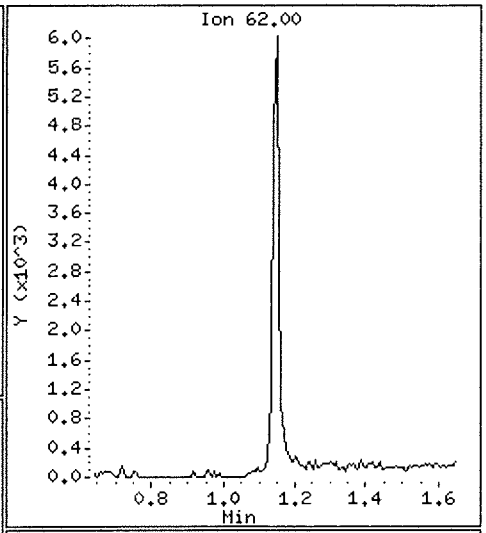
Concentration: 5.65 ug/l

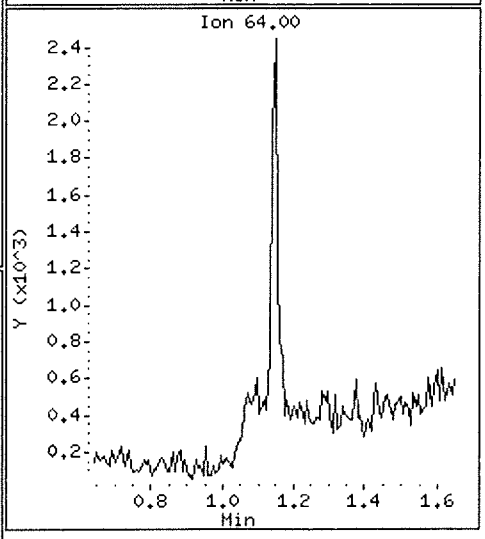












Data File: \\nahstws005\Target\chem\voa6.i\X200806.b\X080618.D Page 1
Report Date: 26-Aug-2020 09:51

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X200806.b\X080618.D
Lab Smp Id: HS20071328-15 Client Smp ID: HS20071328-15
Inj Date : 06-AUG-2020 17:48
Operator : PC Inst ID: voa6.i
Smp Info : HS20071328-15;HS20071328-15;;;
Misc Info : HS18090001;WATER;0;10;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200806.b\8260W.m
Meth Date : 26-Aug-2020 09:50 voa6.i Quant Type: ISTD
Cal Date : 03-AUG-2020 14:28 Cal File: X080308.D
Als bottle: 18
Dil Factor: 10.00000
Integrator: HP RTE Compound Sublist: CBI-Hou11.sub
Target Version: 4.14
Processing Host: NAHSTW7056

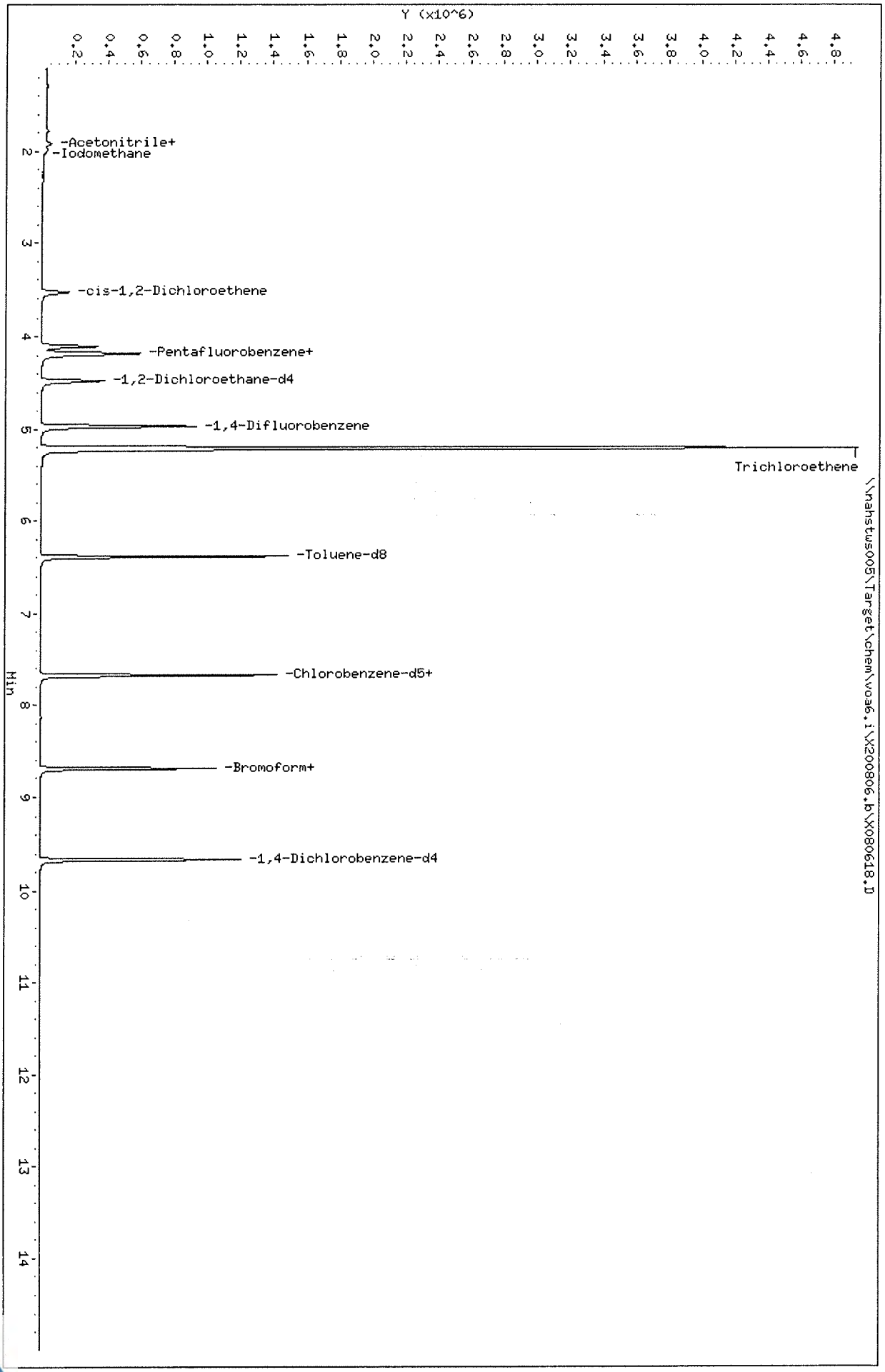
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

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	4.189	4.189	(1.000)	510855	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	754295	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	651096	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	298722	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.979)	236275	47.0973	47.09
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	275729	46.3686	46.36
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	828994	52.4922	52.49
$ 69 4-Bromofluorobenzene	95	8.695	8.688	(1.134)	294660	48.3656	48.36
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.843)	82693	14.7057	147.05
38 Trichloroethene	130	5.207	5.207	(1.048)	1643334	307.411	3074.11(A)
5 Vinyl Chloride	62	1.145	1.145	(0.273)	2704	0.41120	4.11

QC Flag Legend

A - Target compound detected but, quantitated amount exceeded maximum amount.



Data File: \\nahstws005\Target\chem\voa6.i\X200806.b\X080618.D
Date : 06-AUG-2020 17:48
Client ID: HS200713Z8-15
Sample Info: HS200713Z8-15;HS200713Z8-15;;;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

Data File: \\nahstws005\Target\chem\voa6.i\X200806.b\X080618.D Page 3

Date : 06-AUG-2020 17:48

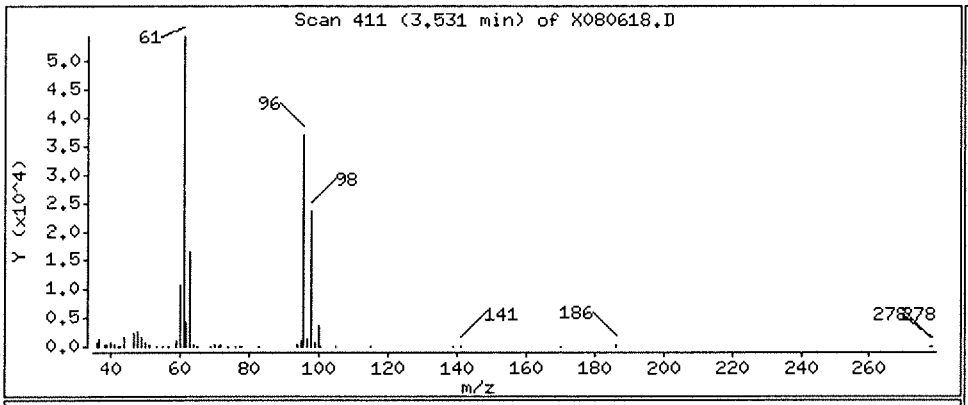
Client ID: HS20071328-15 Instrument: voa6.i

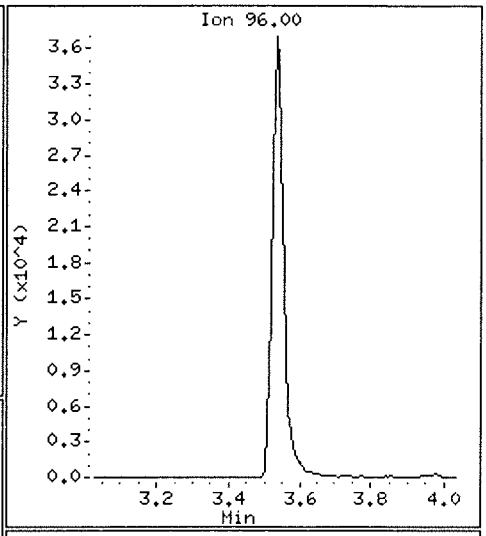
Sample Info: HS20071328-15;HS20071328-15;;;

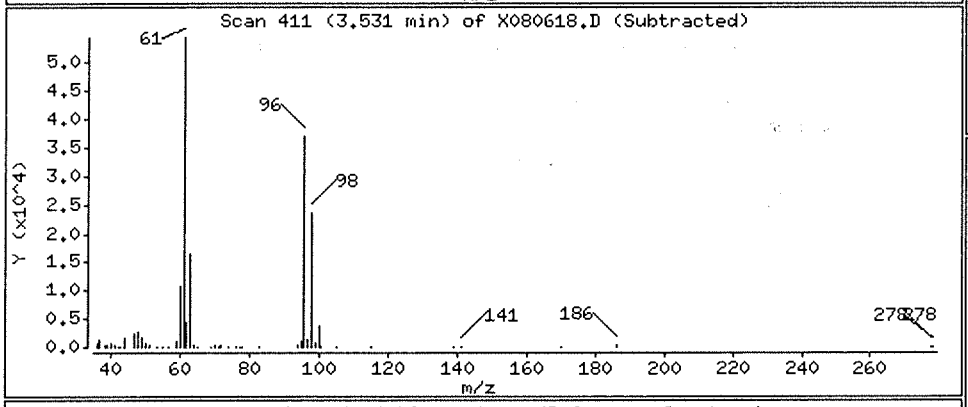
Purge Volume: 5.0 Operator: PC

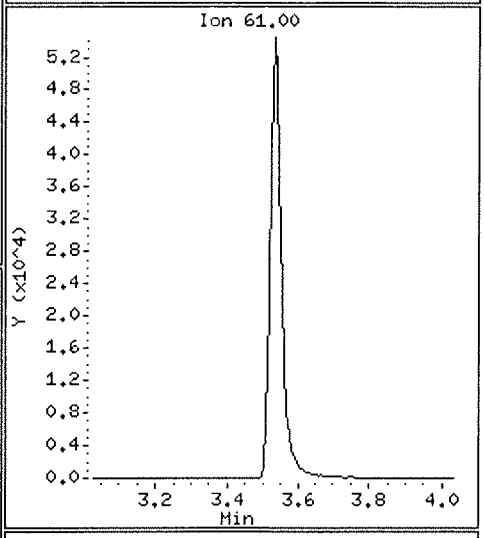
Column phase: DB624 Column diameter: 0.18

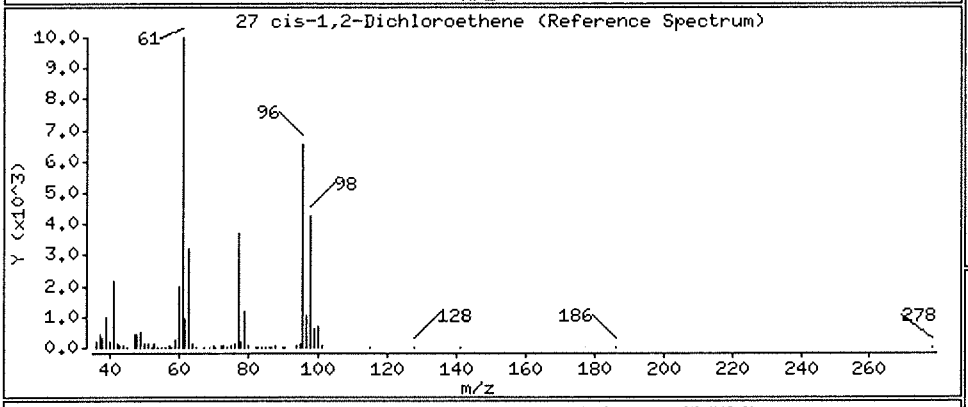
27 cis-1,2-Dichloroethene Concentration: 147.05 ug/l

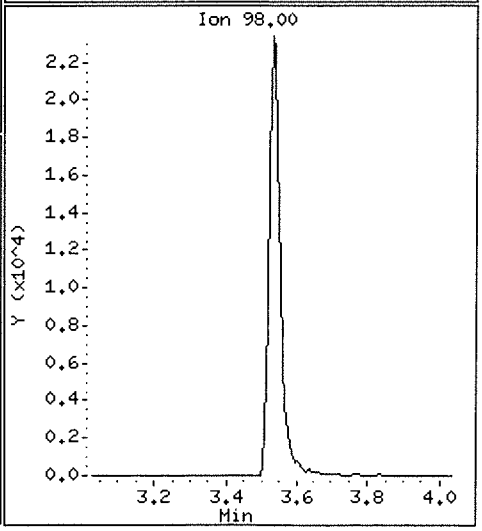


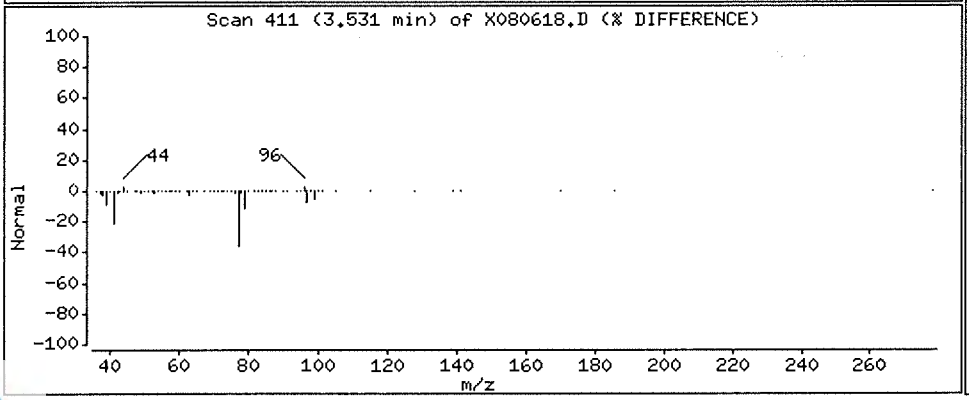












Data File: \\nahstws005\Target\chem\voa6.i\X200806.b\X080618.D Page 4

Date : 06-AUG-2020 17:48

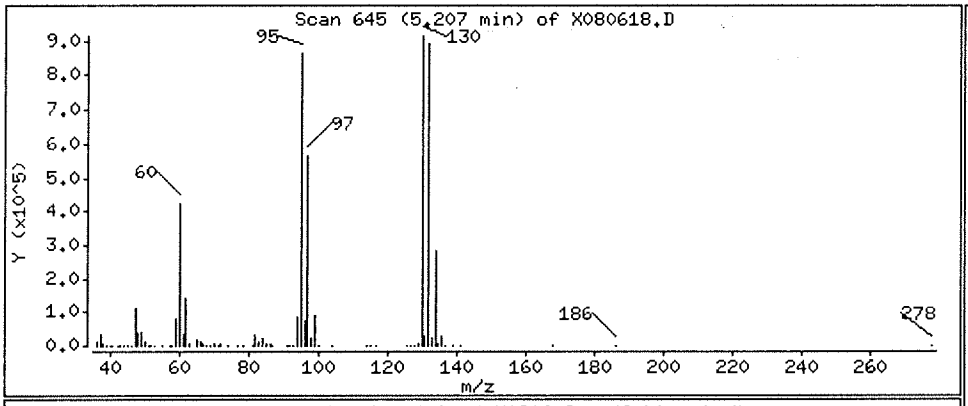
Client ID: HS20071328-15 Instrument: voa6.i

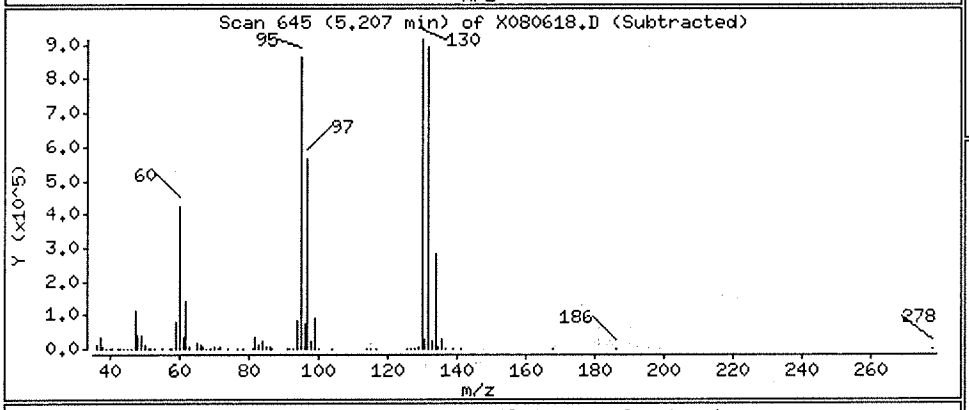
Sample Info: HS20071328-15;HS20071328-15;;;

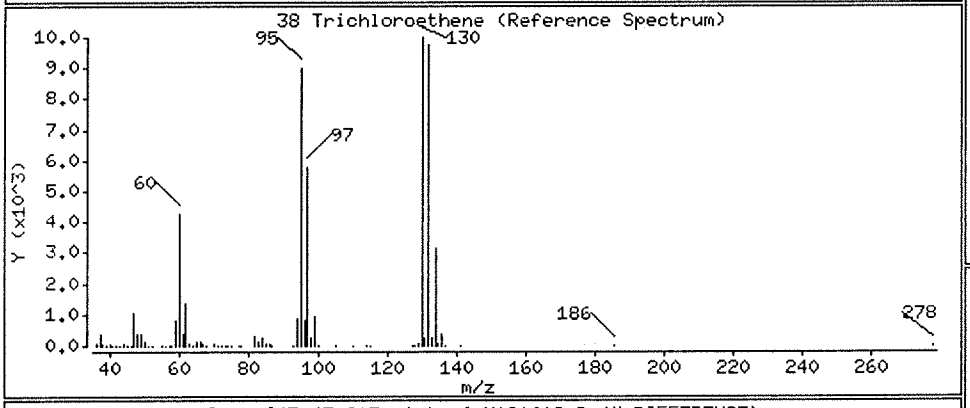
Purge Volume: 5.0 Operator: PC

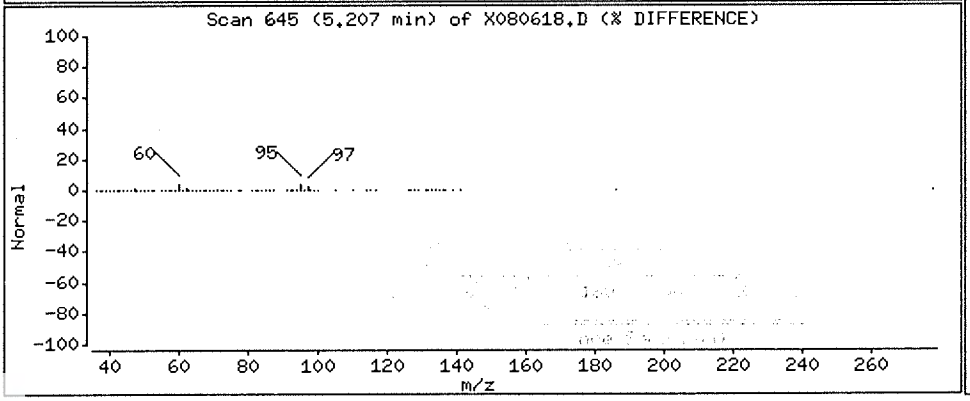
Column phase: DB624 Column diameter: 0.18

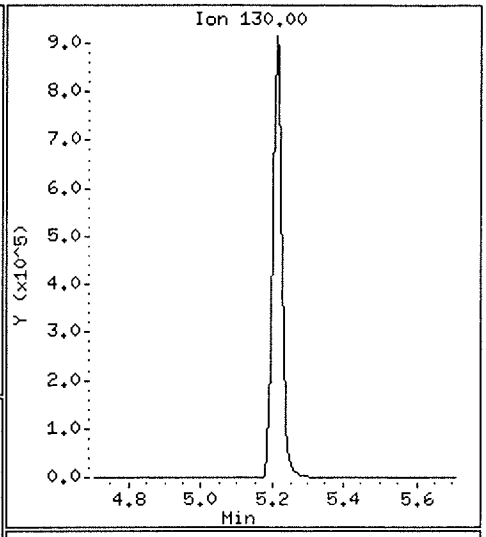
38 Trichloroethene Concentration: 3074.11 ug/l

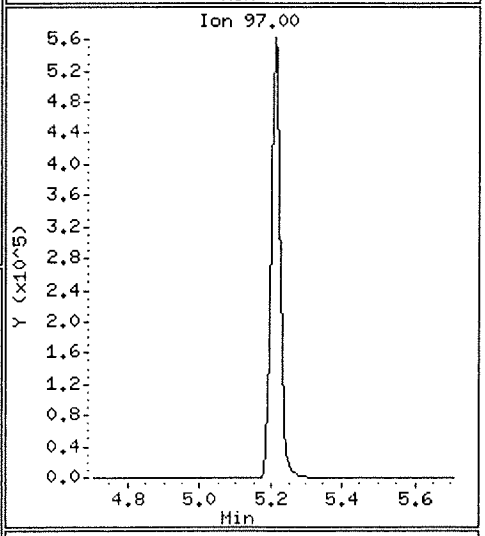


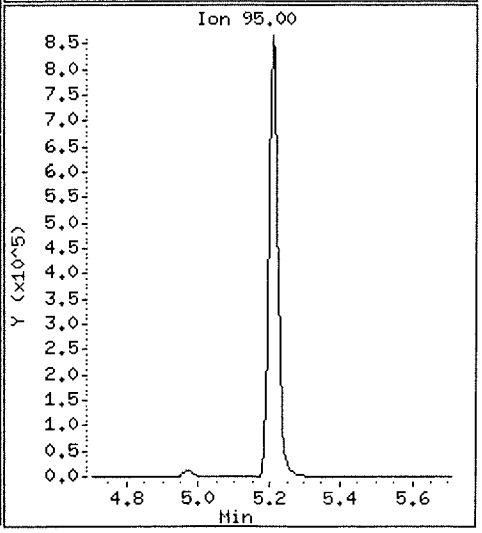












Data File: \\nahstws005\Target\chem\voa6.i\X200806.b\X080618.D

Date : 06-AUG-2020 17:48

Client ID: HS20071328-15

Instrument: voa6.i

Sample Info: HS20071328-15;HS20071328-15;;;

Purge Volume: 5.0

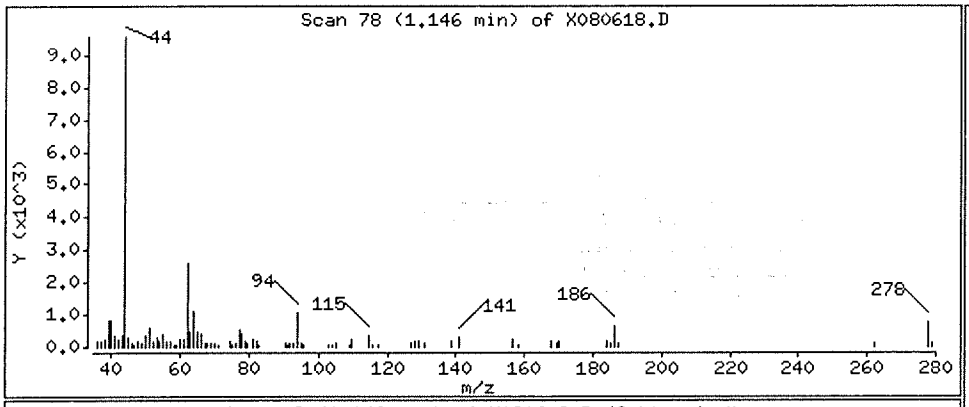
Operator: PC

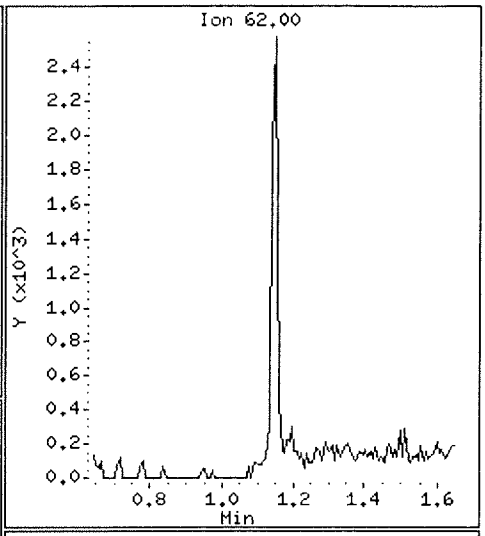
Column phase: DB624

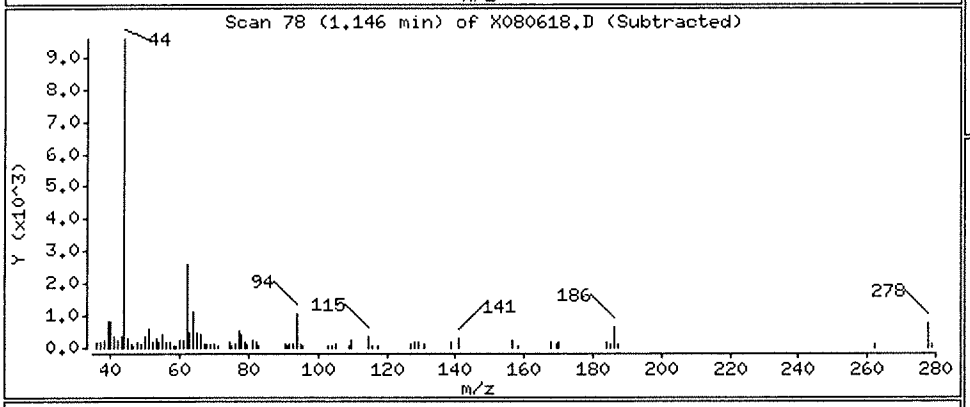
Column diameter: 0.18

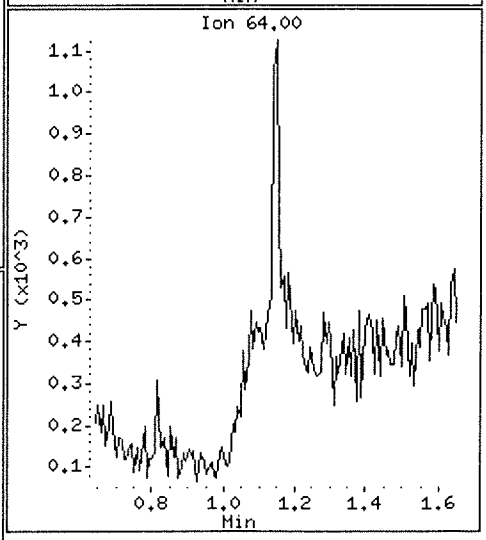
5 Vinyl Chloride

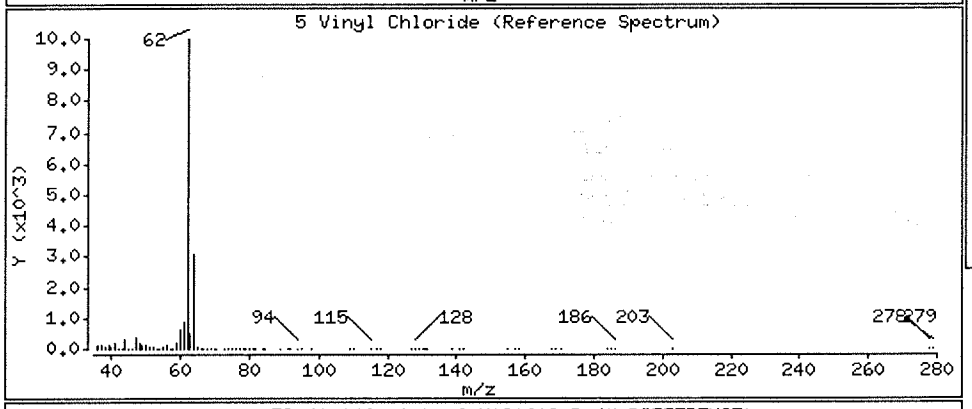
Concentration: 4.11 ug/l

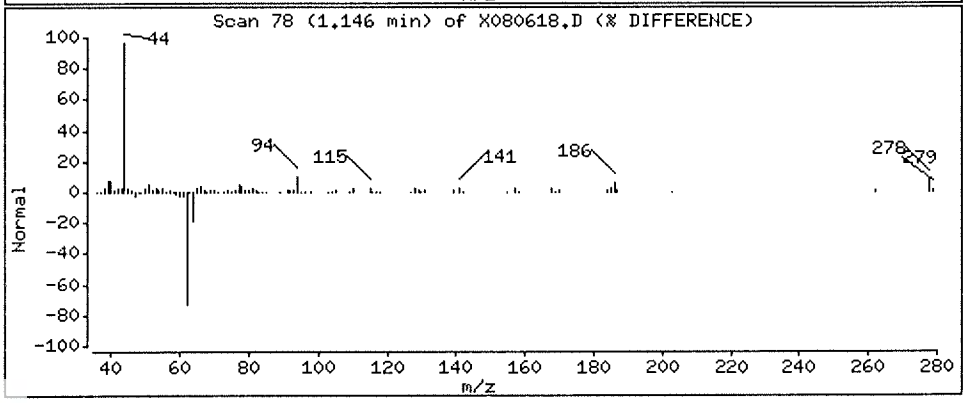












Data File: \\nahstws005\Target\chem\voa6.i\X200806.b\X080619.D Page 1
Report Date: 26-Aug-2020 09:54

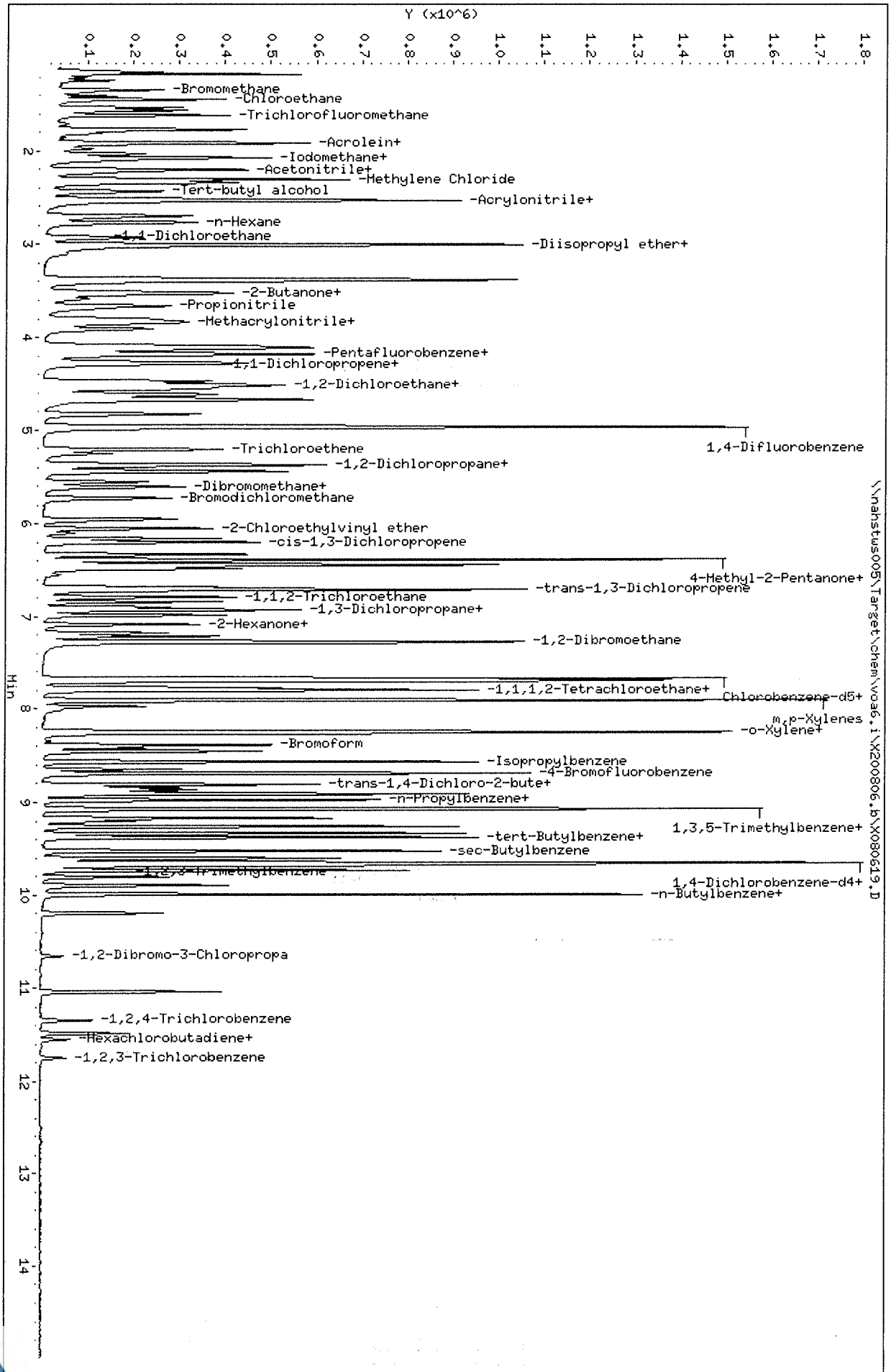
ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X200806.b\X080619.D
Lab Smp Id: HS20080189-02MS Client Smp ID: HS20080189-02MS
Inj Date : 06-AUG-2020 18:12
Operator : PC Inst ID: voa6.i
Smp Info : HS20080189-02MS;HS20080189-02MS;3;;MS
Misc Info : HS18090001;WATER;0;1;
Comment   :
Method   : \\nahstws005\Target\chem\voa6.i\X200806.b\8260W.m
Meth Date : 26-Aug-2020 09:54 voa6.i Quant Type: ISTD
Cal Date : 03-AUG-2020 14:28 Cal File: X080308.D
Als bottle: 19 QC Sample: MS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI-Hou11.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	492460	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	723449	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	650919	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	309858	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.979)	227082	46.9556	46.95
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	265288	46.2792	46.27
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	814200	51.5695	51.56
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	300288	49.3028	49.30
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	88355	23.8553	23.85
11 1,1-Dichloroethene	96	1.919	1.919	(0.458)	102605	26.2960	26.29
33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	172481	24.6243	24.62
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.843)	129250	23.8437	23.84
17 Methylene Chloride	84	2.305	2.306	(0.550)	119532	22.8192	22.81
38 Trichloroethene	130	5.214	5.207	(1.049)	135857	26.4978	26.49
5 Vinyl Chloride	62	1.145	1.145	(0.273)	160643	25.3419	25.34



Data File: \\nahstws005\Target\chem\voa6.i\X200806.b\X080619.D
Date : 06-AUG-2020 18:12
Client ID: HS20080189-02MS
Sample Info: HS20080189-02MS;HS20080189-02MS;3;;MS
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

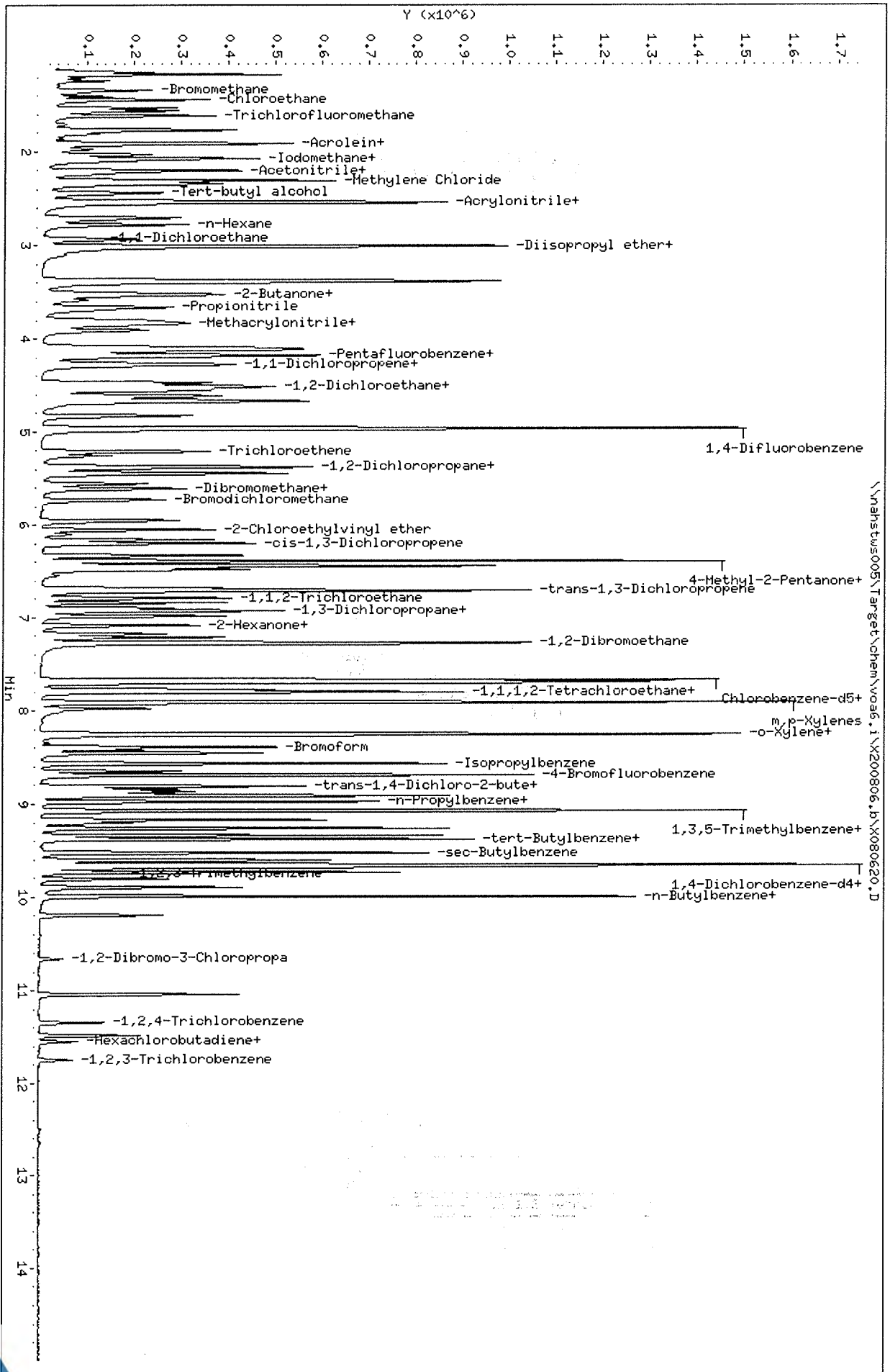
ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X200806.b\X080620.D
Lab Smp Id: HS20080189-02MSD Client Smp ID: HS20080189-02MSD
Inj Date : 06-AUG-2020 18:36
Operator : PC Inst ID: voa6.i
Smp Info : HS20080189-02MSD;HS20080189-02MSD;3;;MSD
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200806.b\8260W.m
Meth Date : 26-Aug-2020 09:54 voa6.i Quant Type: ISTD
Cal Date : 03-AUG-2020 14:28 Cal File: X080308.D
Als bottle: 19 QC Sample: MSD
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI-Hou11.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
*	1 Pentafluorobenzene	168	4.189	4.189	(1.000)	486557	50.0000	
*	36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	715220	50.0000	
*	47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	637631	50.0000	
*	70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	302740	50.0000	
$	30 Dibromofluoromethane	113	4.104	4.103	(0.979)	225002	47.0900	47.08
$	35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	260877	46.0618	46.06
$	48 Toluene-d8	98	6.389	6.388	(0.833)	808071	52.2479	52.24
$	69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	295949	49.6030	49.60
	53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	88454	24.3797	24.37
	11 1,1-Dichloroethene	96	1.919	1.919	(0.458)	95287	24.7168	24.71
	33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	167634	24.2077	24.20
	27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.843)	122935	22.9539	22.95
	17 Methylene Chloride	84	2.306	2.306	(0.550)	112149	21.6001	21.60
	38 Trichloroethene	130	5.214	5.207	(1.049)	124110	24.4851	24.48
	5 Vinyl Chloride	62	1.145	1.145	(0.273)	145123	23.1713	23.17



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Date : 06-AUG-2020 18:36
Client ID: HS20080189-02MSD
Sample Info: HS20080189-02MSD;HS20080189-02MSD;3;;MSD
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

Data File: \\nahstws005\Target\chem\voa6.i\X200806.b\X080621.D Page 1
Report Date: 26-Aug-2020 09:51

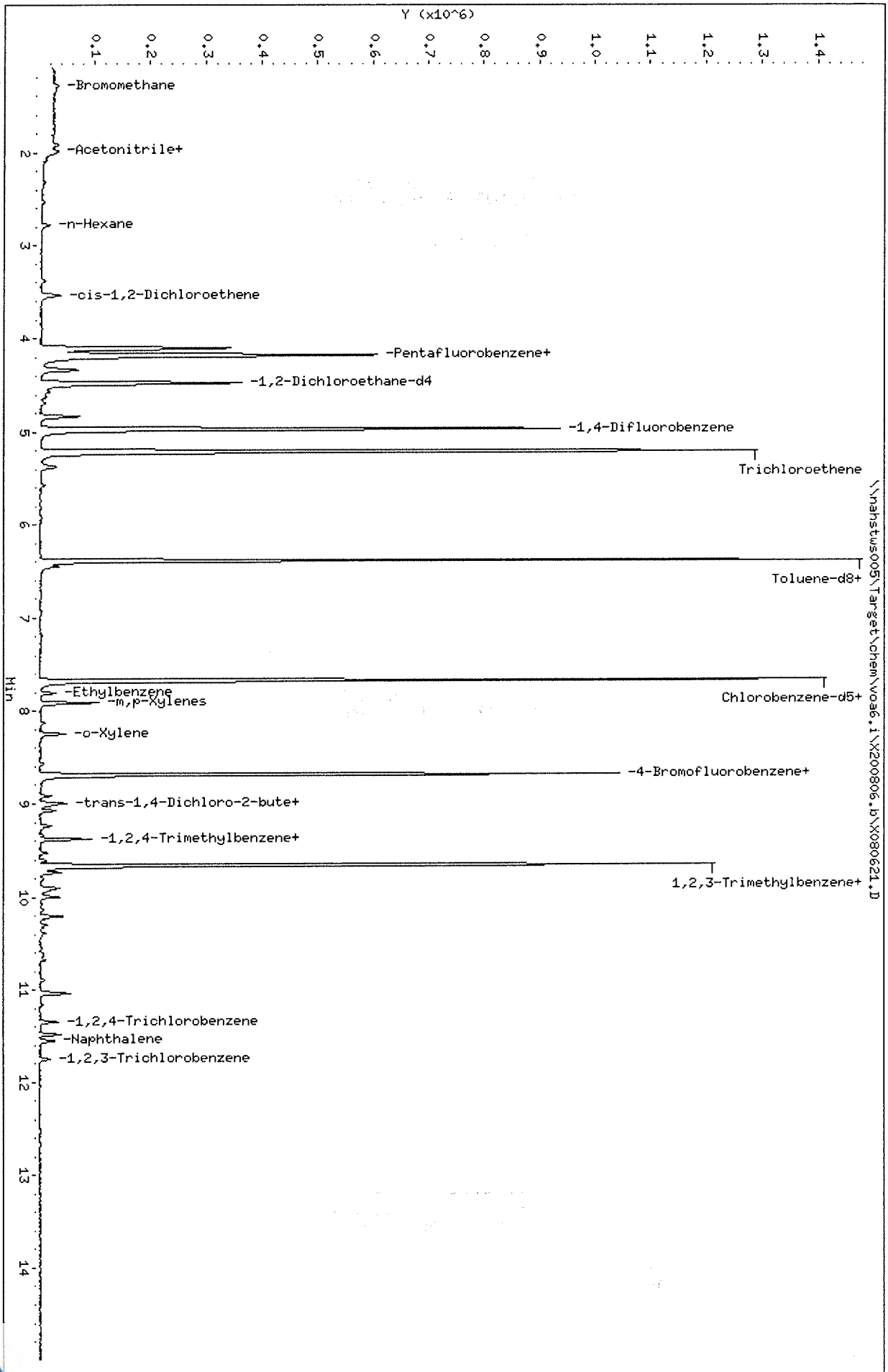
ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X200806.b\X080621.D
Lab Smp Id: HS20071328-08 Client Smp ID: HS20071328-08
Inj Date : 06-AUG-2020 19:00
Operator : PC Inst ID: voa6.i
Smp Info : HS20071328-08;HS20071328-08;;;
Misc Info : HS18090001;WATER;0;50;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200806.b\8260W.m
Meth Date : 26-Aug-2020 09:50 voa6.i Quant Type: ISTD
Cal Date : 03-AUG-2020 14:28 Cal File: X080308.D
Als bottle: 20
Dil Factor: 50.00000
Integrator: HP RTE Compound Sublist: CBI-Hou11.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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	4.189	(1.000)	505606	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	745565	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	648758	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	299976	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	228871	46.0950	46.09
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	270288	45.9255	45.92
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	833226	52.9503	52.95
$ 69 4-Bromofluorobenzene	95	8.695	8.688	(1.134)	297088	48.9399	48.93
27 cis-1,2-Dichloroethene	96	3.538	3.530	(0.846)	18716	3.36291	168.14
38 Trichloroethene	130	5.214	5.207	(1.049)	438683	83.0234	4151.17



Data File: \\nahstws005\Target\chem\voa6.i\X200806.b\X080621.D
Date : 06-AUG-2020 19:00
Client ID: HS20071328-08
Sample Info: HS20071328-08;HS20071328-08;;;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

Data File: \\nahstws005\Target\chem\voa6.i\X200806.b\X080621.D Page 3

Date : 06-AUG-2020 19:00

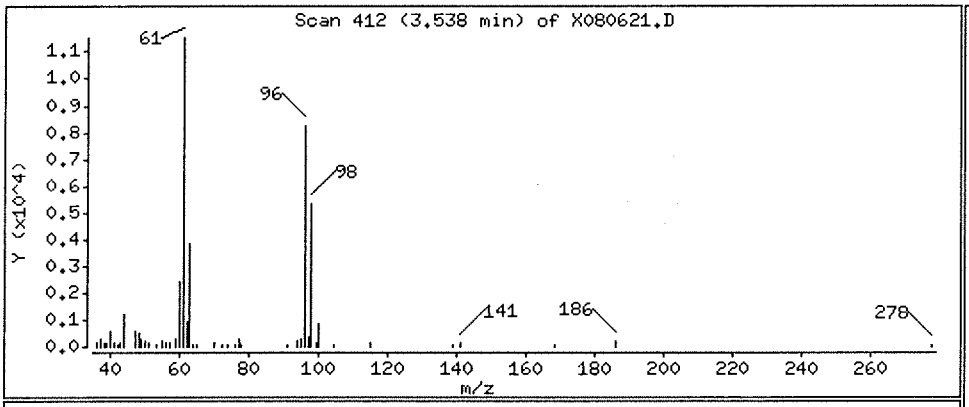
Client ID: HS20071328-08 Instrument: voa6.i

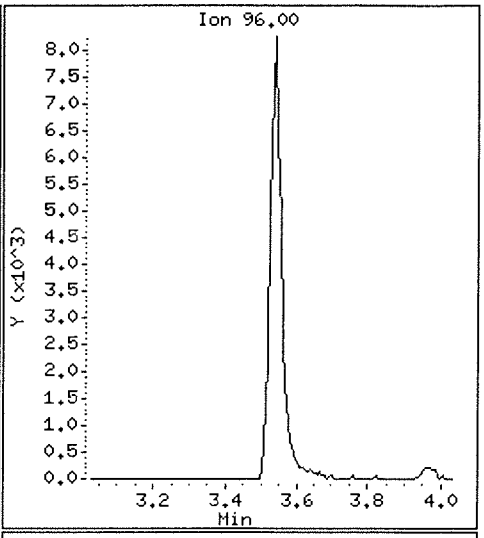
Sample Info: HS20071328-08;HS20071328-08;;;

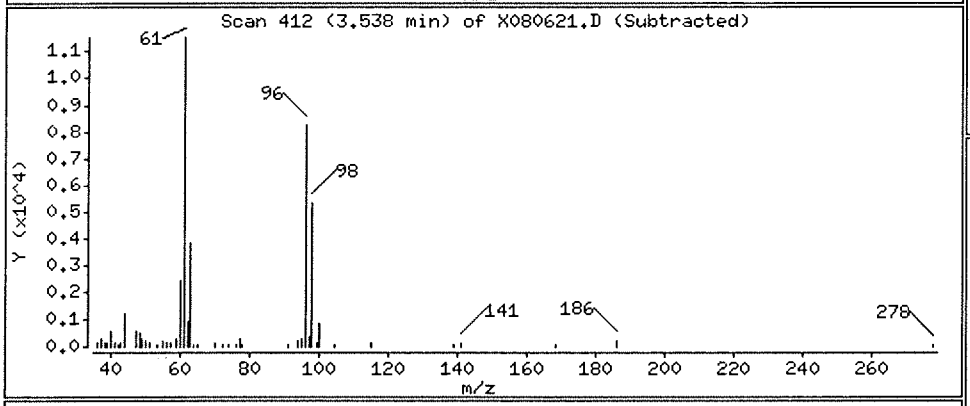
Purge Volume: 5.0 Operator: PC

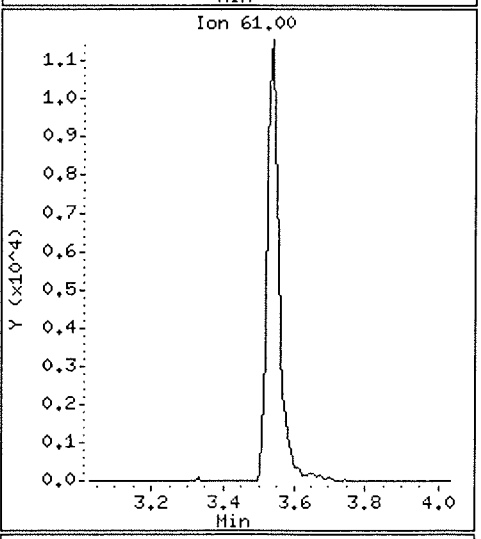
Column phase: DB624 Column diameter: 0.18

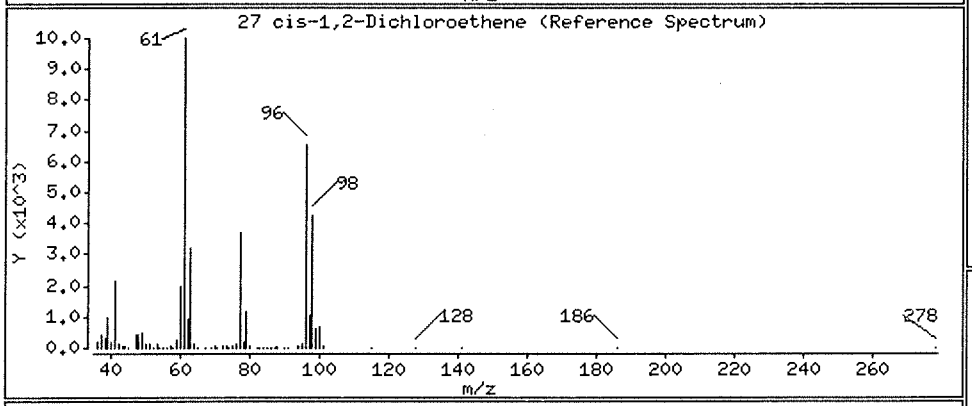
27 cis-1,2-Dichloroethene Concentration: 168.14 ug/l

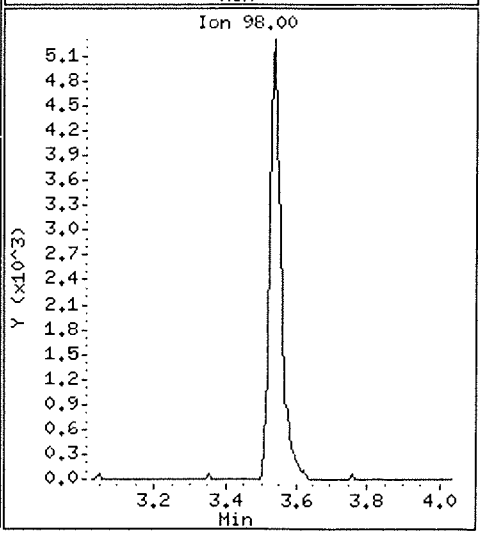


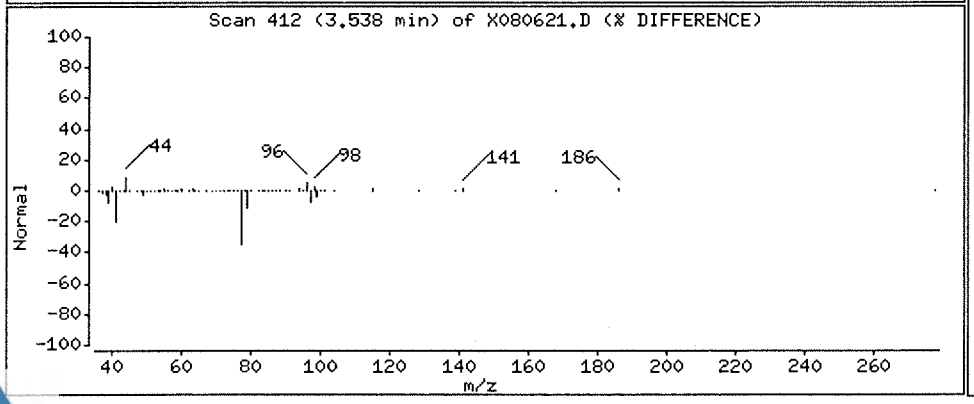












Data File: \\nahstws005\Target\chem\voa6.i\X200806.b\X080621.D Page 4

Date : 06-AUG-2020 19:00

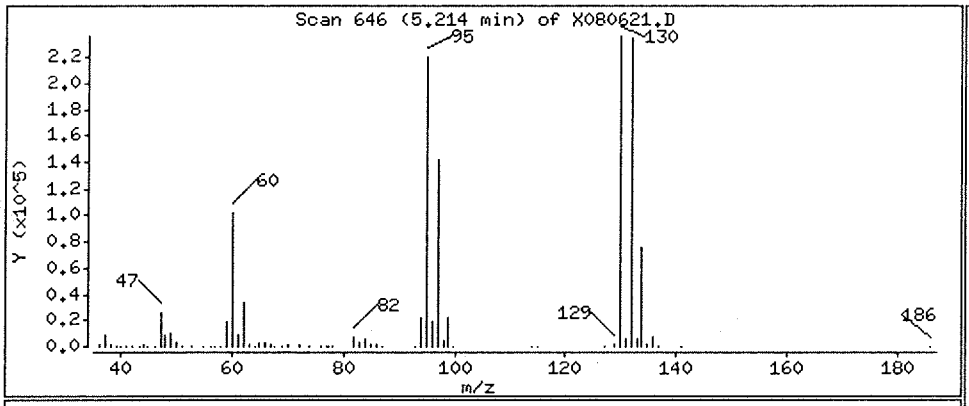
Client ID: HS20071328-08 Instrument: voa6.i

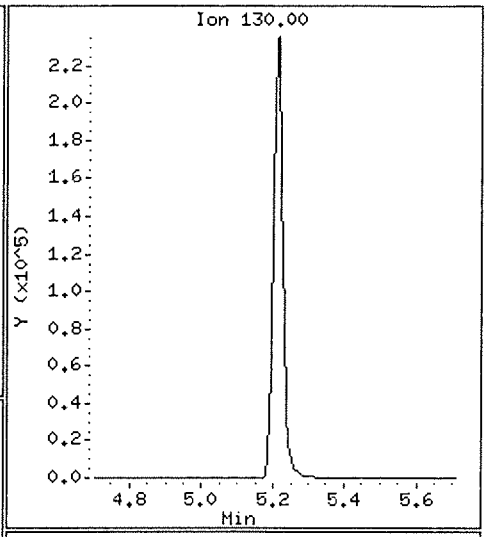
Sample Info: HS20071328-08;HS20071328-08;;;

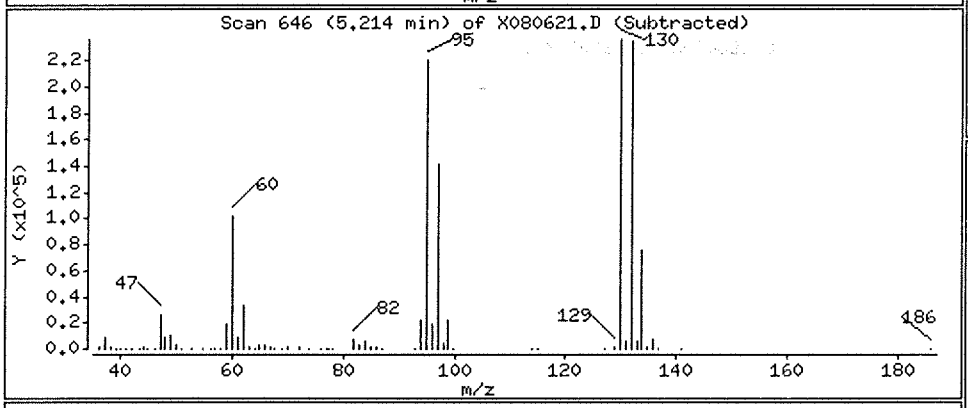
Purge Volume: 5.0 Operator: PC

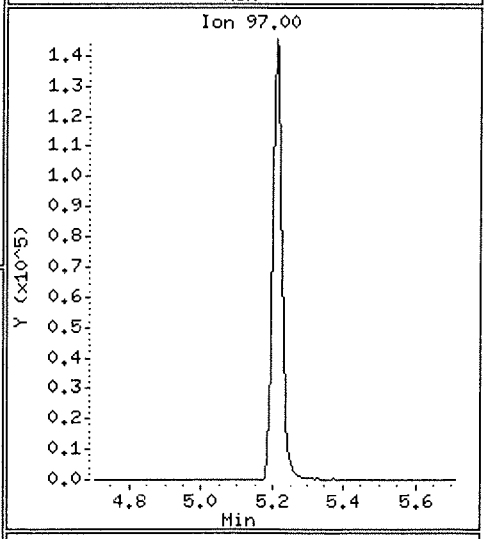
Column phase: DB624 Column diameter: 0.18

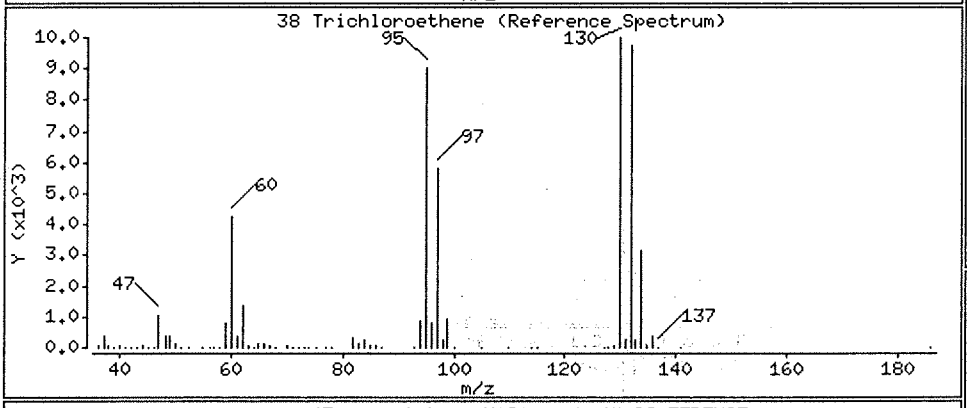
38 Trichloroethene Concentration: 4151.17 ug/l

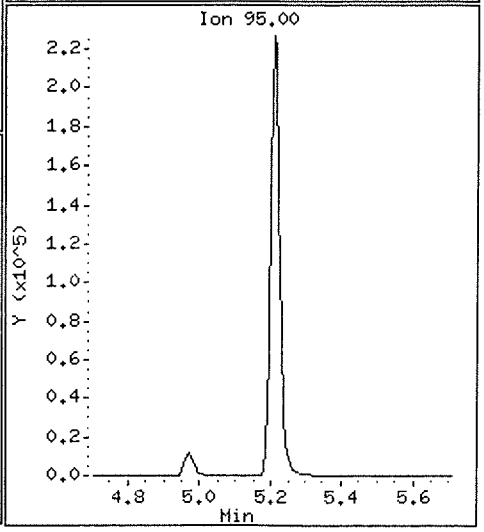


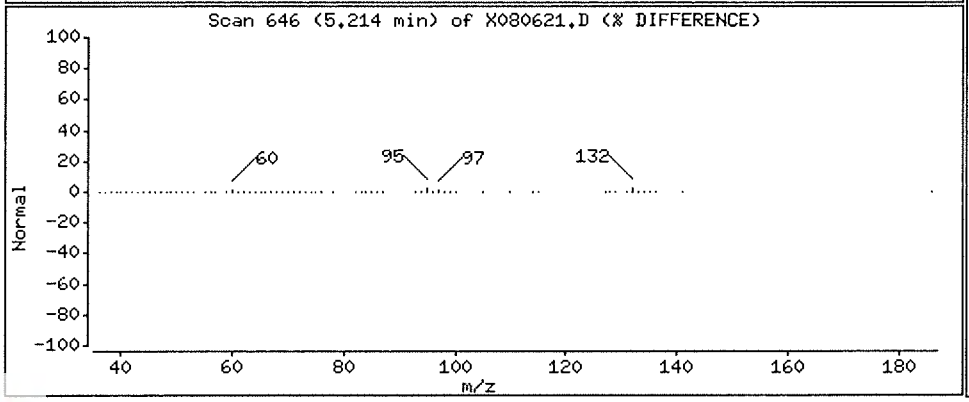












Data File: \\nahstws005\Target\chem\voa6.i\X200806.b\X080622.D Page 1
Report Date: 26-Aug-2020 09:51

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X200806.b\X080622.D
Lab Smp Id: HS20071328-15 Client Smp ID: HS20071328-15
Inj Date : 06-AUG-2020 19:24
Operator : PC Inst ID: voa6.i
Smp Info : HS20071328-15;HS20071328-15;;;
Misc Info : HS18090001;WATER;0;100;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200806.b\8260W.m
Meth Date : 26-Aug-2020 09:50 voa6.i Quant Type: ISTD
Cal Date : 03-AUG-2020 14:28 Cal File: X080308.D
Als bottle: 21
Dil Factor: 100.00000
Integrator: HP RTE Compound Sublist: CBI-Hou11.sub
Target Version: 4.14
Processing Host: NAHSTW7056

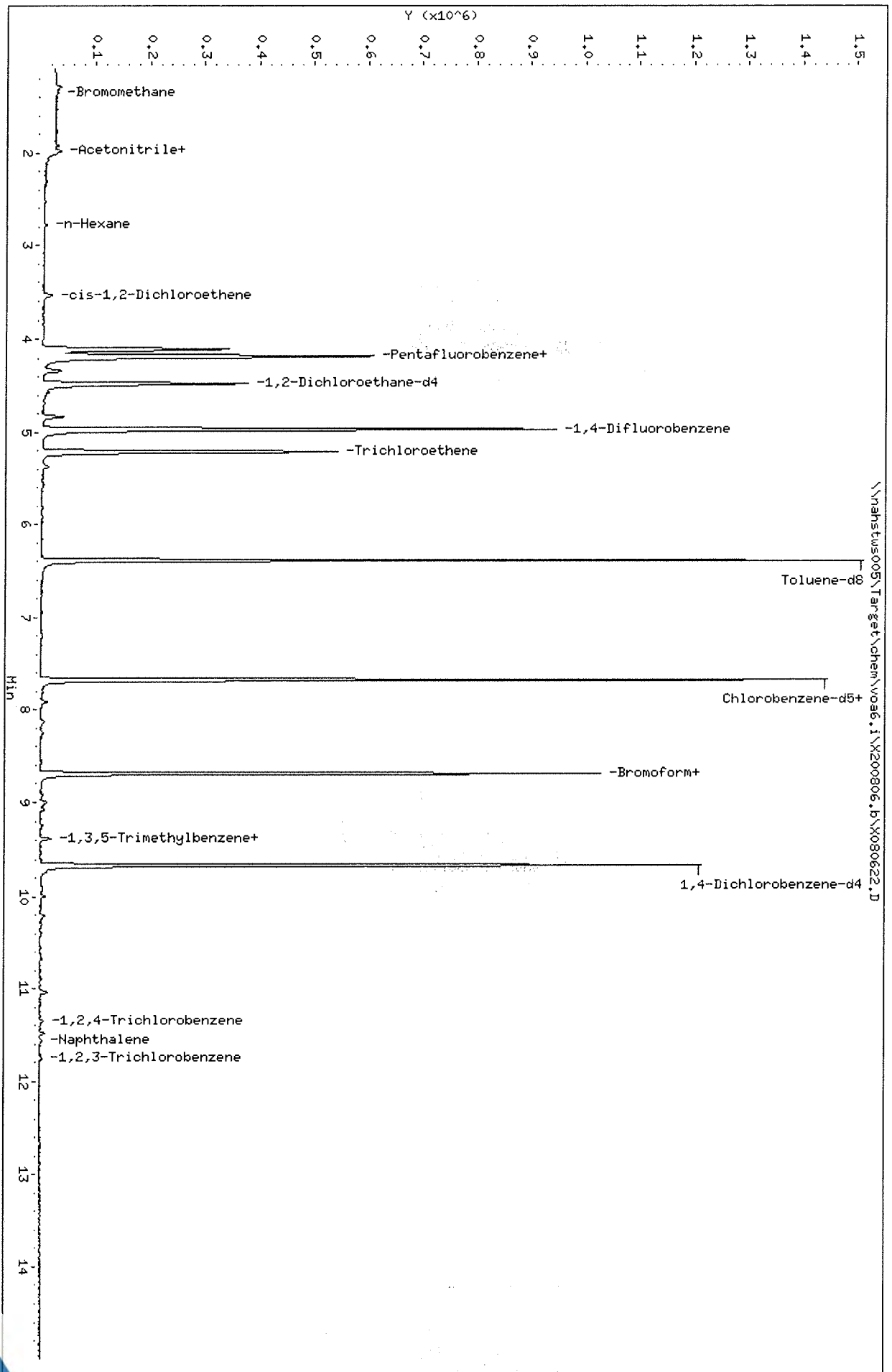
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	100.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.189	(1.000)	508987	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	753145	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	658346	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.669	(1.000)	299995	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	232041	46.4231	46.42
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	275868	46.5622	46.56
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	843179	52.8025	52.80
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	303154	49.2118	49.21
27 cis-1,2-Dichloroethene	96	3.538	3.530	(0.846)	9103	1.62477	162.47
38 Trichloroethene	130	5.214	5.207	(1.049)	185645	34.7808	3478.08

Data File: \\nahstws005\Target\chem\voa6.i\X200806.b\X080622.D
Date : 06-AUG-2020 19:24
Client ID: HS200713Z8-15
Sample Info: HS200713Z8-15;HS200713Z8-15;;;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18



Data File: \\nahstws005\Target\chem\voa6.i\X200806.b\X080622.D Page 3

Date : 06-AUG-2020 19:24

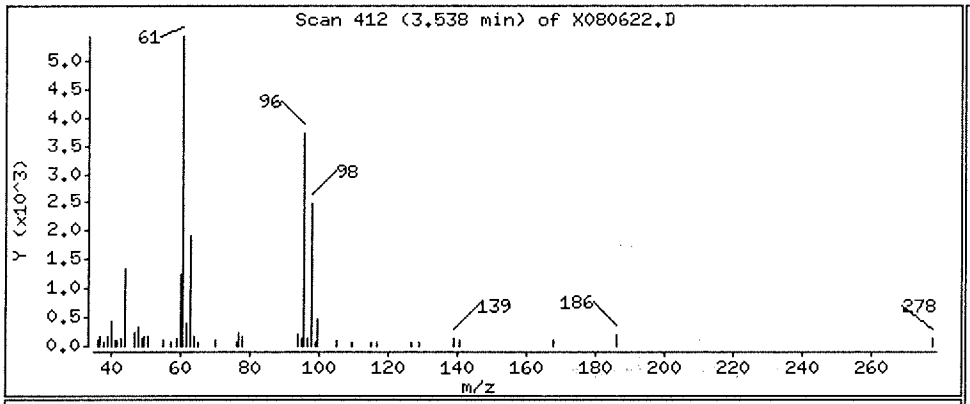
Client ID: HS20071328-15 Instrument: voa6.i

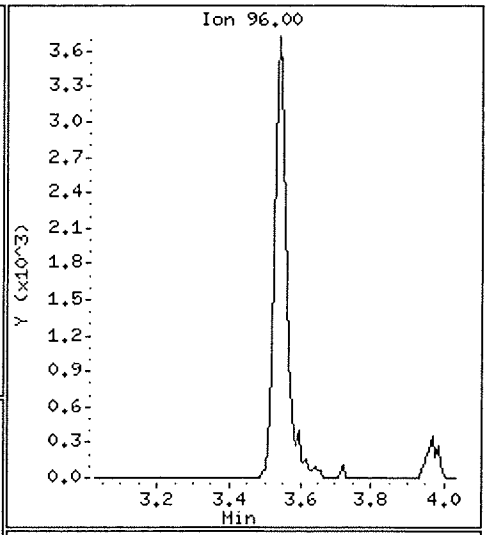
Sample Info: HS20071328-15;HS20071328-15;;;

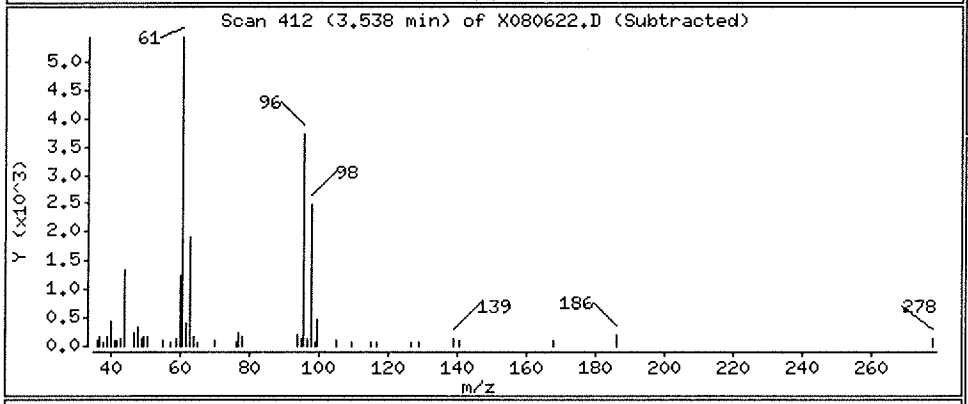
Purge Volume: 5.0 Operator: PC

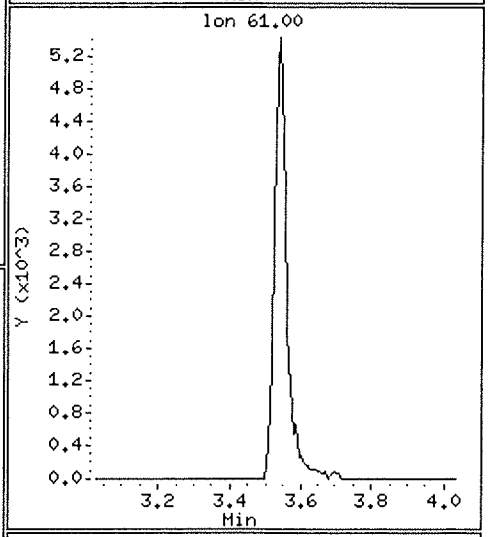
Column phase: DB624 Column diameter: 0.18

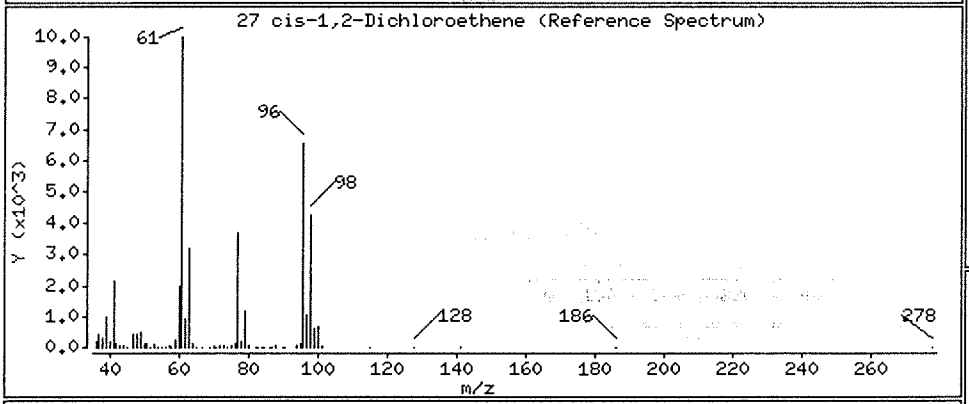
27 cis-1,2-Dichloroethene Concentration: 162.47 ug/l

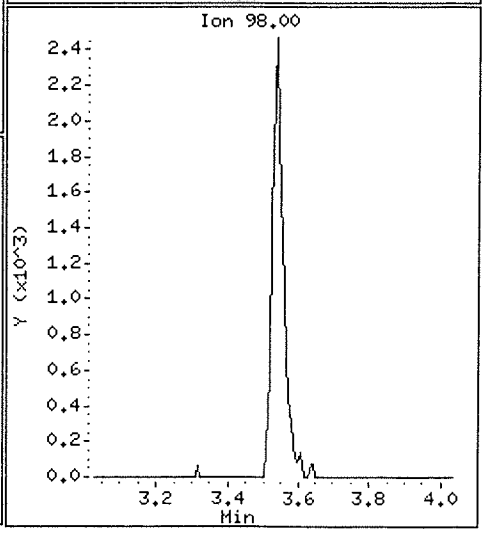


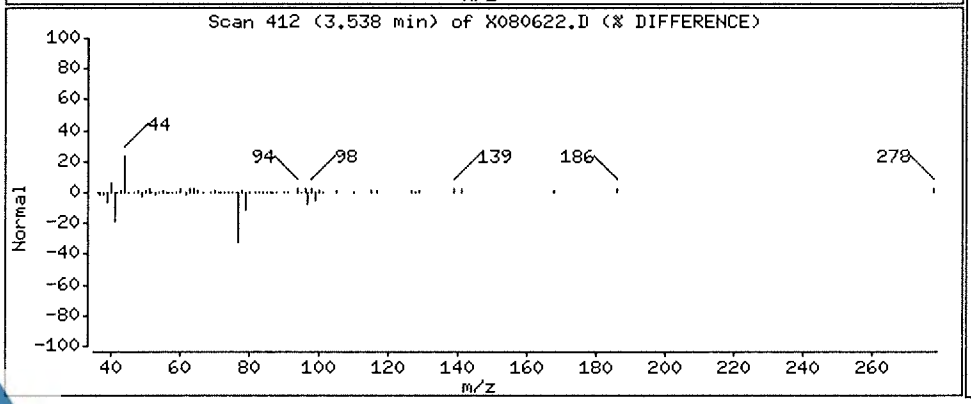












Data File: \\nahstws005\Target\chem\voa6.i\X200806.b\X080622.D Page 4

Date : 06-AUG-2020 19:24

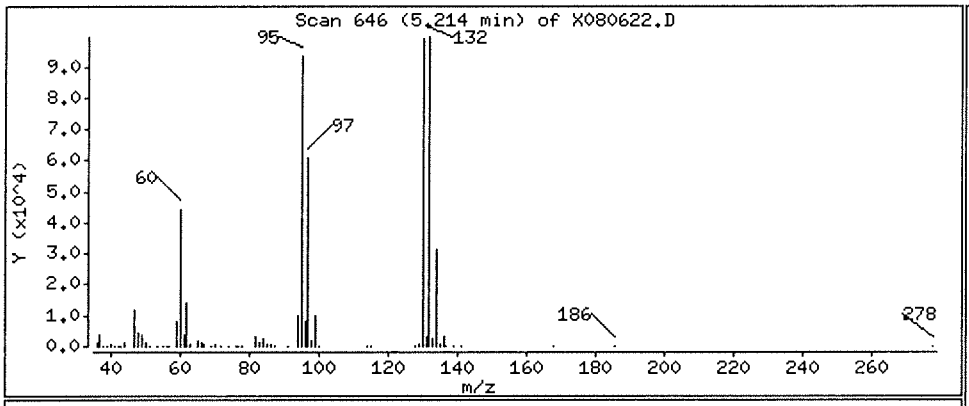
Client ID: HS20071328-15 Instrument: voa6.i

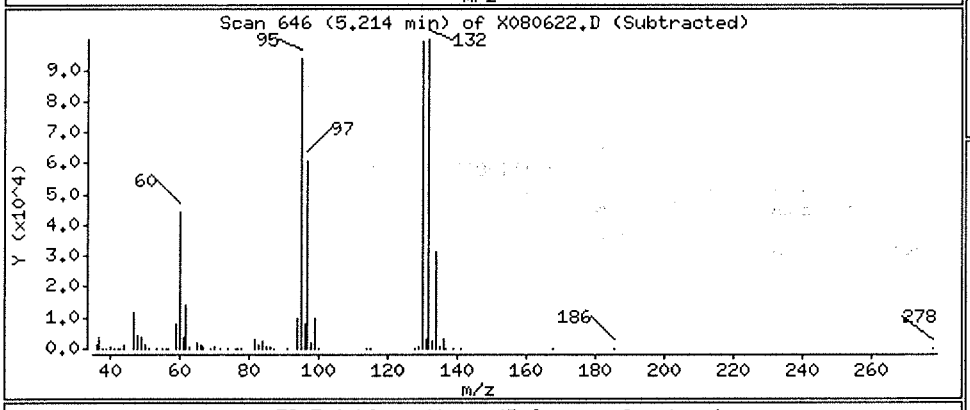
Sample Info: HS20071328-15;HS20071328-15;;;

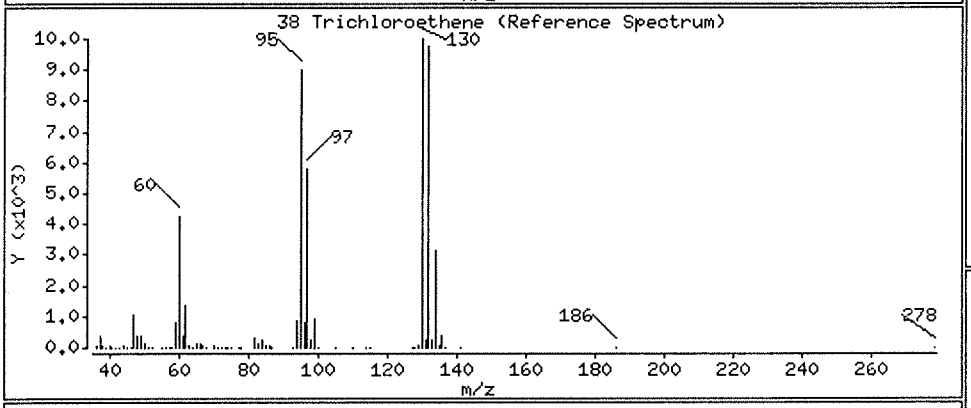
Purge Volume: 5.0 Operator: PC

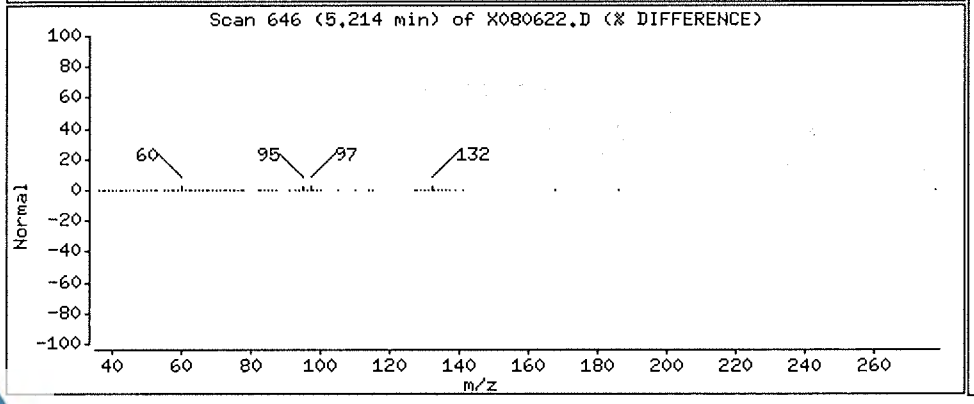
Column phase: DB624 Column diameter: 0.18

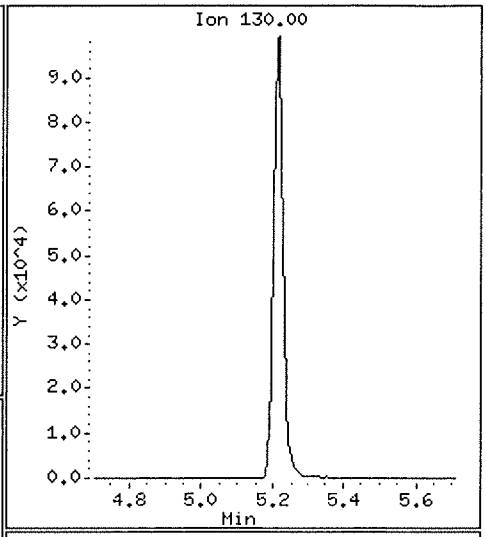
38 Trichloroethene Concentration: 3478.08 ug/l

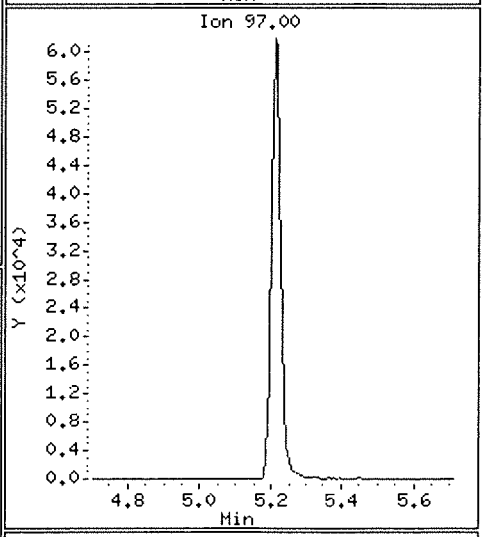


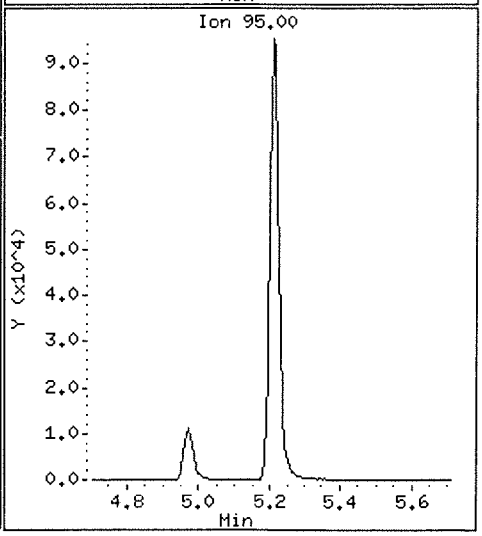












Data File: \\nahstws005\Target\chem\voa6.i\X200806.b\X080629.D Page 1
Report Date: 26-Aug-2020 09:54

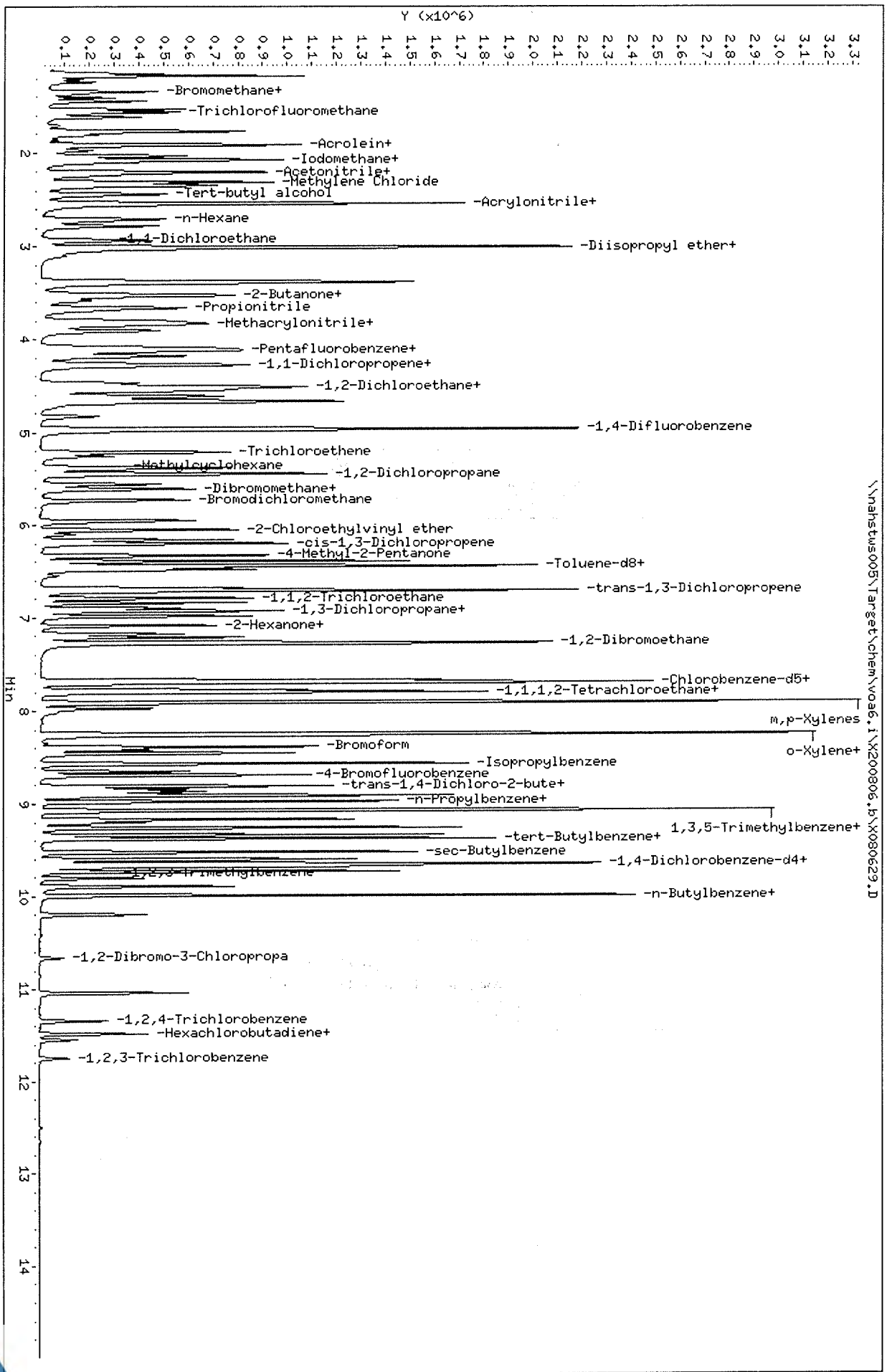
ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X200806.b\X080629.D
Lab Smp Id: CCV-END Client Smp ID: CCV-END
Inj Date : 06-AUG-2020 22:13
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\X200806.b\8260W.m
Meth Date : 26-Aug-2020 09:54 voa6.i Quant Type: ISTD
Cal Date : 03-AUG-2020 14:28 Cal File: X080308.D
Als bottle: 28 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI-Hou11.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	479956	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	756164	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	692159	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	318742	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.979)	238305	50.0000	50.56
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	281119	50.0000	50.31
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	811514	50.0000	48.33
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	307611	50.0000	47.49
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	184719	50.0000	46.90
11 1,1-Dichloroethene	96	1.919	1.919	(0.458)	198036	50.0000	52.07
33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	357406	50.0000	48.81
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.843)	267852	50.0000	50.70
17 Methylene Chloride	84	2.306	2.306	(0.550)	251485	50.0000	50.85
38 Trichloroethene	130	5.214	5.214	(1.049)	263037	50.0000	49.08
5 Vinyl Chloride	62	1.145	1.145	(0.273)	320345	50.0000	51.85



Data File: \\nahstws005\Target\chem\voa6.i\X200806.b\X080629.D
Date : 06-AUG-2020 22:13
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

HS20071328 RSK175 Raw Data

ALS WO# HS20071328

FID04 -Logbook

Batch: 26730 **Analyst:** Nosa Izekor

Date: 01-24-2017 **Reviewer:**

Method: RSK 175 ICAL **Laboratory:** Houston

Comments: Target Sequence 170124

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	pH
1	ICAL1	CALIB_1	01-24-2017 09:06 am	1.00	0.00 mL	0.00 mL	001.D	Liquid	Y	NA
2	ICAL2	CALIB_2	01-24-2017 09:30 am	1.00	0.00 mL	0.00 mL	002.D	Liquid	Y	NA
3	ICAL3	CALIB_3	01-24-2017 09:59 am	1.00	0.00 mL	0.00 mL	003.D	Liquid	Y	NA
4	ICAL4	CALIB_4	01-24-2017 10:15 am	1.00	0.00 mL	0.00 mL	004.D	Liquid	Y	NA
5	ICAL5	CALIB_5	01-24-2017 10:39 am	1.00	0.00 mL	0.00 mL	005.D	Liquid	Y	NA
6	ICAL6	CALIB_6	01-24-2017 10:57 am	1.00	0.00 mL	0.00 mL	006.D	Liquid	Y	NA
7	ICAL7	CALIB_7	01-24-2017 11:13 am	1.00	0.00 mL	0.00 mL	007.D	Liquid	Y	NA
8	ICV	METHSPIKI	01-24-2017 12:05 pm	1.00	0.00 mL	0.00 mL	008.D	Liquid	Y	NA
9	LCS-170124	LCS	01-24-2017 12:24 pm	1.00	0.00 mL	0.00 mL	009.D	Liquid	Y	NA
10	LCSD-170124	LCSD	01-24-2017 12:40 pm	1.00	0.00 mL	0.00 mL	010.D	Liquid	Y	NA
11	MBLK-170124	MBLK	01-24-2017 12:57 pm	1.00	0.00 mL	0.00 mL	011.D	Liquid	Y	NA
12	HS17010778-01	SAMP	01-24-2017 01:14 pm	1.00	0.00 mL	0.00 mL	012.D	Liquid	Y	NA
13	HS17010779-01	SAMP	01-24-2017 01:31 pm	1.00	0.00 mL	0.00 mL	013.D	Liquid	Y	NA
14	HS17010779-01DUP	SAMP	01-24-2017 01:47 pm	1.00	0.00 mL	0.00 mL	014.D	Liquid	Y	NA
15	CCV	CCV	01-24-2017 02:01 pm	1.00	0.00 mL	0.00 mL	015.D	Liquid	Y	NA

Chemical	Value
ICAL STD ID	30010700217
ICV STD ID	30010700610

FORM 3
WATER GASES METHOD SPIKE RECOVERY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20071328

Matrix Spike - ENG SC Sample No.: ICV

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE AMOUNT ()	% REC #	QC. LIMITS REC.
Ethene	16.800	19.106	114	75-125
Methane	9.647	9.591	99	75-125
Ethane	18.043	20.117	111	75-125
Propane	26.463	27.184	103	75-125
N-Butane	34.955	36.314	104	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.: HS20071328

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	590.504	567.359	564.985	527.151	665.282	428.186
Methane	968.912	978.238	1019.699	880.798	960.713	935.006
Ethane	641.274	670.177	658.908	624.082	808.513	821.648
Propane	500	1279	2602	4785	18436	38286
N-Butane	474	1032	2082	3780	18270	42405

FORM VI GASES

FORM 6
GASES INITIAL CALIBRATION DATA

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS2007132

Instrument ID: FID-4 Calibration Date(s): 01/24/17 01/24/17

Column: RTX-PLOT ID: 0.53 (mm) Calibration Time(s): 0906 1113

RF1000: 007

COMPOUND	RF1000	CURVE	COEFFICENTS A0	A1	A2	%RSD OR R^2	MA
Ethene	756.854	AVRG		585.760435		17.722	
Methane	1081.580	AVRG		974.992337		6.498	
Ethane	811.824	AVRG		719.489678		12.458	
Propane	96632	2ORDR	0.97326263	1.526e-003	-4.56e-009	0.9990955	0
N-Butane	114164	2ORDR	2.40105031	1.857e-003	-5.73e-009	0.9980163	0

FORM VI GASES

Data File: \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\001.D Page 1
Report Date: 08-Apr-2020 12:18

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\001.D
Lab Smp Id: ICAL1 Client Smp ID: ICAL1
Inj Date : 24-JAN-2017 09:06
Operator : JA Inst ID: FID-4.i
Smp Info : ICAL1;ICAL1;;;
Misc Info :
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\170124A.b\RSKNI2.m
Meth Date : 26-Feb-2020 16:33 Purvi.lad Quant Type: ESTD
Cal Date : 24-JAN-2017 09:06 Cal File: 001.D
Als bottle: 1 Calibration Sample, Level: 1
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: stdNIP2.sub
Target Version: 4.14

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	ON-COL (ug/L)
1 Methane	1.043	1.030	0.013	374	0.38600	0.383(a)
2 Ethene	1.553	1.556	-0.003	361	0.67400	0.615(a)
3 Ethane	1.716	1.723	-0.007	435	0.72200	0.590(a)
4 Propane	4.073	4.113	-0.040	500	1.05900	1.743
5 N-Butane	7.640	7.690	-0.050	438	1.39800	3.271

QC Flag Legend

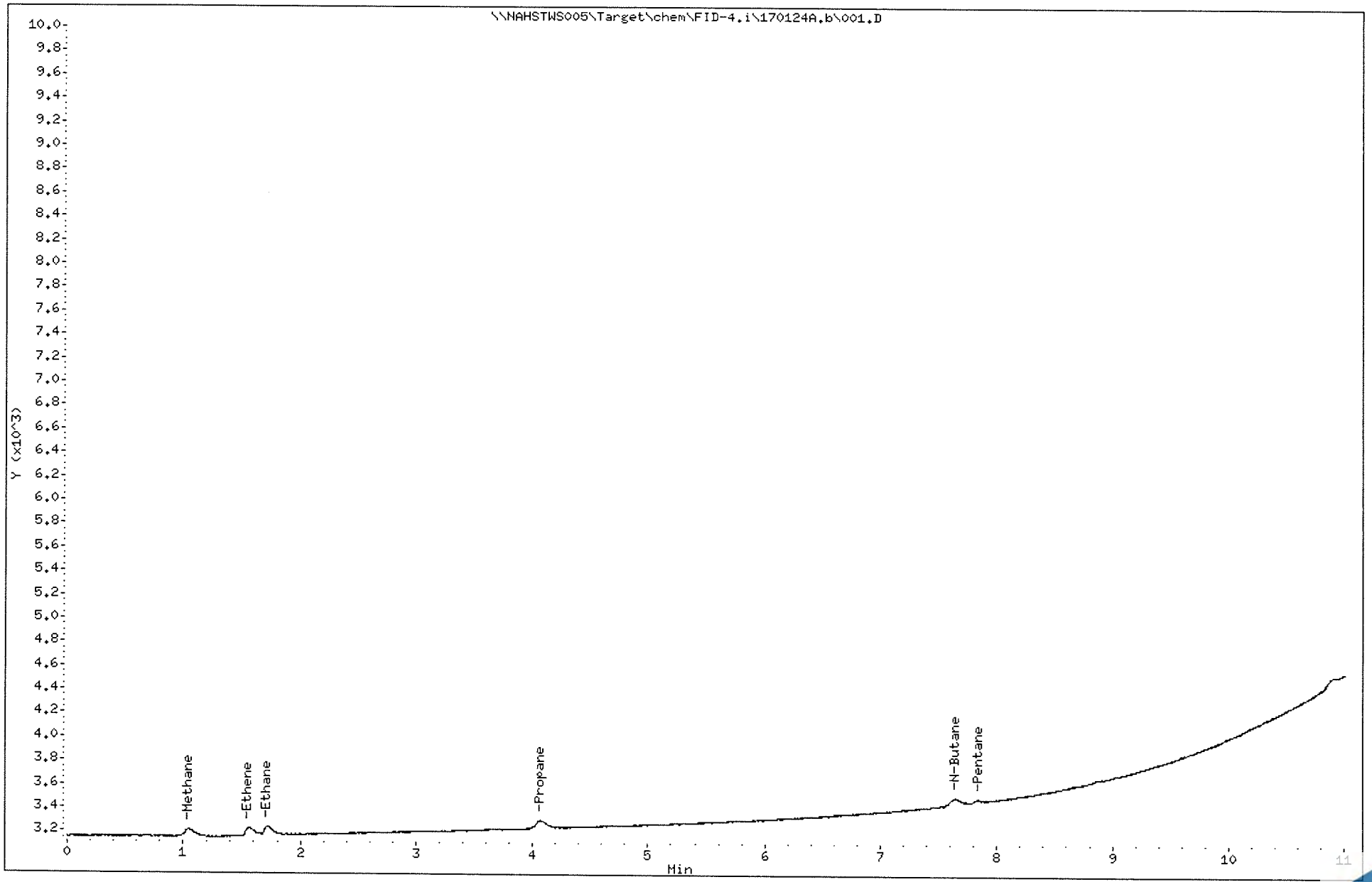
a - Target compound detected but, quantitated amount Below Limit Of Quantitation(BLOQ).

Data File: \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\001.D
Date : 24-JAN-2017 09:06
Client ID: ICAL1
Sample Info: ICAL1;ICAL1;;;

Column phase: Rtx-PLOT

Instrument: FID-4.i

Operator: JA
Column diameter: 0.53



Data File: \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\002.D Page 1
Report Date: 08-Apr-2020 12:18

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\002.D
Lab Smp Id: ICAL2 Client Smp ID: ICAL2
Inj Date : 24-JAN-2017 09:30
Operator : MA Inst ID: FID-4.i
Smp Info : ICAL2;ICAL2;;;
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\170124A.b\RSKNI2.m
Meth Date : 26-Feb-2020 16:33 Purvi.lad Quant Type: ESTD
Cal Date : 24-JAN-2017 09:59 Cal File: 003.D
Als bottle: 2 Calibration Sample, Level: 2
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: stdNIP2.sub
Target Version: 4.14

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

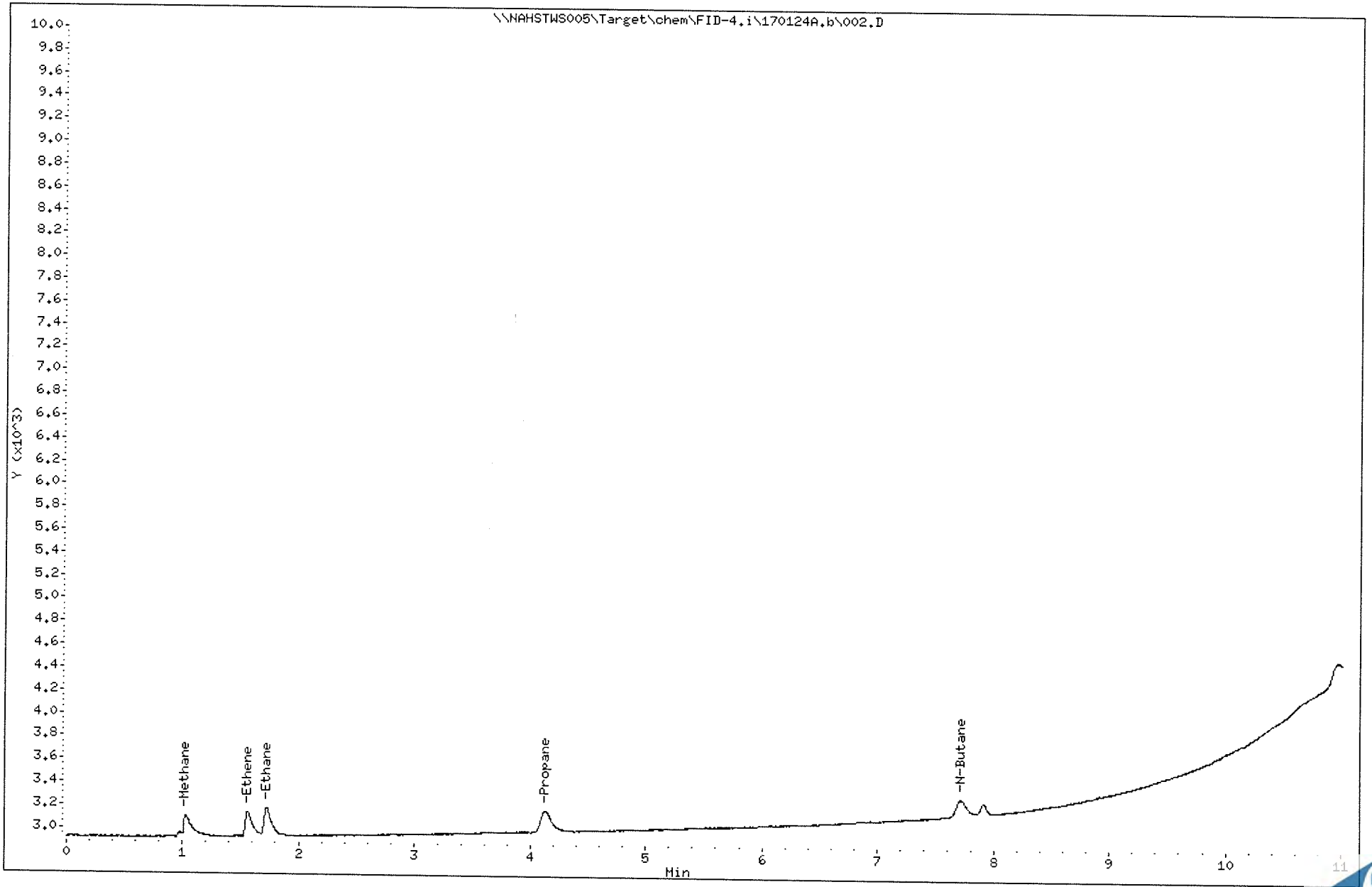
					AMOUNTS	
					CAL-AMT	ON-COL
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/L)	(ug/L)
1 Methane	1.023	1.030	-0.007	944	0.96500	0.968
2 Ethene	1.560	1.556	0.004	956	1.68500	1.630
3 Ethane	1.723	1.723	0.000	1209	1.80400	1.641
4 Propane	4.123	4.113	0.010	1279	2.64600	2.927
5 N-Butane	7.716	7.690	0.026	936	3.49600	4.180

Data File: \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\002.D
Date : 24-JAN-2017 09:30
Client ID: ICAL2
Sample Info: ICAL2;ICAL2;;;

Column phase: Rtx-PLOT

Instrument: FID-4.i

Operator: MA
Column diameter: 0.53



Data File: \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\003.D Page 1
Report Date: 08-Apr-2020 12:18

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\003.D
Lab Smp Id: ICAL3 Client Smp ID: ICAL3
Inj Date : 24-JAN-2017 09:59
Operator : MA Inst ID: FID-4.i
Smp Info : ICAL3;ICAL3;;;
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\170124A.b\RSKNI2.m
Meth Date : 26-Feb-2020 16:33 Purvi.lad Quant Type: ESTD
Cal Date : 24-JAN-2017 11:13 Cal File: 007.D
Als bottle: 3 Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: stdNIP2.sub
Target Version: 4.14

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

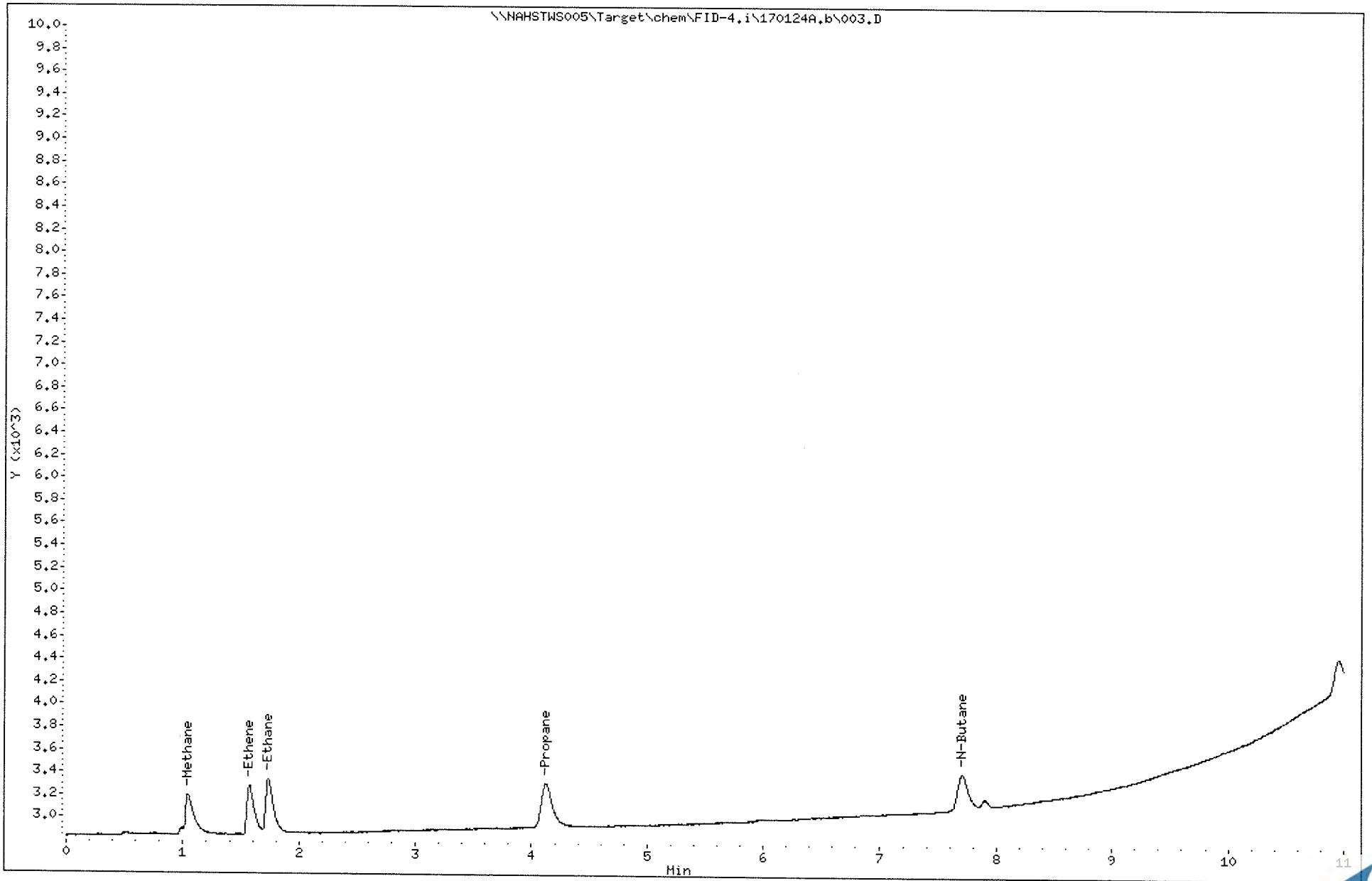
Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)
1 Methane	1.043	1.030	0.013	1967	1.92900	2.018
2 Ethene	1.570	1.556	0.014	1904	3.37000	3.247
3 Ethane	1.736	1.723	0.013	2378	3.60900	3.229
4 Propane	4.123	4.113	0.010	2602	5.29300	4.926
5 N-Butane	7.703	7.690	0.013	2034	6.99100	6.176

Data File: \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\003.D
Date : 24-JAN-2017 09:59
Client ID: ICAL3
Sample Info: ICAL3;ICAL3;;;

Column phase: Rtx-PLOT

Instrument: FID-4.i

Operator: MA
Column diameter: 0.53



Data File: \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\004.D Page 1
Report Date: 08-Apr-2020 12:18

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\004.D
Lab Smp Id: ICAL4 Client Smp ID: ICAL4
Inj Date : 24-JAN-2017 10:15
Operator : MA Inst ID: FID-4.i
Smp Info : ICAL4;ICAL4;;;
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\170124A.b\RSKNI2.m
Meth Date : 26-Feb-2020 16:33 Purvi.lad Quant Type: ESTD
Cal Date : 24-JAN-2017 09:30 Cal File: 002.D
Als bottle: 4 Calibration Sample, Level: 4
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: stdNIP2.sub
Target Version: 4.14

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	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

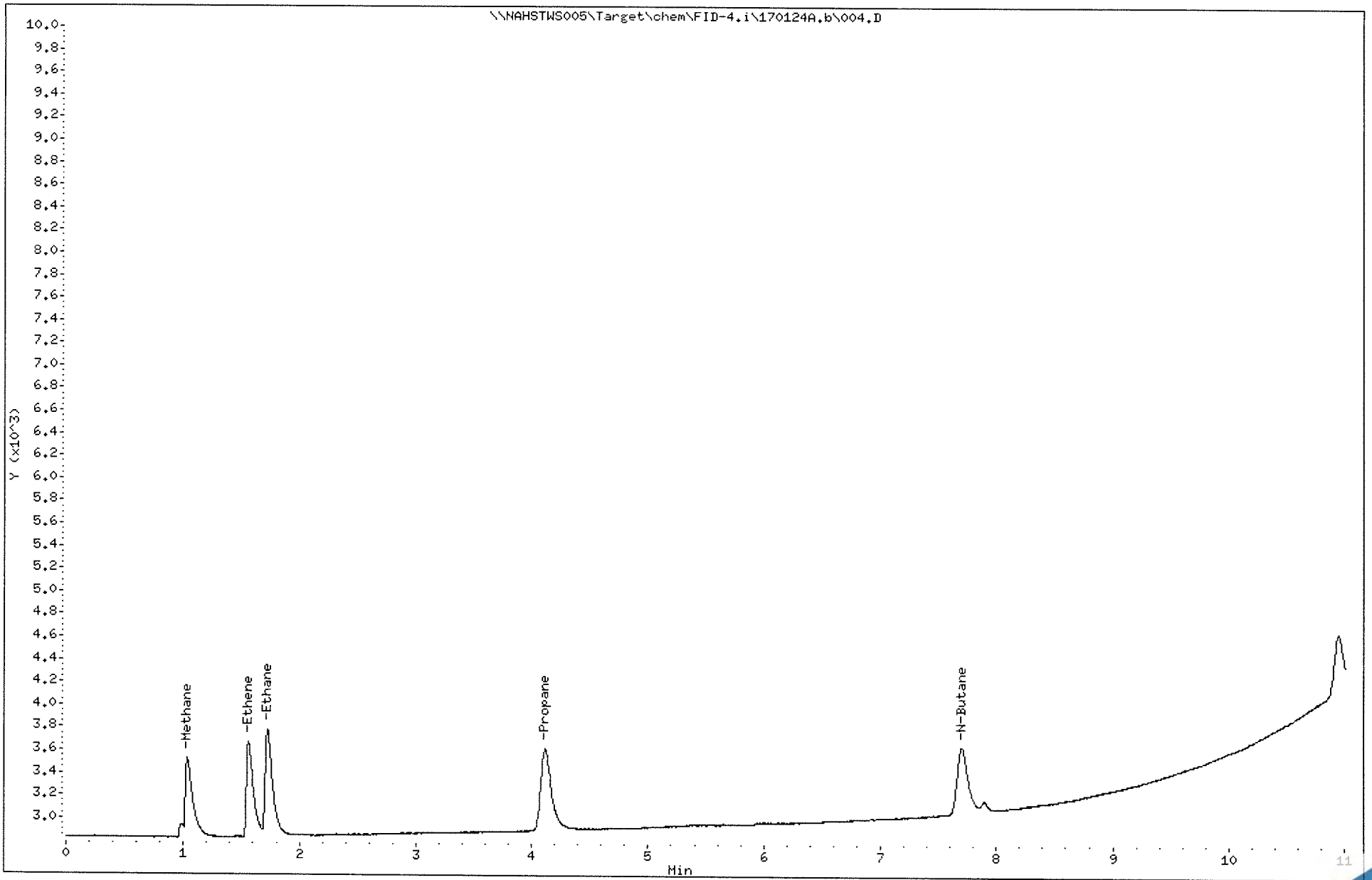
M - Compound response manually integrated.

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: 08-Apr-2020 12:18

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\005.D
Lab Smp Id: ICAL5 Client Smp ID: ICAL5
Inj Date : 24-JAN-2017 10:39
Operator : MA Inst ID: FID-4.i
Smp Info : ICAL5;ICAL5;;;
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\170124A.b\RSKNI2.m
Meth Date : 26-Feb-2020 16:33 Purvi.lad Quant Type: ESTD
Cal Date : 24-JAN-2017 10:39 Cal File: 005.D
Als bottle: 5 Calibration Sample, Level: 5
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: stdNIP2.sub
Target Version: 4.14

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)
1 Methane	1.043	1.030	0.013	9268	9.64700	9.511
2 Ethene	1.570	1.556	0.014	11210	16.8500	19.121
3 Ethane	1.733	1.723	0.010	14588	18.0430	19.811
4 Propane	4.120	4.113	0.007	18294	26.4630	27.415
5 N-Butane	7.700	7.690	0.010	18446	34.9550	34.419(M)

QC Flag Legend

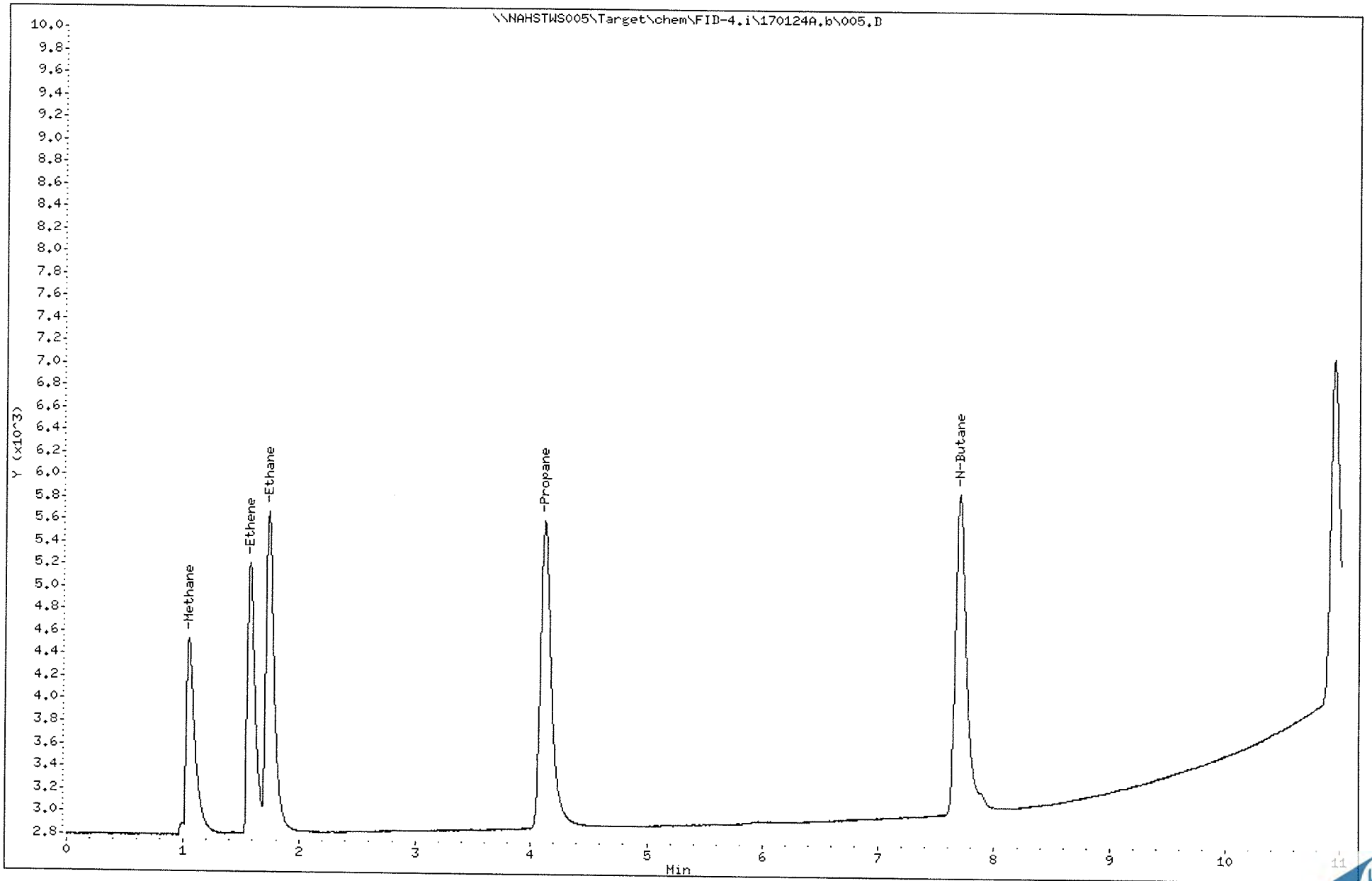
M - Compound response manually integrated.

Data File: \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\005.D
Date : 24-JAN-2017 10:39
Client ID: ICAL5
Sample Info: ICAL5;ICAL5;;;

Column phase: Rtx-PLOT

Instrument: FID-4.i

Operator: MA
Column diameter: 0.53



Data File: \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\006.D Page 1
Report Date: 08-Apr-2020 12:18

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\006.D
Lab Smp Id: ICAL6 Client Smp ID: ICAL6
Inj Date : 24-JAN-2017 10:57
Operator : MA Inst ID: FID-4.i
Smp Info : ICAL6;ICAL6;;;
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\170124A.b\RSKNI2.m
Meth Date : 26-Feb-2020 16:33 Purvi.lad Quant Type: ESTD
Cal Date : 24-JAN-2017 10:39 Cal File: 005.D
Als bottle: 6 Calibration Sample, Level: 6
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: stdNIP2.sub
Target Version: 4.14

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

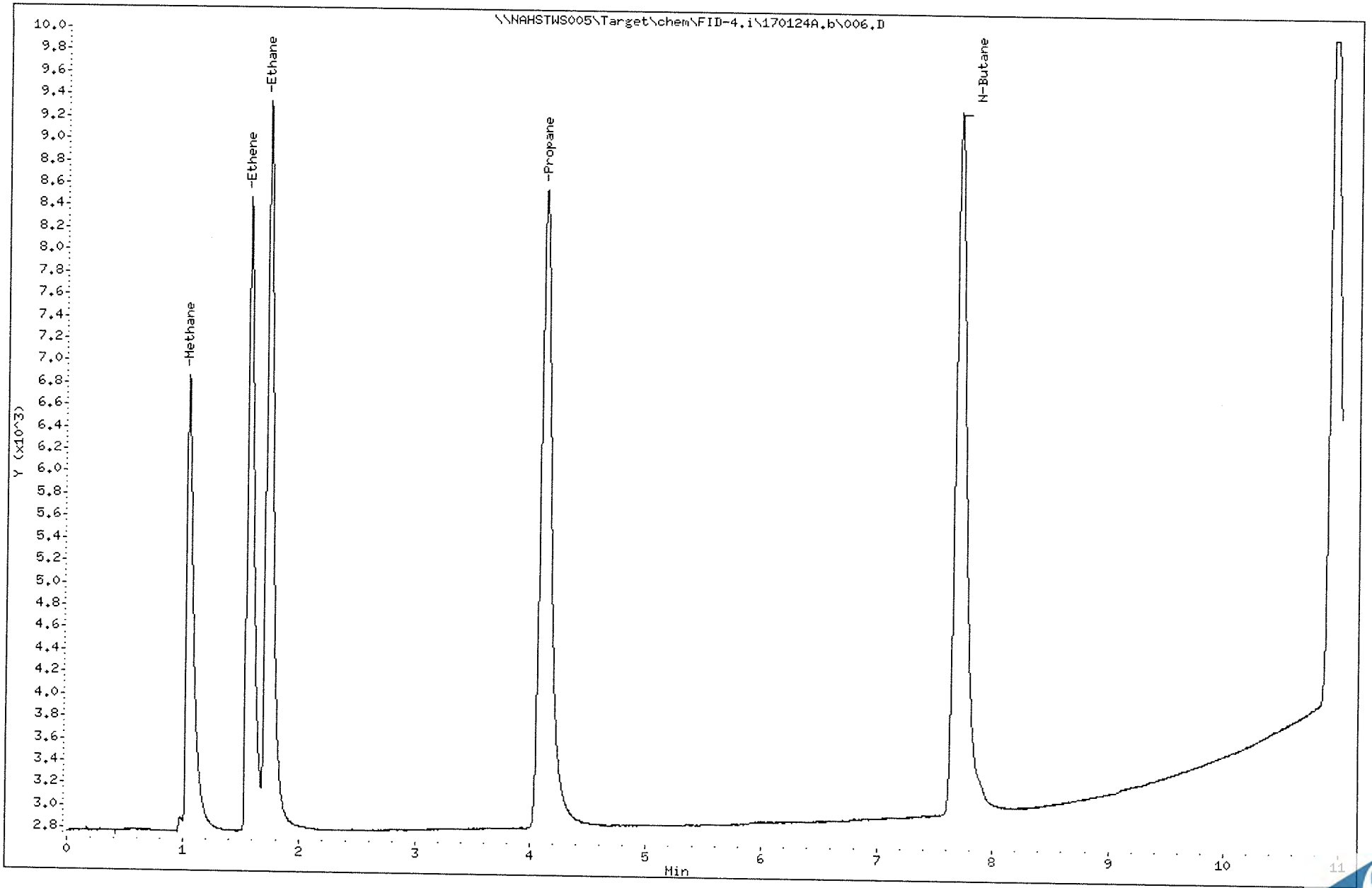
Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)
1 Methane	1.023	1.030	-0.007	17957	19.2940	18.429
2 Ethene	1.550	1.556	-0.006	22910	53.8200	39.078
3 Ethane	1.716	1.723	-0.007	29505	36.0860	40.070
4 Propane	4.110	4.113	-0.003	38286	52.9260	52.796
5 N-Butane	7.696	7.690	0.006	42817	69.9110	70.855

Data File: \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\006.D
Date : 24-JAN-2017 10:57
Client ID: ICAL6
Sample Info: ICAL6;ICAL6;;;

Column phase: Rtx-PLOT

Instrument: FID-4.i

Operator: MA
Column diameter: 0.53



Data File: \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\007.D Page 1
Report Date: 08-Apr-2020 12:18

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\007.D
Lab Smp Id: ICAL7 Client Smp ID: ICAL7
Inj Date : 24-JAN-2017 11:13
Operator : MA Inst ID: FID-4.i
Smp Info : ICAL7;ICAL7;;;
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\170124A.b\RSKNI2.m
Meth Date : 26-Feb-2020 16:33 Purvi.lad Quant Type: ESTD
Cal Date : 24-JAN-2017 10:57 Cal File: 006.D
Als bottle: 7 Calibration Sample, Level: 7
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: stdNIP2.sub
Target Version: 4.14

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)
1 Methane	1.030	1.030	0.000	41736	38.5880	42.833(A)
2 Ethene	1.556	1.556	0.000	55865	67.4000	95.291(A)
3 Ethane	1.723	1.723	0.000	72124	72.1720	97.951(A)
4 Propane	4.113	4.113	0.000	96509	105.852	105.844
5 N-Butane	7.690	7.690	0.000	114164	139.821	139.707

QC Flag Legend

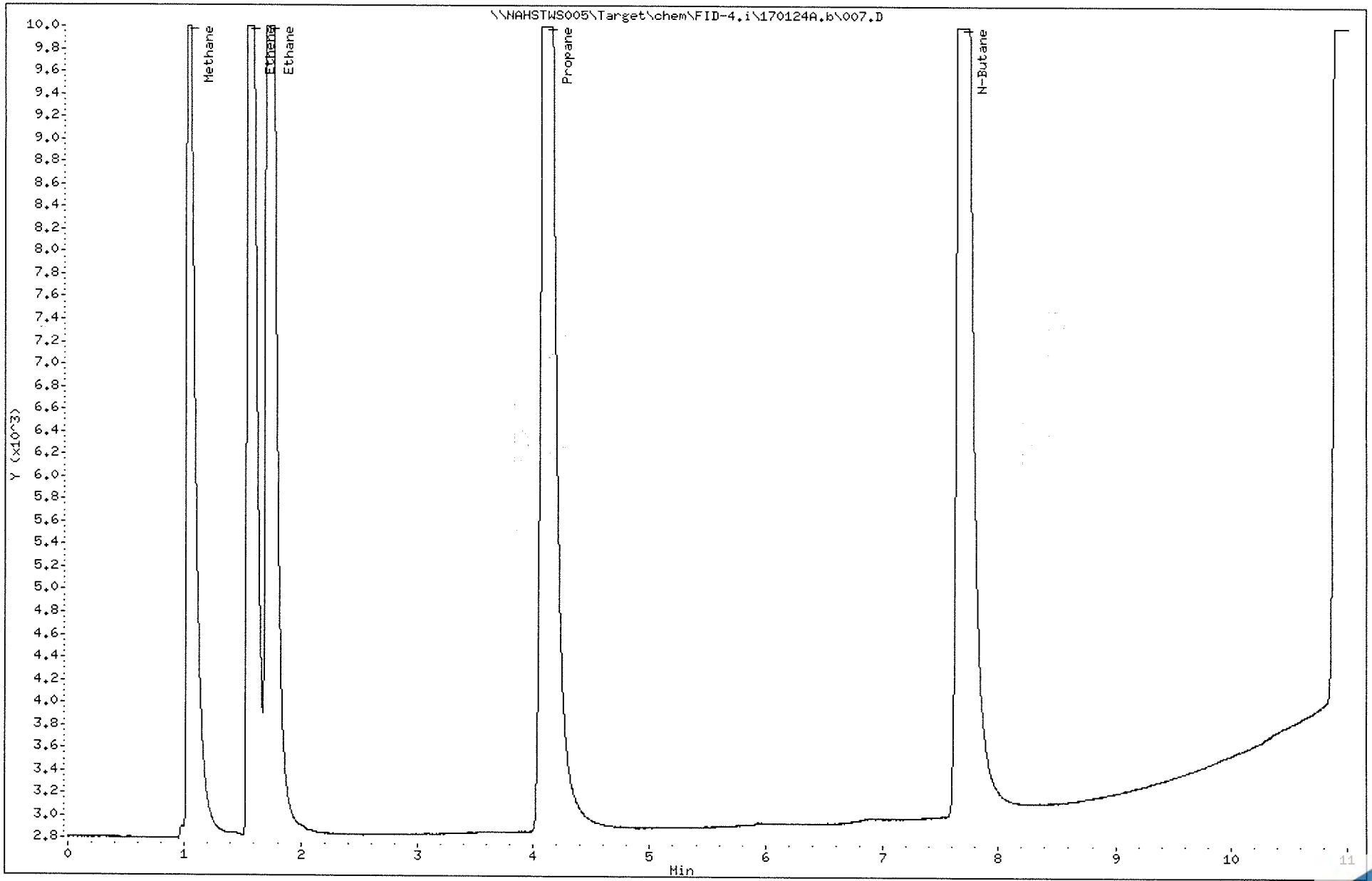
A - Target compound detected but, quantitated amount exceeded maximum amount.

Data File: \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\007.D
Date : 24-JAN-2017 11:13
Client ID: ICAL7
Sample Info: ICAL7;ICAL7;;;

Column phase: Rtx-PLOT

Instrument: FID-4.i

Operator: MA
Column diameter: 0.53



Data File: \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\008.D Page 1
Report Date: 08-Apr-2020 12:18

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\008.D
Lab Smp Id: ICV Client Smp ID: ICV
Inj Date : 24-JAN-2017 12:05
Operator : MA Inst ID: FID-4.i
Smp Info : ICV;ICV;;;
Misc Info : ;1;0;1
Comment :
Method : \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\RSKNI2.m
Meth Date : 26-Feb-2020 16:33 Purvi.lad Quant Type: ESTD
Cal Date : 24-JAN-2017 11:13 Cal File: 007.D
Als bottle: 8 QC Sample: METHSPIKE
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: stdNIP2.sub
Target Version: 4.14

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

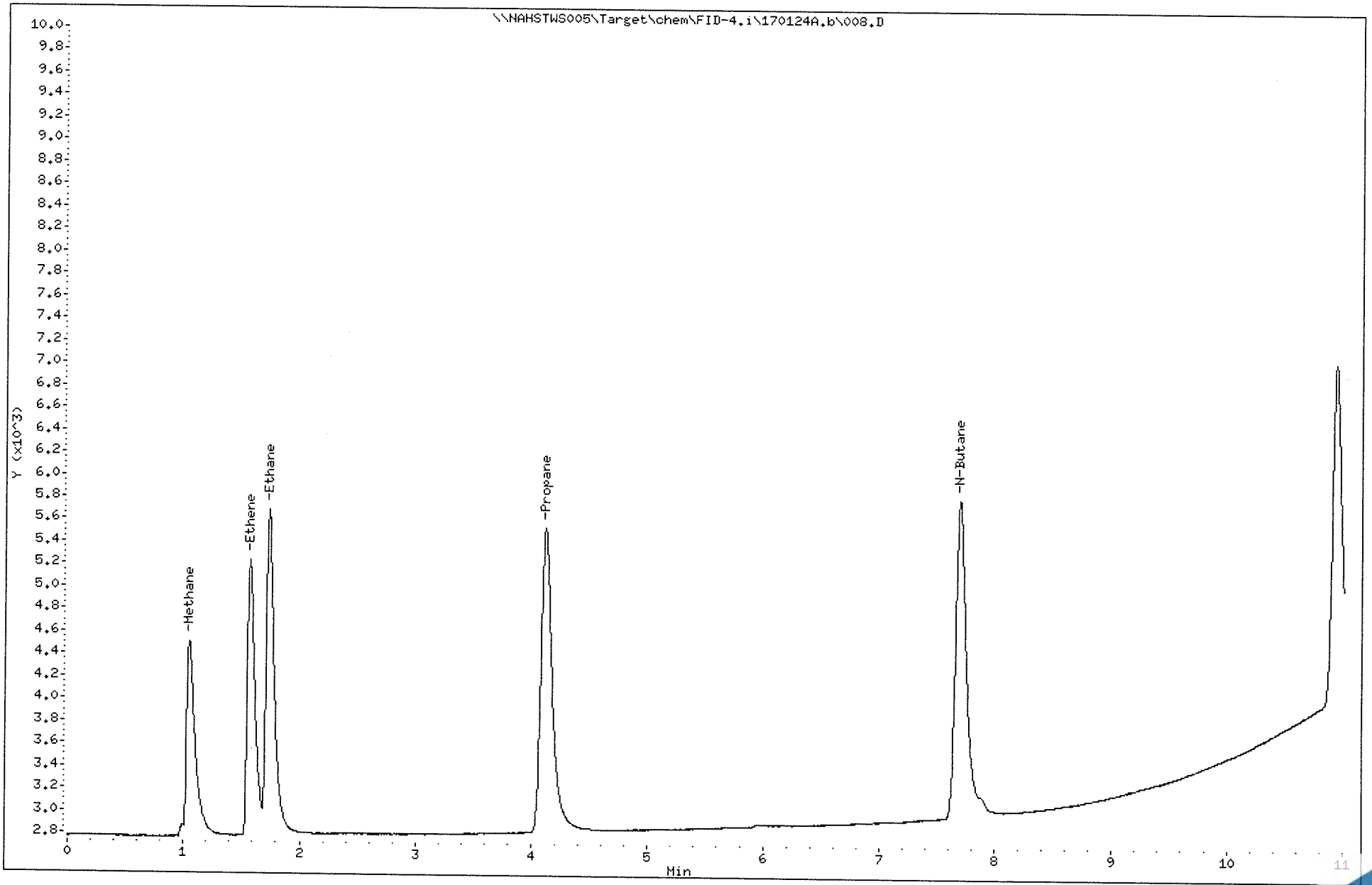
Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)
1 Methane	1.046	1.030	0.016	9352	9.59792	9.597
2 Ethene	1.573	1.556	0.017	11192	19.0906	19.090
3 Ethane	1.736	1.723	0.013	14474	19.6571	19.657
4 Propane	4.116	4.113	0.003	18164	27.2381	27.238
5 N-Butane	7.696	7.690	0.006	19425	36.0103	36.010

Data File: \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\008.D
Date : 24-JAN-2017 12:05
Client ID: ICV
Sample Info: ICV;ICV;;;

Column phase: Rtx-PLOT

Instrument: FID-4.i

Operator: MA
Column diameter: 0.53



FID04 -Logbook

Batch: 41320 **Analyst:** Purvi Lad

Date: 07-30-2020 **Reviewer:**

Method: rsk **Laboratory:** Houston

Comments:

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	pH
1	RSK-CCV	CCV	07-30-2020 09:02 am	1.00	0.00 mL	0.00 mL	001.D	Liquid	Y	NA
2	LCS-200730	LCS	07-30-2020 09:16 am	1.00	0.00 mL	0.00 mL	002.D	Liquid	Y	NA
3	LCSD-200730	LCSD	07-30-2020 09:29 am	1.00	0.00 mL	0.00 mL	003.D	Liquid	Y	NA
4	MBLK-200730	MBLK	07-30-2020 09:41 am	1.00	0.00 mL	0.00 mL	004.D	Liquid	Y	NA
5	HS20071305-01	SAMP	07-30-2020 09:55 am	1.00	0.00 mL	33.10	005.D	Liquid	Y	<2
6	HS20071305-02	SAMP	07-30-2020 10:03 am	1.00	0.00 mL	31.05	006.D	Liquid	Y	<2
7	HS20071305-03	SAMP	07-30-2020 10:11 am	1.00	0.00 mL	31.10	007.D	Liquid	Y	<2
8	HS20071305-04	SAMP	07-30-2020 10:19 am	1.00	0.00 mL	31.21	008.D	Liquid	Y	<2
9	HS20071305-05	SAMP	07-30-2020 10:33 am	1.00	0.00 mL	32.68	009.D	Liquid	Y	<2
10	HS20071305-06	SAMP	07-30-2020 10:41 am	1.00	0.00 mL	32.76	010.D	Liquid	Y	<2
11	RSK-CCV	CCV	07-30-2020 10:49 am	1.00	0.00 mL	0.00 mL	011.D	Liquid	Y	NA
12	HS20071328-16	SAMP	07-30-2020 10:59 am	1.00	0.00 mL	31.09	012.D	Liquid	Y	<2
13	HS20071328-16	SAMP	07-30-2020 11:17 am	50.00	0.00 mL	0.00 mL	013.D	Liquid	Y	NA
14	HS20071296-01	SAMP	07-30-2020 11:26 am	1.00	0.00 mL	31.27	014.D	Liquid	Y	<2
15	HS20071296-02	SAMP	07-30-2020 11:35 am	1.00	0.00 mL	31.03	015.D	Liquid	Y	<2
16	HS20071296-02DUP	SAMP	07-30-2020 11:45 am	1.00	0.00 mL	0.00 mL	016.D	Liquid	Y	NA
17	HS20071296-03	SAMP	07-30-2020 11:54 am	1.00	0.00 mL	30.57	017.D	Liquid	Y	<2
18	HS20071296-04	SAMP	07-30-2020 12:08 pm	1.00	0.00 mL	31.04	018.D	Liquid	Y	<2
19	HS20071296-05	SAMP	07-30-2020 12:16 pm	1.00	0.00 mL	33.20	019.D	Liquid	Y	<2
20	HS20071296-06	SAMP	07-30-2020 12:25 pm	1.00	0.00 mL	30.40	020.D	Liquid	Y	<2
21	HS20071296-07	SAMP	07-30-2020 12:34 pm	1.00	0.00 mL	30.65	021.D	Liquid	Y	<2
22	RSK-CCV	CCV	07-30-2020 01:09 pm	1.00	0.00 mL	0.00 mL	022.D	Liquid	Y	NA
23	HS20071296-08	SAMP	07-30-2020 01:21 pm	1.00	0.00 mL	31.52	023.D	Liquid	Y	<2
24	HS20071296-04	SAMP	07-30-2020 01:31 pm	2.00	0.00 mL	31.04	024.D	Liquid	Y	<2
25	RSK-CCV	CCV	07-30-2020 01:41 pm	1.00	0.00 mL	0.00 mL	025.D	Liquid	Y	NA

FORM 7B
GASES CALIBRATION VERIFICATION SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20071328

Instrument ID: FID-4 Calibration Date: 07/30/20 Time: 0902

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	842.76451	0.01	-17.13	20.00	AVRG
Methane	974.99200	1089.6652	0.01	-11.76	20.00	AVRG
Ethene	585.76000	644.62908	0.01	-10.05	20.00	AVRG

FORM VII GASES

FORM 7B
GASES CALIBRATION VERIFICATION SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20071328

Instrument ID: FID-4 Calibration Date: 07/30/20 Time: 1049

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	772.98675	0.01	-7.44	20.00	AVRG
Methane	974.99200	941.01793	0.01	3.48	20.00	AVRG
Ethene	585.76000	614.59941	0.01	-4.92	20.00	AVRG

FORM VII GASES

FORM 7B
GASES CALIBRATION VERIFICATION SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20071328

Instrument ID: FID-4 Calibration Date: 07/30/20 Time: 1309

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	772.15541	0.01	-7.32	20.00	AVRG
Methane	974.99200	995.95729	0.01	-2.15	20.00	AVRG
Ethene	585.76000	569.97033	0.01	2.70	20.00	AVRG

FORM VII GASES

Data File: \\nahstws005\Target\chem\FID-4.i\200730.b\001.D Page 1
Report Date: 21-Aug-2020 19:10

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\200730.b\001.D
Lab Smp Id: RSK-CCV Client Smp ID: RSK-CCV
Inj Date : 30-JUL-2020 09:02
Operator : PL Inst ID: FID-4.i
Smp Info : RSK-CCV;RSK-CCV;2;4
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\200730.b\RSKNI3.m
Meth Date : 21-Aug-2020 19:10 FID-4.i Quant Type: ESTD
Cal Date : 24-JAN-2017 10:15 Cal File: 004.D
Als bottle: 1 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: RSK175.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)
1 Methane	0.463	0.463	0.000	10512	9.64700	10.781
2 Ethene	0.700	0.700	0.000	10862	16.8500	18.543
3 Ethane	0.780	0.780	0.000	15206	18.0430	21.134

Data File: \\nahstws005\Target\chem\FID-4.i\200730.b\001.D

Date : 30-JUL-2020 09:02

Client ID: RSK-CCV

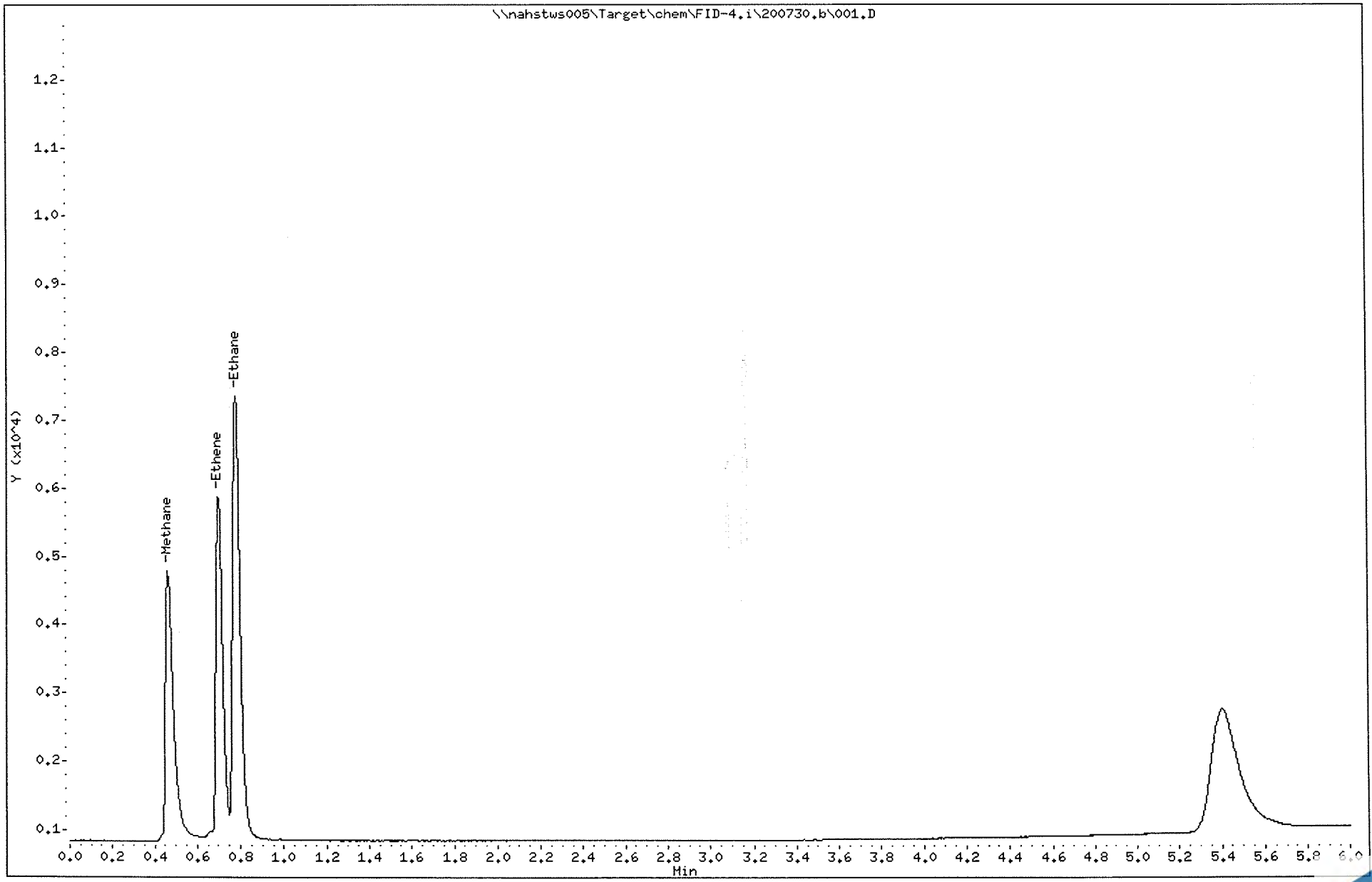
Instrument: FID-4.i

Sample Info: RSK-CCV;RSK-CCV;2;4

Operator: PL

Column phase: Rtx-PLOT

Column diameter: 0.53



Data File: \\nahstws005\Target\chem\FID-4.i\200730.b\002.D Page 1
Report Date: 21-Aug-2020 19:10

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\200730.b\002.D
Lab Smp Id: LCS-200730 Client Smp ID: LCS-200730
Inj Date : 30-JUL-2020 09:16
Operator : PL Inst ID: FID-4.i
Smp Info : LCS-200730;LCS-200730;3;;LCS
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\200730.b\RSKNI3.m
Meth Date : 21-Aug-2020 19:10 FID-4.i Quant Type: ESTD
Cal Date : 24-JAN-2017 10:15 Cal File: 004.D
Als bottle: 2 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	0.466	0.463	0.003	10057	10.3150	10.314
2 Ethene	0.703	0.700	0.003	10016	17.0991	17.099(M)
3 Ethane	0.783	0.780	0.003	14106	19.6056	19.605

QC Flag Legend

M - Compound response manually integrated.

Data File: \\nahstws005\Target\chem\FID-4.i\200730.b\002.D

Date : 30-JUL-2020 09:16

Client ID: LCS-200730

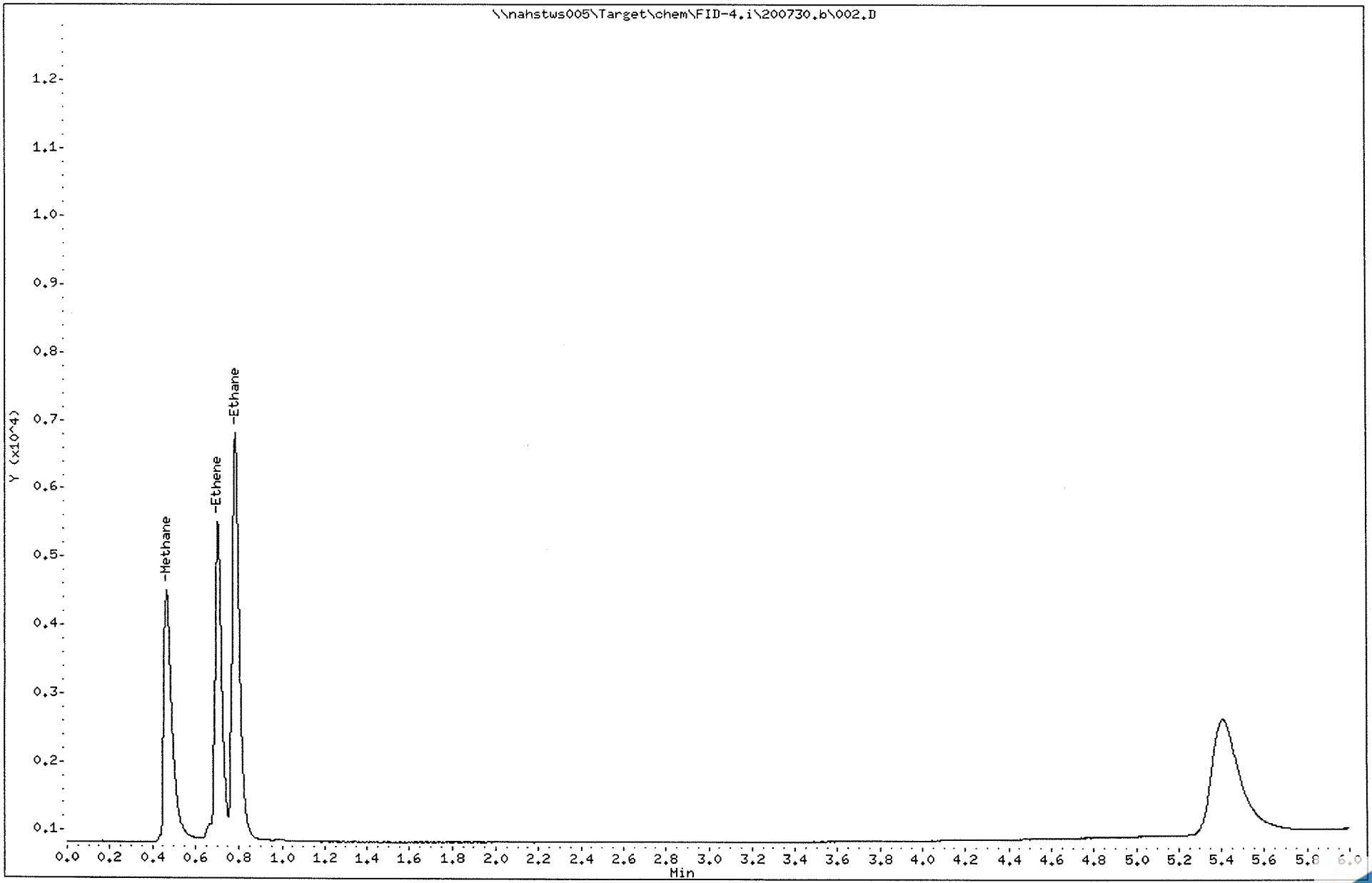
Instrument: FID-4.i

Sample Info: LCS-200730;LCS-200730;3;;LCS

Operator: PL

Column phase: Rtx-PLOT

Column diameter: 0.53



Data File: \\nahstws005\Target\chem\FID-4.i\200730.b\003.D Page 1
Report Date: 21-Aug-2020 19:10

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\200730.b\003.D
Lab Smp Id: LCSD-200730 Client Smp ID: LCSD-200730
Inj Date : 30-JUL-2020 09:29
Operator : PL Inst ID: FID-4.i
Smp Info : LCSD-200730;LCSD-200730;3;;LCSD
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\200730.b\RSKNI3.m
Meth Date : 21-Aug-2020 19:10 FID-4.i Quant Type: ESTD
Cal Date : 24-JAN-2017 10:15 Cal File: 004.D
Als bottle: 3 QC Sample: LCSD
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: RSK175.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)
1 Methane	0.466	0.463	0.003	9023	9.25443	9.254
2 Ethene	0.706	0.700	0.006	9543	16.2916	16.291(M)
3 Ethane	0.786	0.780	0.006	13607	18.9120	18.912

QC Flag Legend

M - Compound response manually integrated.

Data File: \\nahstws005\Target\chem\FID-4.i\200730.b\003.D

Date : 30-JUL-2020 09:29

Client ID: LCSD-200730

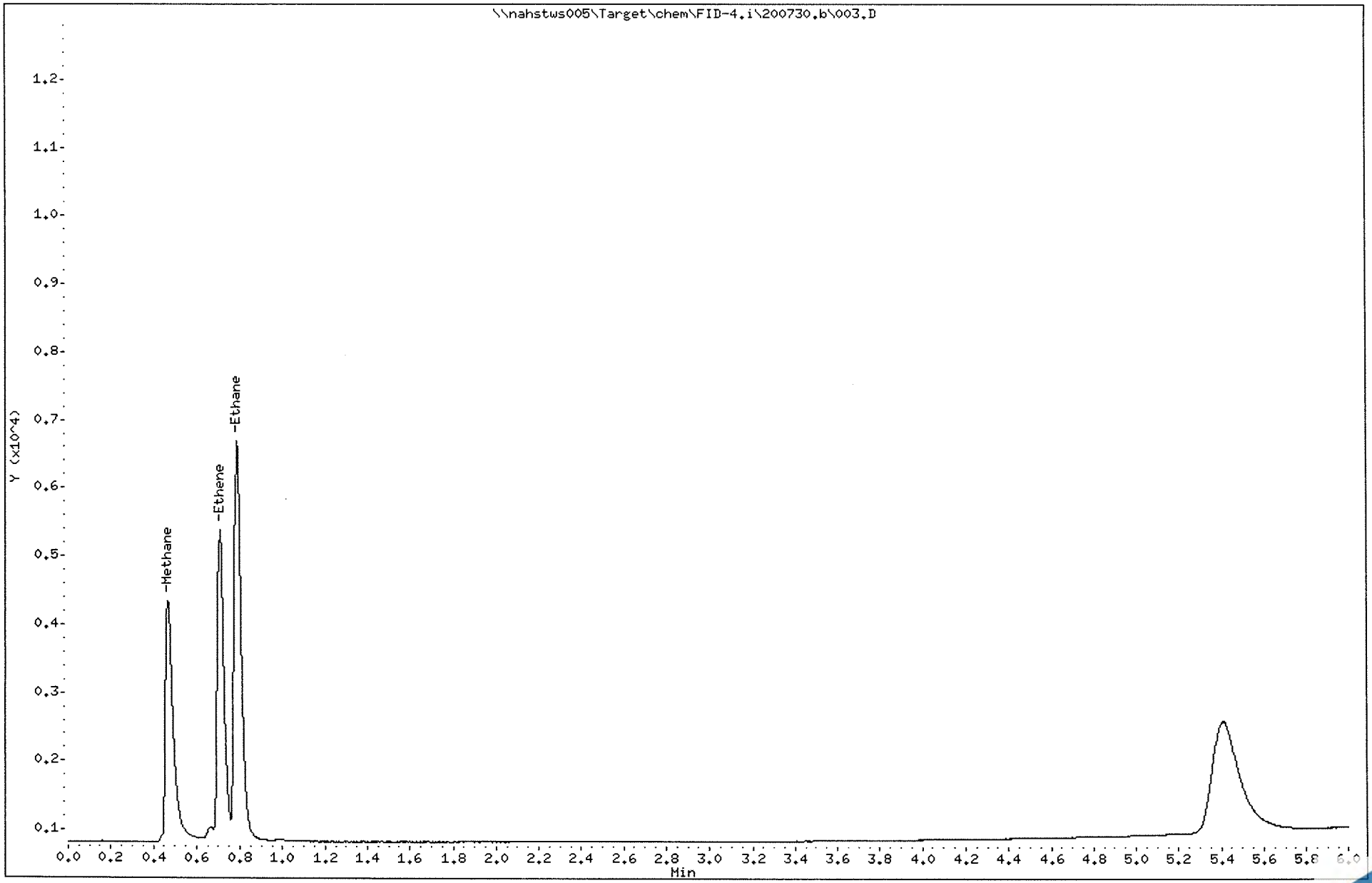
Instrument: FID-4.i

Sample Info: LCSD-200730;LCSD-200730;3;;LCSD

Operator: PL

Column phase: Rtx-PLOT

Column diameter: 0.53



ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\200730.b\004.D
Lab Smp Id: MBLK-200730 Client Smp ID: MBLK-200730
Inj Date : 30-JUL-2020 09:41
Operator : PL Inst ID: FID-4.i
Smp Info : MBLK-200730;MBLK-200730;3;;BLANK
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\200730.b\RSKNI3.m
Meth Date : 21-Aug-2020 19:10 FID-4.i Quant Type: ESTD
Cal Date : 24-JAN-2017 10:15 Cal File: 004.D
Als bottle: 4 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\200730.b\004.D

Date : 30-JUL-2020 09:41

Client ID: MBLK-200730

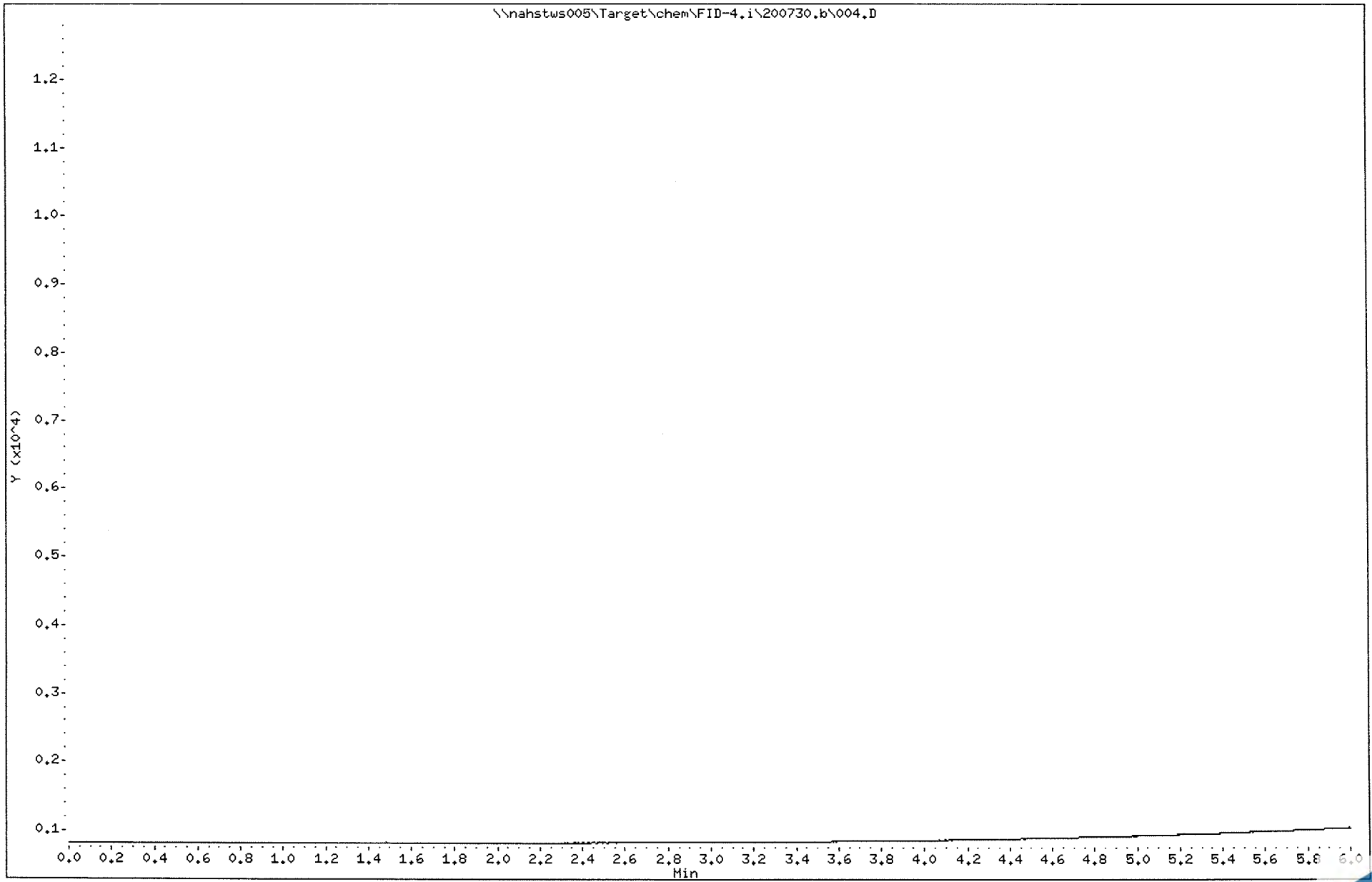
Instrument: FID-4.i

Sample Info: MBLK-200730;MBLK-200730;3;;BLANK

Operator: PL

Column phase: Rtx-PLOT

Column diameter: 0.53



Data File: \\nahstws005\Target\chem\FID-4.i\200730.b\011.D Page 1
Report Date: 21-Aug-2020 19:10

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\200730.b\011.D
Lab Smp Id: RSK-CCV Client Smp ID: RSK-CCV
Inj Date : 30-JUL-2020 10:49
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\200730.b\RSKNI3.m
Meth Date : 21-Aug-2020 19:10 FID-4.i Quant Type: ESTD
Cal Date : 24-JAN-2017 10:15 Cal File: 004.D
Als bottle: 11 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: RSK175.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

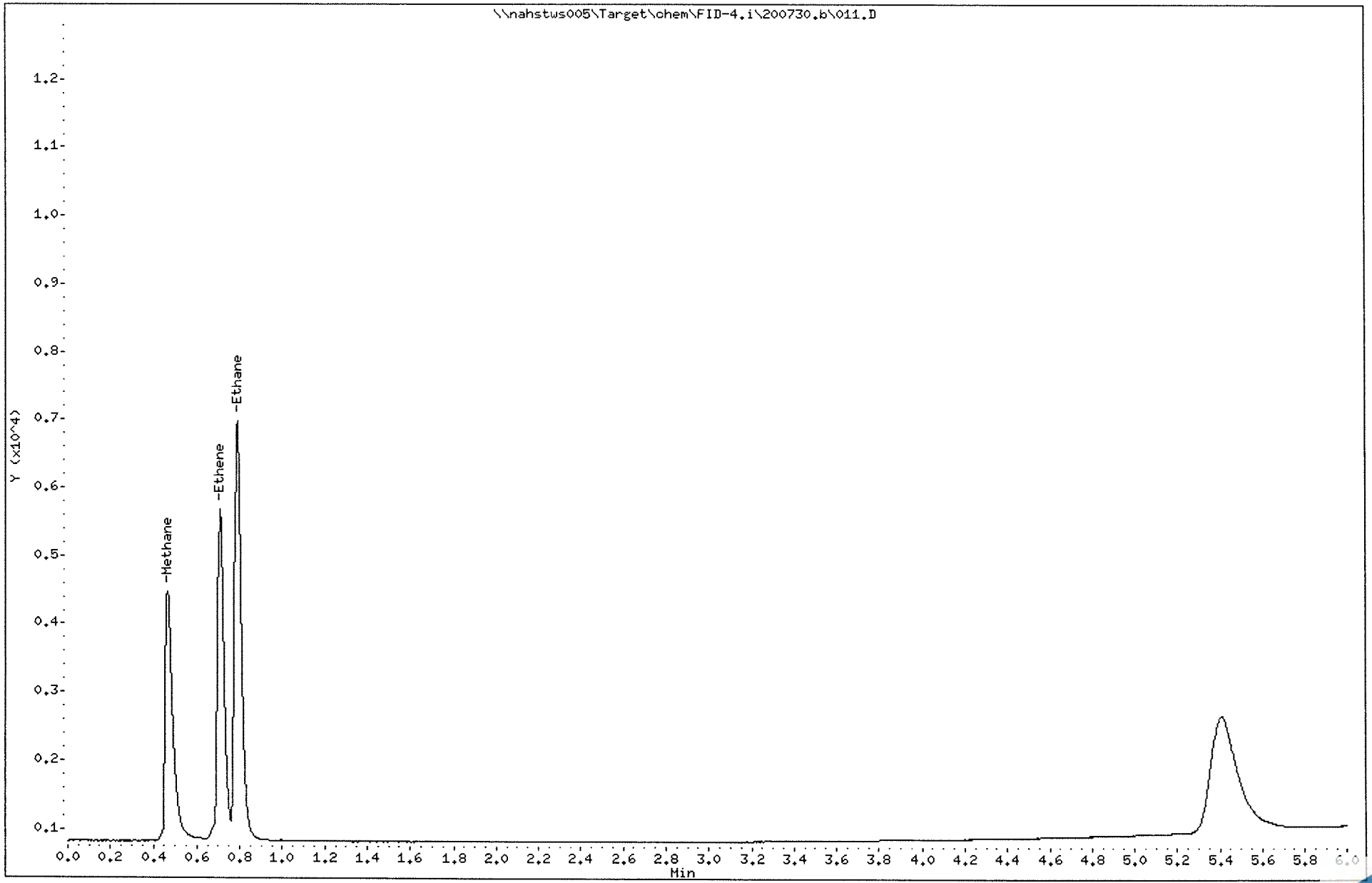
					AMOUNTS	
					CAL-AMT	ON-COL
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/L)	(ug/L)
1 Methane	0.466	0.466	0.000	9078	9.64700	9.310
2 Ethene	0.710	0.710	0.000	10356	16.8500	17.679
3 Ethane	0.790	0.790	0.000	13947	18.0430	19.384

Data File: \\nahstws005\Target\chem\FID-4.i\200730.b\011.D
Date : 30-JUL-2020 10:49
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\200730.b\012.D Page 1
Report Date: 21-Aug-2020 19:10

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\200730.b\012.D
Lab Smp Id: HS20071328-16 Client Smp ID: HS20071328-16
Inj Date : 30-JUL-2020 10:59
Operator : PL Inst ID: FID-4.i
Smp Info : HS20071328-16;HS20071328-16
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\200730.b\RSKNI3.m
Meth Date : 21-Aug-2020 19:10 FID-4.i Quant Type: ESTD
Cal Date : 24-JAN-2017 10:15 Cal File: 004.D
Als bottle: 12
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: RSK175.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)
1 Methane	0.466	0.466	0.000	931488	955.380	955.379(A)
2 Ethene	0.706	0.710	-0.004	29308	50.0341	50.034
3 Ethane	0.783	0.790	-0.007	5364	7.45528	7.455(M)

QC Flag Legend

A - Target compound detected but, quantitated amount exceeded maximum amount.
M - Compound response manually integrated.

01114474

Data File: \\nahstws005\Target\chem\FID-4.i\200730.b\012.D

Date : 30-JUL-2020 10:59

Client ID: HS20071328-16

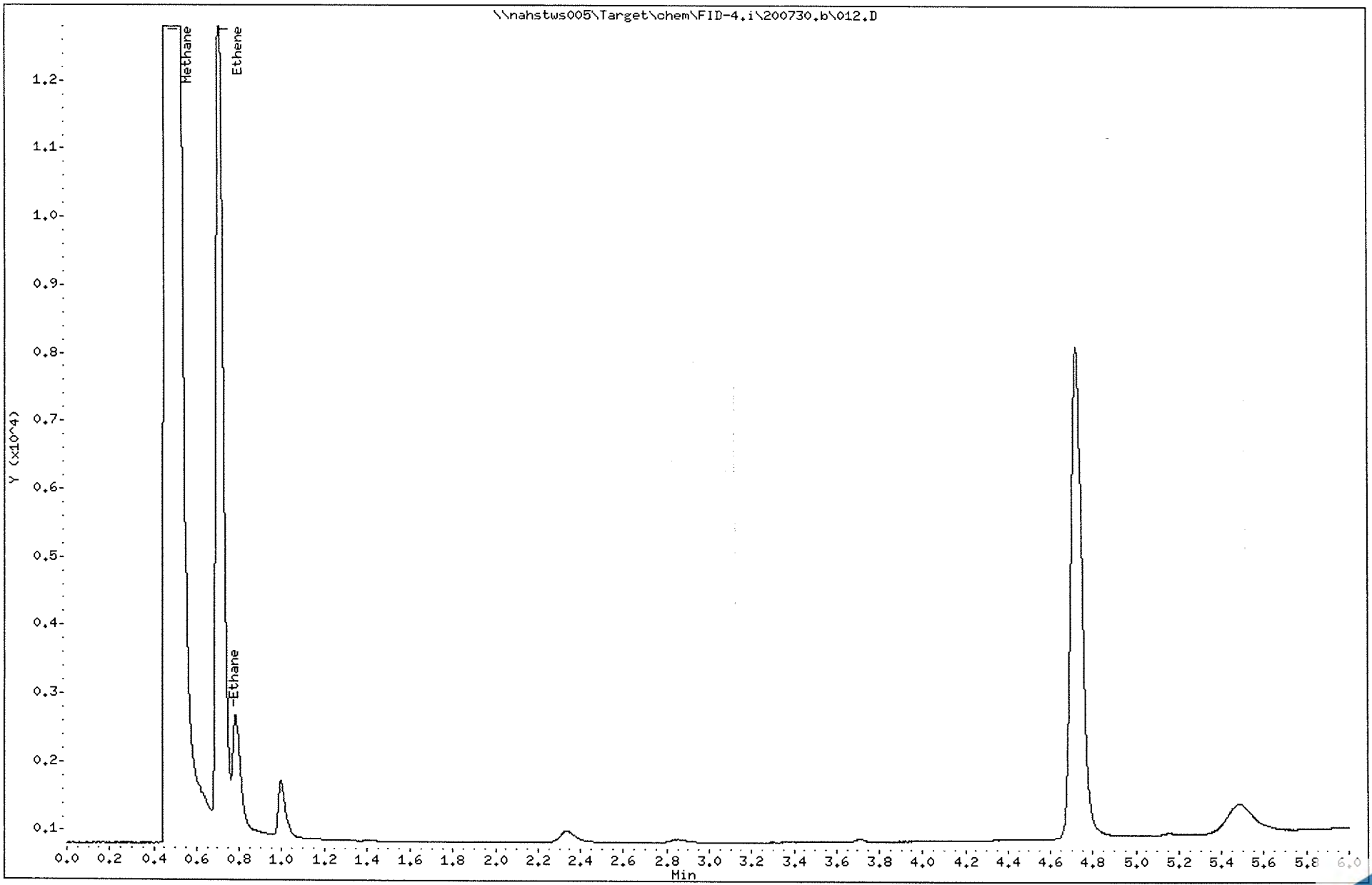
Sample Info: HS20071328-16;HS20071328-16

Column phase: Rtx-PLOT

Instrument: FID-4.i

Operator: PL

Column diameter: 0.53



Data File: \\nahstws005\Target\chem\FID-4.i\200730.b\013.D Page 1
Report Date: 21-Aug-2020 19:10

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\200730.b\013.D
Lab Smp Id: HS20071328-16 Client Smp ID: HS20071328-16
Inj Date : 30-JUL-2020 11:17
Operator : PL Inst ID: FID-4.i
Smp Info : HS20071328-16;HS20071328-16
Misc Info : ;1;0;50
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\200730.b\RSKNI3.m
Meth Date : 21-Aug-2020 19:10 FID-4.i Quant Type: ESTD
Cal Date : 24-JAN-2017 10:15 Cal File: 004.D
Als bottle: 13
Dil Factor: 50.00000
Integrator: Falcon Compound Sublist: RSK175.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)
1 Methane	0.473	0.466	0.007	18456	18.9294	946.468
2 Ethene	0.710	0.710	0.000	1151	1.96497	98.248(M)
3 Ethane	0.796	0.790	0.006	249	0.34608	17.303(aM)

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.

Data File: \\nahstws005\Target\chem\FID-4.i\200730.b\013.D

Date : 30-JUL-2020 11:17

Client ID: HS20071328-16

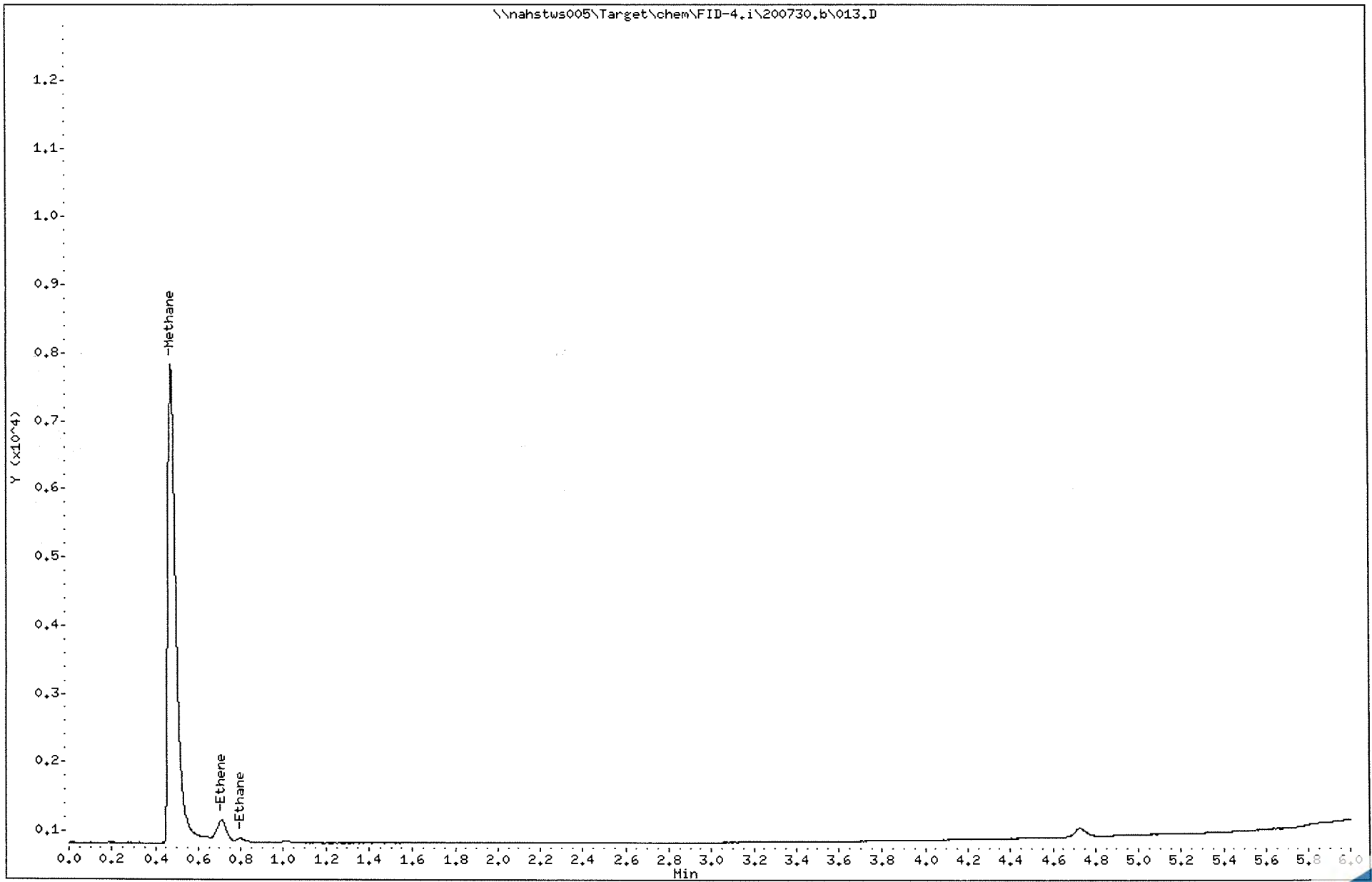
Instrument: FID-4.i

Sample Info: HS20071328-16;HS20071328-16

Operator: PL

Column phase: Rtx-PLOT

Column diameter: 0.53



Data File: \\nahstws005\Target\chem\FID-4.i\200730.b\016.D Page 1
Report Date: 21-Aug-2020 19:10

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\200730.b\016.D
Lab Smp Id: HS20071296-02DUP Client Smp ID: HS20071296-02DUP
Inj Date : 30-JUL-2020 11:45
Operator : PL Inst ID: FID-4.i
Smp Info : HS20071296-02DUP;HS20071296-02DUP
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\200730.b\RSKNI3.m
Meth Date : 21-Aug-2020 19:10 FID-4.i 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	0.466	0.466	0.000	17376	17.8217	17.821(M)
2 Ethene	0.716	0.710	0.006	683	1.16601	1.166

QC Flag Legend

M - Compound response manually integrated.

Data File: \\nahstws005\Target\chem\FID-4.i\200730.b\016.D

Date : 30-JUL-2020 11:45

Client ID: HS20071296-02DUP

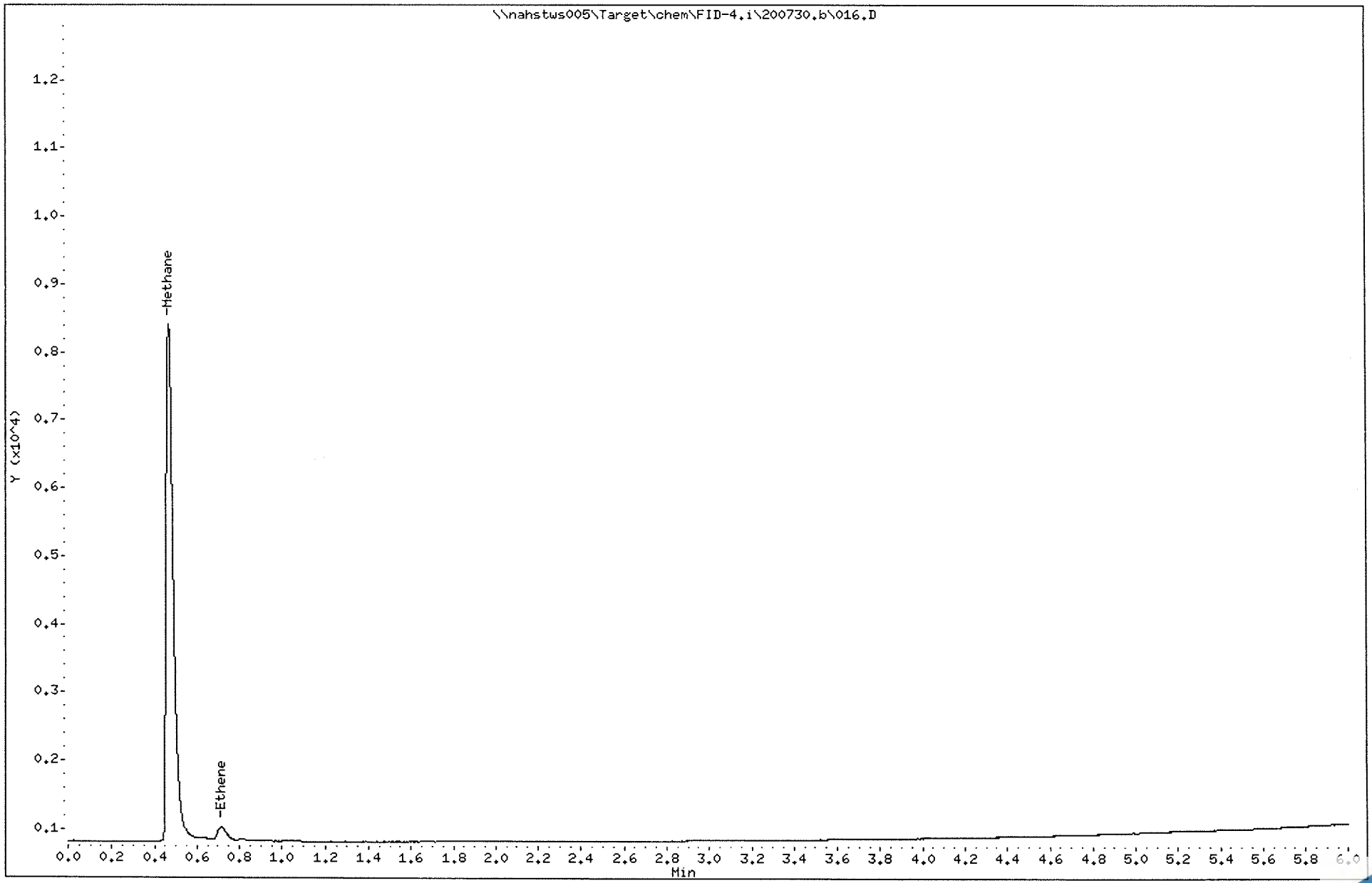
Instrument: FID-4.i

Sample Info: HS20071296-02DUP;HS20071296-02DUP

Operator: PL

Column phase: Rtx-PLOT

Column diameter: 0.53



ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\200730.b\022.D
Lab Smp Id: RSK-CCV Client Smp ID: RSK-CCV
Inj Date : 30-JUL-2020 13:09
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\200730.b\RSKNI3.m
Meth Date : 21-Aug-2020 19:10 FID-4.i Quant Type: ESTD
Cal Date : 24-JAN-2017 10:15 Cal File: 004.D
Als bottle: 22 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: RSK175.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

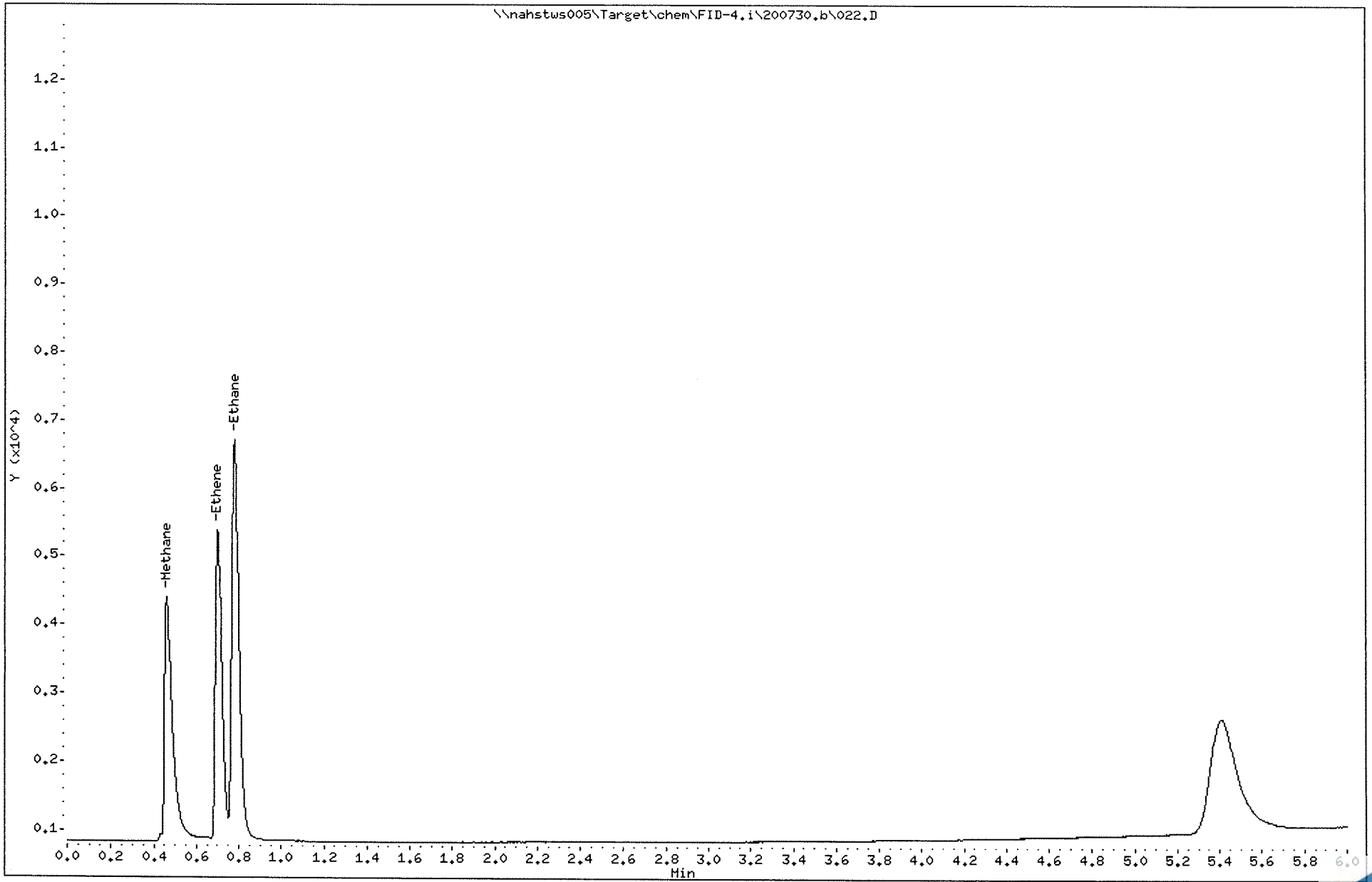
Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)
1 Methane	0.460	0.460	0.000	9608	9.64700	9.854
2 Ethene	0.700	0.700	0.000	9604	16.8500	16.395
3 Ethane	0.780	0.780	0.000	13932	18.0430	19.363

Data File: \\nahstws005\Target\chem\FID-4.i\200730.b\022.D
Date : 30-JUL-2020 13:09
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



HS20071328 - ME - ICP_W_DOD

ALS WO# HS20071328

ALS Houston, US

Date: 19-Aug-20

Form 11 - INTERNAL STANDARD ASSOCIATION

Client: Aptim Environmental & Infrastucture, Inc.

Project: Longhorn Army Ammunition Plant 16 July 2020

WorkOrder: HS20071328

Instrument:ICPMS04

Mass	Analyte	Assoc Int Standard 1	Assoc Int Standard 2	Mode
9	Beryllium	Lithium		Ar
11	Boron	Lithium		Ar
23	Sodium	Germanium		Ar
24	Magnesium	Germanium		Ar
27	Aluminum	Germanium		Ar
39	Potassium	Germanium		Ar
44	Calcium	Germanium		ArHe
47	Titanium	Germanium		Ar
51	Vanadium	Germanium		ArHe
52	Chromium	Germanium		ArHe
55	Manganese	Germanium		ArHe
56	Iron	Germanium		ArHe
59	Cobalt	Germanium		ArHe
60	Nickel	Germanium		ArHe
63	Copper	Germanium		ArHe
66	Zinc	Germanium		ArHe
75	Arsenic	Germanium		ArHe
78	Selenium	Germanium		ArHe
88	Strontium	Germanium		Ar
95	Molybdenum	Germanium		Ar
105	Palladium	Germanium		Ar
107	Silver	Germanium		Ar
111	Cadmium	Indium		Ar
118	Tin	Germanium		Ar
121	Antimony	Germanium		ArHe
135	Barium	Indium		Ar
203	Thallium	Bismuth		Ar
208	Lead	Bismuth		Ar

ALS Houston, US Date: 19-Aug-20

FORM 12 - PREPARATION LOG

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 July 2020
WorkOrder: HS20071328
Start Date: 05-Aug-2020 13:00 End Date: 05-Aug-2020 17:00

Batch ID: 156069
Prep Code: 3010A
Method: SW3010A
Technician:

SampID	ClientID	Matrix	Init Wt	Init Vol	FinalVol (mL)	PrepFac
HS20071328-17	16SW01-200728	Groundwater		10	10	1
HS20071328-18	16SW02-200728	Groundwater		10	10	1
HS20071328-19	16SW03-200728	Groundwater		10	10	1
HS20071328-19MS				10	10	1
HS20071328-19MSD				10	10	1
HS20071328-19PDS				10	10	1
HS20071328-19SD				10	10	1
LCS-156069				10	10	1
MBLK-156069				10	10	1

ALS Houston, US Date: 19-Aug-20

FORM 13 - ANALYSIS RUN LOG

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 July 2020
WorkOrder: HS20071328
Start Date: 06-Aug-2020 End Date: 06-Aug-2020

Run ID:ICPMS04_366271
Instrument:ICPMS04
Method:

Sample No.	D/F	Time	FileID	Analytes
ICPMS04_366271_Tune	1	06-Aug-2020 00:00	ICPMS04_366271_Tune_1	
CAL BLK	1	06-Aug-2020 10:08	013CALB.d_5686819	AS CR MN NI TL
2/10/200	1	06-Aug-2020 10:10	014CALS.d_5686820	AS CR MN NI TL
5/25/500	1	06-Aug-2020 10:12	015CALS.d_5686821	AS CR MN NI TL
10/50/1000	1	06-Aug-2020 10:14	016CALS.d_5686822	AS CR MN NI TL
100/500/10K	1	06-Aug-2020 10:16	017CALS.d_5686823	AS CR MN NI TL
200/1000/20K	1	06-Aug-2020 10:18	018CALS.d_5686824	AS CR MN NI TL
ICV	1	06-Aug-2020 10:22	020_ICV.d_5686826	AS CR MN NI TL
LLICV2	1	06-Aug-2020 10:24	021LCV2.d_5686827	AS CR MN NI TL
LLICV5	1	06-Aug-2020 10:27	022LCV5.d_5686828	AS CR MN NI TL
ICB	1	06-Aug-2020 10:29	023_ICB.d_5686829	AS CR MN NI TL
ICSA	1	06-Aug-2020 10:33	024ICSA.d_5686830	AS CR MN NI TL
ICSAB	1	06-Aug-2020 10:35	025ICSB.d_5686831	AS CR MN NI TL
CCV 1	1	06-Aug-2020 10:52	027_CCV.d_5687029	AS CR MN NI TL
CCB 1	1	06-Aug-2020 10:55	028_CCB.d_5687030	AS CR MN NI TL
CCV 2	1	06-Aug-2020 11:19	039_CCV.d_5687039	AS CR MN NI TL
CCB 2	1	06-Aug-2020 11:21	040_CCB.d_5687040	AS CR MN NI TL
CCV 3	1	06-Aug-2020 12:08	063_CCV.d_5687154	AS CR MN NI TL
CCB 3	1	06-Aug-2020 12:10	064_CCB.d_5687155	AS CR MN NI TL
CCV 4	1	06-Aug-2020 12:33	075_CCV.d_5687158	AS CR MN NI TL
CCB 4	1	06-Aug-2020 12:35	076_CCB.d_5687159	AS CR MN NI TL
MBLK-156069	1	06-Aug-2020 12:42	077SMPL.d_5687690	AS CR MN NI TL
LCS-156069	1	06-Aug-2020 12:44	078SMPL.d_5687691	AS CR MN NI TL
16SW03-200728SD	5	06-Aug-2020 12:46	079SMPL.d_5687692	AS CR MN NI TL
16SW03-200728	1	06-Aug-2020 12:49	080SMPL.d_5687693	AS CR MN NI TL
16SW03-200728PDS	1	06-Aug-2020 12:56	083SMPL.d_5687696	AS CR MN NI TL
16SW01-200728	1	06-Aug-2020 12:57	084SMPL.d_5687697	AS CR MN NI TL
16SW02-200728	1	06-Aug-2020 13:00	085SMPL.d_5687674	AS CR MN NI TL
CCV 5	1	06-Aug-2020 13:17	087_CCV.d_5687676	AS CR MN NI TL
CCB 5	1	06-Aug-2020 13:19	088_CCB.d_5687677	AS CR MN NI TL
CCV 6	1	06-Aug-2020 13:46	099_CCV.d_5687688	AS CR MN NI TL
CCB 6	1	06-Aug-2020 13:48	100_CCB.d_5687689	AS CR MN NI TL
CCV 7	1	06-Aug-2020 16:55	159_CCV.d_5687909	AS CR MN NI TL
CCB 7	1	06-Aug-2020 16:57	160_CCB.d_5687910	AS CR MN NI TL
16SW03-200728MS	1	06-Aug-2020 17:23	165SMPL.d_5687911	AS CR MN NI TL
16SW03-200728MSD	1	06-Aug-2020 17:26	166SMPL.d_5687912	AS CR MN NI TL
CCV 8	1	06-Aug-2020 17:36	171_CCV.d_5687915	AS CR MN NI TL
CCB 8	1	06-Aug-2020 17:38	172_CCB.d_5687916	AS CR MN NI TL

ALS Houston, US Date: 19-Aug-20

Form 2 - Initial and Continuing Calibration Verification

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 July 2020
WorkOrder: HS20071328

Run ID: ICPMS04_366271
Instrument: ICPMS04
Method: SW6020

ICV	Date: 06-Aug-2020 10:22		Seq: 5686826	ICV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Arsenic	100	103.653	104	90-110	
Chromium	100	101.68	102	90-110	
Manganese	100	102.944	103	90-110	
Nickel	100	102.756	103	90-110	
Thallium	100	103.124	103	90-110	

CCV1	Date: 06-Aug-2020 10:52		Seq: 5687029	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Arsenic	100	105.894	106	90-110	
Chromium	100	102.496	102	90-110	
Manganese	100	103.439	103	90-110	
Nickel	100	105.257	105	90-110	
Thallium	100	103.021	103	90-110	

CCV2	Date: 06-Aug-2020 11:19		Seq: 5687039	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Arsenic	100	105.927	106	90-110	
Chromium	100	102.449	102	90-110	
Manganese	100	102.89	103	90-110	
Nickel	100	105.099	105	90-110	
Thallium	100	104.164	104	90-110	

CCV3	Date: 06-Aug-2020 12:08		Seq: 5687154	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Arsenic	100	104.139	104	90-110	
Chromium	100	101.409	101	90-110	
Manganese	100	102.518	103	90-110	
Nickel	100	104.277	104	90-110	
Thallium	100	102.999	103	90-110	

CCV4	Date: 06-Aug-2020 12:33		Seq: 5687158	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Arsenic	100	105.812	106	90-110	
Chromium	100	103.09	103	90-110	
Manganese	100	103.372	103	90-110	
Nickel	100	105.036	105	90-110	
Thallium	100	105.322	105	90-110	

CCV5	Date: 06-Aug-2020 13:17		Seq: 5687676	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Arsenic	100	105.215	105	90-110	
Chromium	100	100.999	101	90-110	
Manganese	100	103.215	103	90-110	
Nickel	100	104.975	105	90-110	
Thallium	100	101.48	101	90-110	

CCV6	Date: 06-Aug-2020 13:46		Seq: 5687688	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Arsenic	100	106.456	106	90-110	
Chromium	100	101.96	102	90-110	
Manganese	100	102.715	103	90-110	
Nickel	100	104.432	104	90-110	
Thallium	100	103.292	103	90-110	

ALS Houston, US Date: 19-Aug-20

Form 2 - Initial and Continuing Calibration Verification

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 July 2020
WorkOrder: HS20071328

Run ID: ICPMS04_366271
Instrument: ICPMS04
Method: SW6020

CCV7 Date: 06-Aug-2020 16:55 Seq: 5687909 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Arsenic	100	104.697	105	90-110	
Chromium	100	99.219	99	90-110	
Manganese	100	102.221	102	90-110	
Nickel	100	101.397	101	90-110	
Thallium	100	103.648	104	90-110	

CCV8 Date: 06-Aug-2020 17:36 Seq: 5687915 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Arsenic	100	104.795	105	90-110	
Chromium	100	99.217	99	90-110	
Manganese	100	102.525	103	90-110	
Nickel	100	101.395	101	90-110	
Thallium	100	102.936	103	90-110	

Form 3 - BLANKS

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 July 2020
WorkOrder: HS20071328

Run ID: ICPMS04_366271
Instrument: ICPMS04
Method: SW6020

ICB	Date: 06-Aug-2020 10:29		Seq: 5686829	ICB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Arsenic	5	0.4	5	U	
Chromium	5	0.4	5	U	
Manganese	5	0.7	5	U	
Nickel	5	0.6	5	U	
Thallium	2	0.2	2	U	

CCB1	Date: 06-Aug-2020 10:55		Seq: 5687030	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Arsenic	2	0.4	2	U	
Chromium	4	0.4	4	U	
Manganese	5	0.7	5	U	
Nickel	2	0.6	2	U	
Thallium	2	0.2	2	U	

CCB2	Date: 06-Aug-2020 11:21		Seq: 5687040	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Arsenic	2	0.4	2	U	
Chromium	4	0.4	4	U	
Manganese	5	0.7	5	U	
Nickel	2	0.6	2	U	
Thallium	2	0.2	2	U	

CCB3	Date: 06-Aug-2020 12:10		Seq: 5687155	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Arsenic	2	0.4	2	U	
Chromium	4	0.4	4	U	
Manganese	5	0.7	5	U	
Nickel	2	0.6	2	U	
Thallium	2	0.2	2	U	

CCB4	Date: 06-Aug-2020 12:35		Seq: 5687159	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Arsenic	2	0.4	2	U	
Chromium	4	0.4	4	U	
Manganese	5	0.7	5	U	
Nickel	2	0.6	2	U	
Thallium	2	0.2	2	U	

MBLK-156069	Date: 06-Aug-2020 12:42		Seq: 5687690	MBLK	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Arsenic	5	0.4	5	U	
Chromium	5	0.4	5	U	
Manganese	5	0.7	5	U	
Nickel	5	0.6	5	U	
Thallium	2	0.2	2	U	

CCB5	Date: 06-Aug-2020 13:19		Seq: 5687677	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Arsenic	2	0.4	2	U	
Chromium	4	0.4	4	U	
Manganese	5	0.7	5	U	
Nickel	2	0.6	2	U	
Thallium	2	0.2	2	U	

ALS Houston, US Date: 19-Aug-20

Form 3 - BLANKS

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 July 2020
WorkOrder: HS20071328

Run ID: ICPMS04_366271
Instrument: ICPMS04
Method: SW6020

CCB6	Date: 06-Aug-2020 13:48		Seq: 5687689	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Arsenic	2	0.4	2	U	
Chromium	4	0.4	4	U	
Manganese	5	0.7	5	U	
Nickel	2	0.6	2	U	
Thallium	2	0.2	2	U	

CCB7	Date: 06-Aug-2020 16:57		Seq: 5687910	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Arsenic	0.448	0.4	2	J	
Chromium	4	0.4	4	U	
Manganese	5	0.7	5	U	
Nickel	2	0.6	2	U	
Thallium	2	0.2	2	U	

CCB8	Date: 06-Aug-2020 17:38		Seq: 5687916	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Arsenic	2	0.4	2	U	
Chromium	4	0.4	4	U	
Manganese	5	0.7	5	U	
Nickel	2	0.6	2	U	
Thallium	0.211	0.2	2	J	

ALS Houston, US

Date: 19-Aug-20

Form 4 - ICP Interference Check Sample

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 July 2020
WorkOrder: HS20071328

Run ID:ICPMS04_366271
Instrument:ICPMS04
Method:SW6020

ICSA	Date: 06-Aug-2020 10:33	Seq: 5686830	ICSA	Units: ug/L
Analyte	**True**	**Found**	**%R**	
Arsenic		0.09	0	
Chromium		0.944	0	
Manganese		-0.08	0	
Nickel		0.297	0	
Thallium		0.014	0	

ICSAB	Date: 06-Aug-2020 10:35	Seq: 5686831	ICSAB	Units: ug/L
Analyte	**True**	**Found**	**%R**	
Arsenic	100	103.2	103	
Chromium	100	99.3	99.3	
Manganese	100	99.93	99.9	
Nickel	100	98.95	99.0	
Thallium	100	99.93	99.9	

ALS Houston, US

Date: 19-Aug-20

Form 5A - Matrix Spike/Matrix Spike Duplicate Recovery

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 July 2020
WorkOrder: HS20071328

Date Analyzed: 06-Aug-2020 17:26
Date Extracted: 05-Aug-2020 17:00
Units: ug/L

Matrix Spike: HS20071328-19MS
Client Sample ID: 16SW03-200728

Analysis Method: SW6020

Analyte	Sample Result	MS Result	Spike Amount	% Rec	MSD Result	Spike Amount	% Rec	% Rec Limits	RPD	RPD Limit
Arsenic	1.795	50.34	50.00	97.1	49.53	50.00	95.5	84-116	1.62	20
Chromium	2.125	47.39	50.00	90.5	45.87	50.00	87.5	85-116	3.25	20
Manganese	686.5	725.8	50.00	78.6	703.9	50.00	34.8	87-115	3.06	20
Nickel	3.201	49.02	50.00	91.6	47.61	50.00	88.8	85-117	2.91	20
Thallium	2.000	45.85	50.00	91.7	45.81	50.00	91.6	82-116	0.0720	20

ALS Houston, US Date: 19-Aug-20

Form 5B - Post Digest Sample Recovery

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 July 2020
WorkOrder: HS20071328

Date Analyzed: 06-Aug-2020 12:56
Date Extracted: 05-Aug-2020 17:00
Units: ug/L

Lab Sample ID: HS20071328-19PDS
Client Sample ID: 16SW03-200728
Analysis Method: SW6020

Analyte	Sample Result	PDS Result	Spike Amount	% Rec	% Rec Limits
Arsenic	1.795	120.6	100	119	80-120
Chromium	2.125	114.5	100	112	80-120
Manganese	686.5	785.7	100	99	80-120
Nickel	3.201	117	100	114	80-120
Thallium	0	107.8	100	108	80-120

ALS Houston, US Date: 19-Aug-20

Form 7 - Laboratory Control Sample

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 July 2020
WorkOrder: HS20071328

Date Analyzed: 06-Aug-2020 12:44
Date Extracted: 05-Aug-2020 17:00
Units: ug/L

Lab Sample ID: LCS-156069 Analysis Method: SW6020

Analyte	Spike Amount	LCS Result	% Rec	% Rec Limits
Arsenic	50	50.45	101	84-116
Chromium	50	48.01	96	85-116
Manganese	50	49.04	98	87-115
Nickel	50	50.47	101	85-117
Thallium	50	48.21	96	82-116

ALS Houston, US Date: 19-Aug-20

Form 8 - ICP Serial Dilutions

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 July 2020
WorkOrder: HS20071328

Date Analyzed: 06-Aug-2020 12:46
Date Extracted: 05-Aug-2020 17:00
Units: ug/L

Lab Sample ID: HS20071328-19SD
Client Sample ID:16SW03-200728

Analysis Method: SW6020

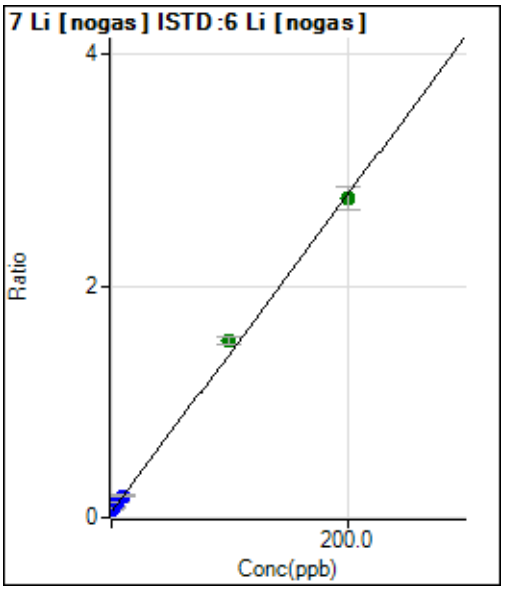
Analyte	Sample Result	C	SD Result	C	RPD	Q
Arsenic	1.795	J	0	U	0	
Chromium	2.125	J	2.258	J	6	
Manganese	686.5		608		11	E
Nickel	3.201	J	3.246	J	1	
Thallium	0	U	0	U	0	

Calibration for 020_ICV.d

Batch Folder: C:\Agilent\ICPMH\1\DATA\080620A.b\
Analysis File: 080620A.batch.bin
DA Date-Time: 8/6/2020 10:33:52 AM
Calibration Title:
Calibration Method: External Calibration
VIS Interpolation Fit:

Level	Standard Data File	Sample Name	Acq. Date-Time
1	013CALB.d	CAL BLK	8/6/2020 10:08:28 AM
2	014CALS.d	2/10/200	8/6/2020 10:10:35 AM
3	015CALS.d	5/25/500	8/6/2020 10:12:41 AM
4	016CALS.d	10/50/1000	8/6/2020 10:14:47 AM
5	017CALS.d	100/500/10K	8/6/2020 10:16:54 AM
6	018CALS.d	200/1000/20K	8/6/2020 10:18:54 AM
7			

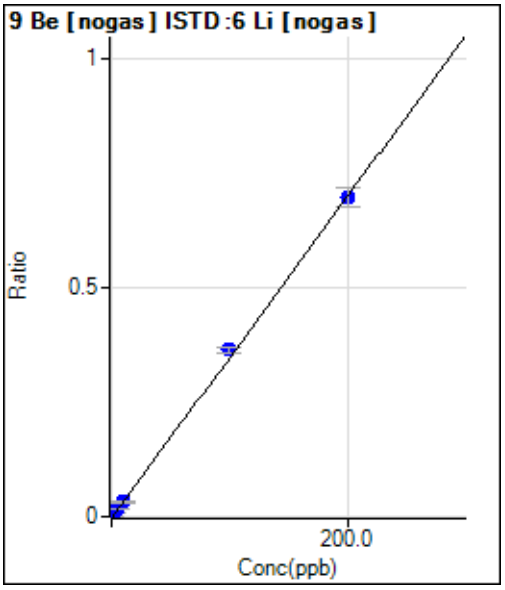
Calibration for 020_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	98155.59	0.0636	P	4.6	
2	☐	2.000	2.008	138601.44	0.0911	P	3.7	0.4
3	☐	5.000	4.754	197271.68	0.1288	P	3.0	-4.9
4	☐	10.000	9.175	294760.39	0.1894	P	3.7	-8.2
5	☐	100.000	106.958	2214123.56	1.5297	A	4.4	7.0
6	☐	200.000	196.568	4063356.71	2.7580	A	7.7	-1.7
7	☐	1.000						

y = 0.0137 * x + 0.0636
R = 0.9991
DL = 0.6393 ppb
BEC = 4.64 ppb

Weight: <None>
Min Conc: <None>

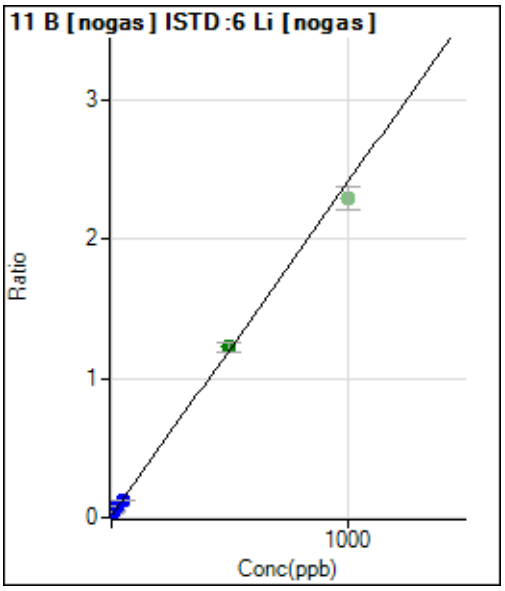


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	28.33	0.0000	P	43.3	
2	☐	2.000	1.831	9817.65	0.0065	P	4.0	-8.4
3	☐	5.000	4.609	24848.16	0.0162	P	2.5	-7.8
4	☐	10.000	8.975	49132.36	0.0316	P	3.7	-10.2
5	☐	100.000	103.689	527656.25	0.3645	P	3.1	3.7
6	☐	200.000	198.218	1026987.17	0.6967	P	6.0	-0.9
7	☐	1.000						

y = 0.0035 * x + 1.8202E-005
R = 0.9997
DL = 0.00673 ppb
BEC = 0.005179 ppb

Weight: <None>
Min Conc: <None>

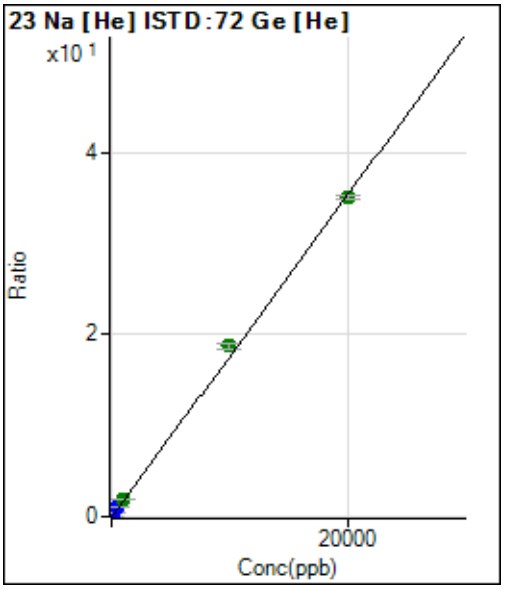
Calibration for 020_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	41109.88	0.0267	P	7.4	
2	☐	10.000	9.049	73455.98	0.0483	P	3.3	-9.5
3	☐	25.000	21.619	120047.35	0.0783	P	1.7	-13.5
4	☐	50.000	42.797	200799.87	0.1290	P	2.7	-14.4
5	☐	500.000	500.908	1771431.85	1.2242	A	5.5	0.2
6	☑	1000.000		3374887.97	2.2911	A	7.6	
7	☐	5.000						

y = 0.0024 * x + 0.0267
R = 0.9999
DL = 2.471 ppb
BEC = 11.15 ppb

Weight: <None>
Min Conc: <None>

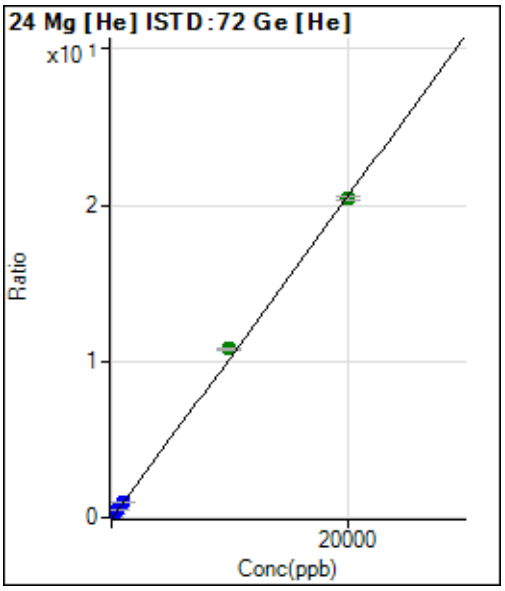


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	85143.71	0.0914	P	1.7	
2	☐	200.000	201.248	417387.07	0.4482	P	1.7	0.6
3	☐	500.000	506.470	926968.11	0.9892	P	1.4	1.3
4	☐	1000.000	1010.225	1779429.87	1.8821	A	3.0	1.0
5	☐	10000.00	10504.63	17615081.82	18.7117	A	2.8	5.0
6	☐	20000.00	19746.99	33187647.84	35.0945	A	0.7	-1.3
7	☐	100.000						

y = 0.0018 * x + 0.0914
R = 0.9995
DL = 2.606 ppb
BEC = 51.59 ppb

Weight: <None>
Min Conc: <None>

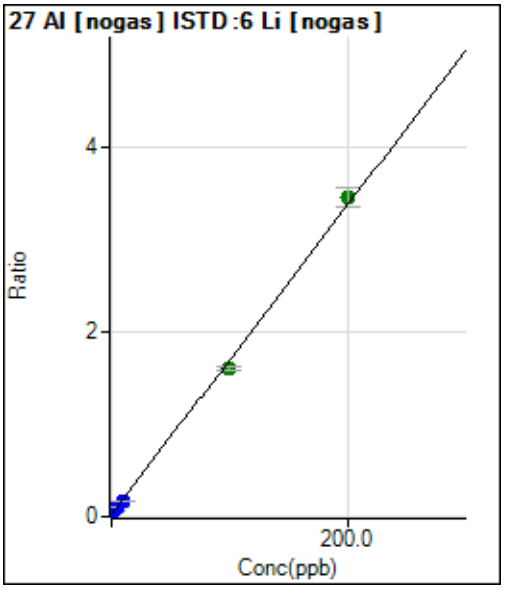
Calibration for 020_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	1670.11	0.0018	P	12.9	
2	☐	200.000	201.639	195701.30	0.2102	P	3.5	0.8
3	☐	500.000	502.004	487823.03	0.5206	P	1.5	0.4
4	☐	1000.000	998.885	977715.79	1.0341	P	0.1	-0.1
5	☐	10000.00	10442.04	10159897.56	10.7928	A	1.4	4.4
6	☐	20000.00	19778.96	19330873.04	20.4418	A	0.7	-1.1
7	☐	100.000						

y = 0.0010 * x + 0.0018
R = 0.9997
DL = 0.6709 ppb
BEC = 1.737 ppb

Weight: <None>
Min Conc: <None>

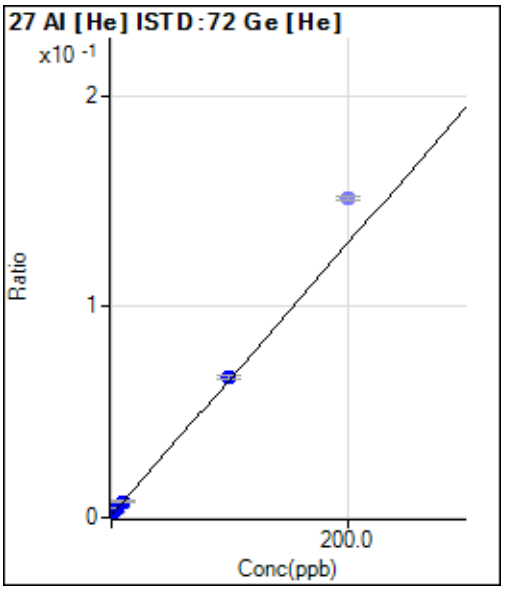


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	67294.13	0.0436	P	7.5	
2	☐	2.000	1.156	95884.22	0.0630	P	2.3	-42.2
3	☐	5.000	3.614	159648.87	0.1042	P	1.1	-27.7
4	☐	10.000	7.446	261965.86	0.1684	P	5.4	-25.5
5	☐	100.000	92.813	2315012.26	1.5985	A	2.3	-7.2
6	☐	200.000	203.764	5096529.71	3.4573	A	5.9	1.9
7	☐	1.000						

y = 0.0168 * x + 0.0436
R = 0.9992
DL = 0.5877 ppb
BEC = 2.605 ppb

Weight: <None>
Min Conc: <None>

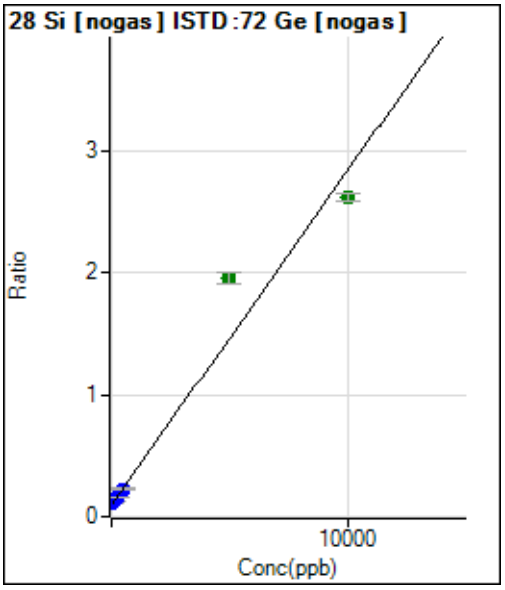
Calibration for 020_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	1856.80	0.0020	P	12.5	
2	☐	2.000	1.191	2570.22	0.0028	P	6.6	-40.4
3	☐	5.000	4.217	4410.61	0.0047	P	4.1	-15.7
4	☐	10.000	8.740	7201.54	0.0076	P	3.8	-12.6
5	☐	100.000	100.181	62555.57	0.0665	P	1.6	0.2
6	☑	200.000		143058.55	0.1513	P	1.3	
7	☐	1.000						

y = 6.4344E-004 * x + 0.0020
R = 0.9999
DL = 1.16 ppb
BEC = 3.099 ppb

Weight: <None>
Min Conc: <None>

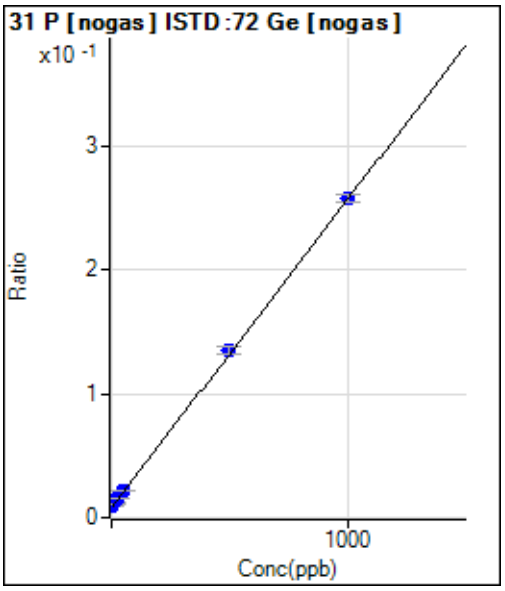


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	374677.26	0.1082	P	5.8	
2	☐	100.000	71.877	440541.36	0.1279	P	5.6	-28.1
3	☐	250.000	203.235	575667.01	0.1640	P	1.7	-18.7
4	☐	500.000	438.737	798477.39	0.2287	P	0.8	-12.3
5	☐	5000.000	6724.360	6887661.56	1.9554	A	4.2	34.5
6	☐	10000.00	9142.333	9150317.36	2.6196	A	2.1	-8.6
7	☐	50.000						

y = 2.7470E-004 * x + 0.1082
R = 0.9782
DL = 67.94 ppb
BEC = 393.9 ppb

Weight: <None>
Min Conc: <None>

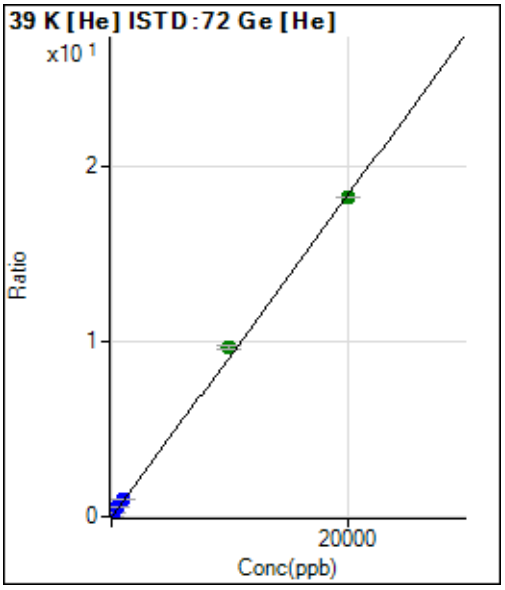
Calibration for 020_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	32642.64	0.0094	P	1.6	
2	☐	10.000	8.988	40144.00	0.0117	P	2.4	-10.1
3	☐	25.000	24.822	54714.41	0.0156	P	2.7	-0.7
4	☐	50.000	49.375	75728.62	0.0217	P	2.9	-1.3
5	☐	500.000	504.509	475045.84	0.1349	P	4.4	0.9
6	☐	1000.000	997.791	899514.31	0.2575	P	2.5	-0.2
7	☐	5.000						

y = 2.4867E-004 * x + 0.0094
R = 1.0000
DL = 1.813 ppb
BEC = 37.89 ppb

Weight: <None>
Min Conc: <None>

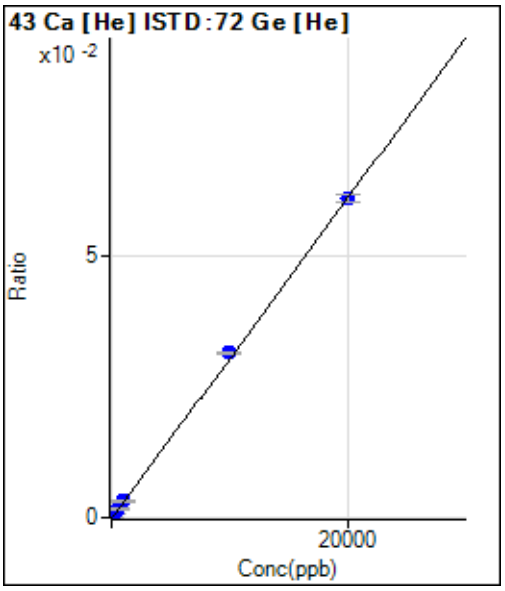


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	49784.28	0.0535	P	2.6	
2	☐	200.000	192.871	214997.55	0.2309	P	1.8	-3.6
3	☐	500.000	489.632	472162.95	0.5039	P	1.5	-2.1
4	☐	1000.000	970.654	894720.80	0.9463	P	1.5	-2.9
5	☐	10000.00	10463.97	9111202.16	9.6787	A	1.7	4.6
6	☐	20000.00	19769.80	17247935.16	18.2386	A	0.3	-1.2
7	☐	100.000						

y = 9.1984E-004 * x + 0.0535
R = 0.9996
DL = 4.541 ppb
BEC = 58.13 ppb

Weight: <None>
Min Conc: <None>

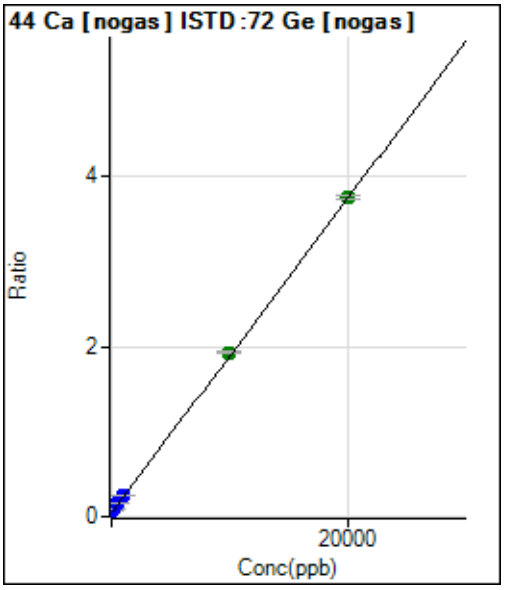
Calibration for 020_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	50.00	0.0001	P	34.0	
2	☐	200.000	212.049	656.69	0.0007	P	15.1	6.0
3	☐	500.000	509.527	1516.76	0.0016	P	9.0	1.9
4	☐	1000.000	1017.407	3006.99	0.0032	P	3.4	1.7
5	☐	10000.00	10239.47	29674.38	0.0315	P	1.6	2.4
6	☐	20000.00	19879.03	57824.91	0.0612	P	2.0	-0.6
7	☐	100.000						

y = 3.0734E-006 * x + 5.3591E-005
R = 0.9999
DL = 17.81 ppb
BEC = 17.44 ppb

Weight: <None>
Min Conc: <None>

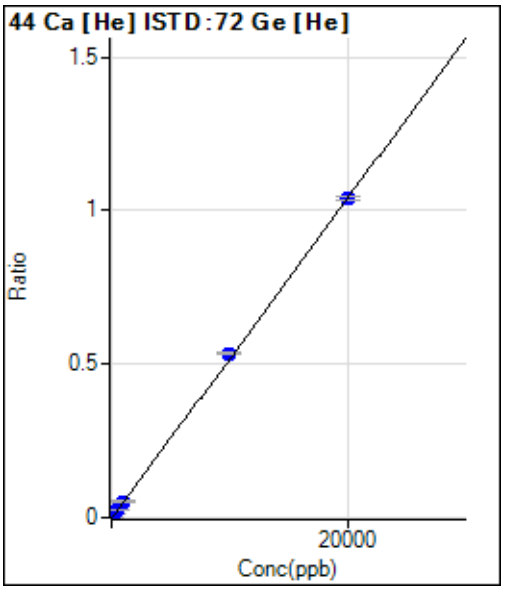


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	219656.92	0.0634	P	1.5	
2	☐	200.000	191.014	340247.12	0.0988	P	1.3	-4.5
3	☐	500.000	470.107	528073.99	0.1505	P	1.0	-6.0
4	☐	1000.000	973.620	850788.03	0.2438	P	2.7	-2.6
5	☐	10000.00	10087.01	6808099.69	1.9323	A	1.7	0.9
6	☐	20000.00	19958.65	13137987.30	3.7614	A	1.5	-0.2
7	☐	100.000						

y = 1.8528E-004 * x + 0.0634
R = 1.0000
DL = 15.83 ppb
BEC = 342.2 ppb

Weight: <None>
Min Conc: <None>

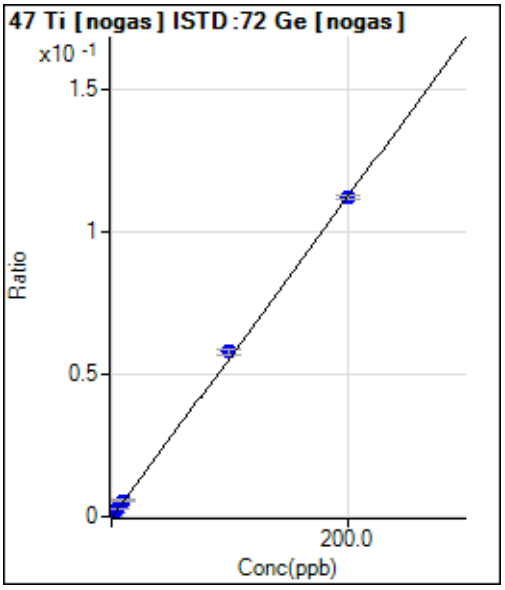
Calibration for 020_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	1896.80	0.0020	P	5.8	
2	☐	200.000	197.181	11477.13	0.0123	P	1.8	-1.4
3	☐	500.000	488.324	25785.24	0.0275	P	2.3	-2.3
4	☐	1000.000	972.825	49915.18	0.0528	P	1.8	-2.7
5	☐	10000.00	10222.12	503937.28	0.5354	P	1.6	2.2
6	☐	20000.00	19890.61	983277.87	1.0398	P	0.6	-0.5
7	☐	100.000						

y = 5.2173E-005 * x + 0.0020
R = 0.9999
DL = 6.774 ppb
BEC = 39.03 ppb

Weight: <None>
Min Conc: <None>

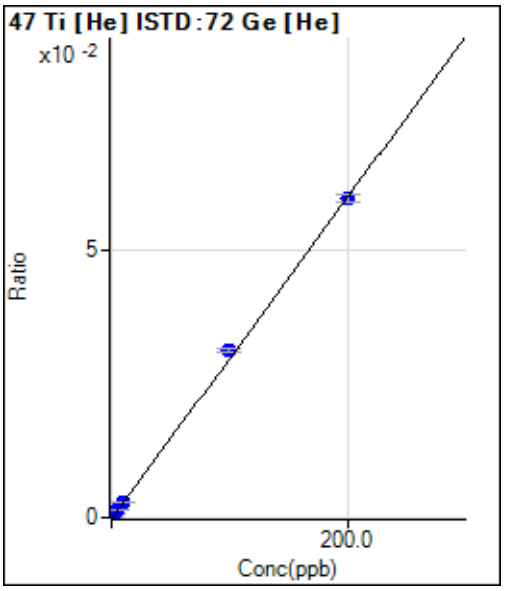


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	133.33	0.0000	P	27.0	
2	☐	2.000	1.825	3687.11	0.0011	P	3.6	-8.7
3	☐	5.000	4.718	9499.29	0.0027	P	3.2	-5.6
4	☐	10.000	9.741	19337.33	0.0055	P	7.6	-2.6
5	☐	100.000	102.681	204630.26	0.0581	P	3.1	2.7
6	☐	200.000	198.681	392476.30	0.1124	P	0.9	-0.7
7	☐	1.000						

y = 5.6537E-004 * x + 3.8358E-005
R = 0.9999
DL = 0.05489 ppb
BEC = 0.06785 ppb

Weight: <None>
Min Conc: <None>

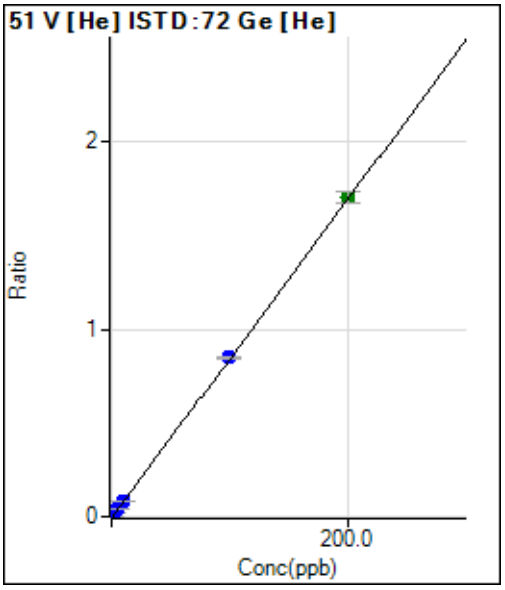
Calibration for 020_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	30.00	0.0000	P	32.5	
2	☐	2.000	1.964	580.02	0.0006	P	15.4	-1.8
3	☐	5.000	4.710	1356.75	0.0014	P	11.2	-5.8
4	☐	10.000	9.320	2680.25	0.0028	P	8.4	-6.8
5	☐	100.000	103.751	29397.41	0.0312	P	1.9	3.8
6	☐	200.000	198.166	56380.89	0.0596	P	1.8	-0.9
7	☐	1.000						

y = 3.0070E-004 * x + 3.2149E-005
R = 0.9997
DL = 0.1041 ppb
BEC = 0.1069 ppb

Weight: <None>
Min Conc: <None>

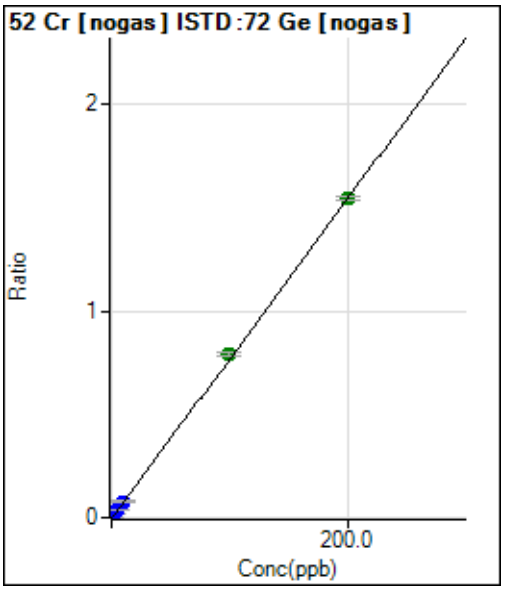


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	833.36	0.0009	P	5.4	
2	☐	2.000	1.899	15894.80	0.0171	P	2.5	-5.1
3	☐	5.000	4.752	38771.21	0.0414	P	1.8	-5.0
4	☐	10.000	9.434	76827.79	0.0813	P	0.5	-5.7
5	☐	100.000	99.610	799587.85	0.8494	P	1.6	-0.4
6	☐	200.000	200.231	1613780.66	1.7066	A	3.0	0.1
7	☐	1.000						

y = 0.0085 * x + 8.9461E-004
R = 1.0000
DL = 0.01714 ppb
BEC = 0.105 ppb

Weight: <None>
Min Conc: <None>

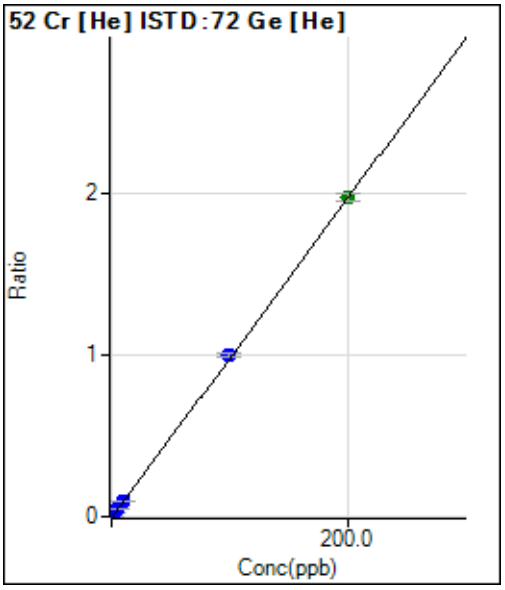
Calibration for 020_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	7705.12	0.0022	P	1.7	
2	☐	2.000	2.027	61835.48	0.0180	P	1.8	1.4
3	☐	5.000	4.859	140073.68	0.0399	P	3.0	-2.8
4	☐	10.000	9.891	275607.69	0.0790	P	2.8	-1.1
5	☐	100.000	101.856	2792242.04	0.7926	A	2.9	1.9
6	☐	200.000	199.081	5403757.42	1.5471	A	0.9	-0.5
7	☐	1.000						

y = 0.0078 * x + 0.0022
R = 0.9999
DL = 0.01454 ppb
BEC = 0.2866 ppb

Weight: <None>
Min Conc: <None>

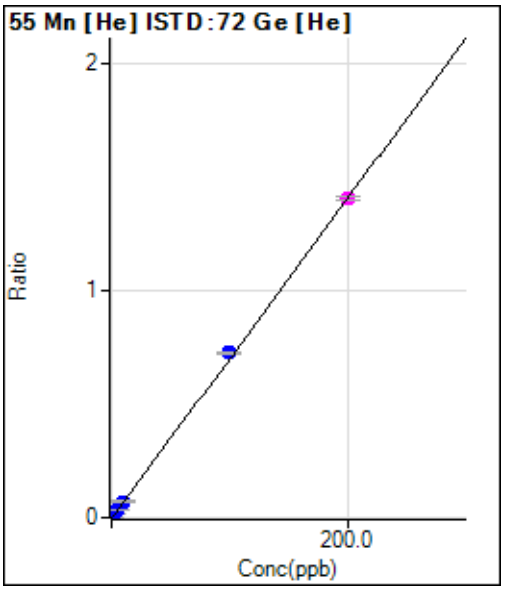


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	1043.39	0.0011	P	11.2	
2	☐	2.000	1.939	18910.14	0.0203	P	3.5	-3.1
3	☐	5.000	4.842	45958.72	0.0490	P	1.2	-3.2
4	☐	10.000	9.665	91503.41	0.0968	P	0.7	-3.4
5	☐	100.000	101.069	942664.00	1.0015	P	2.1	1.1
6	☐	200.000	199.487	1868393.36	1.9756	A	2.1	-0.3
7	☐	1.000						

y = 0.0099 * x + 0.0011
R = 1.0000
DL = 0.03789 ppb
BEC = 0.1131 ppb

Weight: <None>
Min Conc: <None>

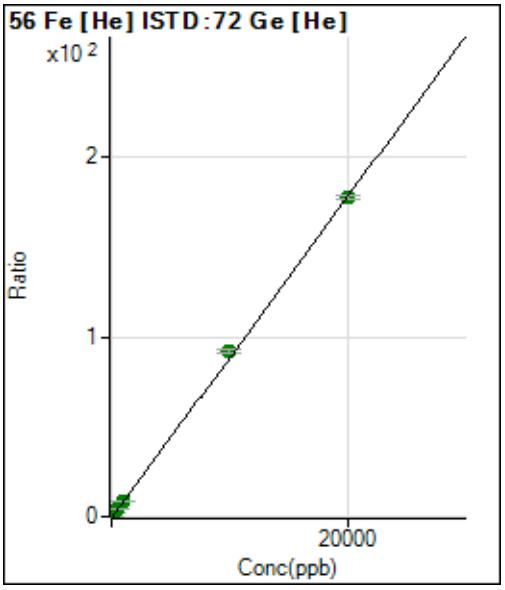
Calibration for 020_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	2910.30	0.0031	P	3.4	
2	☐	2.000	1.917	15496.82	0.0166	P	1.1	-4.1
3	☐	5.000	4.765	34403.09	0.0367	P	0.7	-4.7
4	☐	10.000	9.713	67686.56	0.0716	P	1.1	-2.9
5	☐	100.000	102.235	681209.26	0.7237	P	1.6	2.2
6	☐	200.000	198.904	1328729.75	1.4050	M	1.5	-0.5
7	☐	1.000						

y = 0.0070 * x + 0.0031
R = 0.9999
DL = 0.04541 ppb
BEC = 0.4435 ppb

Weight: <None>
Min Conc: <None>

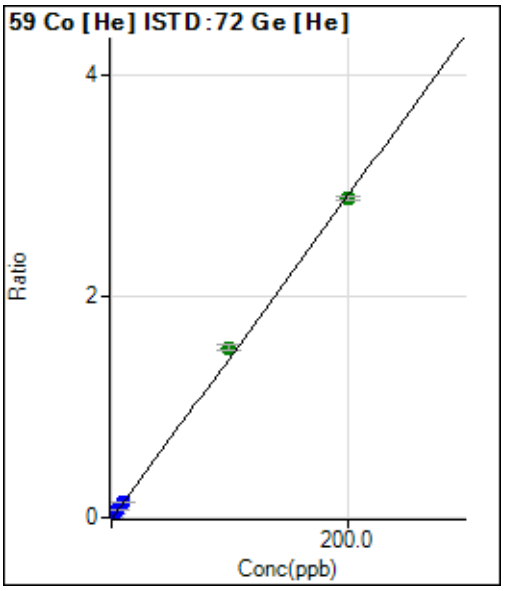


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	14100.08	0.0151	P	3.4	
2	☐	200.000	208.254	1751476.38	1.8805	A	1.1	4.1
3	☐	500.000	497.011	4186288.17	4.4670	A	0.7	-0.6
4	☐	1000.000	989.014	8390095.29	8.8739	A	1.0	-1.1
5	☐	10000.00	10296.79	86828732.04	92.2453	A	2.4	3.0
6	☐	20000.00	19852.14	168165190.8	177.834	A	1.3	-0.7
7	☐	100.000						

y = 0.0090 * x + 0.0151
R = 0.9998
DL = 0.1739 ppb
BEC = 1.69 ppb

Weight: <None>
Min Conc: <None>

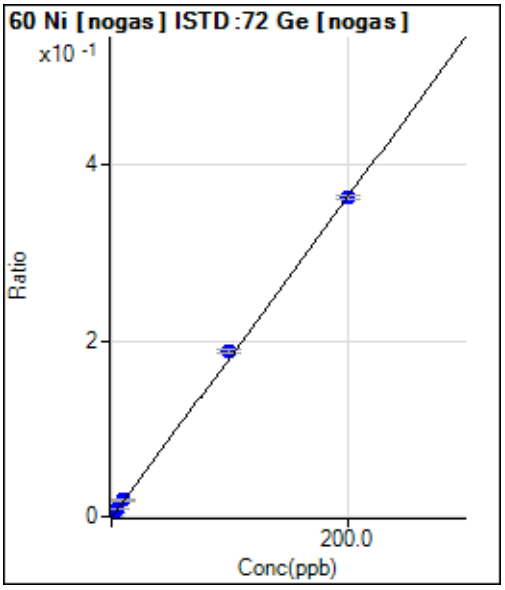
Calibration for 020_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	270.01	0.0003	P	17.7	
2	☐	2.000	1.941	26720.14	0.0287	P	4.9	-3.0
3	☐	5.000	4.908	67566.32	0.0721	P	3.2	-1.8
4	☐	10.000	9.642	133670.07	0.1414	P	1.9	-3.6
5	☐	100.000	105.198	1449205.92	1.5397	A	3.1	5.2
6	☐	200.000	197.422	2732230.37	2.8892	A	0.8	-1.3
7	☐	1.000						

y = 0.0146 * x + 2.9017E-004
R = 0.9995
DL = 0.01054 ppb
BEC = 0.01983 ppb

Weight: <None>
Min Conc: <None>

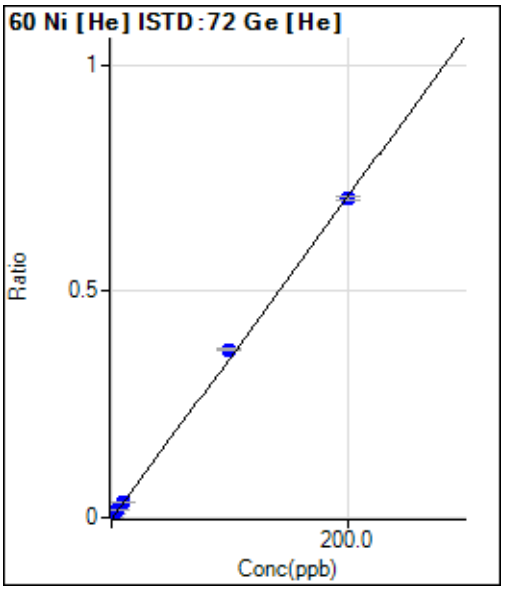


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	1540.10	0.0004	P	20.5	
2	☐	2.000	2.035	14349.25	0.0042	P	3.5	1.8
3	☐	5.000	5.013	33708.49	0.0096	P	2.1	0.3
4	☐	10.000	10.016	65432.25	0.0188	P	3.2	0.2
5	☐	100.000	102.538	661844.16	0.1879	P	2.0	2.5
6	☐	200.000	198.729	1270231.67	0.3637	P	0.7	-0.6
7	☐	1.000						

y = 0.0018 * x + 4.4439E-004
R = 0.9999
DL = 0.1498 ppb
BEC = 0.2431 ppb

Weight: <None>
Min Conc: <None>

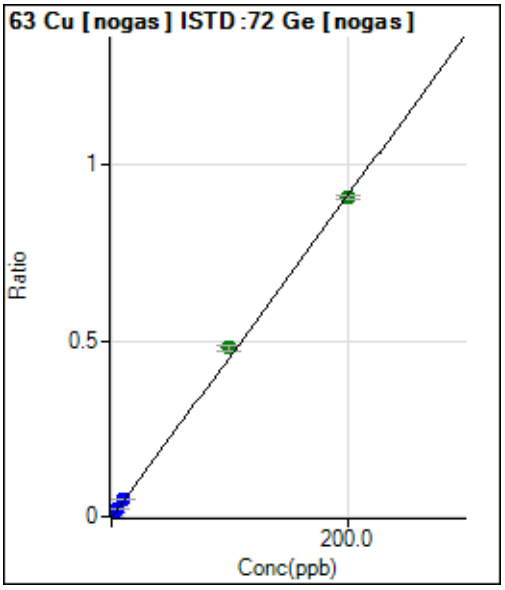
Calibration for 020_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	186.67	0.0002	P	29.0	
2	☐	2.000	1.988	6788.06	0.0073	P	4.9	-0.6
3	☐	5.000	5.094	17201.83	0.0184	P	5.8	1.9
4	☐	10.000	9.995	33882.30	0.0358	P	0.6	-0.1
5	☐	100.000	104.077	349488.89	0.3713	P	1.1	4.1
6	☐	200.000	197.960	667611.11	0.7060	P	1.0	-1.0
7	☐	1.000						

y = 0.0036 * x + 2.0031E-004
R = 0.9997
DL = 0.04891 ppb
BEC = 0.05618 ppb

Weight: <None>
Min Conc: <None>

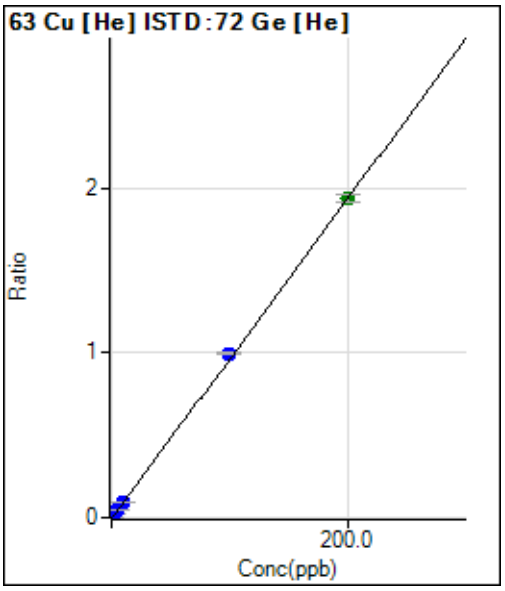


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	5547.64	0.0016	P	6.5	
2	☐	2.000	1.981	36808.00	0.0107	P	5.4	-1.0
3	☐	5.000	4.886	84290.37	0.0240	P	1.0	-2.3
4	☐	10.000	9.944	164829.73	0.0472	P	2.6	-0.6
5	☐	100.000	104.388	1693181.02	0.4806	A	3.0	4.4
6	☐	200.000	197.812	3176295.89	0.9093	A	0.9	-1.1
7	☐	1.000						

y = 0.0046 * x + 0.0016
R = 0.9997
DL = 0.06806 ppb
BEC = 0.3491 ppb

Weight: <None>
Min Conc: <None>

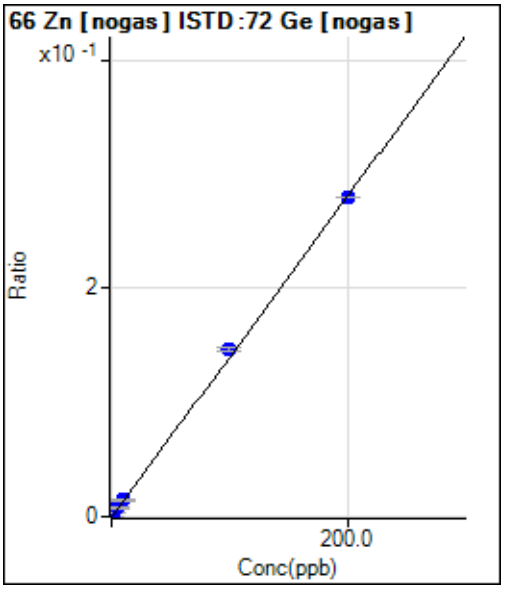
Calibration for 020_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	2830.28	0.0030	P	10.4	
2	☐	2.000	1.977	20712.29	0.0222	P	4.0	-1.2
3	☐	5.000	4.871	47195.51	0.0504	P	1.7	-2.6
4	☐	10.000	9.721	92158.71	0.0975	P	1.4	-2.8
5	☐	100.000	101.820	933972.33	0.9922	P	1.1	1.8
6	☐	200.000	199.107	1831954.35	1.9373	A	2.4	-0.4
7	☐	1.000						

y = 0.0097 * x + 0.0030
R = 0.9999
DL = 0.09794 ppb
BEC = 0.3129 ppb

Weight: <None>
Min Conc: <None>

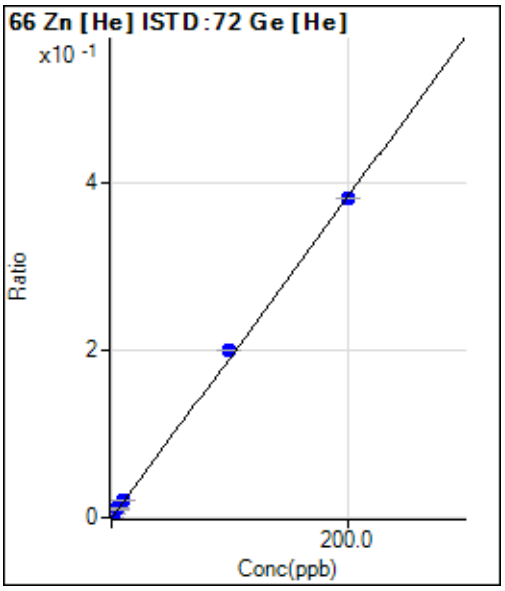


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	2700.26	0.0008	P	5.1	
2	☐	2.000	1.874	11767.36	0.0034	P	5.9	-6.3
3	☐	5.000	4.898	26930.61	0.0077	P	2.9	-2.0
4	☐	10.000	9.813	50936.19	0.0146	P	4.0	-1.9
5	☐	100.000	103.587	516721.76	0.1467	P	2.4	3.6
6	☐	200.000	198.220	977853.97	0.2800	P	0.2	-0.9
7	☐	1.000						

y = 0.0014 * x + 7.7889E-004
R = 0.9998
DL = 0.0852 ppb
BEC = 0.553 ppb

Weight: <None>
Min Conc: <None>

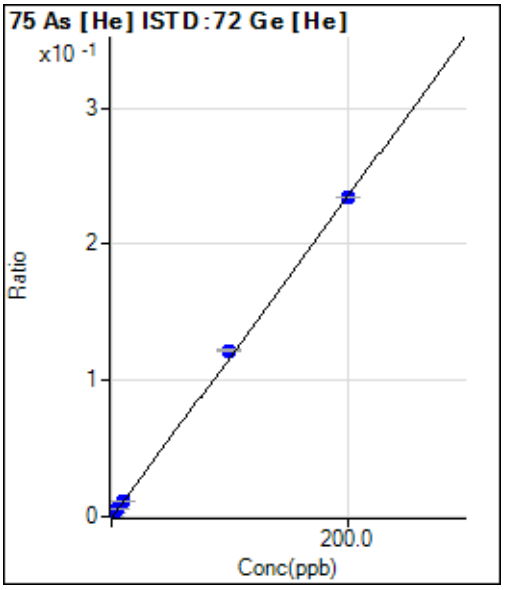
Calibration for 020_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	923.37	0.0010	P	9.3	
2	☐	2.000	1.808	4150.55	0.0045	P	5.5	-9.6
3	☐	5.000	4.914	9756.15	0.0104	P	3.0	-1.7
4	☐	10.000	10.029	19117.06	0.0202	P	1.0	0.3
5	☐	100.000	103.842	188345.37	0.2001	P	0.1	3.8
6	☐	200.000	198.082	360052.84	0.3807	P	0.3	-1.0
7	☐	1.000						

y = 0.0019 * x + 9.9126E-004
R = 0.9997
DL = 0.1438 ppb
BEC = 0.5171 ppb

Weight: <None>
Min Conc: <None>

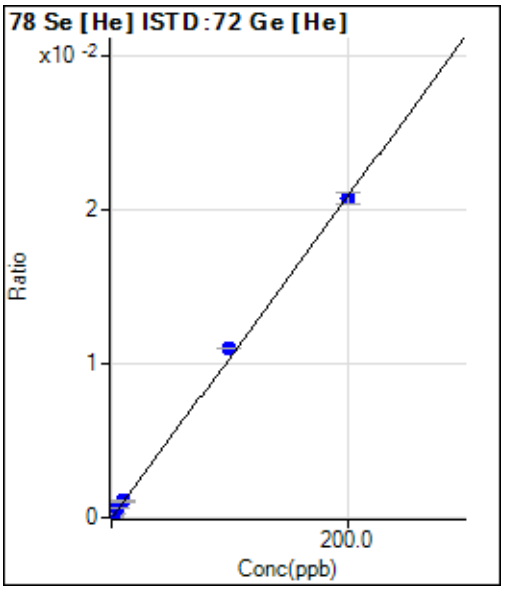


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	81.11	0.0001	P	38.2	
2	☐	2.000	1.994	2274.61	0.0024	P	4.9	-0.3
3	☐	5.000	4.738	5324.16	0.0057	P	3.9	-5.2
4	☐	10.000	9.673	10881.14	0.0115	P	2.0	-3.3
5	☐	100.000	103.165	114753.76	0.1219	P	0.6	3.2
6	☐	200.000	198.441	221664.52	0.2344	P	0.5	-0.8
7	☐	1.000						

y = 0.0012 * x + 8.6890E-005
R = 0.9998
DL = 0.08435 ppb
BEC = 0.07359 ppb

Weight: <None>
Min Conc: <None>

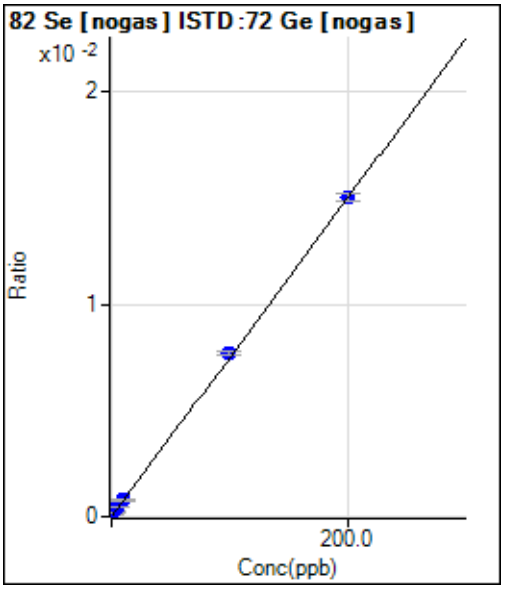
Calibration for 020_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	58.67	0.0001	P	31.7	
2	☐	2.000	2.167	270.00	0.0003	P	5.8	8.4
3	☐	5.000	4.995	548.68	0.0006	P	2.5	-0.1
4	☐	10.000	9.773	1026.03	0.0011	P	4.2	-2.3
5	☐	100.000	104.385	10336.36	0.0110	P	0.5	4.4
6	☐	200.000	197.817	19622.83	0.0208	P	3.1	-1.1
7	☐	1.000						

y = 1.0458E-004 * x + 6.3080E-005
R = 0.9997
DL = 0.573 ppb
BEC = 0.6032 ppb

Weight: <None>
Min Conc: <None>

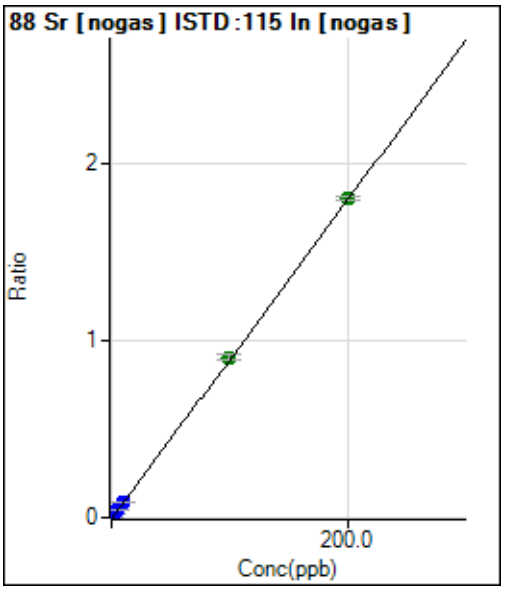


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	276.68	0.0001	P	15.1	
2	☐	2.000	2.184	840.04	0.0002	P	17.5	9.2
3	☐	5.000	4.850	1556.77	0.0004	P	6.2	-3.0
4	☐	10.000	9.432	2753.60	0.0008	P	7.0	-5.7
5	☐	100.000	101.382	27091.08	0.0077	P	2.5	1.4
6	☐	200.000	199.339	52545.06	0.0150	P	2.0	-0.3
7	☐	1.000						

y = 7.5065E-005 * x + 7.9867E-005
R = 1.0000
DL = 0.4823 ppb
BEC = 1.064 ppb

Weight: <None>
Min Conc: <None>

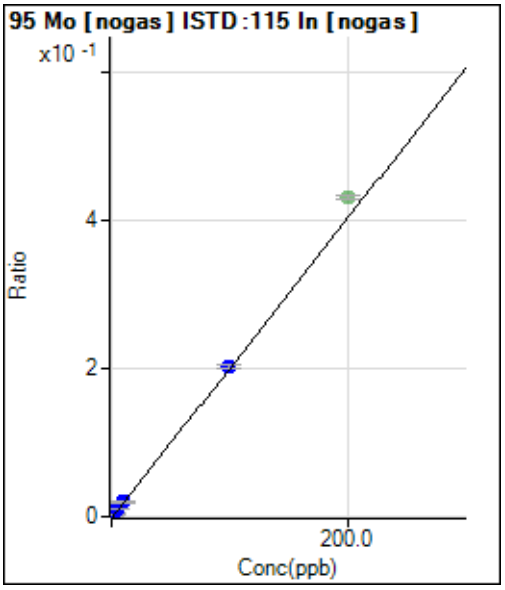
Calibration for 020_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	2423.56	0.0006	P	8.9	
2	☐	2.000	1.840	73509.76	0.0172	P	5.7	-8.0
3	☐	5.000	4.723	186693.08	0.0432	P	2.6	-5.5
4	☐	10.000	9.566	370361.43	0.0868	P	1.1	-4.3
5	☐	100.000	100.319	3933096.61	0.9053	A	2.9	0.3
6	☐	200.000	199.871	7578789.68	1.8031	A	1.3	-0.1
7	☐	1.000						

y = 0.0090 * x + 5.6605E-004
R = 1.0000
DL = 0.01683 ppb
BEC = 0.06277 ppb

Weight: <None>
Min Conc: <None>

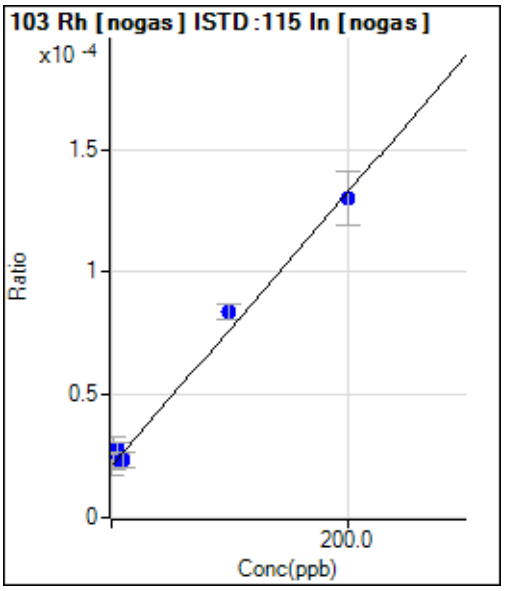


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	93.33	0.0000	P	53.8	
2	☐	2.000	1.951	16995.21	0.0040	P	5.5	-2.5
3	☐	5.000	4.772	41820.40	0.0097	P	7.6	-4.6
4	☐	10.000	9.706	83807.08	0.0197	P	2.8	-2.9
5	☐	100.000	100.042	879097.77	0.2023	P	1.5	0.0
6	☑	200.000		1809260.86	0.4305	A	1.2	
7	☐	1.000						

y = 0.0020 * x + 2.1853E-005
R = 1.0000
DL = 0.01744 ppb
BEC = 0.01081 ppb

Weight: <None>
Min Conc: <None>

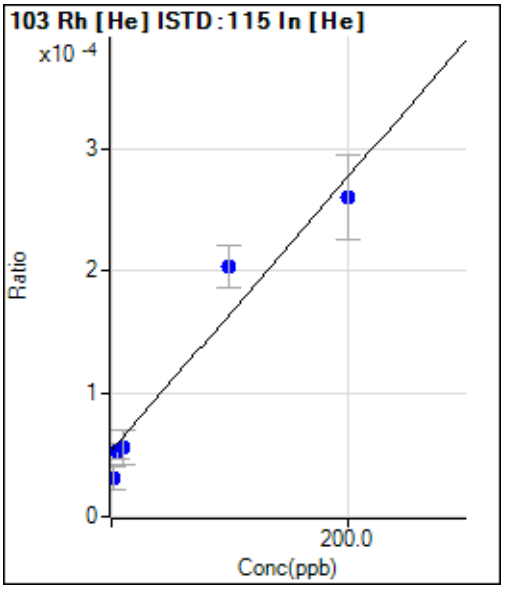
Calibration for 020_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	93.33	0.0000	P	42.4	
2	☐	2.000	8.293	113.34	0.0000	P	52.5	314.6
3	☐	5.000	12.082	123.34	0.0000	P	17.4	141.6
4	☐	10.000	3.003	100.00	0.0000	P	25.5	-70.0
5	☐	100.000	111.167	363.34	0.0001	P	7.2	11.2
6	☐	200.000	194.526	546.69	0.0001	P	16.7	-2.7
7	☐	1.000						

y = 5.5698E-007 * x + 2.1740E-005
R = 0.9960
DL = 49.68 ppb
BEC = 39.03 ppb

Weight: <None>
Min Conc: <None>

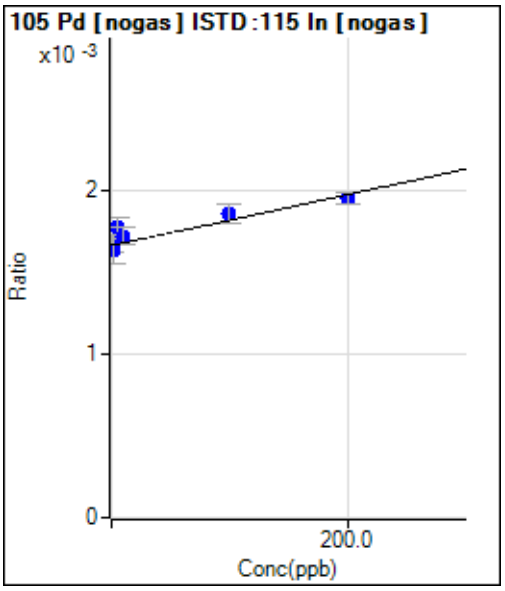


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	86.67	0.0001	P	7.6	
2	☐	2.000	-21.183	50.00	0.0000	P	59.3	-1159.1
3	☐	5.000	-2.075	83.33	0.0001	P	24.8	-141.5
4	☐	10.000	0.949	90.00	0.0001	P	49.6	-90.5
5	☐	100.000	133.478	326.68	0.0002	P	17.3	33.5
6	☐	200.000	184.122	400.01	0.0003	P	25.9	-7.9
7	☐	1.000						

y = 1.1132E-006 * x + 5.5364E-005
R = 0.9741
DL = 11.35 ppb
BEC = 49.73 ppb

Weight: <None>
Min Conc: <None>

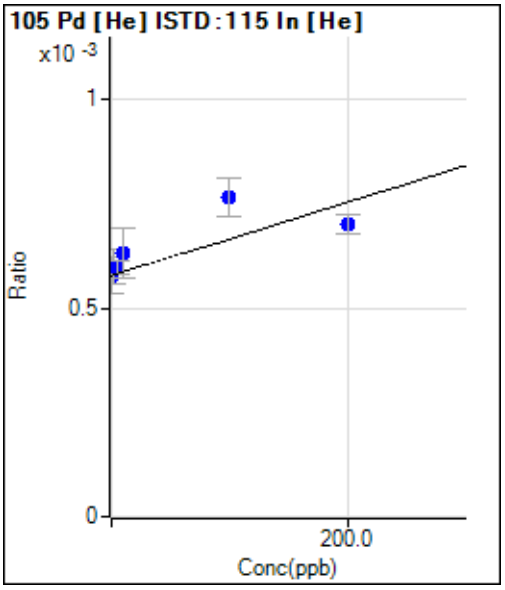
Calibration for 020_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	7148.31	0.0017	P	4.3	
2	☐	2.000	-15.196	7044.88	0.0016	P	11.0	-859.8
3	☐	5.000	72.907	7715.15	0.0018	P	6.8	1358.1
4	☐	10.000	36.597	7365.03	0.0017	P	5.6	266.0
5	☐	100.000	125.958	8108.70	0.0019	P	6.2	26.0
6	☐	200.000	184.166	8232.10	0.0020	P	3.7	-7.9
7	☐	1.000						

y = 1.5689E-006 * x + 0.0017
R = 0.9180
DL = 136.6 ppb
BEC = 1064 ppb

Weight: <None>
Min Conc: <None>

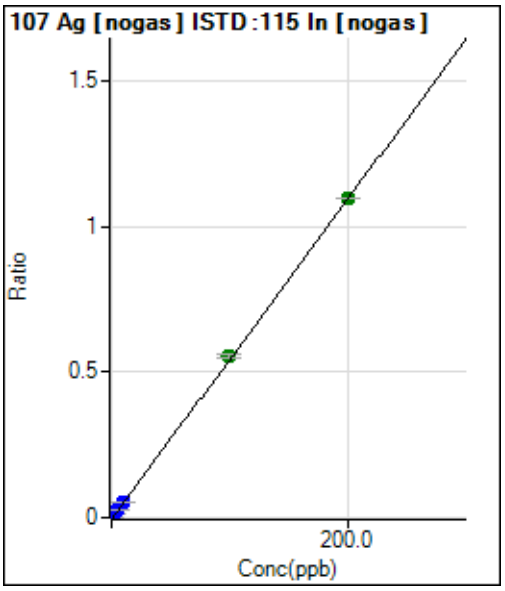


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	906.71	0.0006	P	15.4	
2	☐	2.000	24.253	943.38	0.0006	P	14.1	1112.7
3	☐	5.000	22.214	940.05	0.0006	P	5.6	344.3
4	☐	10.000	59.551	1003.39	0.0006	P	18.7	495.5
5	☐	100.000	212.035	1223.40	0.0008	P	12.2	112.0
6	☐	200.000	140.852	1076.72	0.0007	P	6.5	-29.6
7	☐	1.000						

y = 8.8162E-007 * x + 5.7910E-004
R = 0.7646
DL = 303.5 ppb
BEC = 656.9 ppb

Weight: <None>
Min Conc: <None>

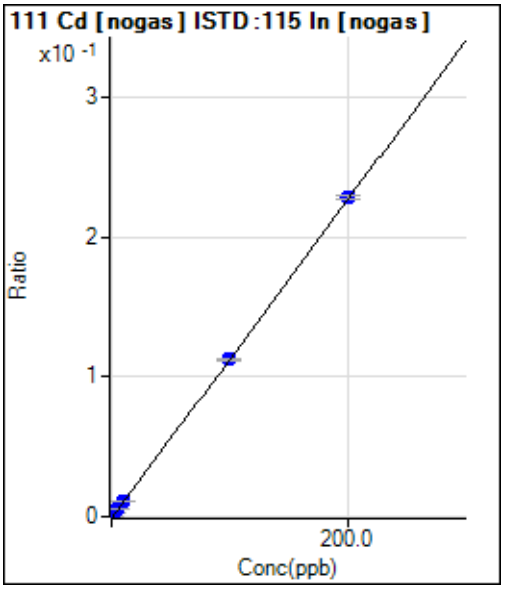
Calibration for 020_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	420.01	0.0001	P	14.2	
2	☐	2.000	1.947	46405.64	0.0108	P	2.8	-2.6
3	☐	5.000	4.706	112560.64	0.0260	P	3.3	-5.9
4	☐	10.000	9.681	227861.98	0.0534	P	1.8	-3.2
5	☐	100.000	100.999	2417778.14	0.5565	A	1.3	1.0
6	☐	200.000	199.524	4620015.45	1.0992	A	0.6	-0.2
7	☐	1.000						

y = 0.0055 * x + 9.8051E-005
R = 1.0000
DL = 0.007578 ppb
BEC = 0.0178 ppb

Weight: <None>
Min Conc: <None>

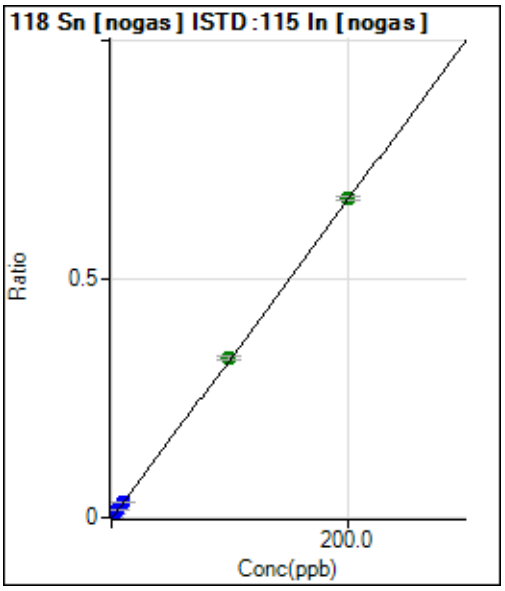


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	3.33	0.0000	P	173.	
2	☐	2.000	1.925	9402.74	0.0022	P	4.4	-3.7
3	☐	5.000	4.934	24307.33	0.0056	P	3.5	-1.3
4	☐	10.000	9.757	47401.94	0.0111	P	1.9	-2.4
5	☐	100.000	98.956	489672.70	0.1127	P	1.3	-1.0
6	☐	200.000	200.536	959959.49	0.2284	P	1.2	0.3
7	☐	1.000						

y = 0.0011 * x + 7.8629E-007
R = 1.0000
DL = 0.003587 ppb
BEC = 0.0006904 ppb

Weight: <None>
Min Conc: <None>

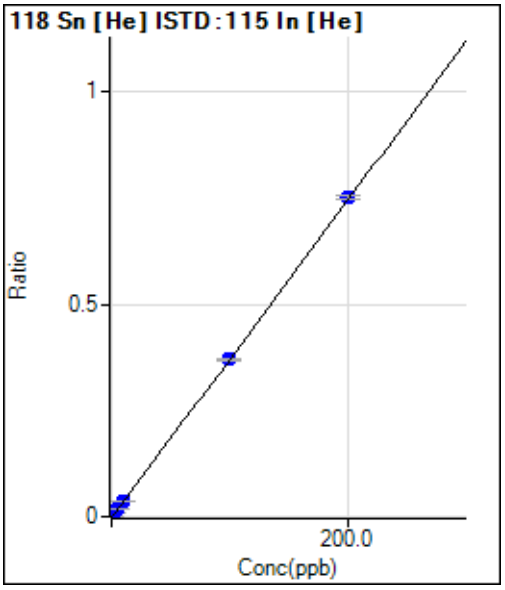
Calibration for 020_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	3187.02	0.0007	P	4.2	
2	☐	2.000	1.794	28924.64	0.0067	P	2.7	-10.3
3	☐	5.000	4.727	71636.66	0.0166	P	4.4	-5.5
4	☐	10.000	9.363	136838.16	0.0321	P	1.7	-6.4
5	☐	100.000	99.996	1457272.53	0.3354	A	1.9	0.0
6	☐	200.000	200.043	2817299.44	0.6703	A	1.2	0.0
7	☐	1.000						

y = 0.0033 * x + 7.4389E-004
R = 1.0000
DL = 0.02829 ppb
BEC = 0.2222 ppb

Weight: <None>
Min Conc: <None>

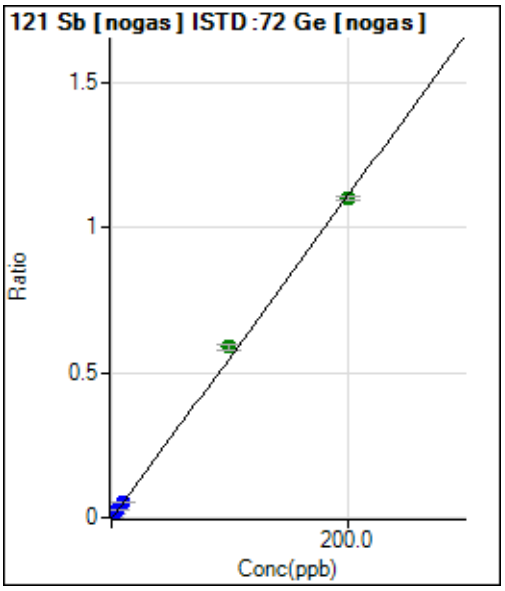


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	1216.74	0.0008	P	9.2	
2	☐	2.000	1.834	12011.08	0.0076	P	5.3	-8.3
3	☐	5.000	4.779	29322.06	0.0187	P	2.5	-4.4
4	☐	10.000	9.402	57124.89	0.0360	P	2.3	-6.0
5	☐	100.000	98.507	591109.25	0.3697	P	1.0	-1.5
6	☐	200.000	200.784	1152921.83	0.7527	P	1.7	0.4
7	☐	1.000						

y = 0.0037 * x + 7.7684E-004
R = 1.0000
DL = 0.05755 ppb
BEC = 0.2074 ppb

Weight: <None>
Min Conc: <None>

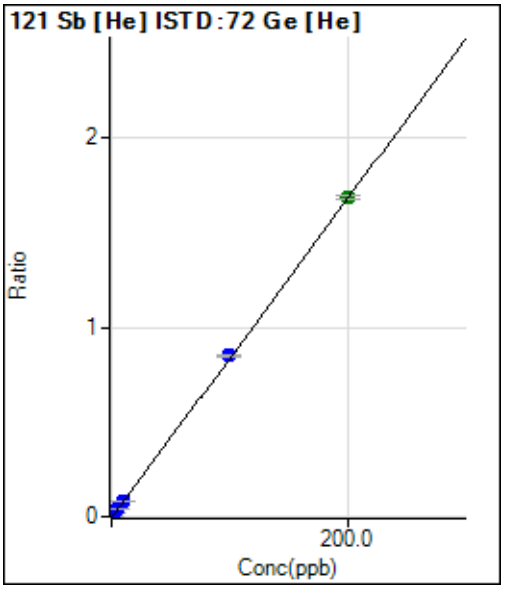
Calibration for 020_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	3803.83	0.0011	P	7.5	
2	☐	2.000	1.902	40314.57	0.0117	P	2.3	-4.9
3	☐	5.000	4.740	96594.04	0.0275	P	1.4	-5.2
4	☐	10.000	9.453	187785.77	0.0538	P	3.0	-5.5
5	☐	100.000	105.185	2070028.77	0.5876	A	2.4	5.2
6	☐	200.000	197.442	3849286.82	1.1020	A	1.3	-1.3
7	☐	1.000						

y = 0.0056 * x + 0.0011
R = 0.9995
DL = 0.04413 ppb
BEC = 0.197 ppb

Weight: <None>
Min Conc: <None>

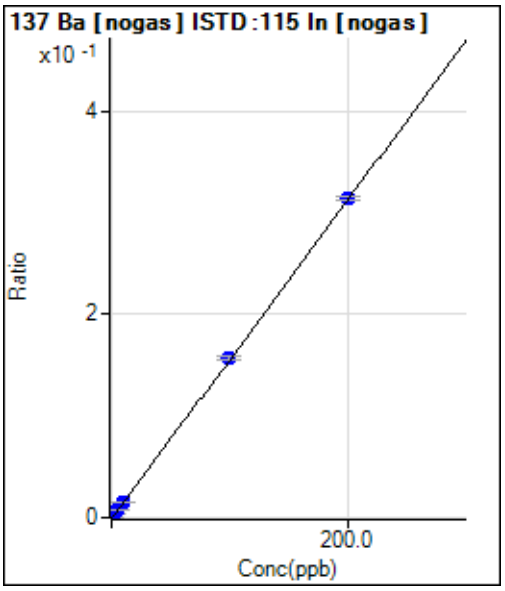


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	1596.78	0.0017	P	13.2	
2	☐	2.000	1.843	16081.18	0.0173	P	2.9	-7.9
3	☐	5.000	4.485	37073.79	0.0396	P	1.6	-10.3
4	☐	10.000	9.146	74595.46	0.0789	P	0.7	-8.5
5	☐	100.000	100.706	801581.50	0.8515	P	1.3	0.7
6	☐	200.000	199.704	1595224.04	1.6870	A	1.7	-0.1
7	☐	1.000						

y = 0.0084 * x + 0.0017
R = 1.0000
DL = 0.08024 ppb
BEC = 0.2033 ppb

Weight: <None>
Min Conc: <None>

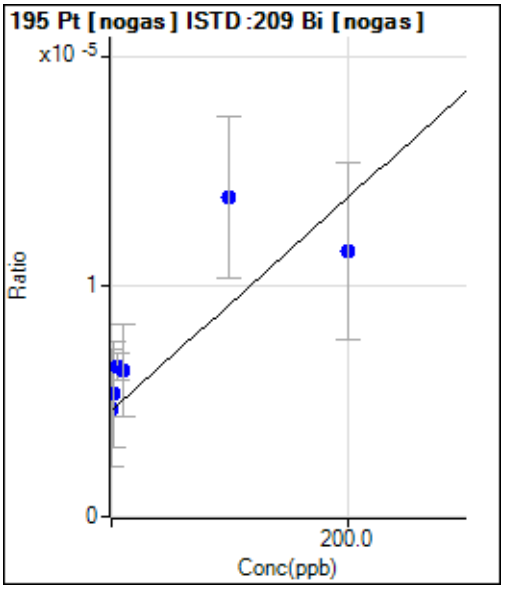
Calibration for 020_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	1193.40	0.0003	P	9.1	
2	☐	2.000	1.803	13302.05	0.0031	P	8.2	-9.9
3	☐	5.000	4.634	32625.11	0.0075	P	3.9	-7.3
4	☐	10.000	9.570	65185.93	0.0153	P	1.3	-4.3
5	☐	100.000	99.922	681806.24	0.1569	P	1.8	-0.1
6	☐	200.000	200.072	1319591.83	0.3140	P	1.1	0.0
7	☐	1.000						

y = 0.0016 * x + 2.7886E-004
R = 1.0000
DL = 0.04838 ppb
BEC = 0.1779 ppb

Weight: <None>
Min Conc: <None>

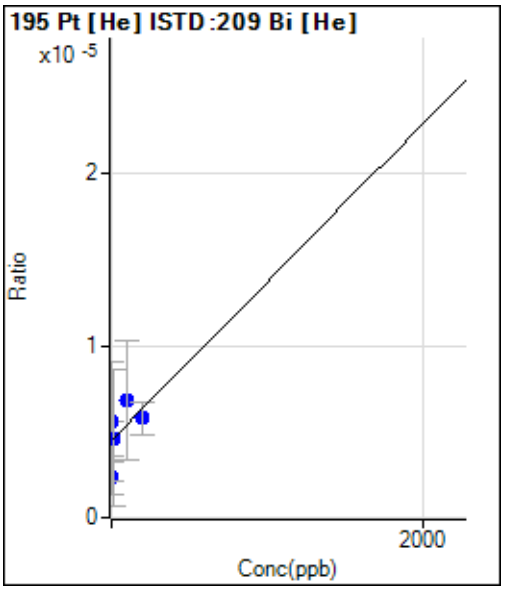


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	23.33	0.0000	P	108.	
2	☐	2.000	13.597	26.67	0.0000	P	86.6	579.9
3	☐	5.000	39.212	33.33	0.0000	P	18.6	684.2
4	☐	10.000	36.032	33.33	0.0000	P	62.7	260.3
5	☐	100.000	199.127	70.00	0.0000	P	50.0	99.1
6	☐	200.000	148.164	56.67	0.0000	P	67.2	-25.9
7	☐	1.000						

y = 4.6127E-008 * x + 4.6901E-006
R = 0.8171
DL = 332.3 ppb
BEC = 101.7 ppb

Weight: <None>
Min Conc: <None>

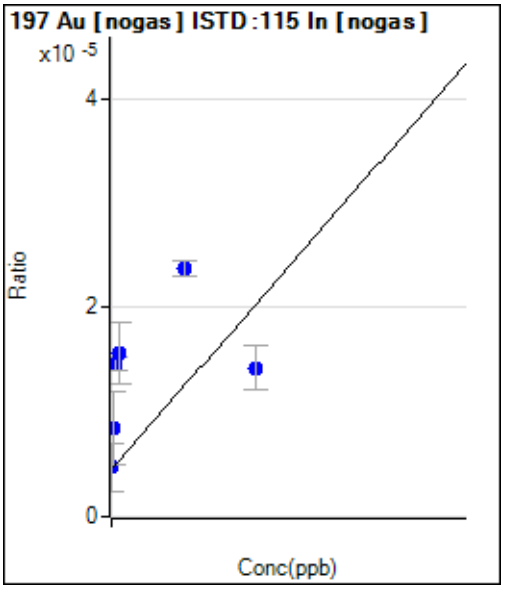
Calibration for 020_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	13.33	0.0000	P	43.5	
2	☐	2.000	-250.571	6.67	0.0000	P	86.6	-12628.
3	☐	5.000	102.777	16.67	0.0000	P	125.	1955.5
4	☐	10.000	-1.395	13.33	0.0000	P	173.	-113.9
5	☐	100.000	245.689	20.00	0.0000	P	100.	145.7
6	☐	200.000	127.806	16.67	0.0000	P	33.7	-36.1
7	☐	1.000						

y = 9.2093E-009 * x + 4.6111E-006
R = 0.5566
DL = 654 ppb
BEC = 500.7 ppb

Weight: <None>
Min Conc: <None>

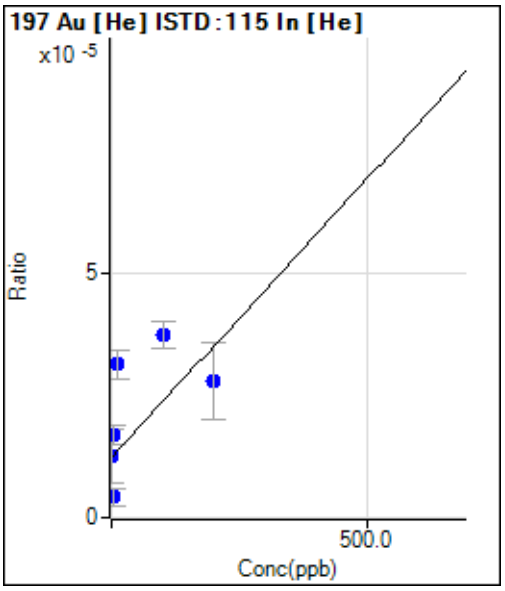


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	20.00	0.0000	P	99.8	
2	☐	2.000	47.156	36.67	0.0000	P	82.2	2257.8
3	☐	5.000	124.781	63.33	0.0000	P	7.9	2395.6
4	☐	10.000	137.732	66.67	0.0000	P	38.3	1277.3
5	☐	100.000	239.907	103.33	0.0000	P	6.4	139.9
6	☐	200.000	120.214	60.00	0.0000	P	28.5	-39.9
7	☐	1.000						

y = 7.9571E-008 * x + 4.7012E-006
R = 0.4376
DL = 176.9 ppb
BEC = 59.08 ppb

Weight: <None>
Min Conc: <None>

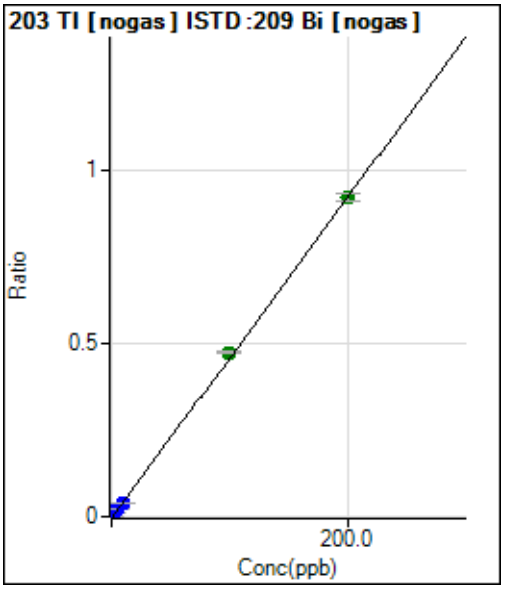
Calibration for 020_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	20.00	0.0000	P	86.2	
2	☐	2.000	-74.002	6.67	0.0000	P	86.6	-3800.1
3	☐	5.000	37.076	26.67	0.0000	P	21.7	641.5
4	☐	10.000	163.476	50.00	0.0000	P	19.2	1534.8
5	☐	100.000	216.153	60.00	0.0000	P	15.6	116.2
6	☐	200.000	134.208	43.33	0.0000	P	56.2	-32.9
7	☐	1.000						

y = 1.1450E-007 * x + 1.2739E-005
R = 0.5552
DL = 287.6 ppb
BEC = 111.3 ppb

Weight: <None>
Min Conc: <None>

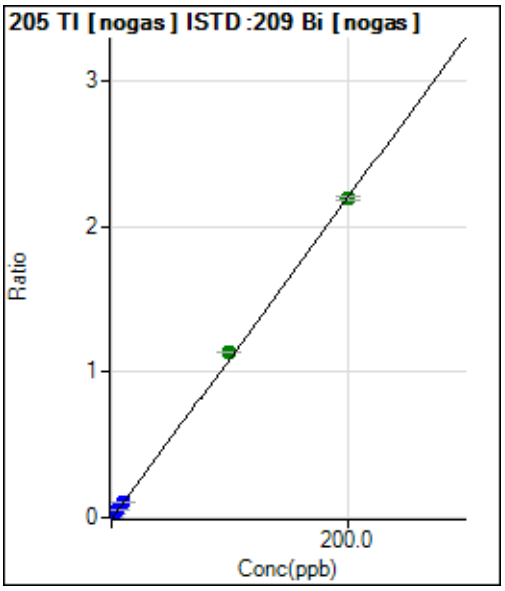


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	250.01	0.0000	P	46.7	
2	☐	2.000	1.881	44221.16	0.0088	P	1.6	-6.0
3	☐	5.000	4.604	109843.05	0.0214	P	2.4	-7.9
4	☐	10.000	8.869	216672.01	0.0412	P	1.7	-11.3
5	☐	100.000	102.250	2394710.17	0.4740	A	0.7	2.3
6	☐	200.000	198.943	4541295.87	0.9221	A	2.4	-0.5
7	☐	1.000						

y = 0.0046 * x + 4.9936E-005
R = 0.9999
DL = 0.01509 ppb
BEC = 0.01077 ppb

Weight: <None>
Min Conc: <None>

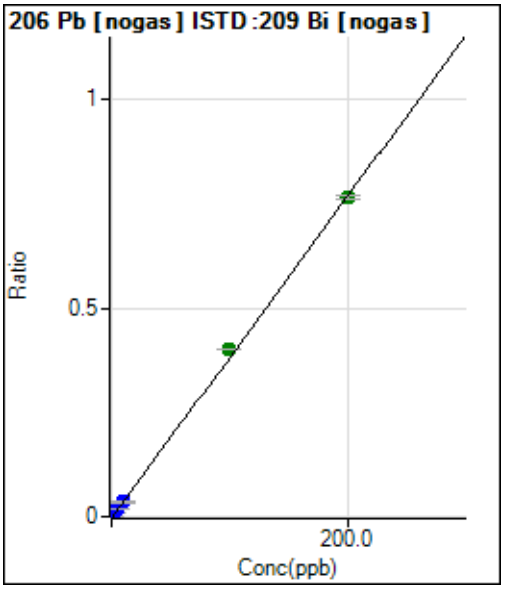
Calibration for 020_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	410.01	0.0001	P	24.6	
2	☐	2.000	1.863	104451.69	0.0207	P	0.7	-6.9
3	☐	5.000	4.673	266144.98	0.0518	P	1.7	-6.5
4	☐	10.000	9.029	526708.96	0.1000	P	1.2	-9.7
5	☐	100.000	102.961	5760050.12	1.1400	A	0.9	3.0
6	☐	200.000	198.577	10828466.92	2.1986	A	1.2	-0.7
7	☐	1.000						

y = 0.0111 * x + 8.2494E-005
R = 0.9998
DL = 0.005489 ppb
BEC = 0.007451 ppb

Weight: <None>
Min Conc: <None>

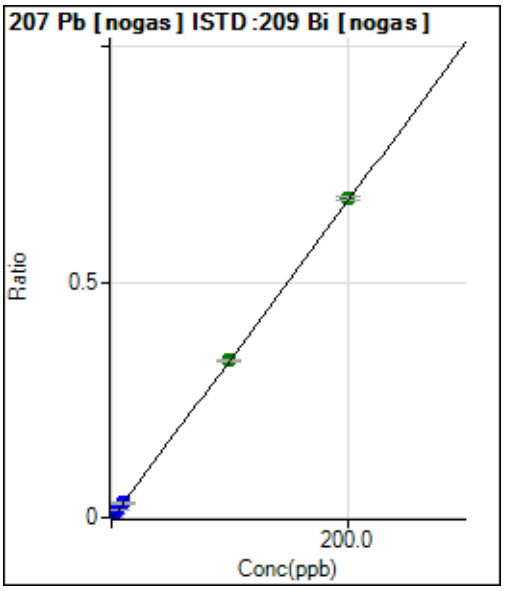


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	816.71	0.0002	P	4.4	
2	☐	2.000	1.884	37557.55	0.0074	P	1.0	-5.8
3	☐	5.000	4.681	93756.79	0.0183	P	4.5	-6.4
4	☐	10.000	8.950	182997.92	0.0348	P	1.5	-10.5
5	☐	100.000	103.722	2026792.83	0.4011	A	0.7	3.7
6	☐	200.000	198.201	3774349.01	0.7663	A	1.4	-0.9
7	☐	1.000						

y = 0.0039 * x + 1.6405E-004
R = 0.9997
DL = 0.00565 ppb
BEC = 0.04244 ppb

Weight: <None>
Min Conc: <None>

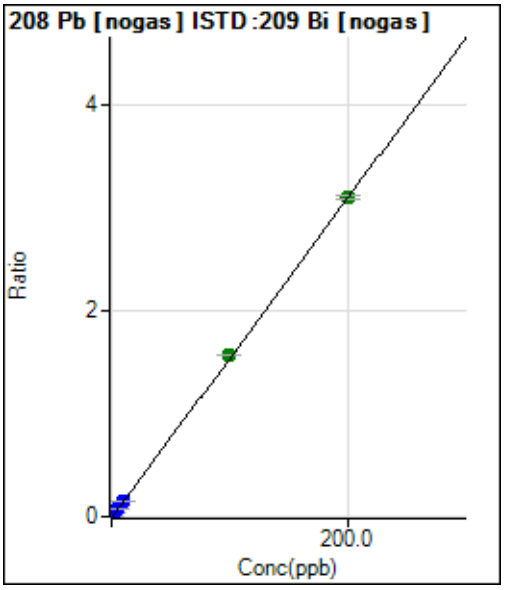
Calibration for 020_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	680.03	0.0001	P	3.1	
2	☐	2.000	1.895	33004.33	0.0065	P	1.5	-5.2
3	☐	5.000	4.635	81151.33	0.0158	P	1.4	-7.3
4	☐	10.000	9.043	161607.66	0.0307	P	1.0	-9.6
5	☐	100.000	98.674	1685582.37	0.3336	A	0.6	-1.3
6	☐	200.000	200.721	3341492.45	0.6785	A	1.3	0.4
7	☐	1.000						

y = 0.0034 * x + 1.3663E-004
R = 1.0000
DL = 0.0038 ppb
BEC = 0.04043 ppb

Weight: <None>
Min Conc: <None>

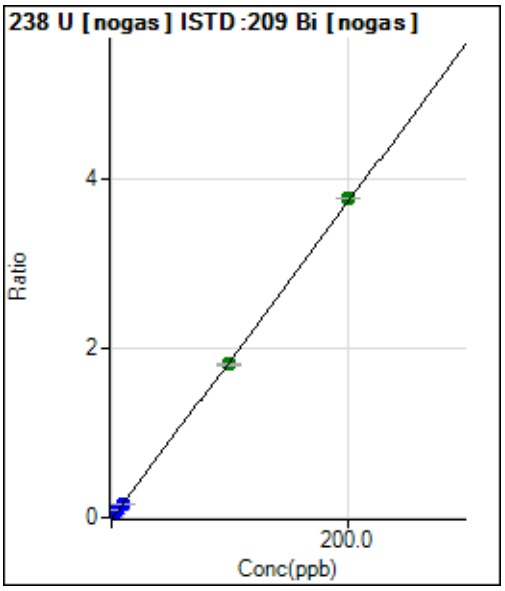


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	3076.85	0.0006	P	1.0	
2	☐	2.000	1.894	151425.80	0.0300	P	0.2	-5.3
3	☐	5.000	4.640	373163.94	0.0727	P	1.3	-7.2
4	☐	10.000	9.100	747019.26	0.1419	P	0.6	-9.0
5	☐	100.000	101.239	7944653.06	1.5724	A	0.4	1.2
6	☐	200.000	199.436	15252110.29	3.0969	A	1.7	-0.3
7	☐	1.000						

y = 0.0155 * x + 6.1789E-004
R = 1.0000
DL = 0.001202 ppb
BEC = 0.0398 ppb

Weight: <None>
Min Conc: <None>

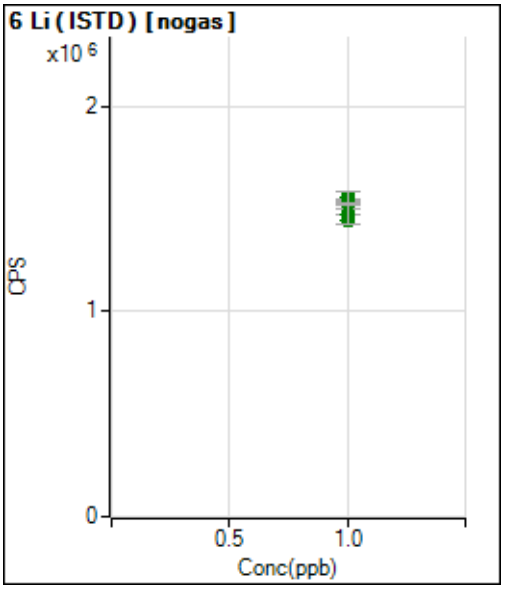
Calibration for 020_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	53.33	0.0000	P	48.0	
2	☐	2.000	1.860	175439.59	0.0348	P	1.7	-7.0
3	☐	5.000	4.582	439914.95	0.0857	P	1.9	-8.4
4	☐	10.000	8.996	885123.55	0.1681	P	1.8	-10.0
5	☐	100.000	96.964	9157232.57	1.8123	A	1.6	-3.0
6	☐	200.000	201.580	18555814.72	3.7675	A	0.2	0.8
7	☐	1.000						

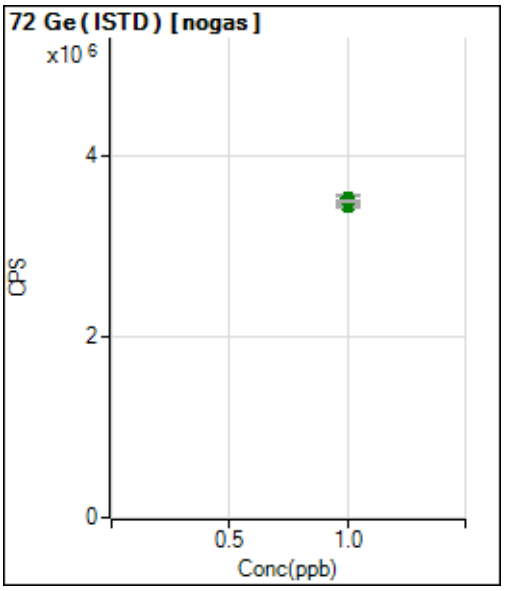
y = 0.0187 * x + 1.0724E-005
R = 0.9998
DL = 0.0008255 ppb
BEC = 0.0005738 ppb

Weight: <None>
Min Conc: <None>

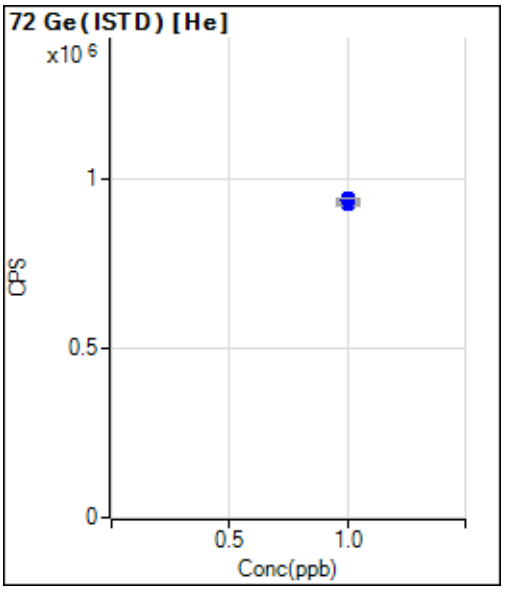


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	1.000		1545790.66		A	5.3	
2	☐	1.000		1522009.23		A	2.7	
3	☐	1.000		1532494.13		A	1.7	
4	☐	1.000		1557894.34		A	3.6	
5	☐	1.000		1448812.20		A	3.5	
6	☐	1.000		1477912.40		A	6.5	
7	☐	1.000						

Calibration for 020_ICV.d

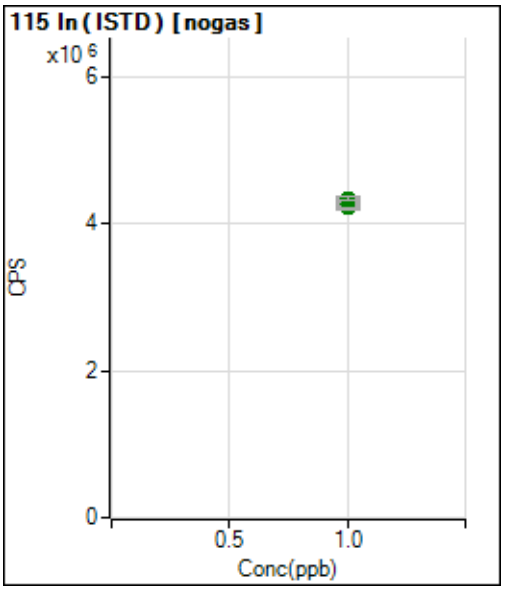


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	1.000		3465127.86		A	1.8	
2	☐	1.000		3444462.34		A	1.3	
3	☐	1.000		3509097.34		A	1.8	
4	☐	1.000		3491416.30		A	2.6	
5	☐	1.000		3524083.49		A	2.1	
6	☐	1.000		3492926.93		A	0.6	
7	☐	1.000						

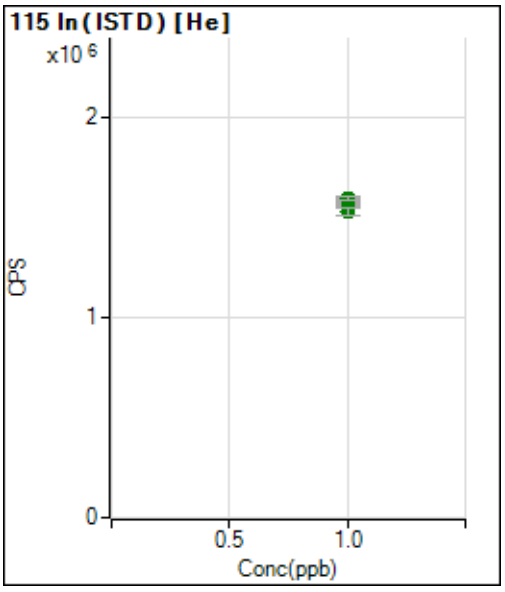


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	1.000		931245.64		P	0.9	
2	☐	1.000		931354.41		P	1.3	
3	☐	1.000		937201.50		P	1.3	
4	☐	1.000		945506.03		P	0.4	
5	☐	1.000		941405.51		P	0.9	
6	☐	1.000		945672.04		P	0.6	
7	☐	1.000						

Calibration for 020_ICV.d

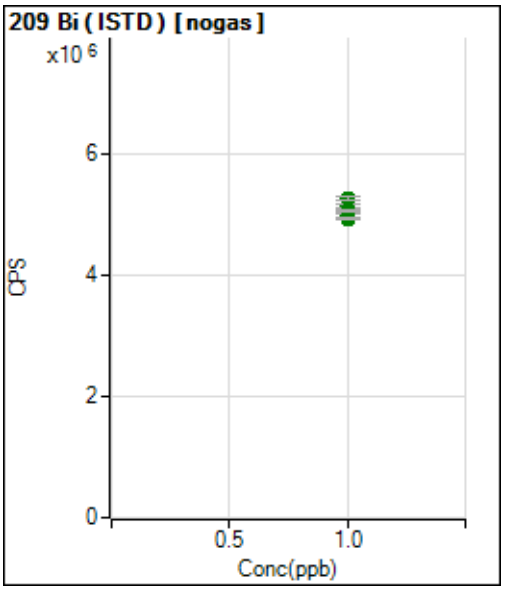


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	1.000		4283070.11		A	1.3	
2	☐	1.000		4288408.12		A	2.4	
3	☐	1.000		4326664.73		A	1.8	
4	☐	1.000		4265271.60		A	0.9	
5	☐	1.000		4345137.39		A	1.5	
6	☐	1.000		4203063.06		A	0.3	
7	☐	1.000						

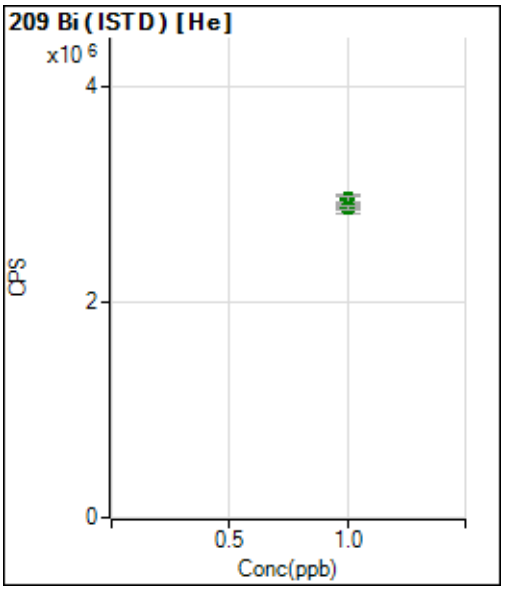


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	1.000		1566226.90		A	1.4	
2	☐	1.000		1571732.22		A	1.5	
3	☐	1.000		1570160.18		A	0.2	
4	☐	1.000		1587671.80		A	1.5	
5	☐	1.000		1599029.77		A	1.6	
6	☐	1.000		1531992.84		A	2.0	
7	☐	1.000						

Calibration for 020_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	1.000		4979092.11		A	1.8	
2	☐	1.000		5044603.88		A	1.3	
3	☐	1.000		5136897.63		A	1.3	
4	☐	1.000		5264956.90		A	1.0	
5	☐	1.000		5052751.80		A	0.6	
6	☐	1.000		4925220.24		A	0.4	
7	☐	1.000						



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	1.000		2893366.73		A	0.7	
2	☐	1.000		2896978.19		A	1.1	
3	☐	1.000		2965016.93		A	2.9	
4	☐	1.000		2951407.04		A	1.8	
5	☐	1.000		2870783.19		A	3.3	
6	☐	1.000		2870813.08		A	1.4	
7	☐	1.000						

Calibration Blank Report

Sample Table

Sample Name	CAL BLK
Data File Name	013CALB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\080620A.b
Acq Date Time	2020-08-06T10:08:28-05:00
Sample Type	CalBlk
Level	1
Dilution	1
Comment	

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	nogas	28	156.74
B	11	1	nogas	41110	0.01
P	31	1	nogas	32643	0.00
Ca	44	1	nogas	219657	0.00
Ti	47	1	nogas	133	21.30
Cr	52	1	nogas	7705	0.01
Ni	60	1	nogas	1540	1.36
Cu	63	1	nogas	5548	0.10
Zn	66	1	nogas	2700	0.24
Se	82	1	nogas	277	5.44
Sr	88	1	nogas	2424	0.34
Mo	95	1	nogas	93	56.63
Ag	107	1	nogas	420	3.40
Cd	111	1	nogas	3	5196.15
Sn	118	1	nogas	3187	0.17
Sb	121	1	nogas	3804	0.15
Ba	137	1	nogas	1193	0.65
Tl	205	1	nogas	410	5.74
Pb	208	1	nogas	3077	0.09
Li	7	1	nogas	98156	0.00
Si	28	1	nogas	374677	0.00
Na	23	2	He	85144	0.00
Mg	24	2	He	1670	0.72
Al	27	2	He	1857	0.67
K	39	2	He	49784	0.00
Ca	43	2	He	50	69.28
Ca	44	2	He	1897	0.35
V	51	2	He	833	0.75
Cr	52	2	He	1043	1.15
Mn	55	2	He	2910	0.09
Fe	56	2	He	14100	0.03
Co	59	2	He	270	6.29
Ni	60	2	He	187	15.81
Cu	63	2	He	2830	0.37
Zn	66	2	He	923	1.06
As	75	2	He	81	48.15
Sb	121	2	He	1597	0.77
Se	78	2	He	59	52.73

Calibration Blank Report

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Ge	72	1	nogas	3465128	1.77

Calibration Blank Report

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
In	115	1	nogas	4283070	1.34
Li	6	1	nogas	1545791	5.35
Bi	209	1	nogas	4979092	1.77
Ge	72	2	He	931246	0.94
In	115	2	He	1566227	1.37

Calibration Standard Report

Sample Table

Sample Name	2/10/200
Data File Name	014CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\080620A.b
Acq Date Time	2020-08-06T10:10:35-05:00
Sample Type	CalStd
Level	2
Dilution	1
Comment	
ISTD Ref File Name	013CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	nogas	9818	0.02
B	11	1	nogas	73456	0.00
P	31	1	nogas	40144	0.00
Ca	44	1	nogas	340247	0.00
Ti	47	1	nogas	3687	0.11
Cr	52	1	nogas	61835	0.00
Ni	60	1	nogas	14349	0.03
Cu	63	1	nogas	36808	0.01
Zn	66	1	nogas	11767	0.04
Se	82	1	nogas	840	2.14
Sr	88	1	nogas	73510	0.00
Mo	95	1	nogas	16995	0.02
Ag	107	1	nogas	46406	0.00
Cd	111	1	nogas	9403	0.04
Sn	118	1	nogas	28925	0.00
Sb	121	1	nogas	40315	0.00
Ba	137	1	nogas	13302	0.05
Tl	205	1	nogas	104452	0.00
Pb	208	1	nogas	151426	0.00
Si	28	1	nogas	440541	0.00
Na	23	2	He	417387	0.00
Mg	24	2	He	195701	0.00
Al	27	2	He	2570	0.23
K	39	2	He	214998	0.00
Ca	43	2	He	657	2.25
Ca	44	2	He	11477	0.02
V	51	2	He	15895	0.01
Cr	52	2	He	18910	0.01
Mn	55	2	He	15497	0.01
Fe	56	2	He	1751476	0.00
Co	59	2	He	26720	0.02
Ni	60	2	He	6788	0.08
Cu	63	2	He	20712	0.02
Zn	66	2	He	4151	0.12
As	75	2	He	2275	0.26
Sb	121	2	He	16081	0.02
Se	78	2	He	270	2.62

QC ISTD Table

Calibration Standard Report

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	3444462	1.34	3465128	99.40	70	120	
In	115	1	nogas	4288408	2.45	4283070	100.12	70	120	
Li	6	1	nogas	1522009	2.68	1545791	98.46	70	120	
Bi	209	1	nogas	5044604	1.29	4979092	101.32	70	120	
Ge	72	2	He	931354	1.32	931246	100.01	70	120	
In	115	2	He	1571732	1.47	1566227	100.35	70	120	

Calibration Standard Report

Sample Table

Sample Name	5/25/500
Data File Name	015CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\080620A.b
Acq Date Time	2020-08-06T10:12:41-05:00
Sample Type	CalStd
Level	3
Dilution	1
Comment	
ISTD Ref File Name	013CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	nogas	24848	0.00
B	11	1	nogas	120047	0.00
P	31	1	nogas	54714	0.00
Ca	44	1	nogas	528074	0.00
Ti	47	1	nogas	9499	0.05
Cr	52	1	nogas	140074	0.00
Ni	60	1	nogas	33708	0.01
Cu	63	1	nogas	84290	0.00
Zn	66	1	nogas	26931	0.00
Se	82	1	nogas	1557	0.30
Sr	88	1	nogas	186693	0.00
Mo	95	1	nogas	41820	0.01
Ag	107	1	nogas	112561	0.00
Cd	111	1	nogas	24307	0.01
Sn	118	1	nogas	71637	0.00
Sb	121	1	nogas	96594	0.00
Ba	137	1	nogas	32625	0.01
Tl	205	1	nogas	266145	0.00
Pb	208	1	nogas	373164	0.00
Si	28	1	nogas	575667	0.00
Na	23	2	He	926968	0.00
Mg	24	2	He	487823	0.00
Al	27	2	He	4411	0.07
K	39	2	He	472163	0.00
Ca	43	2	He	1517	0.51
Ca	44	2	He	25785	0.01
V	51	2	He	38771	0.00
Cr	52	2	He	45959	0.00
Mn	55	2	He	34403	0.00
Fe	56	2	He	4186288	0.00
Co	59	2	He	67566	0.00
Ni	60	2	He	17202	0.03
Cu	63	2	He	47196	0.00
Zn	66	2	He	9756	0.02
As	75	2	He	5324	0.06
Sb	121	2	He	37074	0.00
Se	78	2	He	549	0.39

QC ISTD Table

Calibration Standard Report

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	3509097	1.77	3465128	101.27	70	120	
In	115	1	nogas	4326665	1.78	4283070	101.02	70	120	
Li	6	1	nogas	1532494	1.69	1545791	99.14	70	120	
Bi	209	1	nogas	5136898	1.33	4979092	103.17	70	120	
Ge	72	2	He	937201	1.27	931246	100.64	70	120	
In	115	2	He	1570160	0.23	1566227	100.25	70	120	

Calibration Standard Report

Sample Table

Sample Name	10/50/1000
Data File Name	016CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\080620A.b
Acq Date Time	2020-08-06T10:14:47-05:00
Sample Type	CalStd
Level	4
Dilution	1
Comment	
ISTD Ref File Name	013CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	nogas	49132	0.00
B	11	1	nogas	200800	0.00
P	31	1	nogas	75729	0.00
Ca	44	1	nogas	850788	0.00
Ti	47	1	nogas	19337	0.03
Cr	52	1	nogas	275608	0.00
Ni	60	1	nogas	65432	0.00
Cu	63	1	nogas	164830	0.00
Zn	66	1	nogas	50936	0.00
Se	82	1	nogas	2754	0.34
Sr	88	1	nogas	370361	0.00
Mo	95	1	nogas	83807	0.00
Ag	107	1	nogas	227862	0.00
Cd	111	1	nogas	47402	0.00
Sn	118	1	nogas	136838	0.00
Sb	121	1	nogas	187786	0.00
Ba	137	1	nogas	65186	0.00
Tl	205	1	nogas	526709	0.00
Pb	208	1	nogas	747019	0.00
Si	28	1	nogas	798477	0.00
Na	23	2	He	1779430	0.00
Mg	24	2	He	977716	0.00
Al	27	2	He	7202	0.05
K	39	2	He	894721	0.00
Ca	43	2	He	3007	0.10
Ca	44	2	He	49915	0.00
V	51	2	He	76828	0.00
Cr	52	2	He	91503	0.00
Mn	55	2	He	67687	0.00
Fe	56	2	He	8390095	0.00
Co	59	2	He	133670	0.00
Ni	60	2	He	33882	0.00
Cu	63	2	He	92159	0.00
Zn	66	2	He	19117	0.01
As	75	2	He	10881	0.02
Sb	121	2	He	74595	0.00
Se	78	2	He	1026	0.40

QC ISTD Table

Calibration Standard Report

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	3491416	2.61	3465128	100.76	70	120	
In	115	1	nogas	4265272	0.87	4283070	99.58	70	120	
Li	6	1	nogas	1557894	3.61	1545791	100.78	70	120	
Bi	209	1	nogas	5264957	1.01	4979092	105.74	70	120	
Ge	72	2	He	945506	0.44	931246	101.53	70	120	
In	115	2	He	1587672	1.52	1566227	101.37	70	120	

Calibration Standard Report

Sample Table

Sample Name	100/500/10K
Data File Name	017CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\080620A.b
Acq Date Time	2020-08-06T10:16:54-05:00
Sample Type	CalStd
Level	5
Dilution	1
Comment	
ISTD Ref File Name	013CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	nogas	527656	0.00
B	11	1	nogas	1771432	0.00
P	31	1	nogas	475046	0.00
Ca	44	1	nogas	6808100	0.00
Ti	47	1	nogas	204630	0.00
Cr	52	1	nogas	2792242	0.00
Ni	60	1	nogas	661844	0.00
Cu	63	1	nogas	1693181	0.00
Zn	66	1	nogas	516722	0.00
Se	82	1	nogas	27091	0.00
Sr	88	1	nogas	3933097	0.00
Mo	95	1	nogas	879098	0.00
Ag	107	1	nogas	2417778	0.00
Cd	111	1	nogas	489673	0.00
Sn	118	1	nogas	1457273	0.00
Sb	121	1	nogas	2070029	0.00
Ba	137	1	nogas	681806	0.00
Tl	205	1	nogas	5760050	0.00
Pb	208	1	nogas	7944653	0.00
Si	28	1	nogas	6887662	0.00
Na	23	2	He	17615082	0.00
Mg	24	2	He	10159898	0.00
Al	27	2	He	62556	0.00
K	39	2	He	9111202	0.00
Ca	43	2	He	29674	0.00
Ca	44	2	He	503937	0.00
V	51	2	He	799588	0.00
Cr	52	2	He	942664	0.00
Mn	55	2	He	681209	0.00
Fe	56	2	He	86828732	0.00
Co	59	2	He	1449206	0.00
Ni	60	2	He	349489	0.00
Cu	63	2	He	933972	0.00
Zn	66	2	He	188345	0.00
As	75	2	He	114754	0.00
Sb	121	2	He	801581	0.00
Se	78	2	He	10336	0.01

QC ISTD Table

Calibration Standard Report

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	3524083	2.10	3465128	101.70	70	120	
In	115	1	nogas	4345137	1.50	4283070	101.45	70	120	
Li	6	1	nogas	1448812	3.49	1545791	93.73	70	120	
Bi	209	1	nogas	5052752	0.57	4979092	101.48	70	120	
Ge	72	2	He	941406	0.91	931246	101.09	70	120	
In	115	2	He	1599030	1.59	1566227	102.09	70	120	

Calibration Standard Report

Sample Table

Sample Name	200/1000/20K
Data File Name	018CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\080620A.b
Acq Date Time	2020-08-06T10:18:54-05:00
Sample Type	CalStd
Level	6
Dilution	1
Comment	
ISTD Ref File Name	013CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	nogas	1026987	0.00
B	11	1	nogas	3374888	0.00
P	31	1	nogas	899514	0.00
Ca	44	1	nogas	13137987	0.00
Ti	47	1	nogas	392476	0.00
Cr	52	1	nogas	5403757	0.00
Ni	60	1	nogas	1270232	0.00
Cu	63	1	nogas	3176296	0.00
Zn	66	1	nogas	977854	0.00
Se	82	1	nogas	52545	0.00
Sr	88	1	nogas	7578790	0.00
Mo	95	1	nogas	1809261	0.00
Ag	107	1	nogas	4620015	0.00
Cd	111	1	nogas	959959	0.00
Sn	118	1	nogas	2817299	0.00
Sb	121	1	nogas	3849287	0.00
Ba	137	1	nogas	1319592	0.00
Tl	205	1	nogas	10828467	0.00
Pb	208	1	nogas	15252110	0.00
Si	28	1	nogas	9150317	0.00
Na	23	2	He	33187648	0.00
Mg	24	2	He	19330873	0.00
Al	27	2	He	143059	0.00
K	39	2	He	17247935	0.00
Ca	43	2	He	57825	0.00
Ca	44	2	He	983278	0.00
V	51	2	He	1613781	0.00
Cr	52	2	He	1868393	0.00
Mn	55	2	He	1328730	0.00
Fe	56	2	He	168165191	0.00
Co	59	2	He	2732230	0.00
Ni	60	2	He	667611	0.00
Cu	63	2	He	1831954	0.00
Zn	66	2	He	360053	0.00
As	75	2	He	221665	0.00
Sb	121	2	He	1595224	0.00
Se	78	2	He	19623	0.01

QC ISTD Table

Calibration Standard Report

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	3492927	0.57	3465128	100.80	70	120	
In	115	1	nogas	4203063	0.32	4283070	98.13	70	120	
Li	6	1	nogas	1477912	6.51	1545791	95.61	70	120	
Bi	209	1	nogas	4925220	0.41	4979092	98.92	70	120	
Ge	72	2	He	945672	0.60	931246	101.55	70	120	
In	115	2	He	1531993	2.03	1566227	97.81	70	120	

Initial Calibration Verification (ICV) Report

Sample Table

Sample Name	ICV
Data File Name	020_ICV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\080620A.b
Acq Date Time	2020-08-06T10:22:57-05:00
Sample Type	ICV
Dilution	1
Comment	
ISTD Ref File Name	013CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High	QC Flag
Be	9	1	nogas	102.090	1.842	534179	1.33	100	102.1	90	110	
B	11	1	nogas	521.503	3.979	1816825	1.91	500	104.3	90	110	
P	31	1	nogas	515.541	0.661	481292	1.59	500	103.1	90	110	
Ca	44	1	nogas	10372.240	3.124	6943103	3.68	10000	103.7	90	110	
Ti	47	1	nogas	103.360	1.422	204479	1.19	100	103.4	90	110	
Cr	52	1	nogas	103.335	1.928	2811673	1.10	100	103.3	90	110	
Ni	60	1	nogas	103.524	1.420	663187	0.81	100	103.5	90	110	
Cu	63	1	nogas	105.878	2.037	1704378	0.73	100	105.9	90	110	
Zn	66	1	nogas	102.978	2.102	509827	0.68	100	103.0	90	110	
Se	82	1	nogas	101.127	4.496	26824	4.36	100	101.1	90	110	
Sr	88	1	nogas	105.309	1.712	4035758	1.27	100	105.3	90	110	
Mo	95	1	nogas	98.012	1.087	885021	0.96	100	98.0	90	110	
Ag	107	1	nogas	104.150	1.789	2437088	2.03	100	104.2	90	110	
Cd	111	1	nogas	103.703	0.428	501618	0.01	100	103.7	90	110	
Sn	118	1	nogas	103.957	1.686	1481001	2.11	100	104.0	90	110	
Sb	121	1	nogas	105.343	3.478	2057221	1.83	100	105.3	90	110	
Ba	137	1	nogas	101.442	1.305	676623	0.89	100	101.4	90	110	
Tl	205	1	nogas	103.124	1.922	5735834	1.22	100	103.1	90	110	
Pb	208	1	nogas	103.939	1.754	8109121	0.73	100	103.9	90	110	
U	238	1	nogas	100.757	1.176	9460311	0.81	100	100.8	90	110	
Li	7	1	nogas	103.383	1.109	2205103	3.44	100	103.4	90	110	
Si	28	1	nogas	5532.961	4.732	5692084	3.61	5000	110.7	90	110	ICV Main CR1 Failed
Tl	203	1	nogas	103.173	3.119	2402136	2.18	100	103.2	90	110	
Na	23	2	He	10378.844	1.831	17570473	1.21	10000	103.8	90	110	
Mg	24	2	He	10383.915	0.952	10200101	0.40	10000	103.8	90	110	
Al	27	2	He	84.664	2.925	60278	2.81	100	84.7	90	110	ICV Main CR1 Failed
K	39	2	He	10251.244	1.027	9012341	0.40	10000	102.5	90	110	
Ca	43	2	He	10232.938	1.544	29942	1.73	10000	102.3	90	110	
Ca	44	2	He	10166.431	0.747	506046	1.14	10000	101.7	90	110	
V	51	2	He	100.231	0.827	812315	0.21	100	100.2	90	110	
Cr	52	2	He	101.680	0.188	957557	0.80	100	101.7	90	110	
Mn	55	2	He	102.944	1.262	692534	1.35	100	102.9	90	110	
Fe	56	2	He	10325.898	1.061	87914675	0.55	10000	103.3	90	110	
Co	59	2	He	104.779	1.607	1457411	1.17	100	104.8	90	110	
Ni	60	2	He	102.756	0.522	348375	0.69	100	102.8	90	110	
Cu	63	2	He	101.468	0.430	939727	0.95	100	101.5	90	110	
Zn	66	2	He	103.788	0.815	190053	1.30	100	103.8	90	110	
As	75	2	He	103.653	0.474	116402	0.64	100	103.7	90	110	
Sn	118	2	He	100.848	1.316	597678	0.92	100	100.8	90	110	
Sb	121	2	He	99.914	1.004	802948	0.91	100	99.9	90	110	
Se	78	2	He	103.886	1.398	10385	0.76	100	103.9	90	110	
Ti	47	2	He	102.542	2.064	29337	2.52	100	102.5	90	110	
Al	27	1	nogas	86.991	2.428	2234124	0.68	100	87.0	90	110	ICV Main CR1 Failed
Rh	103	1	nogas	107.614	30.621	347	22.03	100	107.6	90	110	
Au	197	1	nogas	325.132	71.841	130	61.06	100	325.1	90	110	ICV Main CR1 Failed
Rh	103	2	He	107.680	34.032	277	23.24	100	107.7	90	110	

QC ISTD Table

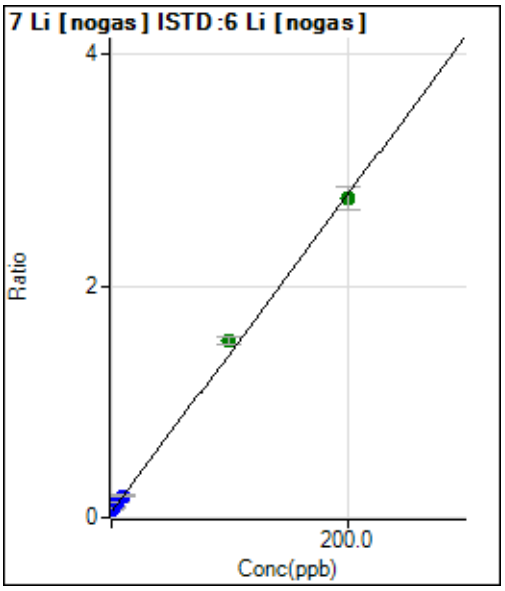
Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	3497245	1.69	3465128	100.93	70	120	
In	115	1	nogas	4247013	0.44	4283070	99.16	70	120	
Li	6	1	nogas	1489158	3.03	1545791	96.34	70	120	
Bi	209	1	nogas	5023960	1.04	4979092	100.90	70	120	
Ge	72	2	He	950406	0.63	931246	102.06	70	120	
In	115	2	He	1579407	1.60	1566227	100.84	70	120	

Calibration for 020_ICV.d

Batch Folder: C:\Agilent\ICPMH\1\DATA\080620A.b\
Analysis File: 080620A.batch.bin
DA Date-Time: 8/6/2020 10:33:52 AM
Calibration Title:
Calibration Method: External Calibration
VIS Interpolation Fit:

Level	Standard Data File	Sample Name	Acq. Date-Time
1	013CALB.d	CAL BLK	8/6/2020 10:08:28 AM
2	014CALS.d	2/10/200	8/6/2020 10:10:35 AM
3	015CALS.d	5/25/500	8/6/2020 10:12:41 AM
4	016CALS.d	10/50/1000	8/6/2020 10:14:47 AM
5	017CALS.d	100/500/10K	8/6/2020 10:16:54 AM
6	018CALS.d	200/1000/20K	8/6/2020 10:18:54 AM
7			

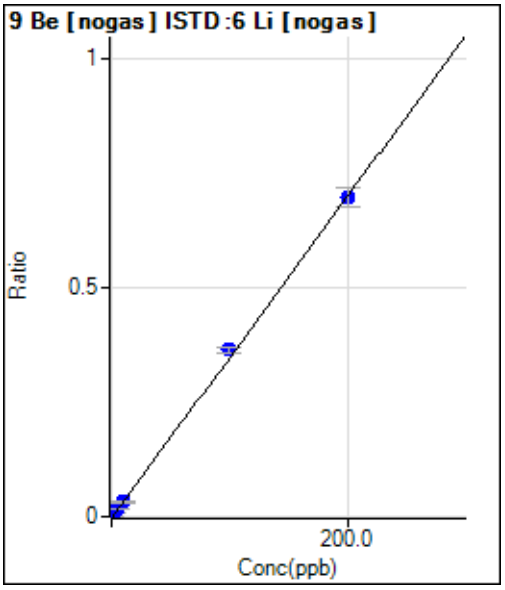
Calibration for 020_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	98155.59	0.0636	P	4.6	
2	☐	2.000	2.008	138601.44	0.0911	P	3.7	0.4
3	☐	5.000	4.754	197271.68	0.1288	P	3.0	-4.9
4	☐	10.000	9.175	294760.39	0.1894	P	3.7	-8.2
5	☐	100.000	106.958	2214123.56	1.5297	A	4.4	7.0
6	☐	200.000	196.568	4063356.71	2.7580	A	7.7	-1.7
7	☐	1.000						

y = 0.0137 * x + 0.0636
R = 0.9991
DL = 0.6393 ppb
BEC = 4.64 ppb

Weight: <None>
Min Conc: <None>

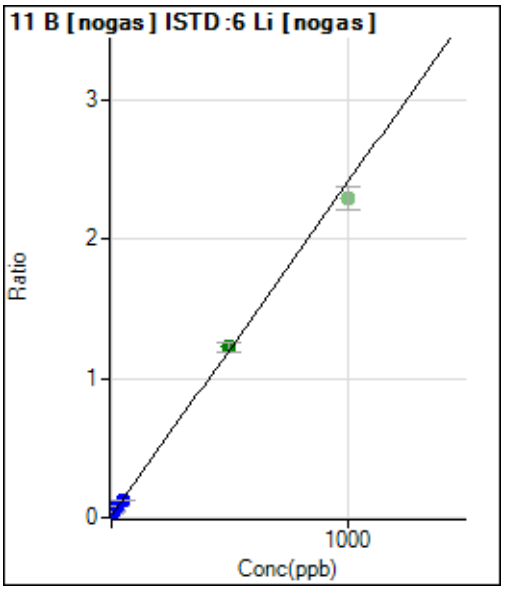


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	28.33	0.0000	P	43.3	
2	☐	2.000	1.831	9817.65	0.0065	P	4.0	-8.4
3	☐	5.000	4.609	24848.16	0.0162	P	2.5	-7.8
4	☐	10.000	8.975	49132.36	0.0316	P	3.7	-10.2
5	☐	100.000	103.689	527656.25	0.3645	P	3.1	3.7
6	☐	200.000	198.218	1026987.17	0.6967	P	6.0	-0.9
7	☐	1.000						

y = 0.0035 * x + 1.8202E-005
R = 0.9997
DL = 0.00673 ppb
BEC = 0.005179 ppb

Weight: <None>
Min Conc: <None>

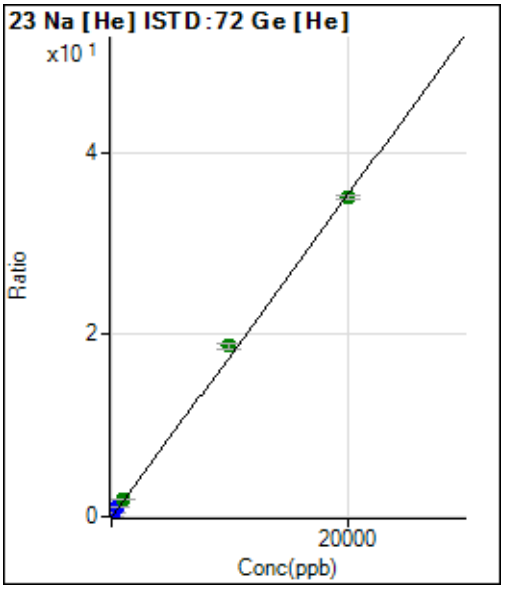
Calibration for 020_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	41109.88	0.0267	P	7.4	
2	☐	10.000	9.049	73455.98	0.0483	P	3.3	-9.5
3	☐	25.000	21.619	120047.35	0.0783	P	1.7	-13.5
4	☐	50.000	42.797	200799.87	0.1290	P	2.7	-14.4
5	☐	500.000	500.908	1771431.85	1.2242	A	5.5	0.2
6	☑	1000.000		3374887.97	2.2911	A	7.6	
7	☐	5.000						

y = 0.0024 * x + 0.0267
R = 0.9999
DL = 2.471 ppb
BEC = 11.15 ppb

Weight: <None>
Min Conc: <None>

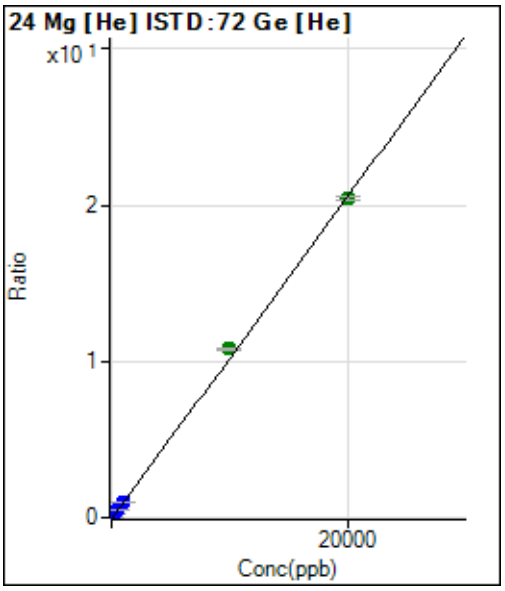


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	85143.71	0.0914	P	1.7	
2	☐	200.000	201.248	417387.07	0.4482	P	1.7	0.6
3	☐	500.000	506.470	926968.11	0.9892	P	1.4	1.3
4	☐	1000.000	1010.225	1779429.87	1.8821	A	3.0	1.0
5	☐	10000.00	10504.63	17615081.82	18.7117	A	2.8	5.0
6	☐	20000.00	19746.99	33187647.84	35.0945	A	0.7	-1.3
7	☐	100.000						

y = 0.0018 * x + 0.0914
R = 0.9995
DL = 2.606 ppb
BEC = 51.59 ppb

Weight: <None>
Min Conc: <None>

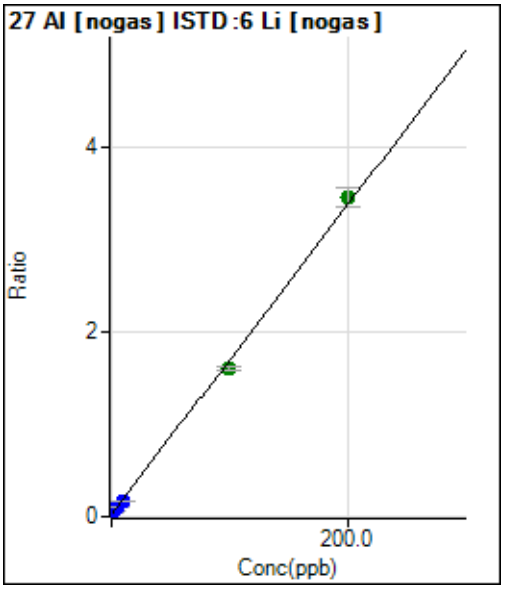
Calibration for 020_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	1670.11	0.0018	P	12.9	
2	☐	200.000	201.639	195701.30	0.2102	P	3.5	0.8
3	☐	500.000	502.004	487823.03	0.5206	P	1.5	0.4
4	☐	1000.000	998.885	977715.79	1.0341	P	0.1	-0.1
5	☐	10000.00	10442.04	10159897.56	10.7928	A	1.4	4.4
6	☐	20000.00	19778.96	19330873.04	20.4418	A	0.7	-1.1
7	☐	100.000						

y = 0.0010 * x + 0.0018
R = 0.9997
DL = 0.6709 ppb
BEC = 1.737 ppb

Weight: <None>
Min Conc: <None>

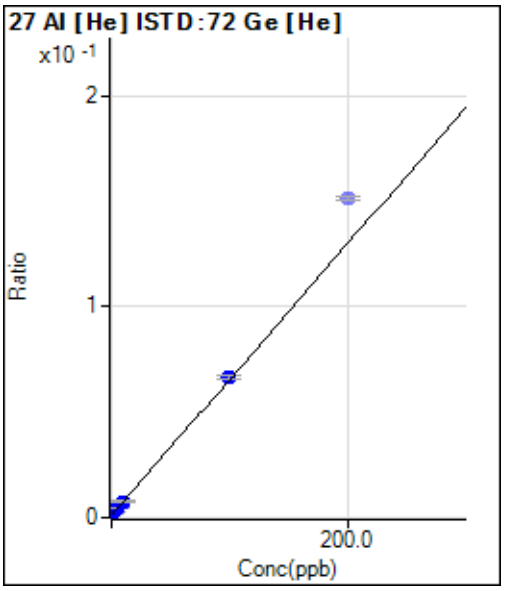


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	67294.13	0.0436	P	7.5	
2	☐	2.000	1.156	95884.22	0.0630	P	2.3	-42.2
3	☐	5.000	3.614	159648.87	0.1042	P	1.1	-27.7
4	☐	10.000	7.446	261965.86	0.1684	P	5.4	-25.5
5	☐	100.000	92.813	2315012.26	1.5985	A	2.3	-7.2
6	☐	200.000	203.764	5096529.71	3.4573	A	5.9	1.9
7	☐	1.000						

y = 0.0168 * x + 0.0436
R = 0.9992
DL = 0.5877 ppb
BEC = 2.605 ppb

Weight: <None>
Min Conc: <None>

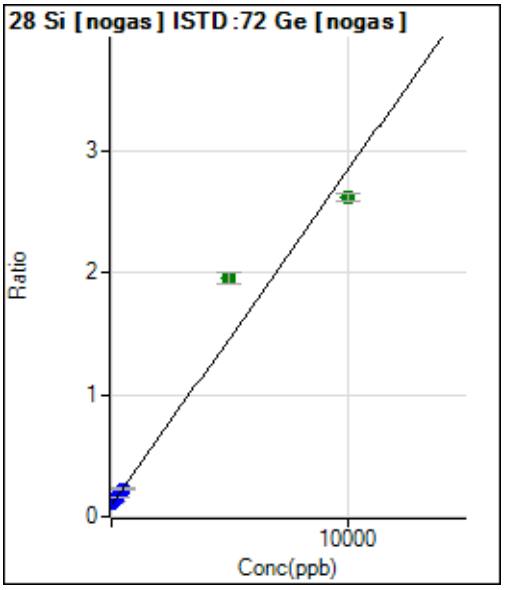
Calibration for 020_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	1856.80	0.0020	P	12.5	
2	☐	2.000	1.191	2570.22	0.0028	P	6.6	-40.4
3	☐	5.000	4.217	4410.61	0.0047	P	4.1	-15.7
4	☐	10.000	8.740	7201.54	0.0076	P	3.8	-12.6
5	☐	100.000	100.181	62555.57	0.0665	P	1.6	0.2
6	☑	200.000		143058.55	0.1513	P	1.3	
7	☐	1.000						

y = 6.4344E-004 * x + 0.0020
R = 0.9999
DL = 1.16 ppb
BEC = 3.099 ppb

Weight: <None>
Min Conc: <None>

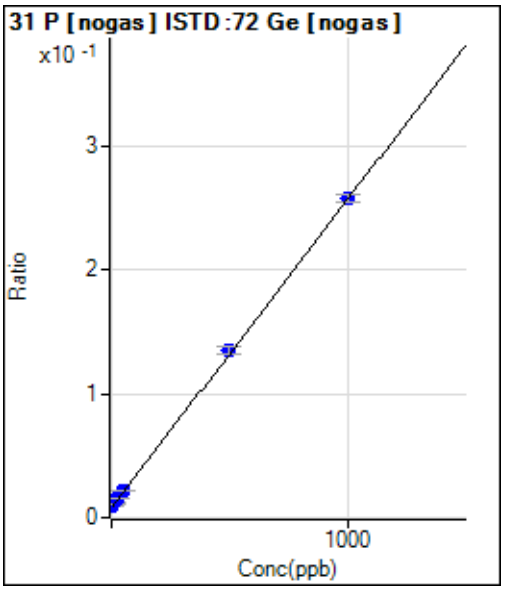


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	374677.26	0.1082	P	5.8	
2	☐	100.000	71.877	440541.36	0.1279	P	5.6	-28.1
3	☐	250.000	203.235	575667.01	0.1640	P	1.7	-18.7
4	☐	500.000	438.737	798477.39	0.2287	P	0.8	-12.3
5	☐	5000.000	6724.360	6887661.56	1.9554	A	4.2	34.5
6	☐	10000.00	9142.333	9150317.36	2.6196	A	2.1	-8.6
7	☐	50.000						

y = 2.7470E-004 * x + 0.1082
R = 0.9782
DL = 67.94 ppb
BEC = 393.9 ppb

Weight: <None>
Min Conc: <None>

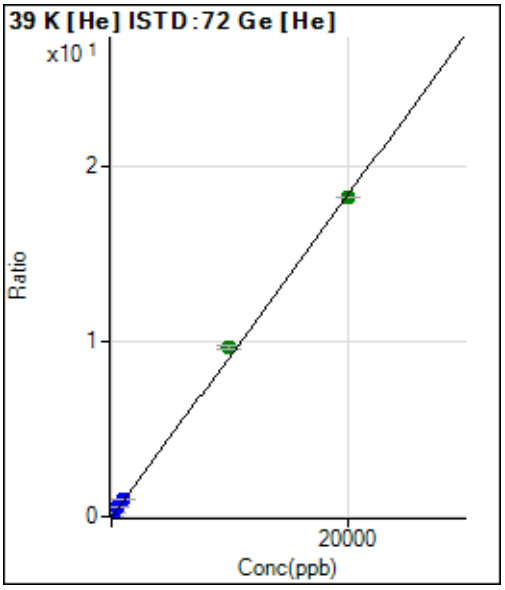
Calibration for 020_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	32642.64	0.0094	P	1.6	
2	☐	10.000	8.988	40144.00	0.0117	P	2.4	-10.1
3	☐	25.000	24.822	54714.41	0.0156	P	2.7	-0.7
4	☐	50.000	49.375	75728.62	0.0217	P	2.9	-1.3
5	☐	500.000	504.509	475045.84	0.1349	P	4.4	0.9
6	☐	1000.000	997.791	899514.31	0.2575	P	2.5	-0.2
7	☐	5.000						

y = 2.4867E-004 * x + 0.0094
R = 1.0000
DL = 1.813 ppb
BEC = 37.89 ppb

Weight: <None>
Min Conc: <None>

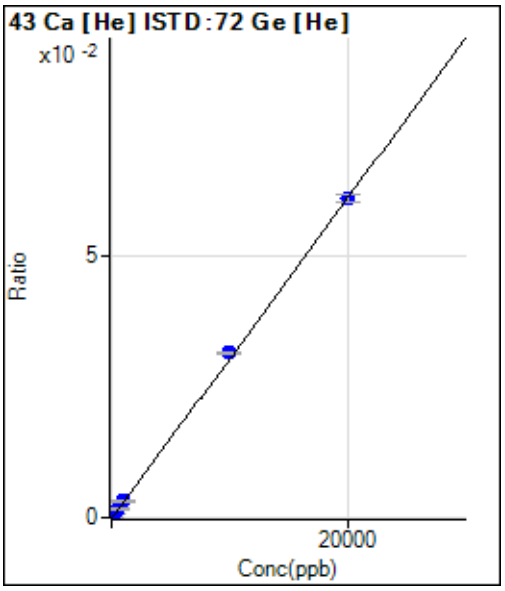


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	49784.28	0.0535	P	2.6	
2	☐	200.000	192.871	214997.55	0.2309	P	1.8	-3.6
3	☐	500.000	489.632	472162.95	0.5039	P	1.5	-2.1
4	☐	1000.000	970.654	894720.80	0.9463	P	1.5	-2.9
5	☐	10000.00	10463.97	9111202.16	9.6787	A	1.7	4.6
6	☐	20000.00	19769.80	17247935.16	18.2386	A	0.3	-1.2
7	☐	100.000						

y = 9.1984E-004 * x + 0.0535
R = 0.9996
DL = 4.541 ppb
BEC = 58.13 ppb

Weight: <None>
Min Conc: <None>

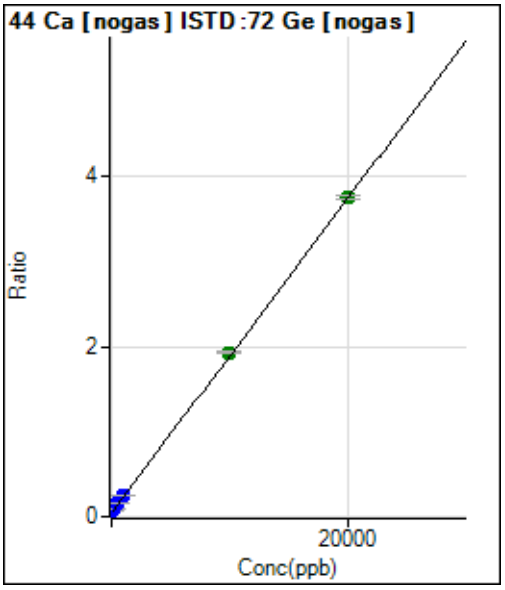
Calibration for 020_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	50.00	0.0001	P	34.0	
2	☐	200.000	212.049	656.69	0.0007	P	15.1	6.0
3	☐	500.000	509.527	1516.76	0.0016	P	9.0	1.9
4	☐	1000.000	1017.407	3006.99	0.0032	P	3.4	1.7
5	☐	10000.00	10239.47	29674.38	0.0315	P	1.6	2.4
6	☐	20000.00	19879.03	57824.91	0.0612	P	2.0	-0.6
7	☐	100.000						

y = 3.0734E-006 * x + 5.3591E-005
R = 0.9999
DL = 17.81 ppb
BEC = 17.44 ppb

Weight: <None>
Min Conc: <None>

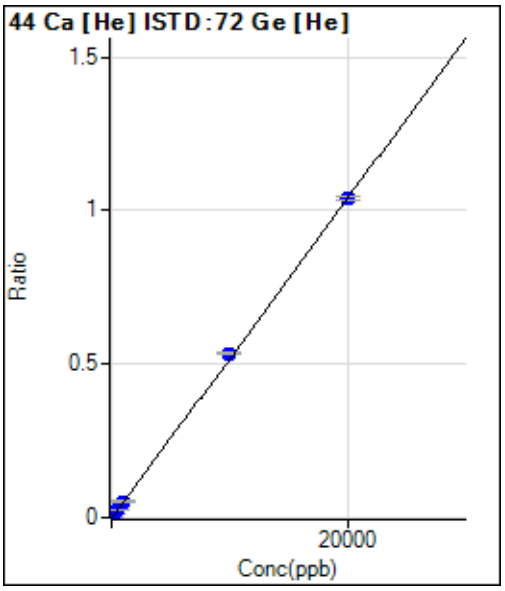


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	219656.92	0.0634	P	1.5	
2	☐	200.000	191.014	340247.12	0.0988	P	1.3	-4.5
3	☐	500.000	470.107	528073.99	0.1505	P	1.0	-6.0
4	☐	1000.000	973.620	850788.03	0.2438	P	2.7	-2.6
5	☐	10000.00	10087.01	6808099.69	1.9323	A	1.7	0.9
6	☐	20000.00	19958.65	13137987.30	3.7614	A	1.5	-0.2
7	☐	100.000						

y = 1.8528E-004 * x + 0.0634
R = 1.0000
DL = 15.83 ppb
BEC = 342.2 ppb

Weight: <None>
Min Conc: <None>

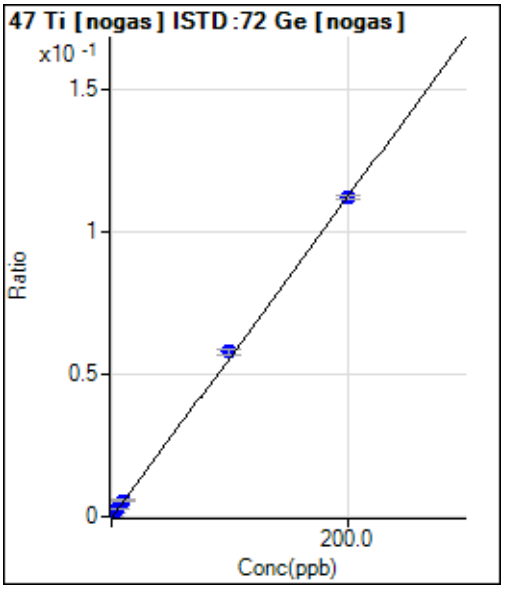
Calibration for 020_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	1896.80	0.0020	P	5.8	
2	☐	200.000	197.181	11477.13	0.0123	P	1.8	-1.4
3	☐	500.000	488.324	25785.24	0.0275	P	2.3	-2.3
4	☐	1000.000	972.825	49915.18	0.0528	P	1.8	-2.7
5	☐	10000.00	10222.12	503937.28	0.5354	P	1.6	2.2
6	☐	20000.00	19890.61	983277.87	1.0398	P	0.6	-0.5
7	☐	100.000						

y = 5.2173E-005 * x + 0.0020
R = 0.9999
DL = 6.774 ppb
BEC = 39.03 ppb

Weight: <None>
Min Conc: <None>

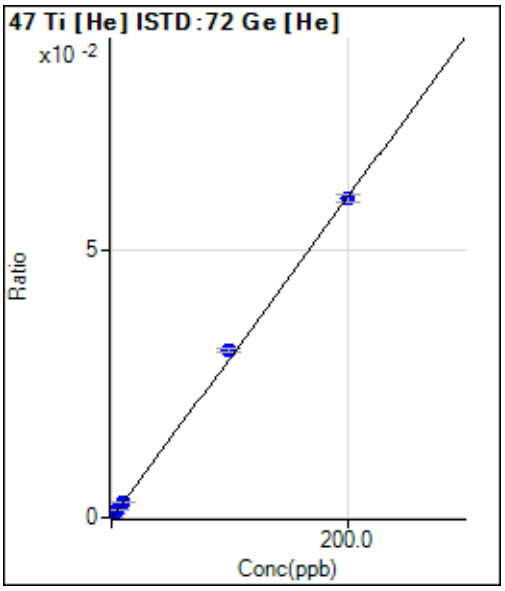


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	133.33	0.0000	P	27.0	
2	☐	2.000	1.825	3687.11	0.0011	P	3.6	-8.7
3	☐	5.000	4.718	9499.29	0.0027	P	3.2	-5.6
4	☐	10.000	9.741	19337.33	0.0055	P	7.6	-2.6
5	☐	100.000	102.681	204630.26	0.0581	P	3.1	2.7
6	☐	200.000	198.681	392476.30	0.1124	P	0.9	-0.7
7	☐	1.000						

y = 5.6537E-004 * x + 3.8358E-005
R = 0.9999
DL = 0.05489 ppb
BEC = 0.06785 ppb

Weight: <None>
Min Conc: <None>

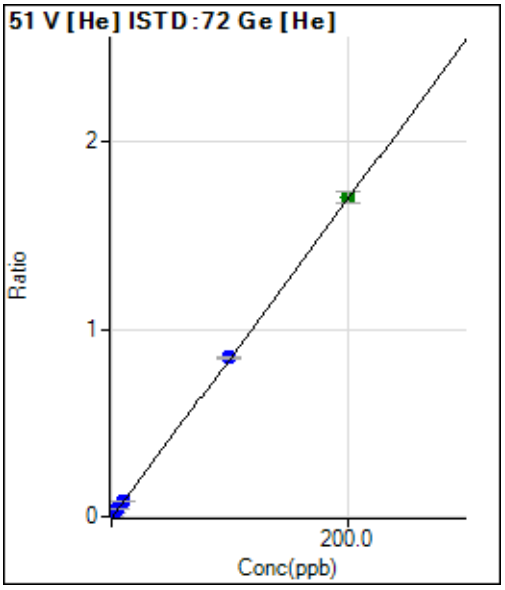
Calibration for 020_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	30.00	0.0000	P	32.5	
2	☐	2.000	1.964	580.02	0.0006	P	15.4	-1.8
3	☐	5.000	4.710	1356.75	0.0014	P	11.2	-5.8
4	☐	10.000	9.320	2680.25	0.0028	P	8.4	-6.8
5	☐	100.000	103.751	29397.41	0.0312	P	1.9	3.8
6	☐	200.000	198.166	56380.89	0.0596	P	1.8	-0.9
7	☐	1.000						

y = 3.0070E-004 * x + 3.2149E-005
R = 0.9997
DL = 0.1041 ppb
BEC = 0.1069 ppb

Weight: <None>
Min Conc: <None>

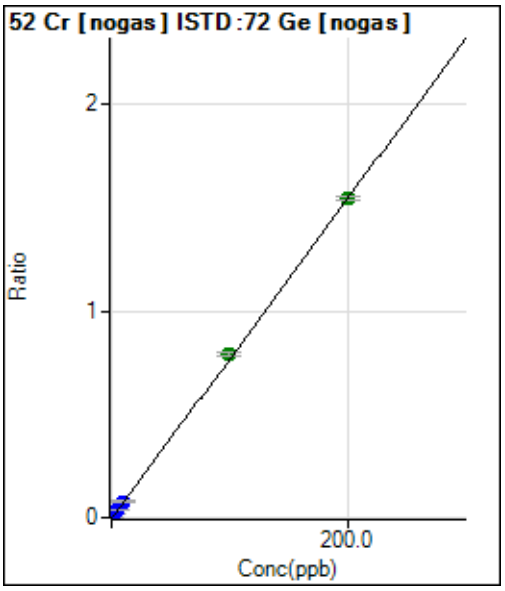


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	833.36	0.0009	P	5.4	
2	☐	2.000	1.899	15894.80	0.0171	P	2.5	-5.1
3	☐	5.000	4.752	38771.21	0.0414	P	1.8	-5.0
4	☐	10.000	9.434	76827.79	0.0813	P	0.5	-5.7
5	☐	100.000	99.610	799587.85	0.8494	P	1.6	-0.4
6	☐	200.000	200.231	1613780.66	1.7066	A	3.0	0.1
7	☐	1.000						

y = 0.0085 * x + 8.9461E-004
R = 1.0000
DL = 0.01714 ppb
BEC = 0.105 ppb

Weight: <None>
Min Conc: <None>

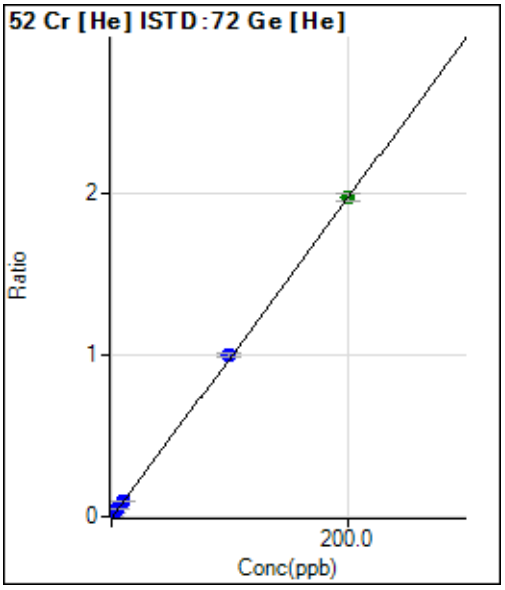
Calibration for 020_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	7705.12	0.0022	P	1.7	
2	☐	2.000	2.027	61835.48	0.0180	P	1.8	1.4
3	☐	5.000	4.859	140073.68	0.0399	P	3.0	-2.8
4	☐	10.000	9.891	275607.69	0.0790	P	2.8	-1.1
5	☐	100.000	101.856	2792242.04	0.7926	A	2.9	1.9
6	☐	200.000	199.081	5403757.42	1.5471	A	0.9	-0.5
7	☐	1.000						

y = 0.0078 * x + 0.0022
R = 0.9999
DL = 0.01454 ppb
BEC = 0.2866 ppb

Weight: <None>
Min Conc: <None>

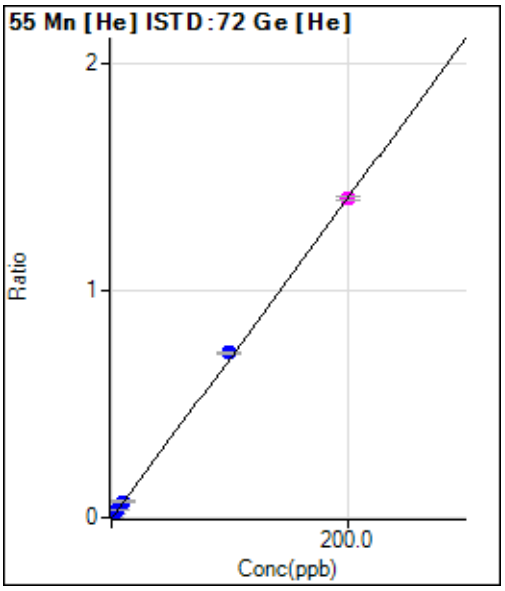


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	1043.39	0.0011	P	11.2	
2	☐	2.000	1.939	18910.14	0.0203	P	3.5	-3.1
3	☐	5.000	4.842	45958.72	0.0490	P	1.2	-3.2
4	☐	10.000	9.665	91503.41	0.0968	P	0.7	-3.4
5	☐	100.000	101.069	942664.00	1.0015	P	2.1	1.1
6	☐	200.000	199.487	1868393.36	1.9756	A	2.1	-0.3
7	☐	1.000						

y = 0.0099 * x + 0.0011
R = 1.0000
DL = 0.03789 ppb
BEC = 0.1131 ppb

Weight: <None>
Min Conc: <None>

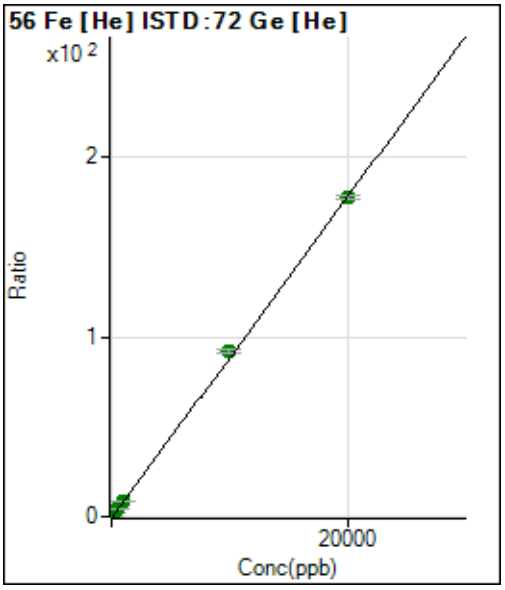
Calibration for 020_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	2910.30	0.0031	P	3.4	
2	☐	2.000	1.917	15496.82	0.0166	P	1.1	-4.1
3	☐	5.000	4.765	34403.09	0.0367	P	0.7	-4.7
4	☐	10.000	9.713	67686.56	0.0716	P	1.1	-2.9
5	☐	100.000	102.235	681209.26	0.7237	P	1.6	2.2
6	☐	200.000	198.904	1328729.75	1.4050	M	1.5	-0.5
7	☐	1.000						

y = 0.0070 * x + 0.0031
R = 0.9999
DL = 0.04541 ppb
BEC = 0.4435 ppb

Weight: <None>
Min Conc: <None>

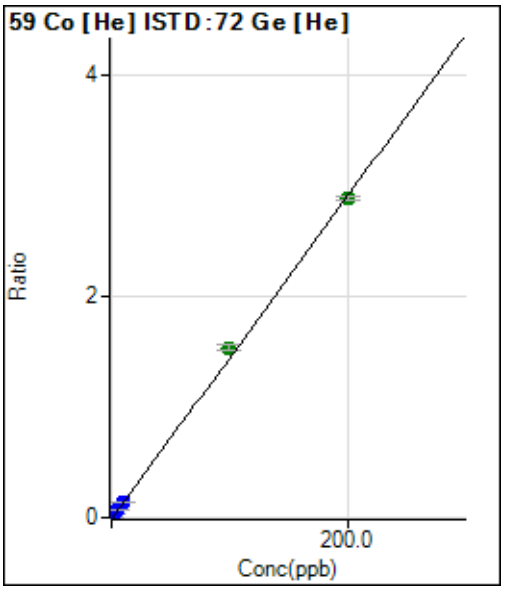


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	14100.08	0.0151	P	3.4	
2	☐	200.000	208.254	1751476.38	1.8805	A	1.1	4.1
3	☐	500.000	497.011	4186288.17	4.4670	A	0.7	-0.6
4	☐	1000.000	989.014	8390095.29	8.8739	A	1.0	-1.1
5	☐	10000.00	10296.79	86828732.04	92.2453	A	2.4	3.0
6	☐	20000.00	19852.14	168165190.8	177.834	A	1.3	-0.7
7	☐	100.000						

y = 0.0090 * x + 0.0151
R = 0.9998
DL = 0.1739 ppb
BEC = 1.69 ppb

Weight: <None>
Min Conc: <None>

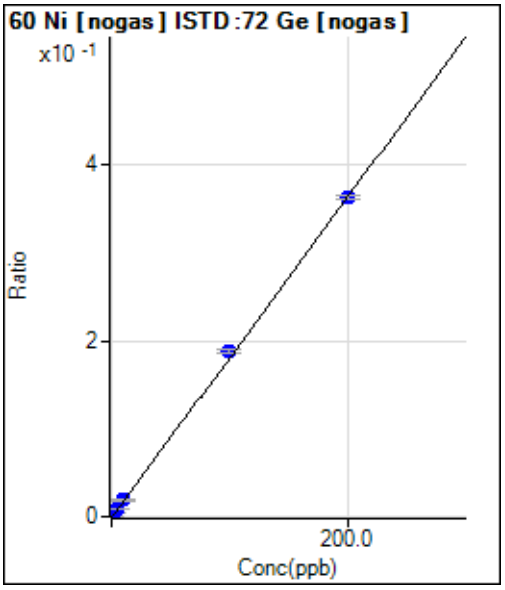
Calibration for 020_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	270.01	0.0003	P	17.7	
2	☐	2.000	1.941	26720.14	0.0287	P	4.9	-3.0
3	☐	5.000	4.908	67566.32	0.0721	P	3.2	-1.8
4	☐	10.000	9.642	133670.07	0.1414	P	1.9	-3.6
5	☐	100.000	105.198	1449205.92	1.5397	A	3.1	5.2
6	☐	200.000	197.422	2732230.37	2.8892	A	0.8	-1.3
7	☐	1.000						

y = 0.0146 * x + 2.9017E-004
R = 0.9995
DL = 0.01054 ppb
BEC = 0.01983 ppb

Weight: <None>
Min Conc: <None>

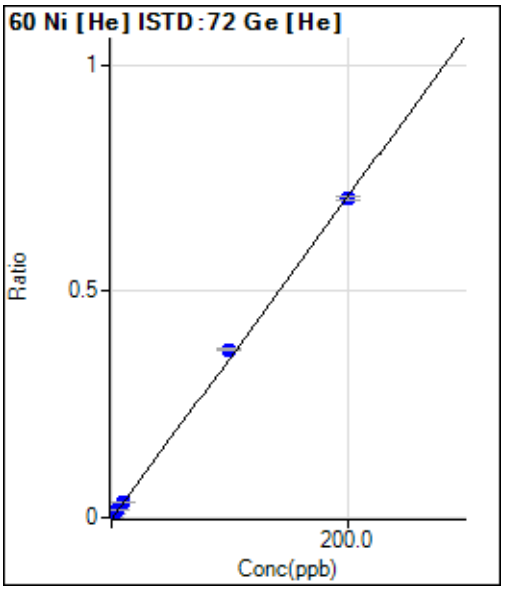


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	1540.10	0.0004	P	20.5	
2	☐	2.000	2.035	14349.25	0.0042	P	3.5	1.8
3	☐	5.000	5.013	33708.49	0.0096	P	2.1	0.3
4	☐	10.000	10.016	65432.25	0.0188	P	3.2	0.2
5	☐	100.000	102.538	661844.16	0.1879	P	2.0	2.5
6	☐	200.000	198.729	1270231.67	0.3637	P	0.7	-0.6
7	☐	1.000						

y = 0.0018 * x + 4.4439E-004
R = 0.9999
DL = 0.1498 ppb
BEC = 0.2431 ppb

Weight: <None>
Min Conc: <None>

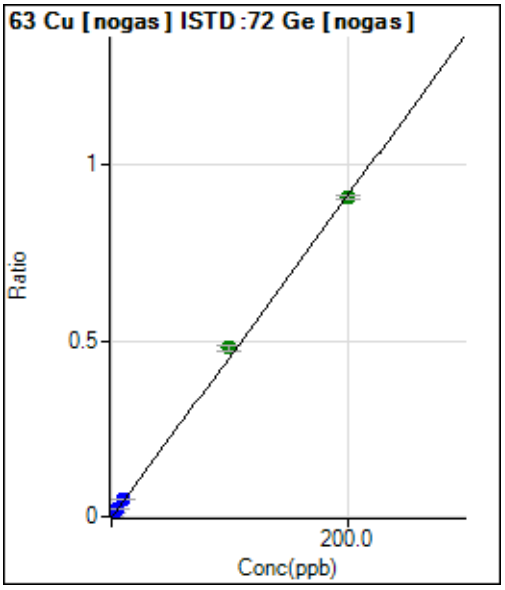
Calibration for 020_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	186.67	0.0002	P	29.0	
2	☐	2.000	1.988	6788.06	0.0073	P	4.9	-0.6
3	☐	5.000	5.094	17201.83	0.0184	P	5.8	1.9
4	☐	10.000	9.995	33882.30	0.0358	P	0.6	-0.1
5	☐	100.000	104.077	349488.89	0.3713	P	1.1	4.1
6	☐	200.000	197.960	667611.11	0.7060	P	1.0	-1.0
7	☐	1.000						

y = 0.0036 * x + 2.0031E-004
R = 0.9997
DL = 0.04891 ppb
BEC = 0.05618 ppb

Weight: <None>
Min Conc: <None>

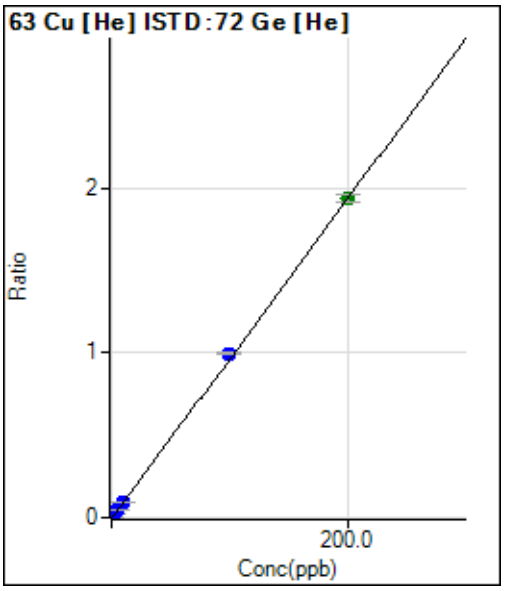


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	5547.64	0.0016	P	6.5	
2	☐	2.000	1.981	36808.00	0.0107	P	5.4	-1.0
3	☐	5.000	4.886	84290.37	0.0240	P	1.0	-2.3
4	☐	10.000	9.944	164829.73	0.0472	P	2.6	-0.6
5	☐	100.000	104.388	1693181.02	0.4806	A	3.0	4.4
6	☐	200.000	197.812	3176295.89	0.9093	A	0.9	-1.1
7	☐	1.000						

y = 0.0046 * x + 0.0016
R = 0.9997
DL = 0.06806 ppb
BEC = 0.3491 ppb

Weight: <None>
Min Conc: <None>

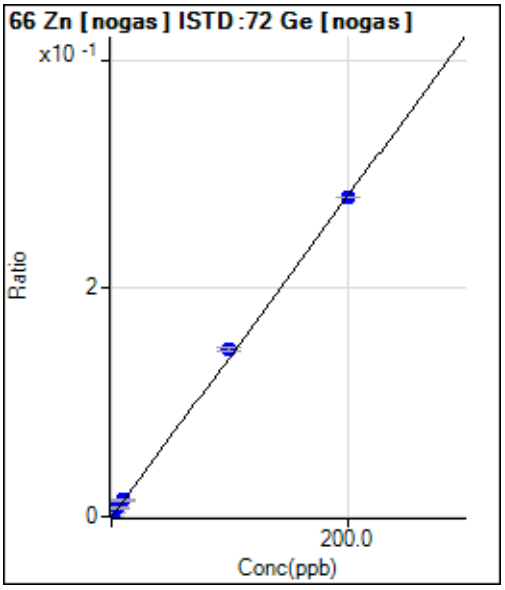
Calibration for 020_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	2830.28	0.0030	P	10.4	
2	☐	2.000	1.977	20712.29	0.0222	P	4.0	-1.2
3	☐	5.000	4.871	47195.51	0.0504	P	1.7	-2.6
4	☐	10.000	9.721	92158.71	0.0975	P	1.4	-2.8
5	☐	100.000	101.820	933972.33	0.9922	P	1.1	1.8
6	☐	200.000	199.107	1831954.35	1.9373	A	2.4	-0.4
7	☐	1.000						

y = 0.0097 * x + 0.0030
R = 0.9999
DL = 0.09794 ppb
BEC = 0.3129 ppb

Weight: <None>
Min Conc: <None>

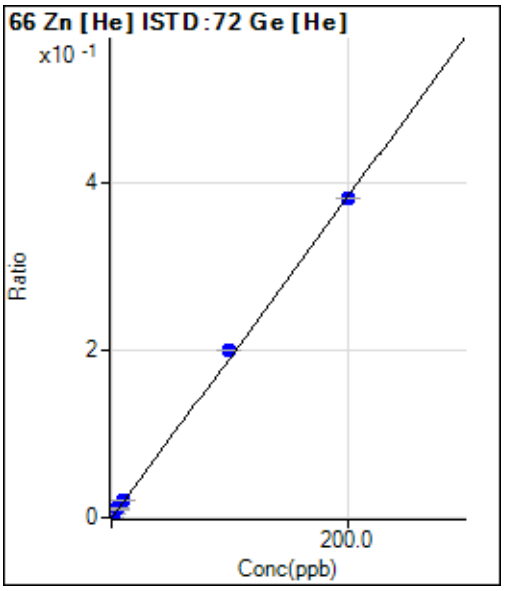


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	2700.26	0.0008	P	5.1	
2	☐	2.000	1.874	11767.36	0.0034	P	5.9	-6.3
3	☐	5.000	4.898	26930.61	0.0077	P	2.9	-2.0
4	☐	10.000	9.813	50936.19	0.0146	P	4.0	-1.9
5	☐	100.000	103.587	516721.76	0.1467	P	2.4	3.6
6	☐	200.000	198.220	977853.97	0.2800	P	0.2	-0.9
7	☐	1.000						

y = 0.0014 * x + 7.7889E-004
R = 0.9998
DL = 0.0852 ppb
BEC = 0.553 ppb

Weight: <None>
Min Conc: <None>

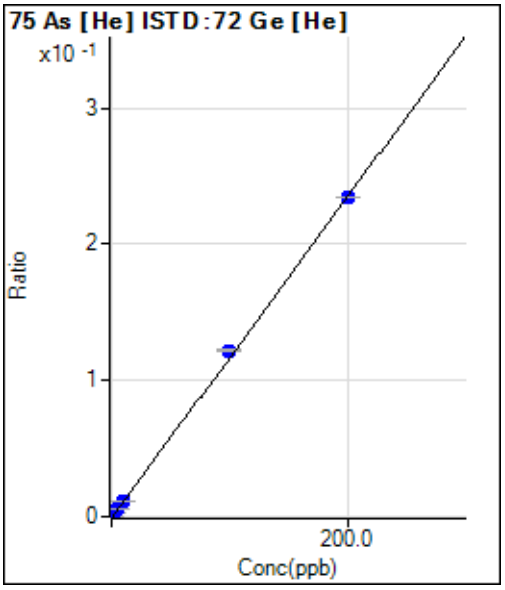
Calibration for 020_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	923.37	0.0010	P	9.3	
2	☐	2.000	1.808	4150.55	0.0045	P	5.5	-9.6
3	☐	5.000	4.914	9756.15	0.0104	P	3.0	-1.7
4	☐	10.000	10.029	19117.06	0.0202	P	1.0	0.3
5	☐	100.000	103.842	188345.37	0.2001	P	0.1	3.8
6	☐	200.000	198.082	360052.84	0.3807	P	0.3	-1.0
7	☐	1.000						

y = 0.0019 * x + 9.9126E-004
R = 0.9997
DL = 0.1438 ppb
BEC = 0.5171 ppb

Weight: <None>
Min Conc: <None>

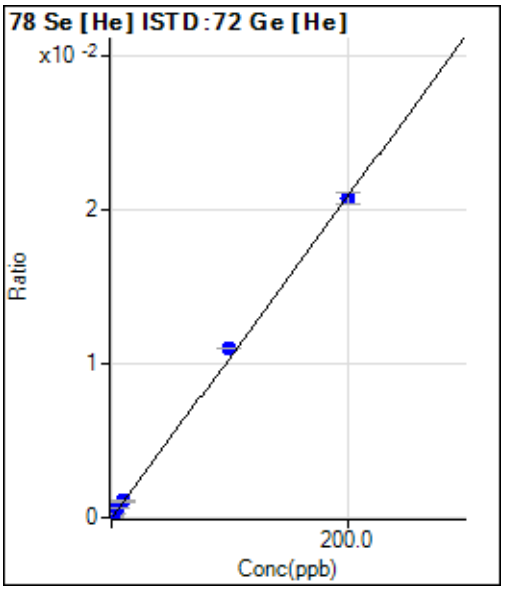


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	81.11	0.0001	P	38.2	
2	☐	2.000	1.994	2274.61	0.0024	P	4.9	-0.3
3	☐	5.000	4.738	5324.16	0.0057	P	3.9	-5.2
4	☐	10.000	9.673	10881.14	0.0115	P	2.0	-3.3
5	☐	100.000	103.165	114753.76	0.1219	P	0.6	3.2
6	☐	200.000	198.441	221664.52	0.2344	P	0.5	-0.8
7	☐	1.000						

y = 0.0012 * x + 8.6890E-005
R = 0.9998
DL = 0.08435 ppb
BEC = 0.07359 ppb

Weight: <None>
Min Conc: <None>

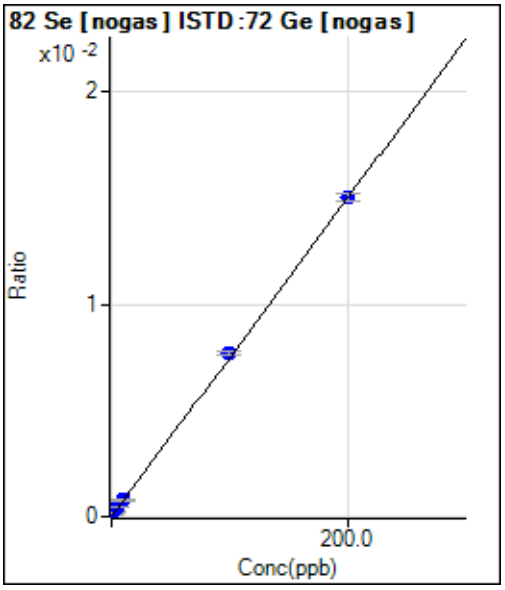
Calibration for 020_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	58.67	0.0001	P	31.7	
2	☐	2.000	2.167	270.00	0.0003	P	5.8	8.4
3	☐	5.000	4.995	548.68	0.0006	P	2.5	-0.1
4	☐	10.000	9.773	1026.03	0.0011	P	4.2	-2.3
5	☐	100.000	104.385	10336.36	0.0110	P	0.5	4.4
6	☐	200.000	197.817	19622.83	0.0208	P	3.1	-1.1
7	☐	1.000						

y = 1.0458E-004 * x + 6.3080E-005
R = 0.9997
DL = 0.573 ppb
BEC = 0.6032 ppb

Weight: <None>
Min Conc: <None>

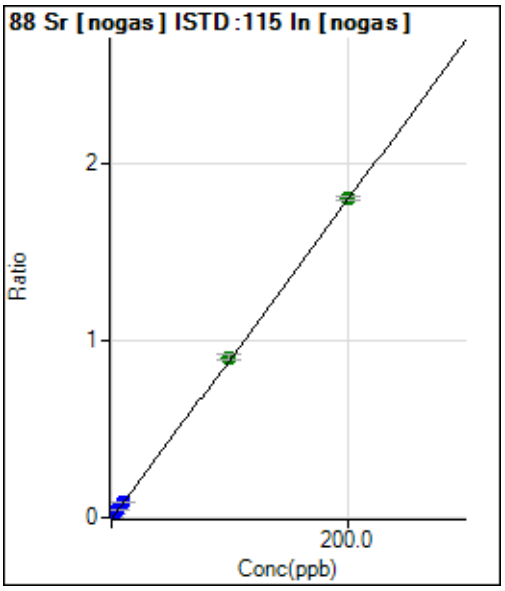


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	276.68	0.0001	P	15.1	
2	☐	2.000	2.184	840.04	0.0002	P	17.5	9.2
3	☐	5.000	4.850	1556.77	0.0004	P	6.2	-3.0
4	☐	10.000	9.432	2753.60	0.0008	P	7.0	-5.7
5	☐	100.000	101.382	27091.08	0.0077	P	2.5	1.4
6	☐	200.000	199.339	52545.06	0.0150	P	2.0	-0.3
7	☐	1.000						

y = 7.5065E-005 * x + 7.9867E-005
R = 1.0000
DL = 0.4823 ppb
BEC = 1.064 ppb

Weight: <None>
Min Conc: <None>

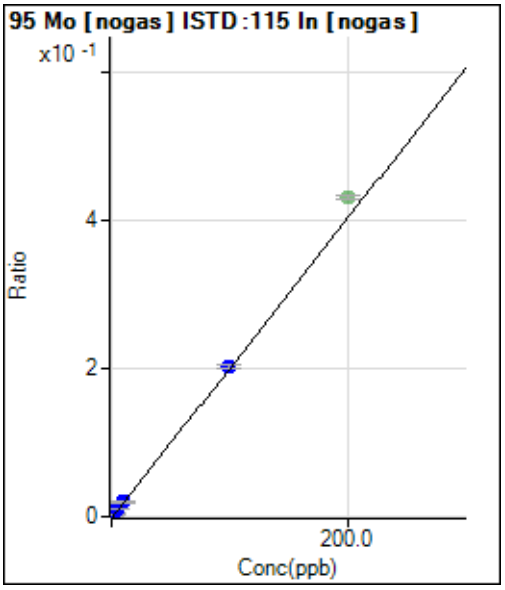
Calibration for 020_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	2423.56	0.0006	P	8.9	
2	☐	2.000	1.840	73509.76	0.0172	P	5.7	-8.0
3	☐	5.000	4.723	186693.08	0.0432	P	2.6	-5.5
4	☐	10.000	9.566	370361.43	0.0868	P	1.1	-4.3
5	☐	100.000	100.319	3933096.61	0.9053	A	2.9	0.3
6	☐	200.000	199.871	7578789.68	1.8031	A	1.3	-0.1
7	☐	1.000						

y = 0.0090 * x + 5.6605E-004
R = 1.0000
DL = 0.01683 ppb
BEC = 0.06277 ppb

Weight: <None>
Min Conc: <None>

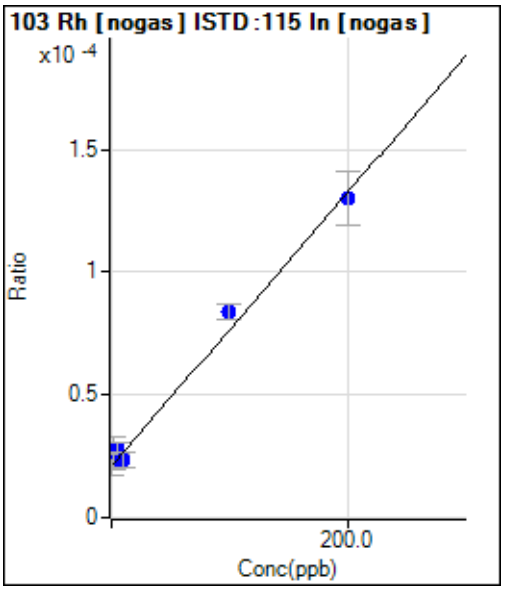


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	93.33	0.0000	P	53.8	
2	☐	2.000	1.951	16995.21	0.0040	P	5.5	-2.5
3	☐	5.000	4.772	41820.40	0.0097	P	7.6	-4.6
4	☐	10.000	9.706	83807.08	0.0197	P	2.8	-2.9
5	☐	100.000	100.042	879097.77	0.2023	P	1.5	0.0
6	☑	200.000		1809260.86	0.4305	A	1.2	
7	☐	1.000						

y = 0.0020 * x + 2.1853E-005
R = 1.0000
DL = 0.01744 ppb
BEC = 0.01081 ppb

Weight: <None>
Min Conc: <None>

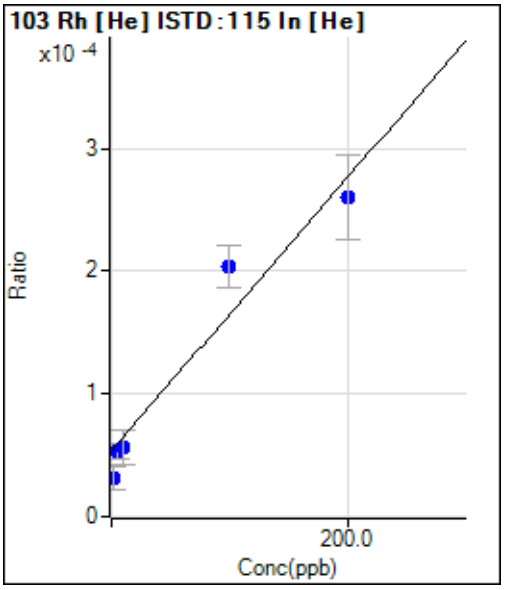
Calibration for 020_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	93.33	0.0000	P	42.4	
2	☐	2.000	8.293	113.34	0.0000	P	52.5	314.6
3	☐	5.000	12.082	123.34	0.0000	P	17.4	141.6
4	☐	10.000	3.003	100.00	0.0000	P	25.5	-70.0
5	☐	100.000	111.167	363.34	0.0001	P	7.2	11.2
6	☐	200.000	194.526	546.69	0.0001	P	16.7	-2.7
7	☐	1.000						

y = 5.5698E-007 * x + 2.1740E-005
R = 0.9960
DL = 49.68 ppb
BEC = 39.03 ppb

Weight: <None>
Min Conc: <None>

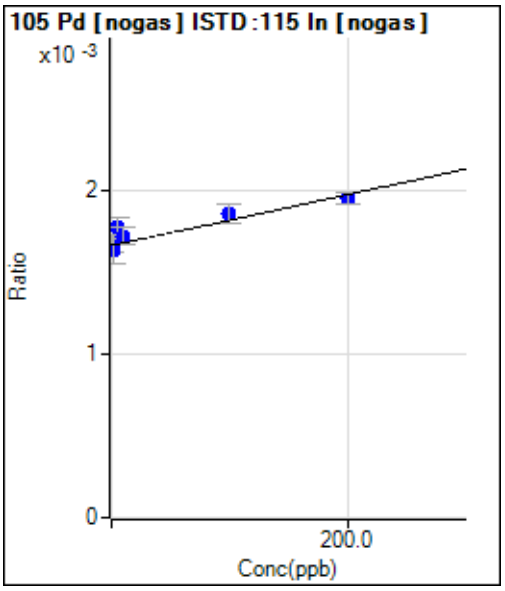


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	86.67	0.0001	P	7.6	
2	☐	2.000	-21.183	50.00	0.0000	P	59.3	-1159.1
3	☐	5.000	-2.075	83.33	0.0001	P	24.8	-141.5
4	☐	10.000	0.949	90.00	0.0001	P	49.6	-90.5
5	☐	100.000	133.478	326.68	0.0002	P	17.3	33.5
6	☐	200.000	184.122	400.01	0.0003	P	25.9	-7.9
7	☐	1.000						

y = 1.1132E-006 * x + 5.5364E-005
R = 0.9741
DL = 11.35 ppb
BEC = 49.73 ppb

Weight: <None>
Min Conc: <None>

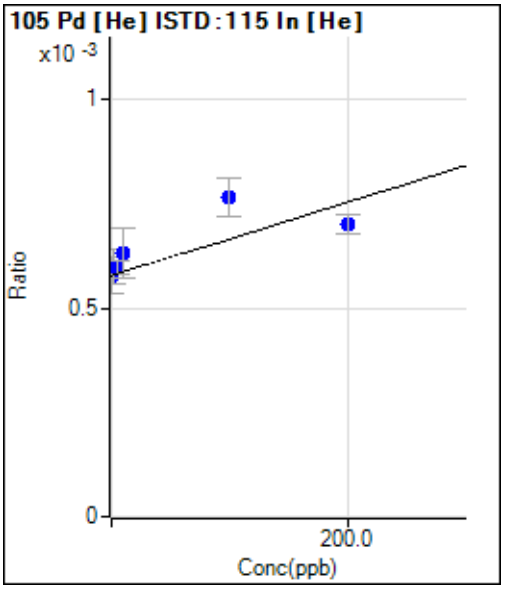
Calibration for 020_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	7148.31	0.0017	P	4.3	
2	☐	2.000	-15.196	7044.88	0.0016	P	11.0	-859.8
3	☐	5.000	72.907	7715.15	0.0018	P	6.8	1358.1
4	☐	10.000	36.597	7365.03	0.0017	P	5.6	266.0
5	☐	100.000	125.958	8108.70	0.0019	P	6.2	26.0
6	☐	200.000	184.166	8232.10	0.0020	P	3.7	-7.9
7	☐	1.000						

y = 1.5689E-006 * x + 0.0017
R = 0.9180
DL = 136.6 ppb
BEC = 1064 ppb

Weight: <None>
Min Conc: <None>

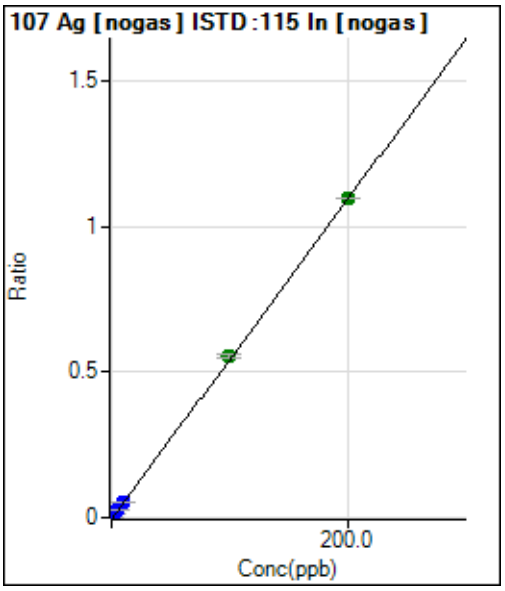


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	906.71	0.0006	P	15.4	
2	☐	2.000	24.253	943.38	0.0006	P	14.1	1112.7
3	☐	5.000	22.214	940.05	0.0006	P	5.6	344.3
4	☐	10.000	59.551	1003.39	0.0006	P	18.7	495.5
5	☐	100.000	212.035	1223.40	0.0008	P	12.2	112.0
6	☐	200.000	140.852	1076.72	0.0007	P	6.5	-29.6
7	☐	1.000						

y = 8.8162E-007 * x + 5.7910E-004
R = 0.7646
DL = 303.5 ppb
BEC = 656.9 ppb

Weight: <None>
Min Conc: <None>

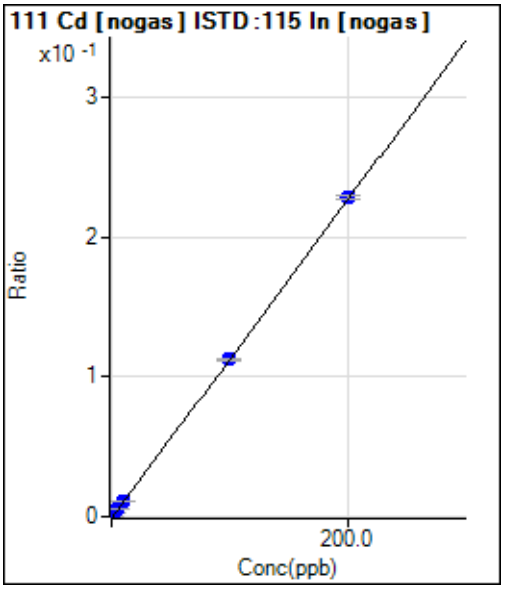
Calibration for 020_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	420.01	0.0001	P	14.2	
2	☐	2.000	1.947	46405.64	0.0108	P	2.8	-2.6
3	☐	5.000	4.706	112560.64	0.0260	P	3.3	-5.9
4	☐	10.000	9.681	227861.98	0.0534	P	1.8	-3.2
5	☐	100.000	100.999	2417778.14	0.5565	A	1.3	1.0
6	☐	200.000	199.524	4620015.45	1.0992	A	0.6	-0.2
7	☐	1.000						

y = 0.0055 * x + 9.8051E-005
R = 1.0000
DL = 0.007578 ppb
BEC = 0.0178 ppb

Weight: <None>
Min Conc: <None>

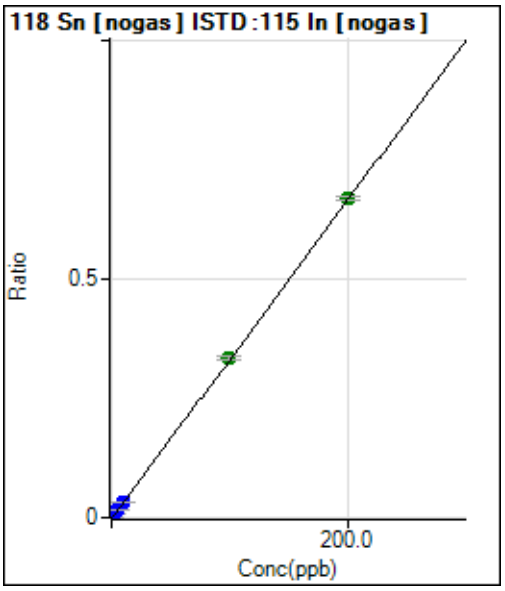


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	3.33	0.0000	P	173.	
2	☐	2.000	1.925	9402.74	0.0022	P	4.4	-3.7
3	☐	5.000	4.934	24307.33	0.0056	P	3.5	-1.3
4	☐	10.000	9.757	47401.94	0.0111	P	1.9	-2.4
5	☐	100.000	98.956	489672.70	0.1127	P	1.3	-1.0
6	☐	200.000	200.536	959959.49	0.2284	P	1.2	0.3
7	☐	1.000						

y = 0.0011 * x + 7.8629E-007
R = 1.0000
DL = 0.003587 ppb
BEC = 0.0006904 ppb

Weight: <None>
Min Conc: <None>

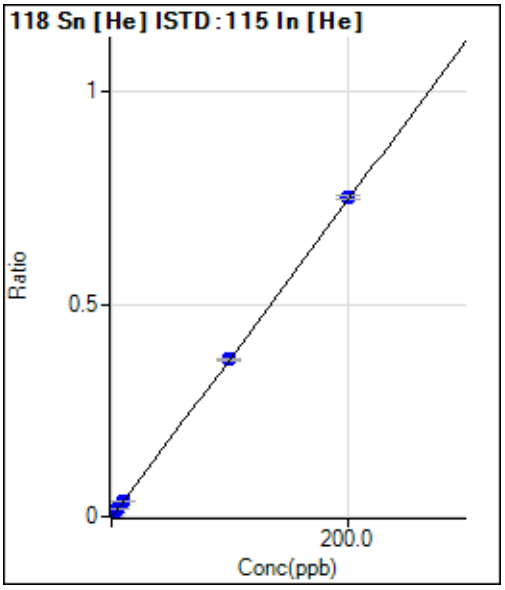
Calibration for 020_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	3187.02	0.0007	P	4.2	
2	☐	2.000	1.794	28924.64	0.0067	P	2.7	-10.3
3	☐	5.000	4.727	71636.66	0.0166	P	4.4	-5.5
4	☐	10.000	9.363	136838.16	0.0321	P	1.7	-6.4
5	☐	100.000	99.996	1457272.53	0.3354	A	1.9	0.0
6	☐	200.000	200.043	2817299.44	0.6703	A	1.2	0.0
7	☐	1.000						

y = 0.0033 * x + 7.4389E-004
R = 1.0000
DL = 0.02829 ppb
BEC = 0.2222 ppb

Weight: <None>
Min Conc: <None>

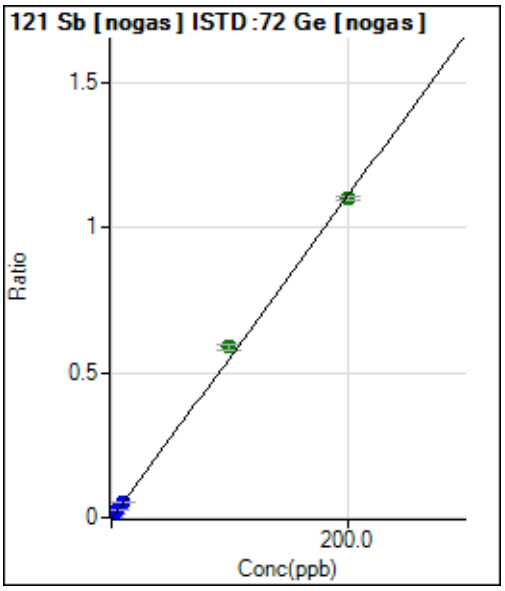


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	1216.74	0.0008	P	9.2	
2	☐	2.000	1.834	12011.08	0.0076	P	5.3	-8.3
3	☐	5.000	4.779	29322.06	0.0187	P	2.5	-4.4
4	☐	10.000	9.402	57124.89	0.0360	P	2.3	-6.0
5	☐	100.000	98.507	591109.25	0.3697	P	1.0	-1.5
6	☐	200.000	200.784	1152921.83	0.7527	P	1.7	0.4
7	☐	1.000						

y = 0.0037 * x + 7.7684E-004
R = 1.0000
DL = 0.05755 ppb
BEC = 0.2074 ppb

Weight: <None>
Min Conc: <None>

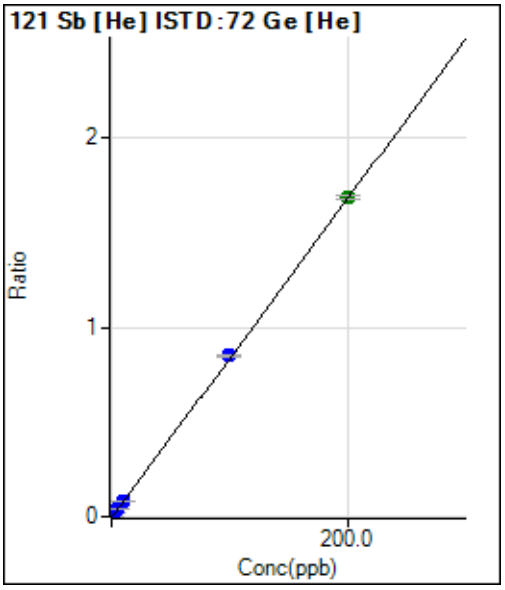
Calibration for 020_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	3803.83	0.0011	P	7.5	
2	☐	2.000	1.902	40314.57	0.0117	P	2.3	-4.9
3	☐	5.000	4.740	96594.04	0.0275	P	1.4	-5.2
4	☐	10.000	9.453	187785.77	0.0538	P	3.0	-5.5
5	☐	100.000	105.185	2070028.77	0.5876	A	2.4	5.2
6	☐	200.000	197.442	3849286.82	1.1020	A	1.3	-1.3
7	☐	1.000						

y = 0.0056 * x + 0.0011
R = 0.9995
DL = 0.04413 ppb
BEC = 0.197 ppb

Weight: <None>
Min Conc: <None>

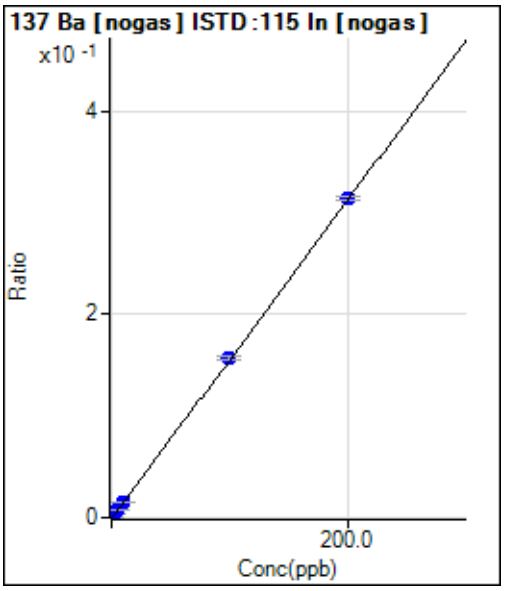


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	1596.78	0.0017	P	13.2	
2	☐	2.000	1.843	16081.18	0.0173	P	2.9	-7.9
3	☐	5.000	4.485	37073.79	0.0396	P	1.6	-10.3
4	☐	10.000	9.146	74595.46	0.0789	P	0.7	-8.5
5	☐	100.000	100.706	801581.50	0.8515	P	1.3	0.7
6	☐	200.000	199.704	1595224.04	1.6870	A	1.7	-0.1
7	☐	1.000						

y = 0.0084 * x + 0.0017
R = 1.0000
DL = 0.08024 ppb
BEC = 0.2033 ppb

Weight: <None>
Min Conc: <None>

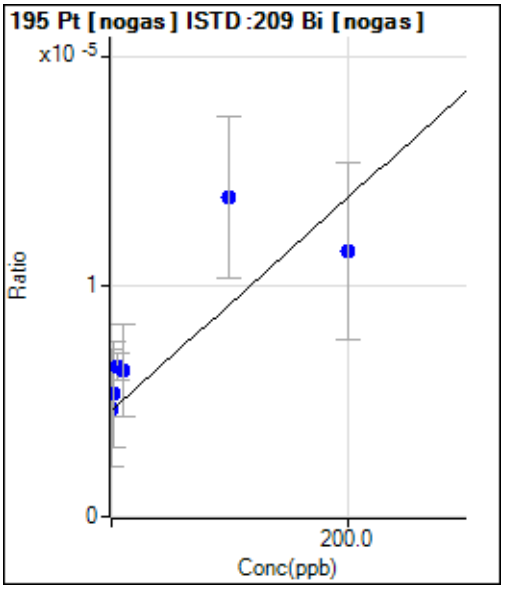
Calibration for 020_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	1193.40	0.0003	P	9.1	
2	☐	2.000	1.803	13302.05	0.0031	P	8.2	-9.9
3	☐	5.000	4.634	32625.11	0.0075	P	3.9	-7.3
4	☐	10.000	9.570	65185.93	0.0153	P	1.3	-4.3
5	☐	100.000	99.922	681806.24	0.1569	P	1.8	-0.1
6	☐	200.000	200.072	1319591.83	0.3140	P	1.1	0.0
7	☐	1.000						

y = 0.0016 * x + 2.7886E-004
R = 1.0000
DL = 0.04838 ppb
BEC = 0.1779 ppb

Weight: <None>
Min Conc: <None>

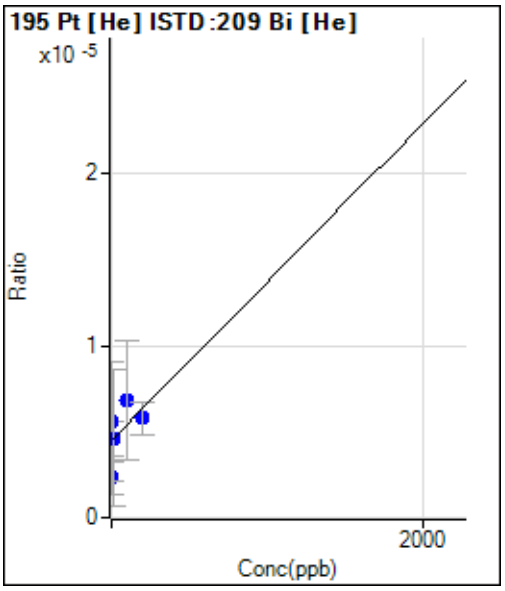


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	23.33	0.0000	P	108.	
2	☐	2.000	13.597	26.67	0.0000	P	86.6	579.9
3	☐	5.000	39.212	33.33	0.0000	P	18.6	684.2
4	☐	10.000	36.032	33.33	0.0000	P	62.7	260.3
5	☐	100.000	199.127	70.00	0.0000	P	50.0	99.1
6	☐	200.000	148.164	56.67	0.0000	P	67.2	-25.9
7	☐	1.000						

y = 4.6127E-008 * x + 4.6901E-006
R = 0.8171
DL = 332.3 ppb
BEC = 101.7 ppb

Weight: <None>
Min Conc: <None>

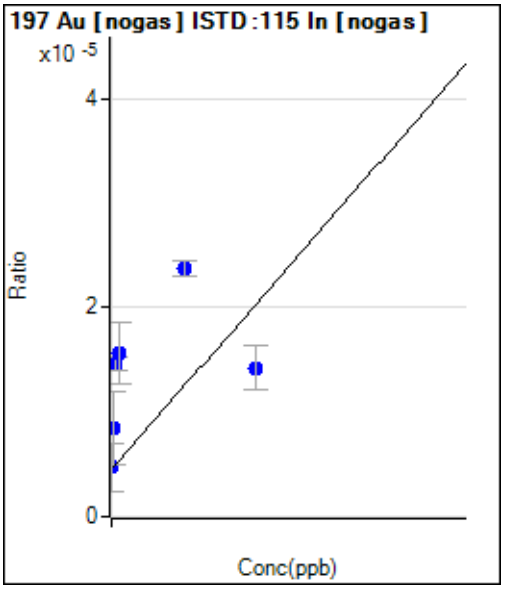
Calibration for 020_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	13.33	0.0000	P	43.5	
2	☐	2.000	-250.571	6.67	0.0000	P	86.6	-12628.
3	☐	5.000	102.777	16.67	0.0000	P	125.	1955.5
4	☐	10.000	-1.395	13.33	0.0000	P	173.	-113.9
5	☐	100.000	245.689	20.00	0.0000	P	100.	145.7
6	☐	200.000	127.806	16.67	0.0000	P	33.7	-36.1
7	☐	1.000						

y = 9.2093E-009 * x + 4.6111E-006
R = 0.5566
DL = 654 ppb
BEC = 500.7 ppb

Weight: <None>
Min Conc: <None>

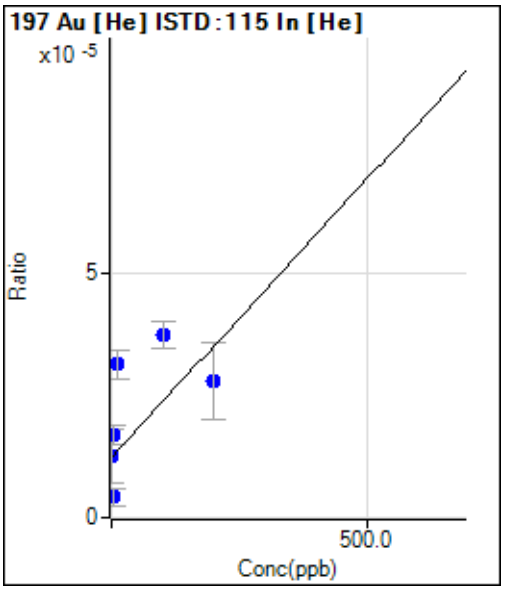


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	20.00	0.0000	P	99.8	
2	☐	2.000	47.156	36.67	0.0000	P	82.2	2257.8
3	☐	5.000	124.781	63.33	0.0000	P	7.9	2395.6
4	☐	10.000	137.732	66.67	0.0000	P	38.3	1277.3
5	☐	100.000	239.907	103.33	0.0000	P	6.4	139.9
6	☐	200.000	120.214	60.00	0.0000	P	28.5	-39.9
7	☐	1.000						

y = 7.9571E-008 * x + 4.7012E-006
R = 0.4376
DL = 176.9 ppb
BEC = 59.08 ppb

Weight: <None>
Min Conc: <None>

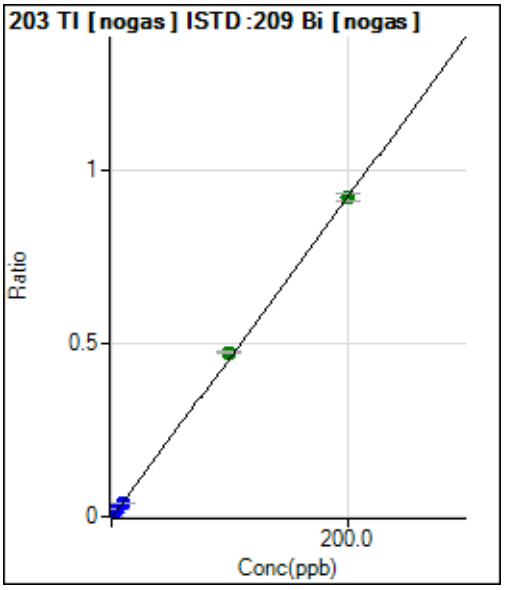
Calibration for 020_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	20.00	0.0000	P	86.2	
2	☐	2.000	-74.002	6.67	0.0000	P	86.6	-3800.1
3	☐	5.000	37.076	26.67	0.0000	P	21.7	641.5
4	☐	10.000	163.476	50.00	0.0000	P	19.2	1534.8
5	☐	100.000	216.153	60.00	0.0000	P	15.6	116.2
6	☐	200.000	134.208	43.33	0.0000	P	56.2	-32.9
7	☐	1.000						

y = 1.1450E-007 * x + 1.2739E-005
R = 0.5552
DL = 287.6 ppb
BEC = 111.3 ppb

Weight: <None>
Min Conc: <None>

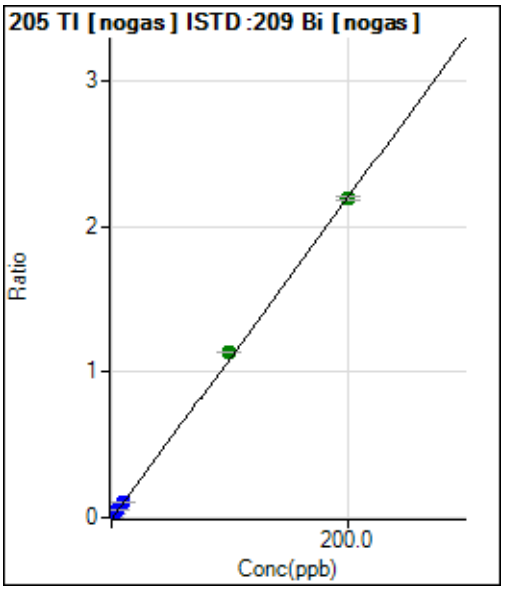


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	250.01	0.0000	P	46.7	
2	☐	2.000	1.881	44221.16	0.0088	P	1.6	-6.0
3	☐	5.000	4.604	109843.05	0.0214	P	2.4	-7.9
4	☐	10.000	8.869	216672.01	0.0412	P	1.7	-11.3
5	☐	100.000	102.250	2394710.17	0.4740	A	0.7	2.3
6	☐	200.000	198.943	4541295.87	0.9221	A	2.4	-0.5
7	☐	1.000						

y = 0.0046 * x + 4.9936E-005
R = 0.9999
DL = 0.01509 ppb
BEC = 0.01077 ppb

Weight: <None>
Min Conc: <None>

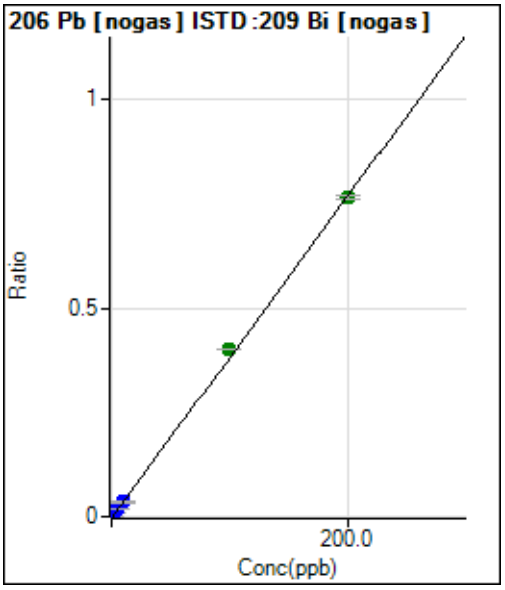
Calibration for 020_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	410.01	0.0001	P	24.6	
2	☐	2.000	1.863	104451.69	0.0207	P	0.7	-6.9
3	☐	5.000	4.673	266144.98	0.0518	P	1.7	-6.5
4	☐	10.000	9.029	526708.96	0.1000	P	1.2	-9.7
5	☐	100.000	102.961	5760050.12	1.1400	A	0.9	3.0
6	☐	200.000	198.577	10828466.92	2.1986	A	1.2	-0.7
7	☐	1.000						

y = 0.0111 * x + 8.2494E-005
R = 0.9998
DL = 0.005489 ppb
BEC = 0.007451 ppb

Weight: <None>
Min Conc: <None>

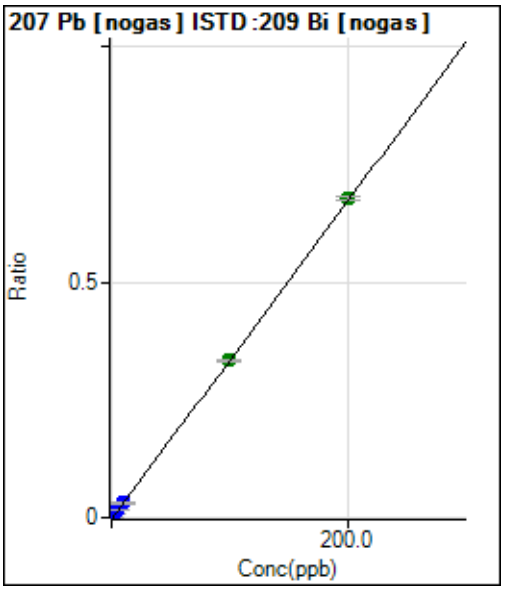


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	816.71	0.0002	P	4.4	
2	☐	2.000	1.884	37557.55	0.0074	P	1.0	-5.8
3	☐	5.000	4.681	93756.79	0.0183	P	4.5	-6.4
4	☐	10.000	8.950	182997.92	0.0348	P	1.5	-10.5
5	☐	100.000	103.722	2026792.83	0.4011	A	0.7	3.7
6	☐	200.000	198.201	3774349.01	0.7663	A	1.4	-0.9
7	☐	1.000						

y = 0.0039 * x + 1.6405E-004
R = 0.9997
DL = 0.00565 ppb
BEC = 0.04244 ppb

Weight: <None>
Min Conc: <None>

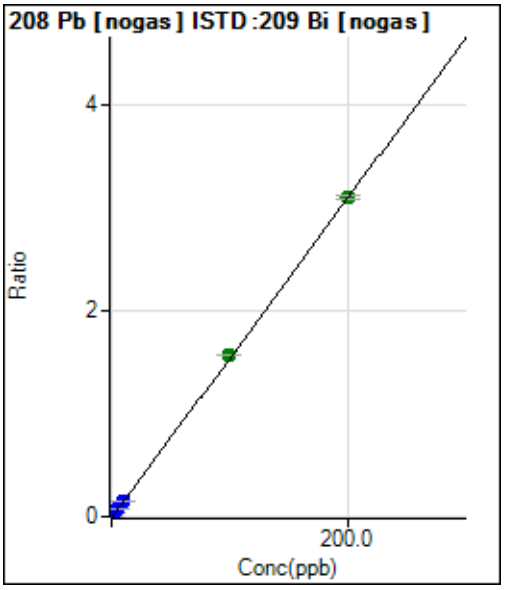
Calibration for 020_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	680.03	0.0001	P	3.1	
2	☐	2.000	1.895	33004.33	0.0065	P	1.5	-5.2
3	☐	5.000	4.635	81151.33	0.0158	P	1.4	-7.3
4	☐	10.000	9.043	161607.66	0.0307	P	1.0	-9.6
5	☐	100.000	98.674	1685582.37	0.3336	A	0.6	-1.3
6	☐	200.000	200.721	3341492.45	0.6785	A	1.3	0.4
7	☐	1.000						

y = 0.0034 * x + 1.3663E-004
R = 1.0000
DL = 0.0038 ppb
BEC = 0.04043 ppb

Weight: <None>
Min Conc: <None>

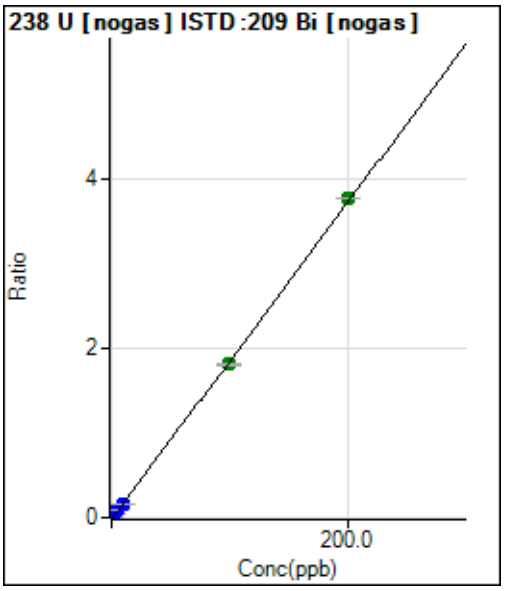


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	3076.85	0.0006	P	1.0	
2	☐	2.000	1.894	151425.80	0.0300	P	0.2	-5.3
3	☐	5.000	4.640	373163.94	0.0727	P	1.3	-7.2
4	☐	10.000	9.100	747019.26	0.1419	P	0.6	-9.0
5	☐	100.000	101.239	7944653.06	1.5724	A	0.4	1.2
6	☐	200.000	199.436	15252110.29	3.0969	A	1.7	-0.3
7	☐	1.000						

y = 0.0155 * x + 6.1789E-004
R = 1.0000
DL = 0.001202 ppb
BEC = 0.0398 ppb

Weight: <None>
Min Conc: <None>

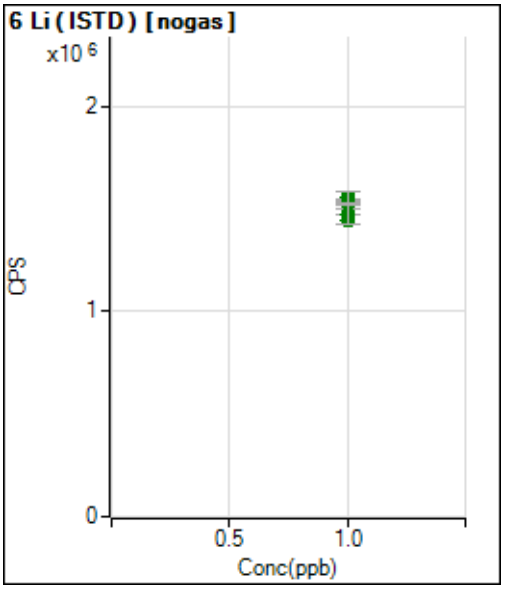
Calibration for 020_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	0.000	0.000	53.33	0.0000	P	48.0	
2	☐	2.000	1.860	175439.59	0.0348	P	1.7	-7.0
3	☐	5.000	4.582	439914.95	0.0857	P	1.9	-8.4
4	☐	10.000	8.996	885123.55	0.1681	P	1.8	-10.0
5	☐	100.000	96.964	9157232.57	1.8123	A	1.6	-3.0
6	☐	200.000	201.580	18555814.72	3.7675	A	0.2	0.8
7	☐	1.000						

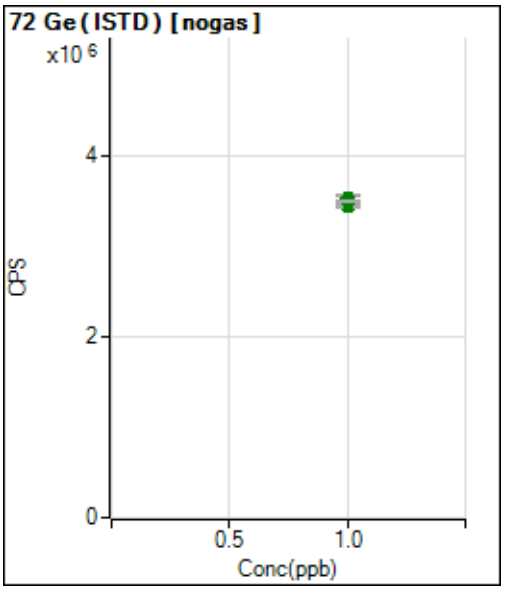
y = 0.0187 * x + 1.0724E-005
R = 0.9998
DL = 0.0008255 ppb
BEC = 0.0005738 ppb

Weight: <None>
Min Conc: <None>

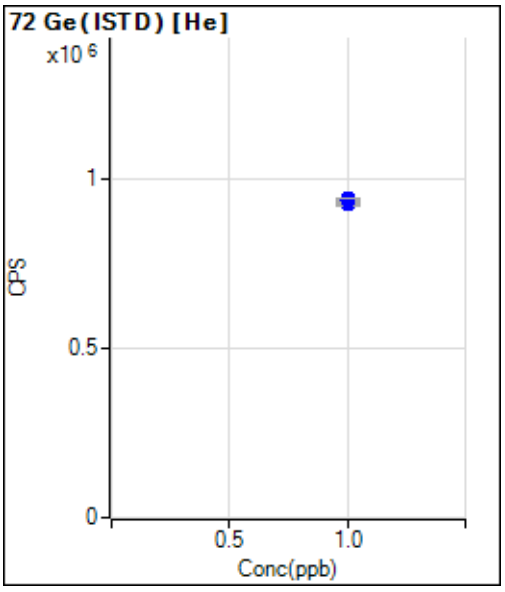


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	1.000		1545790.66		A	5.3	
2	☐	1.000		1522009.23		A	2.7	
3	☐	1.000		1532494.13		A	1.7	
4	☐	1.000		1557894.34		A	3.6	
5	☐	1.000		1448812.20		A	3.5	
6	☐	1.000		1477912.40		A	6.5	
7	☐	1.000						

Calibration for 020_ICV.d

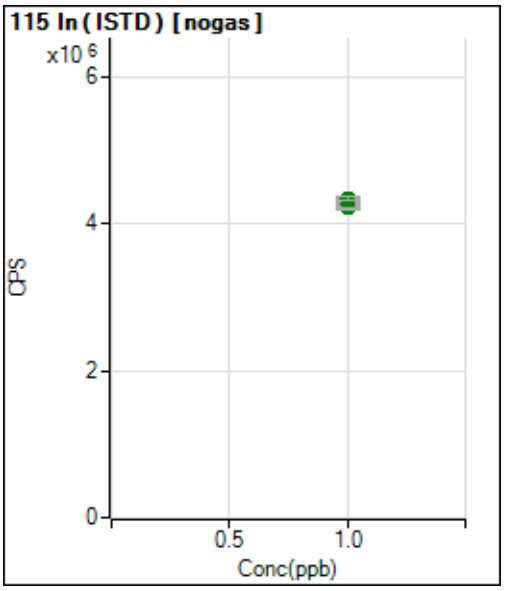


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	1.000		3465127.86		A	1.8	
2	☐	1.000		3444462.34		A	1.3	
3	☐	1.000		3509097.34		A	1.8	
4	☐	1.000		3491416.30		A	2.6	
5	☐	1.000		3524083.49		A	2.1	
6	☐	1.000		3492926.93		A	0.6	
7	☐	1.000						

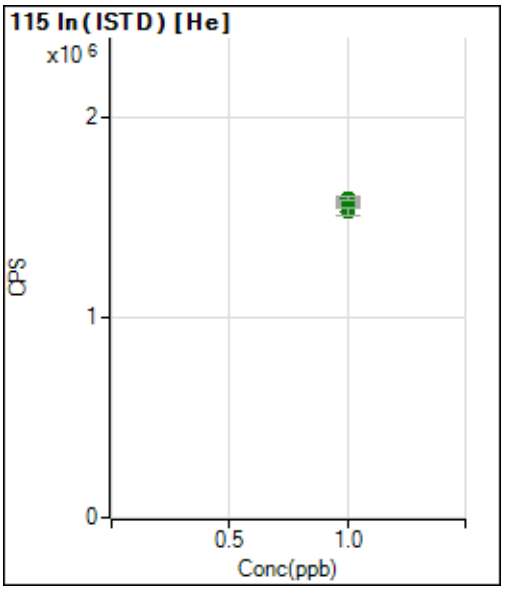


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	1.000		931245.64		P	0.9	
2	☐	1.000		931354.41		P	1.3	
3	☐	1.000		937201.50		P	1.3	
4	☐	1.000		945506.03		P	0.4	
5	☐	1.000		941405.51		P	0.9	
6	☐	1.000		945672.04		P	0.6	
7	☐	1.000						

Calibration for 020_ICV.d

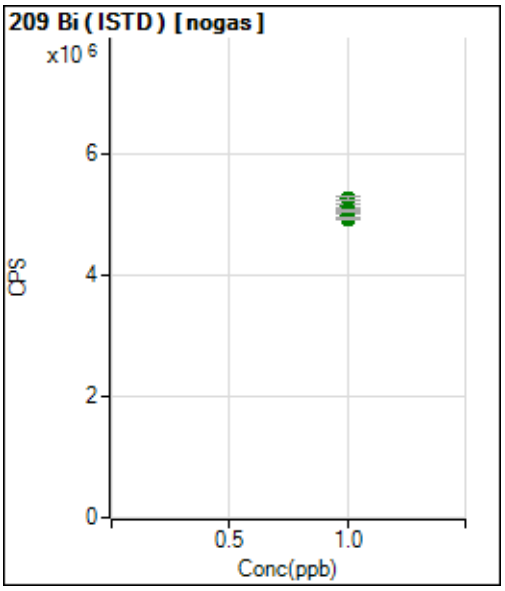


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	1.000		4283070.11		A	1.3	
2	☐	1.000		4288408.12		A	2.4	
3	☐	1.000		4326664.73		A	1.8	
4	☐	1.000		4265271.60		A	0.9	
5	☐	1.000		4345137.39		A	1.5	
6	☐	1.000		4203063.06		A	0.3	
7	☐	1.000						

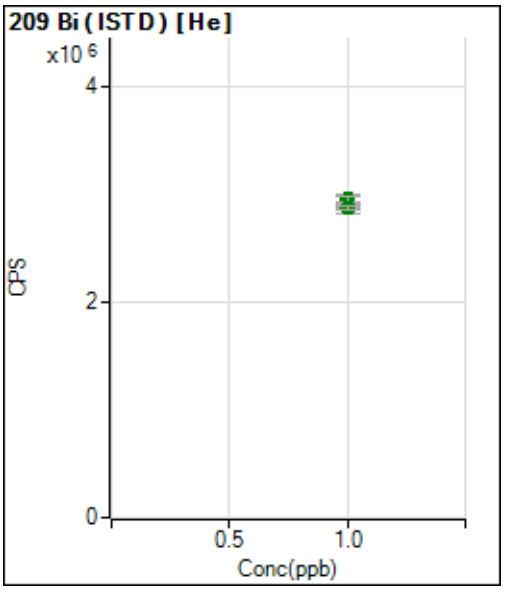


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	1.000		1566226.90		A	1.4	
2	☐	1.000		1571732.22		A	1.5	
3	☐	1.000		1570160.18		A	0.2	
4	☐	1.000		1587671.80		A	1.5	
5	☐	1.000		1599029.77		A	1.6	
6	☐	1.000		1531992.84		A	2.0	
7	☐	1.000						

Calibration for 020_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	1.000		4979092.11		A	1.8	
2	☐	1.000		5044603.88		A	1.3	
3	☐	1.000		5136897.63		A	1.3	
4	☐	1.000		5264956.90		A	1.0	
5	☐	1.000		5052751.80		A	0.6	
6	☐	1.000		4925220.24		A	0.4	
7	☐	1.000						



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD	%RE
1	☐	1.000		2893366.73		A	0.7	
2	☐	1.000		2896978.19		A	1.1	
3	☐	1.000		2965016.93		A	2.9	
4	☐	1.000		2951407.04		A	1.8	
5	☐	1.000		2870783.19		A	3.3	
6	☐	1.000		2870813.08		A	1.4	
7	☐	1.000						

Low Level Continuing Calibration Verification (LLCCV) Report

Sample Table

Sample Name	LLICV2
Data File Name	021LCV2.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\080620A.b
Acq Date Time	2020-08-06T10:24:57-05:00
Sample Type	LLCCV2
Dilution	1
Comment	
ISTD Ref File Name	013CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High	QC Flag
Be	9	1	nogas	1.861	4.119	10109	2.08	2	93.1	70	120	
B	11	1	nogas	24.007	3.283	125854	1.93	10	240.1	70	120	NewName Main CR1 Failed
P	31	1	nogas	9.648	12.956	41537	1.43	10	96.5	70	120	
Ca	44	1	nogas	182.047	9.768	341227	0.82	200	91.0	70	120	
Ti	47	1	nogas	2.153	5.110	4411	3.18	2	107.7	70	120	
Cr	52	1	nogas	1.964	5.323	61368	3.34	2	98.2	70	120	
Ni	60	1	nogas	1.963	1.801	14169	1.91	2	98.1	70	120	
Cu	63	1	nogas	1.989	2.036	37713	3.57	2	99.4	70	120	
Zn	66	1	nogas	1.781	2.167	11554	1.60	2	89.1	70	120	
Se	82	1	nogas	1.690	7.835	727	5.73	2	84.5	70	120	
Sr	88	1	nogas	1.889	2.552	76184	1.56	2	94.5	70	120	
Mo	95	1	nogas	2.075	3.725	19181	3.46	2	103.7	70	120	
Ag	107	1	nogas	1.955	1.877	47041	2.30	2	97.8	70	120	
Cd	111	1	nogas	1.958	4.241	9656	4.87	2	97.9	70	120	
Sn	118	1	nogas	2.560	2.812	40304	2.27	2	128.0	70	120	NewName Main CR1 Failed
Sb	121	1	nogas	2.676	0.952	56299	1.94	2	133.8	70	120	NewName Main CR1 Failed
Ba	137	1	nogas	1.803	2.170	13439	2.83	2	90.1	70	120	
Tl	205	1	nogas	2.051	3.030	116110	2.00	2	102.5	70	120	
Pb	208	1	nogas	1.916	0.451	154761	1.03	2	95.8	70	120	
Pb	206	1	nogas	1.941	1.306	39081	0.99	2	97.1	70	120	
Pb	207	1	nogas	1.893	1.594	33305	1.29	2	94.7	70	120	
U	238	1	nogas	1.896	1.313	180686	1.77	2	94.8	70	120	
Li	7	1	nogas	2.032	7.838	140973	0.10	2	101.6	70	120	
Tl	203	1	nogas	1.985	3.061	47129	1.95	2	99.2	70	120	
Na	23	2	He	204.527	0.393	421880	0.79	200	102.3	70	120	
Mg	24	2	He	203.200	0.979	196805	0.70	200	101.6	70	120	
Al	27	2	He	0.812	11.474	2400	1.91	2	40.6	70	120	NewName Main CR1 Failed
K	39	2	He	199.574	0.492	220284	0.66	200	99.8	70	120	
Ca	43	2	He	197.265	4.578	613	4.98	200	98.6	70	120	
Ca	44	2	He	189.775	3.251	11094	2.97	200	94.9	70	120	
V	51	2	He	1.920	0.556	16029	0.75	2	96.0	70	120	
Cr	52	2	He	1.997	2.295	19411	1.93	2	99.9	70	120	
Mn	55	2	He	1.912	4.224	15427	3.16	2	95.6	70	120	
Fe	56	2	He	211.415	1.486	1773725	0.66	200	105.7	70	120	
Co	59	2	He	1.964	1.456	26974	2.19	2	98.2	70	120	
Ni	60	2	He	2.023	3.271	6888	2.50	2	101.2	70	120	
Cu	63	2	He	1.968	4.537	20592	3.66	2	98.4	70	120	
Zn	66	2	He	1.889	3.014	4287	3.18	2	94.5	70	120	
As	75	2	He	1.968	3.126	2240	3.72	2	98.4	70	120	
Sn	118	2	He	2.596	4.935	16605	3.26	2	129.8	70	120	NewName Main CR1 Failed
Sb	121	2	He	2.749	3.409	23156	3.86	2	137.5	70	120	NewName Main CR1 Failed
Se	78	2	He	2.016	21.376	255	16.94	2	100.8	70	120	
Ti	47	2	He	1.847	21.549	547	21.04	2	92.4	70	120	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	3515159	2.63	3465128	101.44	70	120	
In	115	1	nogas	4327778	0.92	4283070	101.04	70	120	
Li	6	1	nogas	1542106	2.31	1545791	99.76	70	120	
Bi	209	1	nogas	5096914	1.13	4979092	102.37	70	120	
Ge	72	2	He	929302	0.83	931246	99.79	70	120	
In	115	2	He	1582255	1.38	1566227	101.02	70	120	

Low Level Continuing Calibration Verification (LLCCV) Report

Sample Table

Sample Name	LLICV5
Data File Name	022LCV5.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\080620A.b
Acq Date Time	2020-08-06T10:27:03-05:00
Sample Type	LLCCV5
Dilution	1
Comment	
ISTD Ref File Name	013CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High	QC Flag
Be	9	1	nogas	4.543	2.069	24731	0.56	5	90.9	70	130	
B	11	1	nogas	31.958	1.805	154460	0.98	25	127.8	70	130	
P	31	1	nogas	23.325	8.959	53548	3.32	25	93.3	70	130	
Ca	44	1	nogas	472.860	1.739	531228	0.98	500	94.6	70	130	
Ti	47	1	nogas	4.874	3.122	9829	3.43	5	97.5	70	130	
Cr	52	1	nogas	4.961	0.119	143247	1.03	5	99.2	70	130	
Ni	60	1	nogas	4.989	2.808	33638	1.78	5	99.8	70	130	
Cu	63	1	nogas	4.980	2.366	86022	1.92	5	99.6	70	130	
Zn	66	1	nogas	4.962	1.669	27328	2.43	5	99.2	70	130	
Se	82	1	nogas	5.133	7.608	1637	6.87	5	102.7	70	130	
Sr	88	1	nogas	4.706	1.506	185940	0.78	5	94.1	70	130	
Mo	95	1	nogas	4.546	3.408	41877	2.65	5	90.9	70	130	
Ag	107	1	nogas	4.815	1.561	115110	1.17	5	96.3	70	130	
Cd	111	1	nogas	4.883	1.947	24050	1.82	5	97.7	70	130	
Sn	118	1	nogas	4.806	1.669	72768	1.22	5	96.1	70	130	
Sb	121	1	nogas	4.878	0.706	99551	1.28	5	97.6	70	130	
Ba	137	1	nogas	4.816	1.136	33851	0.55	5	96.3	70	130	
Tl	205	1	nogas	4.692	2.166	266895	1.67	5	93.8	70	130	
Pb	208	1	nogas	4.729	2.112	379761	1.26	5	94.6	70	130	
U	238	1	nogas	4.611	2.829	442087	0.57	5	92.2	70	130	
Li	7	1	nogas	4.621	4.277	196367	0.96	5	92.4	70	130	
Si	28	1	nogas	203.246	18.561	577242	7.19	25	813.0	70	130	NewName Main CR1 Failed
Na	23	2	He	504.773	0.149	921871	0.21	500	101.0	70	130	
Mg	24	2	He	500.811	0.483	485476	0.56	500	100.2	70	130	
Al	27	2	He	3.863	4.586	4484	2.70	5	77.3	70	130	
K	39	2	He	493.214	0.808	474075	0.78	500	98.6	70	130	
Ca	43	2	He	479.166	6.019	1427	5.84	500	95.8	70	130	
Ca	44	2	He	476.532	3.228	25144	3.05	500	95.3	70	130	
V	51	2	He	4.772	1.039	38837	1.04	5	95.4	70	130	
Cr	52	2	He	4.982	1.914	47141	1.94	5	99.6	70	130	
Mn	55	2	He	4.847	0.774	34854	0.77	5	96.9	70	130	
Fe	56	2	He	492.631	1.409	4138959	1.42	500	98.5	70	130	
Co	59	2	He	4.840	1.277	66476	1.32	5	96.8	70	130	
Ni	60	2	He	5.177	1.355	17442	1.38	5	103.5	70	130	
Cu	63	2	He	5.054	0.429	48733	0.46	5	101.1	70	130	
Zn	66	2	He	5.213	8.537	10270	7.84	5	104.3	70	130	
As	75	2	He	4.932	2.424	5525	2.45	5	98.6	70	130	
Sb	121	2	He	4.871	1.310	40027	1.18	5	97.4	70	130	
Se	78	2	He	4.566	3.738	505	3.22	5	91.3	70	130	
Ti	47	2	He	5.040	4.241	1447	4.22	5	100.8	70	130	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	3517873	0.94	3465128	101.52	70	120	
In	115	1	nogas	4323921	0.90	4283070	100.95	70	120	
Li	6	1	nogas	1547349	2.02	1545791	100.10	70	120	
Bi	209	1	nogas	5131237	2.38	4979092	103.06	70	120	
Ge	72	2	He	934783	0.08	931246	100.38	70	120	
In	115	2	He	1584419	0.02	1566227	101.16	70	120	

Initial Calibration Blank (ICB) Report

Sample Table

Sample Name	ICB
Data File Name	023_ICB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\080620A.b
Acq Date Time	2020-08-06T10:29:09-05:00
Sample Type	ICB
Dilution	1
Comment	
ISTD Ref File Name	013CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	nogas	0.032	27.1	200	19.8	1	
B	11	1	nogas	8.489	15.4	70813	2.8	10	
P	31	1	nogas	1.801	34.6	34035	1.4	10	
Ca	44	1	nogas	8.151	34.3	223842	0.9	100	
Ti	47	1	nogas	0.052	105.0	233	45.8	2.5	
Cr	52	1	nogas	0.168	10.3	12174	2.3	2.5	
Ni	60	1	nogas	0.162	12.2	2557	5.4	2.5	
Cu	63	1	nogas	0.098	13.4	7075	1.6	1	
Zn	66	1	nogas	0.014	374.1	2750	7.9	2.5	
Se	82	1	nogas	0.082	253.6	297	18.6	1	
Sr	88	1	nogas	0.094	9.8	5878	4.5	2.5	
Mo	95	1	nogas	0.072	8.2	730	6.3	2.5	
Ag	107	1	nogas	0.036	13.3	1240	8.2	2.5	
Cd	111	1	nogas	0.041	25.4	197	25.1	1	
Sn	118	1	nogas	0.245	2.4	6531	2.5	5	
Sb	121	1	nogas	0.201	23.8	7649	11.0	2.5	
Ba	137	1	nogas	0.125	7.2	1980	4.1	2.5	
Tl	205	1	nogas	0.057	8.4	3554	8.4	1	
Pb	208	1	nogas	0.037	7.8	5904	2.9	2.5	
U	238	1	nogas	0.039	5.7	3644	4.7	2.5	
Si	28	1	nogas	-15.861	-74.6	357996	1.6	5	
Na	23	2	He	2.687	24.7	88241	1.1	100	
Mg	24	2	He	3.939	7.4	5381	5.3	100	
Al	27	2	He	2.066	16.4	3204	6.8	5	
K	39	2	He	2.734	53.2	51349	2.1	100	
Ca	43	2	He	26.278	60.3	123	36.6	100	
Ca	44	2	He	26.315	16.0	3127	6.5	100	
V	51	2	He	0.035	38.4	1090	9.3	2.5	
Cr	52	2	He	0.163	13.5	2510	8.4	2.5	
Mn	55	2	He	-0.082	-29.1	2337	6.3	2.5	
Fe	56	2	He	4.973	3.8	54737	2.5	100	
Co	59	2	He	0.054	21.0	993	15.6	2.5	
Ni	60	2	He	0.156	21.6	693	15.9	2.5	
Cu	63	2	He	0.085	15.2	3547	2.9	1	
Zn	66	2	He	0.146	9.5	1167	2.5	2.5	
As	75	2	He	0.050	54.4	134	22.5	2.5	
Sb	121	2	He	0.231	7.1	3360	3.4	2.5	
Se	78	2	He	0.057	486.2	63	42.1	1	
Ti	47	2	He	0.014	758.0	33	86.6	2.5	

Initial Calibration Blank (ICB) Report

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	3448715	1.55	3465128	99.53	70	120	
In	115	1	nogas	4172109	1.45	4283070	97.41	70	120	
Li	6	1	nogas	1538892	4.13	1545791	99.55	70	120	
Bi	209	1	nogas	4953096	1.17	4979092	99.48	70	120	
Ge	72	2	He	917260	0.37	931246	98.50	70	120	
In	115	2	He	1524440	2.47	1566227	97.33	70	120	

Interference Check Solution A (ICS-A) Report

Sample Table

Sample Name	ICSA
Data File Name	024ICSA.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\080620A.b
Acq Date Time	2020-08-06T10:33:22-05:00
Sample Type	ICSA
Dilution	1
Comment	
ISTD Ref File Name	013CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	nogas	0.005	66.5	50	30.0	0	ICSA Main CR1 Failed
B	11	1	nogas	7.179	6.1	64237	3.4	0	ICSA Main CR1 Failed
P	31	1	nogas	94641.378	1.4	78118427	1.7	0	
Ca	44	1	nogas	100921.050	1.6	62253337	2.0	0	
Ti	47	1	nogas	2084.988	1.5	3911144	1.4	0	
Cr	52	1	nogas	1.128	2.8	36420	2.8	0	ICSA Main CR1 Failed
Ni	60	1	nogas	0.625	2.9	5268	2.6	0	ICSA Main CR1 Failed
Cu	63	1	nogas	0.454	1.7	12231	1.4	0	ICSA Main CR1 Failed
Zn	66	1	nogas	1.012	8.9	7312	5.2	0	ICSA Main CR1 Failed
Se	82	1	nogas	0.180	99.7	310	14.8	0	ICSA Main CR1 Failed
Sr	88	1	nogas	0.941	1.0	36054	0.5	0	ICSA Main CR1 Failed
Mo	95	1	nogas	2023.417	0.8	16301487	0.4	0	
Ag	107	1	nogas	0.002	91.5	437	9.5	0	ICSA Main CR1 Failed
Cd	111	1	nogas	1.400	5.6	6358	6.0	0	ICSA Main CR1 Failed
Sn	118	1	nogas	0.147	16.5	4927	6.2	0	ICSA Main CR1 Failed
Sb	121	1	nogas	0.200	2.9	7338	1.4	0	ICSA Main CR1 Failed
Ba	137	1	nogas	0.136	5.5	1960	2.6	0	ICSA Main CR1 Failed
Tl	205	1	nogas	0.014	15.7	1127	9.8	0	ICSA Main CR1 Failed
Pb	208	1	nogas	0.026	7.9	4807	3.4	0	ICSA Main CR1 Failed
Si	28	1	nogas	180.358	6.4	523388	2.4	0	
Na	23	2	He	104245.909	0.5	161881744	1.5	0	
Mg	24	2	He	102070.453	0.9	92358959	0.9	0	
Al	27	2	He	88127.257	0.4	49652573	1.1	0	
K	39	2	He	102820.668	0.7	82857102	0.5	0	
Ca	43	2	He	99492.033	1.2	267791	1.7	0	
Ca	44	2	He	100270.917	3.1	4581685	2.4	0	
V	51	2	He	0.035	18.9	1043	3.6	0	ICSA Main CR1 Failed
Cr	52	2	He	0.944	4.5	9159	3.0	0	ICSA Main CR1 Failed
Mn	55	2	He	-0.080	-13.9	2247	4.1	0	ICSA Main CR1 Failed
Fe	56	2	He	101610.225	0.9	796890495	0.5	0	
Co	59	2	He	0.187	6.9	2650	6.2	0	ICSA Main CR1 Failed
Ni	60	2	He	0.297	12.7	1103	11.5	0	ICSA Main CR1 Failed
Cu	63	2	He	0.120	23.0	3684	5.5	0	ICSA Main CR1 Failed
Zn	66	2	He	0.295	4.7	1363	2.8	0	ICSA Main CR1 Failed
As	75	2	He	0.090	15.6	169	9.3	0	ICSA Main CR1 Failed
Sb	121	2	He	0.198	12.0	2967	6.5	0	ICSA Main CR1 Failed
Se	78	2	He	0.031	411.4	58	19.2	0	ICSA Main CR1 Failed
Ti	47	2	He	2047.245	0.5	539045	0.8	0	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	3317878	0.62	3465128	95.75	70	120	
In	115	1	nogas	3983642	0.43	4283070	93.01	70	120	
Li	6	1	nogas	1465716	1.19	1545791	94.82	70	120	
Bi	209	1	nogas	4738006	0.46	4979092	95.16	70	120	
Ge	72	2	He	875607	1.10	931246	94.03	70	120	
In	115	2	He	1410775	3.31	1566227	90.07	70	120	

Interference Check Solution AB (ICS-AB) Report

Sample Table

Sample Name	ICSAB
Data File Name	025ICSB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\080620A.b
Acq Date Time	2020-08-06T10:35:27-05:00
Sample Type	ICSB
Dilution	1
Comment	
ISTD Ref File Name	013CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High	QC Flag
Be	9	1	nogas	100.084	2.522	487428	0.98	100	100.1	80	120	
B	11	1	nogas	490.805	2.166	1662842	0.61	100	490.8	80	120	
Ca	44	1	nogas	111900.107	1.618	68358117	1.54	100	111900.1	80	120	
Ti	47	1	nogas	2161.726	3.222	4017328	3.10	100	2161.7	80	120	ICSB Main CR1 Failed
Cr	52	1	nogas	100.912	2.008	2581185	1.48	100	100.9	80	120	
Ni	60	1	nogas	98.737	0.896	594635	0.34	100	98.7	80	120	
Cu	63	1	nogas	99.626	1.555	1507935	1.29	100	99.6	80	120	
Zn	66	1	nogas	101.936	2.461	474422	1.75	100	101.9	80	120	
Se	82	1	nogas	106.968	1.970	26654	1.30	100	107.0	80	120	
Sr	88	1	nogas	104.798	3.024	3720405	1.97	100	104.8	80	120	
Mo	95	1	nogas	2146.869	2.528	17081407	1.34	100	2146.9	80	120	ICSB Main CR1 Failed
Ag	107	1	nogas	96.737	2.010	2096896	0.74	100	96.7	80	120	
Cd	111	1	nogas	102.265	2.920	458210	1.72	100	102.3	80	120	
Sn	118	1	nogas	100.314	1.316	1324018	0.76	100	100.3	80	120	
Sb	121	1	nogas	104.360	1.534	1916189	0.86	100	104.4	80	120	
Ba	137	1	nogas	101.629	3.278	627891	1.79	100	101.6	80	120	
Tl	205	1	nogas	99.930	0.589	5148490	0.28	100	99.9	80	120	
Pb	208	1	nogas	100.673	1.314	7275725	1.59	100	100.7	80	120	
U	238	1	nogas	102.009	1.551	8871734	1.88	100	102.0	80	120	
Si	28	1	nogas	4783.477	1.873	4674514	1.04	100	4783.5	80	120	ICSB Main CR1 Failed
Na	23	2	He	111028.409	0.878	173266551	1.48	100	111028.4	80	120	ICSB Main CR1 Failed
Mg	24	2	He	108569.495	0.845	98727429	0.35	100	108569.5	80	120	ICSB Main CR1 Failed
Al	27	2	He	85571.770	0.252	48454238	1.22	100	85571.8	80	120	ICSB Main CR1 Failed
K	39	2	He	111228.397	1.347	90087339	2.33	100	111228.4	80	120	
Ca	43	2	He	107327.741	0.998	290306	0.87	100	107327.7	80	120	ICSB Main CR1 Failed
Ca	44	2	He	108368.842	0.235	4977049	1.02	100	108368.8	80	120	
V	51	2	He	99.681	1.464	747951	0.77	100	99.7	80	120	
Cr	52	2	He	99.301	0.872	865823	0.69	100	99.3	80	120	
Mn	55	2	He	99.926	0.634	622474	0.52	100	99.9	80	120	
Fe	56	2	He	110923.047	1.662	874240894	1.13	100	110923.0	80	120	
Co	59	2	He	100.048	3.750	1288571	3.94	100	100.0	80	120	
Ni	60	2	He	98.953	0.932	310645	1.83	100	99.0	80	120	
Cu	63	2	He	94.638	1.317	811617	0.53	100	94.6	80	120	
Zn	66	2	He	100.256	0.765	169998	0.35	100	100.3	80	120	
As	75	2	He	103.207	1.011	107306	0.22	100	103.2	80	120	
Sb	121	2	He	97.145	0.641	722863	0.43	100	97.1	80	120	
Se	78	2	He	106.012	0.900	9812	1.71	100	106.0	80	120	
Ti	47	2	He	2117.014	0.694	560184	0.52	100	2117.0	80	120	ICSB Main CR1 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	3287076	0.72	3465128	94.86	70	120	
In	115	1	nogas	3935027	1.50	4283070	91.87	70	120	
Li	6	1	nogas	1385919	1.56	1545791	89.66	70	120	
Bi	209	1	nogas	4653194	0.58	4979092	93.45	70	120	
Ge	72	2	He	879970	0.99	931246	94.49	70	120	
In	115	2	He	1402085	1.99	1566227	89.52	70	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	027_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\080620A.b
Acq Date Time	2020-08-06T10:52:40-05:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	013CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	nogas	102.805	1.384	496672	0.43	100	102.8	90	110	
B	11	1	nogas	514.151	3.024	1725958	1.85	500	102.8	90	110	
P	31	1	nogas	510.272	0.796	456335	0.47	500	102.1	90	110	
Ca	44	1	nogas	10396.296	1.731	6660616	1.38	10000	104.0	90	110	
Ti	47	1	nogas	105.241	1.520	199313	1.19	100	105.2	90	110	
Cr	52	1	nogas	103.346	1.259	2692253	1.32	100	103.3	90	110	
Ni	60	1	nogas	105.266	1.834	645586	1.86	100	105.3	90	110	
Cu	63	1	nogas	105.895	1.901	1632181	2.13	100	105.9	90	110	
Zn	66	1	nogas	106.697	0.156	505681	0.45	100	106.7	90	110	
Se	82	1	nogas	105.217	1.520	26707	1.18	100	105.2	90	110	
Sr	88	1	nogas	103.279	0.433	3905646	0.53	100	103.3	90	110	
Mo	95	1	nogas	100.771	0.856	854145	0.90	100	100.8	90	110	
Ag	107	1	nogas	101.651	2.989	2346933	2.92	100	101.7	90	110	
Cd	111	1	nogas	102.804	0.938	490669	0.75	100	102.8	90	110	
Sn	118	1	nogas	103.488	1.374	1454704	1.40	100	103.5	90	110	
Sb	121	1	nogas	112.525	0.787	2104089	0.69	100	112.5	90	110	CCV Main CR1-2 Failed
Ba	137	1	nogas	102.306	0.785	673333	0.60	100	102.3	90	110	
Tl	205	1	nogas	103.021	1.448	5767664	1.55	100	103.0	90	110	
Pb	208	1	nogas	102.355	0.386	8038028	0.74	100	102.4	90	110	
U	238	1	nogas	97.840	1.173	9246288	1.43	100	97.8	90	110	
Li	7	1	nogas	106.989	1.744	2103102	1.05	100	107.0	90	110	
Si	28	1	nogas	6714.210	1.121	6536643	0.99	5000	134.3	90	110	CCV Main CR1-2 Failed
Tl	203	1	nogas	104.440	1.120	2447737	0.87	100	104.4	90	110	
Na	23	2	He	10688.175	1.231	17414834	2.03	10000	106.9	90	110	
Mg	24	2	He	10503.612	0.029	9930975	1.19	10000	105.0	90	110	
Al	27	2	He	98.394	2.631	59730	1.97	100	98.4	90	110	
K	39	2	He	10283.527	2.352	8702447	3.02	10000	102.8	90	110	
Ca	43	2	He	10287.594	2.147	28973	2.76	10000	102.9	90	110	
Ca	44	2	He	10159.617	0.751	486712	0.90	10000	101.6	90	110	
V	51	2	He	100.353	0.951	782764	0.30	100	100.4	90	110	
Cr	52	2	He	102.496	1.663	928888	0.44	100	102.5	90	110	
Mn	55	2	He	103.439	0.731	669753	1.48	100	103.4	90	110	
Fe	56	2	He	10387.534	1.460	85124892	1.88	10000	103.9	90	110	
Co	59	2	He	105.457	1.268	1411754	0.08	100	105.5	90	110	
Ni	60	2	He	105.257	2.124	343419	1.37	100	105.3	90	110	
Cu	63	2	He	101.976	0.456	908946	0.81	100	102.0	90	110	
Zn	66	2	He	105.666	1.457	186194	0.61	100	105.7	90	110	
As	75	2	He	105.894	1.159	114446	0.26	100	105.9	90	110	
Sn	118	2	He	101.418	3.669	582653	0.53	100	101.4	90	110	
Sb	121	2	He	102.490	1.631	792627	0.61	100	102.5	90	110	
Se	78	2	He	101.704	2.560	9785	1.34	100	101.7	90	110	
Ti	47	2	He	104.181	1.702	28686	2.13	100	104.2	90	110	
Al	27	1	nogas	90.557	2.169	2145072	1.30	100	90.6	90	110	
Rh	103	1	nogas	78.114	41.449	273	27.46	100	78.1	90	110	CCV Main CR1-2 Failed
Au	197	1	nogas	271.015	66.634	110	54.55	100	271.0	90	110	CCV Main CR1-2 Failed
Rh	103	2	He	118.564	14.685	287	8.78	100	118.6	90	110	CCV Main CR1-2 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	3347738	0.33	3465128	96.61	70	120	
In	115	1	nogas	4190631	0.19	4283070	97.84	70	120	
Li	6	1	nogas	1374653	1.56	1545791	88.93	70	120	
Bi	209	1	nogas	5056333	0.56	4979092	101.55	70	120	
Ge	72	2	He	914754	1.21	931246	98.23	70	120	
In	115	2	He	1532074	3.15	1566227	97.82	70	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	028_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\080620A.b
Acq Date Time	2020-08-06T10:55:55-05:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	013CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	nogas	0.067	10.1	368	10.4	1	
B	11	1	nogas	9.083	5.9	70114	3.1	10	
P	31	1	nogas	-4.439	-7.8	28005	1.4	10	
Ca	44	1	nogas	-20.050	-25.7	200925	0.1	100	
Ti	47	1	nogas	0.200	18.6	510	14.1	2.5	
Cr	52	1	nogas	0.074	48.4	9419	9.0	2.5	
Ni	60	1	nogas	-0.018	-90.2	1383	7.7	2.5	
Cu	63	1	nogas	0.104	13.3	7005	3.0	2	
Zn	66	1	nogas	0.066	88.2	2937	9.2	2.5	
Se	82	1	nogas	-0.098	-304.0	243	29.2	2	
Sr	88	1	nogas	0.097	2.7	6034	1.5	2.5	
Mo	95	1	nogas	0.259	21.1	2294	21.1	2.5	
Ag	107	1	nogas	0.065	6.5	1920	5.8	2.5	
Cd	111	1	nogas	0.083	33.6	400	32.7	1	
Sn	118	1	nogas	0.477	11.1	9820	8.1	5	
Sb	121	1	nogas	0.360	6.0	10457	2.3	2.5	
Ba	137	1	nogas	0.048	41.8	1487	9.7	2.5	
Tl	205	1	nogas	0.151	32.7	8986	31.3	1	
Pb	208	1	nogas	0.075	11.2	9171	7.9	2.5	
U	238	1	nogas	0.075	11.9	7212	11.7	2.5	
Si	28	1	nogas	-36.738	-37.0	330233	3.2	5	
Na	23	2	He	11.830	6.5	99913	1.3	100	
Mg	24	2	He	6.814	3.1	7855	2.8	100	
Al	27	2	He	1.781	15.9	2790	5.4	5	
K	39	2	He	4.735	35.4	51396	2.6	100	
Ca	43	2	He	0.875	425.3	50	20.0	100	
Ca	44	2	He	11.587	21.1	2347	4.5	100	
V	51	2	He	0.074	20.8	1352	8.2	2.5	
Cr	52	2	He	0.056	21.9	1487	7.5	2.5	
Mn	55	2	He	-0.017	-403.4	2670	15.9	2.5	
Fe	56	2	He	7.177	7.8	70584	6.1	100	
Co	59	2	He	0.064	12.0	1087	9.3	2.5	
Ni	60	2	He	0.036	48.6	293	19.4	2.5	
Cu	63	2	He	0.120	30.4	3734	8.0	2	
Zn	66	2	He	0.052	125.2	970	11.2	2.5	
As	75	2	He	0.057	45.8	137	20.0	2.5	
Sb	121	2	He	0.339	6.7	4064	3.8	2.5	
Se	78	2	He	0.315	41.7	85	14.3	2	
Ti	47	2	He	0.080	186.5	50	80.0	2.5	

Continuing Calibration Blank (CCB) Report

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	3366968	1.63	3465128	97.17	70	120	
In	115	1	nogas	4196716	0.82	4283070	97.98	70	120	
Li	6	1	nogas	1449514	1.61	1545791	93.77	70	120	
Bi	209	1	nogas	5136400	1.36	4979092	103.16	70	120	
Ge	72	2	He	888843	0.40	931246	95.45	70	120	
In	115	2	He	1504456	1.25	1566227	96.06	70	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	039_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\080620A.b
Acq Date Time	2020-08-06T11:19:21-05:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	013CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	nogas	100.814	1.308	495090	0.80	100	100.8	90	110	
B	11	1	nogas	513.801	1.845	1753523	1.63	500	102.8	90	110	
P	31	1	nogas	491.359	1.394	449695	0.99	500	98.3	90	110	
Ca	44	1	nogas	10244.303	2.558	6701669	1.76	10000	102.4	90	110	
Ti	47	1	nogas	101.967	1.662	197102	0.80	100	102.0	90	110	
Cr	52	1	nogas	102.704	1.237	2731402	2.70	100	102.7	90	110	
Ni	60	1	nogas	101.539	1.340	635650	1.20	100	101.5	90	110	
Cu	63	1	nogas	103.701	1.564	1631355	0.41	100	103.7	90	110	
Zn	66	1	nogas	103.370	1.602	500089	0.76	100	103.4	90	110	
Se	82	1	nogas	103.462	1.354	26814	2.48	100	103.5	90	110	
Sr	88	1	nogas	103.750	1.627	3921757	1.17	100	103.8	90	110	
Mo	95	1	nogas	101.703	2.875	861582	2.00	100	101.7	90	110	
Ag	107	1	nogas	104.490	2.008	2411297	0.79	100	104.5	90	110	
Cd	111	1	nogas	102.566	2.650	489239	0.78	100	102.6	90	110	
Sn	118	1	nogas	105.874	2.837	1487313	1.64	100	105.9	90	110	
Sb	121	1	nogas	108.675	2.157	2073956	0.60	100	108.7	90	110	
Ba	137	1	nogas	101.749	1.924	669343	0.44	100	101.7	90	110	
Tl	205	1	nogas	104.164	0.422	5767575	0.47	100	104.2	90	110	
Pb	208	1	nogas	103.484	0.641	8037204	0.12	100	103.5	90	110	
U	238	1	nogas	98.841	2.227	9237478	1.79	100	98.8	90	110	
Li	7	1	nogas	101.454	2.530	2031826	2.26	100	101.5	90	110	
Si	28	1	nogas	7381.624	1.896	7298745	2.25	5000	147.6	90	110	CCV Main CR1-2 Failed
Tl	203	1	nogas	104.382	1.089	2419463	0.63	100	104.4	90	110	
Na	23	2	He	10578.038	1.198	17064900	1.35	10000	105.8	90	110	
Mg	24	2	He	10514.497	0.739	9842859	1.03	10000	105.1	90	110	
Al	27	2	He	98.985	1.640	59493	2.00	100	99.0	90	110	
K	39	2	He	10250.622	2.557	8587017	1.64	10000	102.5	90	110	
Ca	43	2	He	10441.929	4.427	29110	3.96	10000	104.4	90	110	
Ca	44	2	He	10188.128	2.224	483231	1.91	10000	101.9	90	110	
V	51	2	He	100.956	1.136	779699	0.85	100	101.0	90	110	
Cr	52	2	He	102.449	1.641	919313	0.74	100	102.4	90	110	
Mn	55	2	He	102.890	0.855	659587	0.31	100	102.9	90	110	
Fe	56	2	He	10442.153	1.117	84724532	1.19	10000	104.4	90	110	
Co	59	2	He	103.420	1.720	1370953	2.05	100	103.4	90	110	
Ni	60	2	He	105.099	0.845	339563	1.37	100	105.1	90	110	
Cu	63	2	He	104.456	1.021	921755	0.39	100	104.5	90	110	
Zn	66	2	He	106.306	0.312	185489	1.34	100	106.3	90	110	
As	75	2	He	105.927	0.712	113359	0.96	100	105.9	90	110	
Sn	118	2	He	102.499	1.494	585072	0.98	100	102.5	90	110	
Sb	121	2	He	103.006	2.763	788673	1.58	100	103.0	90	110	
Se	78	2	He	105.088	2.361	10010	1.30	100	105.1	90	110	
Ti	47	2	He	100.554	4.050	27408	3.05	100	100.6	90	110	
Al	27	1	nogas	89.308	4.220	2150820	2.90	100	89.3	90	110	CCV Main CR1-2 Failed
Rh	103	1	nogas	105.410	34.980	337	24.73	100	105.4	90	110	
Au	197	1	nogas	310.743	3.011	123	4.68	100	310.7	90	110	CCV Main CR1-2 Failed
Rh	103	2	He	86.120	12.380	230	7.53	100	86.1	90	110	CCV Main CR1-2 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	3417297	1.74	3465128	98.62	70	120	
In	115	1	nogas	4189616	2.12	4283070	97.82	70	120	
Li	6	1	nogas	1397332	1.70	1545791	90.40	70	120	
Bi	209	1	nogas	5000810	0.63	4979092	100.44	70	120	
Ge	72	2	He	905723	1.16	931246	97.26	70	120	
In	115	2	He	1521150	0.63	1566227	97.12	70	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	040_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\080620A.b
Acq Date Time	2020-08-06T11:21:21-05:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	013CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	nogas	0.080	11.2	428	10.8	1	
B	11	1	nogas	11.614	9.0	77753	5.2	10	CCB Main CR1 Failed
P	31	1	nogas	-4.205	-10.5	27915	1.2	10	
Ca	44	1	nogas	-42.081	-8.3	185295	0.3	100	
Ti	47	1	nogas	0.224	17.9	550	12.7	2.5	
Cr	52	1	nogas	0.142	11.8	11084	3.1	2.5	
Ni	60	1	nogas	0.044	72.0	1753	12.3	2.5	
Cu	63	1	nogas	0.202	21.4	8426	7.5	2	
Zn	66	1	nogas	0.061	76.8	2880	7.5	2.5	
Se	82	1	nogas	0.403	35.8	367	8.8	2	
Sr	88	1	nogas	0.109	7.2	6495	4.1	2.5	
Mo	95	1	nogas	0.321	17.4	2800	14.8	2.5	
Ag	107	1	nogas	0.078	6.3	2210	3.9	2.5	
Cd	111	1	nogas	0.108	12.0	517	11.2	1	
Sn	118	1	nogas	0.710	12.7	13038	8.0	5	
Sb	121	1	nogas	0.640	2.4	15547	1.1	2.5	
Ba	137	1	nogas	0.119	7.1	1947	1.7	2.5	
Tl	205	1	nogas	0.197	22.3	11254	20.6	1	
Pb	208	1	nogas	0.108	13.4	11395	8.8	2.5	
U	238	1	nogas	0.098	6.7	9180	5.6	2.5	
Si	28	1	nogas	93.126	13.1	445916	3.5	5	CCB Main CR1 Failed
Na	23	2	He	13.270	5.8	103462	1.4	100	
Mg	24	2	He	9.401	3.9	10356	2.4	100	
Al	27	2	He	3.418	1.4	3774	1.1	5	
K	39	2	He	5.616	22.6	52769	2.1	100	
Ca	43	2	He	6.547	357.7	67	97.6	100	
Ca	44	2	He	12.632	46.5	2427	12.1	100	
V	51	2	He	0.113	13.7	1675	6.3	2.5	
Cr	52	2	He	0.074	19.8	1663	8.6	2.5	
Mn	55	2	He	-0.012	-184.5	2740	5.6	2.5	
Fe	56	2	He	10.761	2.4	100367	1.7	100	
Co	59	2	He	0.092	10.3	1477	8.4	2.5	
Ni	60	2	He	0.075	4.3	420	2.4	2.5	
Cu	63	2	He	0.194	7.2	4431	3.3	2	
Zn	66	2	He	0.007	1305.0	903	16.4	2.5	
As	75	2	He	0.097	10.0	181	5.9	2.5	
Sb	121	2	He	0.625	2.1	6291	1.7	2.5	
Se	78	2	He	0.169	29.0	73	5.7	2	
Ti	47	2	He	0.090	165.0	53	75.8	2.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	3332715	1.14	3465128	96.18	70	120	
In	115	1	nogas	4182778	2.08	4283070	97.66	70	120	

Continuing Calibration Blank (CCB) Report

Li	6	1	nogas	1428477	0.71	1545791	92.41	70	120	
Bi	209	1	nogas	4974227	0.96	4979092	99.90	70	120	
Ge	72	2	He	899987	0.89	931246	96.64	70	120	
In	115	2	He	1487082	1.51	1566227	94.95	70	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	063_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\080620A.b
Acq Date Time	2020-08-06T12:08:54-05:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	013CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	nogas	98.107	0.361	498957	1.30	100	98.1	90	110	
B	11	1	nogas	510.560	1.650	1804539	1.02	500	102.1	90	110	
P	31	1	nogas	494.321	2.062	452732	1.53	500	98.9	90	110	
Ca	44	1	nogas	10175.045	3.270	6666616	3.40	10000	101.8	90	110	
Ti	47	1	nogas	103.004	0.914	199365	1.70	100	103.0	90	110	
Cr	52	1	nogas	101.184	0.424	2693823	1.13	100	101.2	90	110	
Ni	60	1	nogas	100.847	1.129	632072	1.15	100	100.8	90	110	
Cu	63	1	nogas	103.039	0.685	1623042	1.23	100	103.0	90	110	
Zn	66	1	nogas	103.848	1.419	502988	0.72	100	103.8	90	110	
Se	82	1	nogas	102.268	2.034	26534	1.62	100	102.3	90	110	
Sr	88	1	nogas	100.530	1.344	3900959	0.61	100	100.5	90	110	
Mo	95	1	nogas	98.061	0.676	852938	1.31	100	98.1	90	110	
Ag	107	1	nogas	101.331	2.313	2400341	0.48	100	101.3	90	110	
Cd	111	1	nogas	100.766	1.021	493535	1.36	100	100.8	90	110	
Sn	118	1	nogas	103.504	1.597	1492906	1.20	100	103.5	90	110	
Sb	121	1	nogas	110.127	2.065	2104192	1.25	100	110.1	90	110	CCV Main CR1-2 Failed
Ba	137	1	nogas	100.487	3.045	678508	1.22	100	100.5	90	110	
Tl	205	1	nogas	102.999	0.557	5985190	0.66	100	103.0	90	110	
Pb	208	1	nogas	102.052	1.473	8317767	0.78	100	102.1	90	110	
U	238	1	nogas	99.276	1.722	9737809	1.80	100	99.3	90	110	
Li	7	1	nogas	101.634	1.277	2107612	1.14	100	101.6	90	110	
Si	28	1	nogas	6421.050	1.692	6403756	0.81	5000	128.4	90	110	CCV Main CR1-2 Failed
Tl	203	1	nogas	105.273	2.394	2560541	1.22	100	105.3	90	110	
Na	23	2	He	10716.552	1.247	17323461	0.43	10000	107.2	90	110	
Mg	24	2	He	10466.579	1.036	9818648	0.46	10000	104.7	90	110	
Al	27	2	He	95.498	1.905	57576	0.85	100	95.5	90	110	
K	39	2	He	10263.454	1.199	8617947	1.93	10000	102.6	90	110	
Ca	43	2	He	10407.625	2.150	29083	2.65	10000	104.1	90	110	
Ca	44	2	He	10129.689	0.726	481568	1.79	10000	101.3	90	110	
V	51	2	He	99.938	0.745	773514	0.53	100	99.9	90	110	
Cr	52	2	He	101.409	0.603	912024	0.67	100	101.4	90	110	
Mn	55	2	He	102.518	1.502	658603	0.73	100	102.5	90	110	
Fe	56	2	He	10303.045	2.566	83767544	1.92	10000	103.0	90	110	
Co	59	2	He	103.257	2.647	1371486	1.72	100	103.3	90	110	
Ni	60	2	He	104.277	0.851	337614	0.36	100	104.3	90	110	
Cu	63	2	He	103.626	0.651	916446	0.53	100	103.6	90	110	
Zn	66	2	He	106.031	1.180	185396	0.98	100	106.0	90	110	
As	75	2	He	104.139	1.117	111681	0.51	100	104.1	90	110	
Sn	118	2	He	100.920	1.426	579884	0.63	100	100.9	90	110	
Sb	121	2	He	102.043	0.897	783126	0.76	100	102.0	90	110	
Se	78	2	He	104.237	2.773	9950	1.75	100	104.2	90	110	
Ti	47	2	He	103.936	1.395	28399	2.31	100	103.9	90	110	
Al	27	1	nogas	84.280	1.571	2105807	0.38	100	84.3	90	110	CCV Main CR1-2 Failed
Rh	103	1	nogas	64.018	16.414	247	9.36	100	64.0	90	110	CCV Main CR1-2 Failed
Au	197	1	nogas	185.712	53.654	83	38.57	100	185.7	90	110	CCV Main CR1-2 Failed
Rh	103	2	He	85.422	21.417	230	11.50	100	85.4	90	110	CCV Main CR1-2 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	3421027	0.82	3465128	98.73	70	120	
In	115	1	nogas	4300722	1.93	4283070	100.41	70	120	
Li	6	1	nogas	1446894	1.17	1545791	93.60	70	120	
Bi	209	1	nogas	5248362	1.20	4979092	105.41	70	120	
Ge	72	2	He	907666	1.07	931246	97.47	70	120	
In	115	2	He	1531393	1.95	1566227	97.78	70	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	064_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\080620A.b
Acq Date Time	2020-08-06T12:10:55-05:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	013CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	nogas	0.072	7.3	418	7.8	1	
B	11	1	nogas	9.757	9.6	76955	5.4	10	
P	31	1	nogas	-0.682	-136.7	30866	2.1	10	
Ca	44	1	nogas	-62.020	-1.3	173182	0.4	100	
Ti	47	1	nogas	0.218	18.8	540	14.7	2.5	
Cr	52	1	nogas	0.105	8.4	10150	1.9	2.5	
Ni	60	1	nogas	0.026	76.5	1640	7.3	2.5	
Cu	63	1	nogas	0.160	2.5	7798	0.8	2	
Zn	66	1	nogas	-0.008	-427.3	2560	7.1	2.5	
Se	82	1	nogas	0.320	55.0	347	13.3	2	
Sr	88	1	nogas	0.085	12.0	5751	6.8	2.5	
Mo	95	1	nogas	0.314	9.2	2824	8.8	2.5	
Ag	107	1	nogas	0.076	16.8	2224	13.5	2.5	
Cd	111	1	nogas	0.085	30.2	420	29.8	1	
Sn	118	1	nogas	0.720	9.6	13569	7.2	5	
Sb	121	1	nogas	0.516	3.1	13269	2.2	2.5	
Ba	137	1	nogas	0.019	74.5	1327	7.1	2.5	
Tl	205	1	nogas	0.189	24.8	11271	24.2	1	
Pb	208	1	nogas	0.083	12.6	9925	8.8	2.5	
U	238	1	nogas	0.091	11.6	8906	11.8	2.5	
Si	28	1	nogas	-23.889	-62.1	339033	3.5	5	
Na	23	2	He	36.358	5.2	138455	2.9	100	
Mg	24	2	He	6.190	1.8	7275	1.2	100	
Al	27	2	He	0.327	120.3	1957	10.8	5	
K	39	2	He	2.957	36.2	49898	1.4	100	
Ca	43	2	He	3.332	169.7	57	27.0	100	
Ca	44	2	He	1.004	708.0	1853	17.2	100	
V	51	2	He	0.104	8.1	1579	4.5	2.5	
Cr	52	2	He	0.045	60.9	1387	17.9	2.5	
Mn	55	2	He	-0.026	-181.9	2614	11.4	2.5	
Fe	56	2	He	6.457	7.1	64823	6.4	100	
Co	59	2	He	0.066	25.7	1110	19.9	2.5	
Ni	60	2	He	0.074	65.5	413	38.0	2.5	
Cu	63	2	He	0.110	20.7	3650	5.1	2	
Zn	66	2	He	-0.070	-63.4	760	9.5	2.5	
As	75	2	He	0.066	53.9	147	25.6	2.5	
Sb	121	2	He	0.479	7.7	5114	4.7	2.5	
Se	78	2	He	0.129	4.2	68	0.0	2	
Ti	47	2	He	0.018	318.6	33	45.8	2.5	

Continuing Calibration Blank (CCB) Report

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	3336259	0.58	3465128	96.28	70	120	
In	115	1	nogas	4301813	0.11	4283070	100.44	70	120	
Li	6	1	nogas	1539257	1.34	1545791	99.58	70	120	
Bi	209	1	nogas	5189974	0.35	4979092	104.24	70	120	
Ge	72	2	He	888088	0.73	931246	95.37	70	120	
In	115	2	He	1500262	0.93	1566227	95.79	70	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	075_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\080620A.b
Acq Date Time	2020-08-06T12:33:41-05:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	013CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	nogas	99.208	0.999	511490	1.29	100	99.2	90	110	
B	11	1	nogas	509.319	3.745	1825196	3.78	500	101.9	90	110	
P	31	1	nogas	499.330	1.151	465673	1.59	500	99.9	90	110	
Ca	44	1	nogas	10222.520	1.070	6823166	1.42	10000	102.2	90	110	
Ti	47	1	nogas	102.178	2.905	201459	1.80	100	102.2	90	110	
Cr	52	1	nogas	103.520	2.277	2807474	1.09	100	103.5	90	110	
Ni	60	1	nogas	101.345	0.563	647213	1.11	100	101.3	90	110	
Cu	63	1	nogas	101.597	1.405	1630525	0.62	100	101.6	90	110	
Zn	66	1	nogas	104.165	1.312	514056	0.64	100	104.2	90	110	
Se	82	1	nogas	104.035	3.216	27498	3.11	100	104.0	90	110	
Sr	88	1	nogas	100.725	1.645	3979567	0.25	100	100.7	90	110	
Mo	95	1	nogas	98.452	1.407	871847	0.07	100	98.5	90	110	
Ag	107	1	nogas	102.507	1.631	2472780	1.40	100	102.5	90	110	
Cd	111	1	nogas	101.018	1.535	503756	1.37	100	101.0	90	110	
Sn	118	1	nogas	103.018	3.296	1512720	2.11	100	103.0	90	110	
Sb	121	1	nogas	110.706	1.737	2155285	1.11	100	110.7	90	110	CCV Main CR1-2 Failed
Ba	137	1	nogas	101.280	0.886	696477	0.60	100	101.3	90	110	
Tl	205	1	nogas	105.322	2.076	6053419	0.88	100	105.3	90	110	
Pb	208	1	nogas	103.210	1.916	8321059	1.02	100	103.2	90	110	
U	238	1	nogas	98.751	0.097	9582170	1.11	100	98.8	90	110	
Li	7	1	nogas	104.077	0.977	2185807	1.11	100	104.1	90	110	
Si	28	1	nogas	6796.253	1.892	6884514	1.83	5000	135.9	90	110	CCV Main CR1-2 Failed
Tl	203	1	nogas	106.643	0.121	2566379	1.31	100	106.6	90	110	
Na	23	2	He	10649.189	1.593	17375282	1.39	10000	106.5	90	110	
Mg	24	2	He	10409.311	0.690	9855758	0.51	10000	104.1	90	110	
Al	27	2	He	98.172	1.102	59693	1.30	100	98.2	90	110	
K	39	2	He	10201.690	0.937	8645201	0.93	10000	102.0	90	110	
Ca	43	2	He	10092.504	4.194	28463	4.05	10000	100.9	90	110	
Ca	44	2	He	10140.405	0.706	486504	0.67	10000	101.4	90	110	
V	51	2	He	100.249	0.487	783124	0.68	100	100.2	90	110	
Cr	52	2	He	103.090	0.623	935721	0.69	100	103.1	90	110	
Mn	55	2	He	103.372	0.288	670273	0.52	100	103.4	90	110	
Fe	56	2	He	10322.637	0.563	84713069	0.33	10000	103.2	90	110	
Co	59	2	He	106.524	2.508	1428254	2.74	100	106.5	90	110	
Ni	60	2	He	105.036	0.883	343229	0.72	100	105.0	90	110	
Cu	63	2	He	103.836	1.150	926802	0.91	100	103.8	90	110	
Zn	66	2	He	104.968	1.864	185248	1.65	100	105.0	90	110	
As	75	2	He	105.812	0.774	114530	0.58	100	105.8	90	110	
Sn	118	2	He	99.723	0.470	584945	0.51	100	99.7	90	110	
Sb	121	2	He	102.379	0.639	792985	0.42	100	102.4	90	110	
Se	78	2	He	103.069	1.024	9932	1.11	100	103.1	90	110	
Ti	47	2	He	101.535	2.492	27999	2.62	100	101.5	90	110	
Al	27	1	nogas	87.981	2.455	2225805	2.09	100	88.0	90	110	CCV Main CR1-2 Failed
Rh	103	1	nogas	88.150	29.708	310	20.14	100	88.2	90	110	CCV Main CR1-2 Failed
Au	197	1	nogas	210.257	88.533	93	68.88	100	210.3	90	110	CCV Main CR1-2 Failed
Rh	103	2	He	90.114	19.377	243	12.55	100	90.1	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	3485784	1.17	3465128	100.60	70	120	
In	115	1	nogas	4378829	1.46	4283070	102.24	70	120	
Li	6	1	nogas	1466766	0.29	1545791	94.89	70	120	
Bi	209	1	nogas	5191754	1.20	4979092	104.27	70	120	
Ge	72	2	He	916055	0.24	931246	98.37	70	120	
In	115	2	He	1562999	0.64	1566227	99.79	70	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	076_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\080620A.b
Acq Date Time	2020-08-06T12:35:40-05:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	013CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	nogas	0.073	21.7	420	19.6	1	
B	11	1	nogas	9.012	12.8	73788	5.3	10	
P	31	1	nogas	-0.881	-143.2	31430	3.5	10	
Ca	44	1	nogas	-68.158	-8.7	173390	1.9	100	
Ti	47	1	nogas	0.224	55.6	563	42.8	2.5	
Cr	52	1	nogas	0.097	8.6	10173	2.0	2.5	
Ni	60	1	nogas	0.019	129.0	1633	8.9	2.5	
Cu	63	1	nogas	0.128	31.7	7472	8.3	2	
Zn	66	1	nogas	-0.063	-45.8	2357	6.0	2.5	
Se	82	1	nogas	0.275	85.9	343	17.8	2	
Sr	88	1	nogas	0.079	3.8	5484	2.3	2.5	
Mo	95	1	nogas	0.293	10.8	2627	10.5	2.5	
Ag	107	1	nogas	0.073	22.3	2147	18.1	2.5	
Cd	111	1	nogas	0.088	18.4	430	18.5	1	
Sn	118	1	nogas	0.719	5.6	13479	4.4	5	
Sb	121	1	nogas	0.481	3.7	12912	2.7	2.5	
Ba	137	1	nogas	0.044	30.4	1490	6.0	2.5	
Tl	205	1	nogas	0.196	25.8	11738	25.7	1	
Pb	208	1	nogas	0.090	24.8	10502	18.2	2.5	
U	238	1	nogas	0.094	25.5	9193	26.6	2.5	
Si	28	1	nogas	3.691	215.3	372982	2.2	5	
Na	23	2	He	8.553	13.1	96519	2.1	100	
Mg	24	2	He	6.041	7.2	7278	6.0	100	
Al	27	2	He	0.465	137.8	2077	18.2	5	
K	39	2	He	1.794	11.6	49905	0.6	100	
Ca	43	2	He	0.496	1418.3	50	40.0	100	
Ca	44	2	He	2.241	103.0	1950	6.5	100	
V	51	2	He	0.084	6.5	1461	2.7	2.5	
Cr	52	2	He	0.052	11.4	1477	4.5	2.5	
Mn	55	2	He	-0.164	-10.9	1787	6.6	2.5	
Fe	56	2	He	7.534	12.5	74774	9.7	100	
Co	59	2	He	0.059	8.1	1050	6.6	2.5	
Ni	60	2	He	0.054	41.7	357	21.4	2.5	
Cu	63	2	He	0.096	14.1	3597	2.7	2	
Zn	66	2	He	-0.041	-42.4	827	4.6	2.5	
As	75	2	He	0.066	99.5	150	48.2	2.5	
Sb	121	2	He	0.458	8.4	5054	6.8	2.5	
Se	78	2	He	0.024	306.8	59	10.8	2	
Ti	47	2	He	0.040	94.3	40	25.0	2.5	

Continuing Calibration Blank (CCB) Report

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	3415190	0.23	3465128	98.56	70	120	
In	115	1	nogas	4276380	0.29	4283070	99.84	70	120	
Li	6	1	nogas	1531107	1.18	1545791	99.05	70	120	
Bi	209	1	nogas	5209343	2.67	4979092	104.62	70	120	
Ge	72	2	He	905428	0.96	931246	97.23	70	120	
In	115	2	He	1518048	1.56	1566227	96.92	70	120	

Sample Report

Sample Table

Sample Name	MBLK-156069
Data File Name	077SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\080620A.b
Acq Date Time	2020-08-06T12:42:30-05:00
Sample Type	Sample
Dilution	1
Comment	DOD 156069
ISTD Ref FileName	013CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	nogas	0.000	0.000	424.52	30	0.00	2000	
B	11	1	nogas	3.644	3.644	13.11	54335	0.01	2000	
Ca	44	1	nogas	-51.947	-51.947	-5.20	182717	-0.03	200000	
Ti	47	1	nogas	0.073	0.073	37.05	270	0.03	2000	
Cr	52	1	nogas	-0.018	-0.018	-45.64	7095	0.00	2000	
Ni	60	1	nogas	-0.087	-0.087	-15.08	970	-0.01	2000	
Cu	63	1	nogas	-0.120	-0.120	-23.52	3570	0.00	2000	
Zn	66	1	nogas	-0.021	-0.021	-460.98	2547	0.00	2000	
Se	82	1	nogas	-0.084	-0.084	-166.09	250	-0.03	2000	
Sr	88	1	nogas	-0.020	-0.020	-4.29	1633	0.00	2000	
Mo	95	1	nogas	0.025	0.025	33.91	313	0.01	2000	
Ag	107	1	nogas	-0.004	-0.004	-83.15	323	0.00	2000	
Cd	111	1	nogas	0.007	0.007	77.72	37	0.02	2000	
Sn	118	1	nogas	-0.064	-0.064	-11.78	2270	0.00	2000	
Sb	121	1	nogas	-0.045	-0.045	-8.67	2887	0.00	2000	
Ba	137	1	nogas	-0.087	-0.087	-15.64	607	-0.01	2000	
Tl	205	1	nogas	0.010	0.010	13.02	1007	0.00	2000	
Pb	208	1	nogas	-0.004	-0.004	-84.00	2913	0.00	2000	
U	238	1	nogas	0.001	0.001	57.57	127	0.00	2000	
Si	28	1	nogas	542.374	542.374	1.48	873859	0.06	2000	
Na	23	2	He	2.243	2.243	30.65	84276	0.00	200000	
Mg	24	2	He	12.306	12.306	1.28	12818	0.10	200000	
Al	27	2	He	4.180	4.180	11.05	4137	0.10	2000	
K	39	2	He	6.775	6.775	27.55	52733	0.01	200000	
Ca	43	2	He	0.969	0.969	1001.34	50	1.94	200000	
Ca	44	2	He	1.627	1.627	82.00	1873	0.09	200000	
V	51	2	He	-0.008	-0.008	-50.83	732	0.00	2000	
Cr	52	2	He	-0.014	-0.014	-119.63	863	0.00	2000	
Mn	55	2	He	-0.177	-0.177	-27.26	1660	-0.01	2000	
Fe	56	2	He	-0.277	-0.277	-22.79	11184	0.00	200000	
Co	59	2	He	-0.004	-0.004	-38.32	210	0.00	2000	
Ni	60	2	He	-0.017	-0.017	-85.92	123	-0.01	2000	
Cu	63	2	He	-0.145	-0.145	-3.43	1443	-0.01	2000	
Zn	66	2	He	0.016	0.016	90.98	903	0.00	2000	
As	75	2	He	-0.008	-0.008	-233.64	69	-0.01	2000	
Sb	121	2	He	-0.049	-0.049	-47.31	1150	0.00	2000	
Se	78	2	He	0.053	0.053	488.96	61	0.09	2000	
Ti	47	2	He	-0.019	-0.019	-458.61	23	-0.08	200	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	3397798	0.78	3465128	98.06	70	120	
In	115	1	nogas	4277993	3.20	4283070	99.88	70	120	
Li	6	1	nogas	1536271	2.44	1545791	99.38	70	120	

Sample Report

Bi	209	1	nogas	5264618	1.70	4979092	105.73	70	120	
Ge	72	2	He	883263	0.21	931246	94.85	70	120	
In	115	2	He	1496436	4.02	1566227	95.54	70	120	

Sample Report

Sample Table

Sample Name	LCS-156069
Data File Name	078SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\080620A.b
Acq Date Time	2020-08-06T12:44:36-05:00
Sample Type	Sample
Dilution	1
Comment	DOD 156069
ISTD Ref FileName	013CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	nogas	45.048	45.048	4.31	244017	0.02	2000	
B	11	1	nogas	1.949	1.949	21.45	48272	0.00	2000	
Ca	44	1	nogas	4983.620	4983.620	3.62	3399286	0.15	200000	
Ti	47	1	nogas	47.838	47.838	0.59	93322	0.05	2000	
Cr	52	1	nogas	48.199	48.199	0.68	1296420	0.00	2000	
Ni	60	1	nogas	48.469	48.469	0.57	306757	0.02	2000	
Cu	63	1	nogas	51.604	51.604	2.12	821317	0.01	2000	
Zn	66	1	nogas	53.664	53.664	0.53	263088	0.02	2000	
Se	82	1	nogas	52.822	52.822	5.17	13932	0.38	2000	
Sr	88	1	nogas	0.023	0.023	38.71	3407	0.00	2000	
Mo	95	1	nogas	46.696	46.696	0.77	413737	0.01	2000	
Ag	107	1	nogas	47.043	47.043	0.37	1135460	0.00	2000	
Cd	111	1	nogas	49.126	49.126	1.17	245073	0.02	2000	
Sn	118	1	nogas	-0.081	-0.081	-7.95	2070	0.00	2000	
Sb	121	1	nogas	48.749	48.749	0.60	940363	0.01	2000	
Ba	137	1	nogas	46.875	46.875	0.20	323115	0.01	2000	
Tl	205	1	nogas	48.209	48.209	1.31	2835350	0.00	2000	
Pb	208	1	nogas	47.179	47.179	2.11	3893354	0.00	2000	
U	238	1	nogas	0.000	0.000	56.41	97	0.00	2000	
Si	28	1	nogas	744.175	744.175	0.85	1077148	0.07	2000	
Na	23	2	He	5137.283	5137.283	2.04	8377607	0.06	200000	
Mg	24	2	He	5040.758	5040.758	1.25	4746428	0.11	200000	
Al	27	2	He	47.411	47.411	3.42	29607	0.16	2000	
K	39	2	He	5016.442	5016.442	1.08	4251437	0.12	200000	
Ca	43	2	He	4791.608	4791.608	6.44	13459	35.60	200000	
Ca	44	2	He	4746.451	4746.451	1.61	227392	2.09	200000	
V	51	2	He	46.757	46.757	1.61	363577	0.01	2000	
Cr	52	2	He	48.014	48.014	1.04	433855	0.01	2000	
Mn	55	2	He	49.039	49.039	1.85	317627	0.02	2000	
Fe	56	2	He	5071.157	5071.157	2.93	41381206	0.01	200000	
Co	59	2	He	48.647	48.647	1.93	648615	0.01	2000	
Ni	60	2	He	50.471	50.471	1.41	164074	0.03	2000	
Cu	63	2	He	52.239	52.239	1.24	464976	0.01	2000	
Zn	66	2	He	53.525	53.525	0.50	94371	0.06	2000	
As	75	2	He	50.447	50.447	0.29	54336	0.09	2000	
Sb	121	2	He	47.199	47.199	1.28	364330	0.01	2000	
Se	78	2	He	51.176	51.176	3.63	4931	1.04	2000	
Ti	47	2	He	47.383	47.383	3.30	13008	0.36	200	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	3445507	0.91	3465128	99.43	70	120	
In	115	1	nogas	4379933	0.27	4283070	102.26	70	120	
Li	6	1	nogas	1542740	3.99	1545791	99.80	70	120	

Sample Report

Bi	209	1	nogas	5312133	1.68	4979092	106.69	70	120	
Ge	72	2	He	910863	1.01	931246	97.81	70	120	
In	115	2	He	1561888	1.08	1566227	99.72	70	120	

Sample Report

Sample Table

Sample Name	HS20071328-19SD
Data File Name	079SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\080620A.b
Acq Date Time	2020-08-06T12:46:39-05:00
Sample Type	Sample
Dilution	5
Comment	DOD 156069
ISTD Ref FileName	013CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	nogas	0.063	0.316	10.62	363	0.02	2000	
B	11	1	nogas	7.269	36.346	5.59	66537	0.01	2000	
Ca	44	1	nogas	2759.437	13797.183	2.81	1954470	0.14	200000	
Ti	47	1	nogas	9.787	48.933	31.07	18926	0.05	2000	
Cr	52	1	nogas	0.513	2.566	1.00	21110	0.00	2000	
Ni	60	1	nogas	0.622	3.110	1.49	5378	0.01	2000	
Cu	63	1	nogas	0.305	1.523	2.26	10200	0.00	2000	
Zn	66	1	nogas	1.861	9.303	2.02	11561	0.02	2000	
Se	82	1	nogas	0.046	0.232	331.34	283	0.02	2000	
Sr	88	1	nogas	89.022	445.110	1.65	3516079	0.00	2000	
Mo	95	1	nogas	0.328	1.642	14.77	3004	0.01	2000	
Ag	107	1	nogas	0.023	0.113	11.88	977	0.00	2000	
Cd	111	1	nogas	0.046	0.231	24.74	233	0.02	2000	
Sn	118	1	nogas	-0.008	-0.038	-124.56	3144	0.00	2000	
Sb	121	1	nogas	1.024	5.121	1.59	23159	0.00	2000	
Ba	137	1	nogas	30.544	152.718	1.21	210783	0.01	2000	
Tl	205	1	nogas	0.098	0.491	25.87	6151	0.00	2000	
Pb	208	1	nogas	0.345	1.723	6.19	31389	0.00	2000	
U	238	1	nogas	0.029	0.143	0.92	2864	0.00	2000	
Si	28	1	nogas	27151.165	135755.827	35.04	25767431	0.11	2000	>LDR
Na	23	2	He	4427.548	22137.742	4.74	7869674	0.06	200000	
Mg	24	2	He	1289.024	6445.118	4.04	1322397	0.10	200000	
Al	27	2	He	248.269	1241.345	1.77	160510	0.15	2000	
K	39	2	He	515.332	2576.658	4.50	522918	0.10	200000	
Ca	43	2	He	2625.634	13128.171	6.68	8049	32.62	200000	
Ca	44	2	He	2538.446	12692.228	3.83	133330	1.90	200000	
V	51	2	He	0.728	3.642	3.76	7040	0.01	2000	
Cr	52	2	He	0.452	2.258	15.52	5538	0.01	2000	
Mn	55	2	He	121.607	608.037	4.80	852595	0.01	2000	
Fe	56	2	He	614.446	3072.231	4.53	5471800	0.01	200000	
Co	59	2	He	0.296	1.480	9.91	4574	0.01	2000	
Ni	60	2	He	0.649	3.246	11.03	2494	0.03	2000	
Cu	63	2	He	0.255	1.276	4.58	5474	0.00	2000	
Zn	66	2	He	1.678	8.390	6.68	4171	0.04	2000	
As	75	2	He	0.373	1.863	4.74	523	0.07	2000	
Sb	121	2	He	0.801	4.007	4.69	8412	0.01	2000	
Se	78	2	He	0.104	0.519	107.50	73	0.14	2000	
Ti	47	2	He	8.644	43.219	50.56	2607	0.33	200	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	3400987	0.58	3465128	98.15	70	120	
In	115	1	nogas	4376419	0.93	4283070	102.18	70	120	
Li	6	1	nogas	1511167	0.89	1545791	97.76	70	120	

Sample Report

Bi	209	1	nogas	5262648	1.38	4979092	105.69	70	120	
Ge	72	2	He	992488	4.40	931246	106.58	70	120	
In	115	2	He	1713406	4.19	1566227	109.40	70	120	

Sample Report

Sample Table

Sample Name	HS20071328-19
Data File Name	080SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\080620A.b
Acq Date Time	2020-08-06T12:49:51-05:00
Sample Type	Sample
Dilution	1
Comment	DOD 156069
ISTD Ref FileName	013CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	nogas	0.112	0.112	20.02	623	0.02	2000	
B	11	1	nogas	26.155	26.155	3.61	134215	0.02	2000	
Ca	44	1	nogas	13591.415	13591.415	2.19	8997815	0.15	200000	
Ti	47	1	nogas	28.743	28.743	12.95	56768	0.05	2000	
Cr	52	1	nogas	2.142	2.142	2.52	65690	0.00	2000	
Ni	60	1	nogas	3.119	3.119	2.24	21416	0.01	2000	
Cu	63	1	nogas	1.402	1.402	2.40	27999	0.01	2000	
Zn	66	1	nogas	6.305	6.305	1.69	33662	0.02	2000	
Se	82	1	nogas	0.210	0.210	52.63	333	0.06	2000	
Sr	88	1	nogas	444.480	444.480	2.31	17682805	0.00	2000	
Mo	95	1	nogas	0.294	0.294	5.83	2720	0.01	2000	
Ag	107	1	nogas	0.001	0.001	433.50	457	0.00	2000	
Cd	111	1	nogas	0.040	0.040	41.61	203	0.02	2000	
Sn	118	1	nogas	-0.063	-0.063	-20.37	2347	0.00	2000	
Sb	121	1	nogas	0.134	0.134	16.98	6428	0.00	2000	
Ba	137	1	nogas	153.775	153.775	2.12	1064596	0.01	2000	
Tl	205	1	nogas	0.030	0.030	16.25	2160	0.00	2000	
Pb	208	1	nogas	1.544	1.544	1.00	128415	0.00	2000	
U	238	1	nogas	0.127	0.127	7.34	12452	0.00	2000	
Si	28	1	nogas	108745.135	108745.135	3.13	104490895	0.10	2000	>LDR
Na	23	2	He	24328.135	24328.135	2.73	39145182	0.06	200000	
Mg	24	2	He	6800.640	6800.640	2.38	6367579	0.11	200000	
Al	27	2	He	1157.540	1157.540	4.08	676508	0.17	2000	
K	39	2	He	2918.470	2918.470	1.12	2480543	0.12	200000	
Ca	43	2	He	15036.535	15036.535	2.15	41918	35.87	200000	
Ca	44	2	He	14222.812	14222.812	0.93	674069	2.11	200000	
V	51	2	He	3.383	3.383	1.08	26918	0.01	2000	
Cr	52	2	He	2.125	2.125	4.41	20077	0.01	2000	
Mn	55	2	He	686.534	686.534	2.48	4385702	0.02	2000	
Fe	56	2	He	3266.115	3266.115	1.04	26517606	0.01	200000	
Co	59	2	He	1.520	1.520	2.83	20408	0.01	2000	
Ni	60	2	He	3.201	3.201	2.12	10520	0.03	2000	
Cu	63	2	He	1.405	1.405	1.56	15120	0.01	2000	
Zn	66	2	He	6.508	6.508	1.04	12201	0.05	2000	
As	75	2	He	1.795	1.795	5.66	1998	0.09	2000	
Sb	121	2	He	0.165	0.165	32.65	2810	0.01	2000	
Se	78	2	He	0.298	0.298	17.09	85	0.35	2000	
Ti	47	2	He	39.449	39.449	45.66	10749	0.37	200	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	3485299	0.16	3465128	100.58	70	120	
In	115	1	nogas	4411640	1.71	4283070	103.00	70	120	
Li	6	1	nogas	1505253	1.88	1545791	97.38	70	120	
Bi	209	1	nogas	5221969	0.90	4979092	104.88	70	120	
Ge	72	2	He	905977	1.20	931246	97.29	70	120	
In	115	2	He	1552786	1.24	1566227	99.14	70	120	

Sample Report

Sample Table

Sample Name	HS20071328-19PDS
Data File Name	083SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\080620A.b
Acq Date Time	2020-08-06T12:56:00-05:00
Sample Type	Sample
Dilution	1
Comment	DOD 156069
ISTD Ref FileName	013CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	nogas	104.757	104.757	3.64	541531	0.02	2000	
B	11	1	nogas	25.657	25.657	3.99	129430	0.02	2000	
Ca	44	1	nogas	23789.594	23789.594	2.96	15629587	0.15	200000	
Ti	47	1	nogas	139.597	139.597	4.15	276065	0.05	2000	
Cr	52	1	nogas	108.799	108.799	1.44	2959593	0.00	2000	
Ni	60	1	nogas	107.882	107.882	2.74	690844	0.02	2000	
Cu	63	1	nogas	108.847	108.847	3.94	1751555	0.01	2000	
Zn	66	1	nogas	117.092	117.092	1.78	579249	0.02	2000	
Se	82	1	nogas	113.101	113.101	1.12	29966	0.38	2000	
Sr	88	1	nogas	446.816	446.816	0.35	17453871	0.00	2000	
Mo	95	1	nogas	107.486	107.486	1.14	941466	0.01	2000	
Ag	107	1	nogas	99.849	99.849	3.50	2382135	0.00	2000	
Cd	111	1	nogas	108.482	108.482	1.93	535040	0.02	2000	
Sn	118	1	nogas	-0.057	-0.057	-25.11	2397	0.00	2000	
Sb	121	1	nogas	103.005	103.005	3.22	2011473	0.01	2000	
Ba	137	1	nogas	271.338	271.338	1.69	1843454	0.01	2000	
Tl	205	1	nogas	107.788	107.788	2.84	6121877	0.00	2000	
Pb	208	1	nogas	109.346	109.346	2.52	8711074	0.00	2000	
U	238	1	nogas	0.131	0.131	1.22	12575	0.00	2000	
Si	28	1	nogas	121727.129	121727.129	10.58	117240922	0.10	2000	>LDR
Na	23	2	He	35870.108	35870.108	0.80	57544502	0.06	200000	
Mg	24	2	He	18284.551	18284.551	1.70	17077786	0.11	200000	
Al	27	2	He	1476.833	1476.833	1.84	860611	0.17	2000	
K	39	2	He	14346.344	14346.344	1.46	11974679	0.12	200000	
Ca	43	2	He	25949.706	25949.706	1.23	72129	35.98	200000	
Ca	44	2	He	25245.354	25245.354	1.16	1192178	2.12	200000	
V	51	2	He	114.821	114.821	1.18	884768	0.01	2000	
Cr	52	2	He	114.455	114.455	0.80	1024795	0.01	2000	
Mn	55	2	He	785.686	785.686	0.50	5007417	0.02	2000	
Fe	56	2	He	14746.190	14746.190	1.27	119381132	0.01	200000	
Co	59	2	He	118.067	118.067	1.72	1561615	0.01	2000	
Ni	60	2	He	117.013	117.013	1.42	377204	0.03	2000	
Cu	63	2	He	114.362	114.362	1.79	1006744	0.01	2000	
Zn	66	2	He	126.107	126.107	0.20	219390	0.06	2000	
As	75	2	He	120.611	120.611	1.44	128783	0.09	2000	
Sb	121	2	He	102.263	102.263	1.28	781430	0.01	2000	
Se	78	2	He	123.286	123.286	1.19	11709	1.05	2000	
Ti	47	2	He	164.134	164.134	10.50	44623	0.37	200	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	3496471	1.27	3465128	100.90	70	120	
In	115	1	nogas	4330710	0.61	4283070	101.11	70	120	
Li	6	1	nogas	1471366	1.98	1545791	95.19	70	120	
Bi	209	1	nogas	5131297	2.12	4979092	103.06	70	120	
Ge	72	2	He	903761	0.53	931246	97.05	70	120	
In	115	2	He	1521395	1.59	1566227	97.14	70	120	

Sample Report

Sample Table

Sample Name	HS20071328-17
Data File Name	084SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\080620A.b
Acq Date Time	2020-08-06T12:57:59-05:00
Sample Type	Sample
Dilution	1
Comment	DOD 156069
ISTD Ref FileName	013CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	nogas	0.225	0.225	6.29	1247	0.02	2000	
B	11	1	nogas	21.051	21.051	7.13	118836	0.02	2000	
Ca	44	1	nogas	11821.131	11821.131	2.09	7759140	0.15	200000	
Ti	47	1	nogas	17.361	17.361	0.44	33927	0.05	2000	
Cr	52	1	nogas	1.825	1.825	2.65	56433	0.00	2000	
Ni	60	1	nogas	3.644	3.644	1.74	24460	0.01	2000	
Cu	63	1	nogas	2.072	2.072	1.94	38248	0.01	2000	
Zn	66	1	nogas	10.681	10.681	2.55	54466	0.02	2000	
Se	82	1	nogas	0.396	0.396	78.16	377	0.11	2000	
Sr	88	1	nogas	385.169	385.169	0.10	15385640	0.00	2000	
Mo	95	1	nogas	0.780	0.780	17.94	7088	0.01	2000	
Ag	107	1	nogas	0.056	0.056	23.25	1813	0.00	2000	
Cd	111	1	nogas	0.107	0.107	18.44	543	0.02	2000	
Sn	118	1	nogas	0.096	0.096	24.99	4717	0.00	2000	
Sb	121	1	nogas	3.085	3.085	12.40	63023	0.00	2000	
Ba	137	1	nogas	162.979	162.979	0.32	1132822	0.01	2000	
Tl	205	1	nogas	0.134	0.134	12.64	8229	0.00	2000	
Pb	208	1	nogas	2.411	2.411	1.20	199738	0.00	2000	
U	238	1	nogas	0.183	0.183	5.80	17997	0.00	2000	
Si	28	1	nogas	91360.192	91360.192	0.85	86778732	0.11	2000	>LDR
Na	23	2	He	20556.398	20556.398	1.95	33262619	0.06	200000	
Mg	24	2	He	5905.978	5905.978	1.63	5559408	0.11	200000	
Al	27	2	He	1189.865	1189.865	1.48	698996	0.17	2000	
K	39	2	He	2525.238	2525.238	1.08	2163863	0.12	200000	
Ca	43	2	He	12827.871	12827.871	1.43	35952	35.68	200000	
Ca	44	2	He	12331.432	12331.432	0.97	587711	2.10	200000	
V	51	2	He	4.065	4.065	0.91	32344	0.01	2000	
Cr	52	2	He	1.894	1.894	11.80	18093	0.01	2000	
Mn	55	2	He	1053.134	1053.134	1.28	6762053	0.02	2000	
Fe	56	2	He	3929.726	3929.726	1.41	32065935	0.01	200000	
Co	59	2	He	2.713	2.713	0.86	36417	0.01	2000	
Ni	60	2	He	3.638	3.638	5.73	11994	0.03	2000	
Cu	63	2	He	2.024	2.024	1.92	20669	0.01	2000	
Zn	66	2	He	10.885	10.885	2.26	19905	0.05	2000	
As	75	2	He	1.953	1.953	7.18	2179	0.09	2000	
Sb	121	2	He	2.632	2.632	1.87	21787	0.01	2000	
Se	78	2	He	0.545	0.545	37.23	109	0.50	2000	
Ti	47	2	He	21.160	21.160	8.27	5822	0.36	200	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	3443260	1.55	3465128	99.37	70	120	
In	115	1	nogas	4428489	0.87	4283070	103.40	70	120	
Li	6	1	nogas	1545899	4.91	1545791	100.01	70	120	

Sample Report

Bi	209	1	nogas	5248731	1.32	4979092	105.42	70	120	
Ge	72	2	He	910633	0.48	931246	97.79	70	120	
In	115	2	He	1549657	1.98	1566227	98.94	70	120	

Sample Report

Sample Table

Sample Name	HS20071328-18
Data File Name	085SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\080620A.b
Acq Date Time	2020-08-06T13:00:02-05:00
Sample Type	Sample
Dilution	1
Comment	DOD 156069
ISTD Ref FileName	013CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	nogas	0.186	0.186	5.15	1012	0.02	2000	
B	11	1	nogas	21.119	21.119	3.91	116113	0.02	2000	
Ca	44	1	nogas	11737.005	11737.005	2.21	7817619	0.15	200000	
Ti	47	1	nogas	18.768	18.768	36.90	37076	0.05	2000	
Cr	52	1	nogas	1.902	1.902	1.70	59331	0.00	2000	
Ni	60	1	nogas	4.035	4.035	4.65	27304	0.01	2000	
Cu	63	1	nogas	2.211	2.211	2.11	41037	0.01	2000	
Zn	66	1	nogas	10.595	10.595	1.94	54847	0.02	2000	
Se	82	1	nogas	0.629	0.629	37.03	443	0.14	2000	
Sr	88	1	nogas	393.715	393.715	1.44	15424496	0.00	2000	
Mo	95	1	nogas	0.341	0.341	3.46	3087	0.01	2000	
Ag	107	1	nogas	0.021	0.021	7.98	933	0.00	2000	
Cd	111	1	nogas	0.060	0.060	23.79	300	0.02	2000	
Sn	118	1	nogas	-0.052	-0.052	-23.02	2477	0.00	2000	
Sb	121	1	nogas	0.817	0.817	1.51	19748	0.00	2000	
Ba	137	1	nogas	182.920	182.920	1.99	1246769	0.01	2000	
Tl	205	1	nogas	0.050	0.050	6.22	3297	0.00	2000	
Pb	208	1	nogas	2.726	2.726	1.98	222378	0.00	2000	
U	238	1	nogas	0.219	0.219	4.43	21242	0.00	2000	
Si	28	1	nogas	87667.614	87667.614	1.51	84501815	0.10	2000	>LDR
Na	23	2	He	20425.014	20425.014	2.10	32840113	0.06	200000	
Mg	24	2	He	5889.770	5889.770	1.09	5509269	0.11	200000	
Al	27	2	He	1191.611	1191.611	0.97	695558	0.17	2000	
K	39	2	He	2498.721	2498.721	2.52	2127956	0.12	200000	
Ca	43	2	He	12851.420	12851.420	0.53	35789	35.91	200000	
Ca	44	2	He	12179.263	12179.263	0.71	576789	2.11	200000	
V	51	2	He	4.356	4.356	0.99	34386	0.01	2000	
Cr	52	2	He	1.958	1.958	3.46	18543	0.01	2000	
Mn	55	2	He	1418.113	1418.113	1.45	9046424	0.02	2000	
Fe	56	2	He	4471.831	4471.831	2.44	36257177	0.01	200000	
Co	59	2	He	3.408	3.408	1.50	45384	0.01	2000	
Ni	60	2	He	3.985	3.985	1.89	13038	0.03	2000	
Cu	63	2	He	2.261	2.261	4.46	22628	0.01	2000	
Zn	66	2	He	10.886	10.886	2.24	19781	0.06	2000	
As	75	2	He	2.089	2.089	2.45	2310	0.09	2000	
Sb	121	2	He	0.968	0.968	3.72	8943	0.01	2000	
Se	78	2	He	0.531	0.531	50.99	107	0.50	2000	
Ti	47	2	He	14.564	14.564	12.89	3991	0.36	200	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	3493645	1.44	3465128	100.82	70	120	
In	115	1	nogas	4343956	1.49	4283070	101.42	70	120	
Li	6	1	nogas	1505908	3.36	1545791	97.42	70	120	

Sample Report

Bi	209	1	nogas	5179408	1.78	4979092	104.02	70	120	
Ge	72	2	He	904849	0.60	931246	97.17	70	120	
In	115	2	He	1557303	1.49	1566227	99.43	70	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	087_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\080620A.b
Acq Date Time	2020-08-06T13:17:11-05:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	013CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	nogas	100.320	1.836	504000	1.08	100	100.3	90	110	
B	11	1	nogas	519.205	2.363	1813062	3.96	500	103.8	90	110	
P	31	1	nogas	510.299	0.610	464347	0.47	500	102.1	90	110	
Ca	44	1	nogas	10322.134	2.485	6731244	2.96	10000	103.2	90	110	
Ti	47	1	nogas	102.737	2.002	197965	1.00	100	102.7	90	110	
Cr	52	1	nogas	103.427	1.811	2741593	2.06	100	103.4	90	110	
Ni	60	1	nogas	101.760	0.281	635078	1.12	100	101.8	90	110	
Cu	63	1	nogas	106.207	1.253	1665597	1.45	100	106.2	90	110	
Zn	66	1	nogas	104.031	0.711	501748	1.09	100	104.0	90	110	
Se	82	1	nogas	104.693	1.867	27041	1.78	100	104.7	90	110	
Sr	88	1	nogas	100.330	1.490	3930923	2.37	100	100.3	90	110	
Mo	95	1	nogas	97.180	0.181	853312	0.85	100	97.2	90	110	
Ag	107	1	nogas	98.953	1.820	2366560	0.91	100	99.0	90	110	
Cd	111	1	nogas	100.659	0.583	497703	1.05	100	100.7	90	110	
Sn	118	1	nogas	102.595	2.599	1493789	1.81	100	102.6	90	110	
Sb	121	1	nogas	111.617	1.863	2123507	1.05	100	111.6	90	110	CCV Main CR1-2 Failed
Ba	137	1	nogas	100.793	1.673	687189	1.13	100	100.8	90	110	
Tl	205	1	nogas	101.480	1.402	5933643	2.14	100	101.5	90	110	
Pb	208	1	nogas	100.736	1.297	8261185	0.92	100	100.7	90	110	
U	238	1	nogas	98.005	3.354	9670033	2.17	100	98.0	90	110	
Li	7	1	nogas	108.726	3.016	2220727	1.45	100	108.7	90	110	
Si	28	1	nogas	6501.439	2.409	6452651	2.88	5000	130.0	90	110	CCV Main CR1-2 Failed
Tl	203	1	nogas	102.233	2.274	2502052	1.73	100	102.2	90	110	
Na	23	2	He	10655.267	2.316	17208640	0.96	10000	106.6	90	110	
Mg	24	2	He	10502.196	2.335	9843045	1.55	10000	105.0	90	110	
Al	27	2	He	99.280	2.107	59733	0.75	100	99.3	90	110	
K	39	2	He	10280.369	3.966	8621631	2.62	10000	102.8	90	110	
Ca	43	2	He	10370.090	4.002	28943	2.64	10000	103.7	90	110	
Ca	44	2	He	10128.315	1.001	481044	0.53	10000	101.3	90	110	
V	51	2	He	99.345	1.946	768235	1.29	100	99.3	90	110	
Cr	52	2	He	100.999	2.751	907423	1.64	100	101.0	90	110	
Mn	55	2	He	103.215	1.019	662527	0.57	100	103.2	90	110	
Fe	56	2	He	10323.357	1.678	83862554	0.36	10000	103.2	90	110	
Co	59	2	He	104.402	2.031	1385727	2.04	100	104.4	90	110	
Ni	60	2	He	104.975	1.186	339591	1.12	100	105.0	90	110	
Cu	63	2	He	102.548	0.699	906185	0.71	100	102.5	90	110	
Zn	66	2	He	105.370	0.717	184097	1.03	100	105.4	90	110	
As	75	2	He	105.215	2.212	112733	1.46	100	105.2	90	110	
Sn	118	2	He	101.246	2.383	587527	0.65	100	101.2	90	110	
Sb	121	2	He	103.380	1.393	792661	0.61	100	103.4	90	110	
Se	78	2	He	103.925	1.009	9913	0.69	100	103.9	90	110	
Ti	47	2	He	102.197	1.809	27895	0.50	100	102.2	90	110	
Al	27	1	nogas	88.160	1.592	2173351	0.61	100	88.2	90	110	CCV Main CR1-2 Failed
Rh	103	1	nogas	80.938	6.403	290	3.45	100	80.9	90	110	CCV Main CR1-2 Failed
Au	197	1	nogas	298.239	15.971	123	12.39	100	298.2	90	110	CCV Main CR1-2 Failed
Rh	103	2	He	98.808	37.348	257	26.52	100	98.8	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	3406433	1.01	3465128	98.31	70	120	
In	115	1	nogas	4341261	0.93	4283070	101.36	70	120	
Li	6	1	nogas	1429533	1.65	1545791	92.48	70	120	
Bi	209	1	nogas	5280705	1.40	4979092	106.06	70	120	
Ge	72	2	He	906926	1.38	931246	97.39	70	120	
In	115	2	He	1546900	2.51	1566227	98.77	70	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	088_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\080620A.b
Acq Date Time	2020-08-06T13:19:11-05:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	013CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	nogas	0.079	8.8	462	9.2	1	
B	11	1	nogas	7.421	11.6	69403	6.0	10	
P	31	1	nogas	2.481	40.1	33477	1.7	10	
Ca	44	1	nogas	-48.734	-1.1	181336	0.9	100	
Ti	47	1	nogas	0.241	22.4	583	18.0	2.5	
Cr	52	1	nogas	0.121	19.7	10557	5.2	2.5	
Ni	60	1	nogas	0.007	342.7	1527	9.5	2.5	
Cu	63	1	nogas	0.127	9.2	7282	1.8	2	
Zn	66	1	nogas	0.001	899.7	2604	1.8	2.5	
Se	82	1	nogas	0.068	80.5	283	5.4	2	
Sr	88	1	nogas	0.075	6.1	5331	1.8	2.5	
Mo	95	1	nogas	0.295	22.8	2660	23.3	2.5	
Ag	107	1	nogas	0.073	1.2	2154	2.1	2.5	
Cd	111	1	nogas	0.085	15.3	420	14.3	1	
Sn	118	1	nogas	0.683	5.7	12992	2.6	5	
Sb	121	1	nogas	0.700	1.2	16682	0.3	2.5	
Ba	137	1	nogas	0.037	59.2	1450	12.4	2.5	
Tl	205	1	nogas	0.179	28.1	10707	25.7	1	
Pb	208	1	nogas	0.087	11.5	10245	6.6	2.5	
U	238	1	nogas	0.089	8.0	8723	6.7	2.5	
Si	28	1	nogas	-2.972	-228.5	358152	2.4	5	
Na	23	2	He	9.972	12.2	96974	1.3	100	
Mg	24	2	He	7.510	5.9	8492	4.4	100	
Al	27	2	He	0.263	132.0	1923	11.0	5	
K	39	2	He	4.597	18.7	51279	0.6	100	
Ca	43	2	He	4.483	355.1	60	72.6	100	
Ca	44	2	He	6.412	32.6	2107	4.3	100	
V	51	2	He	0.104	10.4	1580	5.0	2.5	
Cr	52	2	He	0.057	29.5	1497	9.4	2.5	
Mn	55	2	He	-0.031	-8.6	2587	0.2	2.5	
Fe	56	2	He	8.044	4.0	77486	2.9	100	
Co	59	2	He	0.079	12.7	1287	10.6	2.5	
Ni	60	2	He	0.072	25.1	407	14.0	2.5	
Cu	63	2	He	0.158	2.5	4067	1.6	2	
Zn	66	2	He	0.011	375.4	900	7.7	2.5	
As	75	2	He	0.123	12.0	207	7.0	2.5	
Sb	121	2	He	0.642	6.2	6338	4.0	2.5	
Se	78	2	He	0.107	110.6	66	16.0	2	
Ti	47	2	He	0.055	36.8	43	13.3	2.5	

Continuing Calibration Blank (CCB) Report

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	3335140	0.72	3465128	96.25	70	120	
In	115	1	nogas	4291446	2.29	4283070	100.20	70	120	
Li	6	1	nogas	1562547	1.72	1545791	101.08	70	120	
Bi	209	1	nogas	5196202	1.87	4979092	104.36	70	120	
Ge	72	2	He	888813	0.76	931246	95.44	70	120	
In	115	2	He	1530287	2.63	1566227	97.71	70	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	099_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\080620A.b
Acq Date Time	2020-08-06T13:46:44-05:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	013CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	nogas	97.307	2.873	507726	1.11	100	97.3	90	110	
B	11	1	nogas	504.018	3.349	1828267	1.53	500	100.8	90	110	
P	31	1	nogas	507.813	2.812	455772	1.00	500	101.6	90	110	
Ca	44	1	nogas	10514.435	2.789	6756099	1.30	10000	105.1	90	110	
Ti	47	1	nogas	103.576	2.478	196827	1.84	100	103.6	90	110	
Cr	52	1	nogas	104.162	3.591	2721974	1.94	100	104.2	90	110	
Ni	60	1	nogas	102.307	1.791	629602	1.15	100	102.3	90	110	
Cu	63	1	nogas	104.291	1.639	1612891	0.21	100	104.3	90	110	
Zn	66	1	nogas	106.601	2.565	506876	1.06	100	106.6	90	110	
Se	82	1	nogas	105.897	2.321	26971	2.15	100	105.9	90	110	
Sr	88	1	nogas	100.391	1.745	3967126	0.59	100	100.4	90	110	
Mo	95	1	nogas	99.114	2.283	877821	1.13	100	99.1	90	110	
Ag	107	1	nogas	100.939	1.381	2435417	0.87	100	100.9	90	110	
Cd	111	1	nogas	101.660	1.962	507014	0.82	100	101.7	90	110	
Sn	118	1	nogas	104.197	2.596	1530427	1.73	100	104.2	90	110	
Sb	121	1	nogas	112.864	1.317	2117598	0.34	100	112.9	90	110	CCV Main CR1-2 Failed
Ba	137	1	nogas	100.297	1.006	689855	0.41	100	100.3	90	110	
Tl	205	1	nogas	103.292	1.754	6094107	0.79	100	103.3	90	110	
Pb	208	1	nogas	102.133	2.028	8451954	0.62	100	102.1	90	110	
U	238	1	nogas	98.075	2.608	9766300	1.15	100	98.1	90	110	
Li	7	1	nogas	99.046	3.034	2109747	0.97	100	99.0	90	110	
Si	28	1	nogas	6551.567	4.162	6407482	2.72	5000	131.0	90	110	CCV Main CR1-2 Failed
Tl	203	1	nogas	103.945	1.822	2567454	1.52	100	103.9	90	110	
Na	23	2	He	10787.670	0.190	17592930	0.55	10000	107.9	90	110	
Mg	24	2	He	10580.451	1.127	10013099	0.46	10000	105.8	90	110	
Al	27	2	He	96.200	1.382	58506	1.61	100	96.2	90	110	
K	39	2	He	10106.110	0.374	8560901	0.32	10000	101.1	90	110	
Ca	43	2	He	10117.322	1.754	28519	1.09	10000	101.2	90	110	
Ca	44	2	He	10101.558	2.004	484410	1.55	10000	101.0	90	110	
V	51	2	He	100.267	1.539	782878	0.88	100	100.3	90	110	
Cr	52	2	He	101.960	1.486	925021	0.87	100	102.0	90	110	
Mn	55	2	He	102.715	0.138	665743	0.55	100	102.7	90	110	
Fe	56	2	He	10382.400	0.904	85169115	1.29	10000	103.8	90	110	
Co	59	2	He	108.711	0.978	1456845	0.50	100	108.7	90	110	
Ni	60	2	He	104.432	1.183	341099	0.69	100	104.4	90	110	
Cu	63	2	He	103.046	0.922	919388	0.96	100	103.0	90	110	
Zn	66	2	He	105.576	1.540	186248	1.98	100	105.6	90	110	
As	75	2	He	106.456	1.715	115170	1.04	100	106.5	90	110	
Sn	118	2	He	101.141	3.171	577761	1.12	100	101.1	90	110	
Sb	121	2	He	102.669	1.148	794860	0.63	100	102.7	90	110	
Se	78	2	He	102.668	3.251	9888	2.61	100	102.7	90	110	
Ti	47	2	He	102.216	1.671	28172	1.22	100	102.2	90	110	
Al	27	1	nogas	84.273	4.247	2160708	3.47	100	84.3	90	110	CCV Main CR1-2 Failed
Rh	103	1	nogas	78.622	21.586	287	13.21	100	78.6	90	110	CCV Main CR1-2 Failed
Au	197	1	nogas	352.587	13.816	143	10.66	100	352.6	90	110	CCV Main CR1-2 Failed
Rh	103	2	He	97.763	5.834	250	4.00	100	97.8	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	3359591	1.65	3465128	96.95	70	120	
In	115	1	nogas	4379574	1.15	4283070	102.25	70	120	
Li	6	1	nogas	1484989	1.95	1545791	96.07	70	120	
Bi	209	1	nogas	5329335	1.50	4979092	107.03	70	120	
Ge	72	2	He	915666	0.68	931246	98.33	70	120	
In	115	2	He	1522888	2.28	1566227	97.23	70	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	100_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\080620A.b
Acq Date Time	2020-08-06T13:48:43-05:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	013CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	nogas	0.089	1.8	505	3.0	1	
B	11	1	nogas	10.197	8.4	78143	5.2	10	CCB Main CR1 Failed
P	31	1	nogas	2.109	59.3	33965	3.0	10	
Ca	44	1	nogas	-58.868	-10.7	179236	1.3	100	
Ti	47	1	nogas	0.519	86.1	1131	76.0	2.5	
Cr	52	1	nogas	0.109	15.5	10473	3.7	2.5	
Ni	60	1	nogas	0.046	34.7	1803	6.5	2.5	
Cu	63	1	nogas	0.163	14.0	8022	4.8	2	
Zn	66	1	nogas	0.232	16.4	3777	4.5	2.5	
Se	82	1	nogas	0.104	448.0	300	40.4	2	
Sr	88	1	nogas	0.241	6.9	11924	5.0	2.5	
Mo	95	1	nogas	0.281	11.3	2567	9.2	2.5	
Ag	107	1	nogas	0.085	13.6	2464	9.4	2.5	
Cd	111	1	nogas	0.090	9.0	450	7.7	1	
Sn	118	1	nogas	0.737	9.0	13949	5.0	5	
Sb	121	1	nogas	0.533	8.8	13913	7.0	2.5	
Ba	137	1	nogas	0.100	33.3	1893	10.3	2.5	
Tl	205	1	nogas	0.193	23.5	11741	22.4	1	
Pb	208	1	nogas	0.093	7.5	10895	5.0	2.5	
U	238	1	nogas	0.104	4.5	10380	4.3	2.5	
Si	28	1	nogas	23.215	181.5	391245	10.1	5	CCB Main CR1 Failed
Na	23	2	He	87.771	1.6	222736	0.9	100	
Mg	24	2	He	12.858	7.0	13599	5.9	100	
Al	27	2	He	0.204	182.9	1917	11.5	5	
K	39	2	He	6.553	37.8	53635	2.7	100	
Ca	43	2	He	18.683	34.9	100	17.3	100	
Ca	44	2	He	11.279	10.7	2367	3.0	100	
V	51	2	He	0.120	5.6	1731	4.0	2.5	
Cr	52	2	He	0.100	17.6	1903	7.7	2.5	
Mn	55	2	He	-0.029	-113.6	2637	8.6	2.5	
Fe	56	2	He	9.769	6.5	92538	5.3	100	
Co	59	2	He	0.096	5.8	1523	4.0	2.5	
Ni	60	2	He	0.085	16.9	453	9.9	2.5	
Cu	63	2	He	0.132	3.0	3894	1.8	2	
Zn	66	2	He	0.191	34.6	1223	8.8	2.5	
As	75	2	He	0.086	42.3	170	23.8	2.5	
Sb	121	2	He	0.539	8.0	5644	4.6	2.5	
Se	78	2	He	0.026	279.5	59	10.8	2	
Ti	47	2	He	0.089	130.7	53	60.3	2.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	3414929	0.97	3465128	98.55	70	120	
In	115	1	nogas	4349349	2.00	4283070	101.55	70	120	

Continuing Calibration Blank (CCB) Report

Li	6	1	nogas	1530701	1.23	1545791	99.02	70	120	
Bi	209	1	nogas	5293519	2.18	4979092	106.31	70	120	
Ge	72	2	He	901739	1.15	931246	96.83	70	120	
In	115	2	He	1522695	2.74	1566227	97.22	70	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	159_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\080620A.b
Acq Date Time	2020-08-06T16:55:03-05:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	013CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	nogas	97.182	2.868	527622	0.81	100	97.2	90	110	
B	11	1	nogas	475.044	3.908	1795170	1.71	500	95.0	90	110	
P	31	1	nogas	504.650	1.157	470485	0.90	500	100.9	90	110	
Ca	44	1	nogas	10127.722	1.729	6764599	1.00	10000	101.3	90	110	
Ti	47	1	nogas	100.800	0.350	198879	0.97	100	100.8	90	110	
Cr	52	1	nogas	101.423	0.666	2752555	1.25	100	101.4	90	110	
Ni	60	1	nogas	98.737	0.252	630898	0.83	100	98.7	90	110	
Cu	63	1	nogas	100.036	1.602	1606324	0.92	100	100.0	90	110	
Zn	66	1	nogas	102.412	0.604	505739	1.32	100	102.4	90	110	
Se	82	1	nogas	102.961	3.821	27235	4.31	100	103.0	90	110	
Sr	88	1	nogas	102.123	2.329	3984573	2.18	100	102.1	90	110	
Mo	95	1	nogas	98.359	0.584	860199	0.72	100	98.4	90	110	
Ag	107	1	nogas	102.282	1.297	2436598	1.41	100	102.3	90	110	
Cd	111	1	nogas	101.121	0.573	497980	0.70	100	101.1	90	110	
Sn	118	1	nogas	104.206	1.857	1511311	1.80	100	104.2	90	110	
Sb	121	1	nogas	110.407	1.009	2150674	1.18	100	110.4	90	110	CCV Main CR1-2 Failed
Ba	137	1	nogas	101.971	0.981	692461	0.84	100	102.0	90	110	
Tl	205	1	nogas	103.648	2.368	6057380	1.18	100	103.6	90	110	
Pb	208	1	nogas	102.351	0.353	8391777	1.02	100	102.4	90	110	
U	238	1	nogas	98.686	0.755	9736832	0.94	100	98.7	90	110	
Li	7	1	nogas	103.114	4.022	2280999	1.58	100	103.1	90	110	
Si	28	1	nogas	7891.727	4.767	7936529	4.26	5000	157.8	90	110	CCV Main CR1-2 Failed
Tl	203	1	nogas	104.137	1.646	2548125	1.60	100	104.1	90	110	
Na	23	2	He	10623.616	0.644	16896953	0.52	10000	106.2	90	110	
Mg	24	2	He	10106.376	1.445	9327629	1.28	10000	101.1	90	110	
Al	27	2	He	94.994	1.465	56362	1.62	100	95.0	90	110	
K	39	2	He	10192.451	1.508	8419433	1.24	10000	101.9	90	110	
Ca	43	2	He	10040.117	2.279	27601	1.98	10000	100.4	90	110	
Ca	44	2	He	10100.640	1.983	472358	1.46	10000	101.0	90	110	
V	51	2	He	97.880	0.834	745386	1.42	100	97.9	90	110	
Cr	52	2	He	99.219	0.612	877947	1.20	100	99.2	90	110	
Mn	55	2	He	102.221	1.748	646091	1.19	100	102.2	90	110	
Fe	56	2	He	10282.708	0.343	82259942	0.85	10000	102.8	90	110	
Co	59	2	He	99.853	2.652	1305067	2.84	100	99.9	90	110	
Ni	60	2	He	101.397	0.398	323000	0.96	100	101.4	90	110	
Cu	63	2	He	99.372	1.198	864713	0.97	100	99.4	90	110	
Zn	66	2	He	102.845	1.180	176955	1.72	100	102.8	90	110	
As	75	2	He	104.697	0.869	110468	1.00	100	104.7	90	110	
Sn	118	2	He	99.803	0.411	578216	0.50	100	99.8	90	110	
Sb	121	2	He	104.085	1.217	785820	0.60	100	104.1	90	110	
Se	78	2	He	105.361	1.252	9896	1.71	100	105.4	90	110	
Ti	47	2	He	101.118	3.269	27181	3.36	100	101.1	90	110	
Al	27	1	nogas	80.732	2.975	2156440	0.84	100	80.7	90	110	CCV Main CR1-2 Failed
Rh	103	1	nogas	67.555	45.384	257	28.72	100	67.6	90	110	CCV Main CR1-2 Failed
Au	197	1	nogas	144.476	122.569	70	86.90	100	144.5	90	110	CCV Main CR1-2 Failed
Rh	103	2	He	79.920	69.302	223	43.49	100	79.9	90	110	CCV Main CR1-2 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	3487369	0.73	3465128	100.64	70	120	
In	115	1	nogas	4323796	0.15	4283070	100.95	70	120	
Li	6	1	nogas	1545269	2.36	1545791	99.97	70	120	
Bi	209	1	nogas	5279193	1.21	4979092	106.03	70	120	
Ge	72	2	He	892967	0.62	931246	95.89	70	120	
In	115	2	He	1543805	0.90	1566227	98.57	70	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	160_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\080620A.b
Acq Date Time	2020-08-06T16:57:02-05:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	013CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	nogas	0.071	18.2	430	14.6	1	
B	11	1	nogas	12.594	8.5	91808	6.3	10	CCB Main CR1 Failed
P	31	1	nogas	5.174	26.5	36777	2.7	10	
Ca	44	1	nogas	-74.001	-7.5	170648	1.2	100	
Ti	47	1	nogas	0.203	20.6	527	15.5	2.5	
Cr	52	1	nogas	0.165	8.9	12041	4.1	2.5	
Ni	60	1	nogas	0.060	41.1	1903	8.9	2.5	
Cu	63	1	nogas	0.110	20.1	7232	4.7	2	
Zn	66	1	nogas	0.293	26.3	4094	8.8	2.5	
Se	82	1	nogas	0.318	80.7	357	19.1	2	
Sr	88	1	nogas	0.208	5.7	10727	5.0	2.5	
Mo	95	1	nogas	0.340	9.8	3110	9.1	2.5	
Ag	107	1	nogas	0.073	25.1	2194	19.9	2.5	
Cd	111	1	nogas	0.085	19.7	427	19.1	1	
Sn	118	1	nogas	0.926	5.7	16879	5.8	5	
Sb	121	1	nogas	0.443	1.4	12265	0.4	2.5	
Ba	137	1	nogas	0.251	13.5	2950	7.9	2.5	
Tl	205	1	nogas	0.192	30.6	11581	28.0	1	
Pb	208	1	nogas	0.126	19.6	13519	13.4	2.5	
U	238	1	nogas	0.090	13.4	8893	11.9	2.5	
Si	28	1	nogas	26.141	12.8	396286	1.1	5	CCB Main CR1 Failed
Na	23	2	He	93.843	3.3	229328	1.3	100	
Mg	24	2	He	14.344	4.0	14783	2.7	100	
Al	27	2	He	1.283	120.5	2514	36.2	5	
K	39	2	He	4.176	9.9	50988	0.3	100	
Ca	43	2	He	14.425	213.4	87	96.1	100	
Ca	44	2	He	23.644	26.5	2910	10.5	100	
V	51	2	He	0.103	5.3	1580	3.5	2.5	
Cr	52	2	He	0.106	21.7	1927	10.2	2.5	
Mn	55	2	He	0.414	12.5	5374	5.8	2.5	
Fe	56	2	He	8.993	2.4	85148	2.7	100	
Co	59	2	He	0.077	7.1	1257	6.5	2.5	
Ni	60	2	He	0.084	8.2	443	4.7	2.5	
Cu	63	2	He	0.109	2.9	3647	1.4	2	
Zn	66	2	He	0.243	14.0	1297	5.3	2.5	
As	75	2	He	0.448	6.8	548	6.7	2.5	
Sb	121	2	He	0.446	2.0	4874	1.6	2.5	
Se	78	2	He	0.077	150.9	63	18.0	2	
Ti	47	2	He	0.130	73.5	63	39.7	2.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	3434736	0.94	3465128	99.12	70	120	
In	115	1	nogas	4389406	1.30	4283070	102.48	70	120	

Continuing Calibration Blank (CCB) Report

Li	6	1	nogas	1616687	2.63	1545791	104.59	70	120	
Bi	209	1	nogas	5261544	1.44	4979092	105.67	70	120	
Ge	72	2	He	889727	0.89	931246	95.54	70	120	
In	115	2	He	1465869	3.45	1566227	93.59	70	120	

Sample Report

Sample Table

Sample Name	HS20071328-19MS
Data File Name	165SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\080620A.b
Acq Date Time	2020-08-06T17:23:52-05:00
Sample Type	Sample
Dilution	1
Comment	DOD 156069
ISTD Ref FileName	013CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	nogas	44.639	44.639	4.79	256990	0.02	2000	
B	11	1	nogas	24.063	24.063	4.41	137952	0.02	2000	
Ca	44	1	nogas	18767.841	18767.841	4.78	12262096	0.15	200000	
Ti	47	1	nogas	62.044	62.044	13.68	121576	0.05	2000	
Cr	52	1	nogas	50.559	50.559	5.18	1366245	0.00	2000	
Ni	60	1	nogas	49.575	49.575	2.04	315465	0.02	2000	
Cu	63	1	nogas	48.157	48.157	2.53	771086	0.01	2000	
Zn	66	1	nogas	55.211	55.211	2.51	272073	0.02	2000	
Se	82	1	nogas	49.742	49.742	5.66	13205	0.38	2000	
Sr	88	1	nogas	448.590	448.590	2.38	17832558	0.00	2000	
Mo	95	1	nogas	44.798	44.798	0.48	399361	0.01	2000	
Ag	107	1	nogas	45.229	45.229	0.43	1098409	0.00	2000	
Cd	111	1	nogas	47.280	47.280	0.87	237316	0.02	2000	
Sn	118	1	nogas	-0.074	-0.074	-26.81	2180	0.00	2000	
Sb	121	1	nogas	43.000	43.000	3.21	834317	0.01	2000	
Ba	137	1	nogas	207.517	207.517	4.29	1434879	0.01	2000	
Tl	205	1	nogas	45.847	45.847	4.08	2723318	0.00	2000	
Pb	208	1	nogas	47.381	47.381	1.66	3950569	0.00	2000	
U	238	1	nogas	0.125	0.125	1.62	12565	0.00	2000	
Si	28	1	nogas	103337.770	103337.770	2.31	98717599	0.10	2000	>LDR
Na	23	2	He	28726.256	28726.256	1.40	46339646	0.06	200000	
Mg	24	2	He	11618.097	11618.097	0.78	10909005	0.11	200000	
Al	27	2	He	980.511	980.511	2.53	574956	0.17	2000	
K	39	2	He	7742.143	7742.143	1.24	6518027	0.12	200000	
Ca	43	2	He	19613.573	19613.573	1.37	54819	35.78	200000	
Ca	44	2	He	18659.010	18659.010	0.31	886263	2.11	200000	
V	51	2	He	47.912	47.912	1.08	371589	0.01	2000	
Cr	52	2	He	47.389	47.389	1.41	427101	0.01	2000	
Mn	55	2	He	725.810	725.810	2.25	4649562	0.02	2000	
Fe	56	2	He	7727.716	7727.716	1.12	62895812	0.01	200000	
Co	59	2	He	46.530	46.530	1.19	618803	0.01	2000	
Ni	60	2	He	49.020	49.020	1.84	158941	0.03	2000	
Cu	63	2	He	46.737	46.737	1.78	415205	0.01	2000	
Zn	66	2	He	55.013	55.013	1.23	96713	0.06	2000	
As	75	2	He	50.338	50.338	2.41	54070	0.09	2000	
Sb	121	2	He	41.669	41.669	1.69	320978	0.01	2000	
Se	78	2	He	50.652	50.652	2.84	4869	1.04	2000	
Ti	47	2	He	55.598	55.598	2.80	15220	0.37	200	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	3465678	2.55	3465128	100.02	70	120	
In	115	1	nogas	4406957	0.52	4283070	102.89	70	120	
Li	6	1	nogas	1639991	4.25	1545791	106.09	70	120	
Bi	209	1	nogas	5367408	2.40	4979092	107.80	70	120	
Ge	72	2	He	908519	1.20	931246	97.56	70	120	
In	115	2	He	1556555	1.56	1566227	99.38	70	120	

Sample Report

Sample Table

Sample Name	HS20071328-19MSD
Data File Name	166SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\080620A.b
Acq Date Time	2020-08-06T17:26:14-05:00
Sample Type	Sample
Dilution	1
Comment	DOD 156069
ISTD Ref FileName	013CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	nogas	44.810	44.810	3.06	248115	0.02	2000	
B	11	1	nogas	24.212	24.212	1.36	133203	0.02	2000	
Ca	44	1	nogas	18444.539	18444.539	2.94	11990841	0.15	200000	
Ti	47	1	nogas	64.698	64.698	5.71	126204	0.05	2000	
Cr	52	1	nogas	48.464	48.464	2.46	1303712	0.00	2000	
Ni	60	1	nogas	48.940	48.940	2.03	309706	0.02	2000	
Cu	63	1	nogas	47.602	47.602	2.45	758059	0.01	2000	
Zn	66	1	nogas	54.026	54.026	3.90	264773	0.02	2000	
Se	82	1	nogas	48.524	48.524	3.74	12835	0.38	2000	
Sr	88	1	nogas	441.853	441.853	3.44	17780395	0.00	2000	
Mo	95	1	nogas	43.714	43.714	2.53	394524	0.01	2000	
Ag	107	1	nogas	43.962	43.962	2.22	1080907	0.00	2000	
Cd	111	1	nogas	45.844	45.844	2.31	232960	0.02	2000	
Sn	118	1	nogas	-0.018	-0.018	-34.49	3057	0.00	2000	
Sb	121	1	nogas	43.479	43.479	1.88	839106	0.01	2000	
Ba	137	1	nogas	202.622	202.622	3.32	1418475	0.01	2000	
Tl	205	1	nogas	45.814	45.814	2.02	2665172	0.00	2000	
Pb	208	1	nogas	47.726	47.726	1.81	3895827	0.00	2000	
U	238	1	nogas	0.124	0.124	3.84	12215	0.00	2000	
Si	28	1	nogas	102999.677	102999.677	1.54	97859445	0.11	2000	>LDR
Na	23	2	He	28488.418	28488.418	0.98	45911559	0.06	200000	
Mg	24	2	He	11388.583	11388.583	1.15	10682141	0.11	200000	
Al	27	2	He	954.380	954.380	1.50	559092	0.17	2000	
K	39	2	He	7559.658	7559.658	4.16	6358358	0.12	200000	
Ca	43	2	He	18770.335	18770.335	1.11	52402	35.82	200000	
Ca	44	2	He	18354.000	18354.000	0.94	870841	2.11	200000	
V	51	2	He	46.688	46.688	0.34	361760	0.01	2000	
Cr	52	2	He	45.875	45.875	0.53	413104	0.01	2000	
Mn	55	2	He	703.928	703.928	0.55	4505401	0.02	2000	
Fe	56	2	He	7621.395	7621.395	0.61	61967002	0.01	200000	
Co	59	2	He	45.373	45.373	0.21	602826	0.01	2000	
Ni	60	2	He	47.612	47.612	0.91	154235	0.03	2000	
Cu	63	2	He	45.483	45.483	1.10	403729	0.01	2000	
Zn	66	2	He	53.474	53.474	1.73	93932	0.06	2000	
As	75	2	He	49.531	49.531	1.78	53162	0.09	2000	
Sb	121	2	He	42.172	42.172	1.55	324503	0.01	2000	
Se	78	2	He	50.087	50.087	2.26	4811	1.04	2000	
Ti	47	2	He	63.191	63.191	18.77	17288	0.37	200	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	3446262	2.21	3465128	99.46	70	120	
In	115	1	nogas	4462797	1.82	4283070	104.20	70	120	
Li	6	1	nogas	1575727	1.77	1545791	101.94	70	120	
Bi	209	1	nogas	5254371	1.36	4979092	105.53	70	120	
Ge	72	2	He	907540	0.91	931246	97.45	70	120	
In	115	2	He	1542198	1.01	1566227	98.47	70	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	171_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\080620A.b
Acq Date Time	2020-08-06T17:36:38-05:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	013CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	nogas	99.974	1.360	531313	0.77	100	100.0	90	110	
B	11	1	nogas	483.630	0.766	1788799	1.98	500	96.7	90	110	
P	31	1	nogas	531.152	0.824	484538	0.98	500	106.2	90	110	
Ca	44	1	nogas	10259.478	2.179	6726010	2.10	10000	102.6	90	110	
Ti	47	1	nogas	105.309	2.166	203969	0.55	100	105.3	90	110	
Cr	52	1	nogas	102.920	0.891	2742436	1.30	100	102.9	90	110	
Ni	60	1	nogas	101.987	1.169	639778	0.76	100	102.0	90	110	
Cu	63	1	nogas	103.632	1.206	1633796	1.11	100	103.6	90	110	
Zn	66	1	nogas	103.790	1.317	503187	1.02	100	103.8	90	110	
Se	82	1	nogas	106.565	5.006	27652	3.42	100	106.6	90	110	
Sr	88	1	nogas	101.189	1.036	3939684	1.18	100	101.2	90	110	
Mo	95	1	nogas	99.610	0.291	869235	0.60	100	99.6	90	110	
Ag	107	1	nogas	101.651	1.668	2416116	1.02	100	101.7	90	110	
Cd	111	1	nogas	101.494	1.611	498717	1.50	100	101.5	90	110	
Sn	118	1	nogas	104.531	0.544	1512698	0.34	100	104.5	90	110	
Sb	121	1	nogas	110.682	0.455	2117174	1.93	100	110.7	90	110	CCV Main CR1-2 Failed
Ba	137	1	nogas	103.002	0.412	697936	0.65	100	103.0	90	110	
Tl	205	1	nogas	102.936	1.443	6056733	1.97	100	102.9	90	110	
Pb	208	1	nogas	101.959	1.071	8414342	0.34	100	102.0	90	110	
U	238	1	nogas	98.129	2.713	9743994	1.50	100	98.1	90	110	
Li	7	1	nogas	107.191	1.995	2317588	1.22	100	107.2	90	110	
Si	28	1	nogas	7586.713	5.243	7504119	3.88	5000	151.7	90	110	CCV Main CR1-2 Failed
Tl	203	1	nogas	103.576	1.254	2551084	0.97	100	103.6	90	110	
Na	23	2	He	10451.887	0.864	16799151	0.79	10000	104.5	90	110	
Mg	24	2	He	10333.035	2.651	9636626	2.57	10000	103.3	90	110	
Al	27	2	He	96.193	0.476	57647	0.35	100	96.2	90	110	
K	39	2	He	10307.359	1.858	8603255	1.97	10000	103.1	90	110	
Ca	43	2	He	10213.514	4.009	28372	4.04	10000	102.1	90	110	
Ca	44	2	He	10103.528	0.327	477466	0.31	10000	101.0	90	110	
V	51	2	He	97.436	0.991	749747	1.03	100	97.4	90	110	
Cr	52	2	He	99.217	0.707	887087	0.83	100	99.2	90	110	
Mn	55	2	He	102.525	1.263	654818	1.23	100	102.5	90	110	
Fe	56	2	He	10200.678	0.954	82455945	0.89	10000	102.0	90	110	
Co	59	2	He	99.143	0.595	1309303	0.65	100	99.1	90	110	
Ni	60	2	He	101.395	0.985	326369	1.04	100	101.4	90	110	
Cu	63	2	He	99.164	0.617	871951	0.50	100	99.2	90	110	
Zn	66	2	He	103.618	0.781	180136	0.90	100	103.6	90	110	
As	75	2	He	104.795	0.444	111728	0.40	100	104.8	90	110	
Sn	118	2	He	99.889	2.558	585771	0.48	100	99.9	90	110	
Sb	121	2	He	105.235	0.544	802834	0.67	100	105.2	90	110	
Se	78	2	He	104.037	2.588	9874	2.45	100	104.0	90	110	
Ti	47	2	He	100.957	1.503	27421	1.58	100	101.0	90	110	
Al	27	1	nogas	82.334	1.292	2151613	1.55	100	82.3	90	110	CCV Main CR1-2 Failed
Rh	103	1	nogas	59.329	38.309	237	24.03	100	59.3	90	110	CCV Main CR1-2 Failed
Au	197	1	nogas	116.292	87.657	60	57.74	100	116.3	90	110	CCV Main CR1-2 Failed
Rh	103	2	He	108.015	50.850	273	33.20	100	108.0	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	3424459	1.73	3465128	98.83	70	120	
In	115	1	nogas	4314463	0.89	4283070	100.73	70	120	
Li	6	1	nogas	1512161	1.67	1545791	97.82	70	120	
Bi	209	1	nogas	5314123	1.38	4979092	106.73	70	120	
Ge	72	2	He	902302	0.14	931246	96.89	70	120	
In	115	2	He	1563345	2.83	1566227	99.82	70	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	172_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\080620A.b
Acq Date Time	2020-08-06T17:38:38-05:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	013CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	nogas	0.092	2.6	555	4.1	1	
B	11	1	nogas	7.051	12.3	71022	7.1	10	
P	31	1	nogas	6.931	16.3	38865	0.9	10	
Ca	44	1	nogas	-83.191	-5.7	167352	1.2	100	
Ti	47	1	nogas	0.194	28.6	517	21.6	2.5	
Cr	52	1	nogas	0.137	5.0	11454	2.2	2.5	
Ni	60	1	nogas	0.060	3.2	1930	2.3	2.5	
Cu	63	1	nogas	0.114	28.3	7408	7.2	2	
Zn	66	1	nogas	0.231	23.5	3847	5.9	2.5	
Se	82	1	nogas	0.212	147.4	333	23.3	2	
Sr	88	1	nogas	0.130	5.4	7435	3.0	2.5	
Mo	95	1	nogas	0.416	11.9	3694	11.9	2.5	
Ag	107	1	nogas	0.092	12.0	2597	10.8	2.5	
Cd	111	1	nogas	0.109	8.7	537	8.6	1	
Sn	118	1	nogas	0.921	10.6	16365	8.3	5	
Sb	121	1	nogas	0.567	0.9	14853	1.1	2.5	
Ba	137	1	nogas	0.228	20.2	2720	11.5	2.5	
Tl	205	1	nogas	0.211	21.9	12559	22.2	1	
Pb	208	1	nogas	0.140	11.6	14526	10.4	2.5	
U	238	1	nogas	0.100	9.1	9797	9.7	2.5	
Si	28	1	nogas	-43.605	-13.9	335633	2.8	5	
Na	23	2	He	29.588	4.5	127171	1.5	100	
Mg	24	2	He	9.713	5.0	10456	3.6	100	
Al	27	2	He	0.635	34.6	2124	5.8	5	
K	39	2	He	6.295	27.0	52372	2.2	100	
Ca	43	2	He	18.117	84.3	97	43.1	100	
Ca	44	2	He	10.057	14.6	2264	3.3	100	
V	51	2	He	0.114	18.4	1648	9.9	2.5	
Cr	52	2	He	0.111	23.5	1960	12.1	2.5	
Mn	55	2	He	0.304	4.7	4654	2.6	2.5	
Fe	56	2	He	10.273	1.4	94707	0.8	100	
Co	59	2	He	0.088	23.2	1397	18.5	2.5	
Ni	60	2	He	0.121	28.2	560	19.9	2.5	
Cu	63	2	He	0.109	14.9	3627	4.6	2	
Zn	66	2	He	0.278	18.6	1347	6.3	2.5	
As	75	2	He	0.146	9.3	229	5.9	2.5	
Sb	121	2	He	0.672	13.8	6531	11.2	2.5	
Se	78	2	He	0.247	108.5	79	31.8	2	
Ti	47	2	He	0.119	32.8	60	16.7	2.5	

Continuing Calibration Blank (CCB) Report

QC ISTD Table

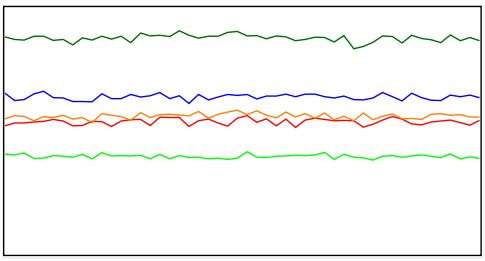
Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	1	nogas	3488003	1.65	3465128	100.66	70	120	
In	115	1	nogas	4276947	0.77	4283070	99.86	70	120	
Li	6	1	nogas	1631305	3.39	1545791	105.53	70	120	
Bi	209	1	nogas	5188790	2.05	4979092	104.21	70	120	
Ge	72	2	He	883852	0.68	931246	94.91	70	120	
In	115	2	He	1516081	3.60	1566227	96.80	70	120	

Tune Check Report

Operator Name	ALSHS NoUser
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\080620A.b
Acq. Date-Time	8/6/2020 9:05:16 AM
Report Comment	---
Instrument Name	G3281A JP09420132

[nogas]

Sensitivity



Sampling Period [sec]	0.514
Integration Time [sec]	0.1

Mass	Range	Count	Resp [cps/ug/l]	Resp (Required) [cps/ug/l]	Resp (Flag)
9	10000	5376	53758.19		
24	50000	19832	198317.02		
59	50000	31890	318899.09		
115	100000	56038	560378.55		
208	50000	43838	438383.33		

Mass	Resp Ratio	Resp Ratio (Required)	Resp Ratio (Flag)
9		-	
24		-	
59		-	
115		-	
208		-	

Mass	RSD%	RSD% (Required)	RSD% (Flag)
9	2.301	5.000	
24	1.990	5.000	
59	1.796	5.000	
115	2.011	5.000	
208	1.640	5.000	

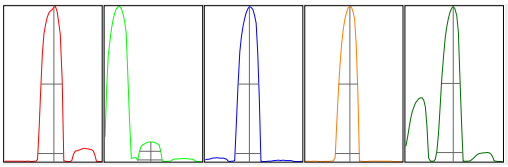
Mass	Background	Background (Required)	Background (Flag)
9	0.500		
24	0.400		
59	0.700		
115	1.200		
208	3.500		

Oxide/Doubly Charged Ratio

Oxide	156 / 140 0.606 %
Doubly Charged	70 / 140 0.763 %

Tune Check Report

Resolution/Axis



Integration Time [sec]	0.1
Acquisition Time [sec]	37.4
Y Axis	Linear

Mass	Peak Height	Axis	Axis (Required)	Axis (Flag)
9	5380.17	9.05	8.90 - 9.10	
24	19591.90	23.95	23.90 - 24.10	
59	32237.57	58.90	58.90 - 59.10	
115	56686.91	114.90	114.90 - 115.10	
208	43609.82	208.00	207.90 - 208.10	

Mass	W-50%	W-5%	W-5% (Required)	W-5% (Flag)
9	0.65	0.786		
24	0.65	0.741		
59	0.63	0.784		
115	0.57	0.739		
208	0.56	0.801		

Tune Parameters

Plasma Parameters

Plasma Mode	---	Nebulizer Gas	0.48 L/min	Dilution Gas	0.52 L/min
RF Power	1600 W	Option Gas	---	Auxiliary Gas	---
RF Matching	1.70 V	Nebulizer Pump	0.10 rps	Plasma Gas	---
Sample Depth	8.0 mm	S/C Temp	2 °C		

Lens Parameters

Extract 1	0.0 V	Omega Lens	10.0 V	Deflect	15.0 V
Extract 2	-165.0 V	Cell Entrance	-30 V	Plate Bias	-40 V
Omega Bias	-100 V	Cell Exit	-50 V		

Cell Parameters

Use Gas	No	3rd Gas Flow	---	Energy Discrimination	5.0 V
He Flow	0.0 mL/min	OctP Bias	-8.0 V		
H2 Flow	---	OctP RF	190 V		

QP Parameters

Mass Gain	144	Axis Gain	0.9941	QP Bias	-3.0 V
Mass Offset	127	Axis Offset	0.05		

Hardware Settings

Torch

Torch H	-1.0 mm	Torch V	0.5 mm

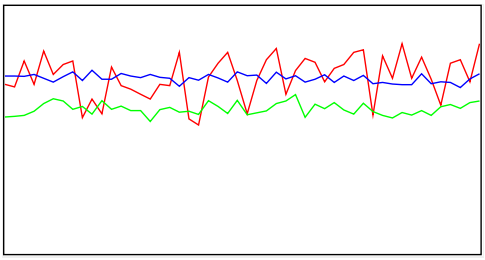
EM

Discriminator	5.0 mV	Analog HV	1847 V	Pulse HV	1465 V

[He]

Tune Check Report

Sensitivity



Sampling Period [sec]	0.306
Integration Time [sec]	0.1

Mass	Range	Count	Resp [cps/ug/l]	Resp (Required) [cps/ug/l]	Resp (Flag)
9	200	143	1431.25		
24	2000	1170	11699.04		
59	20000	14175	141752.16		

Mass	Resp Ratio	Resp Ratio (Required)	Resp Ratio (Flag)
9		-	
24		-	
59		-	

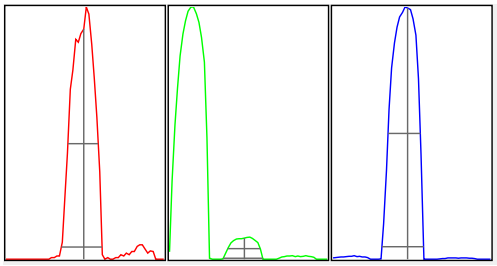
Mass	RSD%	RSD% (Required)	RSD% (Flag)
9	12.169	5.000	Fail
24	4.158	5.000	
59	2.380	5.000	

Mass	Background	Background (Required)	Background (Flag)
9	0.100		
24	0.200		
59	0.100		

Oxide/Doubly Charged Ratio

Oxide	156 / 140 0.328 %
Doubly Charged	70 / 140 1.158 %

Resolution/Axis



Integration Time [sec]	0.1
Acquisition Time [sec]	22.24
Y Axis	Linear

Mass	Peak Height	Axis	Axis (Required)	Axis (Flag)
9	149.35	9.00	8.90 - 9.10	
24	1145.73	23.95	23.90 - 24.10	
59	14221.05	58.95	58.90 - 59.10	

Mass	W-50%	W-5%	W-5% (Required)	W-5% (Flag)
9	0.57	0.762		
24	0.61	0.738		

Tune Check Report

Mass	W-50%	W-5%	W-5% (Required)	W-5% (Flag)
59	0.61	0.776		

Tune Parameters

Plasma Parameters

Plasma Mode	---	Nebulizer Gas	0.48 L/min	Dilution Gas	0.53 L/min
RF Power	1600 W	Option Gas	---	Auxiliary Gas	---
RF Matching	1.70 V	Nebulizer Pump	0.10 rps	Plasma Gas	---
Sample Depth	8.0 mm	S/C Temp	2 °C		

Lens Parameters

Extract 1	0.0 V	Omega Lens	9.4 V	Deflect	0.0 V
Extract 2	-165.0 V	Cell Entrance	-40 V	Plate Bias	-60 V
Omega Bias	-100 V	Cell Exit	-60 V		

Cell Parameters

Use Gas	Yes	3rd Gas Flow	---	Energy Discrimination	5.0 V
He Flow	3.5 mL/min	OctP Bias	-18.0 V		
H2 Flow	---	OctP RF	180 V		

QP Parameters

Mass Gain	144	Axis Gain	0.9941	QP Bias	-13.0 V
Mass Offset	127	Axis Offset	0.05		

Hardware Settings

Torch

Torch H	-1.0 mm	Torch V	0.5 mm

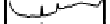
EM

Discriminator	5.0 mV	Analog HV	1847 V	Pulse HV	1465 V

HS20071328 Wet Chem Raw Data (9056_W)

ALS WO# HS20071328

Sequence: 072920
Last Update Operator: alshs.nouser

CD	Name	Comment	Type	Position	Dilution	Level	Instrument Method	Processing Method	Volume	Status
	STD1		Calibration	GB1	1.00	1	Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	STD2		Calibration	GB2	1.00	2	Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	STD3		Calibration	GB3	1.00	3	Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	STD4		Calibration	GB4	1.00	4	Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	STD5		Calibration	GB5	1.00	5	Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	STD6		Calibration	GB6	1.00	6	Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	ICV		Unknown	GB7	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	ICB		Unknown	BA3	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	CCV		Unknown	BA2	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	CCB		Unknown	BA3	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	HS20071328-16		Unknown	GC3	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	HS20071328-16MS		Unknown	GC4	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	HS20071328-16MSD		Unknown	GC5	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	CCV1		Unknown	BA4	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	CCB		Unknown	BA5	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	MBLK-072920		Unknown	BB4	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	HS20071328-16DF50		Unknown	GD4	50.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	LCS-072920		Unknown	BB2	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	CCV		Unknown	BA2	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	CCB		Unknown	BA3	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	HS20071328-16DF2		Unknown	BD6	2.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	CCV1		Unknown	BA4	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	CCB		Unknown	BB8	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	CCV		Unknown	BA2	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	CCB		Unknown	BA3	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	HS20071328-05		Unknown	GB1	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	HS20071328-06		Unknown	GB2	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	HS20071328-07		Unknown	GB3	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	HS20071328-13		Unknown	GB4	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	HS20071328-15		Unknown	GB5	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	CCV1		Unknown	BA4	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	CCB		Unknown	BB7	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished

Sequence: 072920
Last Update Operator: alshs.nouser

Inject Time
6/2/2020 11:02:48 AM -05:00
6/2/2020 11:20:59 AM -05:00
6/2/2020 11:39:04 AM -05:00
6/2/2020 11:57:10 AM -05:00
6/2/2020 12:15:18 PM -05:00
6/2/2020 12:33:22 PM -05:00
6/2/2020 12:51:27 PM -05:00
6/2/2020 1:45:50 PM -05:00
7/29/2020 11:09:31 PM -05:00
7/29/2020 11:27:37 PM -05:00
7/30/2020 12:21:56 AM -05:00
7/30/2020 12:40:02 AM -05:00
7/30/2020 12:58:07 AM -05:00
7/30/2020 3:04:52 AM -05:00
7/30/2020 3:41:06 AM -05:00
7/30/2020 3:59:11 AM -05:00
7/30/2020 4:17:18 AM -05:00
7/30/2020 6:42:08 AM -05:00
7/30/2020 7:00:14 AM -05:00
7/30/2020 7:18:21 AM -05:00
7/30/2020 10:32:25 AM -05:00
7/30/2020 11:08:42 AM -05:00
7/30/2020 11:26:48 AM -05:00
7/31/2020 5:15:13 AM -05:00
7/31/2020 5:33:19 AM -05:00
7/31/2020 7:03:52 AM -05:00
7/31/2020 7:21:58 AM -05:00
7/31/2020 7:40:03 AM -05:00
7/31/2020 7:58:09 AM -05:00
7/31/2020 8:16:14 AM -05:00
7/31/2020 8:34:21 AM -05:00
7/31/2020 9:34:40 AM -05:00

Sequence: 072920
Injection #6: STD6

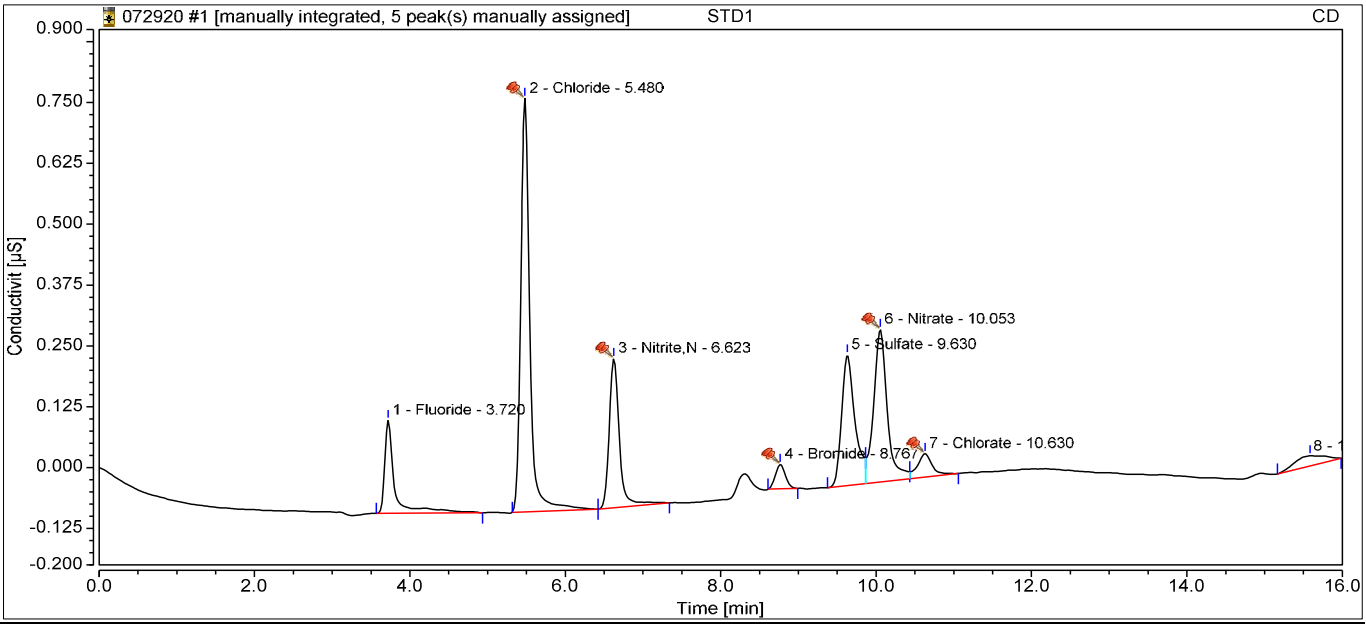
Calibration

Peak No.	Peak Name	Cal.Type	Eval.Type	Number of Points	Rel.Std.Dev. %	Coeff.of Determination	C0 (Offset)	C1 (Slope)	C2 (Curve)
1	*Fluoride*	*Lin, WithOffset, 1/*	*Area*	*6*	*10.8139*	*0.99942*	*-0.0046*	*0.3376*	*0.0000*
2	Chloride	Lin, WithOffset, 1/	Area	6	3.4292	0.99994	0.0066	0.2216	0.0000
3	Nitrite,N	Lin, WithOffset, 1/	Area	6	25.3231	0.99619	0.0124	0.4569	0.0000
4	Bromide	Lin, WithOffset, 1/	Area	6	11.6783	0.99936	-0.0023	0.0890	0.0000
5	Sulfate	Lin, WithOffset, 1/	Area	6	4.6337	0.99991	-0.0317	0.1582	0.0000
6	Nitrate	Lin, WithOffset, 1/	Area	6	5.8899	0.99981	0.0058	0.5970	0.0000
7	Chlorate	Lin, WithOffset, 1/	Area	6	15.6369	0.99851	0.0032	0.0971	0.0000
8	Phosphate	Lin, WithOffset, 1/	Area	5	24.1443	0.99440	-0.0555	0.1862	0.0000
Maximum					**25.3231**	0.99994			
Minimum					3.4292	**0.99440**			

1 STD1

Sample Name:	**STD1**	*Injection Volume:*	**5.00**
Vial Number:	**GB1**	*Channel:*	**CD**
Sample Type:	**Calibration Standard**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**06/02/2020 11:02**	*Sample Weight:*	**1.0000**

Run Time:

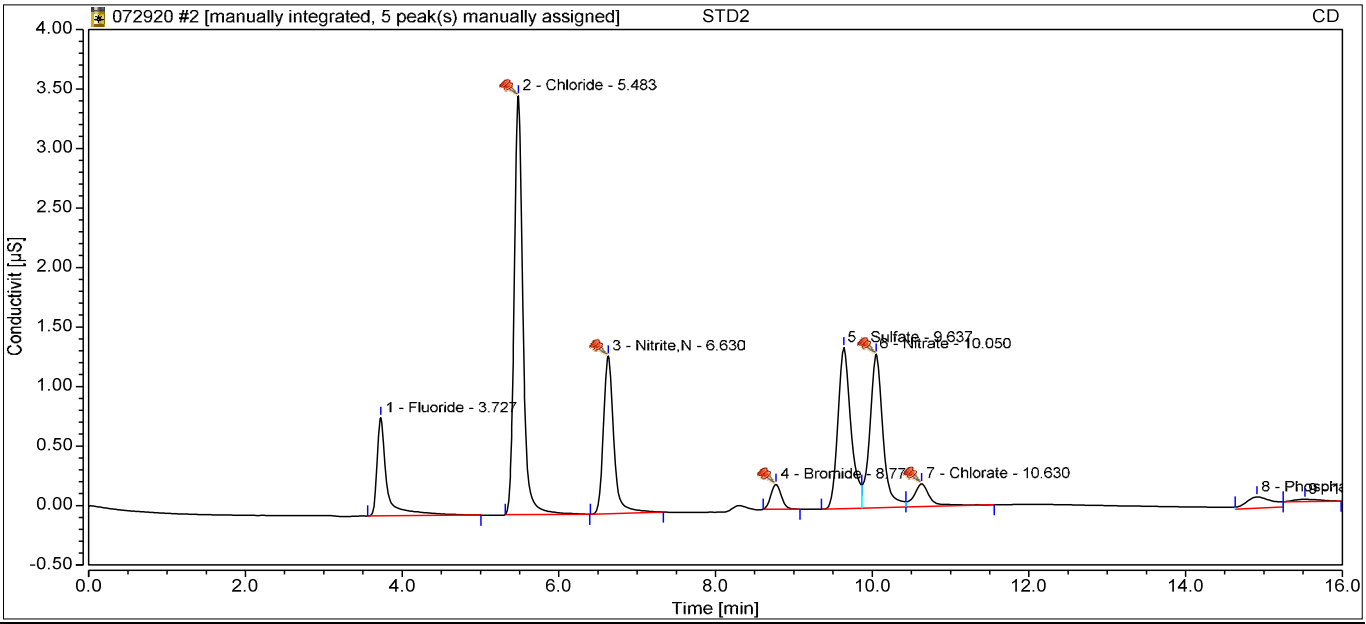


Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.72	Fluoride	BMB	0.029	0.0982	0.0982	1.0000
2	5.48	Chloride	BMB^	0.115	0.4904	0.4904	1.0000
3	6.62	Nitrite,N	BMB*^	0.046	0.0745	0.0745	1.0000
4	8.77	Bromide	BMB^	0.007	0.1093	0.1093	1.0000
5	9.63	Sulfate	BM	0.053	0.5374	0.5374	1.0000
6	10.05	Nitrate	M ^	0.064	0.0969	0.0969	1.0000
7	10.63	Chlorate	MB^	0.011	0.0775	0.0775	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**0.325**		**1.48**	

2 STD2			
Sample Name:	**STD2**	*Injection Volume:*	**5.00**
Vial Number:	**GB2**	*Channel:*	**CD**
Sample Type:	**Calibration Standard**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**06/02/2020 11:20**	*Sample Weight:*	**1.0000**

Run Time:



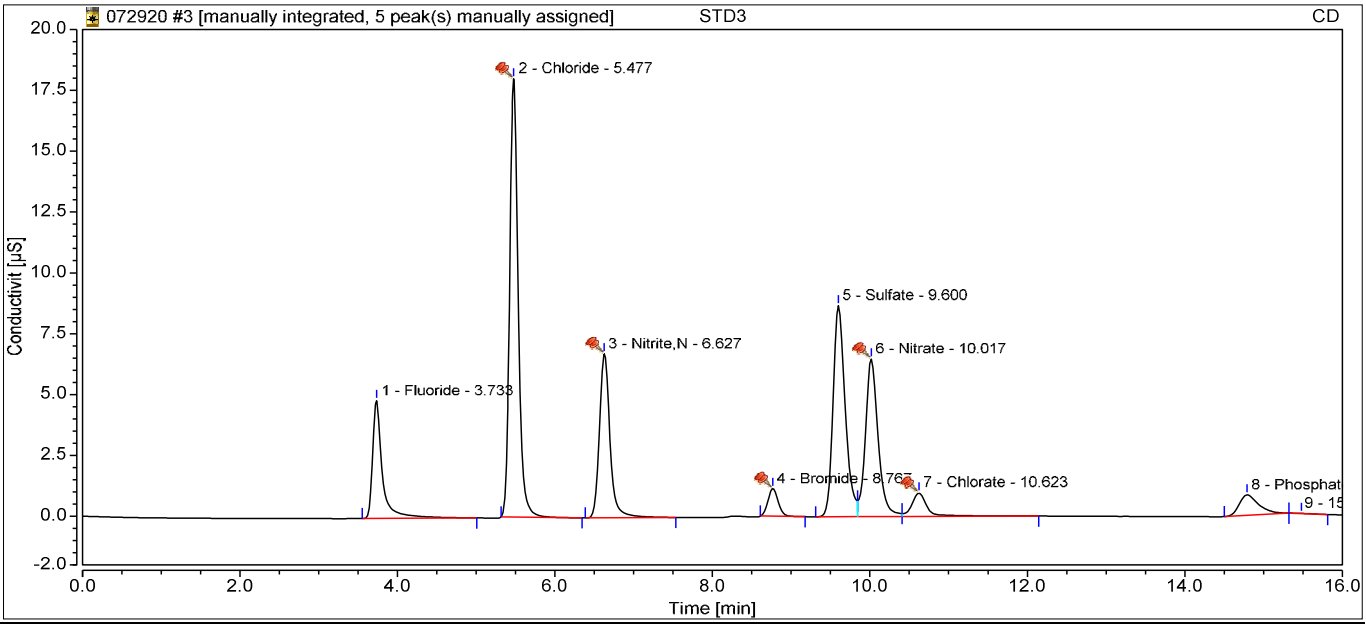
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.73	Fluoride	BMB	0.122	0.3761	0.3761	1.0000
2	5.48	Chloride	BMB^	0.452	2.0081	2.0081	1.0000
3	6.63	Nitrite,N	BMB*^	0.202	0.4159	0.4159	1.0000
4	8.77	Bromide	BMB^	0.032	0.3810	0.3810	1.0000
5	9.64	Sulfate	BM	0.263	1.8631	1.8631	1.0000
6	10.05	Nitrate	M ^	0.253	0.4135	0.4135	1.0000
7	10.63	Chlorate	MB^	0.046	0.4359	0.4359	1.0000
8	14.91	Phosphate	M *	0.037	0.4982	0.4982	1.0000
Total:			**0.000**	**1.407**		**6.39**	

3 STD3

Sample Name:	**STD3**	*Injection Volume:*	**5.00**
Vial Number:	**GB3**	*Channel:*	**CD**
Sample Type:	**Calibration Standard**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**06/02/2020 11:39**	*Sample Weight:*	**1.0000**

Run Time:



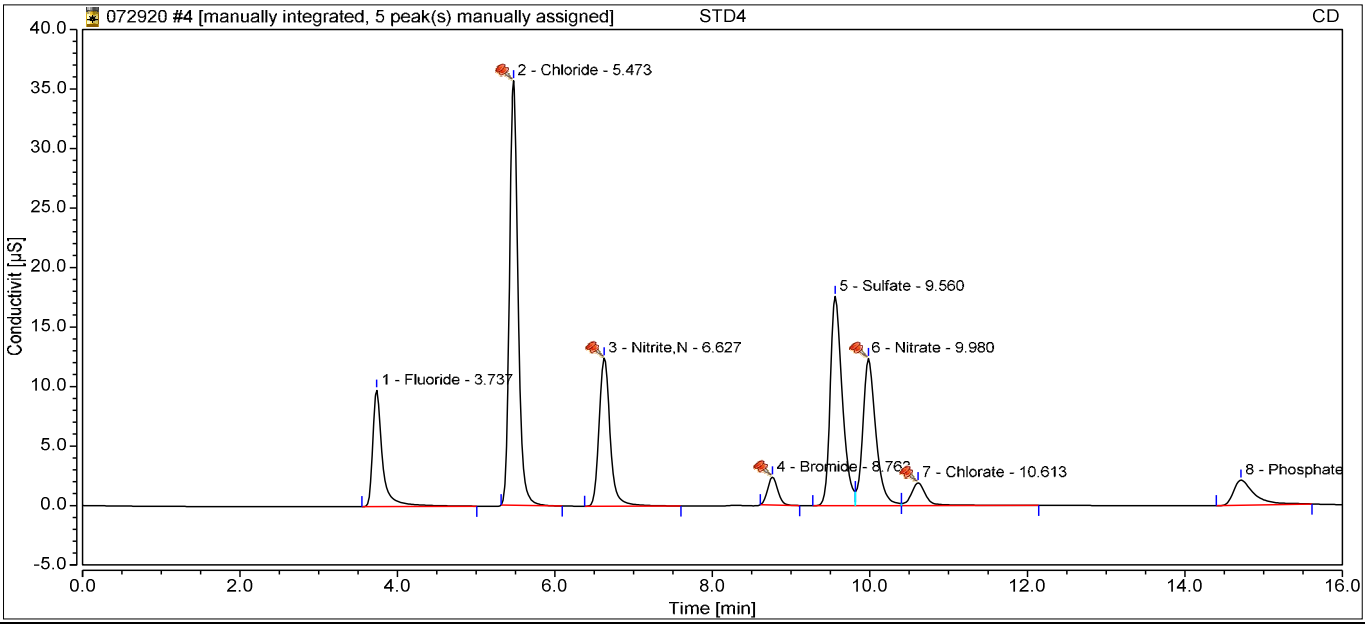
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.73	Fluoride	BMB	0.697	2.0782	2.0782	1.0000
2	5.48	Chloride	BMB^	2.257	10.1575	10.1575	1.0000
3	6.63	Nitrite,N	BMB*^	1.049	2.2692	2.2692	1.0000
4	8.77	Bromide	BMB^	0.172	1.9524	1.9524	1.0000
5	9.60	Sulfate	BM	1.543	9.9532	9.9532	1.0000
6	10.02	Nitrate	M ^	1.213	2.0220	2.0220	1.0000
7	10.62	Chlorate	MB^	0.220	2.2332	2.2332	1.0000
8	14.79	Phosphate	BMB	0.243	1.6042	1.6042	1.0000
Total:			**0.000**	**7.394**		**32.27**	

4 STD4

Sample Name:	**STD4**	*Injection Volume:*	**5.00**
Vial Number:	**GB4**	*Channel:*	**CD**
Sample Type:	**Calibration Standard**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**06/02/2020 11:57**	*Sample Weight:*	**1.0000**

Run Time:



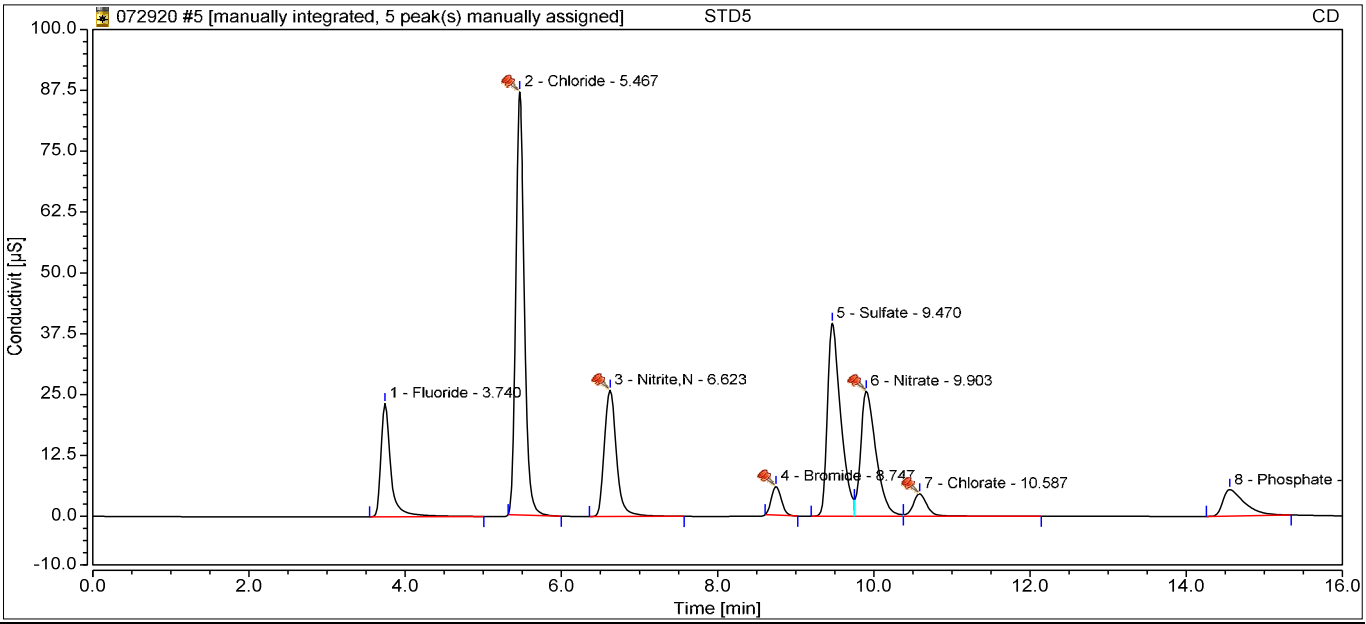
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.74	Fluoride	BMB	1.406	4.1793	4.1793	1.0000
2	5.47	Chloride	BMB^	4.475	20.1656	20.1656	1.0000
3	6.63	Nitrite,N	BMB*^	2.031	4.4170	4.4170	1.0000
4	8.76	Bromide	BMB^	0.350	3.9560	3.9560	1.0000
5	9.56	Sulfate	BM	3.131	19.9943	19.9943	1.0000
6	9.98	Nitrate	M ^	2.388	3.9909	3.9909	1.0000
7	10.61	Chlorate	MB^	0.410	4.1864	4.1864	1.0000
8	14.71	Phosphate	BMB*	0.647	3.7708	3.7708	1.0000
Total:			**0.000**	**14.837**		**64.66**	

5 STD5

Sample Name:	**STD5**	*Injection Volume:*	**5.00**
Vial Number:	**GB5**	*Channel:*	**CD**
Sample Type:	**Calibration Standard**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**06/02/2020 12:15**	*Sample Weight:*	**1.0000**

Run Time:



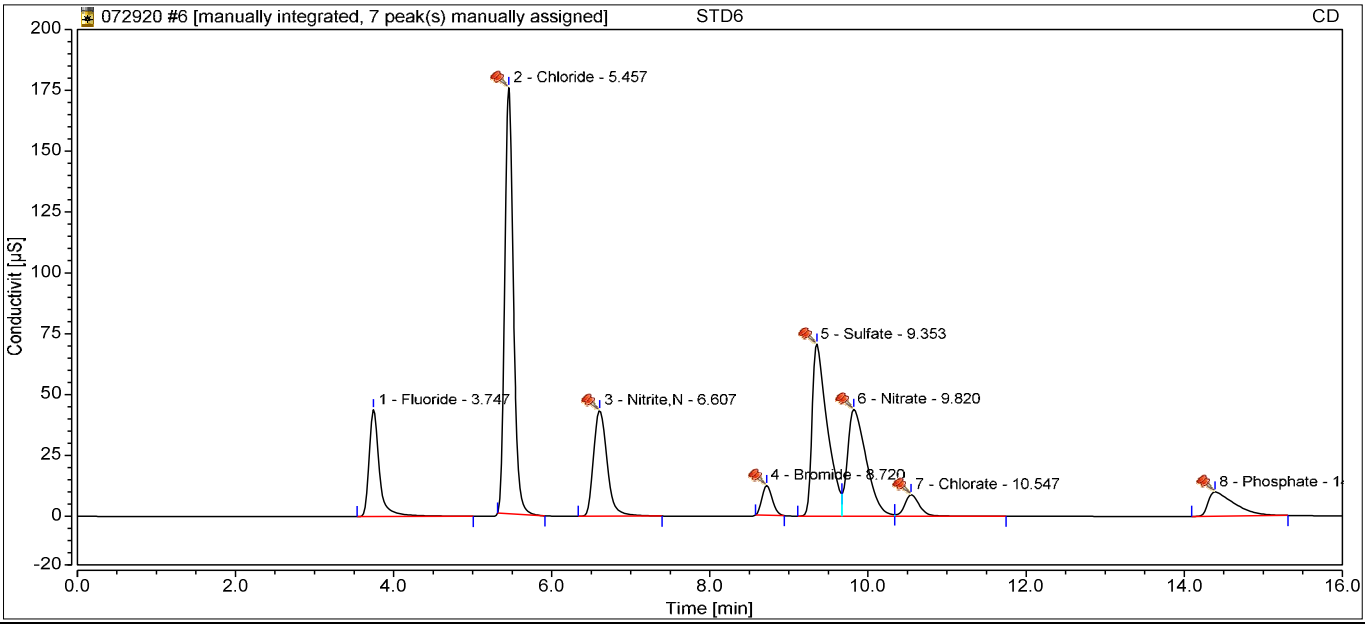
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.74	Fluoride	BMB	3.409	10.1112	10.1112	1.0000
2	5.47	Chloride	BMB^	10.962	49.4436	49.4436	1.0000
3	6.62	Nitrite,N	BMB*^	4.673	10.1996	10.1996	1.0000
4	8.75	Bromide	BMB^	0.860	9.6874	9.6874	1.0000
5	9.47	Sulfate	BM	7.832	49.7141	49.7141	1.0000
6	9.90	Nitrate	M ^	5.855	9.7981	9.7981	1.0000
7	10.59	Chlorate	MB^	0.963	9.8794	9.8794	1.0000
8	14.56	Phosphate	BMB*	1.744	9.6675	9.6675	1.0000
Total:			**0.000**	**36.299**		**158.50**	

6 STD6

Sample Name:	**STD6**	*Injection Volume:*	**5.00**
Vial Number:	**GB6**	*Channel:*	**CD**
Sample Type:	**Calibration Standard**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**06/02/2020 12:33**	*Sample Weight:*	**1.0000**

Run Time:



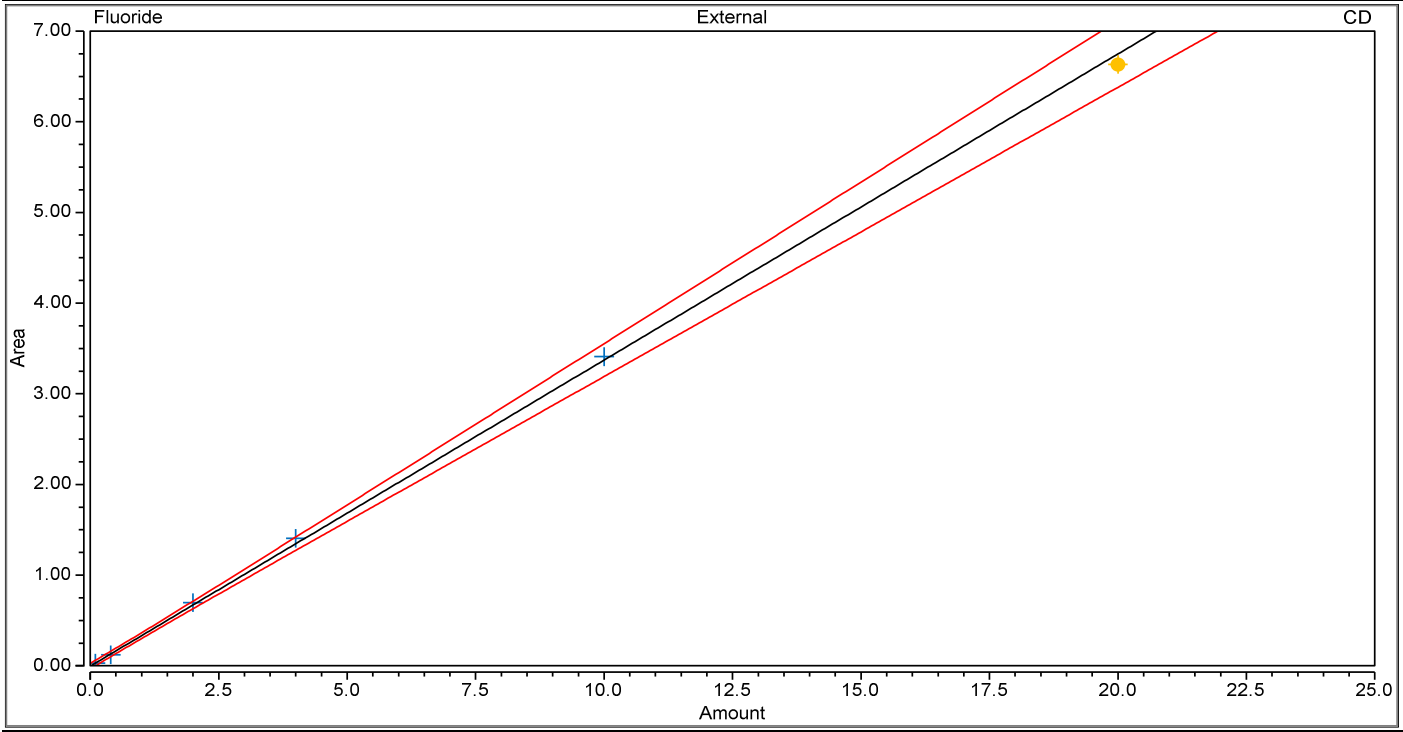
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.75	Fluoride	BMB	6.632	19.6569	19.6569	1.0000
2	5.46	Chloride	BMB^	22.217	100.2349	100.2349	1.0000
3	6.61	Nitrite,N	BMB*^	8.750	19.1238	19.1238	1.0000
4	8.72	Bromide	BMB*^	1.815	20.4140	20.4140	1.0000
5	9.35	Sulfate	BM ^	15.855	100.4380	100.4380	1.0000
6	9.82	Nitrate	M ^	12.052	20.1786	20.1786	1.0000
7	10.55	Chlorate	MB^	1.916	19.6877	19.6877	1.0000
8	14.39	Phosphate	BMB*^	3.828	20.8593	20.8593	1.0000
Total:			**0.000**	**73.065**		**320.59**	

Calibration

Calibration Details	Fluoride		
Calibration Type	Lin, WithOffset, 1/A	*Offset (C0)*	-0.0046
Evaluation Type	Area	*Slope (C1)*	0.3376
Number of Calibration Points	6	*Curve (C2)*	0.0000
Number of disabled Calibration Points	0	*R-Square*	0.9994

Calibration Plot **Fluoride**



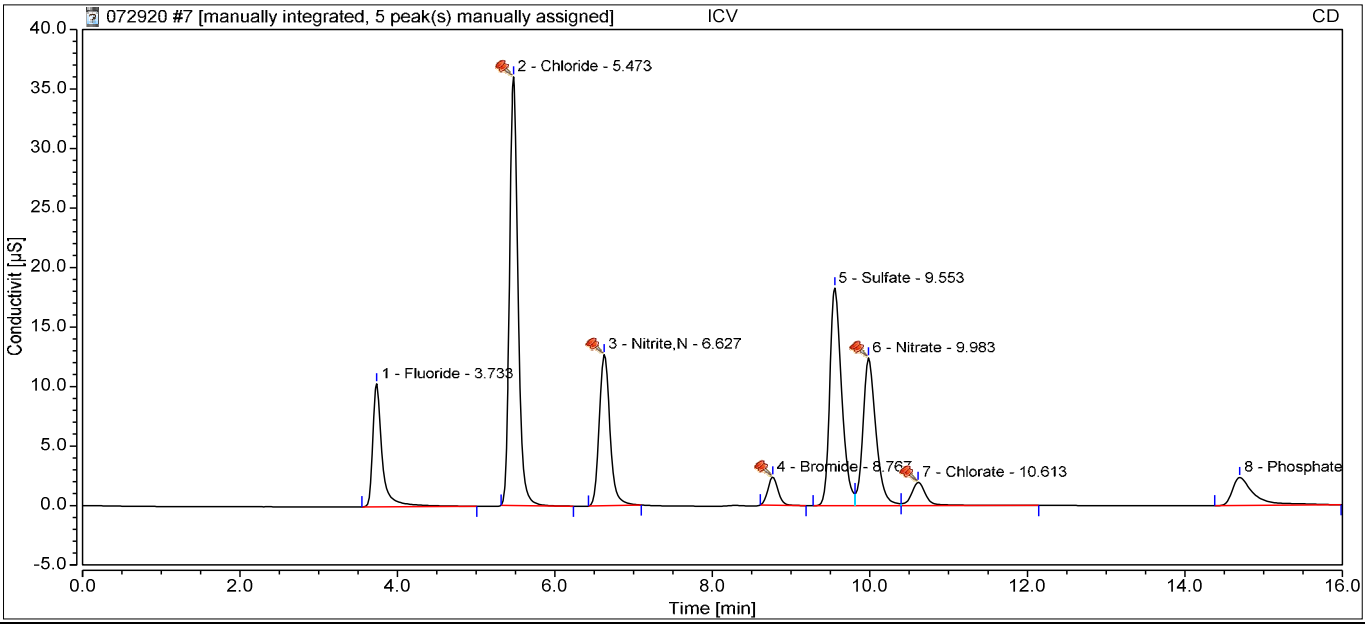
Calibration Results **Fluoride**

No.	Injection Name	Calibration Level	X Value CD Fluoride	Y Value CD Fluoride	Y Value CD Fluoride	Area µS*min CD Fluoride	Height µS CD Fluoride
1	STD1	1	0.1000	0.0285	0.0285	0.029	0.191
2	STD2	2	0.4000	0.1224	0.1224	0.122	0.826
3	STD3	3	2.0000	0.6970	0.6970	0.697	4.841
4	STD4	4	4.0000	1.4064	1.4064	1.406	9.790
5	STD5	5	10.0000	3.4092	3.4092	3.409	23.253
6	STD6	6	20.0000	6.6320	6.6320	6.632	43.889

7 ICV

Sample Name:	**ICV**	*Injection Volume:*	**5.00**
Vial Number:	**GB7**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**06/02/2020 12:51**	*Sample Weight:*	**1.0000**

Run Time:



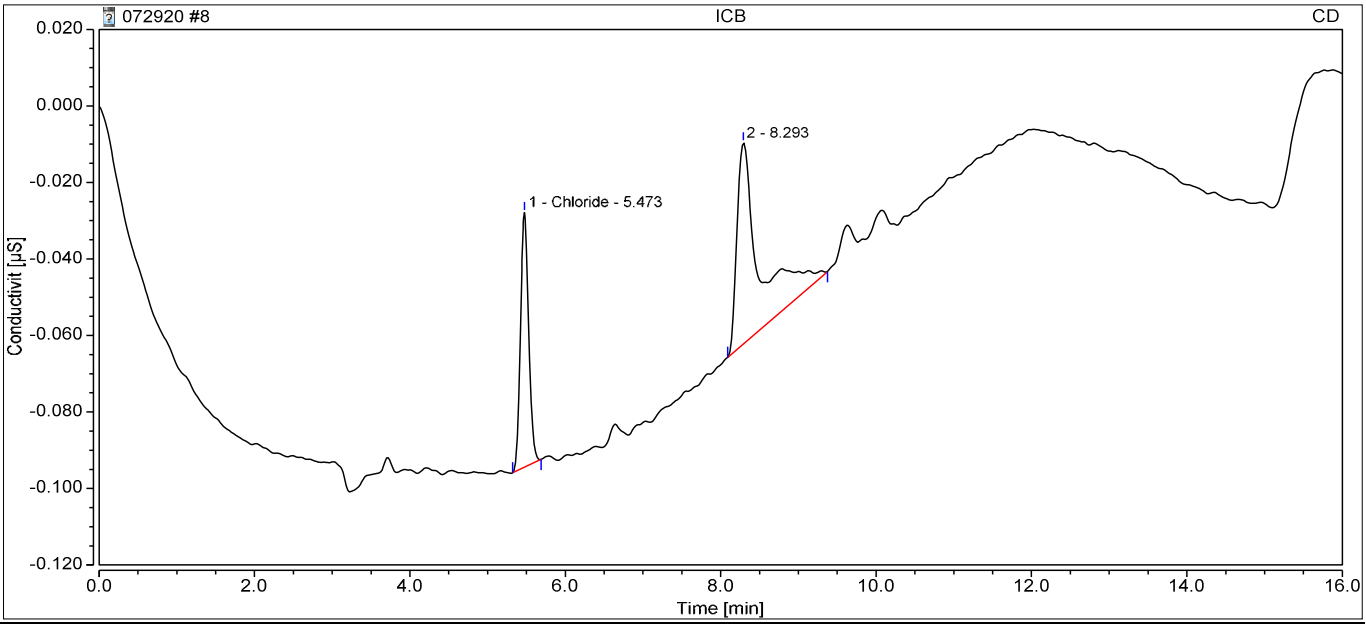
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.73	Fluoride	BMB	1.442	4.2839	4.2839	1.0000
2	5.47	Chloride	BMB^	4.508	20.3168	20.3168	1.0000
3	6.63	Nitrite,N	BMB*^	2.013	4.3785	4.3785	1.0000
4	8.77	Bromide	BMB^	0.352	3.9794	3.9794	1.0000
5	9.55	Sulfate	BM	3.208	20.4827	20.4827	1.0000
6	9.98	Nitrate	M ^	2.387	3.9894	3.9894	1.0000
7	10.61	Chlorate	MB^	0.412	4.2081	4.2081	1.0000
8	14.70	Phosphate	BMB	0.762	4.3926	4.3926	1.0000
Total:			**0.000**	**15.085**		**66.03**	

8 ICB

Sample Name:	**ICB**	*Injection Volume:*	**5.00**
Vial Number:	**BA3**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**06/02/2020 13:45**	*Sample Weight:*	**1.0000**

Run Time:

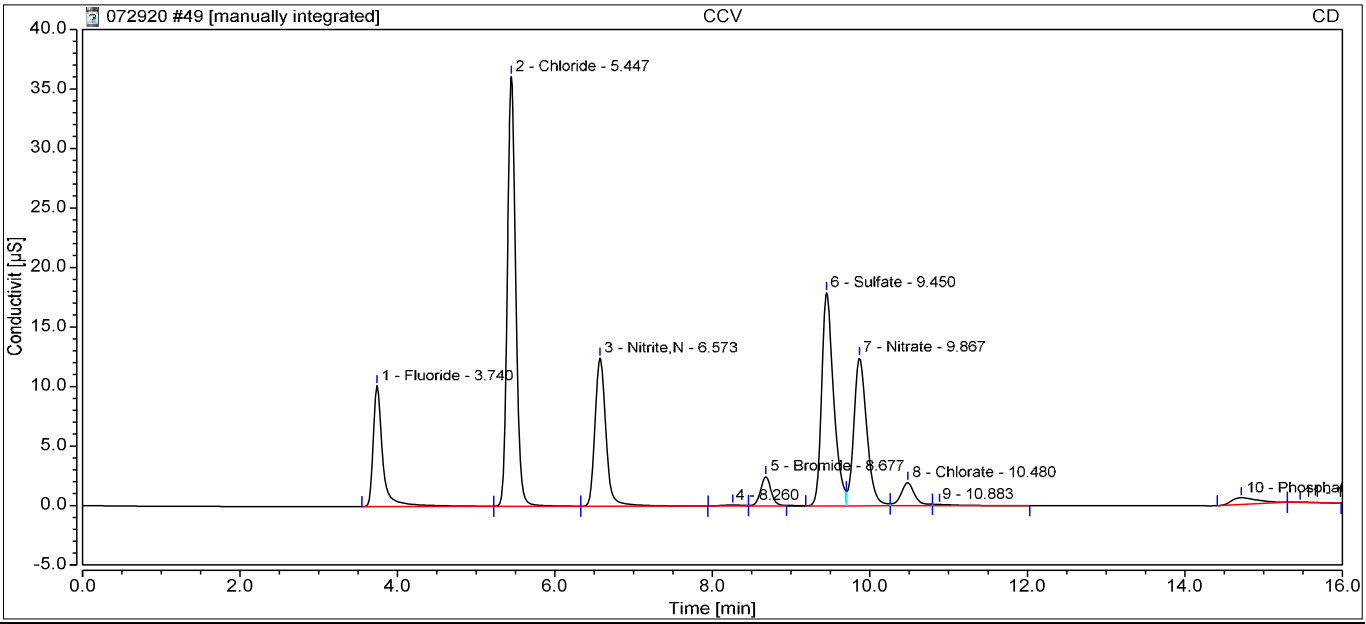


Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	1.0000
1	5.47	Chloride	BMB	0.008	0.0067	0.0067	1.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Sulfate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**0.008**		**0.01**	

49 CCV			
Sample Name:	**CCV**	*Injection Volume:*	**5.00**
Vial Number:	**BA2**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**07/29/2020 23:09**	*Sample Weight:*	**1.0000**

Run Time:



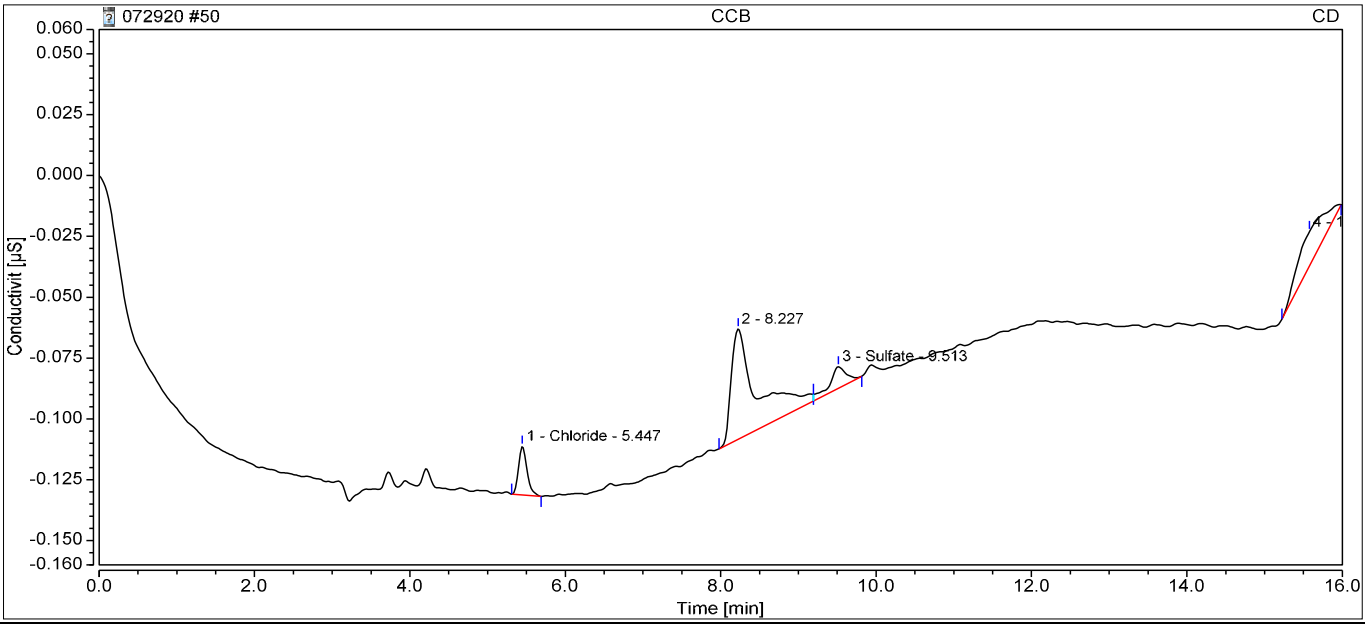
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.74	Fluoride	BMB	1.418	4.2127	4.2127	1.0000
2	5.45	Chloride	BMB	4.494	20.2540	20.2540	1.0000
3	6.57	Nitrite,N	BMB	2.002	4.3538	4.3538	1.0000
5	8.68	Bromide	M *	0.385	4.3535	4.3535	1.0000
6	9.45	Sulfate	M	3.188	20.3531	20.3531	1.0000
7	9.87	Nitrate	M	2.357	3.9388	3.9388	1.0000
8	10.48	Chlorate	M	0.395	4.0341	4.0341	1.0000
10	14.72	Phosphate	BMB	0.221	1.4848	1.4848	1.0000
Total:			**0.000**	**14.460**		**62.98**	

50 CCB

Sample Name:	**CCB**	*Injection Volume:*	**5.00**
Vial Number:	**BA3**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**07/29/2020 23:27**	*Sample Weight:*	**1.0000**

Run Time:



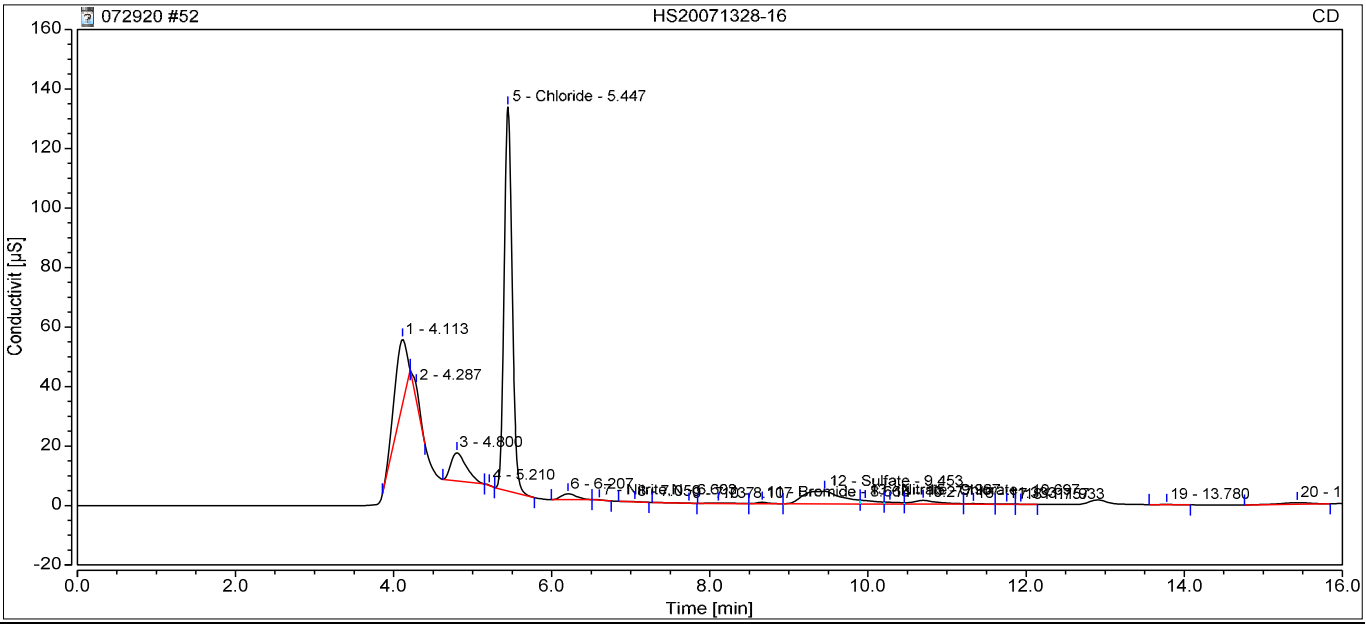
Integration Results

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.	1.0000
1	5.45	Chloride	BMB	0.003	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
3	9.51	Sulfate	MB	0.002	0.2140	0.2140	1.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**0.005**		**0.21**	

52 HS20071328-16

Sample Name:	**HS20071328-16**	*Injection Volume:*	**5.00**
Vial Number:	**GC3**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**07/30/2020 00:21**	*Sample Weight:*	**1.0000**

Run Time:



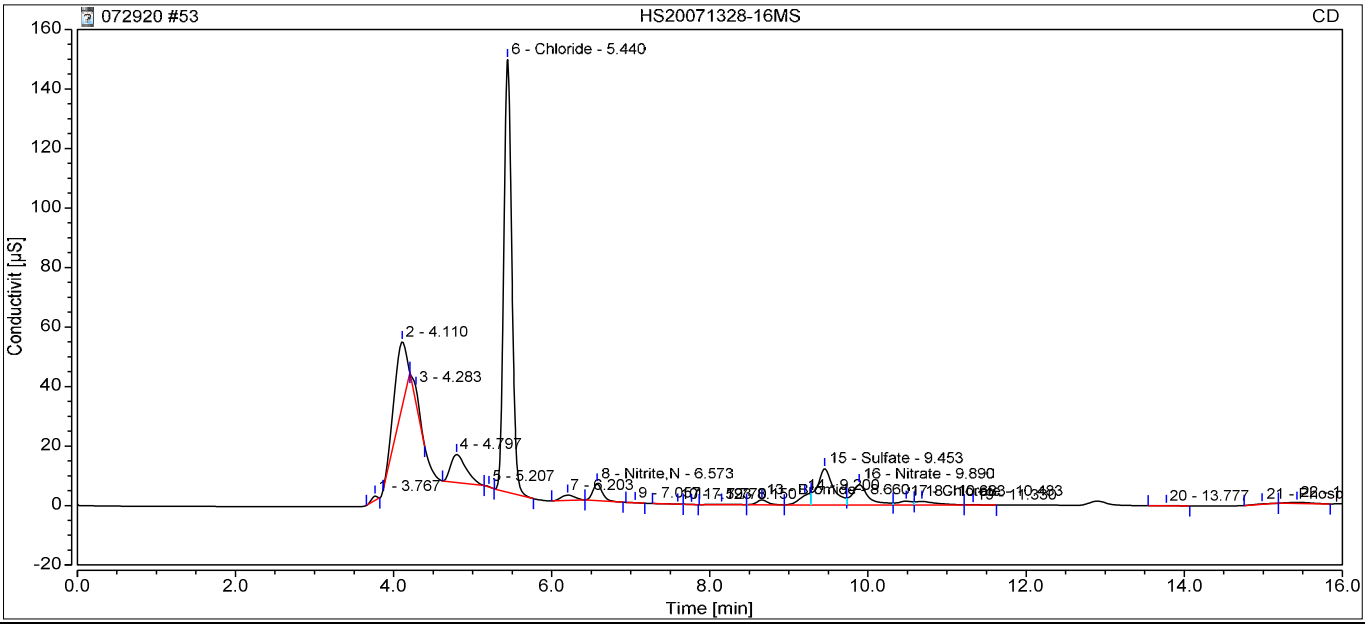
Integration Results

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
5	5.45	Chloride	BMB	15.153	68.3549	68.3549	1.0000
7	6.60	Nitrite,N	BMB	0.011	n.a.	n.a.	1.0000
11	8.66	Bromide	M	0.084	0.9731	0.9731	1.0000
12	9.45	Sulfate	M	2.380	15.2469	15.2469	1.0000
13	9.97	Nitrate	M	0.281	0.4602	0.4602	1.0000
15	10.70	Chlorate	M	0.466	4.7644	4.7644	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**18.374**		**89.80**	

53 HS20071328-16MS

Sample Name:	**HS20071328-16MS**	*Injection Volume:*	**5.00**
Vial Number:	**GC4**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**07/30/2020 00:40**	*Sample Weight:*	**1.0000**

Run Time:



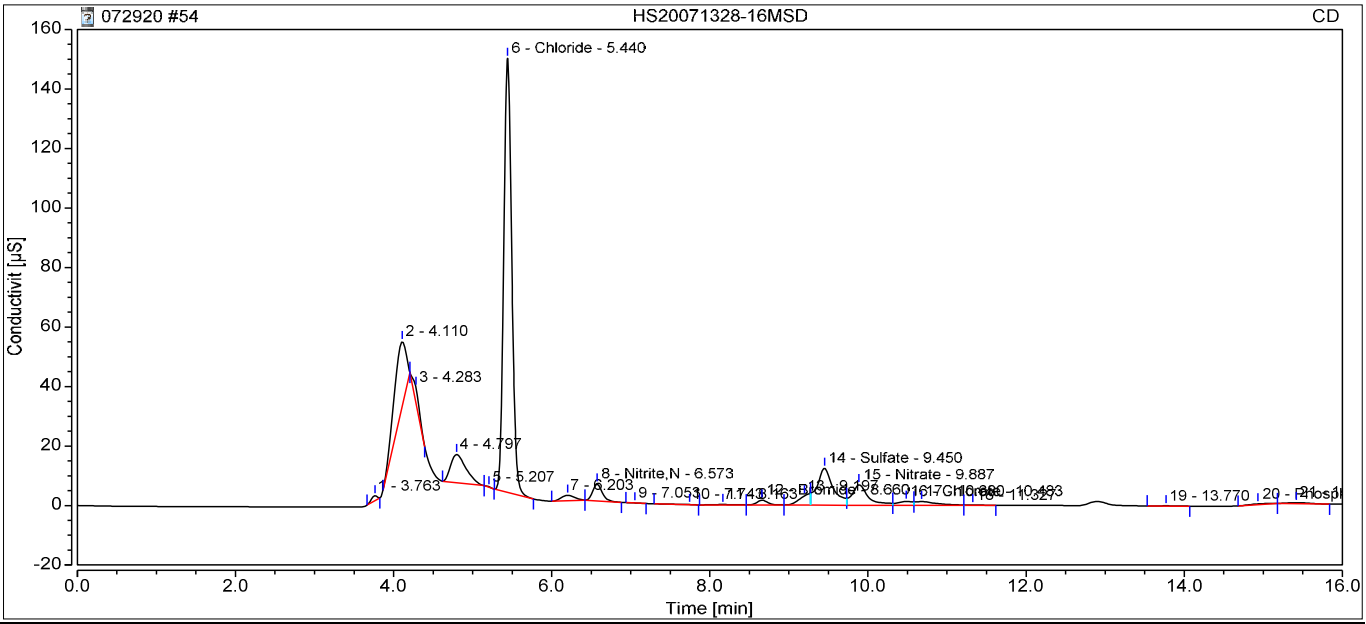
Integration Results

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
6	5.44	Chloride	BMB	17.043	76.8862	76.8862	1.0000
8	6.57	Nitrite,N	BMB	0.795	1.7117	1.7117	1.0000
13	8.66	Bromide	M	0.277	3.1362	3.1362	1.0000
15	9.45	Sulfate	M	2.852	18.2301	18.2301	1.0000
16	9.89	Nitrate	M	1.620	2.7033	2.7033	1.0000
17	10.48	Chlorate	M	0.273	2.7767	2.7767	1.0000
21	14.98	Phosphate	BMB	0.032	0.4716	0.4716	1.0000
Total:			**0.000**	**22.891**		**105.92**	

54 HS20071328-16MSD

Sample Name:	**HS20071328-16MSD**	*Injection Volume:*	**5.00**
Vial Number:	**GC5**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**07/30/2020 00:58**	*Sample Weight:*	**1.0000**

Run Time:



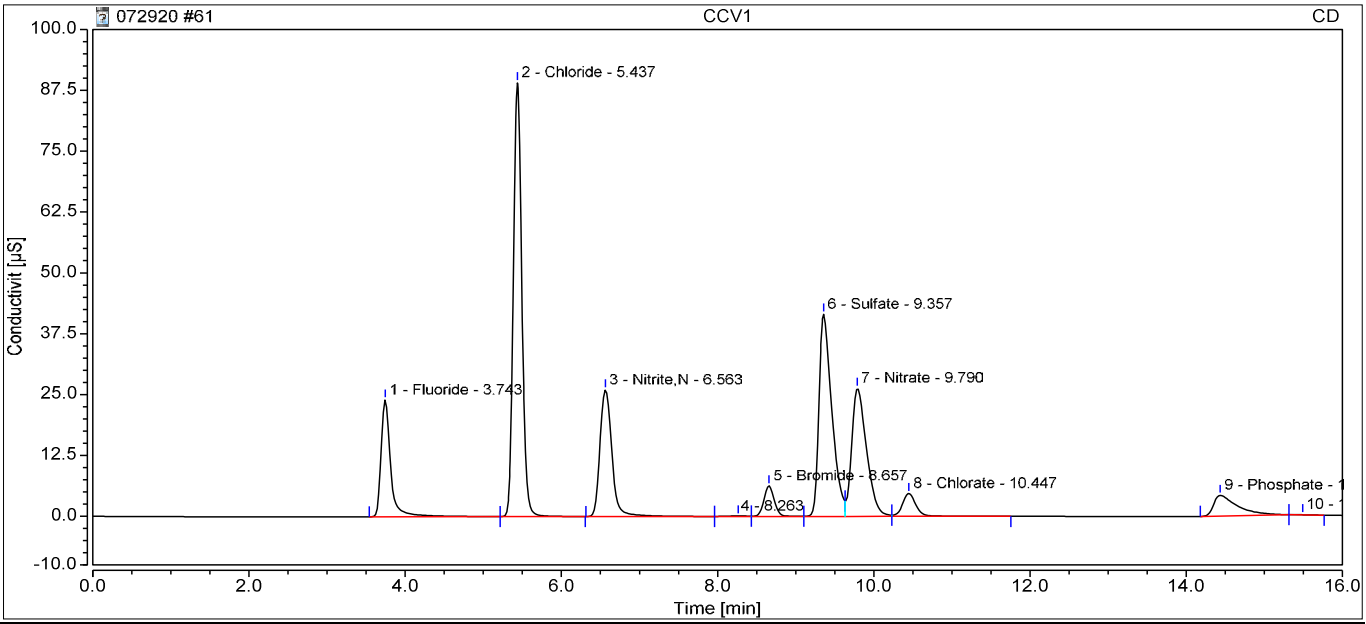
Integration Results

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
6	5.44	Chloride	BMB	17.095	77.1211	77.1211	1.0000
8	6.57	Nitrite,N	BMB	0.802	1.7278	1.7278	1.0000
12	8.66	Bromide	M	0.283	3.2027	3.2027	1.0000
14	9.45	Sulfate	M	2.903	18.5549	18.5549	1.0000
15	9.89	Nitrate	M	1.618	2.7000	2.7000	1.0000
16	10.48	Chlorate	M	0.274	2.7865	2.7865	1.0000
20	14.93	Phosphate	BMB	0.071	0.6800	0.6800	1.0000
Total:			**0.000**	**23.046**		**106.77**	

61 CCV1

Sample Name:	**CCV1**	*Injection Volume:*	**5.00**
Vial Number:	**BA4**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**07/30/2020 03:04**	*Sample Weight:*	**1.0000**

Run Time:



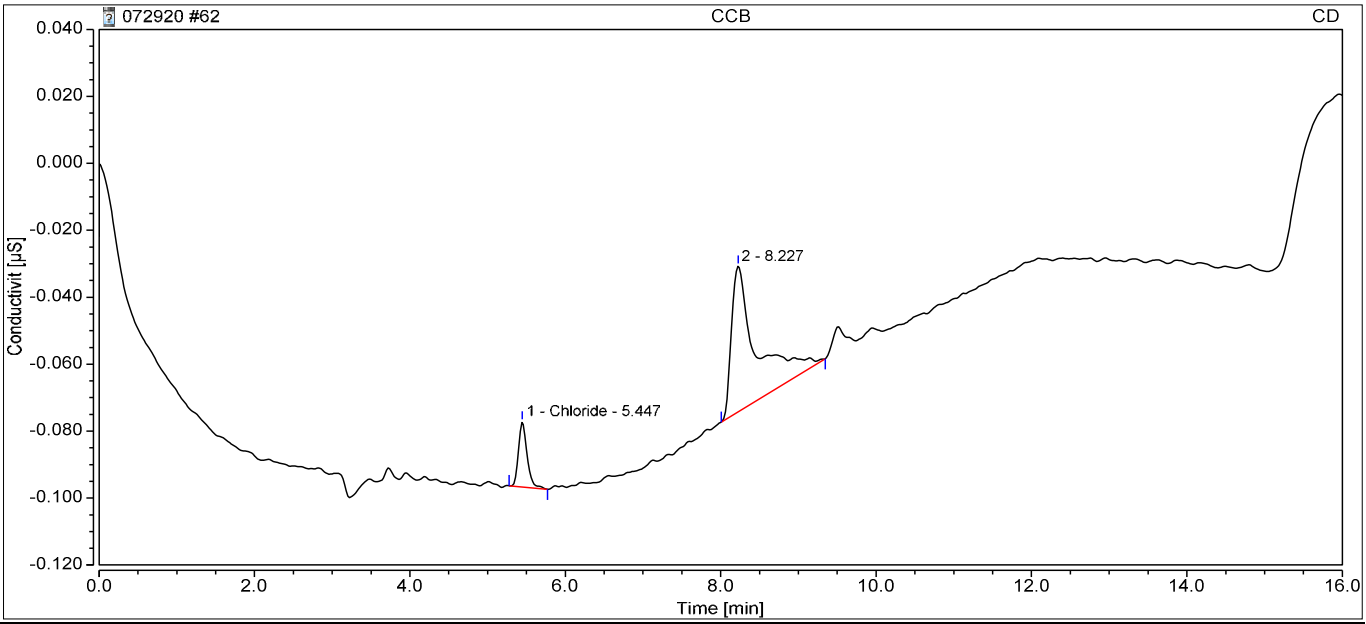
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.74	Fluoride	BMB	3.408	10.1080	10.1080	1.0000
2	5.44	Chloride	BMB	11.111	50.1127	50.1127	1.0000
3	6.56	Nitrite,N	BMB	4.616	10.0763	10.0763	1.0000
5	8.66	Bromide	M	0.972	10.9361	10.9361	1.0000
6	9.36	Sulfate	M	7.925	50.3071	50.3071	1.0000
7	9.79	Nitrate	M	5.783	9.6776	9.6776	1.0000
8	10.45	Chlorate	MB	0.943	9.6732	9.6732	1.0000
9	14.44	Phosphate	BMB	1.501	8.3584	8.3584	1.0000
Total:			**0.000**	**36.259**		**159.25**	

62 CCB

Sample Name:	**CCB**	*Injection Volume:*	**5.00**
Vial Number:	**BA5**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**07/30/2020 03:41**	*Sample Weight:*	**1.0000**

Run Time:



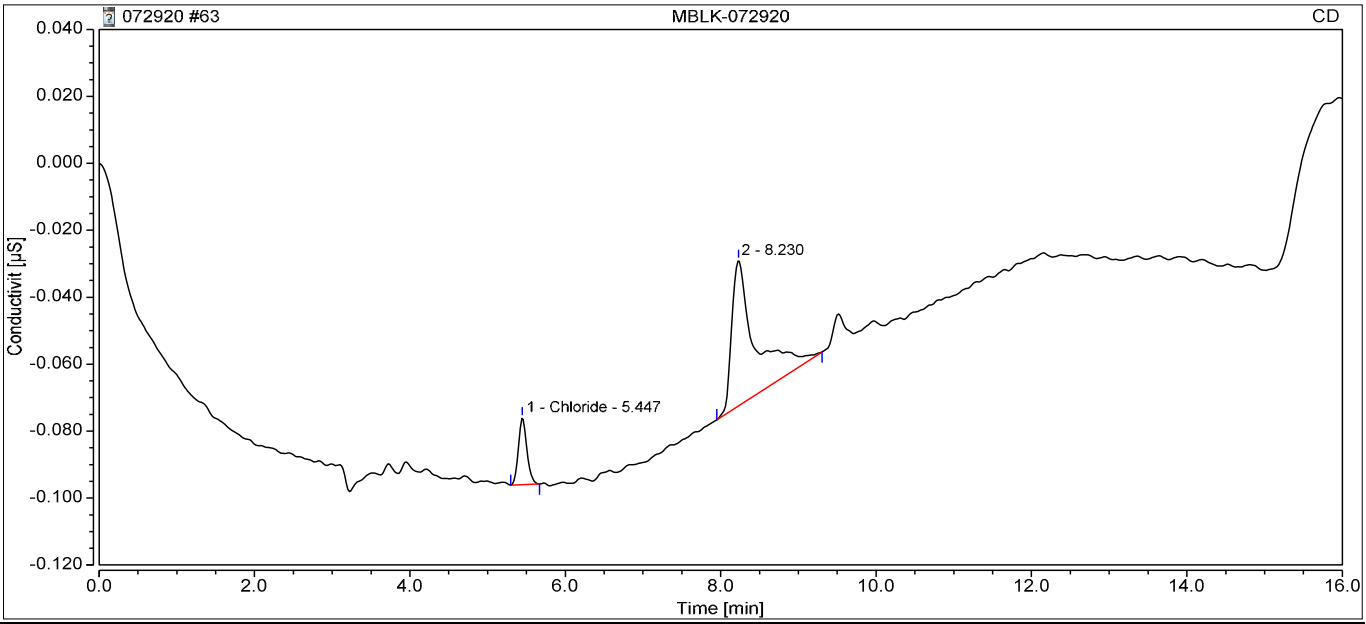
Integration Results

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
1	5.45	Chloride	BMB	0.003	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Sulfate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**0.003**		**0.00**	

63 MBLK-072920

Sample Name:	**MBLK-072920**	*Injection Volume:*	**5.00**
Vial Number:	**BB4**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**07/30/2020 03:59**	*Sample Weight:*	**1.0000**

Run Time:



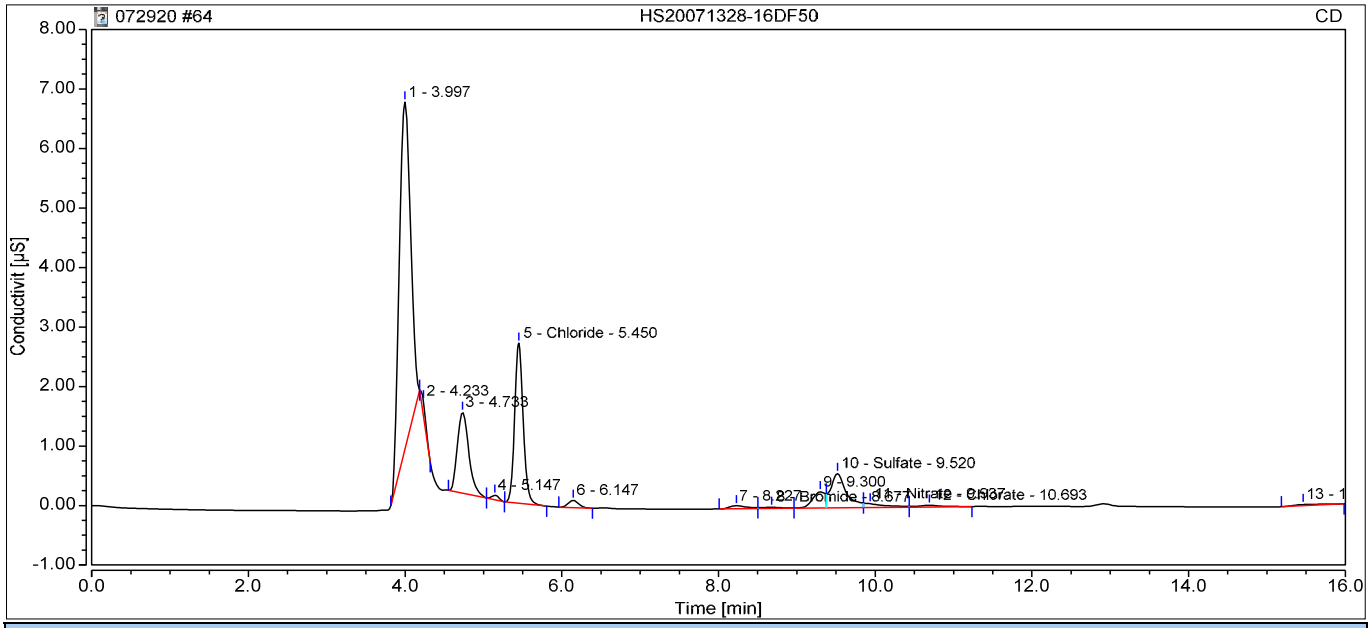
Integration Results

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	5.45	Chloride	BMB	0.003	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Sulfate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**0.003**		**0.00**	

64 HS20071328-16DF50

Sample Name:	**HS20071328-16DF50**	*Injection Volume:*	**5.00**
Vial Number:	**GD4**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**50.0000**
Recording Time:	**07/30/2020 04:17**	*Sample Weight:*	**1.0000**

Run Time:



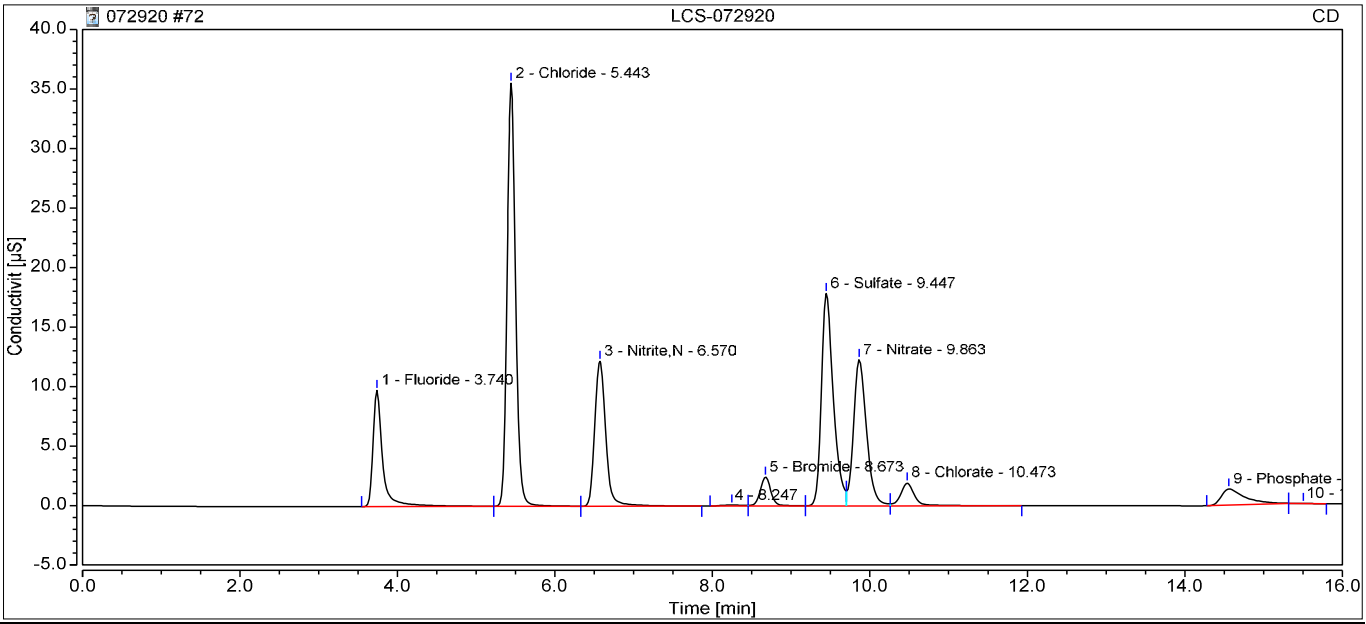
Integration Results

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
5	5.45	Chloride	BMB	0.337	1.4930	74.6490	50.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	50.0000
8	8.68	Bromide	M	0.006	0.0963	4.8130	50.0000
10	9.52	Sulfate	M	0.132	1.0354	51.7713	50.0000
11	9.94	Nitrate	M	0.020	0.0243	1.2170	50.0000
12	10.69	Chlorate	MB	0.009	0.0630	3.1486	50.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	50.0000
Total:			**0.000**	**0.505**		**135.60**	

72 LCS-072920

Sample Name:	**LCS-072920**	*Injection Volume:*	**5.00**
Vial Number:	**BB2**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**07/30/2020 06:42**	*Sample Weight:*	**1.0000**

Run Time:



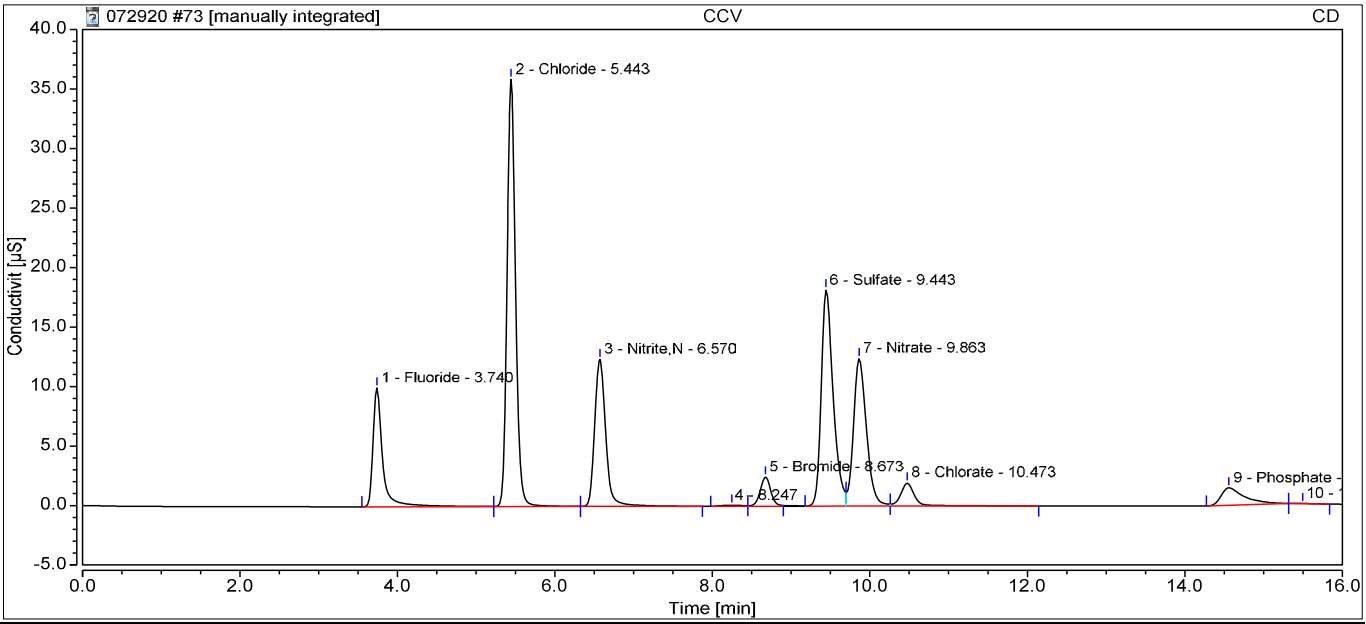
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.74	Fluoride	BMB	1.380	4.1022	4.1022	1.0000
2	5.44	Chloride	BMB	4.457	20.0867	20.0867	1.0000
3	6.57	Nitrite,N	BMB	1.974	4.2927	4.2927	1.0000
5	8.67	Bromide	M	0.388	4.3859	4.3859	1.0000
6	9.45	Sulfate	M	3.155	20.1471	20.1471	1.0000
7	9.86	Nitrate	M	2.337	3.9044	3.9044	1.0000
8	10.47	Chlorate	MB	0.395	4.0324	4.0324	1.0000
9	14.56	Phosphate	BMB	0.468	2.8107	2.8107	1.0000
Total:			**0.000**	**14.554**		**63.76**	

73 CCV

Sample Name:	**CCV**	*Injection Volume:*	**5.00**
Vial Number:	**BA2**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**07/30/2020 07:00**	*Sample Weight:*	**1.0000**

Run Time:



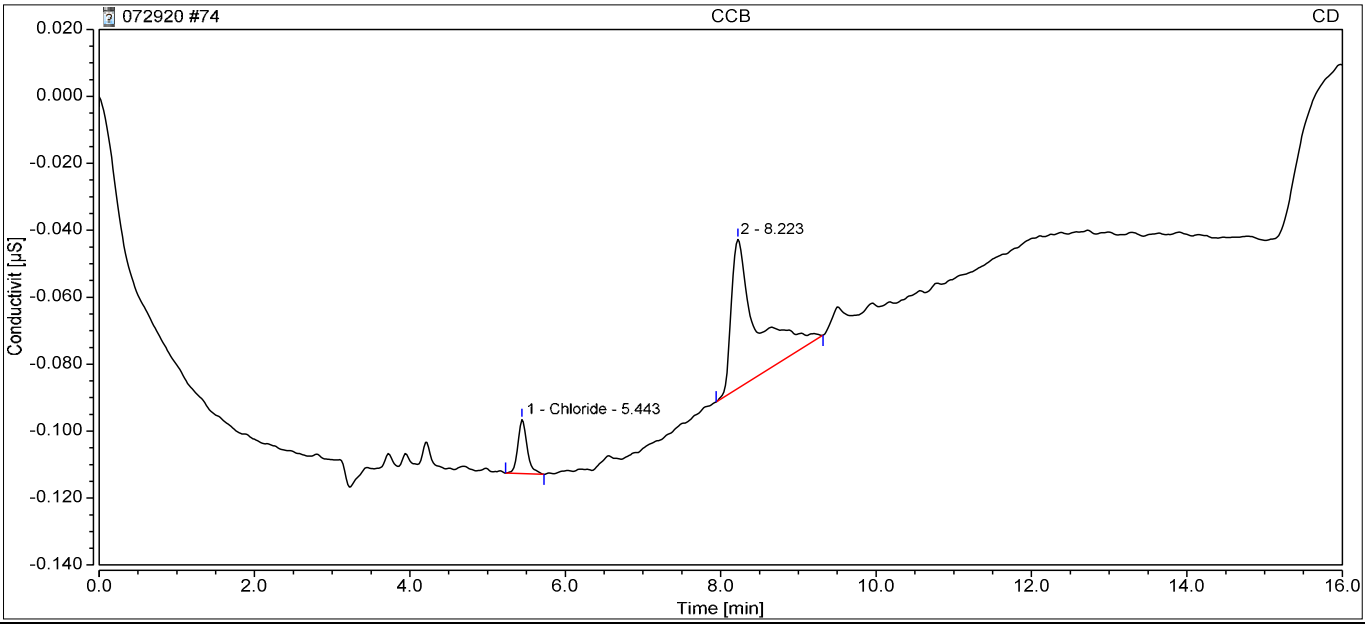
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.74	Fluoride	BMB	1.404	4.1734	4.1734	1.0000
2	5.44	Chloride	BMB	4.493	20.2482	20.2482	1.0000
3	6.57	Nitrite,N	BMB	1.996	4.3421	4.3421	1.0000
5	8.67	Bromide	M *	0.382	4.3193	4.3193	1.0000
6	9.44	Sulfate	M	3.196	20.4077	20.4077	1.0000
7	9.86	Nitrate	M	2.351	3.9282	3.9282	1.0000
8	10.47	Chlorate	MB	0.401	4.0920	4.0920	1.0000
9	14.56	Phosphate	BMB	0.502	2.9940	2.9940	1.0000
Total:			**0.000**	**14.726**		**64.50**	

74 CCB

Sample Name:	**CCB**	*Injection Volume:*	**5.00**
Vial Number:	**BA3**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**07/30/2020 07:18**	*Sample Weight:*	**1.0000**

Run Time:



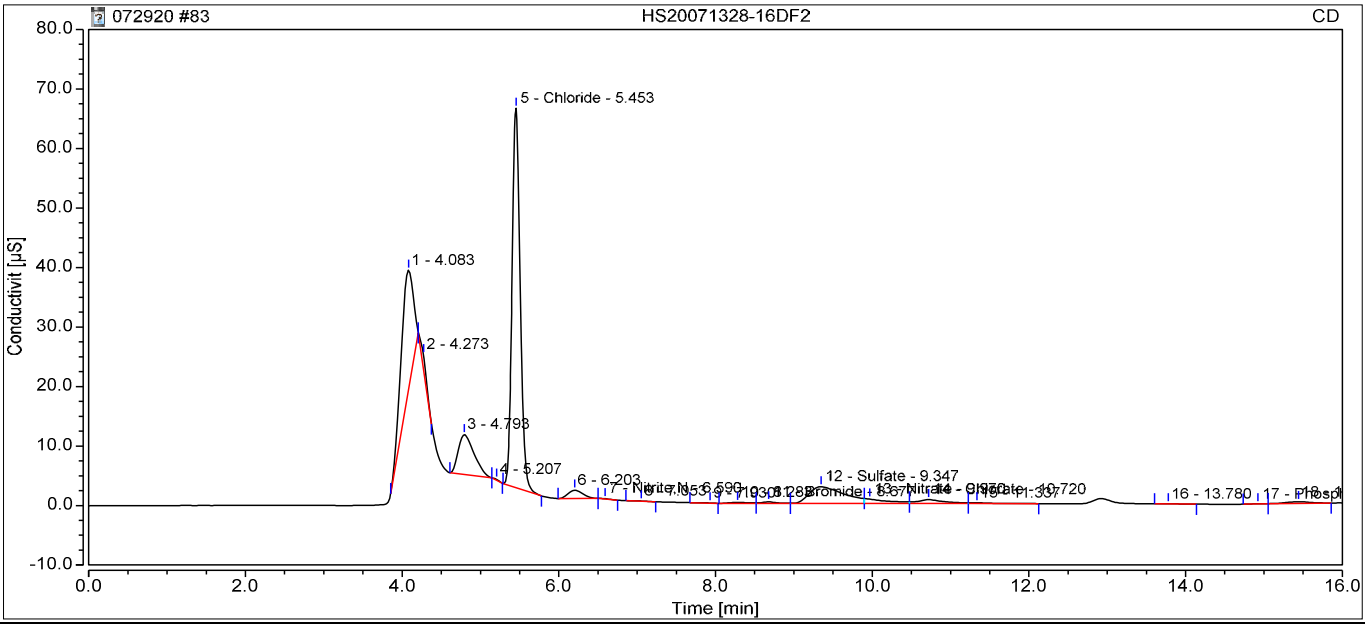
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	1.0000
1	5.44	Chloride	BMB	0.002	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Sulfate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**0.002**		**0.00**	

83 HS20071328-16DF2

Sample Name:	**HS20071328-16DF2**	*Injection Volume:*	**5.00**
Vial Number:	**BD6**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**2.0000**
Recording Time:	**07/30/2020 10:32**	*Sample Weight:*	**1.0000**

Run Time:



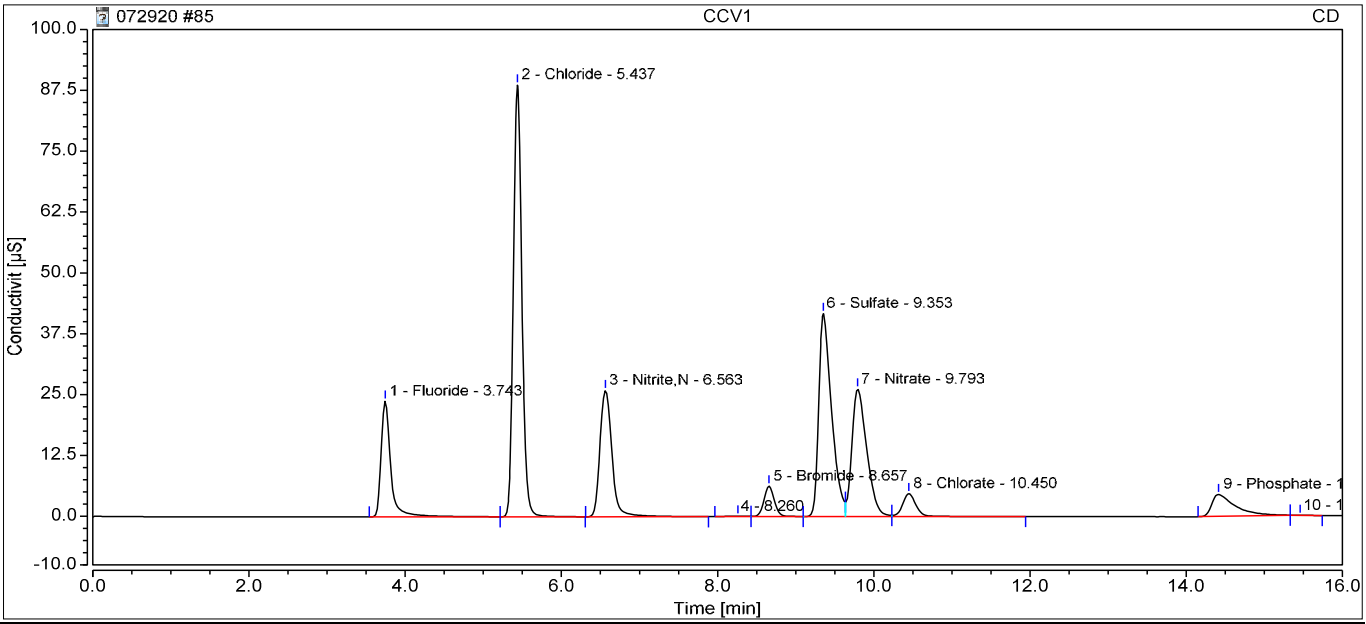
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	2.0000
5	5.45	Chloride	BMB	7.587	34.2088	68.4176	2.0000
7	6.59	Nitrite,N	BMB	0.008	n.a.	n.a.	2.0000
11	8.68	Bromide	M	0.054	0.6361	1.2721	2.0000
12	9.35	Sulfate	M	1.449	9.3610	18.7221	2.0000
13	9.97	Nitrate	M	0.260	0.4256	0.8513	2.0000
14	10.72	Chlorate	M	0.259	2.6343	5.2686	2.0000
17	14.92	Phosphate	BMB	0.003	0.3116	0.6231	2.0000
Total:			**0.000**	**9.619**		**95.15**	

85 CCV1

Sample Name:	**CCV1**	*Injection Volume:*	**5.00**
Vial Number:	**BA4**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**07/30/2020 11:08**	*Sample Weight:*	**1.0000**

Run Time:



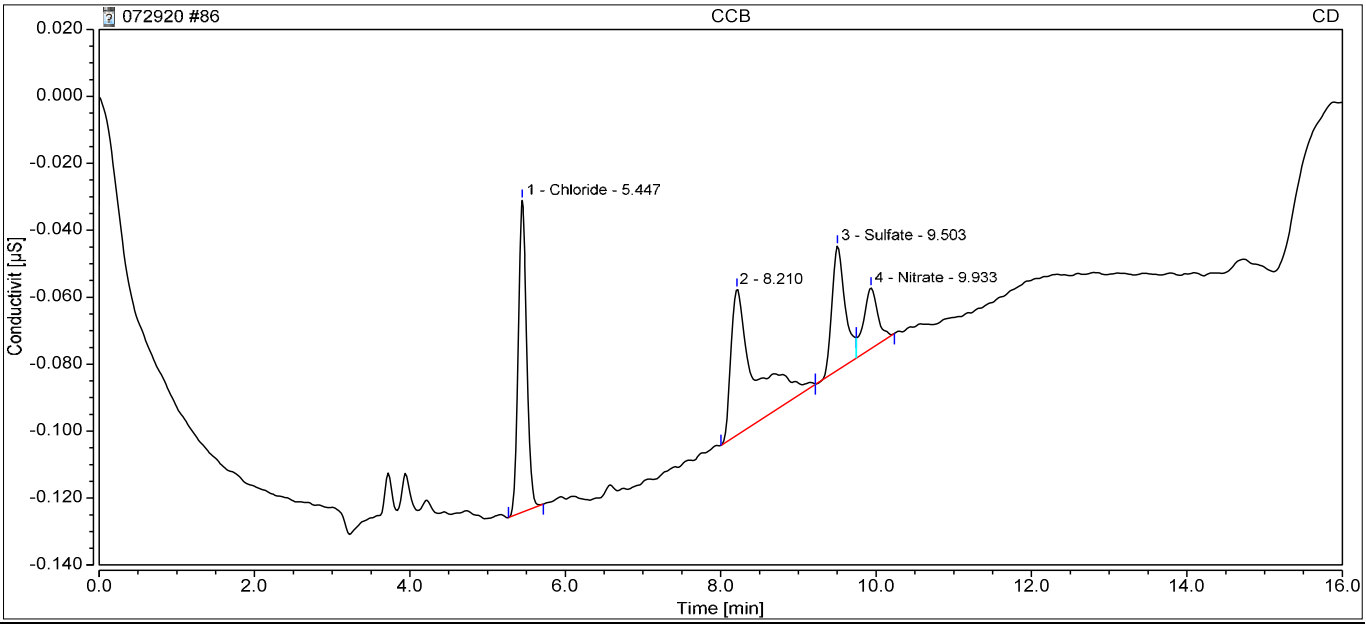
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.74	Fluoride	BMB	3.410	10.1151	10.1151	1.0000
2	5.44	Chloride	BMB	11.099	50.0618	50.0618	1.0000
3	6.56	Nitrite,N	BMB	4.613	10.0682	10.0682	1.0000
5	8.66	Bromide	M	0.973	10.9524	10.9524	1.0000
6	9.35	Sulfate	M	7.950	50.4641	50.4641	1.0000
7	9.79	Nitrate	M	5.763	9.6443	9.6443	1.0000
8	10.45	Chlorate	MB	0.947	9.7161	9.7161	1.0000
9	14.41	Phosphate	BMB	1.557	8.6611	8.6611	1.0000
Total:			**0.000**	**36.313**		**159.68**	

86 CCB

Sample Name:	**CCB**	*Injection Volume:*	**5.00**
Vial Number:	**BB8**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**07/30/2020 11:26**	*Sample Weight:*	**1.0000**

Run Time:



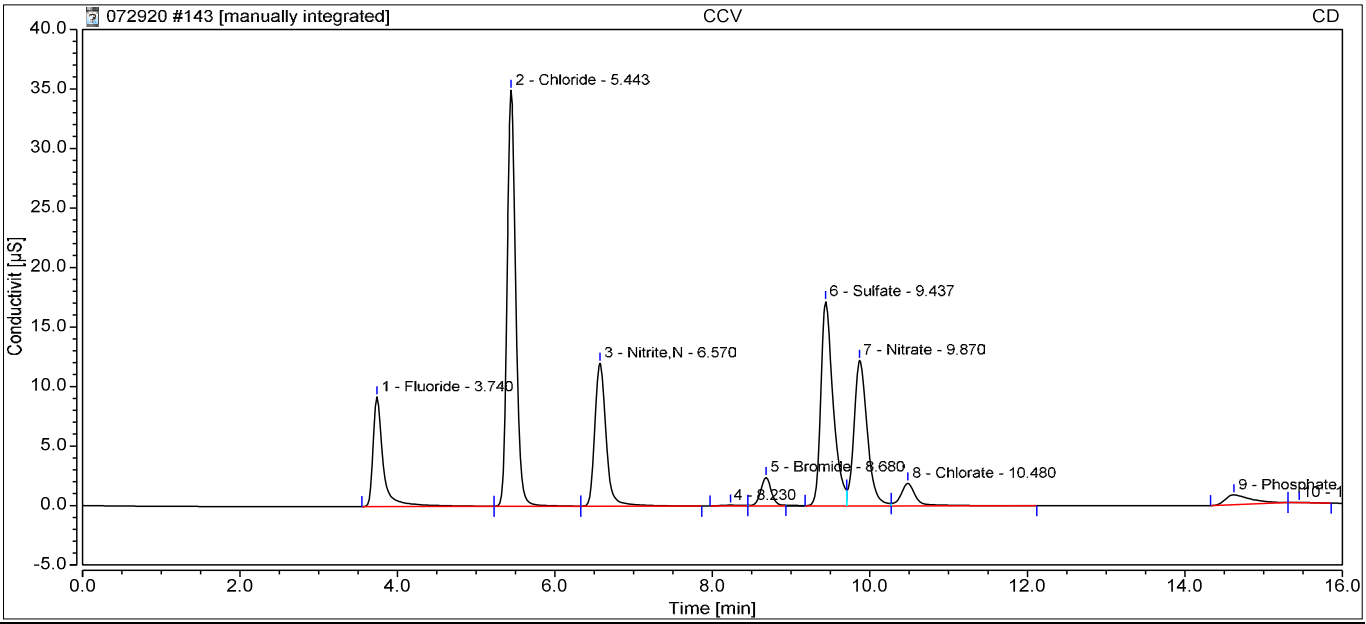
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	1.0000
1	5.45	Chloride	BMB	0.012	0.0228	0.0228	1.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
3	9.50	Sulfate	M	0.007	0.2462	0.2462	1.0000
4	9.93	Nitrate	MB	0.004	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**	**0.023**		**0.27**	

143 CCV

Sample Name:	**CCV**	*Injection Volume:*	**5.00**
Vial Number:	**BA2**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**07/31/2020 05:15**	*Sample Weight:*	**1.0000**

Run Time:



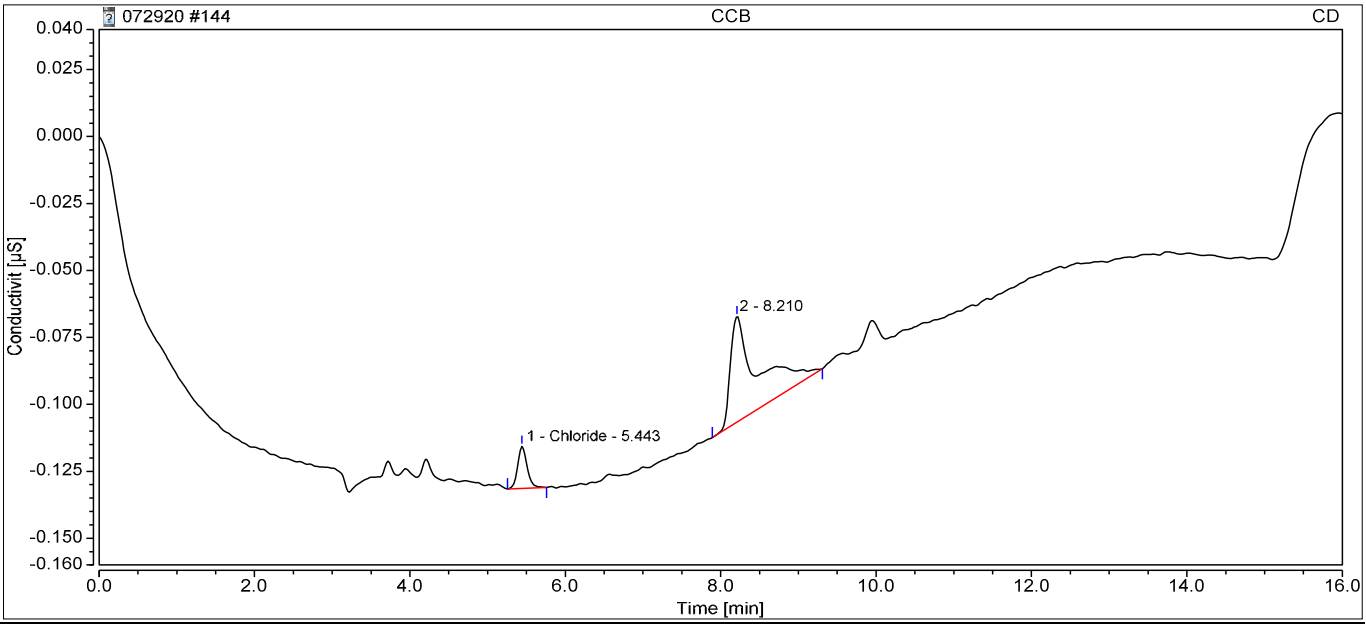
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.74	Fluoride	BMB	1.381	4.1055	4.1055	1.0000
2	5.44	Chloride	BMB	4.485	20.2107	20.2107	1.0000
3	6.57	Nitrite,N	BMB	1.990	4.3285	4.3285	1.0000
5	8.68	Bromide	M *	0.382	4.3152	4.3152	1.0000
6	9.44	Sulfate	M	3.137	20.0344	20.0344	1.0000
7	9.87	Nitrate	M	2.382	3.9796	3.9796	1.0000
8	10.48	Chlorate	MB	0.413	4.2225	4.2225	1.0000
9	14.62	Phosphate	BMB	0.313	1.9774	1.9774	1.0000
Total:			**0.000**	**14.483**		**63.17**	

144 CCB

Sample Name:	**CCB**	*Injection Volume:*	**5.00**
Vial Number:	**BA3**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**07/31/2020 05:33**	*Sample Weight:*	**1.0000**

Run Time:



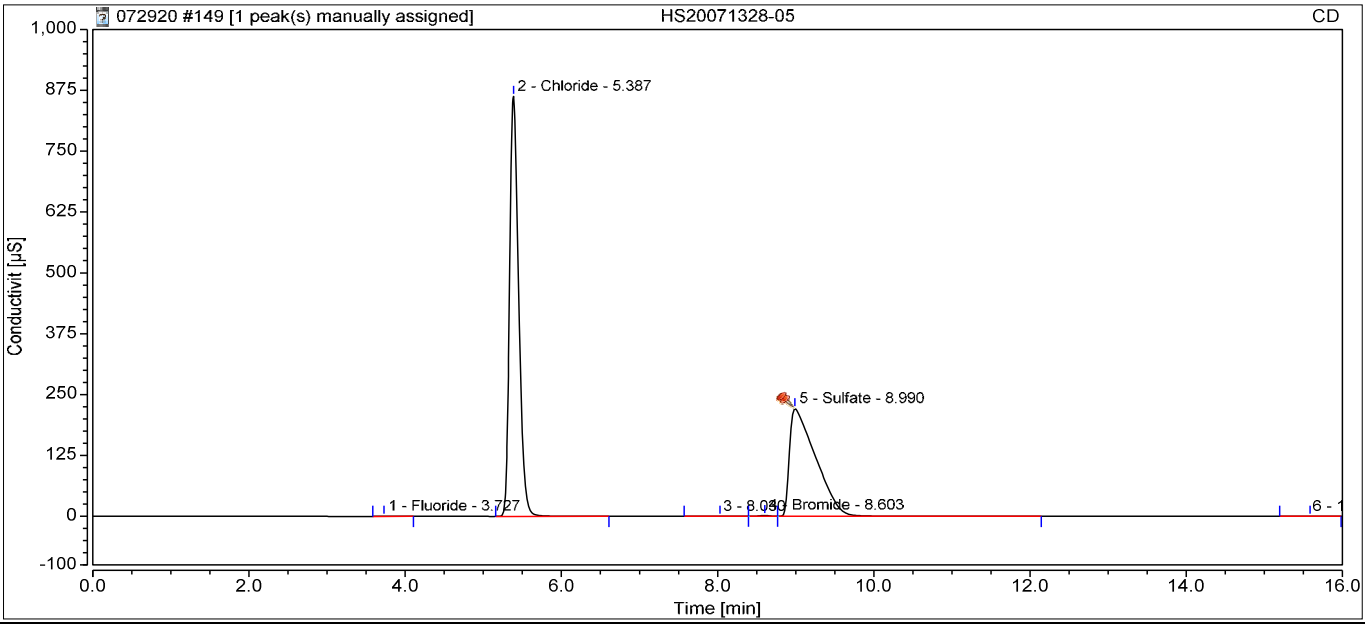
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	1.0000
1	5.44	Chloride	BMB	0.002	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Sulfate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**0.002**		**0.00**	

149 HS20071328-05

Sample Name:	**HS20071328-05**	*Injection Volume:*	**5.00**
Vial Number:	**GB1**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**07/31/2020 07:03**	*Sample Weight:*	**1.0000**

Run Time:



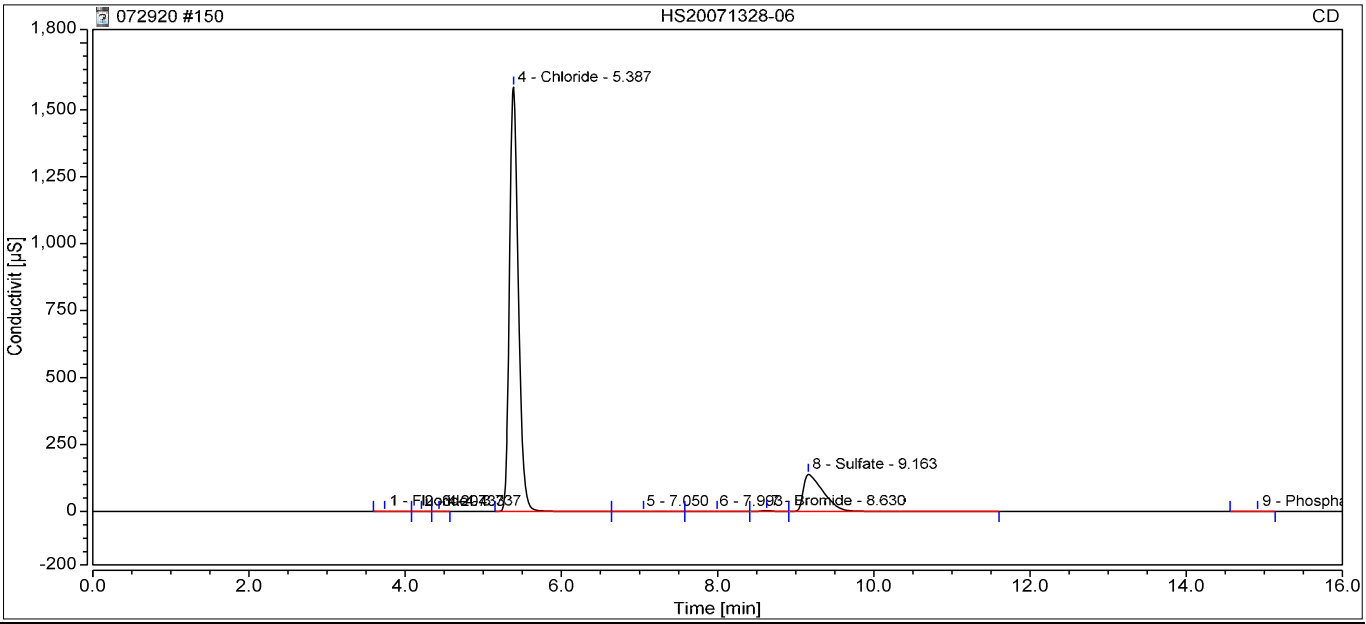
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.73	Fluoride	BMB	0.026	0.0915	0.0915	1.0000
2	5.39	Chloride	BMB	115.486	521.1644	521.1644	1.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	1.0000
4	8.60	Bromide	M	0.265	3.0059	3.0059	1.0000
5	8.99	Sulfate	MB^	85.485	540.6610	540.6610	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**	**201.263**		**1064.92**	

150 HS20071328-06

Sample Name:	**HS20071328-06**	*Injection Volume:*	**5.00**
Vial Number:	**GB2**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**07/31/2020 07:21**	*Sample Weight:*	**1.0000**

Run Time:



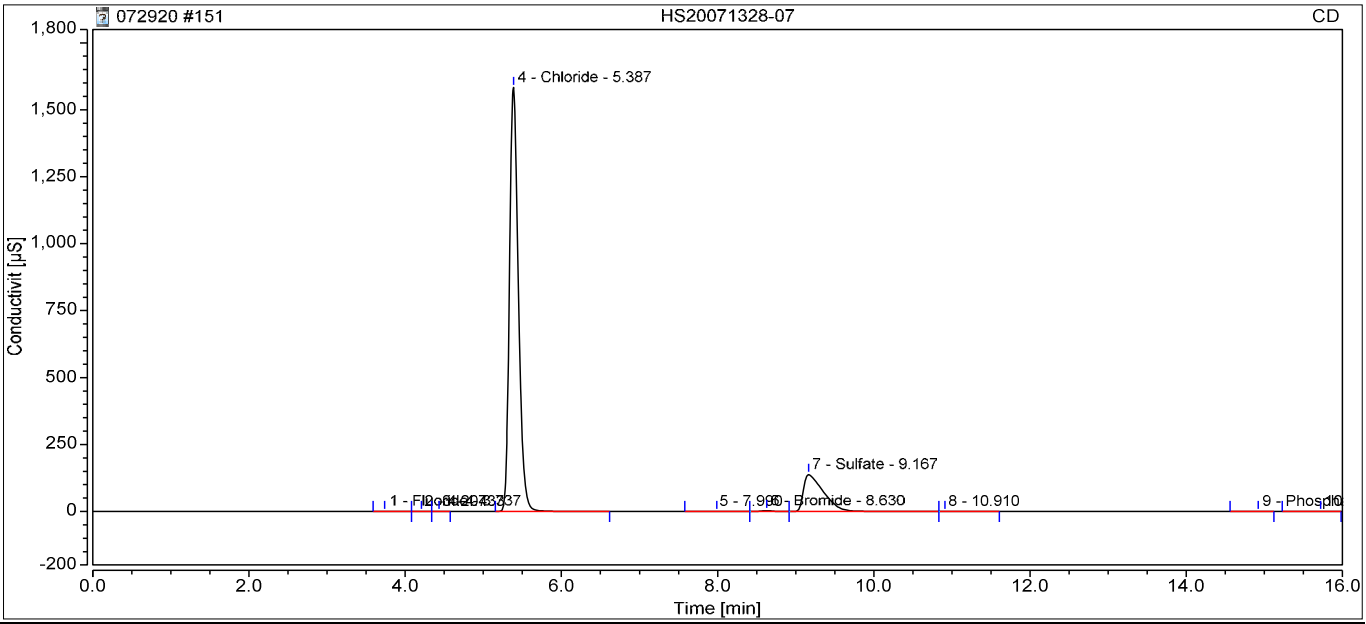
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.74	Fluoride	BMB	0.019	0.0711	0.0711	1.0000
4	5.39	Chloride	BMB	208.066	938.9863	938.9863	1.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	1.0000
7	8.63	Bromide	M	0.467	5.2747	5.2747	1.0000
8	9.16	Sulfate	MB	40.719	257.6371	257.6371	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
9	14.92	Phosphate	BMB	0.003	0.3152	0.3152	1.0000
Total:			**0.000**	**249.276**		**1202.28**	

151 HS20071328-07

Sample Name:	**HS20071328-07**	*Injection Volume:*	**5.00**
Vial Number:	**GB3**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**07/31/2020 07:40**	*Sample Weight:*	**1.0000**

Run Time:



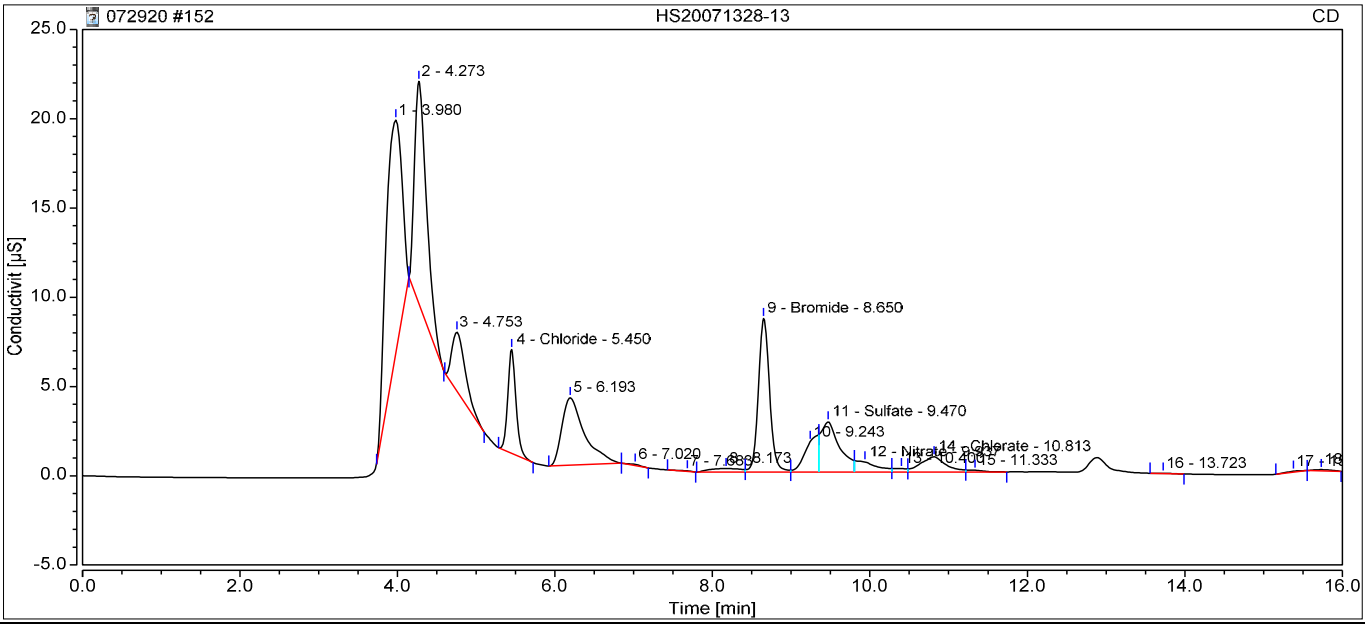
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.74	Fluoride	BMB	0.020	0.0731	0.0731	1.0000
4	5.39	Chloride	BMB	208.053	938.9237	938.9237	1.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	1.0000
6	8.63	Bromide	M	0.466	5.2583	5.2583	1.0000
7	9.17	Sulfate	M	40.545	256.5371	256.5371	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
9	14.92	Phosphate	BMB	0.003	0.3142	0.3142	1.0000
Total:			**0.000**	**249.087**		**1201.11**	

152 HS20071328-13

Sample Name:	**HS20071328-13**	*Injection Volume:*	**5.00**
Vial Number:	**GB4**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**07/31/2020 07:58**	*Sample Weight:*	**1.0000**

Run Time:



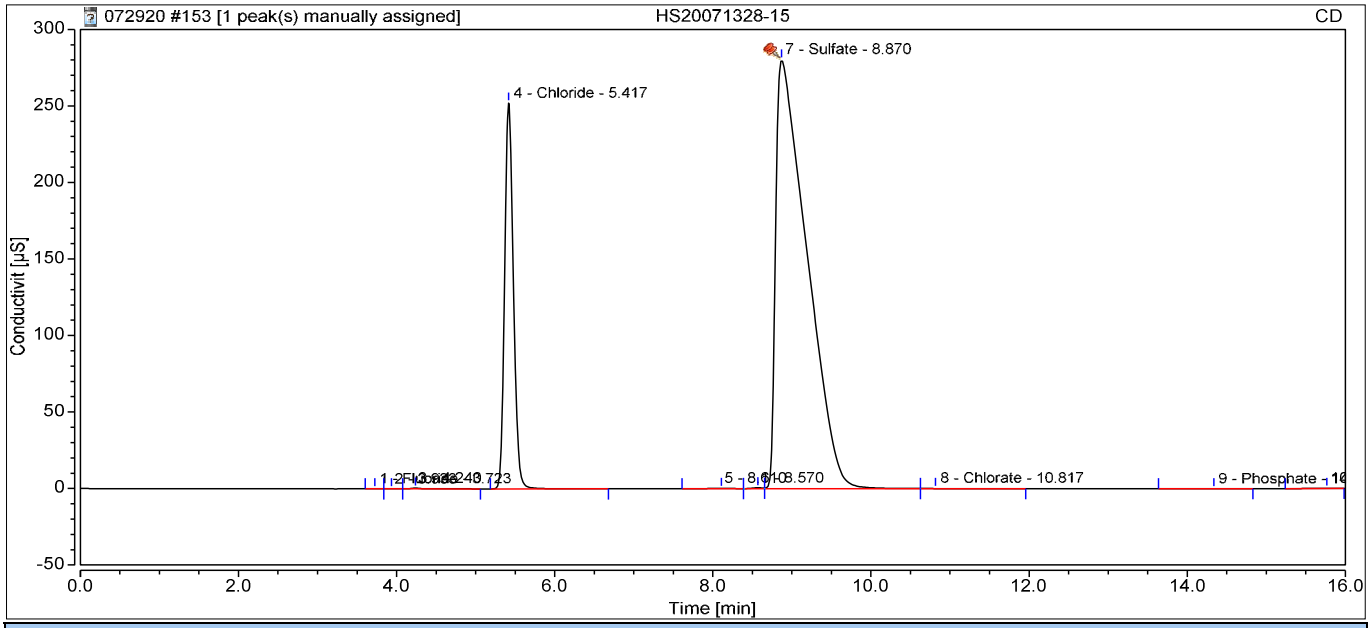
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	1.0000
4	5.45	Chloride	BMB	0.708	3.1666	3.1666	1.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	1.0000
9	8.65	Bromide	M	1.420	15.9737	15.9737	1.0000
11	9.47	Sulfate	M	0.781	5.1357	5.1357	1.0000
12	9.94	Nitrate	M	0.188	0.3057	0.3057	1.0000
14	10.81	Chlorate	M	0.312	3.1835	3.1835	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**3.410**		**27.77**	

153 HS20071328-15

Sample Name:	**HS20071328-15**	*Injection Volume:*	**5.00**
Vial Number:	**GB5**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**07/31/2020 08:16**	*Sample Weight:*	**1.0000**

Run Time:



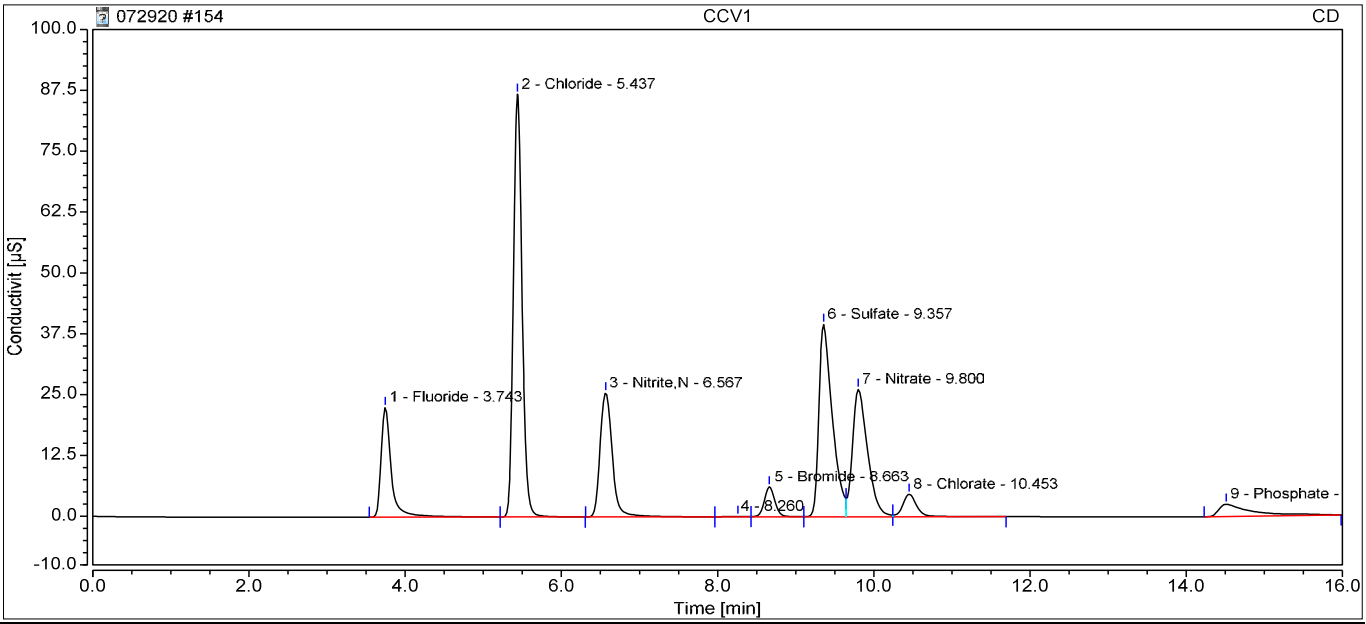
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.72	Fluoride	BMB	0.007	0.0331	0.0331	1.0000
4	5.42	Chloride	BMB	32.017	144.4632	144.4632	1.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
7	8.87	Sulfate	M ^	127.352	805.3499	805.3499	1.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	1.0000
8	10.82	Chlorate	MB	0.059	0.5708	0.5708	1.0000
9	14.34	Phosphate	BMB	0.017	0.3903	0.3903	1.0000
Total:			**0.000**	**159.451**		**950.81**	

154 CCV1

Sample Name:	**CCV1**	*Injection Volume:*	**5.00**
Vial Number:	**BA4**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**07/31/2020 08:34**	*Sample Weight:*	**1.0000**

Run Time:



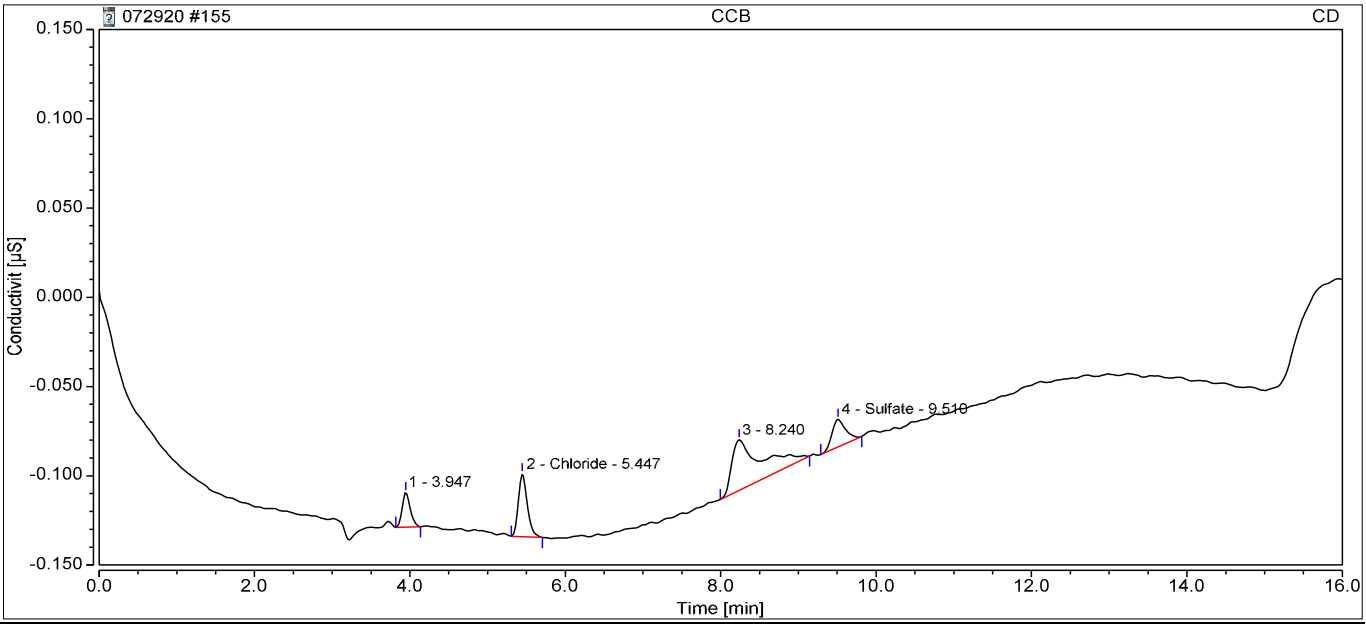
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.74	Fluoride	BMB	3.403	10.0918	10.0918	1.0000
2	5.44	Chloride	BMB	11.126	50.1841	50.1841	1.0000
3	6.57	Nitrite,N	BMB	4.624	10.0935	10.0935	1.0000
5	8.66	Bromide	M	0.972	10.9416	10.9416	1.0000
6	9.36	Sulfate	M	7.896	50.1186	50.1186	1.0000
7	9.80	Nitrate	M	5.852	9.7933	9.7933	1.0000
8	10.45	Chlorate	MB	0.962	9.8726	9.8726	1.0000
9	14.51	Phosphate	BMB	1.258	7.0533	7.0533	1.0000
Total:			**0.000**	**36.093**		**158.15**	

155 CCB

Sample Name:	**CCB**	*Injection Volume:*	**5.00**
Vial Number:	**BB7**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**07/31/2020 09:34**	*Sample Weight:*	**1.0000**

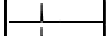
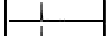
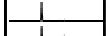
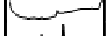
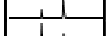
Run Time:



Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	1.0000
2	5.45	Chloride	BMB	0.005	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
4	9.51	Sulfate	BMB	0.003	0.2201	0.2201	1.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**0.008**		**0.22**	

Sequence: 073120
Last Update Operator: alshs.nouser

CD	Name	Comment	Type	Position	Dilution	Level	Instrument Method	Processing Method	me	Status
	STD1		Calibration	GB1	1.00	1	Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	STD2		Calibration	GB2	1.00	2	Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	STD3		Calibration	GB3	1.00	3	Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	STD4		Calibration	GB4	1.00	4	Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	STD5		Calibration	GB5	1.00	5	Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	STD6		Calibration	GB6	1.00	6	Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	ICV		Unknown	GB7	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	ICB		Unknown	BA3	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	CCB		Unknown	BA3	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	CCV		Unknown	BA2	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	MBLK-073120		Unknown	BB4	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	LCS-073120		Unknown	BB2	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	CCV1		Unknown	BA4	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	CCB		Unknown	BB7	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	HS20071470-01DF10	9056_W	Unknown	RA8	10.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	HS20071470-01MS	9056_W	Unknown	RB1	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	HS20071470-01MSD	9056_W	Unknown	RB2	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	CCV		Unknown	BA2	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	CCB		Unknown	BA3	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	CCV		Unknown	BA2	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	CCB		Unknown	BA3	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	HS20071328-15DF5		Unknown	RE4	5.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	CCV1		Unknown	BA4	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	CCB		Unknown	BB7	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished

Sequence: 073120
Last Update Operator: alshs.nouser

Inject Time
6/2/2020 11:02:48 AM -05:00
6/2/2020 11:20:59 AM -05:00
6/2/2020 11:39:04 AM -05:00
6/2/2020 11:57:10 AM -05:00
6/2/2020 12:15:18 PM -05:00
6/2/2020 12:33:22 PM -05:00
6/2/2020 12:51:27 PM -05:00
6/2/2020 1:45:50 PM -05:00
7/31/2020 12:21:51 PM -05:00
7/31/2020 12:39:53 PM -05:00
7/31/2020 2:11:10 PM -05:00
7/31/2020 2:47:20 PM -05:00
7/31/2020 3:05:24 PM -05:00
7/31/2020 3:23:27 PM -05:00
7/31/2020 6:03:39 PM -05:00
7/31/2020 6:21:40 PM -05:00
7/31/2020 6:39:41 PM -05:00
7/31/2020 6:57:45 PM -05:00
7/31/2020 7:15:48 PM -05:00
8/1/2020 1:52:20 AM -05:00
8/1/2020 2:10:21 AM -05:00
8/1/2020 4:16:30 AM -05:00
8/1/2020 5:28:36 AM -05:00
8/1/2020 5:46:36 AM -05:00

Sequence: 073120
Injection #6: STD6

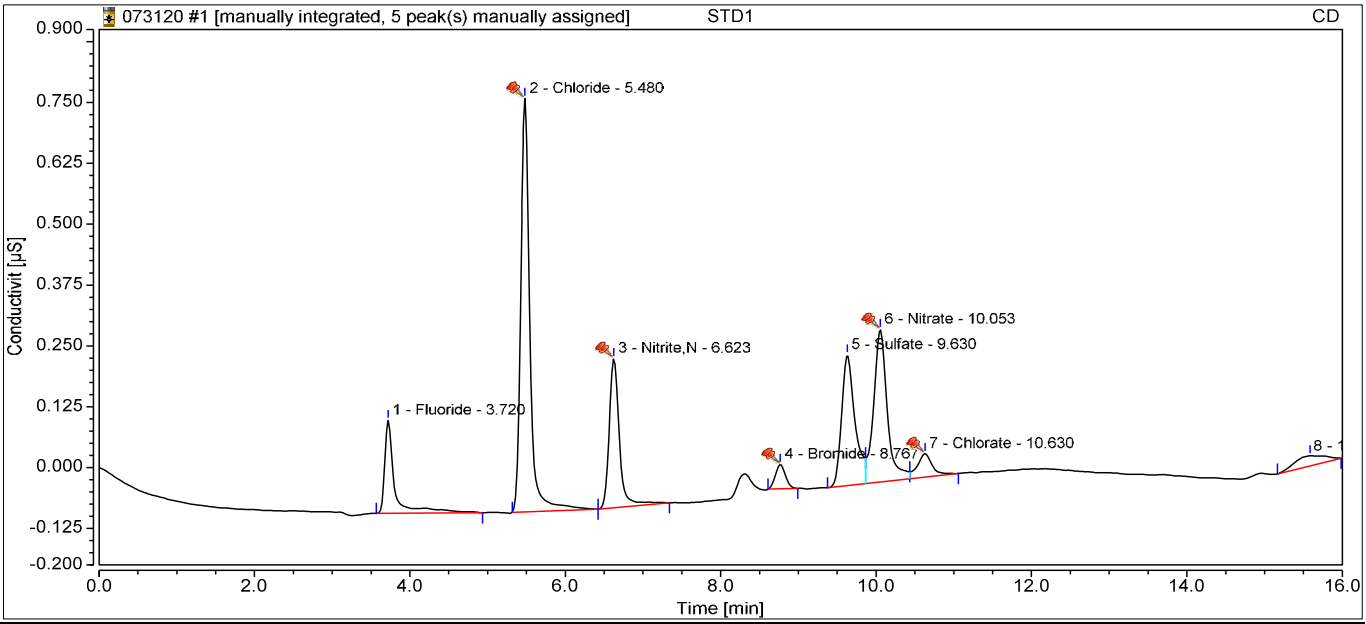
Calibration

Peak No.	Peak Name	Cal.Type	Eval.Type	Number of Points	Rel.Std.Dev. %	Coeff.of Determination	C0 (Offset)	C1 (Slope)	C2 (Curve)
1	*Fluoride*	*Lin, WithOffset, 1/*	*Area*	*6*	*10.8139*	*0.99942*	*-0.0046*	*0.3376*	*0.0000*
2	Chloride	Lin, WithOffset, 1/	Area	6	3.4292	0.99994	0.0066	0.2216	0.0000
3	Nitrite,N	Lin, WithOffset, 1/	Area	6	25.3231	0.99619	0.0124	0.4569	0.0000
4	Bromide	Lin, WithOffset, 1/	Area	6	11.6783	0.99936	-0.0023	0.0890	0.0000
5	Sulfate	Lin, WithOffset, 1/	Area	6	4.6337	0.99991	-0.0317	0.1582	0.0000
6	Nitrate	Lin, WithOffset, 1/	Area	6	5.8899	0.99981	0.0058	0.5970	0.0000
7	Chlorate	Lin, WithOffset, 1/	Area	6	15.6369	0.99851	0.0032	0.0971	0.0000
8	Phosphate	Lin, WithOffset, 1/	Area	5	24.1443	0.99440	-0.0555	0.1862	0.0000
Maximum					**25.3231**	0.99994			
Minimum					3.4292	**0.99440**			

1 STD1

Sample Name:	**STD1**	*Injection Volume:*	**5.00**
Vial Number:	**GB1**	*Channel:*	**CD**
Sample Type:	**Calibration Standard**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**06/02/2020 11:02**	*Sample Weight:*	**1.0000**

Run Time:



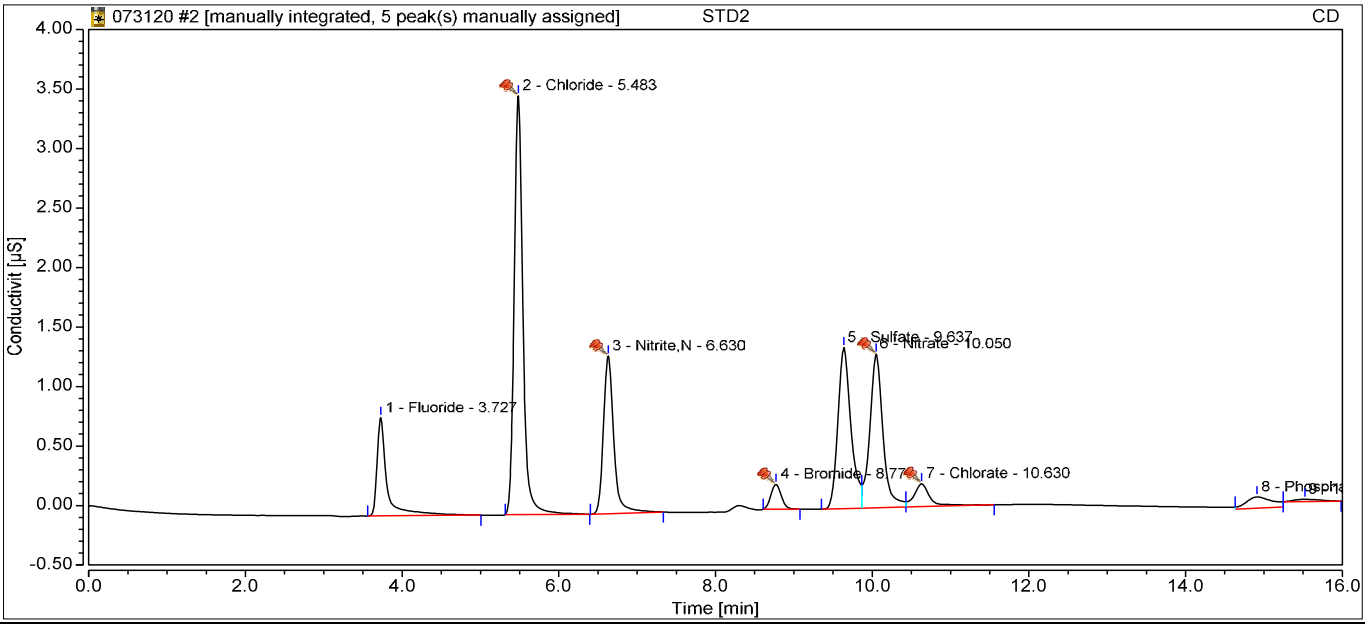
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.72	Fluoride	BMB	0.029	0.0982	0.0982	1.0000
2	5.48	Chloride	BMB^	0.115	0.4904	0.4904	1.0000
3	6.62	Nitrite,N	BMB*^	0.046	0.0745	0.0745	1.0000
4	8.77	Bromide	BMB^	0.007	0.1093	0.1093	1.0000
5	9.63	Sulfate	BM	0.053	0.5374	0.5374	1.0000
6	10.05	Nitrate	M ^	0.064	0.0969	0.0969	1.0000
7	10.63	Chlorate	MB^	0.011	0.0775	0.0775	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**0.325**		**1.48**	

2 STD2

Sample Name:	**STD2**	*Injection Volume:*	**5.00**
Vial Number:	**GB2**	*Channel:*	**CD**
Sample Type:	**Calibration Standard**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**06/02/2020 11:20**	*Sample Weight:*	**1.0000**

Run Time:



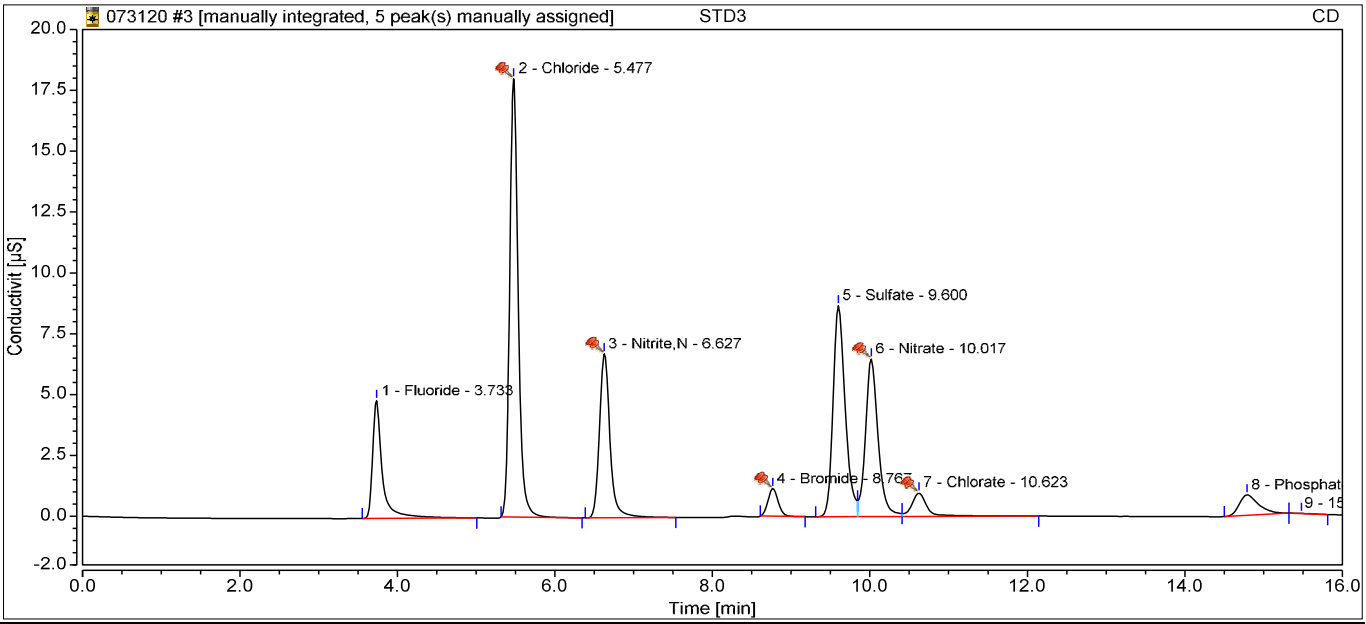
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.73	Fluoride	BMB	0.122	0.3761	0.3761	1.0000
2	5.48	Chloride	BMB^	0.452	2.0081	2.0081	1.0000
3	6.63	Nitrite,N	BMB*^	0.202	0.4159	0.4159	1.0000
4	8.77	Bromide	BMB^	0.032	0.3810	0.3810	1.0000
5	9.64	Sulfate	BM	0.263	1.8631	1.8631	1.0000
6	10.05	Nitrate	M ^	0.253	0.4135	0.4135	1.0000
7	10.63	Chlorate	MB^	0.046	0.4359	0.4359	1.0000
8	14.91	Phosphate	M *	0.037	0.4982	0.4982	1.0000
Total:			**0.000**	**1.407**		**6.39**	

3 STD3

Sample Name:	**STD3**	*Injection Volume:*	**5.00**
Vial Number:	**GB3**	*Channel:*	**CD**
Sample Type:	**Calibration Standard**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**06/02/2020 11:39**	*Sample Weight:*	**1.0000**

Run Time:



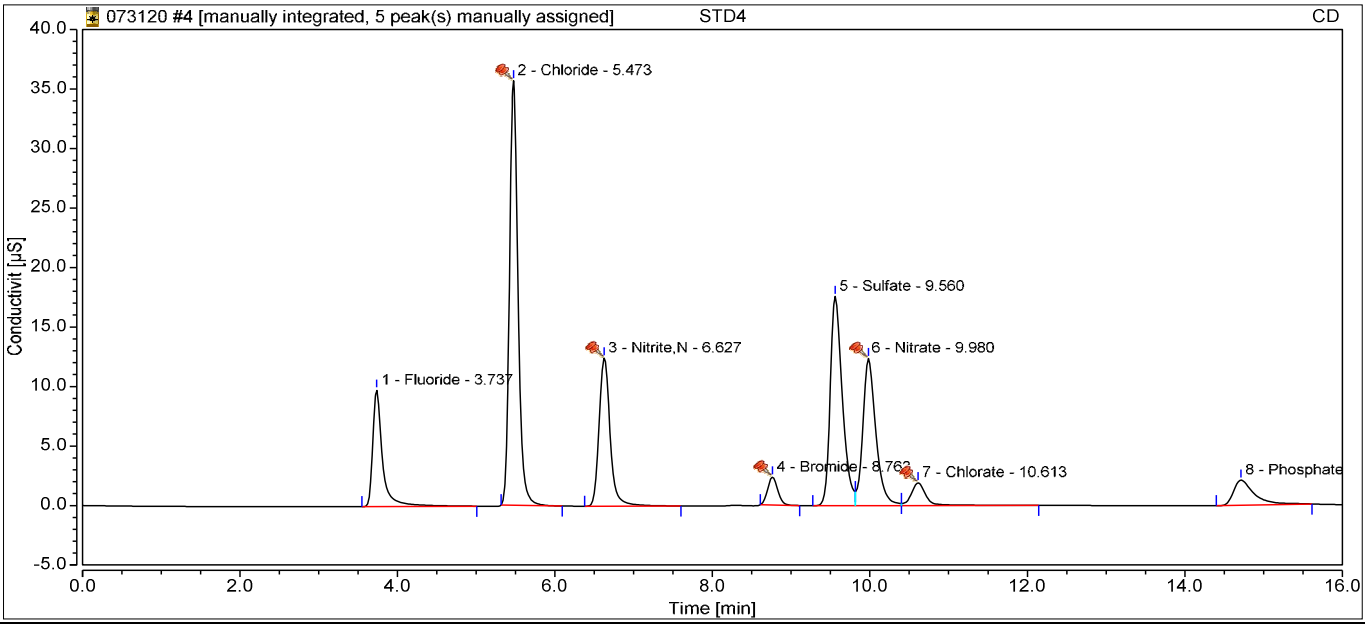
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.73	Fluoride	BMB	0.697	2.0782	2.0782	1.0000
2	5.48	Chloride	BMB^	2.257	10.1575	10.1575	1.0000
3	6.63	Nitrite,N	BMB*^	1.049	2.2692	2.2692	1.0000
4	8.77	Bromide	BMB^	0.172	1.9524	1.9524	1.0000
5	9.60	Sulfate	BM	1.543	9.9532	9.9532	1.0000
6	10.02	Nitrate	M ^	1.213	2.0220	2.0220	1.0000
7	10.62	Chlorate	MB^	0.220	2.2332	2.2332	1.0000
8	14.79	Phosphate	BMB	0.243	1.6042	1.6042	1.0000
Total:			**0.000**	**7.394**		**32.27**	

4 STD4

Sample Name:	**STD4**	*Injection Volume:*	**5.00**
Vial Number:	**GB4**	*Channel:*	**CD**
Sample Type:	**Calibration Standard**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**06/02/2020 11:57**	*Sample Weight:*	**1.0000**

Run Time:



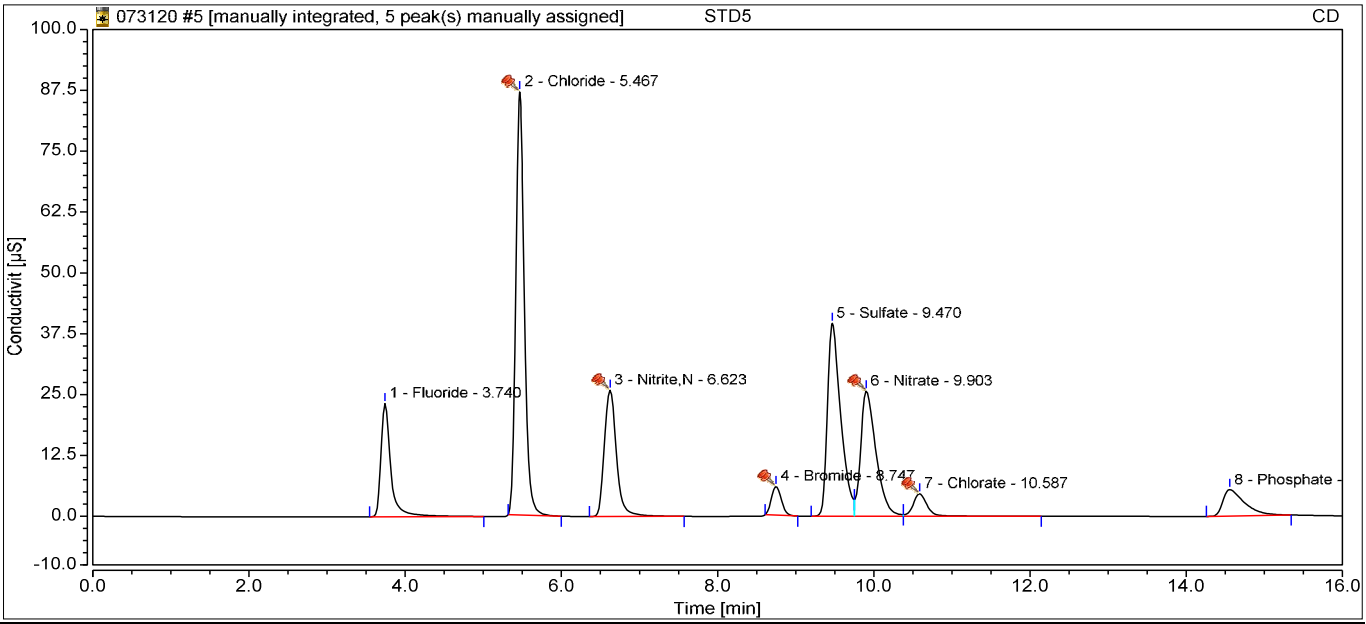
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.74	Fluoride	BMB	1.406	4.1793	4.1793	1.0000
2	5.47	Chloride	BMB^	4.475	20.1656	20.1656	1.0000
3	6.63	Nitrite,N	BMB*^	2.031	4.4170	4.4170	1.0000
4	8.76	Bromide	BMB^	0.350	3.9560	3.9560	1.0000
5	9.56	Sulfate	BM	3.131	19.9943	19.9943	1.0000
6	9.98	Nitrate	M ^	2.388	3.9909	3.9909	1.0000
7	10.61	Chlorate	MB^	0.410	4.1864	4.1864	1.0000
8	14.71	Phosphate	BMB*	0.647	3.7708	3.7708	1.0000
Total:			**0.000**	**14.837**		**64.66**	

5 STD5

Sample Name:	**STD5**	*Injection Volume:*	**5.00**
Vial Number:	**GB5**	*Channel:*	**CD**
Sample Type:	**Calibration Standard**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**06/02/2020 12:15**	*Sample Weight:*	**1.0000**

Run Time:



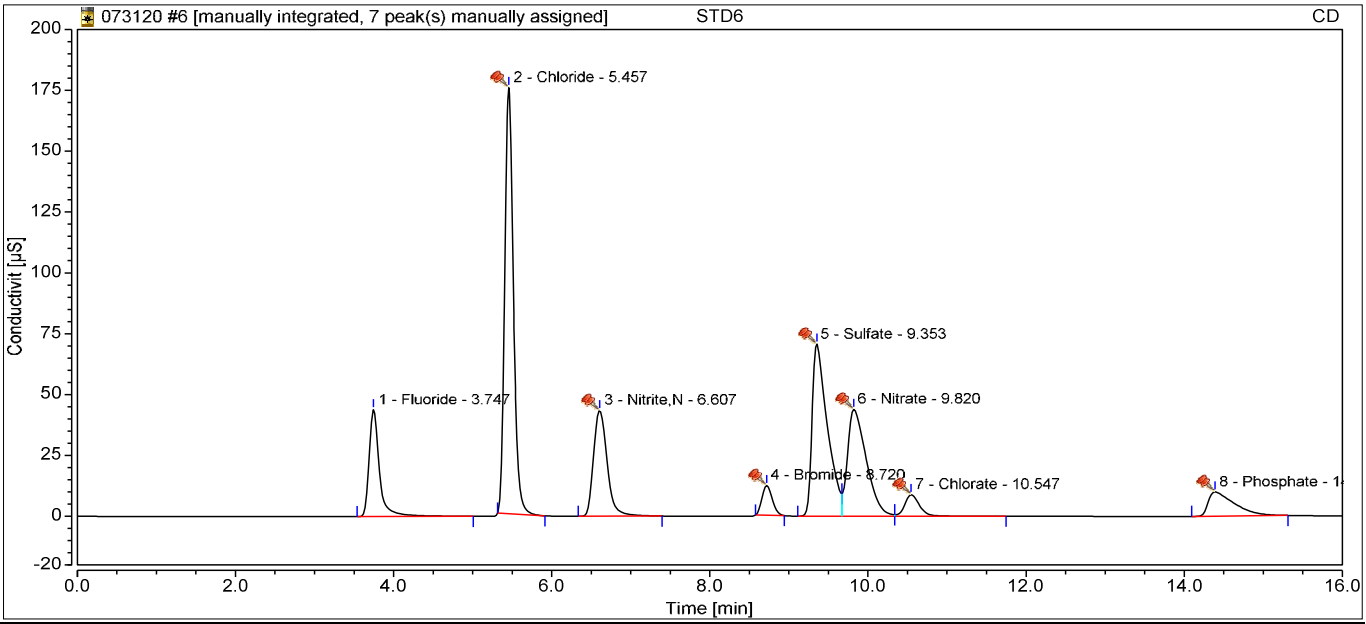
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.74	Fluoride	BMB	3.409	10.1112	10.1112	1.0000
2	5.47	Chloride	BMB^	10.962	49.4436	49.4436	1.0000
3	6.62	Nitrite,N	BMB*^	4.673	10.1996	10.1996	1.0000
4	8.75	Bromide	BMB^	0.860	9.6874	9.6874	1.0000
5	9.47	Sulfate	BM	7.832	49.7141	49.7141	1.0000
6	9.90	Nitrate	M ^	5.855	9.7981	9.7981	1.0000
7	10.59	Chlorate	MB^	0.963	9.8794	9.8794	1.0000
8	14.56	Phosphate	BMB*	1.744	9.6675	9.6675	1.0000
Total:			**0.000**	**36.299**		**158.50**	

6 STD6

Sample Name:	**STD6**	*Injection Volume:*	**5.00**
Vial Number:	**GB6**	*Channel:*	**CD**
Sample Type:	**Calibration Standard**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**06/02/2020 12:33**	*Sample Weight:*	**1.0000**

Run Time:



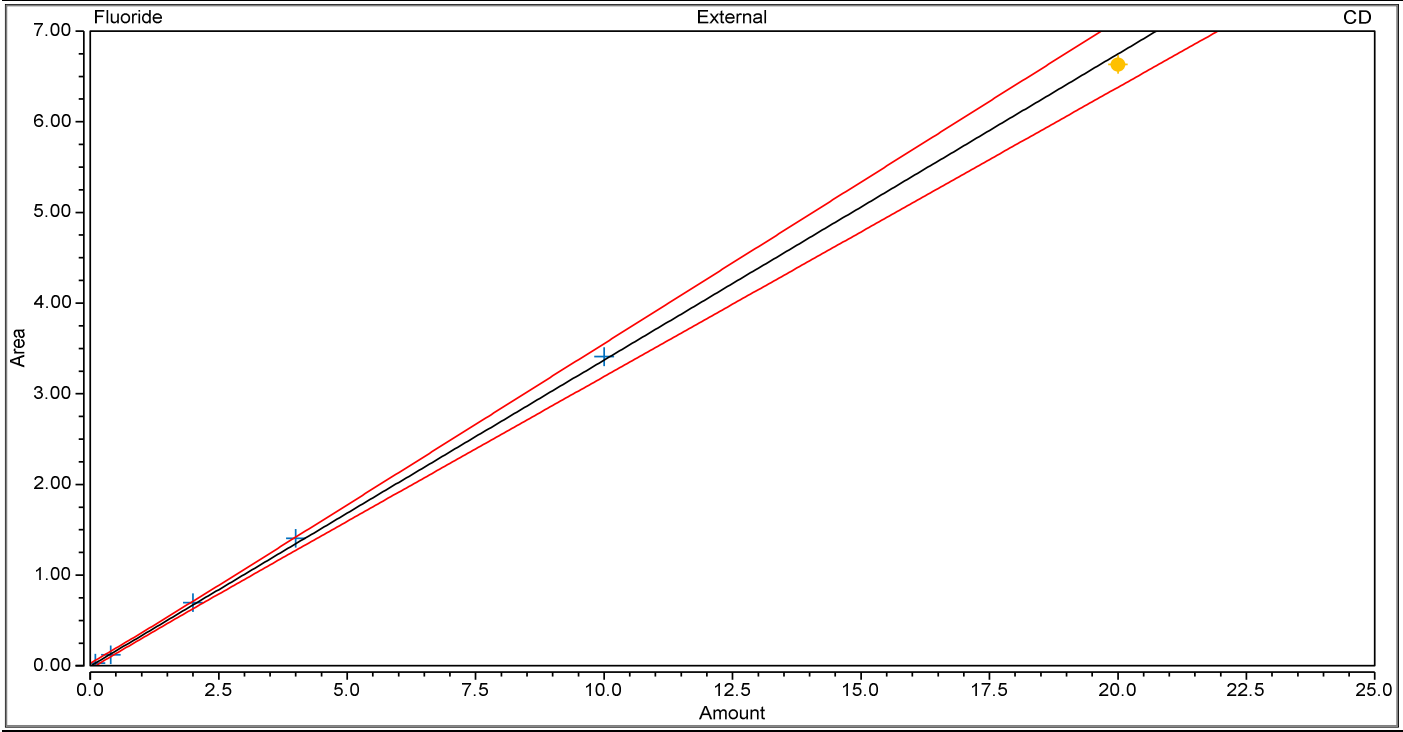
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.75	Fluoride	BMB	6.632	19.6569	19.6569	1.0000
2	5.46	Chloride	BMB^	22.217	100.2349	100.2349	1.0000
3	6.61	Nitrite,N	BMB*^	8.750	19.1238	19.1238	1.0000
4	8.72	Bromide	BMB*^	1.815	20.4140	20.4140	1.0000
5	9.35	Sulfate	BM ^	15.855	100.4380	100.4380	1.0000
6	9.82	Nitrate	M ^	12.052	20.1786	20.1786	1.0000
7	10.55	Chlorate	MB^	1.916	19.6877	19.6877	1.0000
8	14.39	Phosphate	BMB*^	3.828	20.8593	20.8593	1.0000
Total:			**0.000**	**73.065**		**320.59**	

Calibration

Calibration Details	Fluoride		
Calibration Type	Lin, WithOffset, 1/A	*Offset (C0)*	-0.0046
Evaluation Type	Area	*Slope (C1)*	0.3376
Number of Calibration Points	6	*Curve (C2)*	0.0000
Number of disabled Calibration Points	0	*R-Square*	0.9994

Calibration Plot **Fluoride**



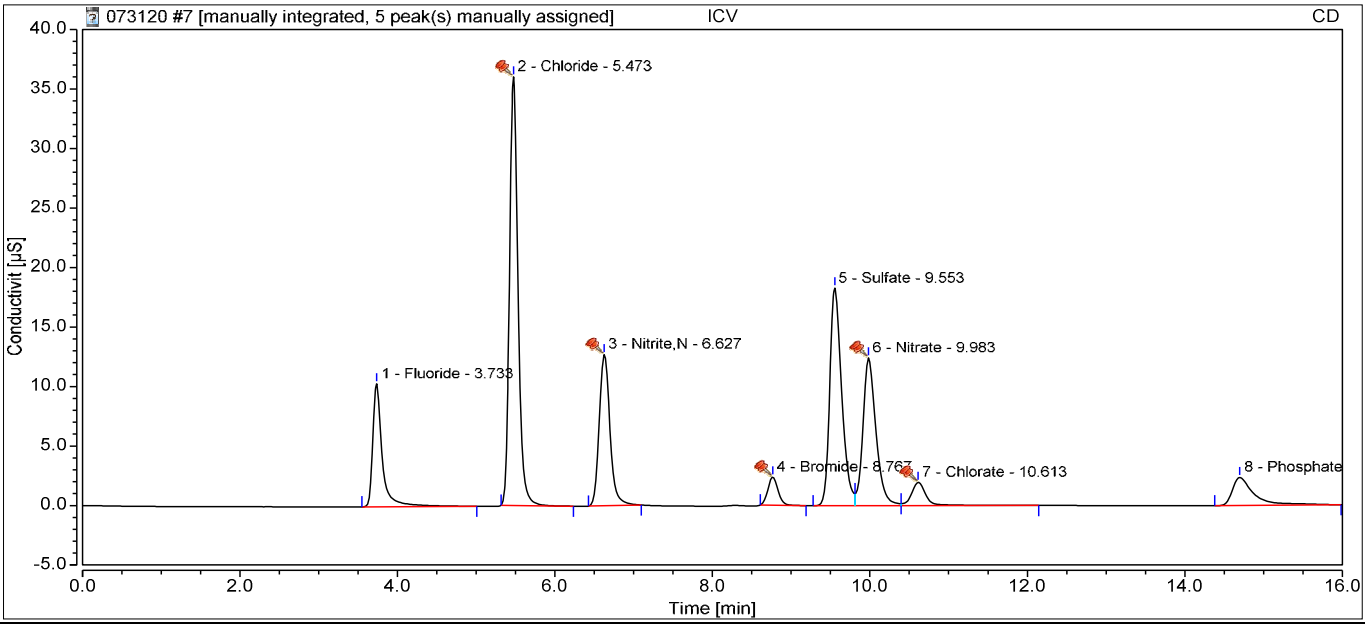
Calibration Results **Fluoride**

No.	Injection Name	Calibration Level	X Value CD Fluoride	Y Value CD Fluoride	Y Value CD Fluoride	Area µS*min CD Fluoride	Height µS CD Fluoride
1	STD1	1	0.1000	0.0285	0.0285	0.029	0.191
2	STD2	2	0.4000	0.1224	0.1224	0.122	0.826
3	STD3	3	2.0000	0.6970	0.6970	0.697	4.841
4	STD4	4	4.0000	1.4064	1.4064	1.406	9.790
5	STD5	5	10.0000	3.4092	3.4092	3.409	23.253
6	STD6	6	20.0000	6.6320	6.6320	6.632	43.889

7 ICV

Sample Name:	**ICV**	*Injection Volume:*	**5.00**
Vial Number:	**GB7**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**06/02/2020 12:51**	*Sample Weight:*	**1.0000**

Run Time:



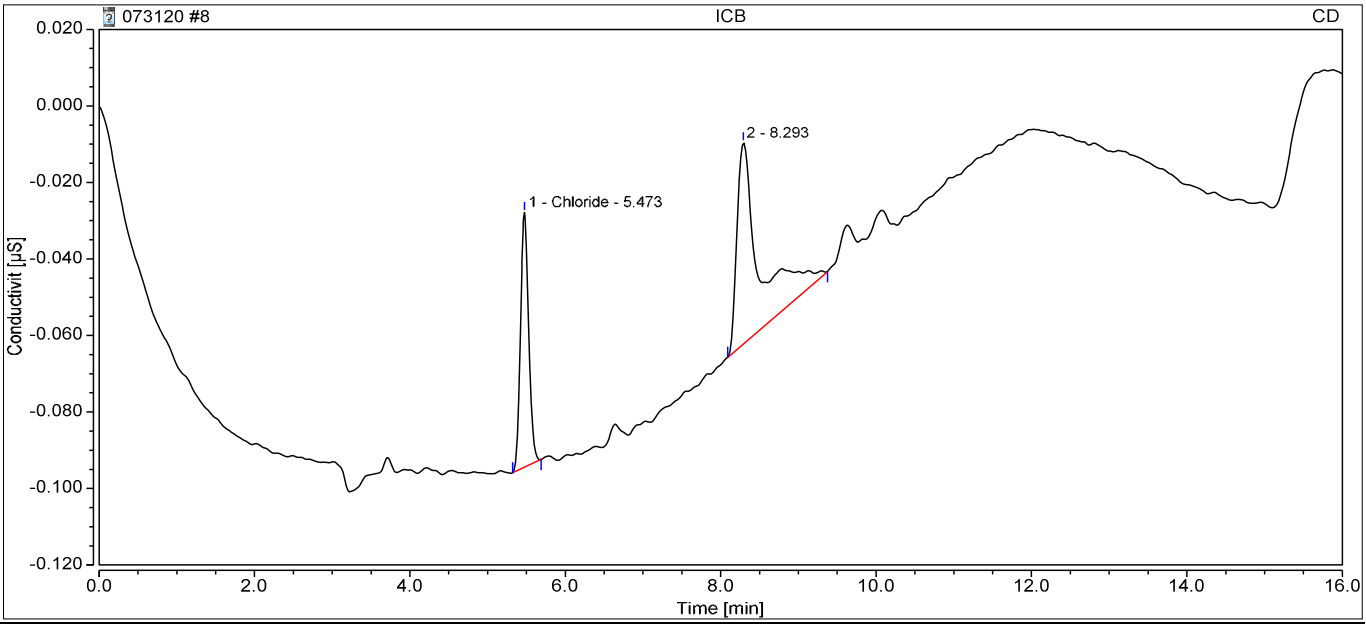
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.73	Fluoride	BMB	1.442	4.2839	4.2839	1.0000
2	5.47	Chloride	BMB^	4.508	20.3168	20.3168	1.0000
3	6.63	Nitrite,N	BMB*^	2.013	4.3785	4.3785	1.0000
4	8.77	Bromide	BMB^	0.352	3.9794	3.9794	1.0000
5	9.55	Sulfate	BM	3.208	20.4827	20.4827	1.0000
6	9.98	Nitrate	M ^	2.387	3.9894	3.9894	1.0000
7	10.61	Chlorate	MB^	0.412	4.2081	4.2081	1.0000
8	14.70	Phosphate	BMB	0.762	4.3926	4.3926	1.0000
Total:			**0.000**	**15.085**		**66.03**	

8 ICB

Sample Name:	**ICB**	*Injection Volume:*	**5.00**
Vial Number:	**BA3**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**06/02/2020 13:45**	*Sample Weight:*	**1.0000**

Run Time:



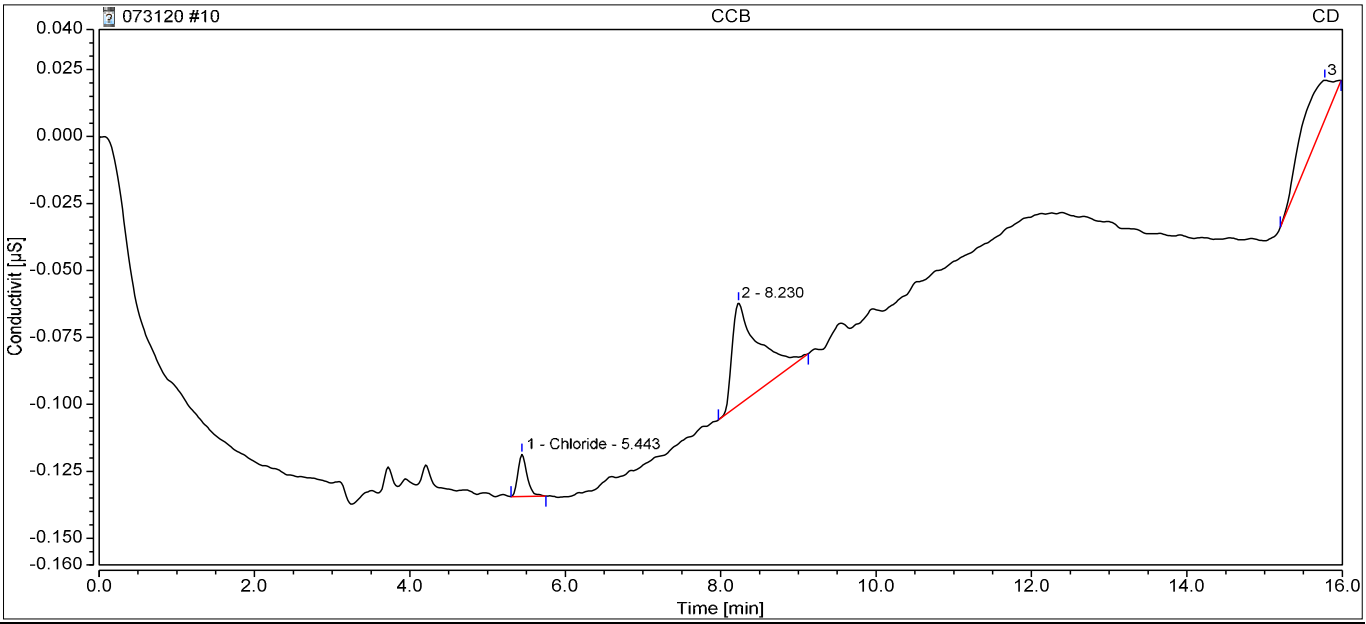
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	1.0000
1	5.47	Chloride	BMB	0.008	0.0067	0.0067	1.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Sulfate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**0.008**		**0.01**	

10 CCB

Sample Name:	**CCB**	*Injection Volume:*	**5.00**
Vial Number:	**BA3**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**07/31/2020 12:21**	*Sample Weight:*	**1.0000**

Run Time:



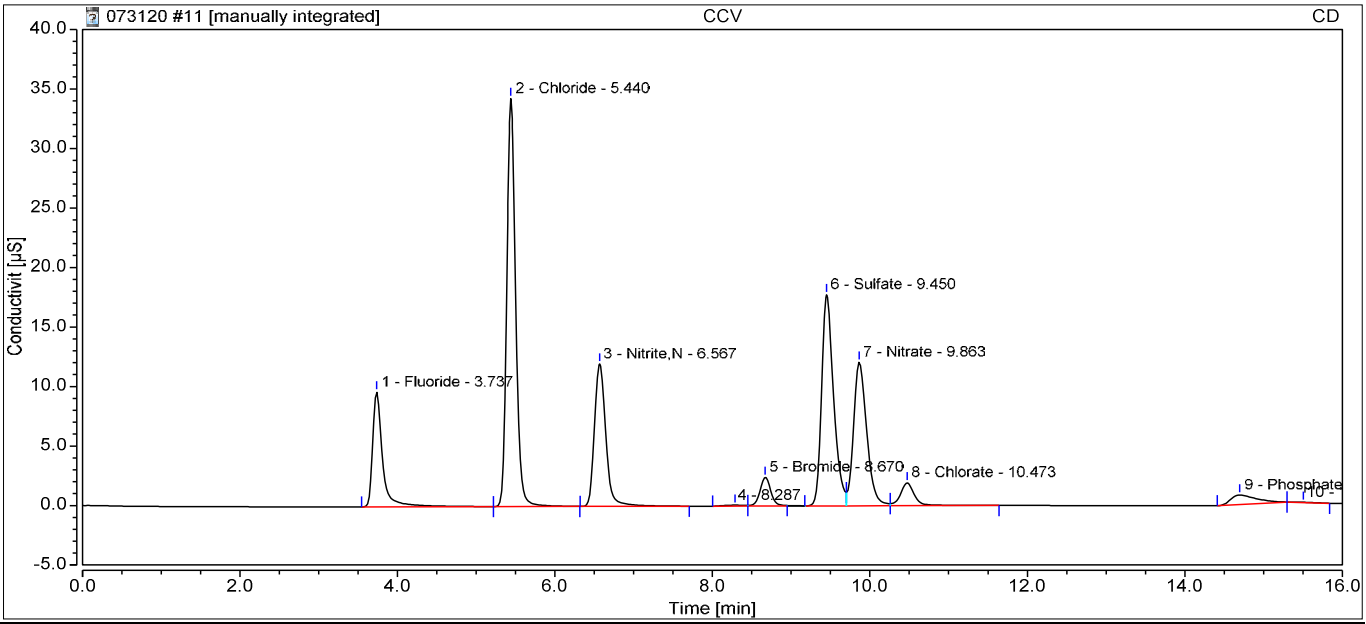
Integration Results

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	5.44	Chloride	BMB	0.002	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Sulfate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**0.002**		**0.00**	

11 CCV

Sample Name:	**CCV**	*Injection Volume:*	**5.00**
Vial Number:	**BA2**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**07/31/2020 12:39**	*Sample Weight:*	**1.0000**

Run Time:



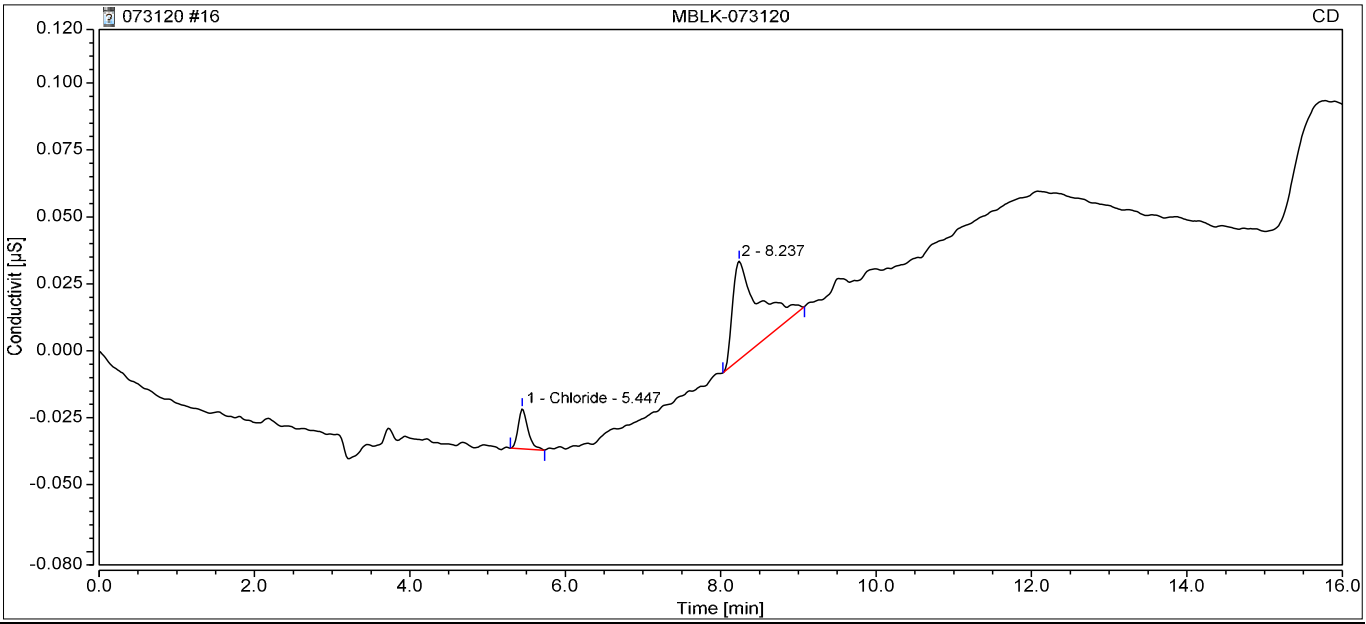
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.74	Fluoride	BMB	1.410	4.1896	4.1896	1.0000
2	5.44	Chloride	BMB	4.484	20.2074	20.2074	1.0000
3	6.57	Nitrite,N	BMB	1.998	4.3464	4.3464	1.0000
5	8.67	Bromide	M *	0.386	4.3601	4.3601	1.0000
6	9.45	Sulfate	M	3.145	20.0822	20.0822	1.0000
7	9.86	Nitrate	M	2.331	3.8956	3.8956	1.0000
8	10.47	Chlorate	MB	0.396	4.0470	4.0470	1.0000
9	14.70	Phosphate	BMB	0.299	1.9056	1.9056	1.0000
Total:			**0.000**	**14.450**		**63.03**	

16 MBLK-073120

Sample Name:	**MBLK-073120**	*Injection Volume:*	**5.00**
Vial Number:	**BB4**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**07/31/2020 14:11**	*Sample Weight:*	**1.0000**

Run Time:



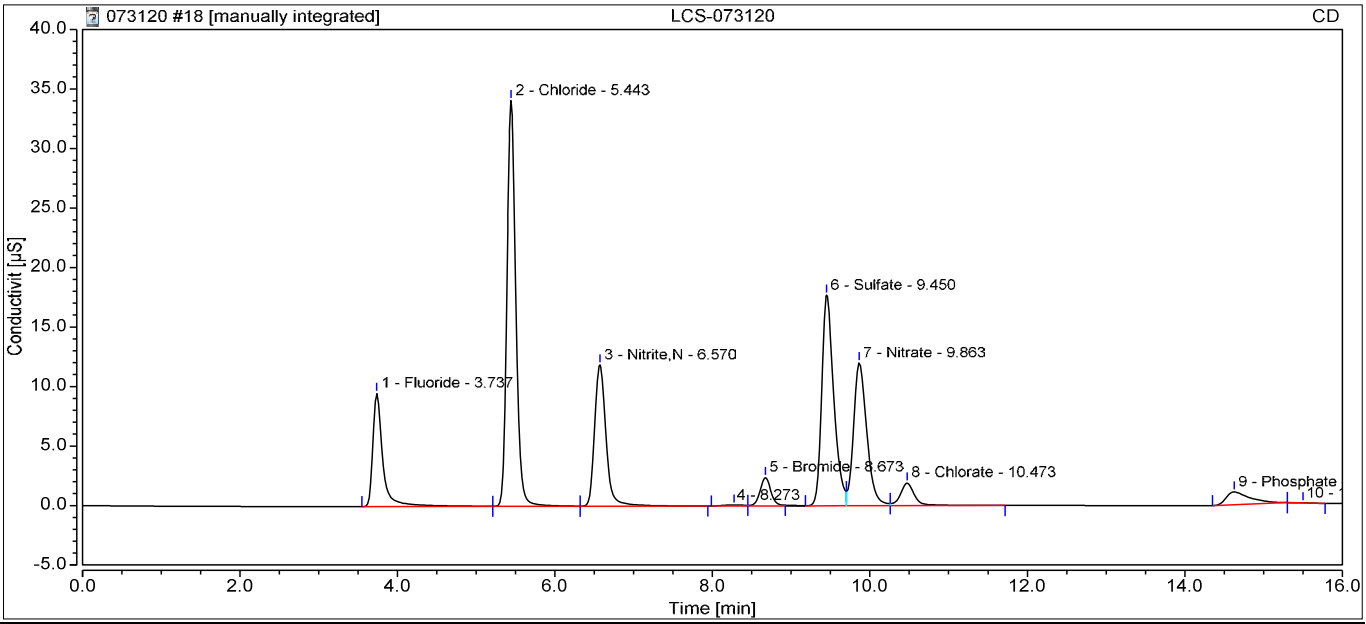
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	1.0000
1	5.45	Chloride	BMB	0.002	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Sulfate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**0.002**		**0.00**	

18 LCS-073120

Sample Name:	**LCS-073120**	*Injection Volume:*	**5.00**
Vial Number:	**BB2**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**07/31/2020 14:47**	*Sample Weight:*	**1.0000**

Run Time:



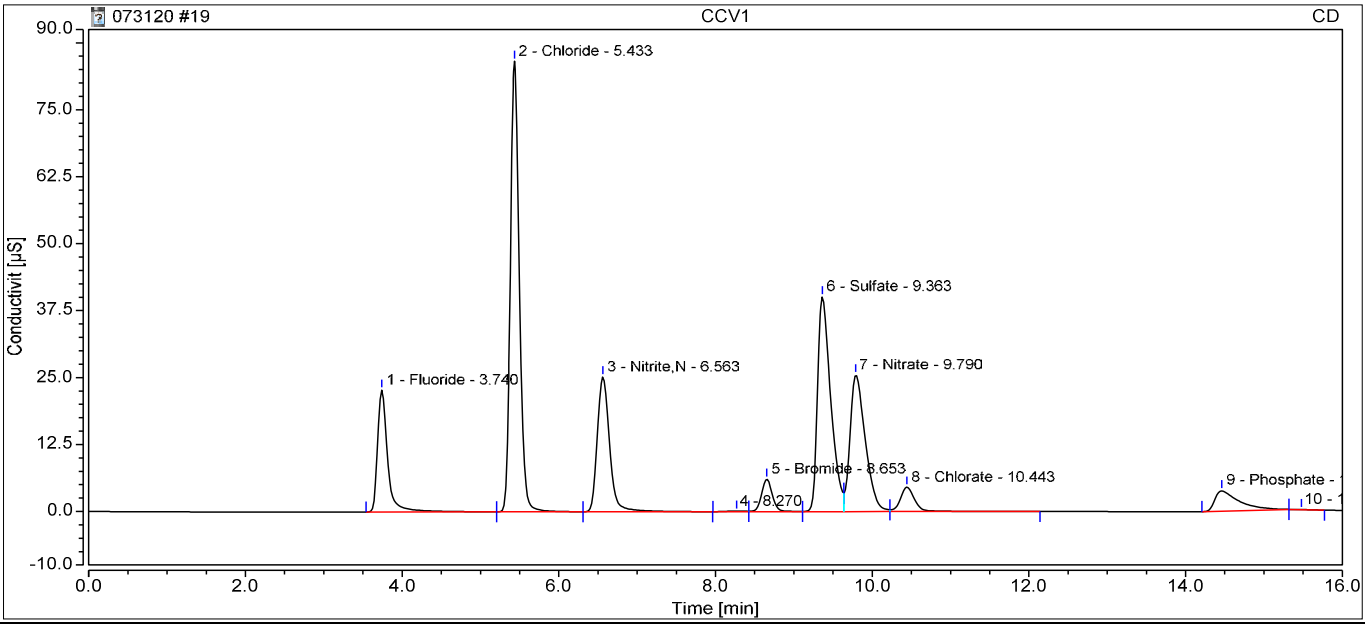
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.74	Fluoride	BMB	1.396	4.1476	4.1476	1.0000
2	5.44	Chloride	BMB	4.463	20.1106	20.1106	1.0000
3	6.57	Nitrite,N	BMB	1.985	4.3175	4.3175	1.0000
5	8.67	Bromide	M *	0.382	4.3141	4.3141	1.0000
6	9.45	Sulfate	M	3.152	20.1310	20.1310	1.0000
7	9.86	Nitrate	M	2.329	3.8916	3.8916	1.0000
8	10.47	Chlorate	MB	0.396	4.0417	4.0417	1.0000
9	14.63	Phosphate	BMB	0.379	2.3331	2.3331	1.0000
Total:			**0.000**	**14.482**		**63.29**	

19 CCV1

Sample Name:	**CCV1**	*Injection Volume:*	**5.00**
Vial Number:	**BA4**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**07/31/2020 15:05**	*Sample Weight:*	**1.0000**

Run Time:



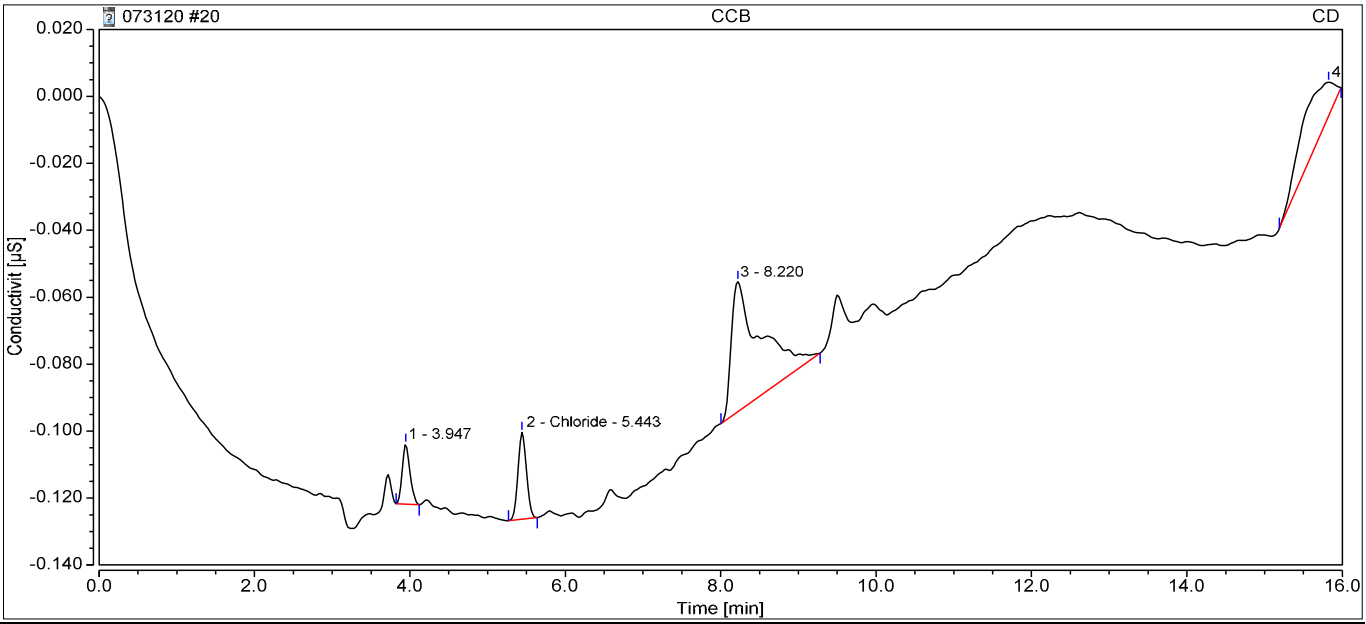
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.74	Fluoride	BMB	3.389	10.0522	10.0522	1.0000
2	5.43	Chloride	BMB	11.075	49.9537	49.9537	1.0000
3	6.56	Nitrite,N	BMB	4.611	10.0646	10.0646	1.0000
5	8.65	Bromide	M	0.967	10.8823	10.8823	1.0000
6	9.36	Sulfate	M	7.821	49.6474	49.6474	1.0000
7	9.79	Nitrate	M	5.755	9.6307	9.6307	1.0000
8	10.44	Chlorate	MB	0.973	9.9861	9.9861	1.0000
9	14.46	Phosphate	BMB	1.354	7.5699	7.5699	1.0000
Total:			**0.000**	**35.946**		**157.79**	

20 CCB

Sample Name:	**CCB**	*Injection Volume:*	**5.00**
Vial Number:	**BB7**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**07/31/2020 15:23**	*Sample Weight:*	**1.0000**

Run Time:



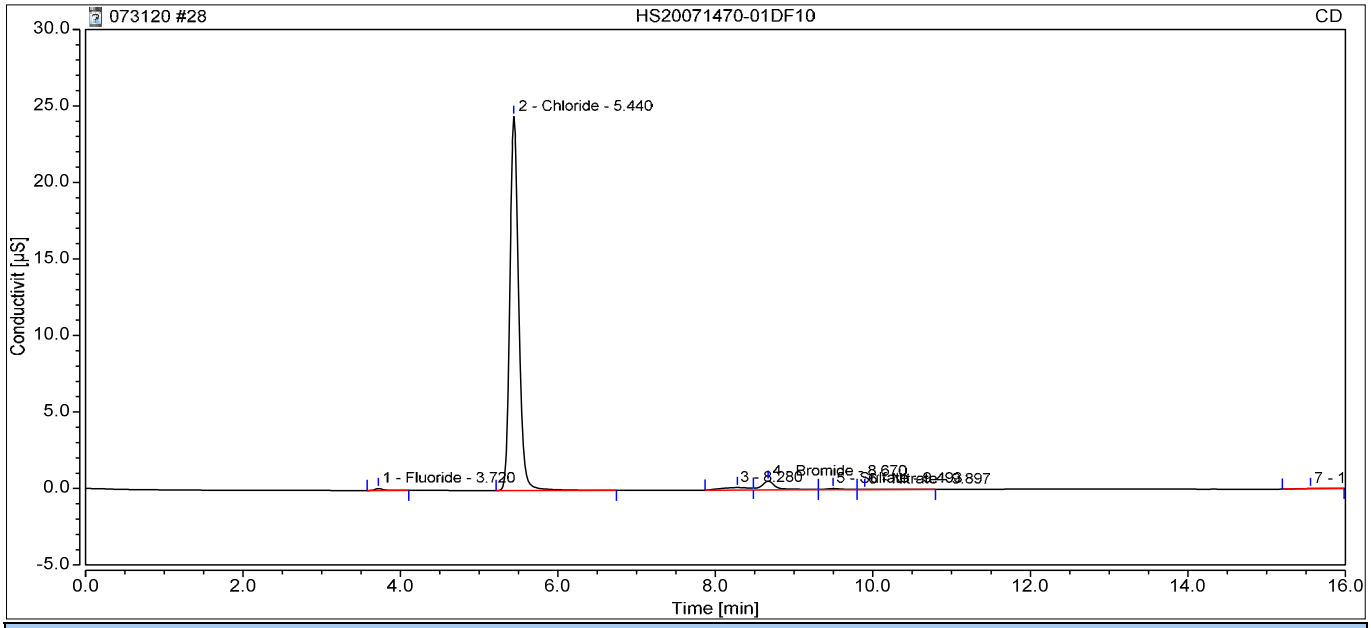
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	1.0000
2	5.44	Chloride	BMB	0.003	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Sulfate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**0.003**		**0.00**	

28 HS20071470-01DF10

Sample Name:	**HS20071470-01DF10**	*Injection Volume:*	**5.00**
Vial Number:	**RA8**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**10.0000**
Recording Time:	**07/31/2020 18:03**	*Sample Weight:*	**1.0000**

Run Time:



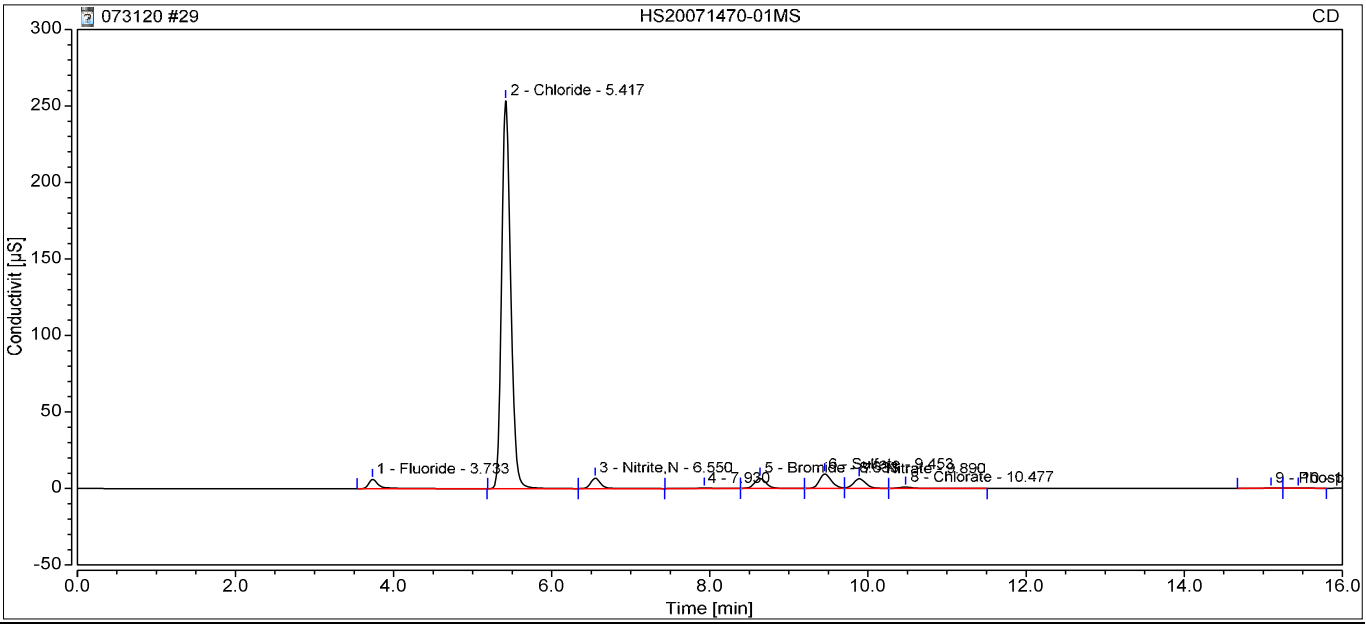
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.72	Fluoride	BMB	0.016	0.0603	0.6030	10.0000
2	5.44	Chloride	BMB	3.202	14.4214	144.2145	10.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	10.0000
4	8.67	Bromide	M	0.129	1.4701	14.7014	10.0000
5	9.49	Sulfate	M	0.021	0.3301	3.3008	10.0000
6	9.90	Nitrate	MB	0.008	0.0030	0.0295	10.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	10.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	10.0000
Total:			**0.000**	**3.375**		**162.85**	

29 HS20071470-01MS

Sample Name:	**HS20071470-01MS**	*Injection Volume:*	**5.00**
Vial Number:	**RB1**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**07/31/2020 18:21**	*Sample Weight:*	**1.0000**

Run Time:

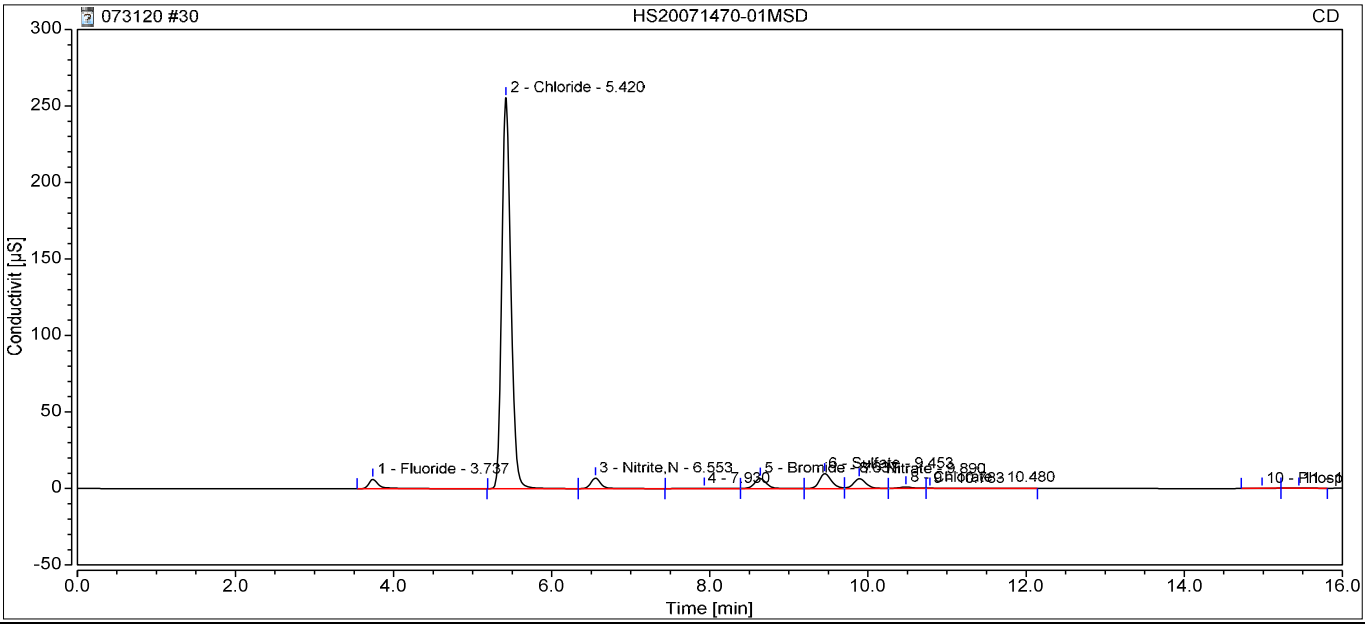


Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.73	Fluoride	BMB	0.948	2.8218	2.8218	1.0000
2	5.42	Chloride	BMB	33.464	150.9969	150.9969	1.0000
3	6.55	Nitrite,N	BMB	1.031	2.2290	2.2290	1.0000
5	8.63	Bromide	M	1.196	13.4535	13.4535	1.0000
6	9.45	Sulfate	M	1.691	10.8935	10.8935	1.0000
7	9.89	Nitrate	M	1.188	1.9804	1.9804	1.0000
8	10.48	Chlorate	MB	0.210	2.1326	2.1326	1.0000
9	15.10	Phosphate	BMB	0.024	0.4260	0.4260	1.0000
Total:			**0.000**	**39.753**		**184.93**	

30 HS20071470-01MSD			
Sample Name:	**HS20071470-01MSD**	*Injection Volume:*	**5.00**
Vial Number:	**RB2**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**07/31/2020 18:39**	*Sample Weight:*	**1.0000**

Run Time:



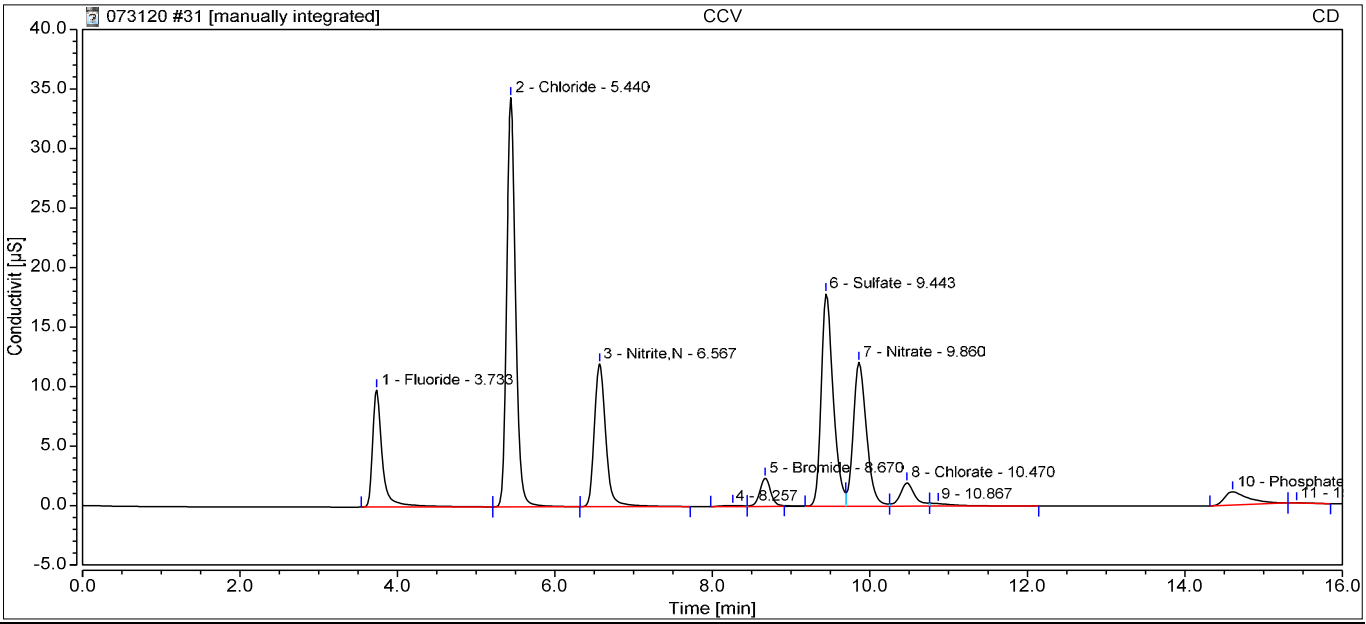
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.74	Fluoride	BMB	0.954	2.8383	2.8383	1.0000
2	5.42	Chloride	BMB	33.635	151.7675	151.7675	1.0000
3	6.55	Nitrite,N	BMB	1.034	2.2348	2.2348	1.0000
5	8.64	Bromide	M	1.200	13.4992	13.4992	1.0000
6	9.45	Sulfate	M	1.711	11.0186	11.0186	1.0000
7	9.89	Nitrate	M	1.193	1.9890	1.9890	1.0000
8	10.48	Chlorate	M	0.221	2.2423	2.2423	1.0000
10	14.98	Phosphate	BMB	0.016	0.3815	0.3815	1.0000
Total:			**0.000**	**39.963**		**185.97**	

31 CCV

Sample Name:	**CCV**	*Injection Volume:*	**5.00**
Vial Number:	**BA2**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**07/31/2020 18:57**	*Sample Weight:*	**1.0000**

Run Time:



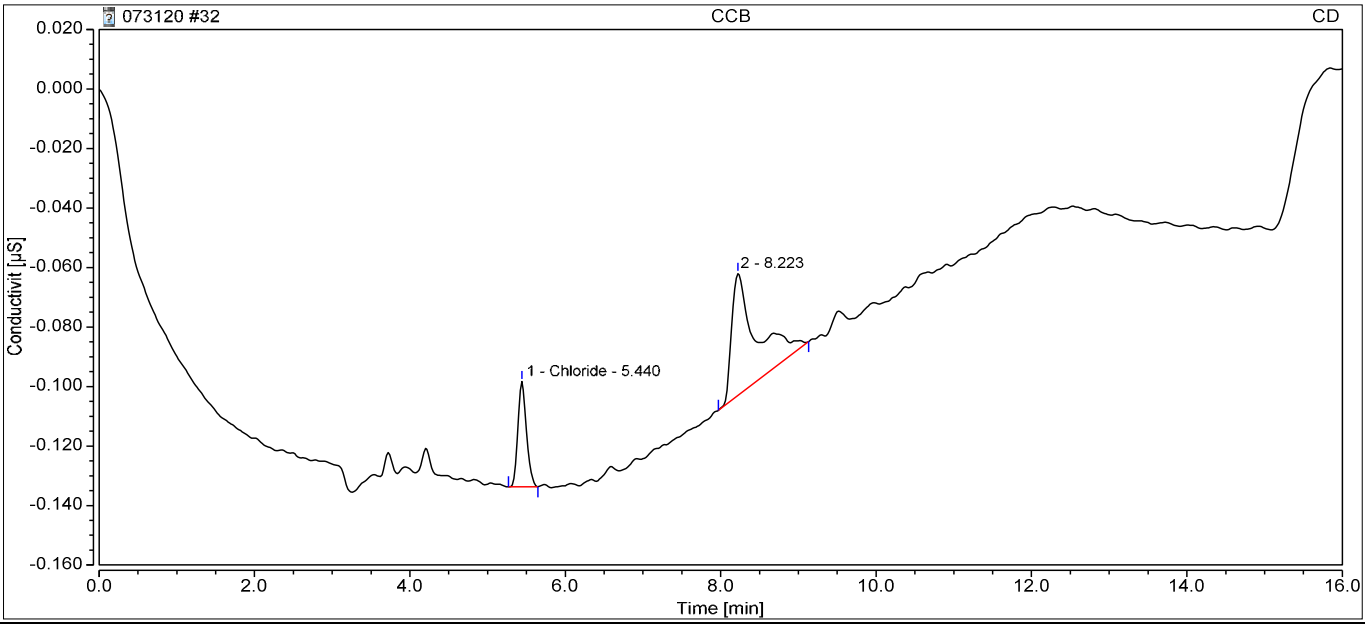
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.73	Fluoride	BMB	1.414	4.2007	4.2007	1.0000
2	5.44	Chloride	BMB	4.504	20.2954	20.2954	1.0000
3	6.57	Nitrite,N	BMB	2.007	4.3650	4.3650	1.0000
5	8.67	Bromide	M *	0.382	4.3178	4.3178	1.0000
6	9.44	Sulfate	M	3.180	20.3068	20.3068	1.0000
7	9.86	Nitrate	M	2.345	3.9183	3.9183	1.0000
8	10.47	Chlorate	M	0.420	4.2925	4.2925	1.0000
10	14.61	Phosphate	BMB	0.398	2.4381	2.4381	1.0000
Total:			**0.000**	**14.650**		**64.13**	

32 CCB

Sample Name:	**CCB**	*Injection Volume:*	**5.00**
Vial Number:	**BA3**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**07/31/2020 19:15**	*Sample Weight:*	**1.0000**

Run Time:



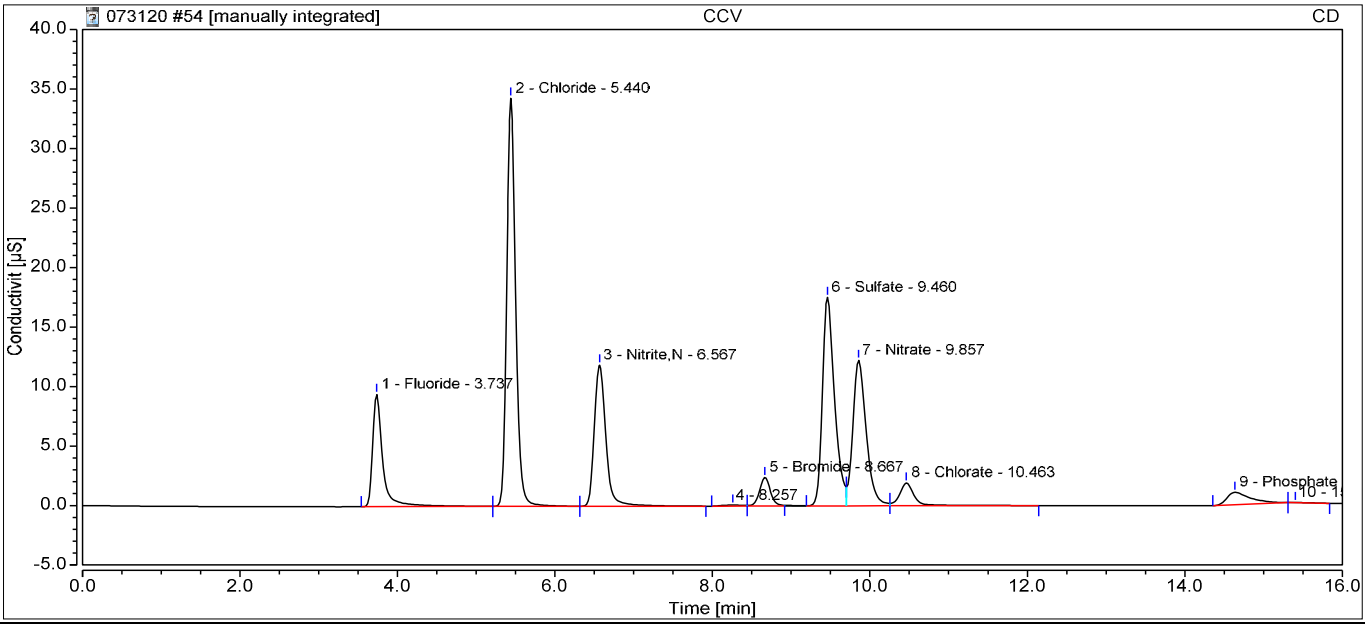
Integration Results

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
1	5.44	Chloride	BMB	0.005	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Sulfate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**0.005**		**0.00**	

54 CCV

Sample Name:	**CCV**	*Injection Volume:*	**5.00**
Vial Number:	**BA2**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**08/01/2020 01:52**	*Sample Weight:*	**1.0000**

Run Time:



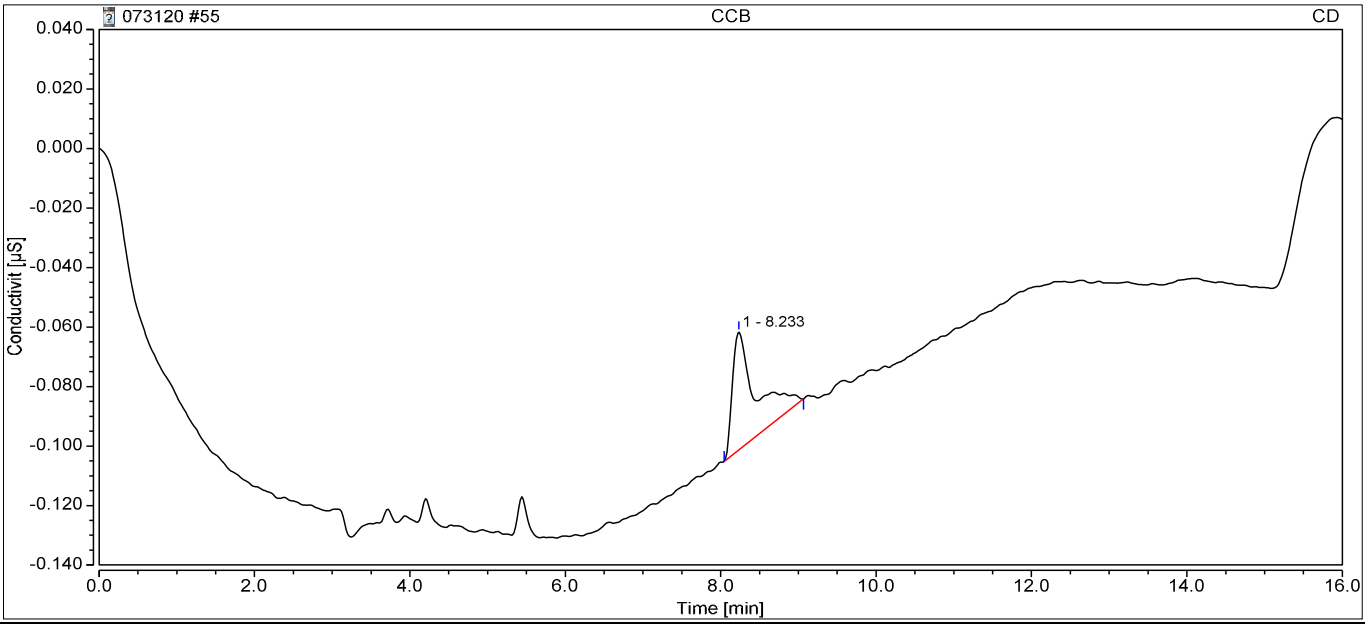
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.74	Fluoride	BMB	1.402	4.1653	4.1653	1.0000
2	5.44	Chloride	BMB	4.511	20.3305	20.3305	1.0000
3	6.57	Nitrite,N	BMB	2.012	4.3764	4.3764	1.0000
5	8.67	Bromide	M *	0.386	4.3624	4.3624	1.0000
6	9.46	Sulfate	M	3.142	20.0646	20.0646	1.0000
7	9.86	Nitrate	M	2.392	3.9963	3.9963	1.0000
8	10.46	Chlorate	MB	0.421	4.2958	4.2958	1.0000
9	14.64	Phosphate	BMB	0.367	2.2666	2.2666	1.0000
Total:			**0.000**	**14.632**		**63.86**	

55 CCB

Sample Name:	**CCB**	*Injection Volume:*	**5.00**
Vial Number:	**BA3**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**08/01/2020 02:10**	*Sample Weight:*	**1.0000**

Run Time:



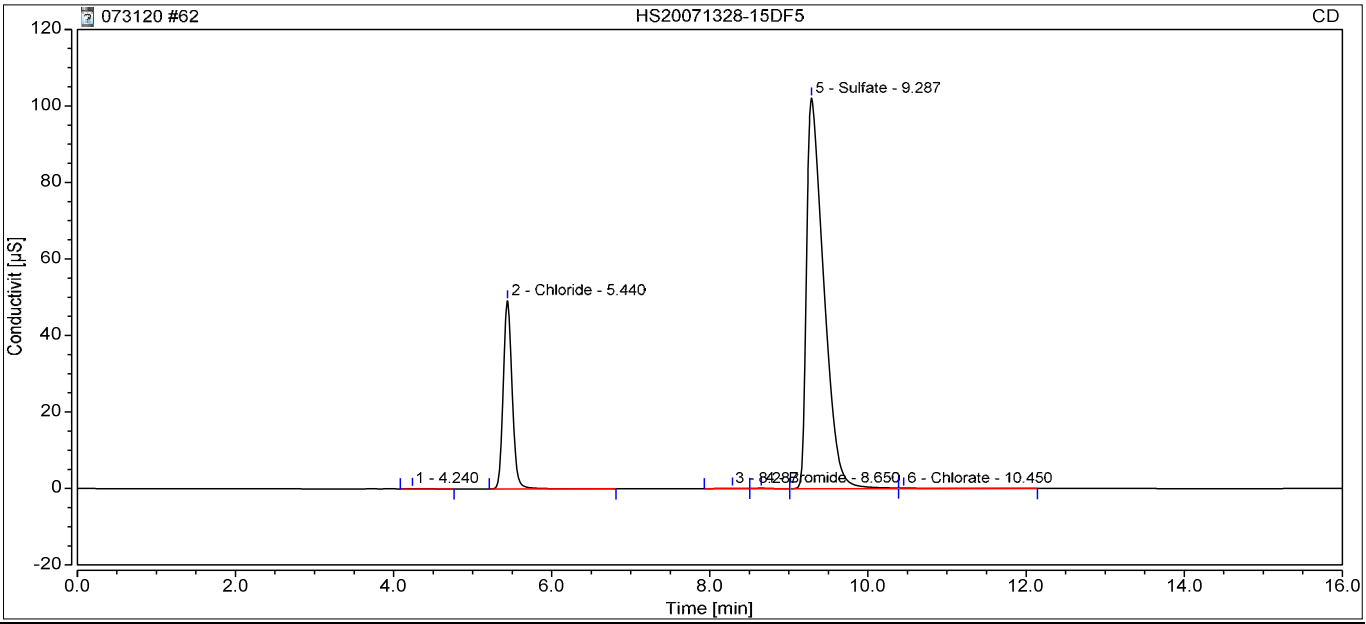
Integration Results

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
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Sulfate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**0.000**		**0.00**	

62 HS20071328-15DF5

Sample Name:	**HS20071328-15DF5**	*Injection Volume:*	**5.00**
Vial Number:	**RE4**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**5.0000**
Recording Time:	**08/01/2020 04:16**	*Sample Weight:*	**1.0000**

Run Time:



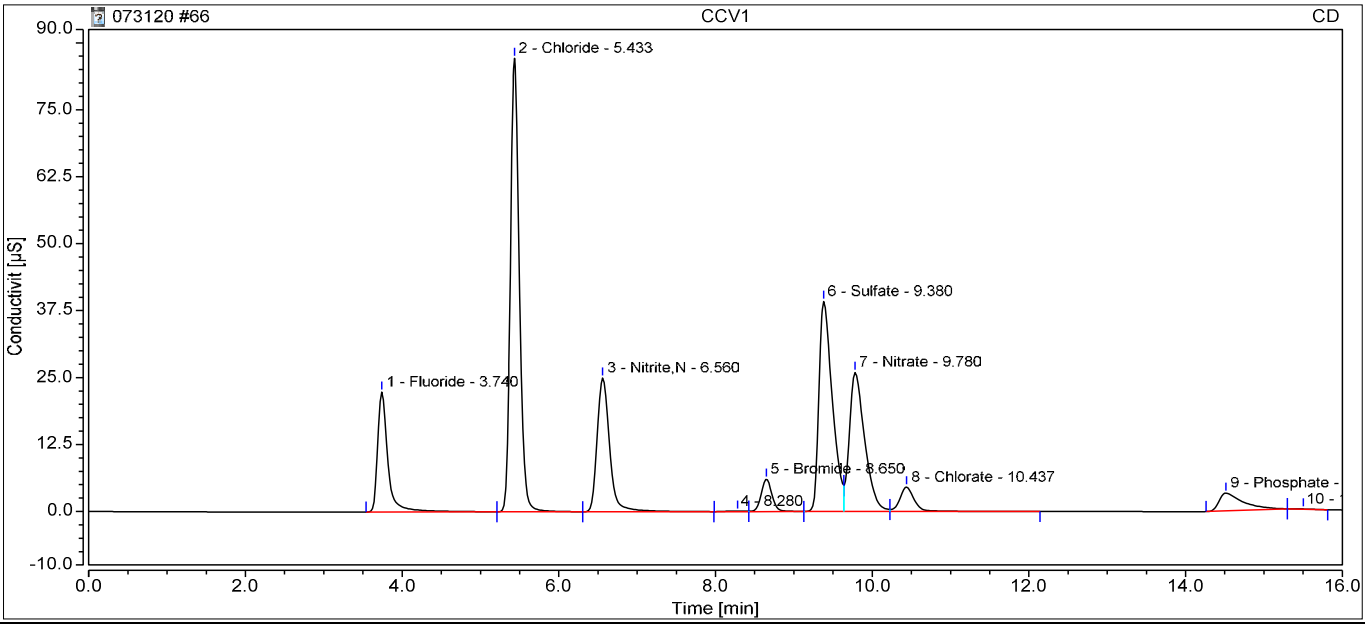
Integration Results

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	5.44	Chloride	BMB	6.365	28.6960	143.4798	5.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	5.0000
4	8.65	Bromide	M	0.041	0.4829	2.4147	5.0000
5	9.29	Sulfate	M	25.848	163.6191	818.0954	5.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	5.0000
6	10.45	Chlorate	MB	0.077	0.7552	3.7761	5.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	5.0000
Total:			**0.000**	**32.331**		**967.77**	

66 CCV1

Sample Name:	**CCV1**	*Injection Volume:*	**5.00**
Vial Number:	**BA4**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**08/01/2020 05:28**	*Sample Weight:*	**1.0000**

Run Time:



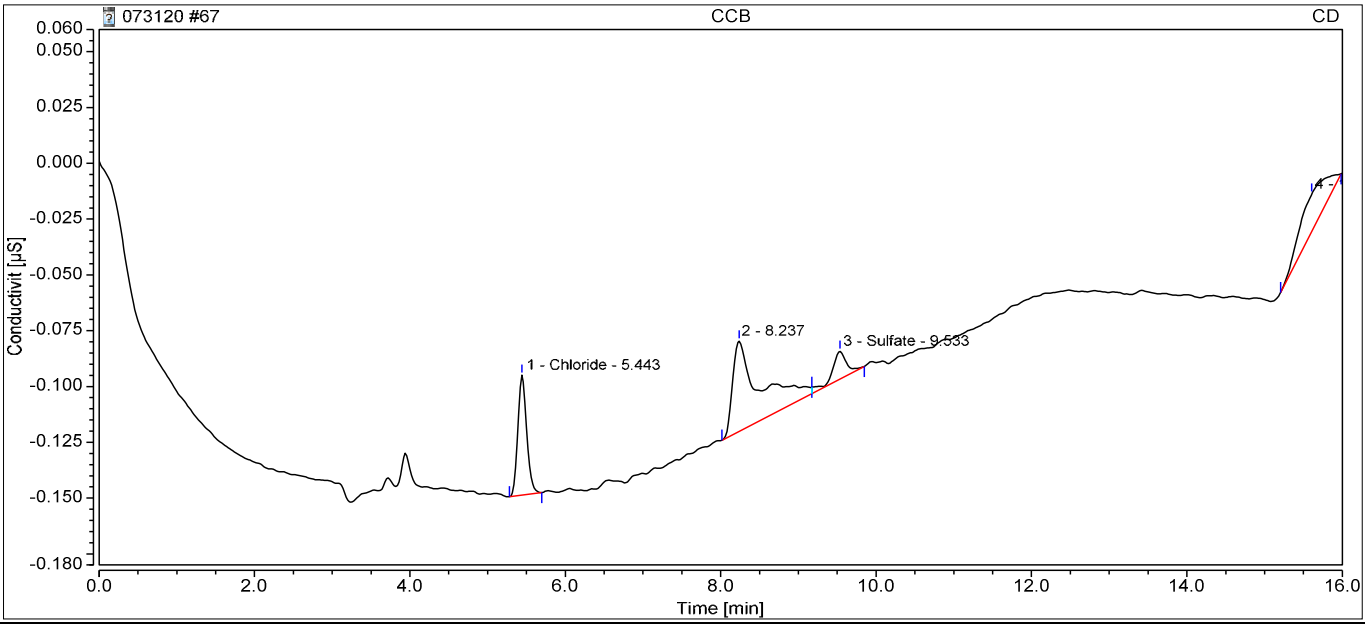
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.74	Fluoride	BMB	3.380	10.0252	10.0252	1.0000
2	5.43	Chloride	BMB	11.129	50.1978	50.1978	1.0000
3	6.56	Nitrite,N	BMB	4.626	10.0967	10.0967	1.0000
5	8.65	Bromide	M	0.969	10.9029	10.9029	1.0000
6	9.38	Sulfate	M	7.750	49.1996	49.1996	1.0000
7	9.78	Nitrate	M	5.895	9.8649	9.8649	1.0000
8	10.44	Chlorate	MB	0.981	10.0703	10.0703	1.0000
9	14.51	Phosphate	BMB	1.171	6.5875	6.5875	1.0000
Total:			**0.000**	**35.902**		**156.94**	

67 CCB

Sample Name:	**CCB**	*Injection Volume:*	**5.00**
Vial Number:	**BB7**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**08/01/2020 05:46**	*Sample Weight:*	**1.0000**

Run Time:



Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	1.0000
1	5.44	Chloride	BMB	0.007	0.0022	0.0022	1.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
3	9.53	Sulfate	MB	0.003	0.2168	0.2168	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**	**0.010**		**0.22**	

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August 27, 2020

Susan Huang
Aptim Environmental & Infrastucture, Inc.
2500 City West Blvd., Suite 1700
Houston, TX 77042

Work Order: **HS20080738**

Laboratory Results for: **Longhorn Army Ammunition Plant 16 July 2020**

Dear Susan Huang,

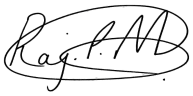
ALS Environmental received 3 sample(s) on Aug 18, 2020 for the analysis presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

If you have any questions regarding this report, please feel free to call me.

Sincerely,



Generated By: JUMOKE.LAWAL
RJ Modashia
Project Manager

ALS Houston, US Date: 27-Aug-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 July 2020
Work Order: HS20080738

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS20080738-01	16WW58-200817	Groundwater		17-Aug-2020 08:05	18-Aug-2020 09:50	☐
HS20080738-02	16WW57-200817	Groundwater		17-Aug-2020 09:20	18-Aug-2020 09:50	☐
HS20080738-03	Trip Blank-200817	Water	C&G-052219-11	17-Aug-2020 00:00	18-Aug-2020 09:50	☐

ALS Houston, US Date: 27-Aug-20

Client: Aptim Environmental & Infrastucture, Inc. **CASE NARRATIVE**
Project: Longhorn Army Ammunition Plant 16 July 2020
Work Order: HS20080738

Work Order Comments

• Analysis of Perchlorate was performed by ALS Houston TX, High Resolution. Laboratory. Final report attached.

The analysis for TOC was subcontracted to ALS Environmental in Kelso WA. Final report attached.

GC Semivolatiles by Method RSK-175

Batch ID: R367340

Sample ID: 16WW57-200817 (HS20080738-02MS)

• The recovery of the Matrix Spike (MS) associated to this analyte was outside of the established control limits. However, the LCS was within control limits. The recovery of the MS may be due to sample matrix interference.

Sample ID: 16WW57-200817 (HS20080738-02MSD)

• The recovery of the Matrix Spike Duplicate (MSD) associated to this analyte was outside of the established control limits. However, the LCS was within control limits. The failed recovery of the MSD may be due to sample matrix interference.

GCMS Volatiles by Method SW8260

Batch ID: R367092

Sample ID: 16WW57-200817 (HS20080738-02MS)

• MS/MSD failed QC limits for some compounds.

WetChemistry by Method SM2320B

Batch ID: R367090

• The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

WetChemistry by Method SW9056

Batch ID: R367032

Sample ID: 16WW57-200817 (HS20080738-02 MS/MSD)

• MS/MSD reported at 5X dilution

Sample ID: 16WW57-200817 (HS20080738-02)

• Sample ran at 5X due to high concentration of Chloride

Sample ID: 16WW57-200817 (HS20080738-02MS)

• The MS and/or MSD recovery was outside of the control limits; however, the result in the parent sample is greater than 4x the spike amount. (Sulfate)

ALS Houston, US Date: 27-Aug-20

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: Longhorn Army Ammunition Plant 16 July 2020 WorkOrder:HS20080738
Sample ID: 16WW58-200817 Lab ID:HS20080738-01
Collection Date: 17-Aug-2020 08:05 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	19-Aug-2020 13:16
1,1-Dichloroethene	**2.9**	J	**1.0**	**2.5**	**5.0**	**UG/L**	5	19-Aug-2020 13:16
1,2-Dichloroethane	2.5	U	1.0	2.5	5.0	UG/L	5	19-Aug-2020 13:16
cis-1,2-Dichloroethene	**110**		**1.0**	**2.5**	**5.0**	**UG/L**	5	19-Aug-2020 13:16
Methylene chloride	5.0	U	2.0	5.0	10	UG/L	5	19-Aug-2020 13:16
Trichloroethene	**3,400**		**10**	**25**	**50**	**UG/L**	50	19-Aug-2020 14:28
Vinyl chloride	2.5	U	1.0	2.5	5.0	UG/L	5	19-Aug-2020 13:16
Surr: 1,2-Dichloroethane-d4	*87.6*			**0**	*81-118*	*%REC*	*5*	*19-Aug-2020 13:16*
Surr: 1,2-Dichloroethane-d4	*90.1*			**0**	*81-118*	*%REC*	*50*	*19-Aug-2020 14:28*
Surr: 4-Bromofluorobenzene	*94.6*			**0**	*85-114*	*%REC*	*5*	*19-Aug-2020 13:16*
Surr: 4-Bromofluorobenzene	*97.0*			**0**	*85-114*	*%REC*	*50*	*19-Aug-2020 14:28*
Surr: Dibromofluoromethane	*92.3*			**0**	*80-119*	*%REC*	*5*	*19-Aug-2020 13:16*
Surr: Dibromofluoromethane	*94.2*			**0**	*80-119*	*%REC*	*50*	*19-Aug-2020 14:28*
Surr: Toluene-d8	*105*			**0**	*89-112*	*%REC*	*5*	*19-Aug-2020 13:16*
Surr: Toluene-d8	*105*			**0**	*89-112*	*%REC*	*50*	*19-Aug-2020 14:28*
DISSOLVED GASES BY RSK-175		**Method:RSK-175**						Analyst: PVL
Ethane	0.000250	U	0.000144	0.000250	0.00100	mg/L	1	24-Aug-2020 10:50
Ethene	**0.00171**		**0.000234**	**0.000500**	**0.00100**	**mg/L**	1	24-Aug-2020 10:50
Methane	**0.00969**		**0.000107**	**0.000250**	**0.000500**	**mg/L**	1	24-Aug-2020 10:50
ALKALINITY BY SM2320B		**Method:SM2320B**						Analyst: TH
Alkalinity, Total (As CaCO3)	**97.8**	a	**5.00**	**5.00**	**5.00**	**mg/L**	1	19-Aug-2020 18:16
ANIONS BY SW9056A		**Method:SW9056**						Analyst: YP
Bromide	**3.42**		**0.0300**	**0.100**	**0.100**	**mg/L**	1	18-Aug-2020 21:14
Nitrogen, Nitrate (As N)	0.100	U	0.0300	0.100	0.100	mg/L	1	18-Aug-2020 21:14
Sulfate	**348**		**2.00**	**5.00**	**5.00**	**mg/L**	10	18-Aug-2020 14:55
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: GR
Subcontract Analysis	See Attached		0	0		NA	1	27-Aug-2020 17:43
SUBCONTRACT ANALYSIS - TOC ANALYSIS		**Method:NA**						Analyst: SUBK
Subcontract Analysis	See Attached		0	0		NA	1	27-Aug-2020 14:05

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 27-Aug-20

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: Longhorn Army Ammunition Plant 16 July 2020 WorkOrder:HS20080738
Sample ID: 16WW57-200817 Lab ID:HS20080738-02
Collection Date: 17-Aug-2020 09:20 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	19-Aug-2020 12:52
1,1-Dichloroethene	**1.5**		**0.20**	**0.50**	**1.0**	**UG/L**	1	19-Aug-2020 12:52
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	19-Aug-2020 12:52
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	19-Aug-2020 12:52
Methylene chloride	1.0	U	0.40	1.0	2.0	UG/L	1	19-Aug-2020 12:52
Trichloroethene	**69**		**0.20**	**0.50**	**1.0**	**UG/L**	1	19-Aug-2020 12:52
Vinyl chloride	0.50	U	0.20	0.50	1.0	UG/L	1	19-Aug-2020 12:52
Surr: 1,2-Dichloroethane-d4	*88.4*			**0**	*81-118*	*%REC*	*1*	*19-Aug-2020 12:52*
Surr: 4-Bromofluorobenzene	*96.3*			**0**	*85-114*	*%REC*	*1*	*19-Aug-2020 12:52*
Surr: Dibromofluoromethane	*92.2*			**0**	*80-119*	*%REC*	*1*	*19-Aug-2020 12:52*
Surr: Toluene-d8	*106*			**0**	*89-112*	*%REC*	*1*	*19-Aug-2020 12:52*
DISSOLVED GASES BY RSK-175		**Method:RSK-175**						Analyst: PVL
Ethane	0.000250	U	0.000144	0.000250	0.00100	mg/L	1	24-Aug-2020 10:59
Ethene	0.000500	U	0.000234	0.000500	0.00100	mg/L	1	24-Aug-2020 10:59
Methane	**0.00219**		**0.000107**	**0.000250**	**0.000500**	**mg/L**	1	24-Aug-2020 10:59
ALKALINITY BY SM2320B		**Method:SM2320B**						Analyst: TH
Alkalinity, Total (As CaCO3)	**138**	a	**5.00**	**5.00**	**5.00**	**mg/L**	1	19-Aug-2020 18:05
ANIONS BY SW9056A		**Method:SW9056**						Analyst: YP
Bromide	**4.70**		**0.150**	**0.500**	**0.500**	**mg/L**	5	18-Aug-2020 21:32
Nitrogen, Nitrate (As N)	0.500	U	0.150	0.500	0.500	mg/L	5	18-Aug-2020 21:32
Sulfate	**2,610**		**20.0**	**50.0**	**50.0**	**mg/L**	100	18-Aug-2020 23:02
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: GR
Subcontract Analysis	See Attached		0	0		NA	1	27-Aug-2020 17:43
SUBCONTRACT ANALYSIS - TOC ANALYSIS		**Method:NA**						Analyst: SUBK
Subcontract Analysis	See Attached		0	0		NA	1	27-Aug-2020 14:05

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 27-Aug-20

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: Longhorn Army Ammunition Plant 16 July 2020 WorkOrder:HS20080738
Sample ID: Trip Blank-200817 Lab ID:HS20080738-03
Collection Date: 17-Aug-2020 00:00 Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	UG/L	1	19-Aug-2020 12:28
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	19-Aug-2020 12:28
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	19-Aug-2020 12:28
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	19-Aug-2020 12:28
Methylene chloride	1.0	U	0.40	1.0	2.0	UG/L	1	19-Aug-2020 12:28
Trichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	19-Aug-2020 12:28
Vinyl chloride	0.50	U	0.20	0.50	1.0	UG/L	1	19-Aug-2020 12:28
Surr: 1,2-Dichloroethane-d4	*87.7*			**0**	*81-118*	*%REC*	*1*	*19-Aug-2020 12:28*
Surr: 4-Bromofluorobenzene	*98.1*			**0**	*85-114*	*%REC*	*1*	*19-Aug-2020 12:28*
Surr: Dibromofluoromethane	*91.7*			**0**	*80-119*	*%REC*	*1*	*19-Aug-2020 12:28*
Surr: Toluene-d8	*107*			**0**	*89-112*	*%REC*	*1*	*19-Aug-2020 12:28*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 27-Aug-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 July 2020
WorkOrder: HS20080738

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: R367032 (0)	**Test Name :** ANIONS BY SW9056A				**Matrix:** Groundwater	
HS20080738-01	16WW58-200817	17 Aug 2020 08:05			18 Aug 2020 21:14	1
HS20080738-01	16WW58-200817	17 Aug 2020 08:05			18 Aug 2020 14:55	10
HS20080738-02	16WW57-200817	17 Aug 2020 09:20			18 Aug 2020 23:02	100
HS20080738-02	16WW57-200817	17 Aug 2020 09:20			18 Aug 2020 21:32	5
Batch ID: R367090 (0)	**Test Name :** ALKALINITY BY SM2320B				**Matrix:** Groundwater	
HS20080738-01	16WW58-200817	17 Aug 2020 08:05			19 Aug 2020 18:16	1
HS20080738-02	16WW57-200817	17 Aug 2020 09:20			19 Aug 2020 18:05	1
Batch ID: R367092 (0)	**Test Name :** VOLATILES ORGANICS BY METHOD 8260C				**Matrix:** Water	
HS20080738-03	Trip Blank-200817	17 Aug 2020 00:00			19 Aug 2020 12:28	1
Batch ID: R367092 (0)	**Test Name :** VOLATILES ORGANICS BY METHOD 8260C				**Matrix:** Groundwater	
HS20080738-01	16WW58-200817	17 Aug 2020 08:05			19 Aug 2020 14:28	50
HS20080738-01	16WW58-200817	17 Aug 2020 08:05			19 Aug 2020 13:16	5
HS20080738-02	16WW57-200817	17 Aug 2020 09:20			19 Aug 2020 12:52	1
Batch ID: R367340 (0)	**Test Name :** DISSOLVED GASES BY RSK-175				**Matrix:** Groundwater	
HS20080738-01	16WW58-200817	17 Aug 2020 08:05			24 Aug 2020 10:50	1
HS20080738-02	16WW57-200817	17 Aug 2020 09:20			24 Aug 2020 10:59	1
Batch ID: R367563 (0)	**Test Name :** SUBCONTRACT ANALYSIS - TOC ANALYSIS				**Matrix:** Groundwater	
HS20080738-01	16WW58-200817	17 Aug 2020 08:05			27 Aug 2020 14:05	1
HS20080738-02	16WW57-200817	17 Aug 2020 09:20			27 Aug 2020 14:05	1
Batch ID: R367591 (0)	**Test Name :** SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)				**Matrix:** Groundwater	
HS20080738-01	16WW58-200817	17 Aug 2020 08:05			27 Aug 2020 17:43	1
HS20080738-02	16WW57-200817	17 Aug 2020 09:20			27 Aug 2020 17:43	1

ALS Houston, US Date: 27-Aug-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 July 2020
WorkOrder: HS20080738

QC BATCH REPORT

Batch ID: R367340 (0) **Instrument: FID-4** **Method: DISSOLVED GASES BY RSK-175**

MBLK Sample ID: **MBLK-200824** Units: **mg/L** Analysis Date: **24-Aug-2020 10:12**
Client ID: Run ID: **FID-4_367340** SeqNo: **5712529** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethane	0.000250	0.00100								U
Ethene	0.000500	0.00100								U
Methane	0.000250	0.000500								U

LCS Sample ID: **LCS-200824** Units: **mg/L** Analysis Date: **24-Aug-2020 10:25**
Client ID: Run ID: **FID-4_367340** SeqNo: **5712530** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethane	0.0180	0.00100	0.01804	0	99.9	75 - 125				
Ethene	0.0174	0.00100	0.0168	0	103	75 - 125				
Methane	0.00928	0.000500	0.009647	0	96.2	75 - 125				

LCSD Sample ID: **LCSD-200824** Units: **mg/L** Analysis Date: **24-Aug-2020 10:40**
Client ID: Run ID: **FID-4_367340** SeqNo: **5712531** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethane	0.0172	0.00100	0.01804	0	95.5	75 - 125	0.01803	4.52	30	
Ethene	0.0163	0.00100	0.0168	0	97.1	75 - 125	0.01738	6.34	30	
Methane	0.00849	0.000500	0.009647	0	88.0	75 - 125	0.009280	8.85	30	

MS Sample ID: **HS20080738-02MS** Units: **mg/L** Analysis Date: **24-Aug-2020 11:08**
Client ID: **16WW57-200817** Run ID: **FID-4_367340** SeqNo: **5712534** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethane	0.0186	0.00100	0.01804	0	103	75 - 125				
Ethene	0.0184	0.00100	0.0168	0	110	75 - 125				
Methane	0.00889	0.000500	0.009647	0.002186	69.5	75 - 125				S

ALS Houston, US Date: 27-Aug-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 July 2020
WorkOrder: HS20080738

QC BATCH REPORT

Batch ID: R367340 (0) **Instrument:** FID-4 **Method:** DISSOLVED GASES BY RSK-175

MSD Sample ID: **HS20080738-02MSD** Units: **mg/L** Analysis Date: **24-Aug-2020 11:20**
Client ID: **16WW57-200817** Run ID: **FID-4_367340** SeqNo: **5712567** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethane	0.0188	0.00100	0.01804	0	104	75 - 125	0.01863	0.758	30	
Ethene	0.0188	0.00100	0.0168	0	112	75 - 125	0.01841	1.94	30	
Methane	0.00913	0.000500	0.009647	0.002186	72.0	75 - 125	0.008893	2.62	30	S

The following samples were analyzed in this batch: HS20080738-01 HS20080738-02

ALS Houston, US Date: 27-Aug-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 July 2020
WorkOrder: HS20080738

QC BATCH REPORT

Batch ID: R367092 (0) **Instrument: VOA6** **Method: VOLATILES ORGANICS BY METHOD 8260C**

MBLK Sample ID: **VBLKW-200819** Units: **UG/L** Analysis Date: **19-Aug-2020 12:04**
Client ID: Run ID: **VOA6_367092** SeqNo: **5707421** 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	*47.44*	*1.0*	*50*	*0*	*94.9*	*85 - 114*				
Surr: Dibromofluoromethane	*46.07*	*1.0*	*50*	*0*	*92.1*	*80 - 119*				
Surr: Toluene-d8	*53.28*	*1.0*	*50*	*0*	*107*	*89 - 112*				

LCS Sample ID: **VLCSW-200819** Units: **UG/L** Analysis Date: **19-Aug-2020 11:16**
Client ID: Run ID: **VOA6_367092** SeqNo: **5707420** 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	19.93	1.0	20	0	99.6	80 - 119				
1,1-Dichloroethene	20.53	1.0	20	0	103	71 - 131				
1,2-Dichloroethane	20.03	1.0	20	0	100	73 - 128				
cis-1,2-Dichloroethene	20.54	1.0	20	0	103	78 - 123				
Methylene chloride	19.48	2.0	20	0	97.4	74 - 124				
Trichloroethene	19.9	1.0	20	0	99.5	79 - 123				
Vinyl chloride	18.69	1.0	20	0	93.5	58 - 137				
Surr: 1,2-Dichloroethane-d4	*46.51*	*1.0*	*50*	*0*	*93.0*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*46.87*	*1.0*	*50*	*0*	*93.7*	*85 - 114*				
Surr: Dibromofluoromethane	*47.72*	*1.0*	*50*	*0*	*95.4*	*80 - 119*				
Surr: Toluene-d8	*48.49*	*1.0*	*50*	*0*	*97.0*	*89 - 112*				

ALS Houston, US Date: 27-Aug-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 July 2020
WorkOrder: HS20080738

QC BATCH REPORT

Batch ID: R367092 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MS Sample ID: **HS20080738-02MS** Units: **UG/L** Analysis Date: **19-Aug-2020 13:40**
Client ID: **16WW57-200817** Run ID: **VOA6_367092** SeqNo: **5707425** 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	24.79	1.0	20	0	124	80 - 119				S
1,1-Dichloroethene	27.41	1.0	20	1.527	129	71 - 131				
1,2-Dichloroethane	23.86	1.0	20	0	119	73 - 128				
cis-1,2-Dichloroethene	25.2	1.0	20	0	126	78 - 123				S
Methylene chloride	22.64	2.0	20	0	113	74 - 124				
Trichloroethene	96.79	1.0	20	68.56	141	79 - 123				S
Vinyl chloride	22.82	1.0	20	0	114	58 - 137				
Surr: 1,2-Dichloroethane-d4	*44.85*	*1.0*	*50*	*0*	*89.7*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*47.79*	*1.0*	*50*	*0*	*95.6*	*85 - 114*				
Surr: Dibromofluoromethane	*46.9*	*1.0*	*50*	*0*	*93.8*	*80 - 119*				
Surr: Toluene-d8	*52.45*	*1.0*	*50*	*0*	*105*	*89 - 112*				

MSD Sample ID: **HS20080738-02MSD** Units: **UG/L** Analysis Date: **19-Aug-2020 14:04**
Client ID: **16WW57-200817** Run ID: **VOA6_367092** SeqNo: **5707426** 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	23.91	1.0	20	0	120	80 - 119	24.79	3.6	20	S
1,1-Dichloroethene	26.26	1.0	20	1.527	124	71 - 131	27.41	4.27	20	
1,2-Dichloroethane	23.16	1.0	20	0	116	73 - 128	23.86	2.98	20	
cis-1,2-Dichloroethene	23.86	1.0	20	0	119	78 - 123	25.2	5.5	20	
Methylene chloride	22.14	2.0	20	0	111	74 - 124	22.64	2.23	20	
Trichloroethene	90.65	1.0	20	68.56	110	79 - 123	96.79	6.55	20	
Vinyl chloride	21.6	1.0	20	0	108	58 - 137	22.82	5.49	20	
Surr: 1,2-Dichloroethane-d4	*44.24*	*1.0*	*50*	*0*	*88.5*	*81 - 118*	*44.85*	*1.39*	*20*	
Surr: 4-Bromofluorobenzene	*47.89*	*1.0*	*50*	*0*	*95.8*	*85 - 114*	*47.79*	*0.215*	*20*	
Surr: Dibromofluoromethane	*46.05*	*1.0*	*50*	*0*	*92.1*	*80 - 119*	*46.9*	*1.83*	*20*	
Surr: Toluene-d8	*52.62*	*1.0*	*50*	*0*	*105*	*89 - 112*	*52.45*	*0.326*	*20*	

The following samples were analyzed in this batch: HS20080738-01 HS20080738-02 HS20080738-03

ALS Houston, US Date: 27-Aug-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 July 2020
WorkOrder: HS20080738

QC BATCH REPORT

Batch ID: R367032 (0) **Instrument: ICS-Integrion** **Method: ANIONS BY SW9056A**

MBLK Sample ID: **MBLK-081820** Units: **mg/L** Analysis Date: **18-Aug-2020 20:20**
Client ID: Run ID: **ICS-Integrion_367032** SeqNo: **5706036** 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-081820** Units: **mg/L** Analysis Date: **18-Aug-2020 20:38**
Client ID: Run ID: **ICS-Integrion_367032** SeqNo: **5706037** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromide	4.003	0.100	4	0	100	80 - 120				
Nitrogen, Nitrate (As N)	3.828	0.100	4	0	95.7	80 - 120				
Sulfate	19.7	0.500	20	0	98.5	80 - 120				

MS Sample ID: **HS20080738-02MS** Units: **mg/L** Analysis Date: **18-Aug-2020 21:50**
Client ID: **16WW57-200817** Run ID: **ICS-Integrion_367032** SeqNo: **5706040** PrepDate: DF: **5**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromide	14.27	0.500	10	4.702	95.7	80 - 120				
Nitrogen, Nitrate (As N)	11.74	0.500	10	0	117	80 - 120				
Sulfate	2420	2.50	50	2447	-53.1	80 - 120				SEO

MSD Sample ID: **HS20080738-02MSD** Units: **mg/L** Analysis Date: **18-Aug-2020 22:08**
Client ID: **16WW57-200817** Run ID: **ICS-Integrion_367032** SeqNo: **5706041** PrepDate: DF: **5**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromide	14.33	0.500	10	4.702	96.3	80 - 120	14.27	0.426	20	
Nitrogen, Nitrate (As N)	11.75	0.500	10	0	117	80 - 120	11.74	0.0639	20	
Sulfate	2403	2.50	50	2447	-87.6	80 - 120	2420	0.715	20	SEO

The following samples were analyzed in this batch: HS20080738-01 HS20080738-02

ALS Houston, US Date: 27-Aug-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 July 2020
WorkOrder: HS20080738

QC BATCH REPORT

Batch ID: R367090 (0) **Instrument: ManTech01** **Method: ALKALINITY BY SM2320B**

MBLK Sample ID: **WBLKW1-200819** Units: **mg/L** Analysis Date: **19-Aug-2020 17:42**
Client ID: Run ID: **ManTech01_367090** SeqNo: **5707395** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Alkalinity, Total (As CaCO3)	5.00	5.00								U

LCS Sample ID: **LCS1-200819** Units: **mg/L** Analysis Date: **19-Aug-2020 17:51**
Client ID: Run ID: **ManTech01_367090** SeqNo: **5707396** 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)	1077	5.00	1000	0	108	85 - 115				

LCSD Sample ID: **LCSD1-200819** Units: **mg/L** Analysis Date: **19-Aug-2020 17:59**
Client ID: Run ID: **ManTech01_367090** SeqNo: **5707397** 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)	1083	5.00	1000	0	108	85 - 115	1077	0.495	20	

DUP Sample ID: **HS20080738-02DUP** Units: **mg/L** Analysis Date: **19-Aug-2020 18:11**
Client ID: **16WW57-200817** Run ID: **ManTech01_367090** SeqNo: **5707399** 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)	139.4	5.00					138.1	0.944	20	

The following samples were analyzed in this batch: HS20080738-01 HS20080738-02

ALS Houston, US Date: 27-Aug-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 July 2020
WorkOrder: **HS20080738**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL/SDL

Acronym	Description
DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitaion Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

Unit Reported	Description
mg/L	Milligrams per Liter

CERTIFICATIONS,ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
Arkansas	20-030-0	26-Mar-2021
California	2919, 2020-2021	30-Apr-2021
Dept of Defense	ANAB L2231 V010	22-Dec-2021
Florida	E87611-30-07/01/2020	30-Jun-2021
Illinois	2000322020-4	09-May-2021
Kentucky	123043, 2020-2021	30-Apr-2021
Louisiana	03087, 2020-2021	30-Jun-2021
Maryland	343, 2019-2020	30-Sep-2020
North Carolina	624-2020	31-Dec-2020
North Dakota	R-193 2020-2021	30-Apr-2021
Oklahoma	2019-141	31-Aug-2020
Texas	T104704231-20-26	30-Apr-2021

ALS Houston, US Date: 27-Aug-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: Longhorn Army Ammunition Plant 16 July 2020
Work Order: HS20080738

SAMPLE TRACKING

Lab Samp ID	Client Sample ID	Action	Date	Person	New Location
HS20080738-01	16WW58-200817	Login	8/18/2020 12:58:16 PM	PMG	Sub
HS20080738-01	16WW58-200817	Login	8/18/2020 12:58:16 PM	PMG	WET206
HS20080738-01	16WW58-200817	Login	8/18/2020 12:58:16 PM	PMG	VOA157
HS20080738-01	16WW58-200817	Login	8/18/2020 12:58:16 PM	PMG	RSK012
HS20080738-01	16WW58-200817	Login	8/18/2020 12:58:16 PM	PMG	Sub

ALS Houston, US Date: 27-Aug-20

Sample Receipt Checklist

Work Order ID: HS20080738 **Date/Time Received:** 18-Aug-2020 09:50

Client Name: CBI-Houston **Received by:** Jared R. Makan

Completed By:	/S/ Paresh M. Giga	18-Aug-2020 13:04	**Reviewed by:**	/S/ RJ Modashia	19-Aug-2020 10:48
	eSignature	Date/Time		eSignature	Date/Time

Matrices: **GW/Water** Carrier name: **FedEx**

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
VOA/TX1005/TX1006 Solids in hermetically sealed vials?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	1 Page(s)
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	COC IDs:None
Samplers name present on COC?	Yes ☐	No ☑	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	
Temperature(s)/Thermometer(s):	1.1C U/c	IR31	
Cooler(s)/Kit(s):	45351		
Date/Time sample(s) sent to storage:	8/18/2020 13:15		
Water - VOA vials have zero headspace?	Yes ☑	No ☐	No VOA vials submitted ☐
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑
pH adjusted?	Yes ☐	No ☐	N/A ☑
pH adjusted by:			

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

Corrective Action:

CHAIN OF CUSTODY

Name Of Lab Shipping To: ALS 10450 Stancliff Rd. Suite 210 Houston, TX. 77099 (281) 530-5656 ATTN: R.J Modashia

Project: APTIM
LONGHORN ARMY AMMN. PLANT (LHAAP)
GROUNDWATER TREATMENT PLANT (GWTP)
KARNACK, TEXAS

Project No. 501032

Job: **LHAAP 16 JULY 2020_ALS**

Prepared By: Scott Beesinger

P.O. Number

Field Sample I.D. / Time	Sample Matrix	Date /	MS / MSD	No. OF CONTAINERS	VOC by SW 8260B	TOC by SM5310C	MEE by RSK 175	Anions (bromide, sulfate, nitrate) by SW9056 and Alkalinity by SM2320	Bromide by SW9056	Perchlorate by SW6850	Metals (arsenic, chromium, manganese, nickel, thallium) by SW6020				Remarks (Preservatives, etc.)	Lab I.D.#
16wws8-200817	W6	8/17/20/0805		10	X	X	X	X	X	X						
16wws7-200817	W6	8/17/20/0920		10	X	X	X	X	X	X						
16wws7-200817-MS	W6	8/17/20/0920		10	X	X	X	X	X	X						
16wws7-200817-MSD	W6	8/17/20/0920		10	X	X	X	X	X	X						
TripBlank-200817	W6	8/17/20		2	X											

Additional Remarks: Standard TAT on all parameters. Please email results to Susan.Huang@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	8/17/20	1430									

For Lab Use Only

Received At Lab By:	Date	Time	Airbill No.	Opened By:	Date	Time	Temp of Container	Seal No.	Condition
J. Hancock	8/18/20	09:50							

Remarks: Cooler 45351 1:2.31
Temp 1.1°C CFO

HS20080738

Aptim Environmental & Infrastucture, Inc.
Longhorn Army Ammunition Plant 16 July 2020

(Word) S:\I-ces\Forms\Chain of Custody - BiWeekly

ALS
10450 Stancliff Rd., Suite 210
Houston, Texas 77099
Tel. +1 281 530 5656
Fax. +1 281 530 5887

45351

CUSTODY SEAL

Date: 8/17/20 Time: 1436?
Name: Scott Beesinger
Company: BTMTX

Seal Broken By: SM
Date: 08/18/20

45351 AUG 18 2020

Must D... ...xt Business Day
Time and Tempature Sensitive!

45351.

ORIGIN ID:SGRA (903) 930-6194
SCOTT BEESINGER
APTIM
1203-B EAST GRAND AVE.
PMB202
MARSHALL, TX 75670
UNITED STATES US

SHIP DATE: 23JUN20
ACTWGT: 1.00 LB MAN
CAD: 3001907/AFE3211
DIMS: 19x16x13 IN

TO **CLIENT SERVICES**
ALS LABORATORY GROUP
10450 STANCLIFF ROAD
SUITE 210
HOUSTON TX 77099
(281) 530-5656
REF: LHAAP 16-B072394-RJ
RMA:

FedEx Express

FedEx.
TRK# 0221 1891 8877 8358

TUE - 18 AUG 10:30A
PRIORITY OVERNIGHT

AB SGRA

77099
TX-US
IAH

FED: 169785 17Aug2020 GGGA 560GA/77789/05A2